A614 / A6097 Major Road Network Improvement Scheme

Traffic & Economic Assessment Report

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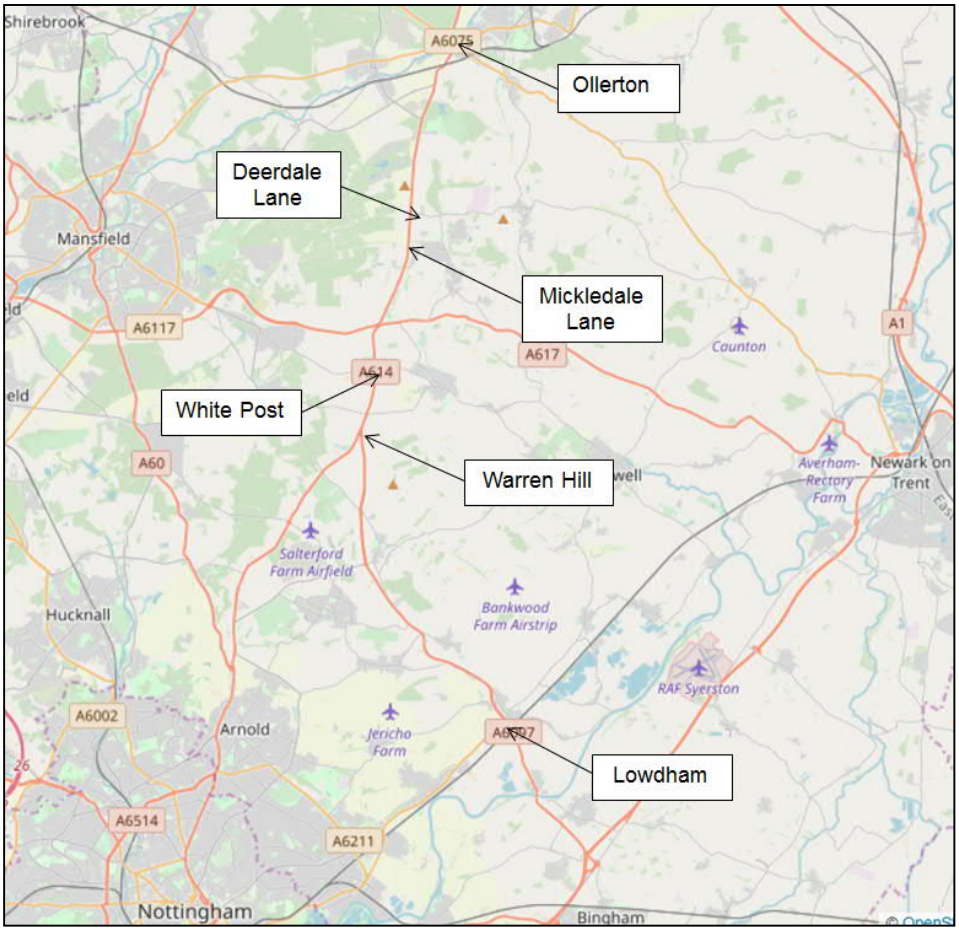
1. Introduction

1.1 Nottinghamshire County Council (NCC) is promoting junction improvements at six key locations on the A614 – A6097 corridor as a single scheme package. These junctions are:

- A614 / A616 / A6075 roundabout (hereafter referred to as the Ollerton roundabout);
- A614 / Eakring Road / Deerdale Lane crossroads (hereafter referred to as Deerdale Lane);
- A614 / Mickledale Lane crossroads (hereafter referred to as Mickledale Lane);
- A614 / Mansfield Road roundabout (hereafter referred to as the White Post roundabout);
- A614 / A6097 junction priority junction (hereafter referred to as the Warren Hill junction); and
- A6097 / A612 Nottingham Road / Southwell Road roundabout (hereafter referred to as the Lowdham Roundabout).

1.2 The locations of the junctions are shown in Figure 1.1.

Figure 1.1: Junction Locations



1.3 The options considered, scheme development and design considerations are presented in the Options Assessment Report (OAR).

1.4 This report sets out the traffic forecasting calculations, and the economic assessment for the scheme. It calculates both the value of benefits and costs of the scheme, and presents an overall *Benefit to Cost* ratio.

1.5 The outputs from the work detailed in this report will be used to support an application for funding from the Department for Transport's (DfT) Major Road Network (MRN) programme.

2. Traffic Demand and Junction Modelling

Introduction

2.1 The relationship between the appraisal process and decision-making process is set out in the Department for Transport's Transport Analysis Guidance (TAG).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712693/tag-tpm-guidance-senior-responsible-officer-may-18.pdf

2.2 The TAG guidance identifies three stages of appraisal:

- Stage 1 – Option Development;
- Stage 2 – Further Appraisal
- Stage 3 – Implementation and Benefits Management, Monitoring and Evaluation

2.3 The six junctions identified as part of the improvement package are in Stage 1 of the appraisal process.

2.4 There are 3 approaches that could be taken to determining the economic assessment of this scheme:

- Using a macroscopic model such as SATURN; or
- Using a microsimulation model; or
- Using the outputs from isolated junction models.

2.5 No suitable existing macro or microscopic model is available for the study area. The models that do cover the geographic region are strategic in nature and are not suitable for the assessment of modest junction improvements.

2.6 Whilst the distance between the northern and southern most junctions is 14.5 miles, there is little route choice involved for which macroscopic models are most often deployed. Route choice comparisons are presented in Appendix A. The development of a new macroscopic model is not thought proportional to the size of the scheme, in accordance with TAG Unit M1, sections 2.3 to 2.4.

2.7 Similarly, the development of a new 14.5 mile micro-simulation corridor model, is not considered to be proportionate.

2.8 TAG unit M2 – Variable Demand Modelling, March 2017, section 2.2 discusses the requirement for Variable Demand Modelling. Paragraph 2.2.1 states:

> *It may be acceptable to limit the assessment of a scheme to a fixed demand assessment if the following criteria are satisfied:*
>
> - *The scheme is quite modest either spatially or financially and is also quite modest in terms of its effect on travel costs. Schemes with a capital cost of less than £5 million can generally be considered as modest; or the following two points:*
> - *There is no congestion or crowding on the network in the forecast year (10 to 15 years after opening), in the absence of the scheme; and*
> - *The scheme will have no appreciable effect on travel choices (e.g. mode choice or distribution) in the corridor(s) containing the scheme.*

2.9 Of the three criteria, the cost of the combined improvement package is well in excess of £5m. There is predicted to be journey time delays at several of the scheme junctions in the forecast scenarios. However, the is unlikely to have appreciable effect on travel choice given the limited public transport options along the corridor and the lack of route choice (detailed in Appendix A), the use of a fixed trip assessment is considered the most appropriate assessment approach, particularly given the lack of a suitable macro transport model.

2.10 Of the six junctions to be improved, the closest pair is 1km apart. The distance between the scheme junctions mean that the delay at each junction is considered independent of the adjacent junction and given, the lack of alternative route choice, the preferred and proportionate methodology would be to assess each junction in isolation before combining the costs and benefits to present an overall package of improvements.

2.11 The approach to scheme appraisal has therefore been to:

- Confirm the feasibility of options at each junction location via initial assessment using isolated junction modelling (i.e. ARCADY, PICADY and LINSIG) – reported in the Option Assessment Report;
- Prepare indicative design drawings of the preferred option – reported in the Option Assessment Report;
- Use the indicative design drawings to prepare a construction cost estimate (including an allowance for land, utilities and services, and Optimism Bias);
- Apply local future growth to existing Manual Classified Turning Counts and Queue Surveys at each of the scheme junctions to produce an Opening Year and Design Year traffic forecasts;
- Use isolated junction models (i.e. ARCADY, PICADY and LINSIG) to identify:
  - Baseline delays;
  - Future years Do Minimum delays (ie without scheme);
  - Future years Do Something (i.e. with option delays)
- Monetise delays from the isolated junction models using the values of time in the WebTAG databook, and expand over a 60 year assessment period using the DfT's latest TUBA software (version 1.9.11, October 2018).
- Use existing accident records to inform a COBALT accident appraisal at each junction.
- The Present Value of Benefits and Present Value of Costs (assuming a 2010 base year) has been calculated to identify the scheme BCR. Whilst each junction has been assessed individually, the PVB and PVC from each junction have been combined to present an overall economic appraisal of the A614/A6097 Improvements.

Baseline Traffic Conditions

Traffic Survey Data

2.12 According to the document, *How the National Road Traffic Estimates are Made* (DfT, 2007), traffic counts are normally undertaken during the 'neutral' months of March, April, May, June, September and October (but outside of school holidays). This is to ensure seasonal impacts are minimised.

2.13 The Manual Classified Counts (MCCs) undertaken to support this study were undertaken on the following dates:

- Ollerton Roundabout – 29th June 2017;
- Deerdale Lane – 27th September 2017;
- Mickledale Lane - 27th September 2017;

- White Post – 11th October 2018;
- Warren Hill – 20th September 2018; and
- Lowdham – Thursday 7th June 2018.

2.14 For the MCCs, all possible traffic movements were recorded in 15 minutes intervals, between the times of 07:00 – 19:00hrs. The following classifications were used:

- PC – Pedal cycles using the road; this does not include cyclists using the pavement.
- MC – Two wheeled motor cycles;
- Car – Including taxis, state cars, 'people carriers' and other passenger vehicles (for example, minibuses and camper vans) with a gross vehicle weight of less than 3.5 tonnes, normally ones which can accommodate not more than 15 seats. Three- wheeled cars, motor invalid carriages, Land Rovers, Range Rovers and Jeeps and smaller ambulances are included. Cars towing caravans or trailers are counted as one vehicle;
- LGV – Light Goods Vehicle. Includes all goods vehicles up to 3.5 tonnes gross vehicle weight (goods vehicles over 3.5 tonnes have sideguards fitted between axles), including those towing a trailer or caravan. This includes all car delivery vans and those of the next larger carrying capacity such as transit vans. Included here are small pickup vans, three-wheeled goods vehicles, milk floats and pedestrian controlled motor vehicles. Most of this group are delivery vans of one type or another;
- OGV1 – Other Goods Vehicles Category 1. Includes all rigid vehicles over 3.5 tonnes gross vehicle weight with two or three axles. Includes larger ambulances, tractors (without trailers), road rollers for tarmac pressing, box vans and similar large vans. A two or three axle motor tractive without a trailer is also included;
- OGV2 – Other Goods Vehicles Category 2. Includes all rigid vehicles with four or more axles and all articulated vehicles. Also included in this class are OGV1 goods vehicles towing a caravan or trailer;
- PSV – Buses and Coaches. Includes all public service vehicles and works buses with a gross vehicle weight of 3.5 tonnes or more, usually vehicles with more than 16 seats.

2.15 Queue length surveys were also conducted. The queue length data was collected on the following dates:

- Ollerton Roundabout – 29th June 2017;
- Deerdale Lane – 27th September 2017;
- Mickledale Lane - 27th September 2017;
- White Post – 12th December 2018;
- Warren Hill – 20th September 2018; and
- Lowdham – Thursday 13th December 2018.

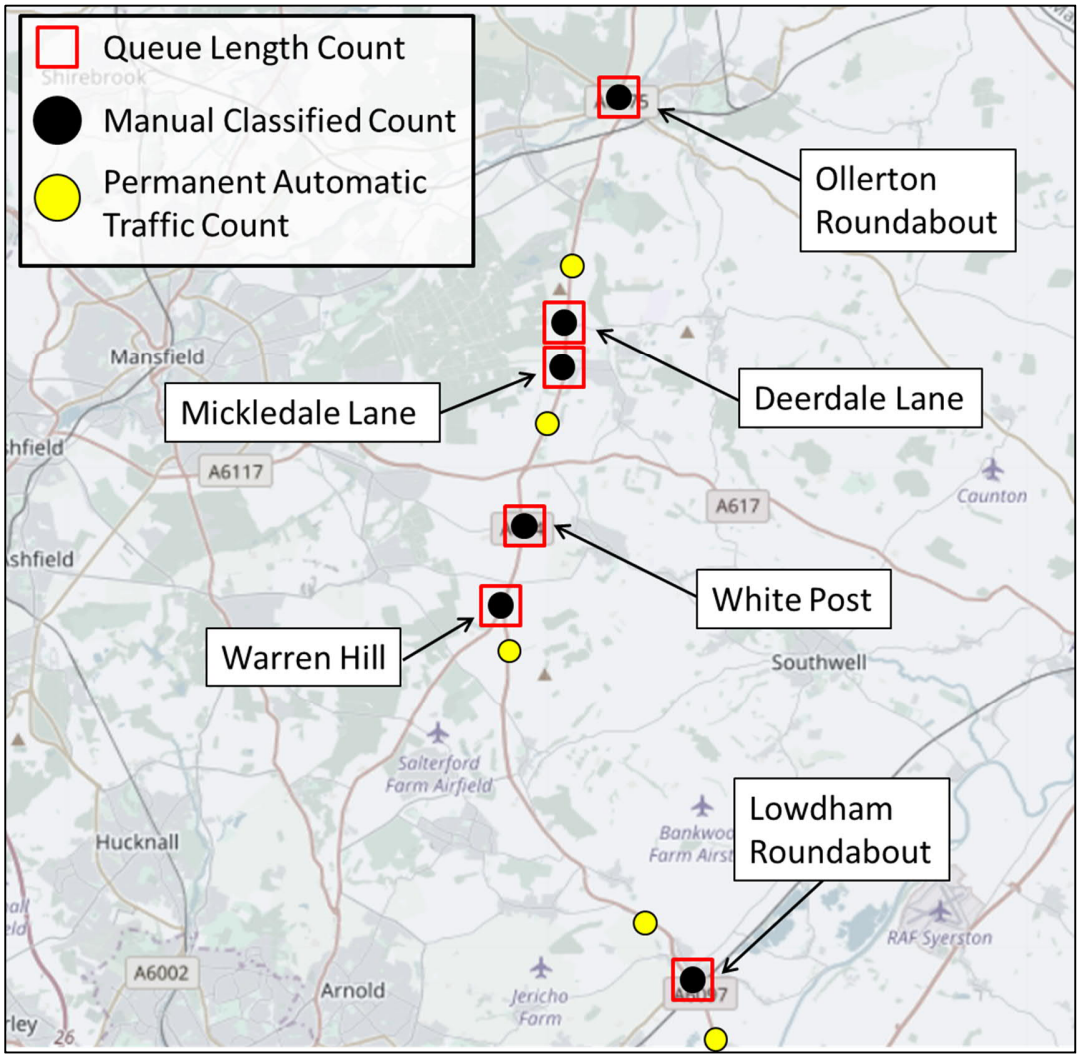
2.16 The length of queues was recorded at each junction between 07:00 – 10:00hrs & 16:00 – 19:00hrs, every five minutes.

2.17 In addition, Automatic Traffic Count (ATC) data was also available from permanent count locations on the A614 / A6097. The following count locations were examined within the study:

- A614 Bilsthorpe (N) – Site ID: 000030306363
- A614 Bilsthorpe (S) – Site ID: 000030306359
- A6097 Warren Hill (S) – Site ID: 000035206253
- A6097 Lowdham (N) – Site ID: 000030806547
- A6097 Lowdham (S) – Site ID: 000030006745

2.18 Figure 2.1 locates all count site locations used within the study.

Figure 2.1: Count Site Locations



2.19 For the purpose of the study, all raw traffic count data has been converted into Passenger Car Units (PCUs), to represent the impact of the particular mode on the highway network in comparison to a single car. The following PCU factors have been used:

- Bicycle: 0.2
- Motorcycle: 0.4
- Car: 1.0
- Light Goods Vehicle (LGV): 1.0
- Single-Unit Trucks / Medium Goods Vehicle (MGV):1.5
- Public Service Vehicles (including Buses): 2.0
- Articulated Trucks / Heavy Goods vehicle (HGV): 2.3

Peak Hours

2.20 Analysis of the MCC data has been undertaken to identify the busiest individual 60 minute segment in both the AM (07:00 – 10:00hrs) and PM (16:00 – 19:00hrs) peak periods. Table 2.1 shows the analysis for each junction.

Table 2.1: Network Peak Hour

Junction	Peak traffic flow hour (AM Peak)	Peak traffic flow hour (PM Peak)
Ollerton Roundabout	07;45 – 08:45	16:15 – 17:15
Deerdale Lane	07:30 – 08:30	16:45 – 17:45
Mickledale Lane	07:15 – 08:15	16:45 – 17:45
White Post	07:15 – 08:15	16;30 – 17:30
Warren Hill	07:30 – 08:30	16:30 – 17:30
Lowdham Roundabout	07:45 – 08:45	17:00 – 18:00
Average Peak Hour	**07:30 – 08:30**	**16:30 – 17:30**

2.21 From the individual junction peak hours, a network peak hour was identified, which encompassed the peak hours at each junction. The overall busiest 60 minute periods were identified as 07:30 – 08:30hrs and 16:30 – 17:30hrs. These hours have been used as the local AM and PM peak hours on which the analysis later in this study will be based.

2.22 In addition to the AM and PM peak hours, the assessment is also concerned with traffic conditions during the Inter Peak and Off Peak hours. The Inter peak is defined as the average hour between 10:00 – 16:00hrs, whilst the Off Peak is defined as the average hour between 22:00 – 06:00hrs.

2.23 Given this, the following time periods were examined throughout the study:

- AM Peak: 07:30 – 08:30hrs;
- PM Peak: 16:30 – 17:30hrs;
- Inter Peak: 10:00 – 16:00 (average hour);
- Off Peak: 22:00 – 06:00 (average hour);

Baseline Traffic Flows

2.24 As the MCCs only recorded vehicles passing through the junction, vehicles that were recorded as queuing at the end of each of the peak sixty minute periods have also been added to the recorded traffic flow (proportioned to each individual turning movement) so that the full demand through each junction is identified. This ensures that any new scheme can be designed to cater for the full hourly demand.

2.25 To account for any seasonality effects associated with the month of collection of the MCC surveys, a seasonality factor was applied at this stage which was based on long-term traffic count data provided by NCC for the A614 corridor.

Baseline = (Junction MCC + Queuing Traffic at Period End) * Seasonality Factor

2.26 The seasonality factor was calculated by finding the average two-way weekday flow for each month at 5 permanent count sites on the A614 / A6097 corridor (identified in Figure 2.1 above). This was used to find the percentage difference between the AAWT (Average Annual Weekday Traffic) flow and the monthly average, which was then applied to the months of traffic data collection to account for any seasonality impacts associated with differing months of data collection.

2.27 The seasonality factor was calculated to be 4.1%.

2.28 The approach to using long term traffic data to derive a seasonality factor is consistent with DMRB, Volume 12, Section 1, Part 1 guidance.

2.29 Diagrams showing the traffic flow through each of the study area junctions are shown in Appendix B.

Traffic Forecast Scenarios

2.30 The following future year traffic forecasting scenarios have been developed:

- Opening Year Forecast - 2023;
- Design Year Forecast (Non Dependent) - 2037; and
- Design Year Forecast (Dependent) – 2037.

2.31 The 2023 Opening Year forecasts have been prepared to reflect the expected construction program of the six junctions which make up the scheme package.

2.32 A 2037 Design Year forecast has been produced for design purposes, which assumes all identified development is built out (Design Year Forecast (Dependent) – 2037); whilst a further 2037 forecast (Design Year Forecast (Non Dependent) – 2037) has been produced which excludes any dependent development for use in the economic assessment (i.e. this report).

Committed Development

2.33 To suitably forecast the future traffic on the network, it is necessary to consider the additional traffic generated by the development of new housing and employment sites on, or nearby, the corridor.

2.34 TAG unit M4, Forecasting and Uncertainty, May 2018, section 2.2 and Table A2 defines the criteria for including known development in a core forecast. This should only include schemes where the likelihood of them going ahead is near certain, or more than likely

2.35 Following discussion with Nottinghamshire County Council, it was agreed to include the following committed developments, deemed to be near certain, or more than likely, in the traffic forecasts:

- Newark & Sherwood District Council:
  - Land north of Petersmith Drive;
  - Thoresby Colliery;
  - Land East of Eakring Road (Bilsthorpe Village);
  - Kirklington Road (Bilsthorpe Village);
  - Oldbridge Way (Bilsthorpe Village);
- Rushcliffe Borough Council:
  - Land at the former RAF Newton;
  - Chapel lane, Bingham;
- Gedling Borough Council:
  - Park Road, Calverton;
  - Land at Teal Close; and

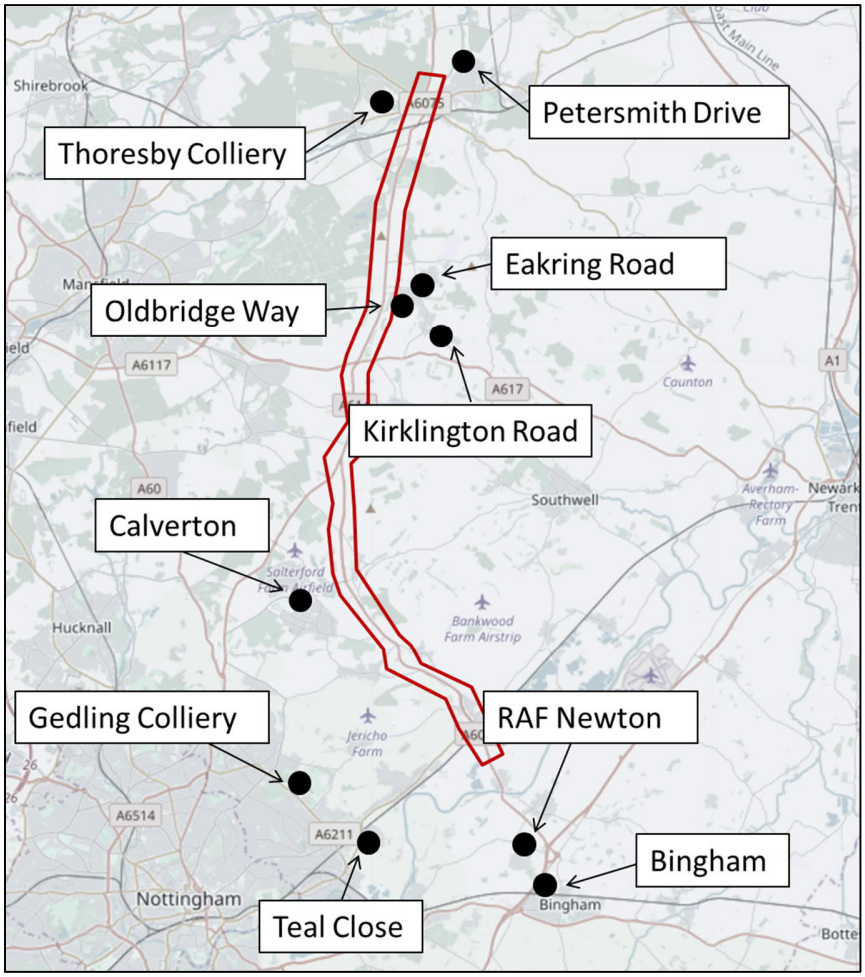
- Land at Chase Farm (Former Gedling Colliery).

2.36 Table 2.2 shows the development size for each committed development, as well as whether there are any planning conditions attached to the application, whilst Figure 2.2 locates the sites within the context of the A614 / A6097 corridor.

Table 2.2: Committed Development

Development	Planning Application Reference	Number of dwellings	Employment land	Planning Constraints?
Petersmith Drive	17/00595	305	N/A	N/A
Thoresby Colliery	16/02173	800	32,375m²	Constrained to 150 dwellings and 8,094m² employment development until improvements to Ollerton Roundabout occur
Eakring Road	17/01139	85	N/A	N/A
Kirklington Road	18/00931	136	N/A	N/A
Oldbridge Way	16/01618	113	N/A	N/A
Bingham	10/01962	1,000	55,740m²	N/A
RAF Newton	10/02105	500	15,800m²	N/A
Calverton	2018/0607	650	N/A	N/A
Teal Close	2013/0546	830	18,000m² + Car Home, Schools and Shops	Constrained to 150 dwellings until Lowdham Roundabout is upgraded
Gedling Colliery	2015/1376	1,050	N/A	N/A

Figure 2.2: Committed Development Locations



Dependent Development

2.37 TAG unit A2.2, Induced Investment (May 2018), notes that:

"Dependent development refers to a specific plot of land, which requires a complementary transport investment in order for a residential or non-residential development to proceed; in the absence of a transport scheme, the transport network would not provide a 'reasonable level' of service to new and/or existing users. The development may have planning permission conditional on a transport investment but this is not a prerequisite for it to be considered dependent."

2.38 As noted in Table 2.2 above, the development sites at Thoresby Colliery and Teal Close have planning conditions as part of their planning approval, limiting the amount of development that can be delivered prior to the improvements at Ollerton and Lowdham. As such the two development sites are considered to be dependent on the improvement scheme.

2.39 As noted in TAG Unit A2.1, Wider Impacts Overview (May 2018), the Level 1 assessment of transport user benefits exclude Dependent Development from the traffic forecasts. As such, the 'Non Dependent' traffic forecasts exclude the impacts of dependent development and have been used to assess the transport user benefits of the scheme.

2.40 Additional benefits associated with the change in land value arising from the associated change in land use are likely to be accrued as part of the scheme in relation to the Thoresby Colliery and Teal Close sites, but have not been appraised as part of the MRN outline business case. Inclusion of the Land Value Uplift into the appraisal would likely result in an increased adjusted BCR.

2.41 Noting that dependent development should not be included in the assessment of transport user benefits, a forecast scenario *including* the trips associated with the dependent development sites has been produced for the purposes of junction design. This forecast has only been used to ensure the proposed junction designs have sufficient capacity and is not used in the assessment of transport user benefits.

Traffic Forecast Methodology

2.42 Data on future trip generation and traffic assignment was taken wherever possible directly from the Transport Assessments supporting the various planning applications.

2.43 For developments without trip distribution data along the A614/A6097 corridor, traffic has been assigned using the observed turning movement proportions at each junction from the MCCs.

2.44 Trip distribution data was not available for the Kirklington Road, Oldbridge Way and Gedling Colliery developments.

2.45 To calculate trip distribution for Gedling Colliery, the gravity model used within the Calverton Transport Assessment was used given the similar nature and location of the two developments.

2.46 To calculate trip distribution for the Kirklington Road and Oldbridge Way developments, the 2011 Journey to Work census has been used which shows the volume and destination of inflows and outflows to the Newark and Sherwood District Council area. A route planner was then used to determine the most likely routes used by traffic to get to / from these points.

2.47 Only AM and PM trip generation was provided in the Transport Assessments, and as such it was necessary to calculate the IP and OP values.

2.48 To calculate the IP trip generation, the Trip Rate Information Computer System (TRICS) was used to generate trip rates for the following land uses associated with the committed developments:

- Residential
- B1 (Office)
- B2 (Industrial Estate)
- B8 (Commercial Warehousing)
- Driver Thru
- Pub / Restaurant

2.49 The hourly trip rate was extracted for each land use, and an average AM, PM and IP trip rate calculated. The IP ratio was calculated as follows, with the resulting IP trip rate ratios provided in Table 2.3.

IP ratio = IP trip generation rate / (AM trip generation rate + PM trip generation rate)

Table 2.3: Inter Peak ratio for each land-use type

	Arrivals	Departures
Residential	0.368939	0.308237
B1	0.174709	0.210784
B2	0.492047	0.463687
B8	0.438953	0.457143
Employment average	**0.36857**	**0.377205**
Drive Thru	0.539977	0.561618
Pub / Restaurant	0.462056	0.440971

2.50 The IP ratios were then applied to the AM and PM trip generation values at each development, for each land use type respectively. Where the employment split had not yet been defined for commercial developments, the employment average IP ratio was used.

2.51 Due to the absence of data on the TRICS database for the Off-Peak period, permanent count sites along the A614 / A6097 (aforementioned and shown in Figure 2.1) were used to calculate an OP factor. Using the average weekday hourly flow, an average Inter Peak flow and Off Peak flow was generated. From this, an Off Peak ratio was calculated as follows, with resulting outputs shown in Table 2.4.

OP ratio = Off Peak average flow / Inter Peak average flow

Table 2.4: Off Peak Ratio

Permanent Count Site Location	Interpeak Average	Off Peak Average	OP Ratio
Bilsthorpe (N)	1273	141	0.1108
Bilsthorpe (S)	1327	136	0.1025
Warren Hill (S)	450	46	0.1025
Lowdham (N)	1072	94	0.0880
Lowdham (S)	1495	127	0.0849
Average			**0.0978**

2.52 The OP factor was then applied to the IP trip generation values to determine the trip generation from each development.

2.53 To identify the level of development in the 2023 Opening Year, the percentage built out at each development was calculated, based upon the Local Plan publication housing trajectory supplied by NCC. Table 2.5 shows the cumulative and percentage build out for each development for the 2023 Opening Year.

Table 2.5: Build Out Rate

Development	Cumulative Build Out	Percentage Build out (%)
	2023	2023
Petersmith Drive	200	66%
Thoresby Colliery	150	100%
Eakring Road	85	100%
Kirklington Road	100	74%
Oldbridge Way	113	100%
Bingham	450	45%
RAF Newton	300	60%
Calverton	390	60%
Teal Close	240	74%
Gedling Colliery	240	23%

2.54 The percentage build out rates for each development have then been applied to the Development Flows at each development, to yield the development flows in 2023.

2.55 Appendix C shows the traffic flows associated with the identified development in the AM, PM, IP and OP time periods, considering dependent and non-dependent development forecasting scenarios respectively.

2.56 To account for any additional future growth, the NTEM database was used to calculate 'topping up' factors that were applied estimate future year Opening Year and Design Flows.

2.57 NTEM is a database developed by the Department fort Transport (DfT) as part of the National Transport Model (NTM). The NTEM database can be interrogated to find the forecast year trip-end growth projections for travel including by car, thus allowing local area traffic models to be developed on a consistent basis with regards to future year national growth.

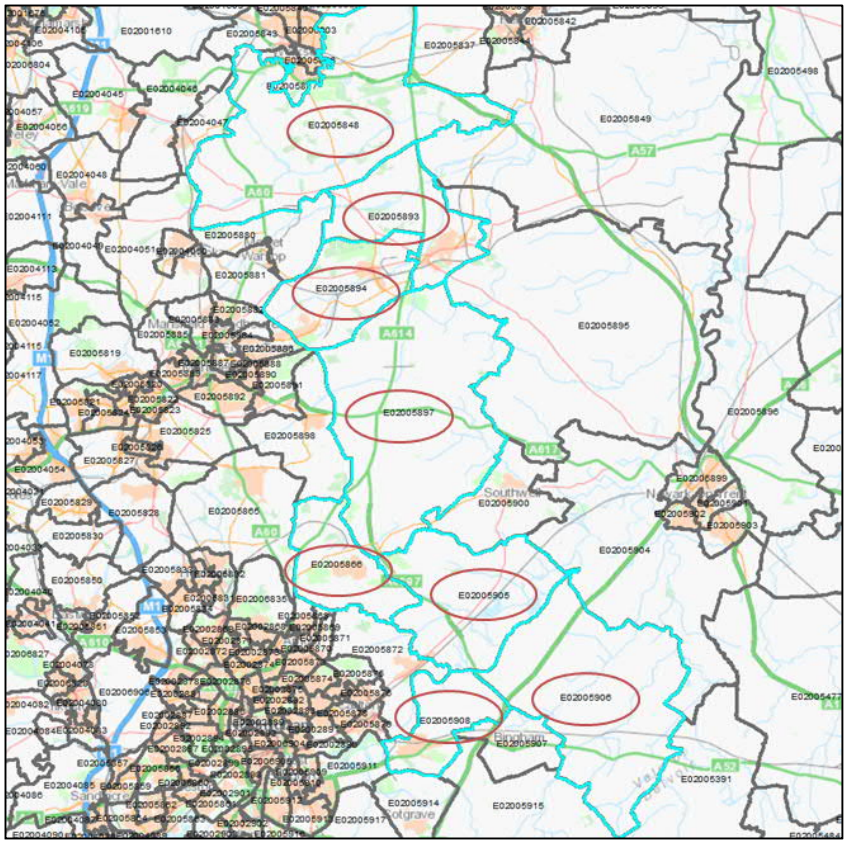
2.58 The forecast outputs from NTEM for a specific area are based upon National Planning Policy aspirations regarding future employment and housing levels that have been input to the NTM.

2.59 Forecast outputs from NTEM are extracted from the flowing districts:

- E02005848 – Bassetlaw 014
- E02005893 – Newark and Sherwood 001
- E02005894 – Newark and Sherwood 002
- E02005897 – Newark and Sherwood 005
- E02005866 – Gedling 002
- E02005905 – Newark and Sherwood 013
- E02005908 – Rushcliffe 003

2.60 Figure 2.3 identifies these NTEM districts.

Figure 2.3: NTEM Growth Factor districts



2.61 The NTEM rate from each individual district was combined into an average growth rate for the A614/A6097 corridor in each time period, as shown in Table 2.6.

2.62 The growth expected from committed development along the A614 / A6097 corridor is shown in Table 2.7 for each scenario.

2.63 Subtracting the NTEM growth from the expected development growth shows the time periods where expected growth from development is lower than NTEM growth (highlighted in bold in Table 2.8). In this instance, the traffic flows in each scenario have been 'topped up' to NTEM levels in order capture all expected growth in traffic flow across the network.

2.64 For the purposes of economic assessment, 'topping up' has been excluded in the Design Year as the Dependent Development growth (excluded from the economic assessment) will account for the shortfall between Committed Development and NTEM levels in the Design Year in the AM and IP periods.

2.65 In the PM peak, the 'with dependent development' forecast is slightly below NTEM forecast growth. No additional NTEM growth has been applied to the PM 'non-dependent' forecast on the assumption that this is a robust approach for economic appraisal (future year PM Do Minimum delays may be slightly underestimated). The 'with dependent development' forecast has been topped up to NTEM growth forecasts to ensure the proposed design contains sufficient capacity for additional growth elsewhere in the district.

2.66 As such, the 2023 Opening Year PM scenario and 2037 Dependent PM scenario have had a 'topping up' factor applied.

Table 2.6: NTEM Growth

	AM	PM	IP
Opening Year (2023)	8.2%	9.2%	8.1%
Non-Dependent Growth (2037)	22.1%	24.8%	21.9%
Dependent Growth (2037)	22.1%	24.8%	21.9%

Table 2.7: Development Growth

	AM	PM	IP
Opening Year (2023)	9.5%	8.4%	8.8%
Non-Dependent Growth (2037)	13.5%	11.8%	12.4%
Dependent Growth (2037)	25.5%	23.1%	23.8%

Table 2.8: Topping Up factor (NTEM Growth – Development Growth)

	AM	PM	IP
Opening Year (2023)	-	**0.8%**	-
Non-Dependent Growth (2037)	-	-	-
Dependent Growth (2037)	-	**1.7%**	-

Ollerton Reassignment

2.67 It was noted that the improvements to Ollerton roundabout had a small potential for possible reassignment of local traffic likely currently routing through the village to avoid journey time delays at peak times. An assessment of through traffic was identified in a Nottinghamshire County Council analysis of matched registration survey conducted in 2017. This assessment was used to make allowance for potential reassignment onto the A614 corridor in the Do Something scenario for use in the Noise & Air Quality assessment.

2.68 The 2023 Opening Year traffic forecasts, used within the Economic Assessment are shown in Appendix D.

2.69 The 2037 Design Year traffic forecasts, used within the Economic Assessment, are contained within Appendix E.

Traffic Forecast Summary

2.70 Table 2.9 to Table 2.14 provide a summary of how peak hour demand at the scheme junctions are forecast to grow in future.

Table 2.9: Ollerton Junction

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	2,866
	PM	2,950
Opening Year (2023)	AM	3,140
	PM	3,211
Design Year (2037)	AM	3,222
	PM	3,255

Table 2.10: Deerdale Lane Junction

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	1,965
	PM	1,896
Opening Year (2023)	AM	2,156
	PM	2,074
Design Year (2037)	AM	2,230
	PM	2,116

Table 2.11: Mickledale Lane Junction

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	2,018
	PM	2,023
Opening Year (2023)	AM	2,228
	PM	2,226
Design Year (2037)	AM	2,305
	PM	2,272

Table 2.12: White Post Junction

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	2,410
	PM	2,321
Opening Year (2023)	AM	2,663
	PM	2,566
Design Year (2037)	AM	2,760
	PM	2,628

Table 2.13: Warren Hill

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	2,034
	PM	1,821
Opening Year (2023)	AM	2,276
	PM	2,050
Design Year (2037)	AM	2,372
	PM	2,115

Table 2.14: Lowdham Junction

	Time period	Total Junction Inflow (pcu/hr)
Base Year (2018)	AM	3,424
	PM	3,485
Opening Year (2023)	AM	3,652
	PM	3,712
Design Year (2037)	AM	3,807
	PM	3,820

Annual Average Daily Traffic (AADT)

2.71 Network AADT values were computed via a factor calculated using permanent ATC data.

2.72 The total two way 7-day 24 hour flow at permanent count sites located on the A614 / A6097 corridor (located in Figure 2.1) was divided by the sum of the weekday Peak Periods (AM, PM, IP and OP) to calculate an AADT factor, as shown below:

AADT Factor = 7-day 24 hour flow / (Weekday AM Peak flow + Weekday PM Peak flow + Weekday IP Peak flow + Weekday OP Peak flow)

AADT Factor = 3.876

2.73 To calculate the AADT flow on the A614 / A6097 network, the sum of the AM, PM, IP and OP peak periods (in vehicle numbers) was multiplied by the AADT Factor (3.876).

2.74 The resulting AADT flows are shown in Appendix F. These values were subsequently used in the COBALT analysis, and Noise & Air Quality assessment.

Junction Modelling

2.75 Computer models of the existing junction layouts and proposed schemes have been prepared by Nottinghamshire County Council's delivery partner, VIA East Midlands Ltd. ARCADY has been used to assess the capacity of roundabout junctions; PICADY has been used to assess the capacity of priority junctions (T-junctions and crossroads); and LINSIG has been used to assess the highway capacity of signalised junctions.

2.76 The above software produces outputs in terms of overall vehicle delay, and this is the main output that has been used in the Transport Economic Efficiency (TEE) calculations contained in this report.

2.77 Table 2.15 shows the software used for each junction, and provides references to the relevant Appendix within which a scheme drawing and the full results are contained. The optioneering process to develop the scheme

designs in reported in the A614/A6097 Major Road Network Improvement Scheme, Options Appraisal Report (60595614/OAR, April 2019).

Table 2.15: Junction Layouts and Software Used to Assess Delay

Junction	Existing Layout	Proposed Layout	Appendix
Ollerton	Roundabout (ARCADY)	Roundabout (ARCADY)	G
Deerdale Lane	Crossroads (PICADY)	Signals (LINSIG)	H
Mickledale Lane	Crossroads (PICADY)	Signals (LINSIG)	I
White Post	Roundabout (ARCADY)	Roundabout (ARCADY)	J
Warren Hill	Priority (PICADY)	Roundabout (ARCADY)	K
Lowdham	Roundabout (ARCADY)	Roundabout (ARCADY)	L

2.78 Table 2.16 to Table 2.21 summarise the modelling outputs at each scheme junction. The worst performing arm is shown in each instance.

2.79 Ollerton roundabout is noted to be overcapacity (with a Ratio to Flow Capacity (RFC) value of over 1.0) in the AM and PM Peak periods in the baseline scenario, whilst Lowdham is overcapacity in the PM Peak period. Warren Hill and White Post are noted to be approaching capacity (RFC value of over 0.85) in the baseline.

2.80 For existing junctions, RFC values above 0.85 are likely to produce queues which increase slowly. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length).

Table 2.16: ARCADY Outputs – Ollerton Roundabout

	2023				2037			
	Do Minimum		Do Something		Do Minimum		Do Something	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM	67.5	1.13	1.9	0.66	89.1	1.17	2.2	0.69
PM	69.2	1.17	2.4	0.71	80.1	1.20	4.4	0.72
IP	3.9	0.81	0.9	0.48	4.5	0.83	1.0	0.49
OP	0.1	0.06	0.0	0.04	0.1	0.06	0.0	0.04

Table 2.17: PICADY / LINSIG Outputs – Deerdale Lane

	2023				2037			
	Do Minimum		Do Something		Do Minimum		Do Something	
	Max Queue (PCU)	RFC	Mean Max Queue (PCU)	Degree of Saturation	Max Queue (PCU)	RFC	Mean Max Queue (PCU)	Degree of Saturation
AM	0.4	0.28	8.7	50.8%	0.4	0.31	9.2	52.5%
PM	0.4	0.30	8.0	48.2%	0.5	0.32	8.2	49.2%
IP	0.2	0.16	5.0	33.3%	0.2	0.17	5.2	34.4%
OP	.0	0.01	0.4	3.4%	0.0	0.01	0.4	3.2%

Table 2.18: PICADY / LINSIG Outputs – Mickledale Lane

	2023				2037			
	Do Minimum		Do Something		Do Minimum		Do Something	
	Max Queue (PCU)	RFC	Mean Max Queue (PCU)	Degree of Saturation	Max Queue (PCU)	RFC	Mean Max Queue (PCU)	Degree of Saturation
AM	0.6	0.39	9.6	55.1%	0.7	0.41	10.0	57.1%
PM	0.6	0.36	9.2	55.2%	0.6	0.37	9.5	56.4%
IP	0.2	0.18	5.5	37.2%	0.3	0.19	5.8	38.5%
OP	0.0	0.01	0.4	3.6%	0.0	0.01	0.5	3.6%

Table 2.19: ARCADY Outputs – White Post

	2023				2037			
	Do Minimum		Do Something		Do Minimum		Do Something	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM	7.8	0.89	7.8	0.89	11.7	0.93	11.7	0.93
PM	15.8	0.96	15.8	0.96	22.2	0.99	22.2	0.99
IP	1.2	0.53	1.2	0.53	1.3	0.55	1.3	0.55
OP	0.1	0.05	0.1	0.05	0.1	0.05	0.1	0.05

Table 2.20: ARCADY / PICADY Outputs – Warren Hill

	2023				2037			
	Do Minimum*		Do Something		Do Minimum*		Do Something	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM	3.4	0.78	2.8	0.72	5.1	0.85	3.2	0.75
PM	12.1	0.96	1.0	0.47	22.0	1.03	1.1	0.49
IP	0.9	0.47	0.5	0.32	1.0	0.51	0.6	0.34
OP	0.0	0.04	0.0	0.03	0.0	0.05	0.0	0.03

* worst performing priority junction used to show DM scenario (priority junction at A614).

Table 2.21: ARCADY Outputs – Lowdham

	2023				2037			
	Do Minimum		Do Something		Do Minimum		Do Something	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM	8.2	0.90	3.2	0.77	13.9	1.0	4.1	0.81
PM	117.5	1.32	3.0	0.75	133.1	1.37	3.6	0.78
IP	1.4	0.58	0.8	0.43	1.6	0.61	0.9	0.46
OP	0.0	0.05	0.0	0.04	0.1	0.05	0.0	0.04

3. Economic Appraisal Methodology

Scheme Costs

3.1 Via East Midlands has provided estimates of the costs of delivering the six junctions within the scheme. These costs have also been reviewed by a contractor selected from the council's MHA framework.

3.2 Table 3.1 shows the anticipated construction start dates, and opening year of each of the junctions.

Table 3.1: Construction Start Dates and Opening Years

Junction	Construction Start Date	Opening Year
Ollerton	April 2021	December 2022
Deerdale Lane	January 2023	August 2023
Mickledale Lane	June 2022	December 2022
White Post	Within 2022	Within 2022
Warren Hill	January 2023	December 2023
Lowdham	January 2024	December 2024

3.3 Scheme estimates were provided in 2019 Q1 prices. The following items are included in the cost estimate:

- Construction Costs;
- Preparation;
- Supervision Costs; and
- Land.

3.4 Table 3.2 to Table 3.7 show the anticipated expenditure profiles for each of the junctions.

Table 3.2: Expenditure Profile (2019 Prices) - Ollerton

	2020	2021	2022	2023	2024	Total
Preparation	£150,000	£256,000	-	-	-	£406,000
Construction	-	£4,800,000	£967,680	-	-	£5,767,680
Supervision	-	£203,000	£203,000	-	-	£406,000
Land	£200,000	£200,000	£300,000	£150,000	-	£850,000
Total	£350,000	£5,459,000	£1,470,680	£150,000	-	**£7,429,680**

Table 3.3: Expenditure Profile (2019 Prices) – Deerdale Lane

	2020	2021	2022	2023	2024	Total
Preparation	-	£50,000	£50,000	-	-	£100,000
Construction	-	-	-	£3,254,490	-	£3,254,490
Supervision	-	-	-	£100,000	-	£100,000
Land	-	£100,000	£25,000	-	-	£125,000
Total	-	£150,000	£75,000	£3,354,490	-	**£3,579,490**

Table 3.4: Expenditure Profile (2019 Prices) – Mickledale Lane

	2020	2021	2022	2023	2024	Total
Preparation	-	£70,000	£30,000	-	-	£100,000
Construction	-	-	£2,324,682	-	-	£2,324,682
Supervision	-	-	£100,000	-	-	£100,000
Land	-	£100,000	£25,000	-	-	£125,000
Total	-	£170,000	£2,479,682	-	-	**£2,649,682**

Table 3.5: Expenditure Profile (2019 Prices) – White Post

	2020	2021	2022	2023	2024	Total
Preparation	-	-	£5,000	-	-	£5,000
Construction	-	-	£80,000	-	-	£80,000
Supervision	-	-	£15,000	-	-	£15,000
Land	-	-	-	-	-	-
Total	-	-	£100,000	-	-	**£100,000**

Table 3.6: Expenditure Profile (2019 Prices) – Warren Hill

	2020	2021	2022	2023	2024	Total
Preparation	-	-	£100,000	£25,000	-	£125,000
Construction	-	-	-	£3,300,000	£219,474	£3,519,474
Supervision	-	-	-	£125,000	-	£125,000
Land	-	-	£50,000	-	-	£50,000
Total	-	-	£150,000	£3,450,000	£219,474	**£3,819,474**

Table 3.7: Expenditure Profile (2019 Prices) - Lowdham

	2020	2021	2022	2023	2024	Total
Preparation	-	-	-	£100,000	£15,485	£115,485
Construction	-	-	-	-	£4,025,000	£4,025,000
Supervision	-	-	-	-	£115,484	£115,484
Land	-	-	-	£100,000	£62,000	£162,000
Total	-	-	-	£200,000	£4,217,969	**£4,417,969**

3.5 The funding of the scheme is a combination of various financial contributions, including a maximum contribution of £18m from DfT with the remainder from S106 / CIL / Nottinghamshire County Council capital contributions.

3.6 The Present Value of Cost (PVC) in 2010 market prices, discounted to a 2010 present value year, has been calculated as:

- Ollerton: £5,178,000
- Deerdale Lane: £2,352,000
- Mickledale Lane: £1,800,000
- White Post: £68,000
- Warren Hill: £2,499,000
- Lowdham: £2,799,000
- **Total: £14,696,000**

TUBA Assessment

3.7 The economic appraisal of the new scheme proposals was carried out using the DfT's TUBA software (Version 1.9.12).

3.8 This assessment uses 'economics_1_9_12.txt' as the Economics Parameters file. While this is the most up to date economics file available, it must be noted this is based upon WebTAG Data Book (v1.11.1) December 2018 release.

3.9 The economic appraisal has been calculated for 60 years, as required by the DfT (TAG, Unit 3.5.4). The appraisal period was from 2023 to 2082. The opening years of the six junctions do not occur in a single year (see Table 3.1) although for the purposes of the TUBA assessment a common opening year of 2023 was used.

3.10 A discount rate of 3.5% for the first 30 years of appraisal and 3.0% for the second 30 years of appraisal has been used. All monetary values set down in this report are in 2010 market price units of accounting, discounted to 2010.

3.11 The delay in seconds from the junction model outputs was converted into hours and input into the TUBA model. The distance used nominal values (0.5km) because the approach speeds for the Do Minimum and Do Something scenarios, are assumed not change. The distance element of the calculation only affects VOC and Greenhouse Gas changes, which as discussed below, are not included in this assessment.

3.12 Table 3.8 to Table 3.13 show the split of vehicle types used based on the manual classified counts described in Sections 2.10 – 2.17 for each junction respectively.

3.13 Due to the absence of MCC count data in the Off Peak, the vehicle splits from the IP scenario have been taken to represent the likely vehicle splits in the OP period.

3.14 The full TUBA output data is available within the following appendices:

- Ollerton – Appendix M
- Deerdale Lane – Appendix N
- Mickledale Lane – Appendix O

- White Post – Appendix P
- Warren Hill – Appendix Q
- Lowdham – Appendix R

Table 3.8: Vehicle type by period (%) for Ollerton

User Class	AM	PM	IP	OP
Cars	80.3%	85.5%	76.8%	76.8%
LGV	12.8%	11.1%	13.8%	13.8%
OGV1	3.8%	1.6%	5.5%	5.5%
OGV2	3.1%	1.9%	3.9%	3.9%
Total	100.0%	100.0%	100.0%	100.0%

Table 3.9: Vehicle type by period (%) for Deerdale Lane

User Class	AM	PM	IP	OP
Cars	78.5%	83.7%	73.1%	73.1%
LGV	15.2%	12.8%	14.9%	14.9%
OGV1	3.9%	2.2%	7.4%	7.4%
OGV2	2.5%	1.3%	4.6%	4.6%
Total	100.0%	100.0%	100.0%	100.0%

Table 3.10: Vehicle type by period (%) for Mickledale Lane

User Class	AM	PM	IP	OP
Cars	79.1%	82.4%	72.9%	72.9%
LGV	14.3%	13.7%	14.7%	14.7%
OGV1	3.6%	2.1%	7.3%	7.3%
OGV2	3.0%	1.8%	5.1%	5.1%
Total	100.0%	100.0%	100.0%	100.0%

Table 3.11: Vehicle type by period (%) for White Post

User Class	AM	PM	IP	OP
Cars	79.5%	84.7%	74.1%	74.1%
LGV	14.3%	12.4%	15.9%	15.9%
OGV1	3.7%	2.1%	6.3%	6.3%
OGV2	2.5%	0.8%	3.7%	3.7%
Total	100.0%	100.0%	100.0%	100.0%

Table 3.12: Vehicle type by period (%) for Warren Hill

User Class	AM	PM	IP	OP
Cars	77.9%	84.7%	72.0%	72.0%
LGV	16.4%	12.8%	18.0%	18.0%
OGV1	3.5%	1.5%	6.4%	6.4%
OGV2	2.2%	1.3%	3.6%	3.6%
Total	100.0%	100.0%	100.0%	100.0%

Table 3.13: Vehicle type by period (%) for Lowdham

User Class	AM	PM	IP	OP
Cars	82.6%	84.5%	77.6%	77.6%
LGV	12.5%	12.3%	13.6%	13.6%
OGV1	3.0%	1.9%	5.7%	5.7%
OGV2	1.9%	1.4%	3.1%	3.1%
Total	100.0%	100.0%	100.0%	100.0%

3.15 Journey Purpose splits for work and non-work, detailed in Table A 1.3.4 from the November 2018 release of the WebTAG Databook (v1.11) was applied to Table 3.8 to Table 3.13 in order to split observed vehicle type proportions into TUBA User Classes. The results of this process are shown in Table 3.14 to Table 3.19 which lists the split of total vehicles into each relevant User Class by time period.

3.16 These factors were applied to the total demand flow matrices via the TUBA input files.

Table 3.14: Factor applied to Ollerton vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0558	0.0437	0.0553	0.0331
Car - Commuting	0.3076	0.2784	0.0867	0.2211
Car - Other	0.4397	0.5325	0.6268	0.5146
LGV – Other	0.0154	0.0133	0.0165	0.0165
LGV - Business	0.1126	0.0973	0.1213	0.1213
OGV1 - Business	0.0382	0.0160	0.0547	0.0547
OGV2 - Business	0.0307	0.0188	0.0386	0.0386
Total	1.0000	1.0000	1.0000	1.0000

Table 3.15: Factor applied to Deerdale Lane vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0546	0.0428	0.0525	0.0315
Car - Commuting	0.3006	0.2726	0.0824	0.2101
Car - Other	0.4297	0.5213	0.5957	0.4891
LGV – Other	0.0182	0.0153	0.0179	0.0179
LGV - Business	0.1334	0.1126	0.1315	0.1315
OGV1 - Business	0.0386	0.0222	0.0737	0.0737
OGV2 - Business	0.0250	0.0132	0.0462	0.0462
Total	1.0000	1.0000	1.0000	1.0000

Table 3.16: Factor applied to Mickledale Lane vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0550	0.0421	0.0524	0.0314
Car - Commuting	0.3030	0.2685	0.0823	0.2097
Car - Other	0.4332	0.5135	0.5947	0.4882
LGV – Other	0.0172	0.0164	0.0176	0.0176
LGV - Business	0.1261	0.1204	0.1288	0.1288
OGV1 - Business	0.0358	0.0211	0.0730	0.0730
OGV2 - Business	0.0297	0.0180	0.0513	0.0513
Total	1.0000	1.0000	1.0000	1.0000

Table 3.17: Factor applied to White Post vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0552	0.0433	0.0533	0.0319
Car - Commuting	0.3044	0.2760	0.0836	0.2132
Car - Other	0.4351	0.5279	0.6045	0.4963
LGV – Other	0.0171	0.0149	0.0191	0.0191
LGV - Business	0.1257	0.1095	0.1400	0.1400
OGV1 - Business	0.0370	0.0206	0.0623	0.0623
OGV2 - Business	0.0255	0.0077	0.0372	0.0372
Total	1.0000	1.0000	1.0000	1.0000

Table 3.18: Factor applied to Warren Hill vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0542	0.0432	0.0517	0.0310
Car - Commuting	0.2984	0.2751	0.0812	0.2070
Car - Other	0.4266	0.5262	0.5868	0.4817
LGV – Other	0.0196	0.0153	0.0217	0.0217
LGV - Business	0.1440	0.1125	0.1588	0.1588
OGV1 - Business	0.0348	0.0147	0.0639	0.0639
OGV2 - Business	0.0224	0.0131	0.0359	0.0359
Total	1.0000	1.0000	1.0000	1.0000

Table 3.19: Factor applied to Lowdham vehicle turning matrix

User Class	AM	PM	IP	OP
Car - business	0.0574	0.0432	0.0558	0.0334
Car - Commuting	0.3164	0.2751	0.0876	0.2232
Car - Other	0.4523	0.5263	0.6328	0.5196
LGV – Other	0.0150	0.0147	0.0164	0.0164
LGV - Business	0.1100	0.1078	0.1199	0.1199
OGV1 - Business	0.0301	0.0185	0.0573	0.0573
OGV2 - Business	0.0188	0.0143	0.0302	0.0302
Total	1.0000	1.0000	1.0000	1.0000

Annualisation

3.17 Annualisation factors are used to combine modelled hourly traffic model outputs and convert to a yearly basis. For the purposes of this assessment, the following annualisation factors have been applied. These factors assume that:

- the AM peak hour is representative of a 3 hour AM weekday period;
- the PM peak hour is representative of a 3 hour PM weekday period;
- Interpeak is representative of a 6 hour weekday period; and
- Offpeak is representative of a 12 hour weekday period.

3.18 For the purposes of the TEE appraisal, the assessment excludes weekend benefits. This approach is robust as it is expected additional journey time benefits will be accrued during the weekend.

Table 3.20: Annualisation

	Time period	Total hours
2023	AM	780
2023	PM	780
2023	Interpeak	1,560
2023	Offpeak	3,120

Vehicle Operating Costs

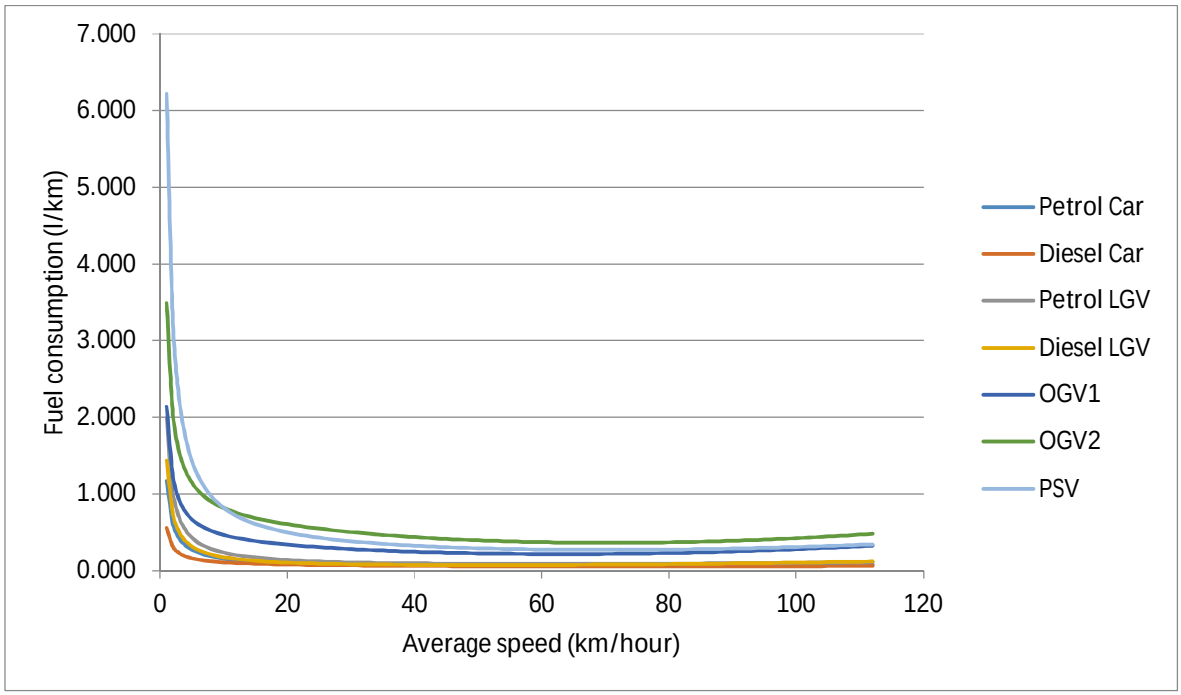
3.19 Vehicle operating cost savings (fuel and non-fuel) are calculated as part of the assessment of TEE benefits and costs using the total travel distance from the model output. Vehicle Operating Costs are directly related to fuel consumption and change in speeds between the DM and DS options.

3.20 As each junction within the scheme was modelled in isolation, only a nominal length has been modelled on each approach to the junction.

3.21 When considering changes in speed at an isolated junction, the average journey speed through a junction is likely to be low. A Do Something option is therefore more likely to have a proportionally greater effect when considering only the trips that pass through the junction, rather than when considering the change in the overall travel time of a full trip length. For instance, the impact of a small scheme junction improvement may change the average speed through the junction from 15kph to 20kph (33% increase in speed), however the impact of the same junction improvement may change the average speed of a 20 mile journey from 40kph to 42kph (5% increase in journey speed).

3.22 Based upon the fuel consumption curve taken from the WebTAG data book, Worksheet A1.3.8, as shown in Figure 3.1, it can be seen that the fuel consumption rises steeply at low speeds.

Figure 3.1: Fuel Consumption Curve



3.23 This steep change in fuel efficiency at low speeds is likely to over exaggerate the VOC benefits of the Junction Schemes, if partial trip lengths were to be used.

3.24 Because the full trip-length of journeys are not represented in the TEE analysis, it was therefore decided that the VOC benefits would be excluded from the junction economic appraisals. In the case where the a scheme is predicted to improve journey times, and therefore make vehicle operating costs more efficient, it is considered that excluding the VOC costs will underestimate the economic benefits of the schemes.

Greenhouse Gases and Indirect Taxes

3.25 Because greenhouse gases and indirect tax costs are a direct product of the change in vehicle operating costs, for the same reasons as those described in the previous paragraphs, these costs will not form part of the appraisal process and will be omitted from the AMCB Tables for the individual junctions.

Delays during Construction

3.26 The cost to road users of delays caused by the scheme construction has not been assessed at this stage. Should an assessment be undertaken at a later stage, this assessment will see a reduction in the Present Value of Benefits (PVB).

4. Travel Time Benefits

4.1 Table 4.1 to Table 4.6 show, in monetary terms, the change due to the Do-Something, relative to the Do-Minimum scenario, whilst Table 4.7 is the summation across all junctions. All values in the Transport Economic Efficiency (TEE) table are in 2010 market prices, and discounted to a 2010 present value year.

4.2 The purpose of the Transport Economic Efficiency (TEE) table is to summarise and present transport user benefits. It shows the net user benefits by group (consumers and businesses, including transport operators), by mode of transport and by impact (time, vehicle operating costs, etc).

Table 4.1: TEE Table (£ thousands) - Ollerton

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	7,769		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**7,769**		
Consumer - Other – Travel Time	9,753		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**9,753**		
Business – Travel Time	6,947	1,152	5,795
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**6,947**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**24,469**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.2: TEE Table (£ thousands) – Deerdale Lane

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	-998		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**-998**		
Consumer - Other – Travel Time	-1,931		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**-1,931**		
Business – Travel Time	-1,547	-201	-1,346
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**-1,547**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**-4,476**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.3: TEE Table (£ thousands) – Mickledale Lane

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	-1,200		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**-1,200**		
Consumer - Other – Travel Time	-2,287		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**-2,287**		
Business – Travel Time	-1,857	-239	-1,617
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**-1,857**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**-5,344**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.4: TEE Table (£ thousands) – White Post

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	No change to capacity. TEE impacts are neutral.		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	-		
Consumer - Other – Travel Time	No change to capacity. TEE impacts are neutral.		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	-		
Business – Travel Time	No change to capacity. TEE impacts are neutral.		
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs			
Other Business – Developer contributions			
NET BUSINESS IMPACT	-		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**No change to capacity. TEE impacts are neutral.**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.5: TEE Table (£ thousands) – Warren Hill

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	745		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**745**		
Consumer - Other – Travel Time	1,047		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**1,047**		
Business – Travel Time	607	99	508
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**607**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**2,399**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.6: TEE Table (£ thousands) - Lowdham

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	7,251		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**7,251**		
Consumer - Other – Travel Time	9,938		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**9,938**		
Business – Travel Time	5,907	994	4,913
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**5,907**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**23,096**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Table 4.7: TEE Table (£ thousands) – ALL JUNCTIONS

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	13,567		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	Not Assessed		
NET CONSUMER IMPACT - COMMUTING	**13,567**		
Consumer - Other – Travel Time	16,520		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	Not Assessed		
NET CONSUMER IMPACT - OTHER	**16,520**		
Business – Travel Time	10,057	1,805	8,253
Business - VOC	Not Assessed		
Business – During Construction	Not Assessed		
Operating Costs	0		
Other Business – Developer contributions	0		
NET BUSINESS IMPACT	**10,057**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**40,144**		

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

4.3 The Present Value of Transport and Economic Efficiency returned the following annualised and discounted user time benefits for the 60-year appraisal period is **£40.1M**, showing that as a combined package, the scheme delivers positive TEE benefits.

4.4 The assessment approach used to appraise the scheme junction improvements assumes that the travel demand in the Do Minimum and Do Something scenarios remains unchanged. This approach is suitable for the appraisal of a small-scale junction improvement schemes.

Results of Previous Assessment

4.5 Initial work was submitted to the DfT in 2018 which identified an early assessment of the TEE benefits of improvements to Lowdham and Ollerton roundabouts. These assessments calculated travel time benefits of 26.0M at Ollerton (Junction 1) and £87.0M at Lowdham (Junction 6). The updated values (from Section 4 of this report) are £24.5M and £23.1M, respectively.

4.6 The methodology underpinning the 2018 work applied NTEM growth factors direct to traffic surveys, and did not consider the specific location of committed developments.

4.7 The inclusion of the committed developments in place of uniform growth across the corridor, along with the exclusion of dependent development from the traffic forecasts used in the economic appraisal, has led to reduced demand at Lowdham in the design year. This has reduced the amount of TEE benefits at this location.

4.8 The traffic demand at Ollerton calculated in this study is broadly similar to that calculated in the 2018 report, and as such yields comparable TEE benefits.

5. Road Safety

5.1 The purpose of the road safety assessment is to calculate the monetary benefits of the scheme arising from the change in collision costs between the Do Minimum (DM) and Do Something (DS) scenarios. This is done by calculating the total cost of collisions on the network for the DS and subtracting these from the total cost of collisions in the DM. The road safety assessment for the Scheme was carried out using the software COBALT (Cost and Benefit to Accidents – Light Touch) appraisal program, version 2013.02.

5.2 COBALT is software used to appraise the road safety benefits of a highway improvement. The aim of COBALT is to produce a monetised appraisal in accordance with the DfT's Transport Analysis Guidance (TAG).

5.3 The COBALT assessment was run as a single model, but within the model each junction was modelled in isolation. This methodology was adopted since the scheme includes six isolated junction improvements and personal injury collision rates will not change along the length of route between these junctions as a result of the scheme.

5.4 Due to layout of the Warren Hill junction, it has been modelled as a series of give way links in the DM scenario, rather than a single node as with the other scheme junctions. It has been modelled as a single node in the DS scenario since a conventional roundabout design is proposed.

5.5 Table 6.1 shows the link / node numbers used within the COBALT assessment for each junction.

Table 5.1: COBALT link / node numbers

Junction	Link/Node number (DM)	Link/Node number (DS)
Ollerton	1	2
Deerdale Lane	3	4
Mickledale Lane	5	6
White Post	7	7
Warren Hill	1_2, 2_1, 2_3, 3_5, 5_2, 3_4, 4_3, 5_6, 6_5.	10
Lowdham	11	12

5.6 Observed road collisions data was obtained from NCC for the period January 2015 to December 2017 (inclusive). 2018 data was not available at the time of the assessment. This data was used to calculate an observed collision rate for each junction. This rate was used for the Do Minimum assessment and for White Post DM and DS scenario, since the minor improvements to the White Post roundabout are deemed not to have an impact upon the collision rate.

5.7 For the Do Something assessment, default COBALT rates were applied for the proposed junction types for Ollerton, Lowdham, and Warren Hill. For Deerdale Lane and Mickledale Lane, an alternative approach was adopted since NCC had recently upgraded a similar priority junction on the A614 (Rose Cottage, directly north of Deerdale Lane) to signal controlled, as proposed at Deerdale Lane and Mickledale Lane. The similarity of schemes and traffic flows means that an observed rate at Rose Cottage is likely to be more representative that the COBALT default rates and has been applied to Deerdale Lane and Mickledale Lane.

5.8 Table 5.2 shows the number of collisions at Rose Cottage, Deerdale Lane and Mickledale Lane from 1999 (with data obtained from Crashmap over this longer duration). This shows the impact of the Rose Cottage signalisation scheme on collision numbers.

Table 5.2: Number of Collisions at Rose Cottage, Deerdale Lane and Mickledale Lane junctions

Year	Rose Cottage	Deerdale Lane	Mickledale Lane
1999	1	0	2
2000	0	0	1
2001	2	1	1
2002	2	1	2
2003	4	0	0
2004	1	0	0
2005	1	1	1
2006	1	0	1
2007	3	0	0
2008	4	0	1
2009	1	2	2
2010	1	0	0
2011	0	0	2
2012	2	0	1
Average collisions per year	**1.6**	**0.4**	**1.0**
2013	0	0	0
2014	0	0	2
2015	0	0	1
2016	0	1	3
2017	2	0	0
Average collisions per year	**0.4**	**0.2**	**1.2**

Rose Cottage Scheme

5.9 To calculate a rate from Rose Cottage, guidance has been taken from the Chapter 5 (The Valuation of Accidents at Junctions) of the COBA Manual. The annual number of accidents (A) is calculated according to the following formula:

$$A = a(f)^b$$

5.10 Whereby:

A = Annual number of accidents

a = accident rate coefficient attributed to specific junction type

f = Function of traffic flow

b = Coefficient attributed to specific junction type

5.11 Two collisions have been observed at Rose Cottage since its signalisation, which across a three year appraisal period (2015 – 2017) yields 0.6667 annual accidents (A). For a junction of its type (3 arm signalised) traffic flow (f) is calculated using an inflow model, whereby the total inflow from all links in thousands of vehicles per annual average day is summated. The traffic flow (f) at Rose Cottage, observed from a 2019

traffic survey, was calculated as 20.547. The b coefficient has been taken directly from the COBA Manual, whereby a 3 arm signalised has a value of 0.610.

5.12 Inputting these values and rearranging the model yields an accident rate coefficient (a) for Rose Cottage of 0.105471.

$$a = A / (f)^b$$

$$a = 0.6667 / (20.547)^{0.610}$$

$$a = 0.105471$$

5.13 The post-signalisation accident rate coefficient (a) from Rose Cottage can be reasonably assumed to represent the typical accident rate at signalised junctions along the A614 corridor, and has been used for accident appraisal at both Deerdale Lane and Mickledale Lane in the DS scenario (replacing the default rate generated by COBALT).

5.14 COBALT requires two input files in order to produce its outputs. An economic parameters file, consisting of a series of data tables of standard parameters required to calculate personal injury collision impacts in line with WebTAG guidance, and a scheme specific input file, produced by the user, which contains data specific to the scheme being modelled, such as the scheme network and traffic flows.

5.15 COBALT link and junction types were classified by manually assigning a COBALT type to the model link or junction using observations on the type of link or junction, with characteristics gained from viewing Google Maps. A possible 15 different link types and 96 different junction types can be entered.

5.16 Where links or junctions changed in detail between the DM and DS scheme, these were entered twice:

- once in its 'Without-Scheme' state (e.g. priority junction); and
- once in its 'With-Scheme' state (e.g. signal controlled).

5.17 Annual Average Daily Traffic (AADT) flows (see Section 2.66 – 2.69 for AADT methodology) were entered for the base year (2018), opening year (2023), and future forecast year (2037). Junction flows were represented using AADT entry flows per approach arm. Given this is a fixed trip assessment, the AADT values for the DS and DM are the same.

5.18 Collision costs are calculated by COBALT for every year within the appraisal period of 2023 to 2082 and then summed to give total collision costs in the DM and DS over the whole sixty year appraisal period.

5.19 For each link and each year, a personal injury collision rate per million vehicle kilometres (mvkm), the total distance travelled in mvkm during that year and the monetary value of a single collision has been calculated. Multiplying through for each link and then summing across all links gives the DM or DS network collision costs in a particular year.

5.20 For consistency with other items of cost and benefit, all collision costs are valued in 2010 market prices and discounted to the 2010 present value year.

5.21 Table 5.3 presents the COBALT outputs for the A614 / A6097 corridor junction improvement scheme, whilst Table 6.3 and 6.4 presents the outputs for each individual junction for accident statistics and costs respectively. Full COBALT output data is available in Appendix S. The data shows that the scheme will lead to an improvement in the number of 'fatal' and 'serious' collisions, however a worsening in the number of collisions classified as 'slight' is noted.

5.22 The assessment returned the following annualised and discounted collision benefits for the 60-year appraisal period: **- £1.23M** (i.e. a disbenefit)

Table 5.3: Collision Risk and Valuation of Collisions (60 year appraisal period)

	Accidents	Casualties			Accident Costs (£, 000's)
		Fatal	Serious	Slight	
Without-Scheme (DM)	361.1	3.9	39.5	505.6	14,877.7
With-Scheme (DS)	501.5	1.4	31.6	678.7	16,111.5
Difference	**-140.3**	**2.5**	**7.9**	**-172.9**	**-1,233.8**

Table 5.4: Total accidents across 60 year appraisal by junction

Junction	Do Minimum (DM) accidents	Do Something (DS) accidents	Change in accidents
Ollerton	115.6	163.2	+47.6
Deerdale Lane	19.8	40.8	+21
Mickledale Lane	79.3	42.1	-37.2
White Post	0	0	0
Warren Hill	31.3	75.5	+44.2
Lowdham	115.3	179.9	+64.6
Total	**361.3**	**501.5**	**+140.2**

Table 5.5: Total cost across 60 year appraisal by junction

Junction	Do Minimum (DM) cost (£millions)	Do Something (DS) cost (£millions)	Change in cost (£millions)
Ollerton	3,502.3	5,146.2	**+1,643.9**
Deerdale Lane	1,082.5	1,483.9	**+401.4**
Mickledale Lane	4,341.2	1,532.3	**-2,808.9**
White Post	0	0	**0**
Warren Hill	2,321.8	2,285.7	**-36.1**
Lowdham	3,629.8	5,663.5	**+2,033.7**
Total	**14,877.6**	**16,111.6**	**+1,234**

5.23 It is noted that the larger accident disbenefits are associated with the improvements at Ollerton and Lowdham. The observed accident rates used in the Do Minimum at the two junctions are much lower than the COBA default values. As such, any comparison against a national default rate will result in a disbenefit. Whilst both junctions will be enlarged to provide additional capacity, the geometry and layout of the proposed junctions are not a large change from the existing and as such it is unlikely that the scheme will lead to a large increase in accidents to the level predicted by COBALT.

5.24 One potential alternative assessment approach would be to use a post-opening observed accident rate from a similar scheme. A similar scheme was installed at the A614/A617 Lockwell Hill junction in 2013, however this was installed at a similar time to the A614 Safety Cameras with reduced speed limits along the A614. As such, the use of the Lockwell Hill post opening data may overestimate the accident benefits of the junction and is not deemed a suitable comparator.

5.25 The observed accident rates at Deerdale Lane and Mickledale Lane are also lower than the COBA defaults. This is contrary to the local perceptions of the junctions. There have been public comments relating the perceived issues from accessing the A614 from the minor arms.

5.26 For the purposes of a robust assessment, default rates at Ollerton, Lowdham and Warren Hill have been retained in the economic appraisal. As such, this represents a ‘worst case’ assessment.

6. Economic Appraisal

Introduction

6.1 Although all the components of the appraisal have to be considered, two key indicators will stand out from this kind of economic assessment: the scheme's benefit to cost ratio (BCR), and its net present value (NPV).

6.2 The BCR identifies the ratio between the present value of benefits (PVB) and present value of costs (PVC). The higher the BCR the more benefits a scheme is forecast to deliver, compared with the scheme's costs.

Transport Economic Efficiency

6.3 Table 6.1 shows, in monetary terms, the change due to the Do-Something, relative to the Do-Minimum scenario. All values in the Transport Economic Efficiency (TEE) table are in 2010 market prices, and discounted to a 2010 present value year.

Table 6.1: TEE Table (£ thousands)

	With Scheme
Consumer- Commuting – Travel Time	13,567
Consumer - Commuting – VOC	
Consumer - Commuting – During Construction	
NET CONSUMER IMPACT - COMMUTING	**13,567**
Consumer - Other – Travel Time	16,520
Consumer - Other – VOC	
Consumer - Other – During Construction	
NET CONSUMER IMPACT - OTHER	**16,520**
Business – Travel Time	10,057
Business - VOC	
Business – During Construction	
Operating Costs	0
Other Business – Developer contributions	0
NET BUSINESS IMPACT	**10,057**
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**40,144**

Note: All entries are discounted to a 2010 present value year, in 2010 market prices, in £ thousands.

Public Accounts

6.4 Table 6.2 below details the Public Accounts table.

Table 6.2: Public Accounts (£ thousands)

Funding	All modes	Road
Local Government		
Revenue	0	0
Operating Costs	0	0
Investment Costs	2,204.4	2,204.4
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	**2,204.4**	**2,204.4**
Central Government Funding: Transport		
Revenue	0	0
Operating Costs	0	0
Investment Costs	12,491.6	12,491.6
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	**12,491.6**	**12,491.6**
Central Government Funding: Non Transport		
Indirect Tax		Not Assessed
Totals		
Broad Transport Budget	**14,696.00**	**14,696.00**
Wider Public Finances	0	0

Note: Costs appear as positive numbers. All entries are discounted to 2010 present values, in 2010 market prices.

Analysis of Monetised Cost and Benefits (AMCB)

6.5 Table 6.3 shows the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses.

Table 6.3: Analysis of Monetised Cost and Benefits (AMCB)

Impact	With Scheme
Greenhouse Gases	Not Assessed
Travel Time Savings - Business	10.057
Travel Time Savings – Commuting & Other	30.087
Collisions	-1.233
Vehicle Operating Costs	Not Assessed
Indirect tax Revenue	Not Assessed
PVB	**38.911**
PVC	**14.696**
NPV	**24.215**
BCR	**2.648**

Notes: Note: Costs appear as positive numbers. All entries are discounted to 2010 present values, in 2010 market prices; except for the BCR figures. Summary does not include monetised journey time reliability benefits.

6.6 The Department for Transport's "Value for Money Guidance" (2017, www.dft.gov.uk), describes how value for money can be categorised in four classes:

Figure 6.1: DfT Value for Money Guidance

Box 5.1 Standard Categories

(Transport cost outlays exceed revenues or cost savings)

VfM Category	Implied by…*
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5
Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

**Relevant indicative monetised and/or non-monetised impacts must also be considered and may result in a final value for money category different to that which is implied solely by the BCR. This chapter provides guidance on how to select the final value for money category.*

6.7 The BCR summarised in the AMCB table above, shows that the improvements deliver a positive economic case and represents High value for money. Other appraisal objectives, which have not been monetised, should be taken into account during the decision-making process.

7. Conclusions

7.1 Overall the results indicate that there is a positive economic case for the scheme - and it therefore represents a very good return on investment.

7.2 User benefits result from reductions in travel time, as a result of the new scheme. The Scheme will provide £40.144m of travel time benefits over a 60 year period.

7.3 The economic appraisal carried out for the A614/A6075 Scheme has shown that the scheme represents high value for money, with a:

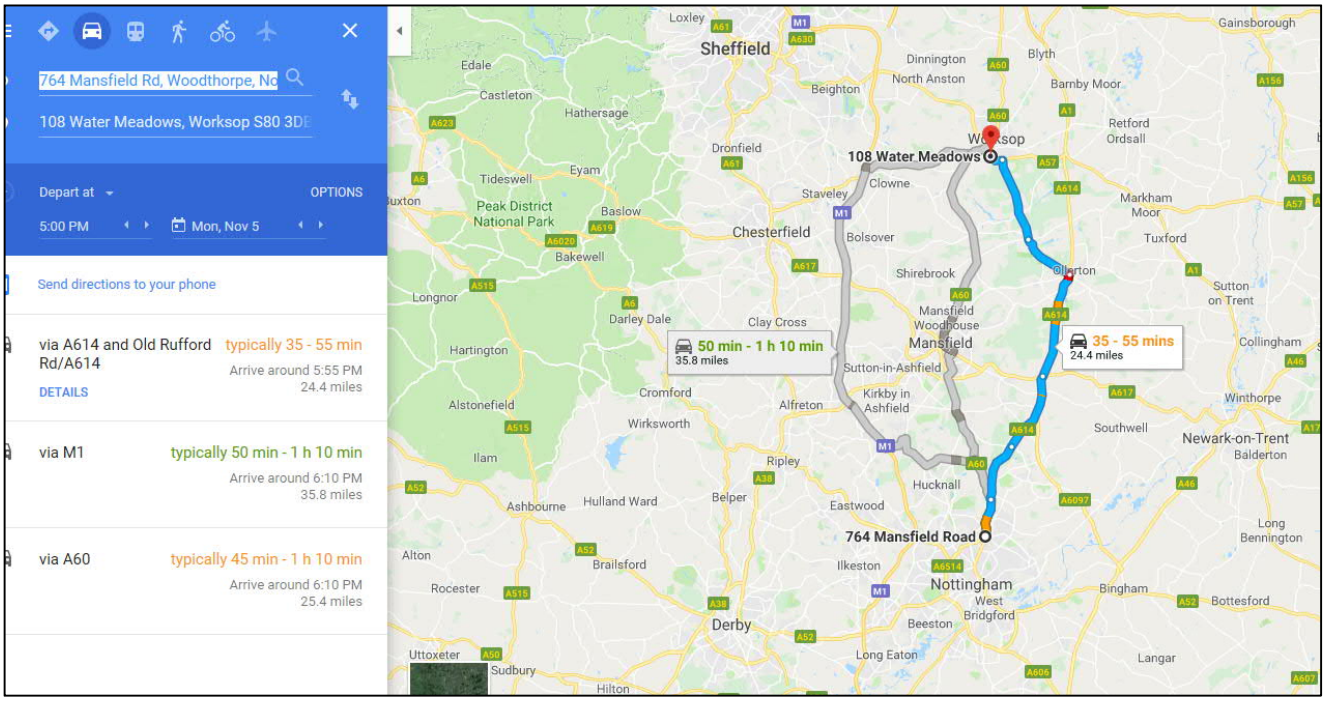
- Benefit to Cost Ratio of 2.65; and;
- Net Present Value of £24.215 million.

7.4 As per TAG unit A2.1, economic impacts are primarily captured by the estimation of user benefits e.g. as a result of time savings. However, other benefits may also accrue which in the case of the A614 scheme are likely.

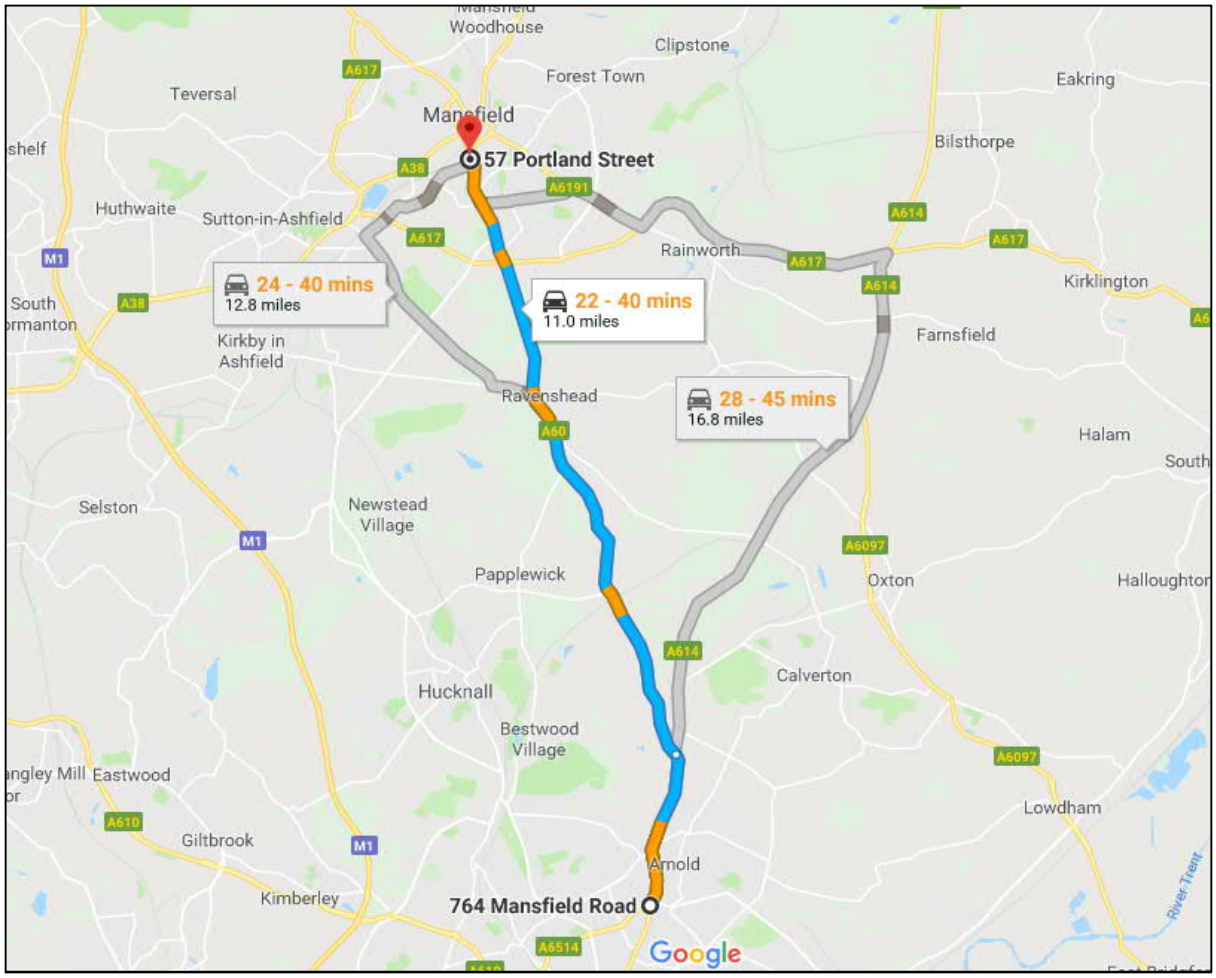
7.5 The following impacts will likely provide additional unquantified benefits and increase the PVB benefits of the Scheme:

- Reliability benefits;
- Tourism benefits;
- An assessment of Planning Gain (Land Value Uplift) associated with the unlocking of dependant development; and
- Inclusion of vehicle operating costs.

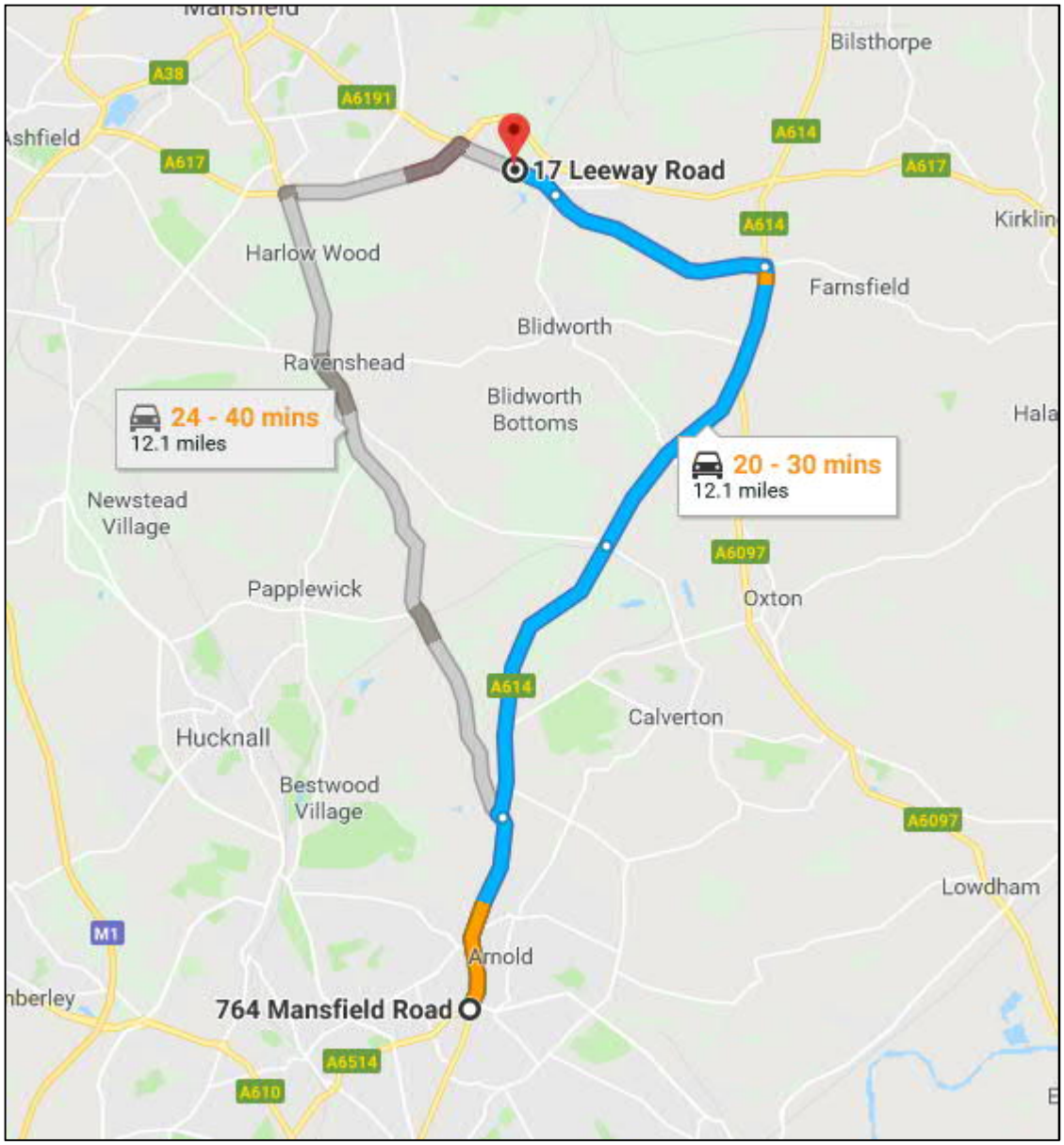
Appendix A - Route Choice Comparisons



Whilst the A60 does provide an alternative route between Worksop and Nottingham, there is typically a 10 minute difference in predicted journey times in peak periods. In addition, the A60 route requires trips to route through the centre of Mansfield, which adds uncertainty to the journey time reliability of the A60. This is reflected in the wider range of predicted journey times shown above.



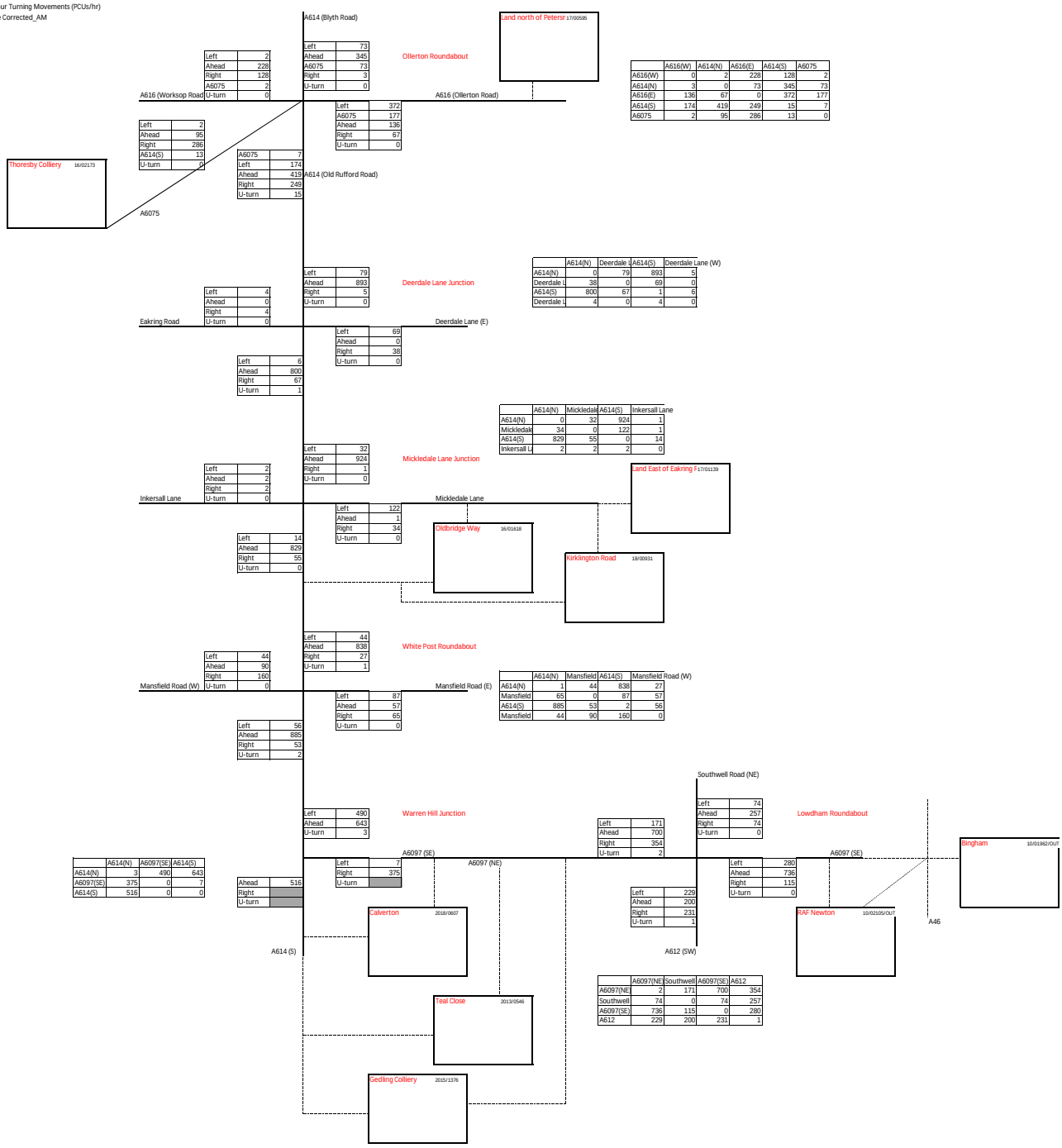
Between Mansfield and Nottingham, the shortest and quickest route is via the A60. The A614 is 4 miles longer and typically at least 6 minutes longer.



For trips with an origin or destination to the east of the MARR/Southwell Road roundabout, the A614 is the quicker route, although the A60 is same distance.

Appendix B – Baseline Traffic Demand Flows

Peak Hour Turning Movements (PCUs/hr)
Baseline Corrected_AM



Left	2
Ahead	228
Right	128
A6075	2
U-turn	0

Left	73
Ahead	345
A6075	73
Right	3
U-turn	0

Left	372
A6075	177
Ahead	136
Right	67
U-turn	0

Left	2
Ahead	95
Right	286
A614(S)	13
U-turn	0

A6075	7
Left	174
Ahead	419
Right	249
U-turn	15

	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	2	228	128	2
A614(N)	3	0	73	345	73
A616(E)	136	67	0	372	177
A614(S)	174	419	249	15	7
A6075	2	95	286	13	0

Left	79
Ahead	893
Right	5
U-turn	0

Left	4
Ahead	0
Right	4
U-turn	0

Left	69
Ahead	0
Right	38
U-turn	0

Left	6
Ahead	800
Right	67
U-turn	1

	A614(N)	A614(S)	Deerdale	Deerdale Lane (W)
A614(N)	0	79	893	5
Deerdale L	38	0	69	0
A614(S)	800	67	1	6
Deerdale L	4	0	4	0

Left	32
Ahead	924
Right	1
U-turn	0

Left	2
Ahead	2
Right	2
U-turn	0

Left	122
Ahead	1
Right	34
U-turn	0

Left	14
Ahead	829
Right	55
U-turn	0

	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	32	924	1
Mickledale	34	0	122	1
A614(S)	829	55	0	14
Inkersall La	2	2	2	0

Left	44
Ahead	838
Right	27
U-turn	1

Left	44
Ahead	90
Right	160
U-turn	0

Left	87
Ahead	57
Right	65
U-turn	0

Left	56
Ahead	885
Right	53
U-turn	2

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	1	44	838	27
Mansfield	65	0	87	57
A614(S)	885	53	2	56
Mansfield	44	90	160	0

Left	490
Ahead	643
U-turn	3

Left	7
Right	375
U-turn	

Ahead	516
Right	
U-turn	

	A614(N)	A6097(SE)	A614(S)
A614(N)	3	490	643
A6097(SE)	375	0	7
A614(S)	516	0	0

Left	74
Ahead	257
Right	74
U-turn	0

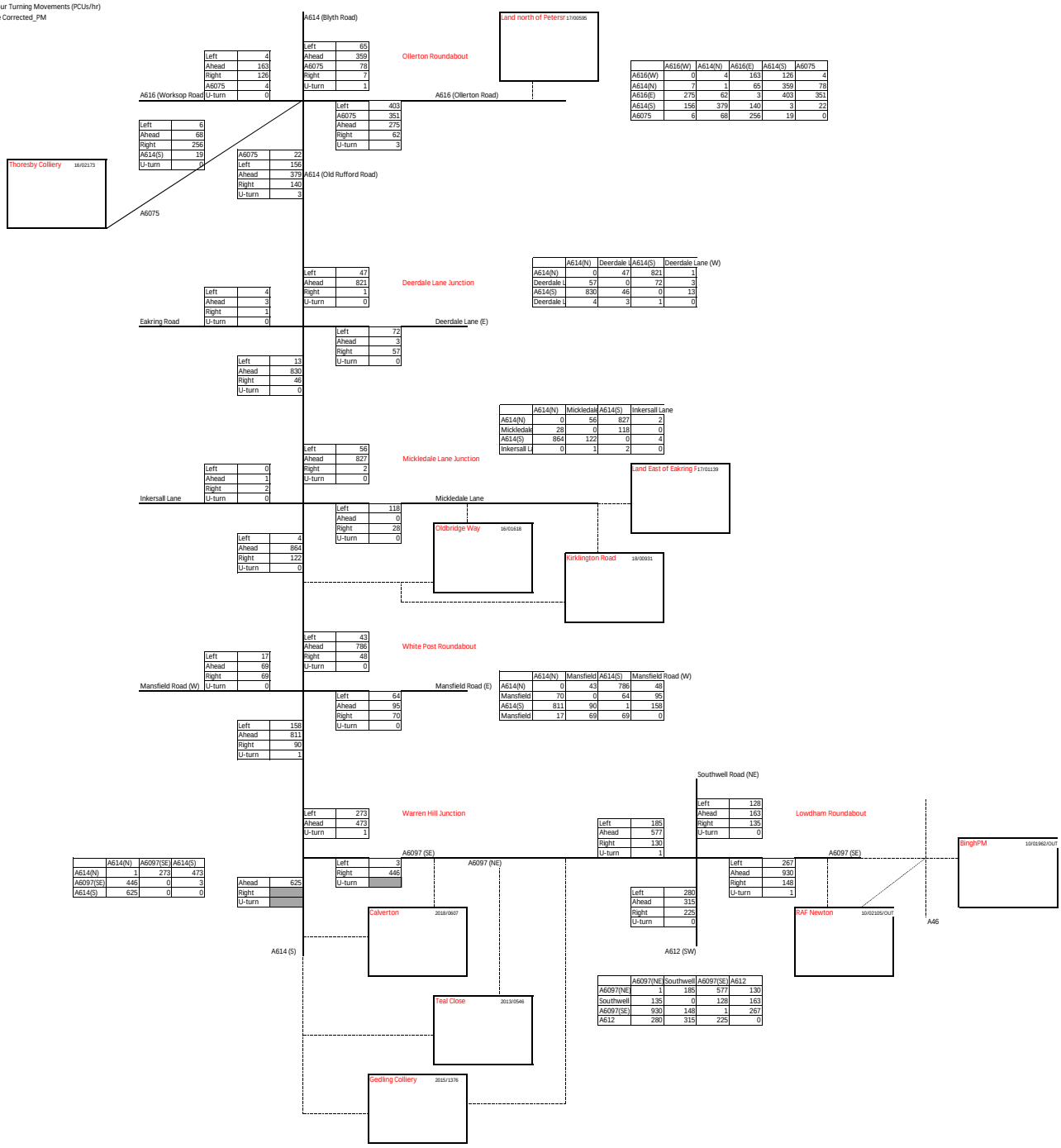
Left	171
Ahead	700
Right	354
U-turn	2

Left	280
Ahead	736
Right	115
U-turn	0

Left	229
Ahead	200
Right	231
U-turn	1

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	2	171	700	354
Southwell	74	0	74	257
A6097(SE)	736	115	0	280
A612	229	200	231	1

Peak Hour Turning Movements (PCUs/hr)
Baseline Corrected_PM



Left	4	
Ahead	163	
Right	126	
A6075	4	
U-turn	0	

Left	65	
Ahead	359	
A6075	78	
Right	7	
U-turn	1	

Left	403	
A6075	351	
Ahead	275	
Right	62	
U-turn	3	

Left	6	
Ahead	68	
Right	256	
A614(S)	19	
U-turn	0	

A6075	22	
Left	156	
Ahead	379	
Right	140	
U-turn	3	

	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	4	163	126	4
A614(N)	7	1	65	359	78
A616(E)	275	62	3	403	351
A614(S)	156	379	140	3	22
A6075	6	68	256	19	0

Left	47	
Ahead	821	
Right	1	
U-turn	0	

Left	4	
Ahead	3	
Right	1	
U-turn	0	

Left	72	
Ahead	3	
Right	57	
U-turn	0	

Left	13	
Ahead	830	
Right	46	
U-turn	0	

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	47	821	1
Deerdale L	57	0	72	3
A614(S)	830	46	0	13
Deerdale L	4	3	1	0

Left	56	
Ahead	827	
Right	2	
U-turn	0	

Left	0	
Ahead	1	
Right	2	
U-turn	0	

Left	118	
Ahead	0	
Right	28	
U-turn	0	

Left	4	
Ahead	864	
Right	122	
U-turn	0	

	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	56	827	2
Mickledale	28	0	118	0
A614(S)	864	122	0	4
Inkersall L	0	1	2	0

Left	43	
Ahead	786	
Right	48	
U-turn	0	

Left	17	
Ahead	69	
Right	69	
U-turn	0	

Left	64	
Ahead	95	
Right	70	
U-turn	0	

Left	158	
Ahead	811	
Right	90	
U-turn	1	

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	43	786	48
Mansfield	70	0	64	95
A614(S)	811	90	1	158
Mansfield	17	69	69	0

Left	273	
Ahead	473	
U-turn	1	

Left	3	
Right	446	
U-turn		

Ahead	625	
Right		
U-turn		

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	273	473
A6097(SE)	446	0	3
A614(S)	625	0	0

Left	185	
Ahead	577	
Right	130	
U-turn	1	

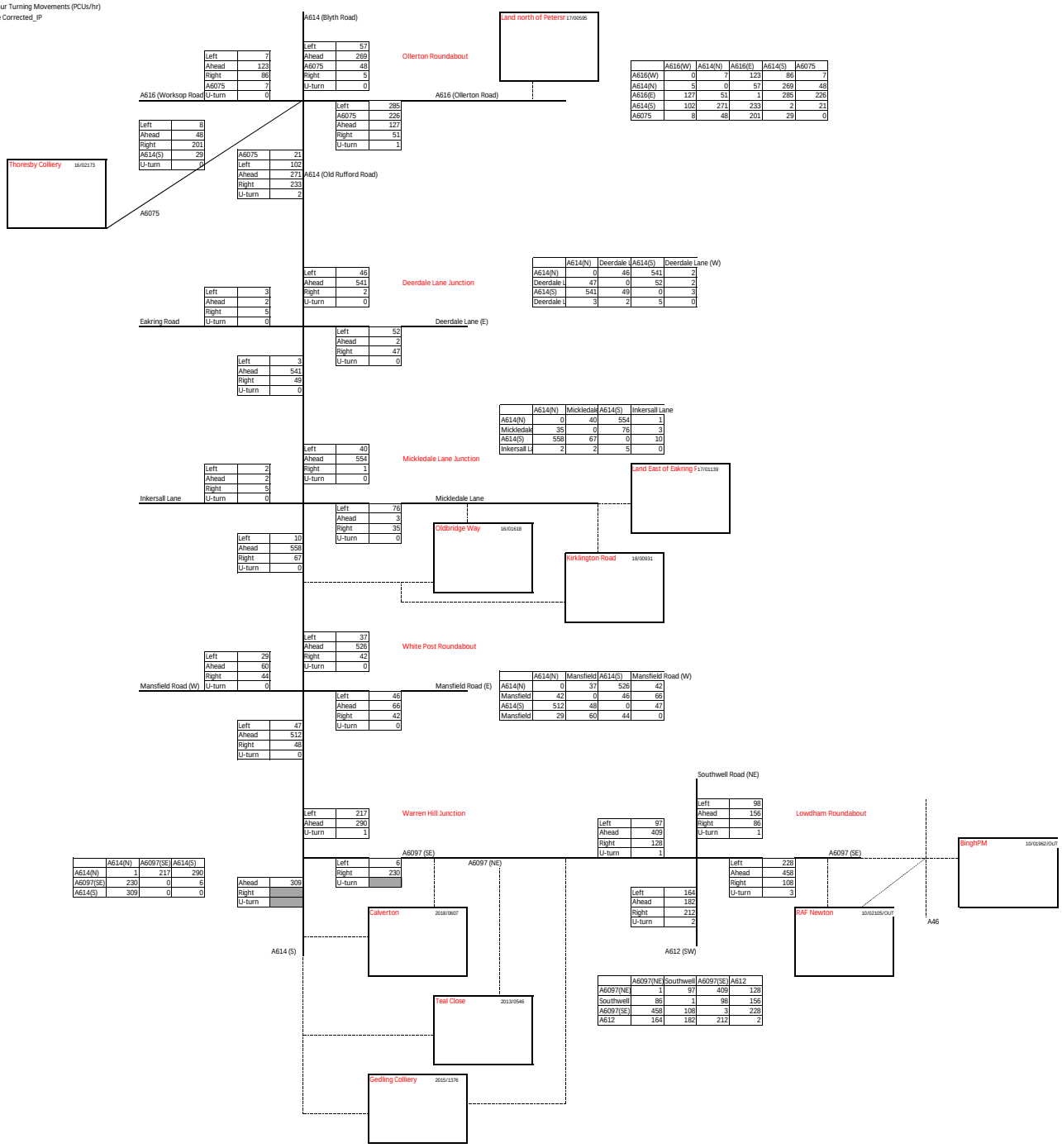
Left	128	
Ahead	163	
Right	135	
U-turn	0	

Left	267	
Ahead	930	
Right	148	
U-turn	1	

Left	280	
Ahead	315	
Right	225	
U-turn	0	

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	185	577	130
Southwell	135	0	128	163
A6097(SE)	930	148	1	267
A612	280	315	225	0

Peak Hour Turning Movements (PCUs/hr)
Baseline Corrected_IP



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	7	123	86	7
A614(N)	5	0	57	269	48
A616(E)	127	51	1	285	226
A614(S)	102	271	233	2	21
A6075	8	48	201	29	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	46	541	2
Deerdale L	47	0	52	2
A614(S)	541	49	0	3
Deerdale L	3	2	5	0

	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	40	554	1
Mickledale	35	0	76	3
A614(S)	556	67	0	10
Inkersall L	2	2	5	0

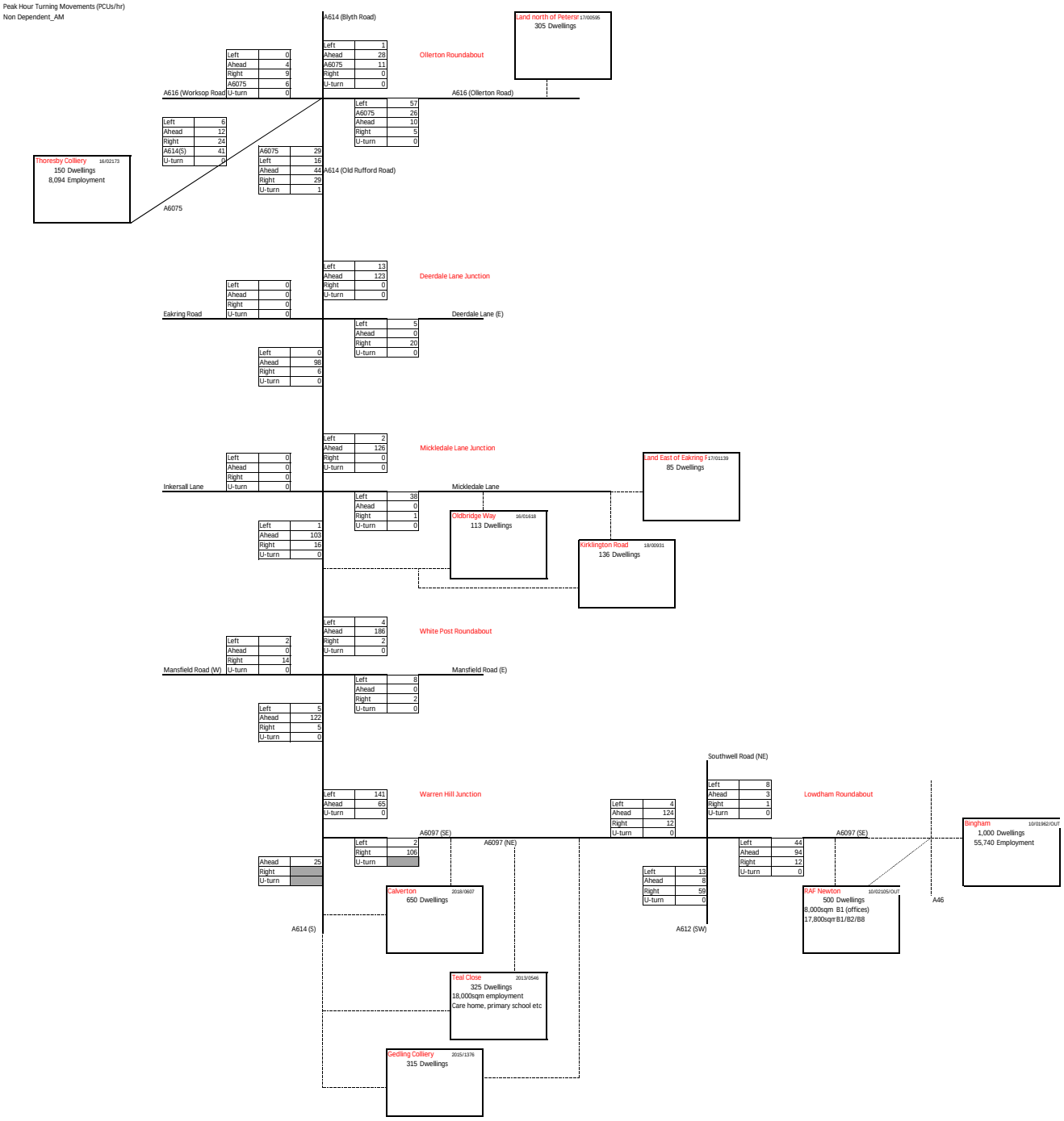
	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	37	526	42
Mansfield	42	0	46	66
A614(S)	512	48	0	47
Mansfield	29	60	44	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	217	290
A6097(SE)	230	0	6
A614(S)	309	0	0

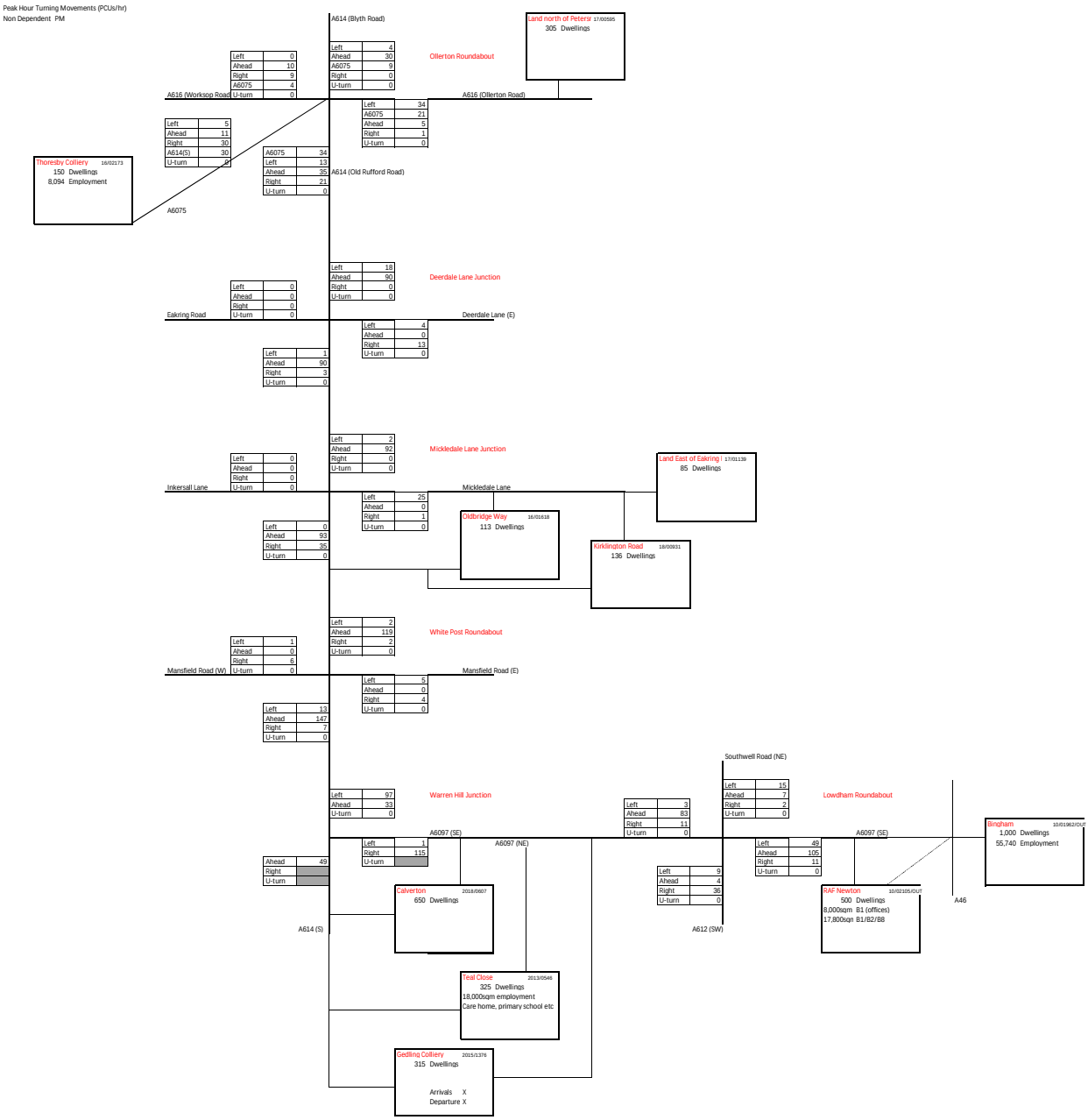
	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	97	409	128
Southwell	86	1	98	156
A6097(SE)	458	108	3	228
A612	164	182	212	2

Appendix C – Development Flows

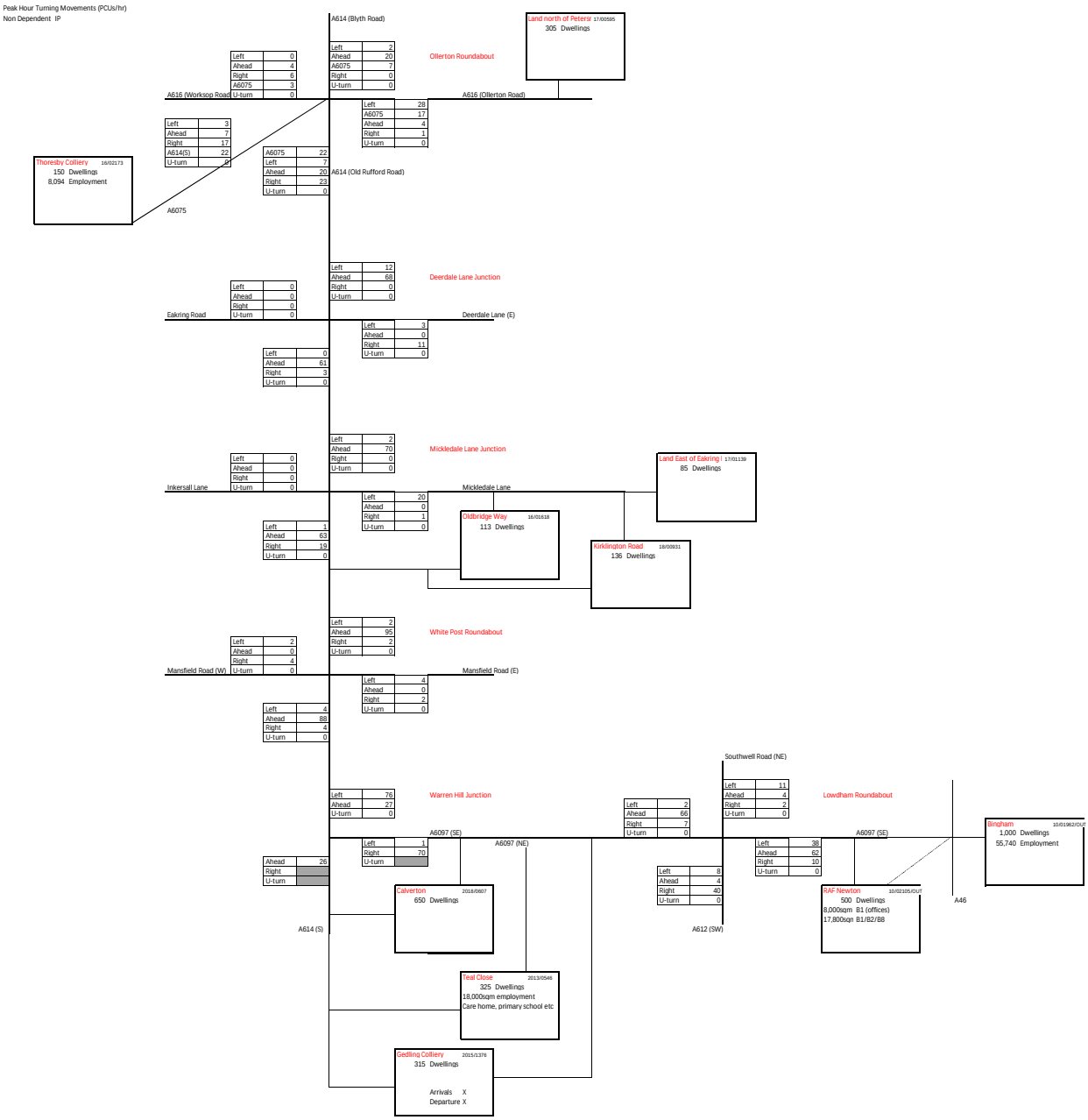
Peak Hour Turning Movements (PCUs/hr)
Non Dependent_AM

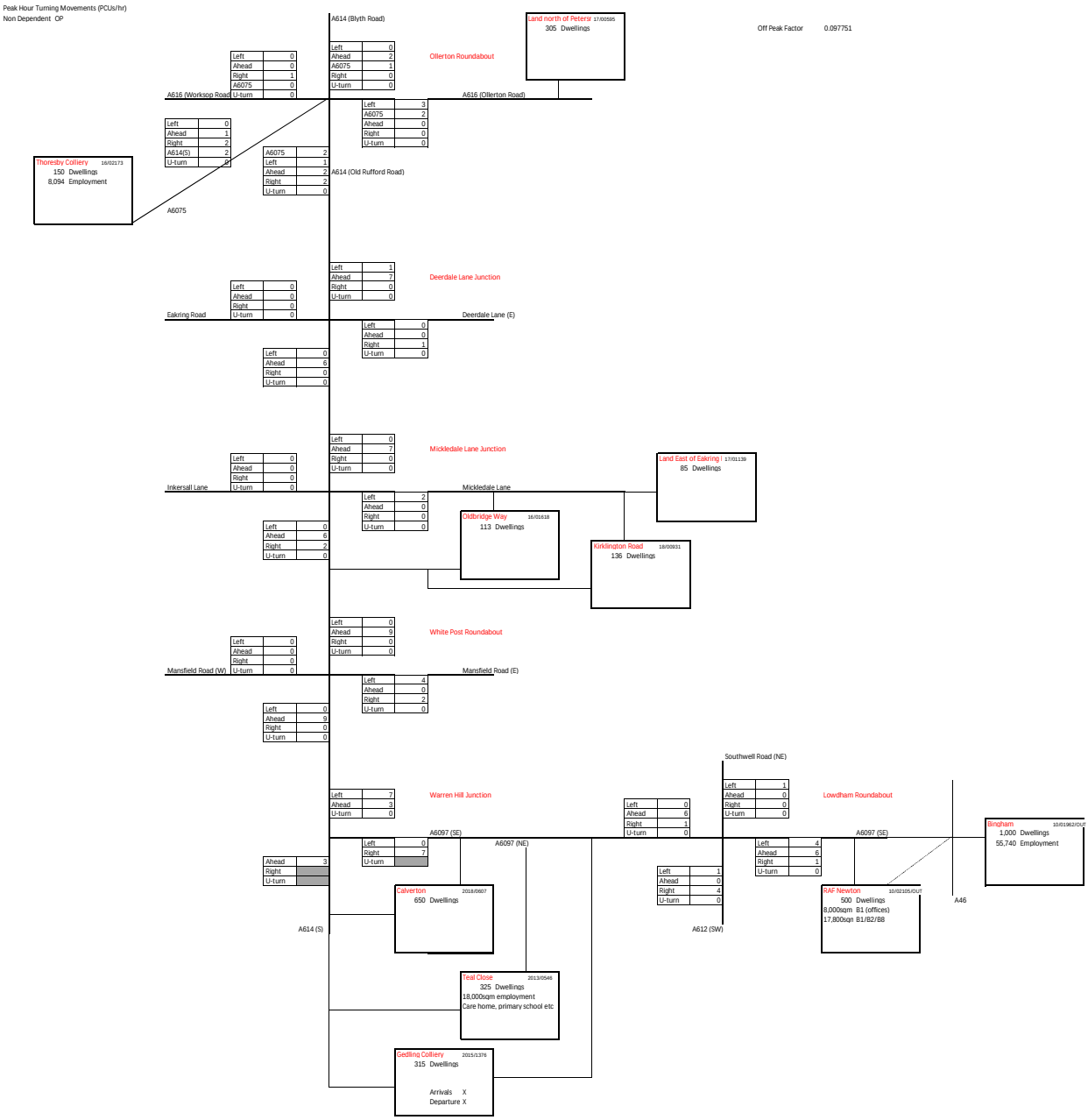


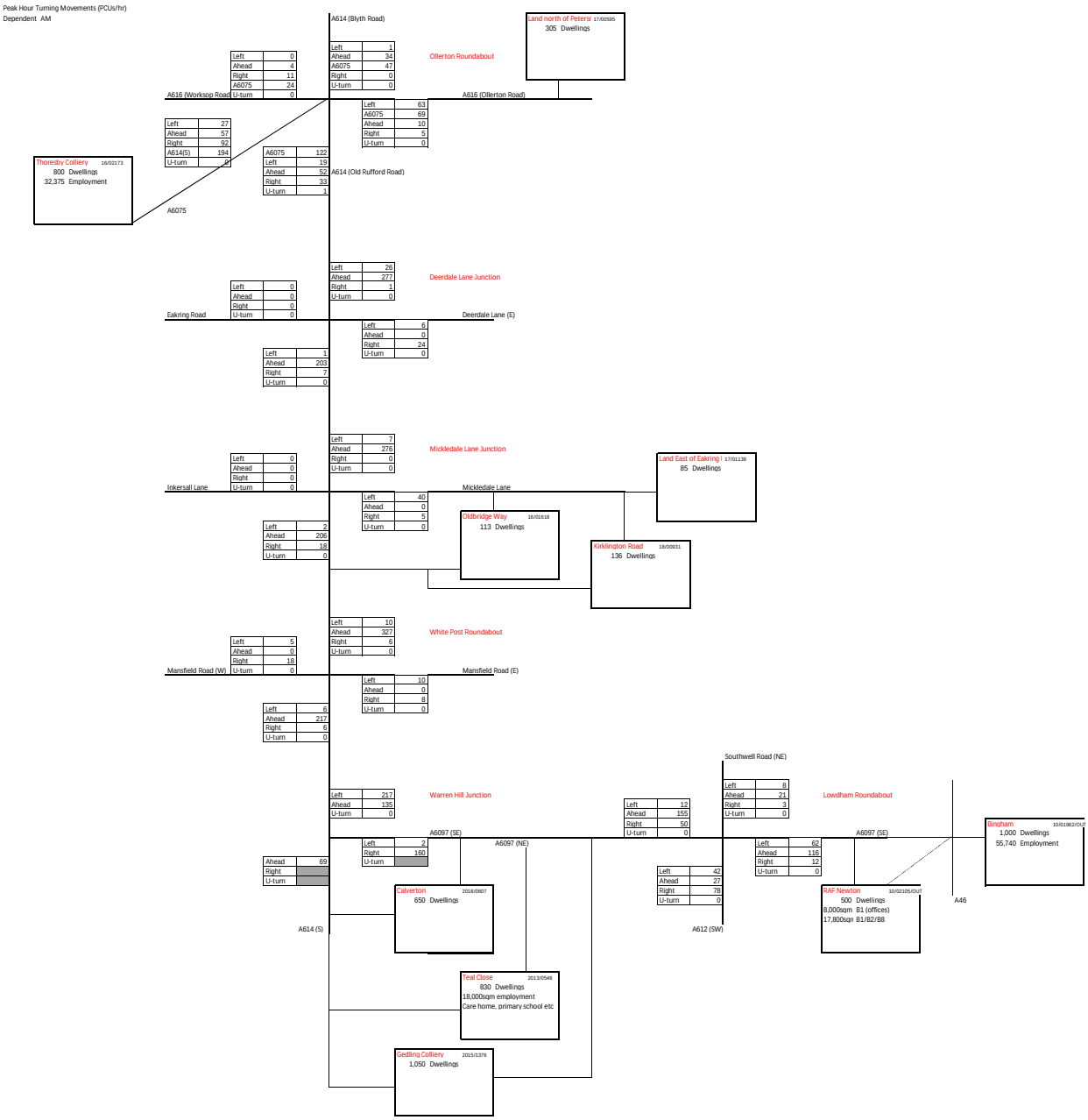
Peak Hour Turning Movements (PCUs/hr)
Non Dependent PM



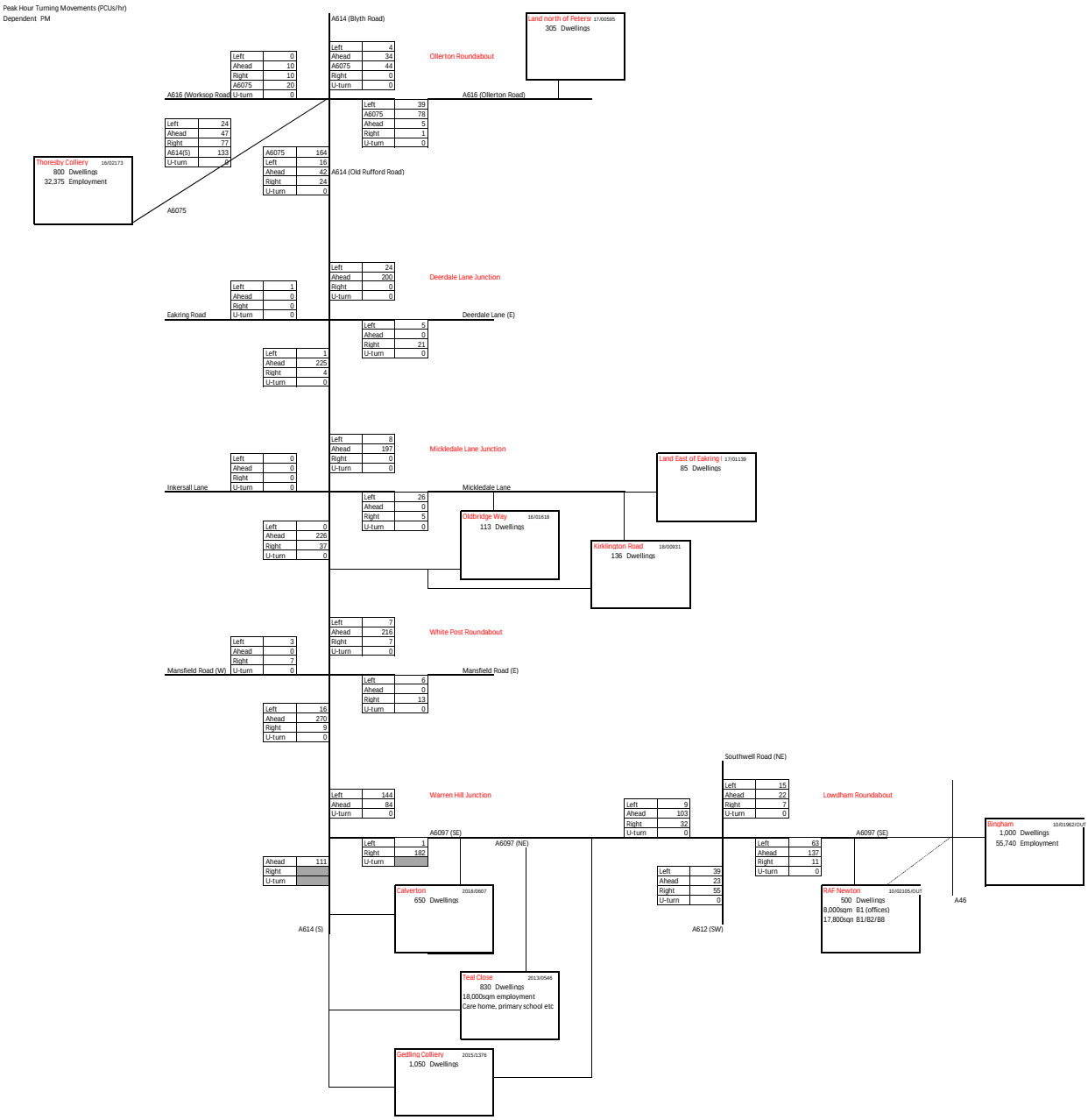
Peak Hour Turning Movements (PCUs/hr)
Non Dependent IP



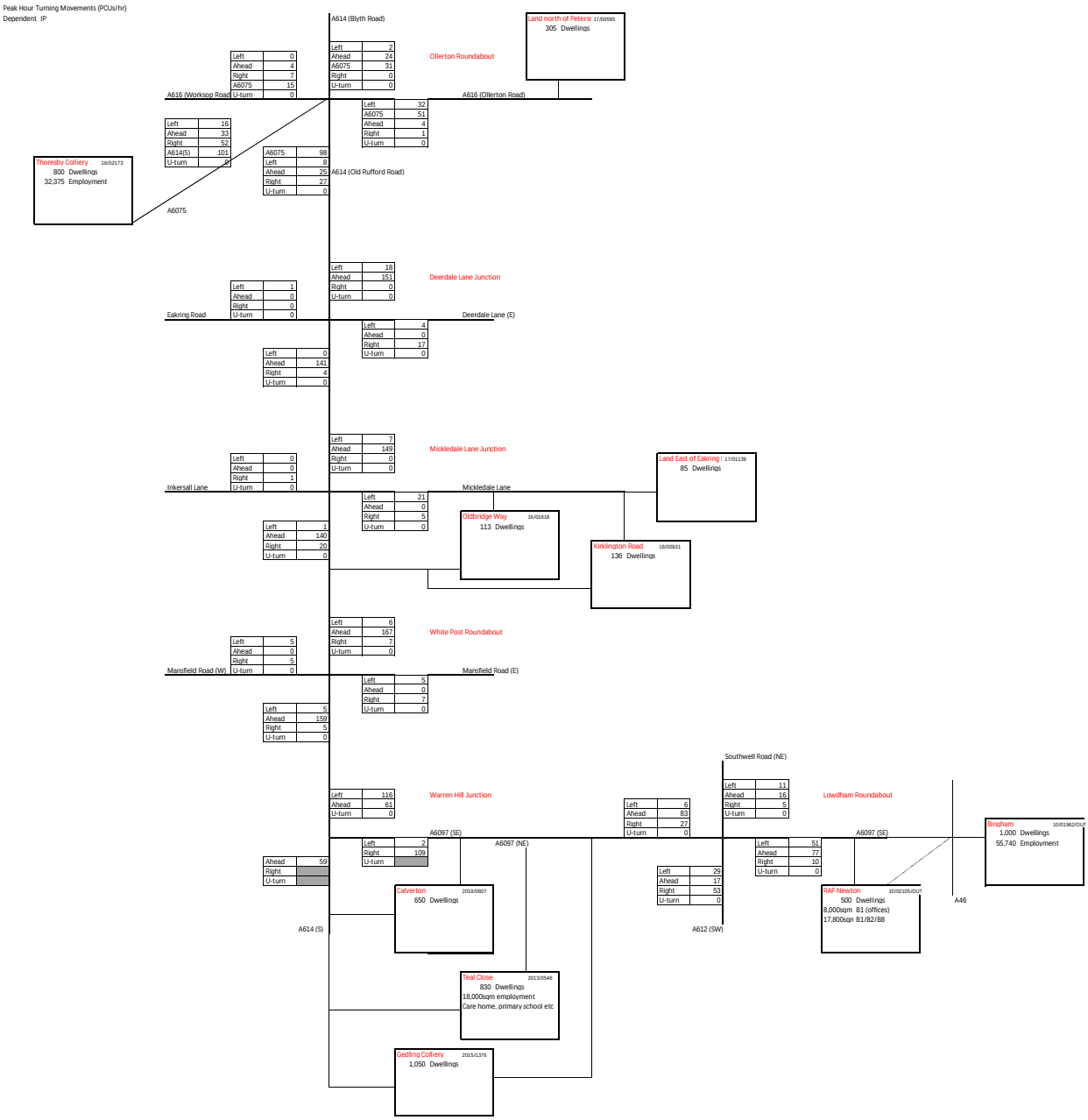

Peak Hour Turning Movements (PCUs/hr)
Non Dependent OP
A614 (Blyth Road)
Land north of Peters 17/00595
305 Dwellings
Off Peak Factor 0.097751
Ollerton Roundabout
A616 (Worksop Road)
A616 (Ollerton Road)
Thoresby Colliery 16/02173
150 Dwellings
8,094 Employment
A6075
A614 (Old Rufford Road)
Deerdale Lane Junction
Eakring Road
Deerdale Lane (E)
Mickledale Lane Junction
Land East of Eakring I 17/01139
85 Dwellings
Inkersall Lane
Mickledale Lane
Oldbridge Way 16/01618
113 Dwellings
Kirklington Road 18/00931
136 Dwellings
White Post Roundabout
Mansfield Road (W)
Mansfield Road (E)
Southwell Road (NE)
Warren Hill Junction
Lowdham Roundabout
A6097 (SE)
A6097 (NE)
A6097 (SE)
Bingham 10/01962/OUT
1,000 Dwellings
55,740 Employment
Calverton 2018/0607
650 Dwellings
A614 (S)
A612 (SW)
RAF Newton 10/02105/OUT
500 Dwellings
8,000sqm B1 (offices)
17,800sqn B1/B2/B8
A46
Teal Close 2013/0546
325 Dwellings
18,000sqm employment
Care home, primary school etc
Gedling Colliery 2015/1376
315 Dwellings
Arrivals X
Departure X

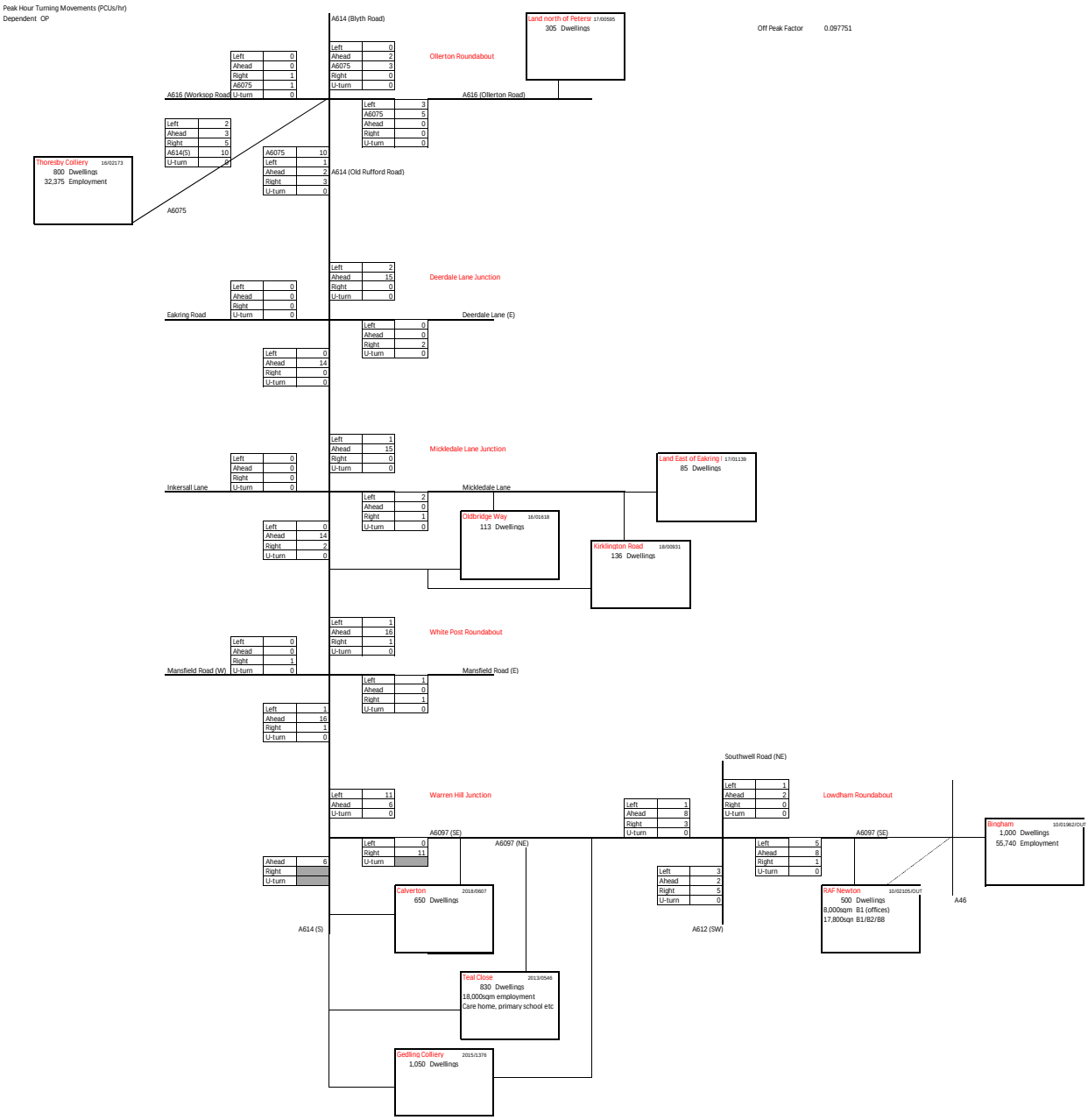

Peak Hour Turning Movements (PCUs/hr)
Dependent AM
A614 (Blyth Road)
Land north of Peters 17/00595
305 Dwellings
Ollerton Roundabout
A616 (Worksop Road)
A616 (Ollerton Road)
Thoresby Colliery 16/02173
800 Dwellings
32,375 Employment
A6075
A614 (Old Rufford Road)
Deerdale Lane Junction
Eakring Road
Deerdale Lane (E)
Mickledale Lane Junction
Land East of Eakring I 17/01139
85 Dwellings
Inkersall Lane
Mickledale Lane
Oldbridge Way 16/01618
113 Dwellings
Kirklington Road 18/00931
136 Dwellings
White Post Roundabout
Mansfield Road (W)
Mansfield Road (E)
Southwell Road (NE)
Warren Hill Junction
Lowdham Roundabout
A6097 (SE)
A6097 (NE)
A6097 (SE)
Bingham 10/01962/OUT
1,000 Dwellings
55,740 Employment
A614 (S)
A612 (SW)
A46
Calverton 2018/0607
650 Dwellings
RAF Newton 10/02105/OUT
500 Dwellings
8,000sqm B1 (offices)
17,800sqm B1/B2/B8
Teal Close 2013/0546
830 Dwellings
18,000sqm employment
Care home, primary school etc
Gedling Colliery 2015/1376
1,050 Dwellings

Peak Hour Turning Movements (PCUs/hr)
Dependent PM



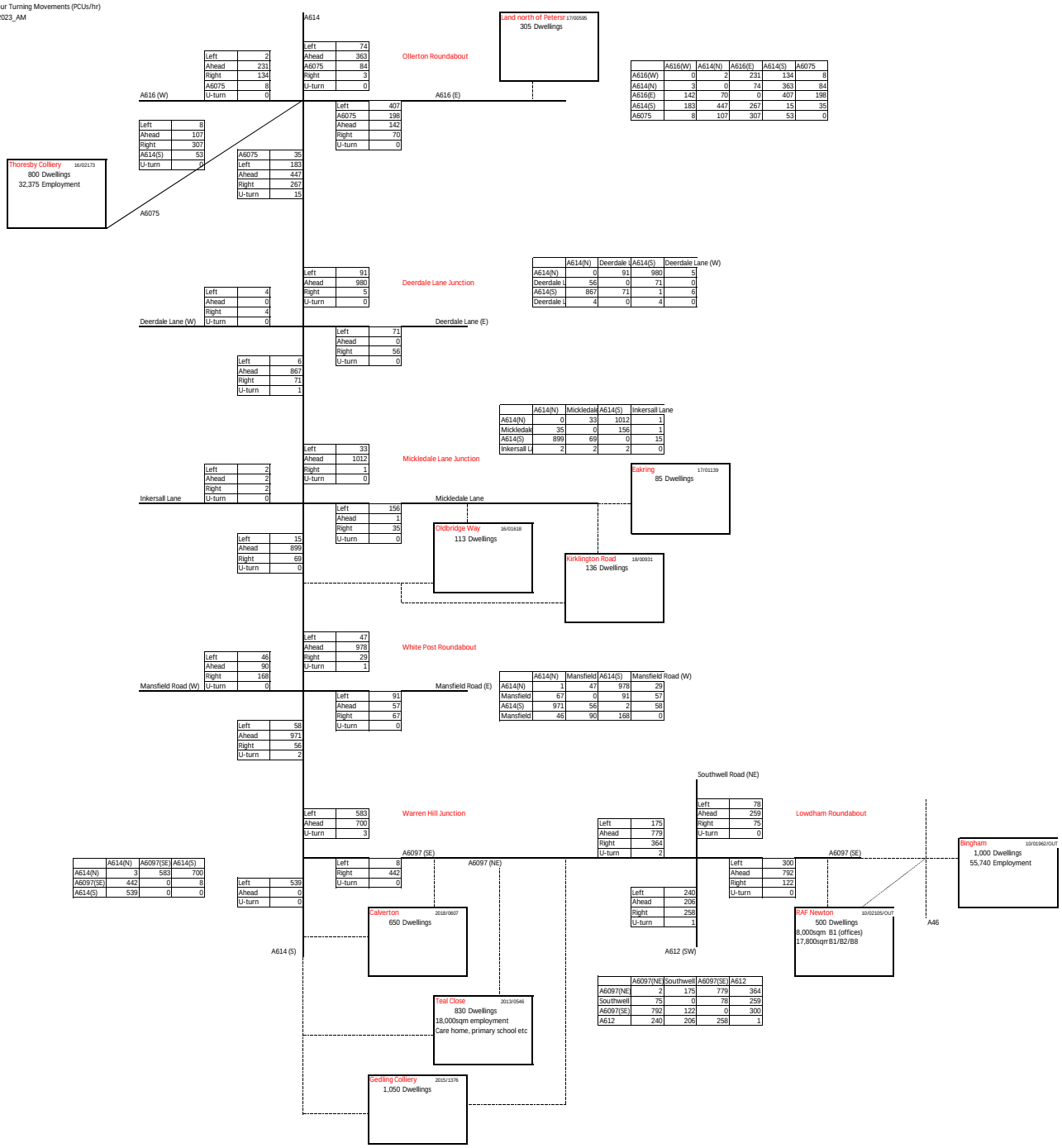
Peak Hour Turning Movements (PCUs/hr)
Dependent IP




Peak Hour Turning Movements (PCUs/hr)
Dependent OP
A614 (Blyth Road)
Land north of Petersr 17/00595
305 Dwellings
Off Peak Factor 0.097751
Ollerton Roundabout
A616 (Worksop Road)
A616 (Ollerton Road)
A614 (Old Rufford Road)
Thoresby Colliery 16/02173
800 Dwellings
32,375 Employment
A6075
Deerdale Lane Junction
Eakring Road
Deerdale Lane (E)
Mickledale Lane Junction
Land East of Eakring I 17/01139
85 Dwellings
Inkersall Lane
Mickledale Lane
Oldbridge Way 16/01618
113 Dwellings
Kirklington Road 18/00931
136 Dwellings
White Post Roundabout
Mansfield Road (W)
Mansfield Road (E)
Southwell Road (NE)
Warren Hill Junction
Lowdham Roundabout
A6097 (SE)
A6097 (NE)
A6097 (SE)
Bingham 10/01962/OUT
1,000 Dwellings
55,740 Employment
A614 (S)
A612 (SW)
A46
Calverton 2018/0607
650 Dwellings
RAF Newton 10/02105/OUT
500 Dwellings
8,000sqm B1 (offices)
17,800sqm B1/B2/B8
Teal Close 2013/0546
830 Dwellings
18,000sqm employment
Care home, primary school etc
Gedling Colliery 2015/1376
1,050 Dwellings

Appendix D – 2023 Opening Year Flows

Peak Hour Turning Movements (PCUs/hr)
FINAL_2023_AM



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	2	231	134	8
A614(N)	3	0	74	363	84
A616(E)	142	70	0	407	198
A614(S)	183	447	267	15	35
A6075	8	107	307	53	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	91	980	5
Deerdale L	56	0	71	0
A614(S)	867	71	1	6
Deerdale L	4	0	4	0

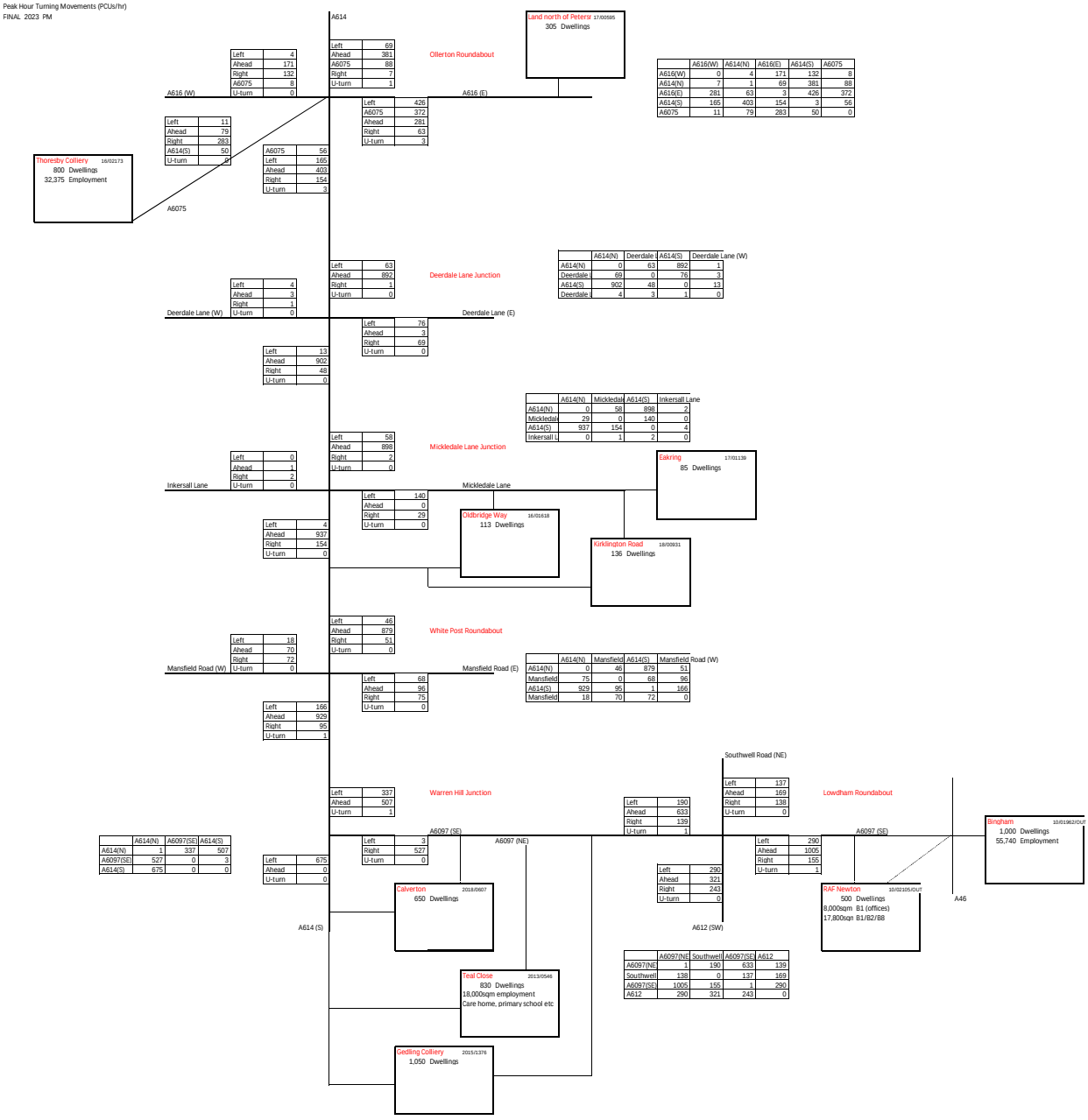
	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	33	1012	1
Mickledale	35	0	156	1
A614(S)	899	69	0	15
Inkersall L	2	2	2	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	1	47	978	29
Mansfield	67	0	91	57
A614(S)	971	56	2	58
Mansfield	46	90	168	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	3	583	700
A6097(SE)	442	0	8
A614(S)	539	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	2	175	779	364
Southwell	75	0	78	259
A6097(SE)	792	122	0	300
A612	240	206	258	1

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 PM



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	4	171	132	8
A614(N)	7	1	69	381	88
A616(E)	281	63	3	426	372
A614(S)	165	403	154	3	56
A6075	11	79	283	50	0

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	63	892	1
Deerdale	69	0	76	3
A614(S)	902	48	0	13
Deerdale	4	3	1	0

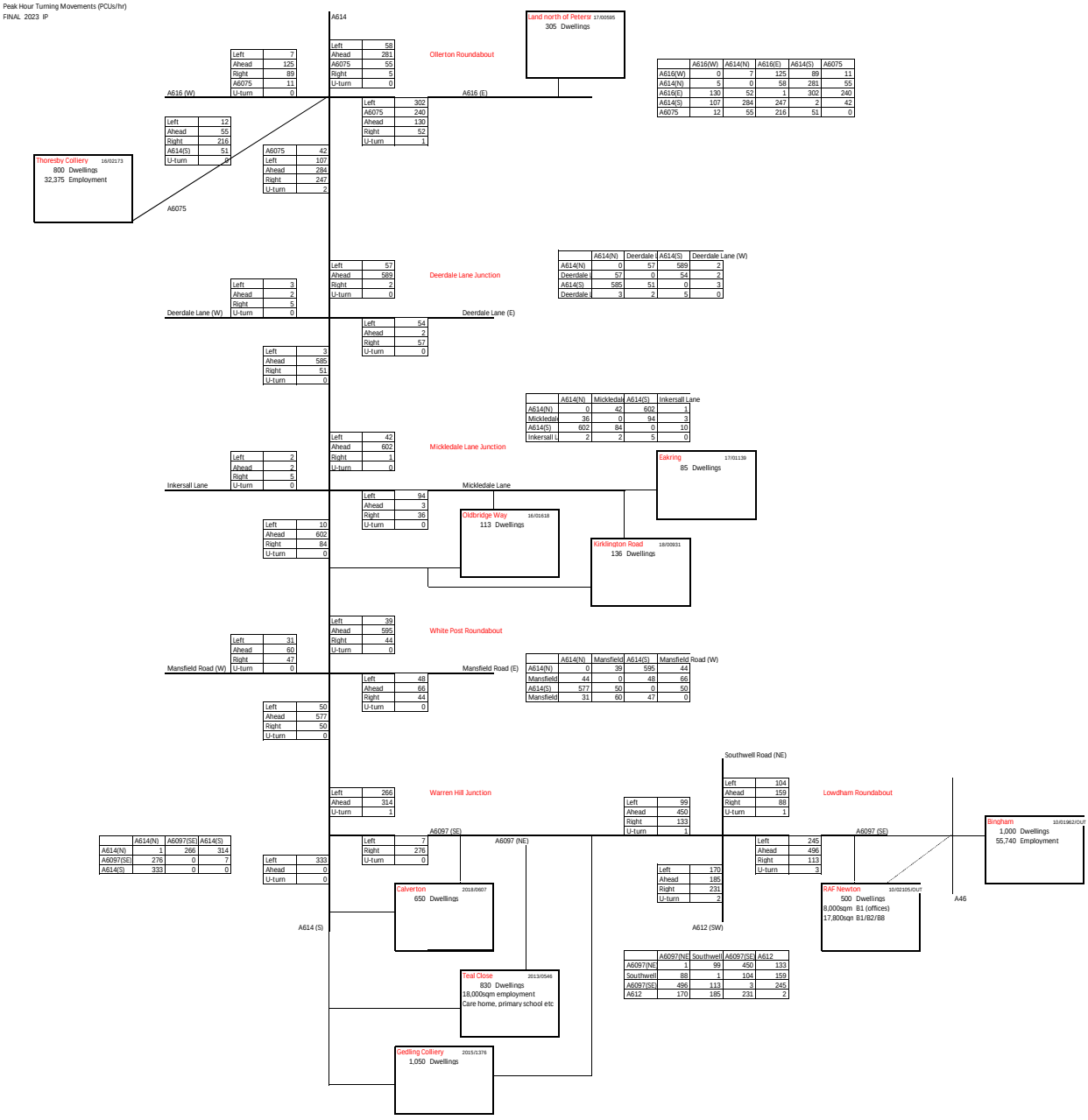
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	58	898	2
Mickledal	29	0	140	0
A614(S)	937	154	0	4
Inkersall L	0	1	2	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	46	879	51
Mansfield	75	0	68	96
A614(S)	929	95	1	166
Mansfield	18	70	72	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	337	507
A6097(SE)	527	0	3
A614(S)	675	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	190	633	139
Southwell	138	0	137	169
A6097(SE)	1005	155	1	290
A612	290	321	243	0

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 IP



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	7	125	89	11
A614(N)	5	0	58	281	55
A616(E)	130	52	1	302	240
A614(S)	107	284	247	2	42
A6075	12	55	216	51	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	57	589	2
Deerdale L	57	0	54	2
A614(S)	585	51	0	3
Deerdale L	3	2	5	0

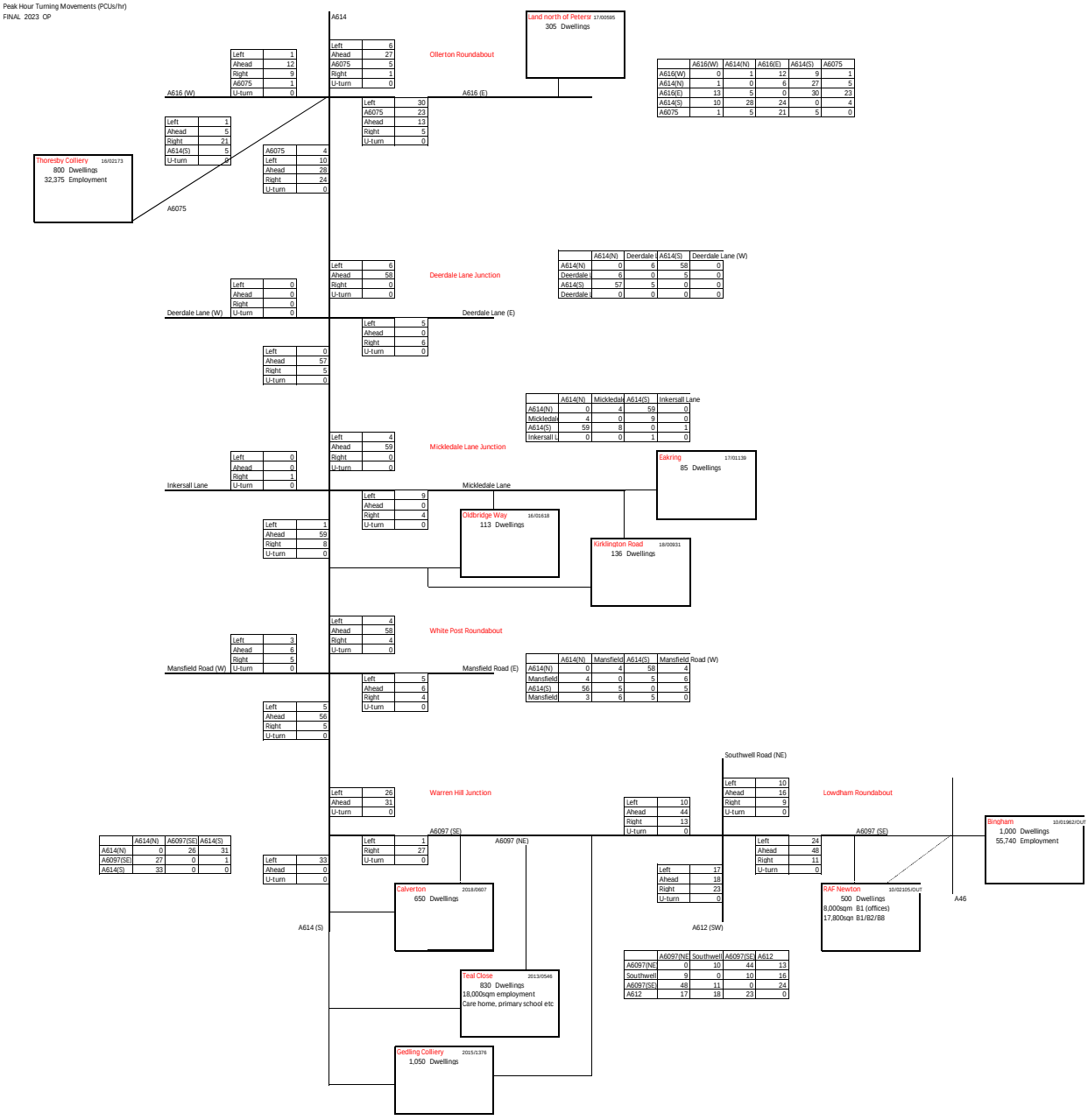
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	42	602	1
Mickledal	36	0	94	3
A614(S)	602	84	0	10
Inkersall L	2	2	5	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	39	595	44
Mansfield	44	0	48	66
A614(S)	577	50	0	50
Mansfield	31	60	47	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	266	314
A6097(SE)	276	0	7
A614(S)	333	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	99	450	133
Southwell	88	1	104	159
A6097(SE)	496	113	3	245
A612	170	185	231	2

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 OP



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	1	12	9	1
A614(N)	1	0	6	27	5
A616(E)	13	5	0	30	23
A614(S)	10	28	24	0	4
A6075	1	5	21	5	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	6	58	0
Deerdale L	6	0	5	0
A614(S)	57	5	0	0
Deerdale L	0	0	0	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	4	59	0
Mickledal	4	0	9	0
A614(S)	59	8	0	1
Inkersall L	0	0	1	0

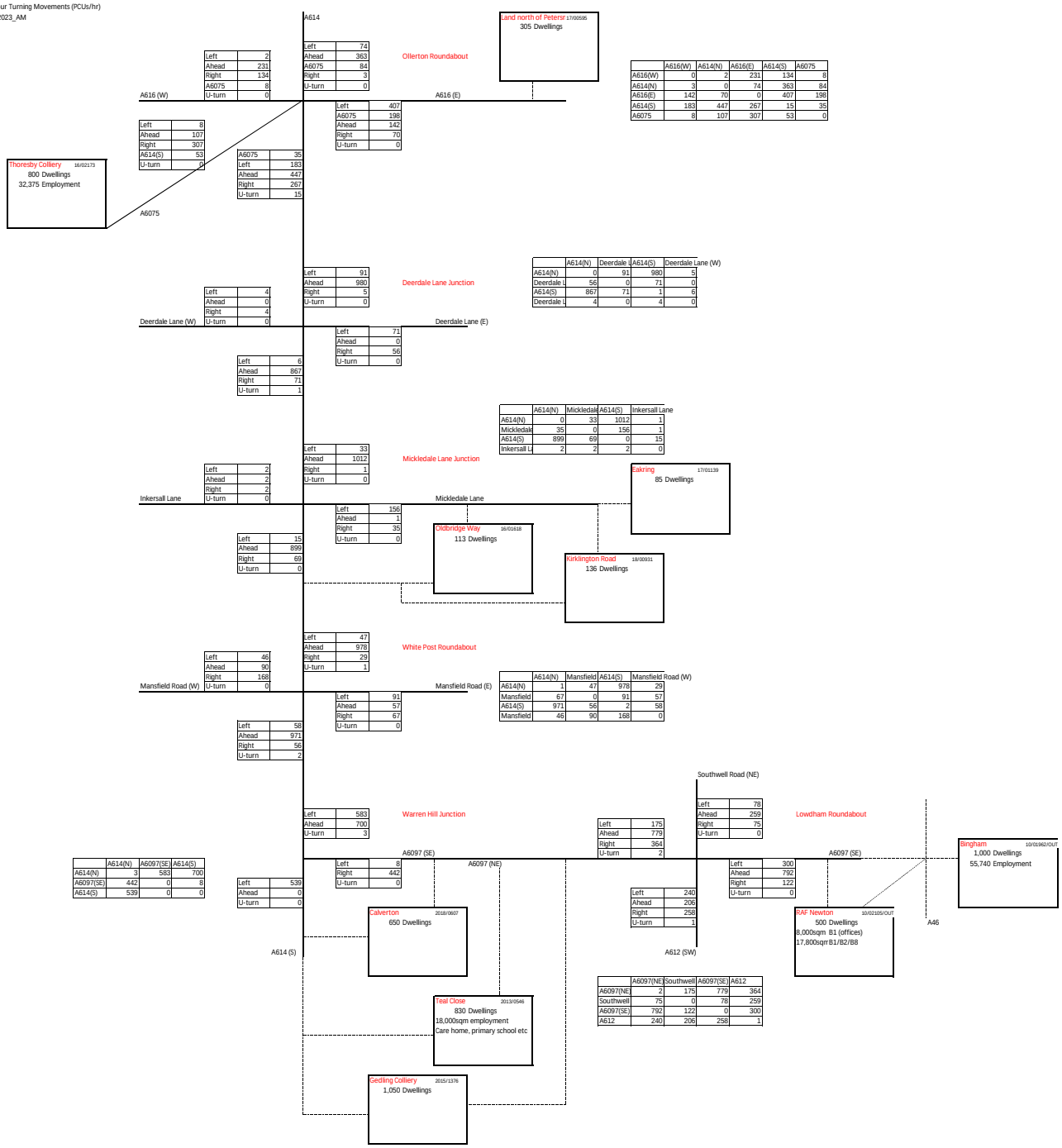
	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	4	58	4
Mansfield	4	0	5	6
A614(S)	56	5	0	5
Mansfield	3	6	5	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	0	26	31
A6097(SE)	27	0	1
A614(S)	33	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	0	10	44	13
Southwell	9	0	10	16
A6097(SE)	48	11	0	24
A612	17	18	23	0

Appendix E – 2027 Design Year Flows

Peak Hour Turning Movements (PCUs/hr)
FINAL_2023_AM



Left	2	
Ahead	231	
Right	134	
A6075	8	
U-turn	0	

Left	74	
Ahead	363	
A6075	84	
Right	3	
U-turn	0	

Left	407	
A6075	198	
Ahead	142	
Right	70	
U-turn	0	

Left	8	
Ahead	107	
Right	307	
A614(S)	53	
U-turn	0	

A6075	35	
Left	183	
Ahead	447	
Right	267	
U-turn	15	

	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	2	231	134	8
A614(N)	3	0	74	363	84
A616(E)	142	70	0	407	198
A614(S)	183	447	267	15	35
A6075	8	107	307	53	0

Left	91	
Ahead	980	
Right	5	
U-turn	0	

Left	4	
Ahead	0	
Right	4	
U-turn	0	

Left	71	
Ahead	0	
Right	56	
U-turn	0	

Left	6	
Ahead	867	
Right	71	
U-turn	1	

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	91	980	5
Deerdale L	56	0	71	0
A614(S)	867	71	1	6
Deerdale L	4	0	4	0

Left	33	
Ahead	1012	
Right	1	
U-turn	0	

Left	2	
Ahead	2	
Right	2	
U-turn	0	

Left	156	
Ahead	1	
Right	35	
U-turn	0	

Left	15	
Ahead	899	
Right	69	
U-turn	0	

	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	33	1012	1
Mickledale	35	0	156	1
A614(S)	899	69	0	15
Inkersall L	2	2	2	0

Left	47	
Ahead	976	
Right	29	
U-turn	1	

Left	46	
Ahead	90	
Right	168	
U-turn	0	

Left	91	
Ahead	57	
Right	67	
U-turn	0	

Left	58	
Ahead	971	
Right	56	
U-turn	2	

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	1	47	978	29
Mansfield	67	0	91	57
A614(S)	971	56	2	58
Mansfield	46	90	168	0

Left	583	
Ahead	700	
U-turn	3	

Left	8	
Right	442	
U-turn	0	

Left	539	
Ahead	0	
U-turn	0	

	A614(N)	A6097(SE)	A614(S)
A614(N)	3	583	700
A6097(SE)	442	0	8
A614(S)	539	0	0

Left	175	
Ahead	779	
Right	364	
U-turn	2	

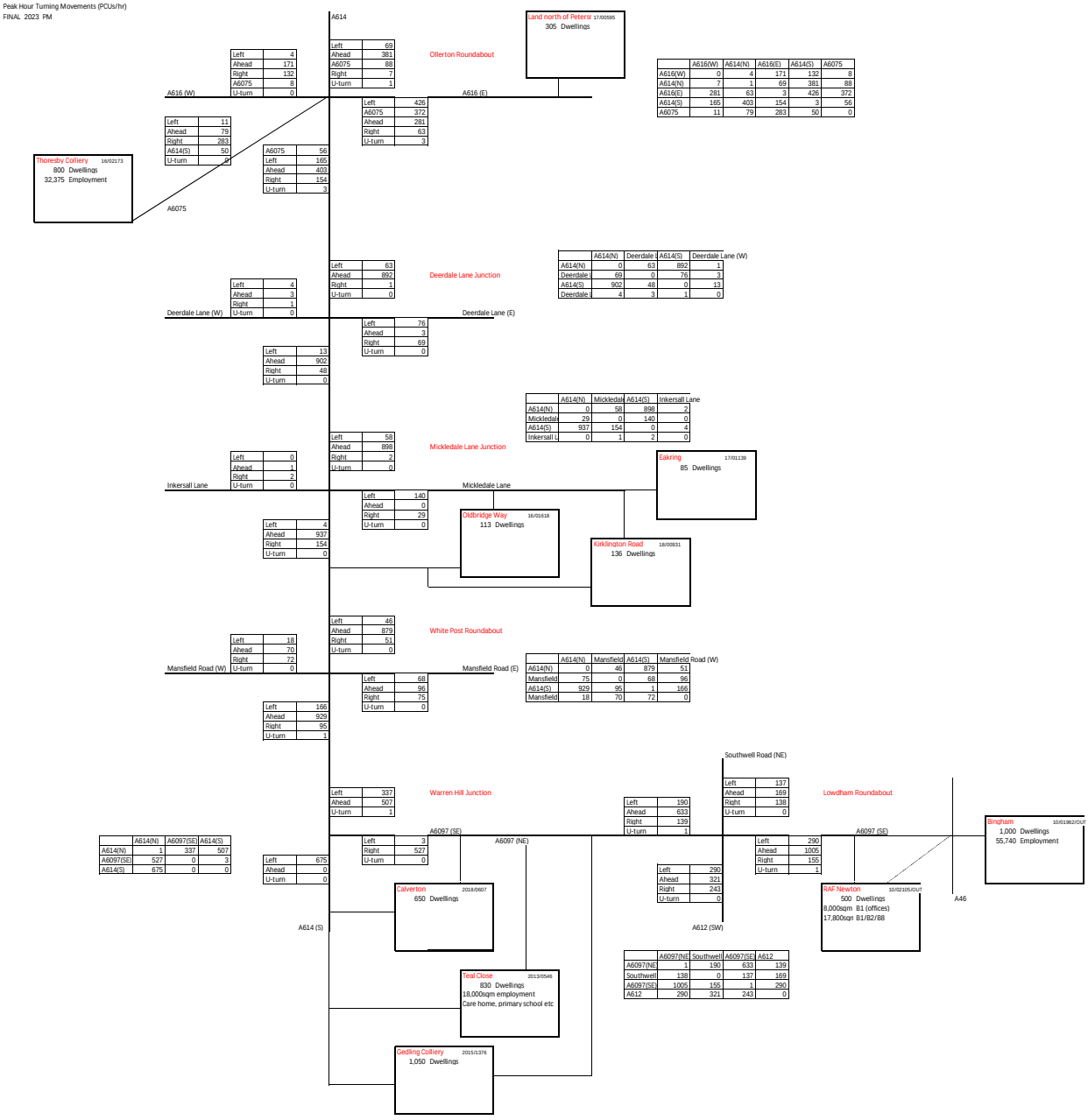
Left	78	
Ahead	259	
Right	75	
U-turn	0	

Left	300	
Ahead	792	
Right	122	
U-turn	0	

Left	240	
Ahead	206	
Right	258	
U-turn	1	

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	2	175	779	364
Southwell	75	0	78	259
A6097(SE)	792	122	0	300
A612	240	206	258	1

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 PM



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	4	171	132	8
A614(N)	7	1	69	381	88
A616(E)	281	63	3	426	372
A614(S)	165	403	154	3	56
A6075	11	79	283	50	0

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	63	892	1
Deerdale	69	0	76	3
A614(S)	902	48	0	13
Deerdale	4	3	1	0

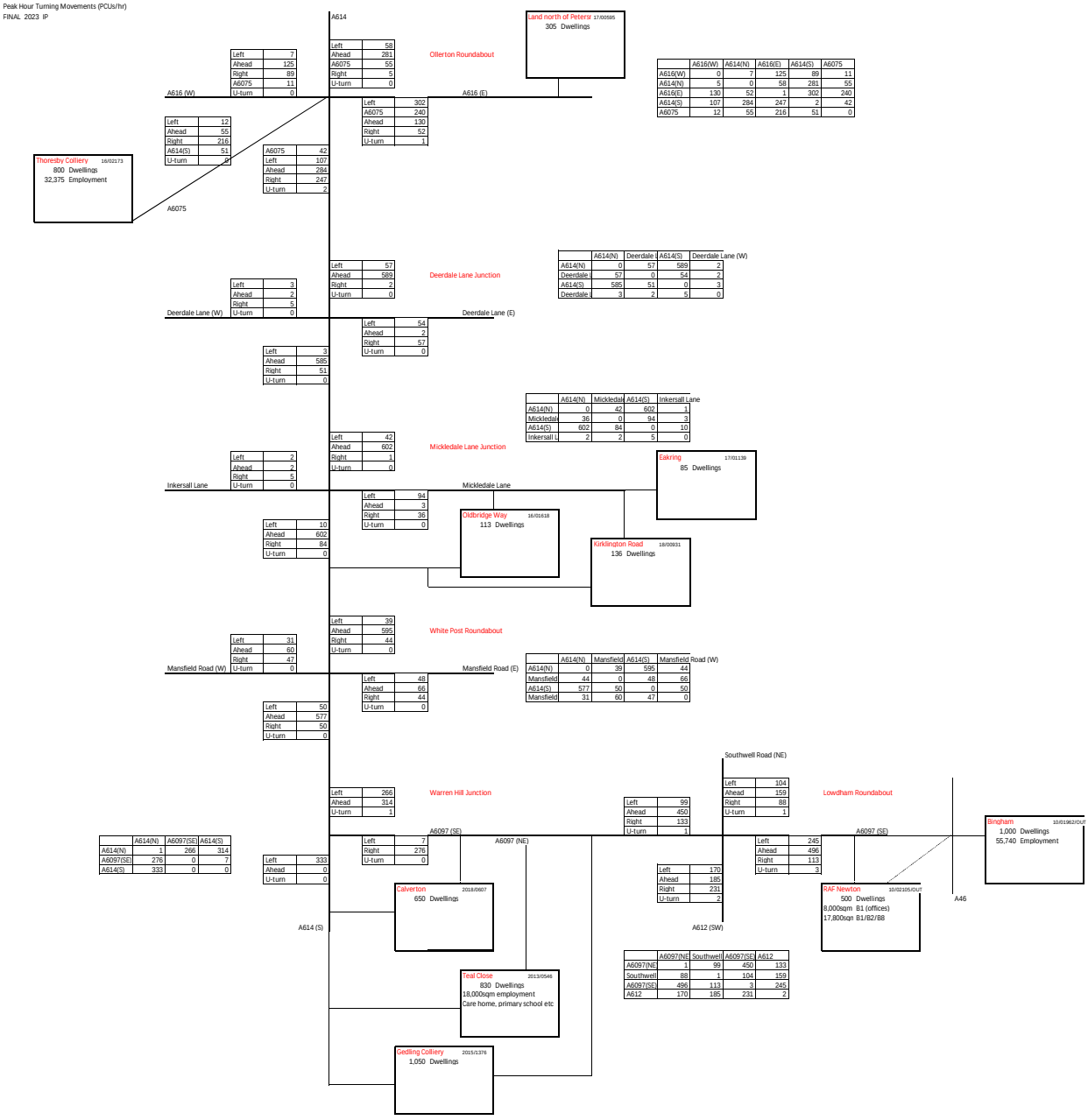
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	58	898	2
Mickledal	29	0	140	0
A614(S)	937	154	0	4
Inkersall L	0	1	2	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	46	879	51
Mansfield	75	0	68	96
A614(S)	929	95	1	166
Mansfield	18	70	72	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	337	507
A6097(SE)	527	0	3
A614(S)	675	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	190	633	139
Southwell	138	0	137	169
A6097(SE)	1005	155	1	290
A612	290	321	243	0

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 IP



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	7	125	89	11
A614(N)	5	0	58	281	55
A616(E)	130	52	1	302	240
A614(S)	107	284	247	2	42
A6075	12	55	216	51	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	57	589	2
Deerdale L	57	0	54	2
A614(S)	585	51	0	3
Deerdale L	3	2	5	0

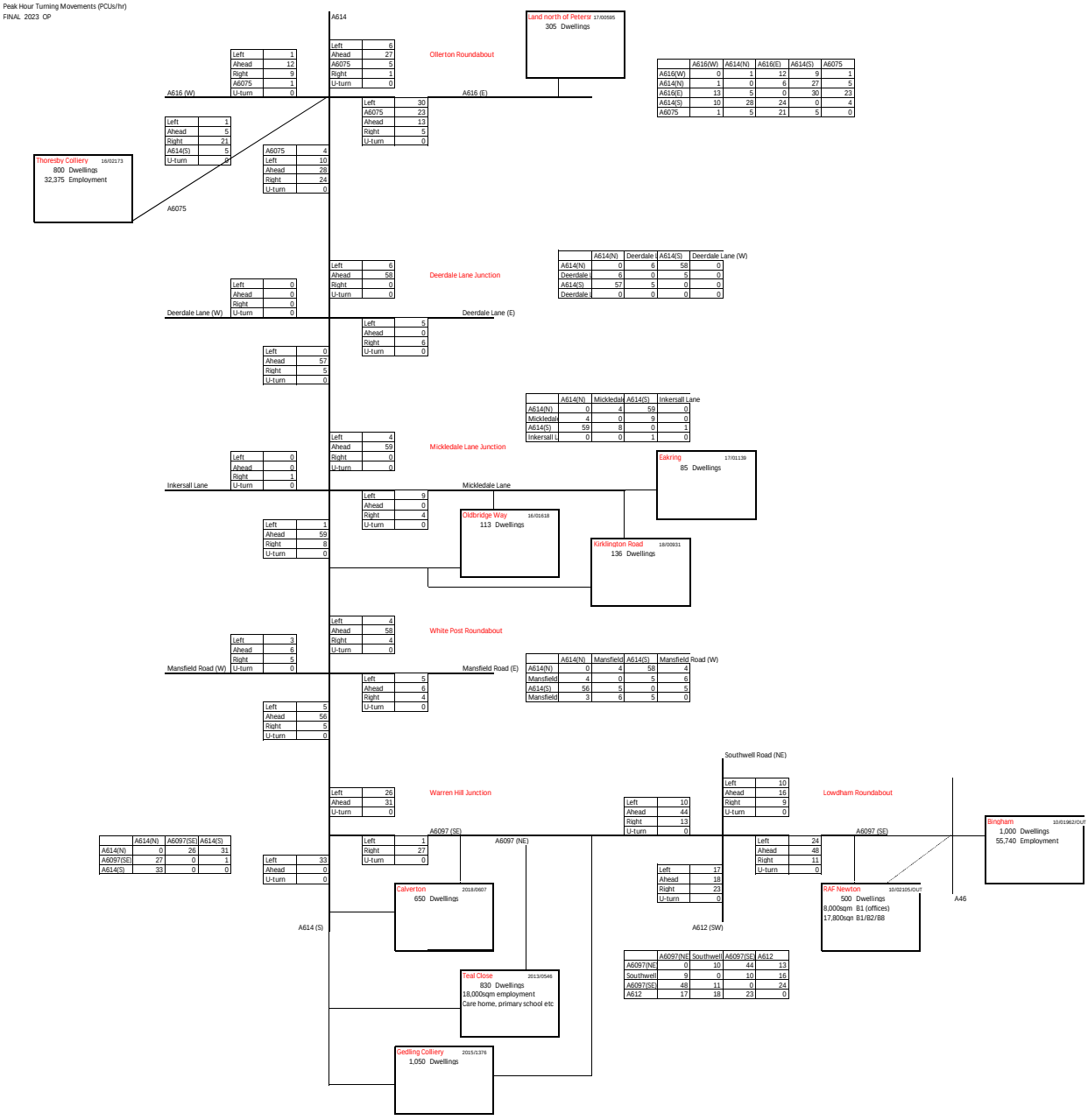
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	42	602	1
Mickledal	36	0	94	3
A614(S)	602	84	0	10
Inkersall L	2	2	5	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	39	595	44
Mansfield	44	0	48	66
A614(S)	577	50	0	50
Mansfield	31	60	47	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	266	314
A6097(SE)	276	0	7
A614(S)	333	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	99	450	133
Southwell	88	1	104	159
A6097(SE)	496	113	3	245
A612	170	185	231	2

Peak Hour Turning Movements (PCUs/hr)
FINAL 2023 OP



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	1	12	9	1
A614(N)	1	0	6	27	5
A616(E)	13	5	0	30	23
A614(S)	10	28	24	0	4
A6075	1	5	21	5	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	6	58	0
Deerdale L	6	0	5	0
A614(S)	57	5	0	0
Deerdale L	0	0	0	0

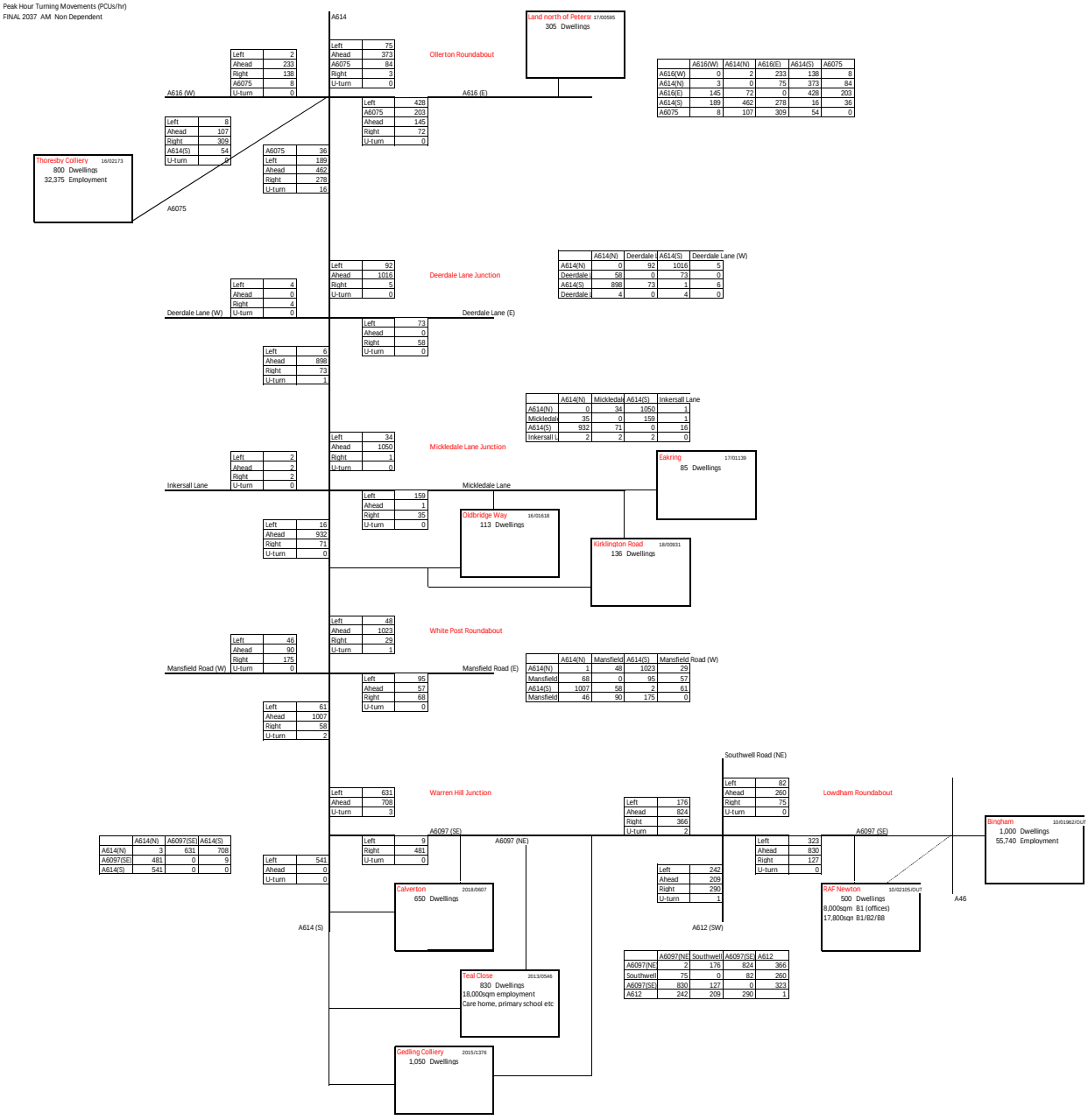
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	4	59	0
Mickledal	4	0	9	0
A614(S)	59	8	0	1
Inkersall L	0	0	1	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	4	58	4
Mansfield	4	0	5	6
A614(S)	56	5	0	5
Mansfield	3	6	5	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	0	26	31
A6097(SE)	27	0	1
A614(S)	33	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	0	10	44	13
Southwell	9	0	10	16
A6097(SE)	48	11	0	24
A612	17	18	23	0

Peak Hour Turning Movements (PCUs/hr)
FINAL 2037 AM Non Dependent



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	2	233	138	8
A614(N)	3	0	75	373	84
A616(E)	145	72	0	428	203
A614(S)	189	462	278	16	36
A6075	8	107	309	54	0

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	92	1016	5
Deerdale L	58	0	73	0
A614(S)	898	73	1	6
Deerdale L	4	0	4	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	34	1050	1
Mickledal	35	0	159	1
A614(S)	932	71	0	16
Inkersall L	2	2	2	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	1	48	1023	29
Mansfield	68	0	95	57
A614(S)	1007	58	2	61
Mansfield	46	90	175	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	3	631	708
A6097(SE)	481	0	9
A614(S)	541	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	2	176	824	366
Southwell	75	0	82	260
A6097(SE)	830	127	0	323
A612	242	209	290	1

Left	2	Left	75
Ahead	233	Ahead	373
Right	138	A6075	84
A6075	8	Right	3
U-turn	0	U-turn	0

Left	428
A6075	203
Ahead	145
Right	72
U-turn	0

Left	8
Ahead	107
Right	309
A614(S)	54
U-turn	0

A6075	36
Left	189
Ahead	462
Right	278
U-turn	16

Left	92
Ahead	1016
Right	5
U-turn	0

Left	4
Ahead	0
Right	4
U-turn	0

Left	73
Ahead	0
Right	58
U-turn	0

Left	6
Ahead	898
Right	73
U-turn	1

Left	34
Ahead	1050
Right	1
U-turn	0

Left	2
Ahead	2
Right	2
U-turn	0

Left	159
Ahead	1
Right	35
U-turn	0

Left	16
Ahead	932
Right	71
U-turn	0

Left	48
Ahead	1023
Right	29
U-turn	1

Left	46
Ahead	90
Right	175
U-turn	0

Left	95
Ahead	57
Right	68
U-turn	0

Left	61
Ahead	1007
Right	58
U-turn	2

Left	631
Ahead	708
U-turn	3

Left	9
Right	481
U-turn	0

Left	541
Ahead	0
U-turn	0

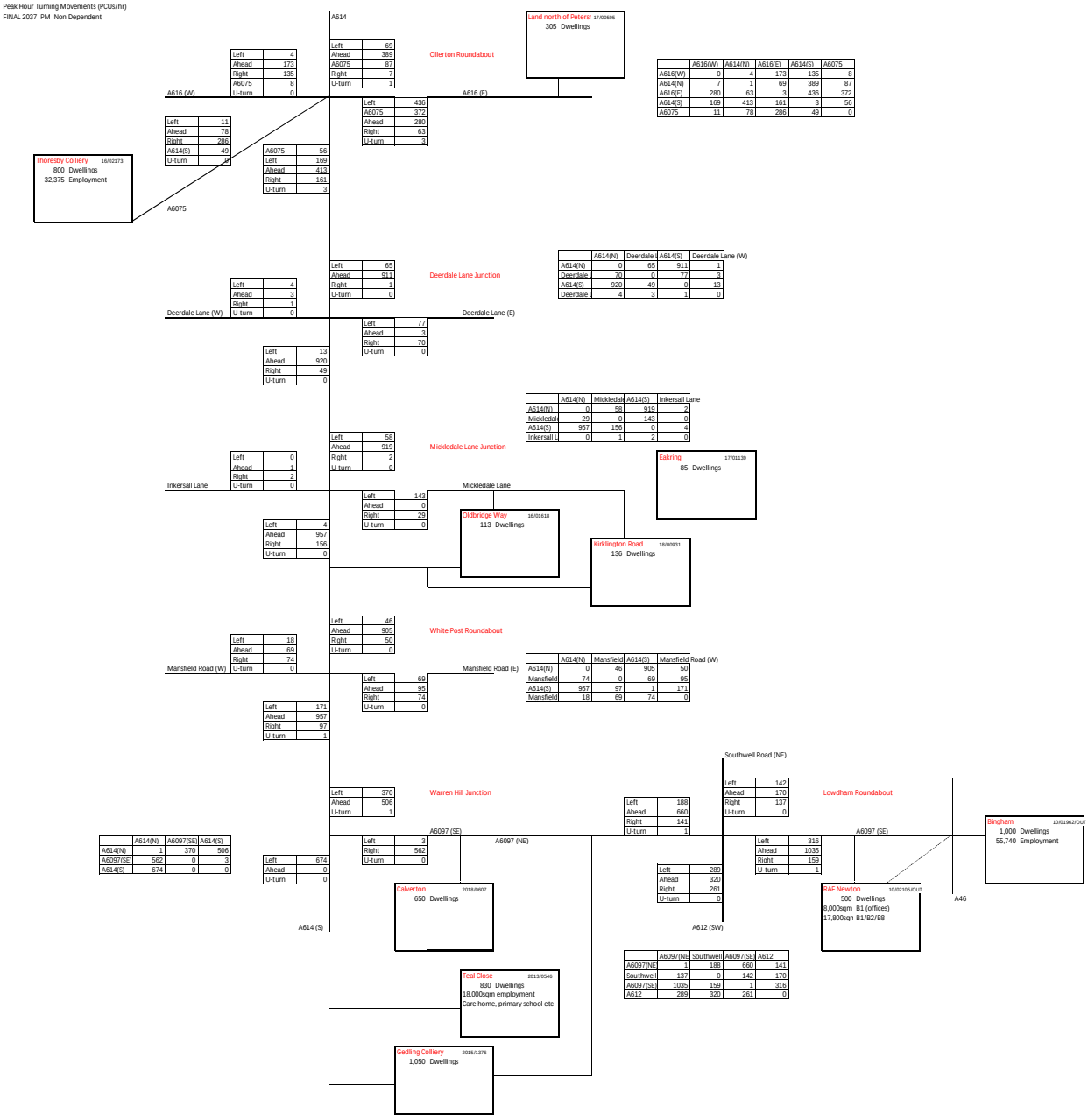
Left	176
Ahead	824
Right	366
U-turn	2

Left	242
Ahead	209
Right	290
U-turn	1

Left	82
Ahead	260
Right	75
U-turn	0

Left	323
Ahead	830
Right	127
U-turn	0

Peak Hour Turning Movements (PCUs/hr)
FINAL 2037 PM Non Dependent



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	4	173	135	8
A614(N)	7	1	69	389	87
A616(E)	280	63	3	436	372
A614(S)	169	413	161	3	56
A6075	11	78	286	49	0

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	65	911	1
Deerdale	70	0	77	3
A614(S)	920	49	0	13
Deerdale	4	3	1	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	58	919	2
Mickledal	29	0	143	0
A614(S)	957	156	0	4
Inkersall L	0	1	2	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	46	905	50
Mansfield	74	0	69	95
A614(S)	957	97	1	171
Mansfield	18	69	74	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	370	506
A6097(SE)	562	0	3
A614(S)	674	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	188	660	141
Southwell	137	0	142	170
A6097(SE)	1035	159	1	316
A612	289	320	261	0

Left	4	Left	69
Ahead	173	Ahead	389
Right	135	A6075	87
A6075	8	Right	7
U-turn	0	U-turn	1

Left	436
A6075	372
Ahead	280
Right	63
U-turn	3

Left	11
Ahead	78
Right	286
A614(S)	49
U-turn	0

A6075	56
Left	169
Ahead	413
Right	161
U-turn	3

Left	65
Ahead	911
Right	1
U-turn	0

Left	4
Ahead	3
Right	1
U-turn	0

Left	77
Ahead	3
Right	70
U-turn	0

Left	13
Ahead	920
Right	49
U-turn	0

Left	58
Ahead	919
Right	2
U-turn	0

Left	0
Ahead	1
Right	2
U-turn	0

Left	143
Ahead	0
Right	29
U-turn	0

Left	4
Ahead	957
Right	156
U-turn	0

Left	46
Ahead	905
Right	50
U-turn	0

Left	18
Ahead	69
Right	74
U-turn	0

Left	69
Ahead	95
Right	74
U-turn	0

Left	171
Ahead	957
Right	97
U-turn	1

Left	370
Ahead	506
U-turn	1

Left	3
Right	562
U-turn	0

Left	674
Ahead	0
U-turn	0

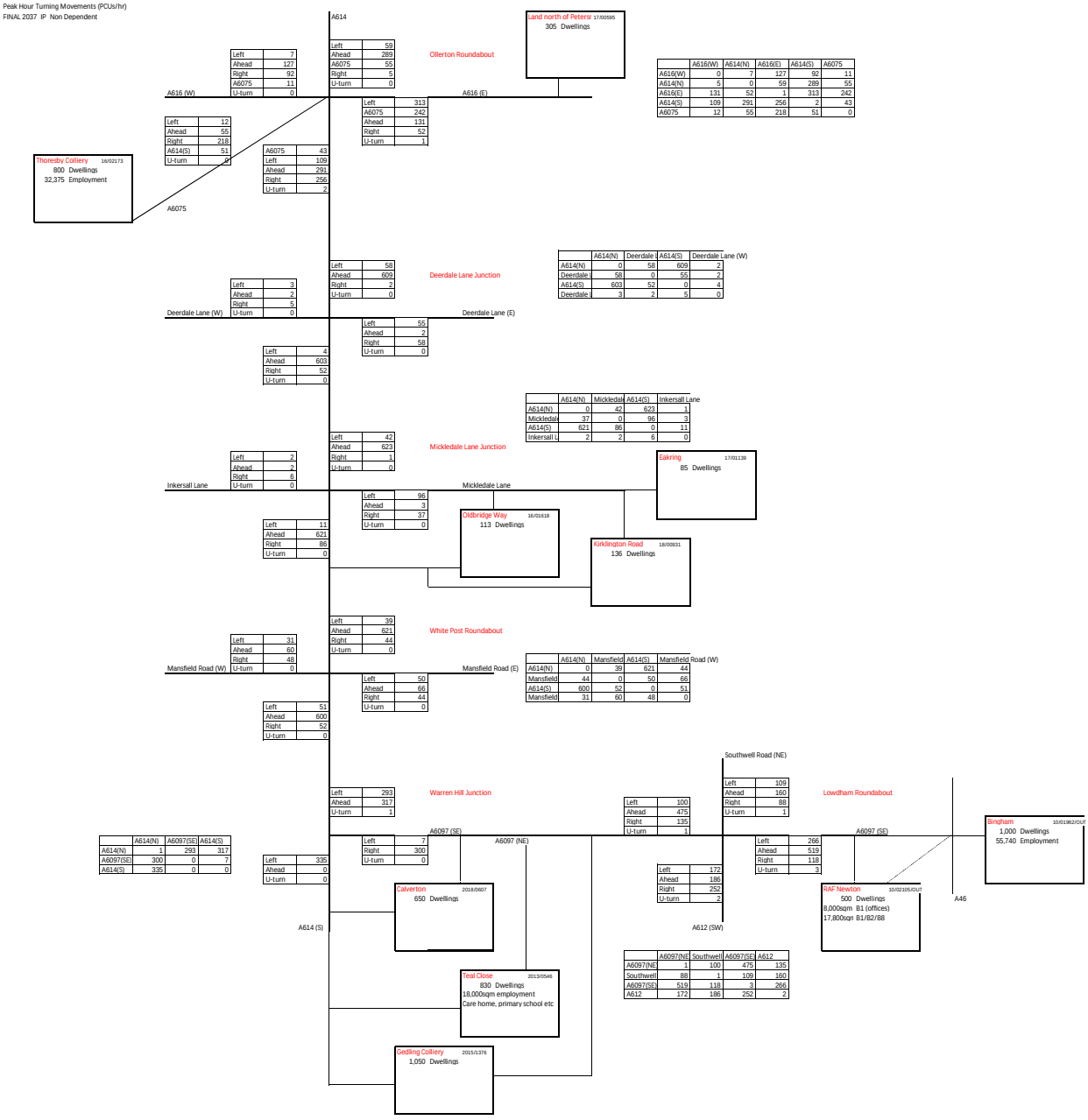
Left	188
Ahead	660
Right	141
U-turn	1

Left	142
Ahead	170
Right	137
U-turn	0

Left	316
Ahead	1035
Right	159
U-turn	1

Left	289
Ahead	320
Right	261
U-turn	0

Peak Hour Turning Movements (PCUs/hr)
FINAL 2037 IP Non Dependent



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	7	127	92	11
A614(N)	5	0	59	289	55
A616(E)	131	52	1	313	242
A614(S)	109	291	256	2	43
A6075	12	55	218	51	0

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	58	609	2
Deerdale L	58	0	55	2
A614(S)	603	52	0	4
Deerdale L	3	2	5	0

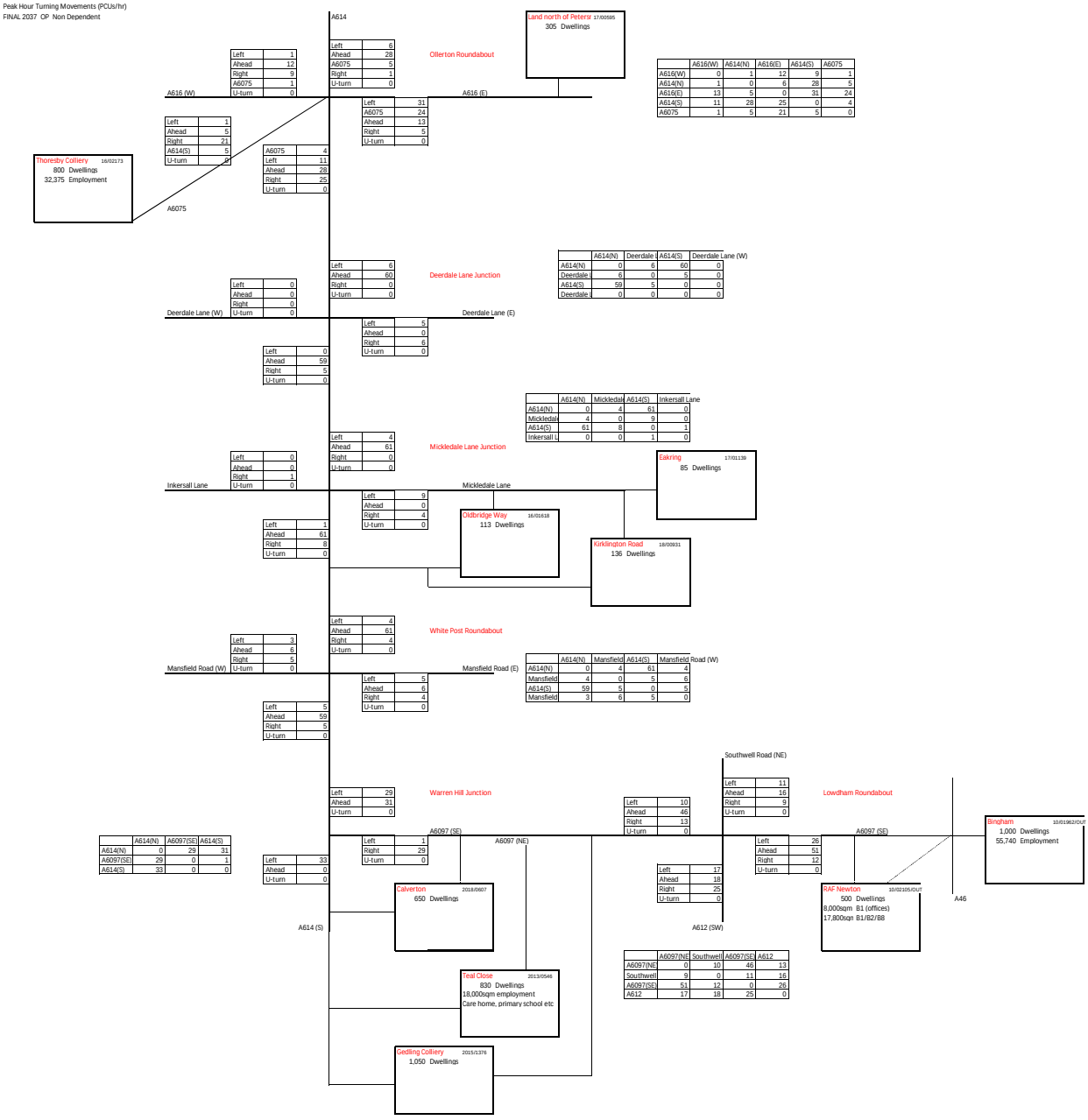
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	42	623	1
Mickledal	37	0	96	3
A614(S)	621	86	0	11
Inkersall L	2	2	6	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	39	621	44
Mansfield	44	0	50	66
A614(S)	600	52	0	51
Mansfield	31	60	48	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	1	293	317
A6097(SE)	300	0	7
A614(S)	335	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	1	100	475	135
Southwell	88	1	109	160
A6097(SE)	519	118	3	266
A612	172	186	252	2

Peak Hour Turning Movements (PCUs/hr)
FINAL 2037 OP Non Dependent



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	0	1	12	9	1
A614(N)	1	0	6	28	5
A616(E)	13	5	0	31	24
A614(S)	11	28	25	0	4
A6075	1	5	21	5	0

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	6	60	0
Deerdale L	6	0	5	0
A614(S)	59	5	0	0
Deerdale L	0	0	0	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	4	61	0
Mickledal	4	0	9	0
A614(S)	61	8	0	1
Inkersall L	0	0	1	0

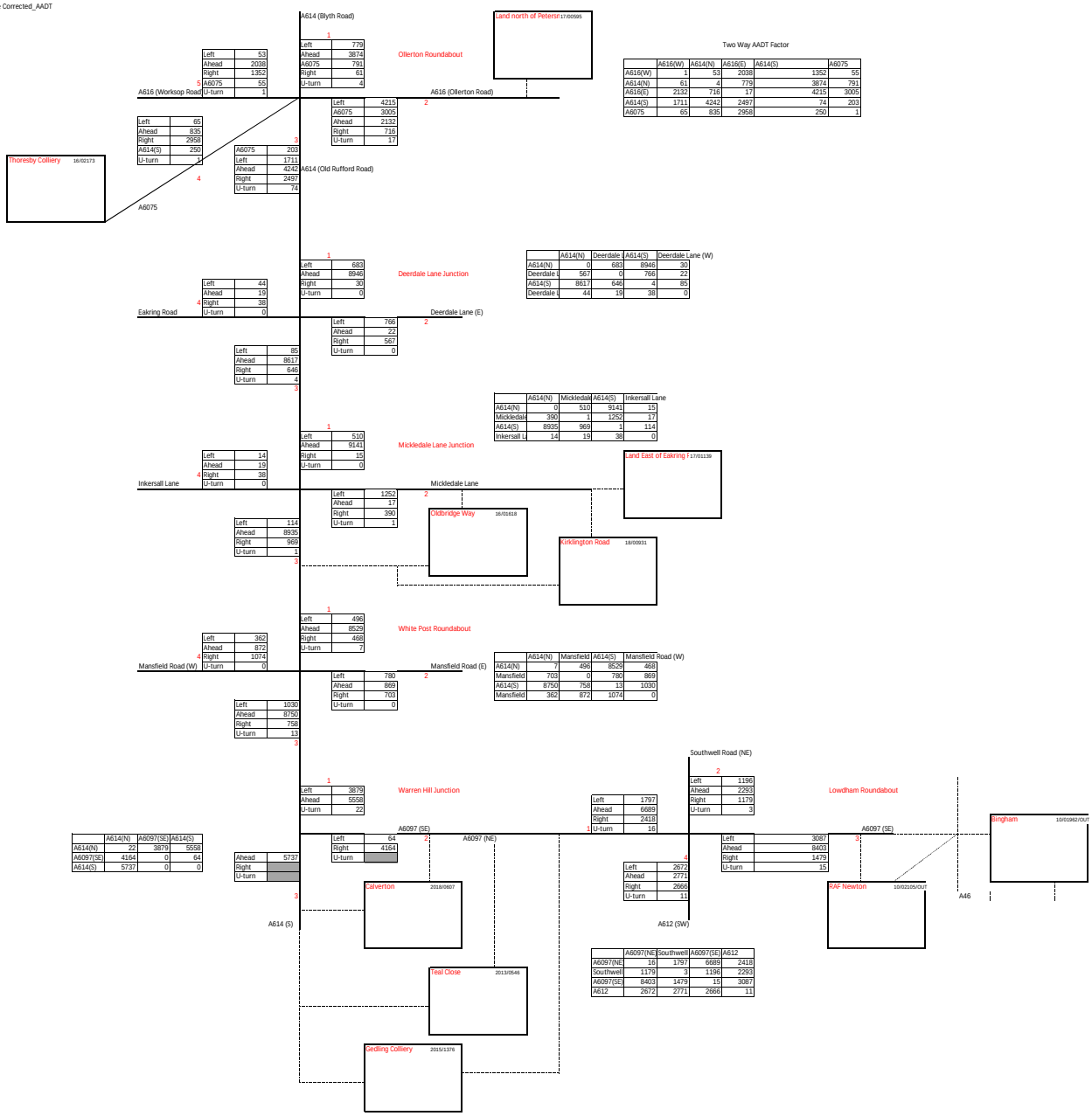
	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	0	4	61	4
Mansfield	4	0	5	6
A614(S)	59	5	0	5
Mansfield	3	6	5	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	0	29	31
A6097(SE)	29	0	1
A614(S)	33	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	0	10	46	13
Southwell	9	0	11	16
A6097(SE)	51	12	0	26
A612	17	18	25	0

Appendix F – AADT Flows

Baseline Corrected_AADT



Left	53	1
Ahead	2038	
Right	1352	
A6075	55	
U-turn	1	

Left	779	1
Ahead	3874	
A6075	791	
Right	61	
U-turn	4	

Left	4215	2
A6075	3005	
Ahead	2132	
Right	716	
U-turn	17	

Left	65	4
Ahead	835	
Right	2958	
A614(S)	250	
U-turn		

A6075	203	3
Left	1711	
Ahead	4242	
Right	2497	
U-turn	74	

Left	683	1
Ahead	8946	
Right	30	
U-turn	0	

Left	44	4
Ahead	19	
Right	38	
U-turn	0	

Left	766	2
Ahead	22	
Right	567	
U-turn	0	

Left	85	3
Ahead	8617	
Right	646	
U-turn	4	

Left	510	1
Ahead	9141	
Right	15	
U-turn	0	

Left	14	4
Ahead	19	
Right	38	
U-turn	0	

Left	1252	2
Ahead	17	
Right	390	
U-turn	1	

Left	114	3
Ahead	8935	
Right	969	
U-turn	1	

Left	496	1
Ahead	8529	
Right	468	
U-turn	7	

Left	362	4
Ahead	872	
Right	1074	
U-turn	0	

Left	780	2
Ahead	869	
Right	703	
U-turn	0	

Left	1030	3
Ahead	8750	
Right	758	
U-turn	13	

Left	3879	1
Ahead	5558	
U-turn	22	

Left	64	2
Right	4164	
U-turn		

Ahead	5737	3
Right		
U-turn		

Left	1797	1
Ahead	6689	
Right	2418	
U-turn	18	

Left	2672	4
Ahead	2771	
Right	2666	
U-turn	11	

Left	1196	2
Ahead	2293	
Right	1179	
U-turn	3	

Left	3087	3
Ahead	8403	
Right	1479	
U-turn	15	

	A614(N)	Deerdale L	A614(S)	Deerdale Lane (W)
A614(N)	0	683	8946	30
Deerdale L	567	0	766	22
A614(S)	8617	646	4	85
Deerdale L	44	19	38	0

	A614(N)	Mickledale	A614(S)	Inkersall Lane
A614(N)	0	510	9141	15
Mickledale	390	1	1252	17
A614(S)	8935	969	1	114
Inkersall La	14	19	38	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	7	496	8529	468
Mansfield	703	0	780	869
A614(S)	8750	758	13	1030
Mansfield	362	872	1074	0

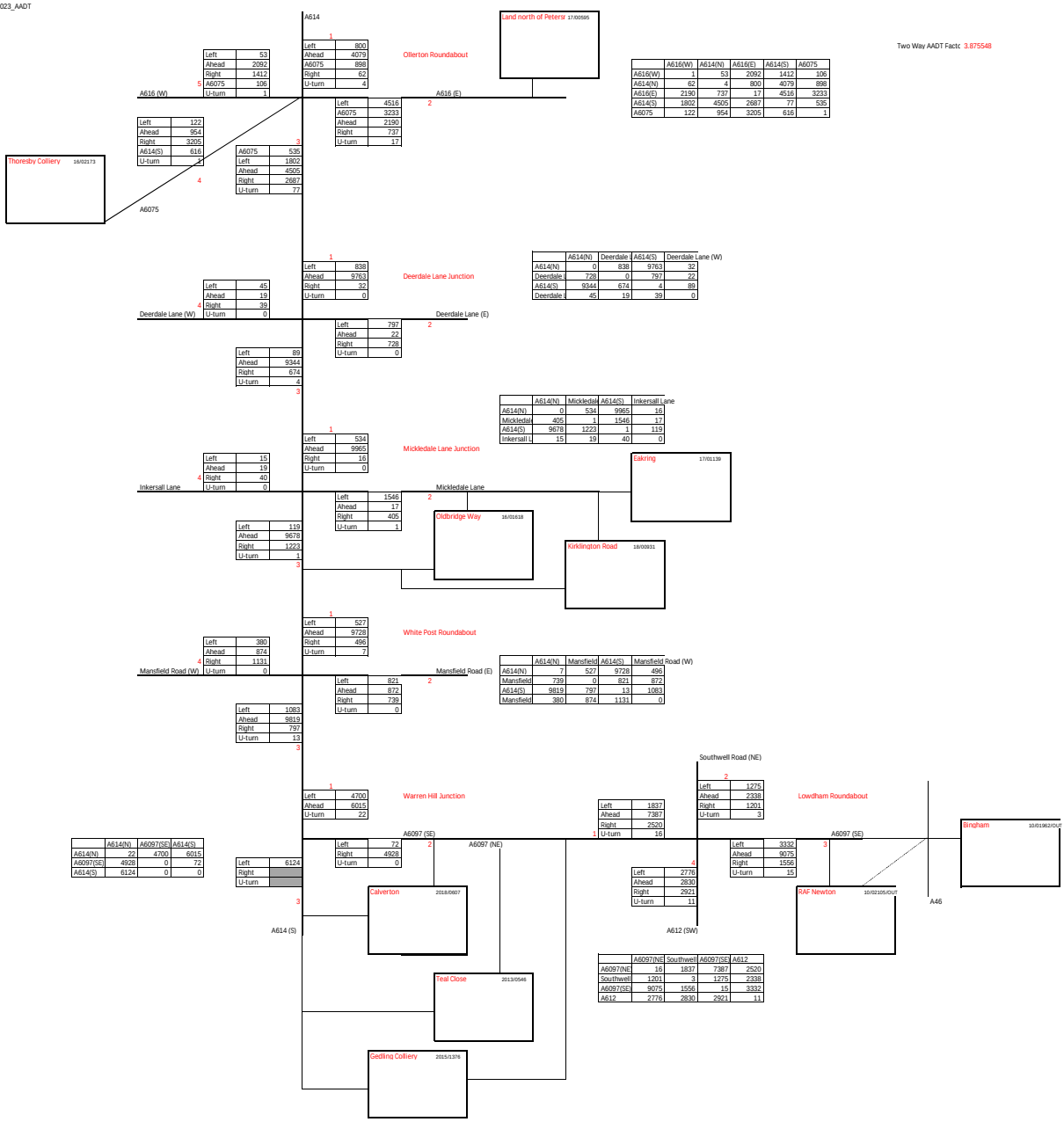
	A614(N)	A6097(SE)	A614(S)
A614(N)	22	3879	5558
A6097(SE)	4164	0	64
A614(S)	5737	0	0

	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	1	53	2038	1352	55
A614(N)	61	4	779	3874	791
A616(E)	2132	716	17	4215	3005
A614(S)	1711	4242	2497	74	203
A6075	65	835	2958	250	1

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	16	1797	6689	2418
Southwell	1179	3	1196	2293
A6097(SE)	8403	1479	15	3087
A612	2672	2771	2666	11

FINAL_2023_AADT

Two Way AADT Factc 3.875548



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	1	53	2092	1412	106
A614(N)	62	4	800	4079	898
A616(E)	2190	737	17	4516	3233
A614(S)	1802	4505	2687	77	535
A6075	122	954	3205	616	1

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	838	9763	32
Deerdale	728	0	797	22
A614(S)	9344	674	4	89
Deerdale	45	19	39	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	534	9965	16
Mickledal	405	1	1546	17
A614(S)	9678	1223	1	119
Inkersall L	15	19	40	0

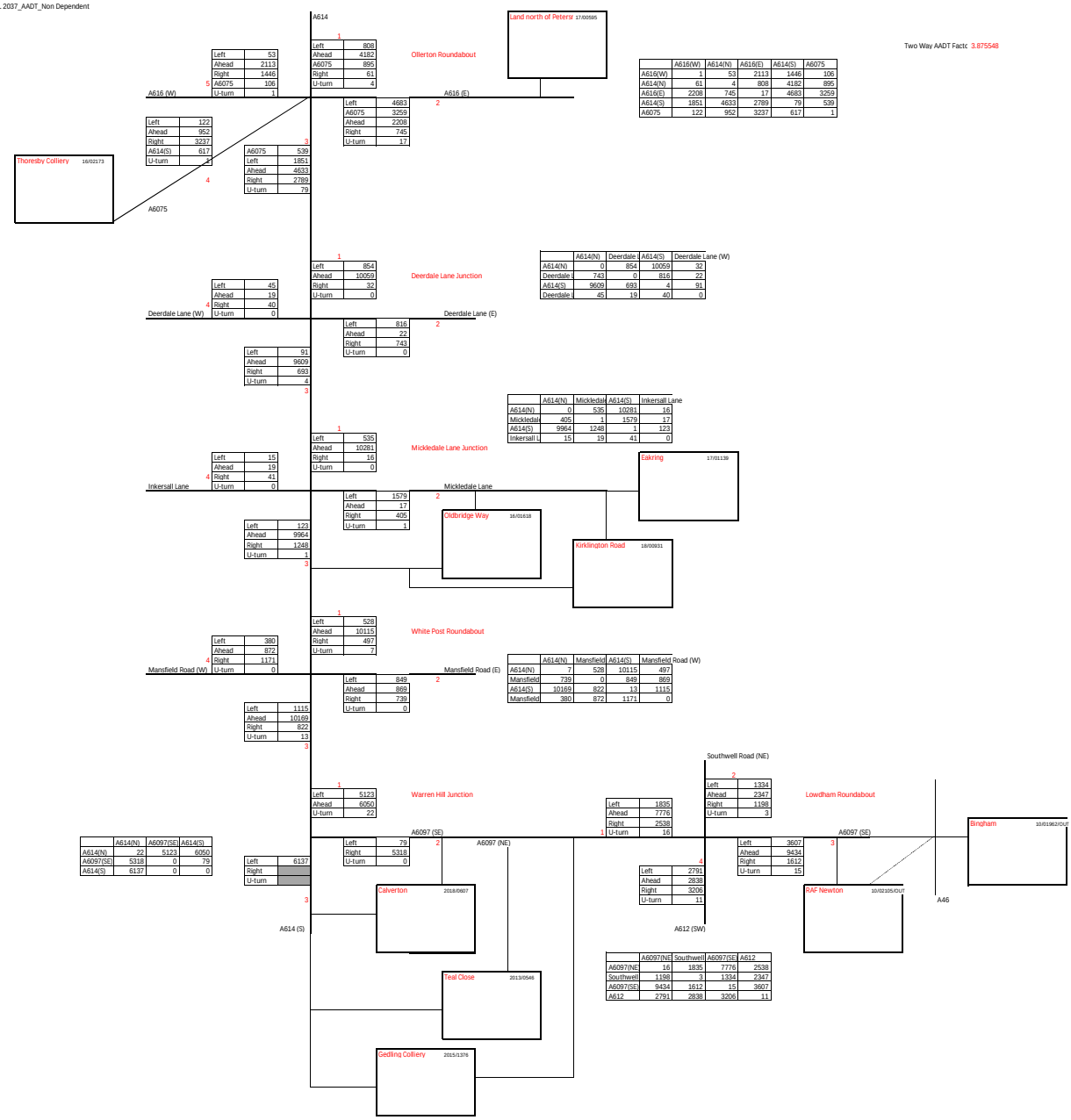
	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	7	527	9728	496
Mansfield	739	0	821	872
A614(S)	9819	797	13	1083
Mansfield	380	874	1131	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	22	4700	6015
A6097(SE)	4928	0	72
A614(S)	6124	0	0

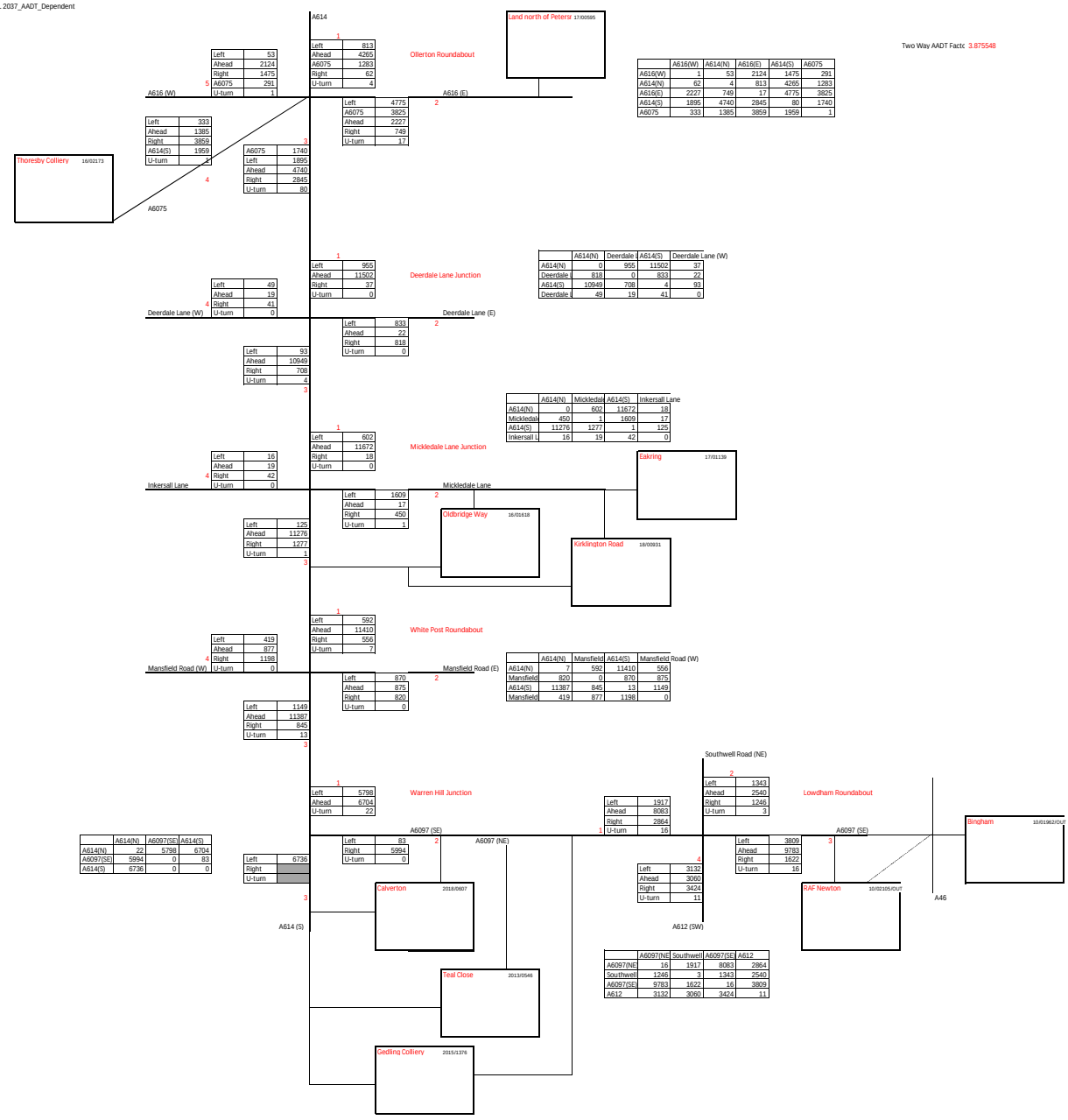
	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	16	1837	7387	2520
Southwell	1201	3	1275	2338
A6097(SE)	9075	1556	15	3332
A612	2776	2830	2921	11

FINAL 2037_AADT_Non Dependent

Two Way AADT Factc 3.875548



FINAL 2037_AADT_Dependent



	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	1	53	2124	1475	291
A614(N)	62	4	813	4265	1283
A616(E)	2227	749	17	4775	3825
A614(S)	1895	4740	2845	80	1740
A6075	333	1385	3859	1959	1

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	955	11502	37
Deerdale	818	0	833	22
A614(S)	10949	708	4	93
Deerdale L	49	19	41	0

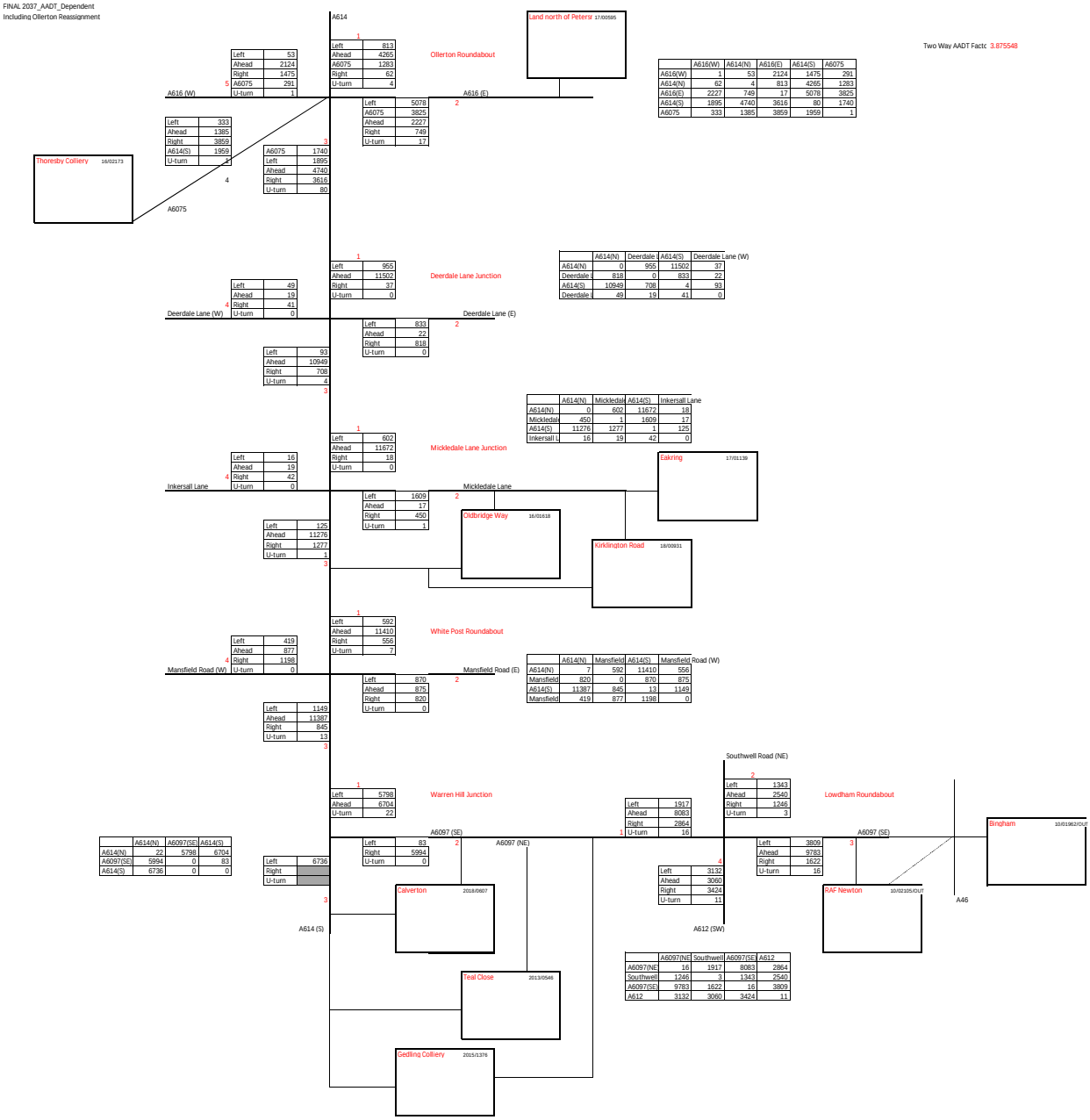
	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	602	11672	18
Mickledale	450	1	1609	17
A614(S)	11276	1277	1	125
Inkersall L	16	19	42	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	7	592	11410	556
Mansfield	820	0	870	875
A614(S)	11387	845	13	1149
Mansfield	419	877	1198	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	22	5798	6704
A6097(SE)	5994	0	83
A614(S)	6736	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE)	16	1917	8083	2864
Southwell	1246	3	1343	2540
A6097(SE)	9783	1622	16	3809
A612	3132	3060	3424	11

FINAL 2037_AADT_Dependent
Including Ollerton Reassignment



Two Way AADT Factc 3.875548

	A616(W)	A614(N)	A616(E)	A614(S)	A6075
A616(W)	1	53	2124	1475	291
A614(N)	62	4	813	4265	1283
A616(E)	2227	749	17	5078	3825
A614(S)	1895	4740	3616	80	1740
A6075	333	1385	3859	1959	1

	A614(N)	Deerdale	A614(S)	Deerdale Lane (W)
A614(N)	0	955	11502	37
Deerdale	818	0	833	22
A614(S)	10949	708	4	93
Deerdale	49	19	41	0

	A614(N)	Mickledal	A614(S)	Inkersall Lane
A614(N)	0	602	11672	18
Mickledal	450	1	1609	17
A614(S)	11276	1277	1	125
Inkersall L	16	19	42	0

	A614(N)	Mansfield	A614(S)	Mansfield Road (W)
A614(N)	7	592	11410	556
Mansfield	820	0	870	875
A614(S)	11387	845	13	1149
Mansfield	419	877	1198	0

	A614(N)	A6097(SE)	A614(S)
A614(N)	22	5798	6704
A6097(SE)	5994	0	83
A614(S)	6736	0	0

	A6097(NE)	Southwell	A6097(SE)	A612
A6097(NE	16	1917	8083	2864
Southwell	1246	3	1343	2540
A6097(SE)	9783	1622	16	3809
A612	3132	3060	3424	11

Appendix G – Ollerton Roundabout Scheme Drawing and ARCADY Output

NORTH

Proposed 60m ICD
5 arm roundabout

Relocated
bus link road

Toucan Crossings

BUSES
ONLY

The
Alders
(PH)

The
Coombs

Service
Area

Service
Area

Tank

NEWARK ROAD

LD ROAD

NOTES

1. This drawing shows the updated revised layout of the enlarged 60m ICD roundabout improvements.
2. The lane arrangements are configured to suit the current and future traffic forecast (2033) requirements.
3. The proposed lane destination markings are provided to suit the current and future peak flow and are suggested to compliment the road signage to reduce the potential conflict associated with vehicles crossing over lanes.
4. The layouts are subject to further road safety audits which will be commissioned following the detailed design stage.
5. The revised layout has been produced using updated topographical survey information obtained June 2018.
6. The precise extents of private land are subject to change which may be required as a result of the the detailed design process. The extents of embankments/ earth slopes are shown for indicative purposes and are based on the assumption that adjoining land does not significantly fluctuate in level. Where private land interfaces are restricted in respect of widths available retaining features may be required at these locations. Further verification for the embankment interface will be determined once updated private land topographical survey information and detailed design information is available.
7. A preliminary analysis has been undertaken to verify vertical design requirements, this has determined that the proposals could meet this design criteria if the speed limits on the approaches were altered to 30mph. Further verification in to the affect of the vertical design on to adjoining land is to be determined during the detailed design process.
8. Refer to feasibility report produced August 2018 by Via EM Ltd. for further information on the proposals and the departures from standards required.

KEY

- Proposed carriageway areas
- Proposed footway areas, areas of red and buff contained within footways are tactile paving at crossing location
- Proposed traffic islands and hardstanding area on roundabout island
- Proposed embankment/verge areas
- Proposed landscaped areas

Rev.	Description	Drawn	Ch'kd	Auth	Date

Project

A614/A6097
CORRIDOR IMPROVEMENTS

Status	Project No.
FOR INFO	HW20949

Drawing Title

A614/NCC GA001

Scale	Drawn	Date
1:500 @A1	AP	20.02.2019
	Ch'kd AP	Date 20.02.2019
	Auth JJP	Traced AP

Drawing No. HW 20949 001/03 — Rev. 0

NOT FOR CONSTRUCTION

in partnership with
Nottinghamshire County Council
www.viaem.co.uk Tel 0115 804 2100
Bilsthorpe Depot, Bilsthorpe Business Park, Bilsthorpe, Nottinghamshire, NG22 8ST

A1

Do Minimum (DM)

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

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

Filename: Ollerton Rdbt existing 2037.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\1-olly
Report generation date: 15/04/2019 14:09:00

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final (incl rats), AM
»2037 final (incl rats), PM
»2037 final (incl rats), IP
»2037 final (incl rats), OP

Summary of junction performance

	AM								PM									
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	
																		2023
Arm 1	1.2	1.5	4.74	0.54	A	85.92	F	-16 % [Arm 2]	3.2	10.9	9.36	0.77	A	73.19	F	-16 % [Arm 2]	0.8	
Arm 2	67.5	121.3	213.52	1.13	F				69.2	116.9	267.49	1.17	F				3.9	
Arm 3	2.5	11.0	17.72	0.72	C				1.6	3.8	12.38	0.62	B				0.8	
Arm 4	15.5	48.7	135.81	1.02	F				1.9	8.4	20.70	0.67	C				0.9	
Arm 5	1.3	2.5	8.00	0.56	A				1.1	2.2	6.51	0.52	A				0.6	
																		2037
Arm 1	1.3	1.5	5.04	0.57	A	112.92	F	-18 % [Arm 2]	3.4	12.5	9.79	0.78	A	83.52	F	-18 % [Arm 2]	0.8	
Arm 2	89.1	143.4	293.60	1.17	F				80.1	128.4	304.84	1.20	F				4.5	
Arm 3	2.6	11.7	18.08	0.73	C				1.6	3.7	12.48	0.62	B				0.8	
Arm 4	18.0	51.8	153.72	1.04	F				2.0	9.3	21.61	0.68	C				0.9	
Arm 5	1.3	2.4	8.29	0.58	A				1.1	2.1	6.68	0.53	A				0.6	
																		2037 final (incl rats)
Arm 1	2.1	3.0	7.75	0.66	A	419.23	F	-32 % [Arm 2]	13.2	69.9	35.99	0.94	E	422.80	F	-35 % [Arm 2]	1.1	
Arm 2	276.5	276.5	1014.81	1.48	F				349.0	349.0	1491.04	1.74	F				25.1	
Arm 3	39.4	91.4	160.54	1.07	F				5.6	29.0	29.93	0.85	D				1.8	
Arm 4	70.0	117.8	707.39	1.32	F				4.4	23.8	44.65	0.82	E				1.5	
Arm 5	2.3	7.6	13.21	0.68	B				2.0	4.7	11.32	0.66	B				0.8	

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

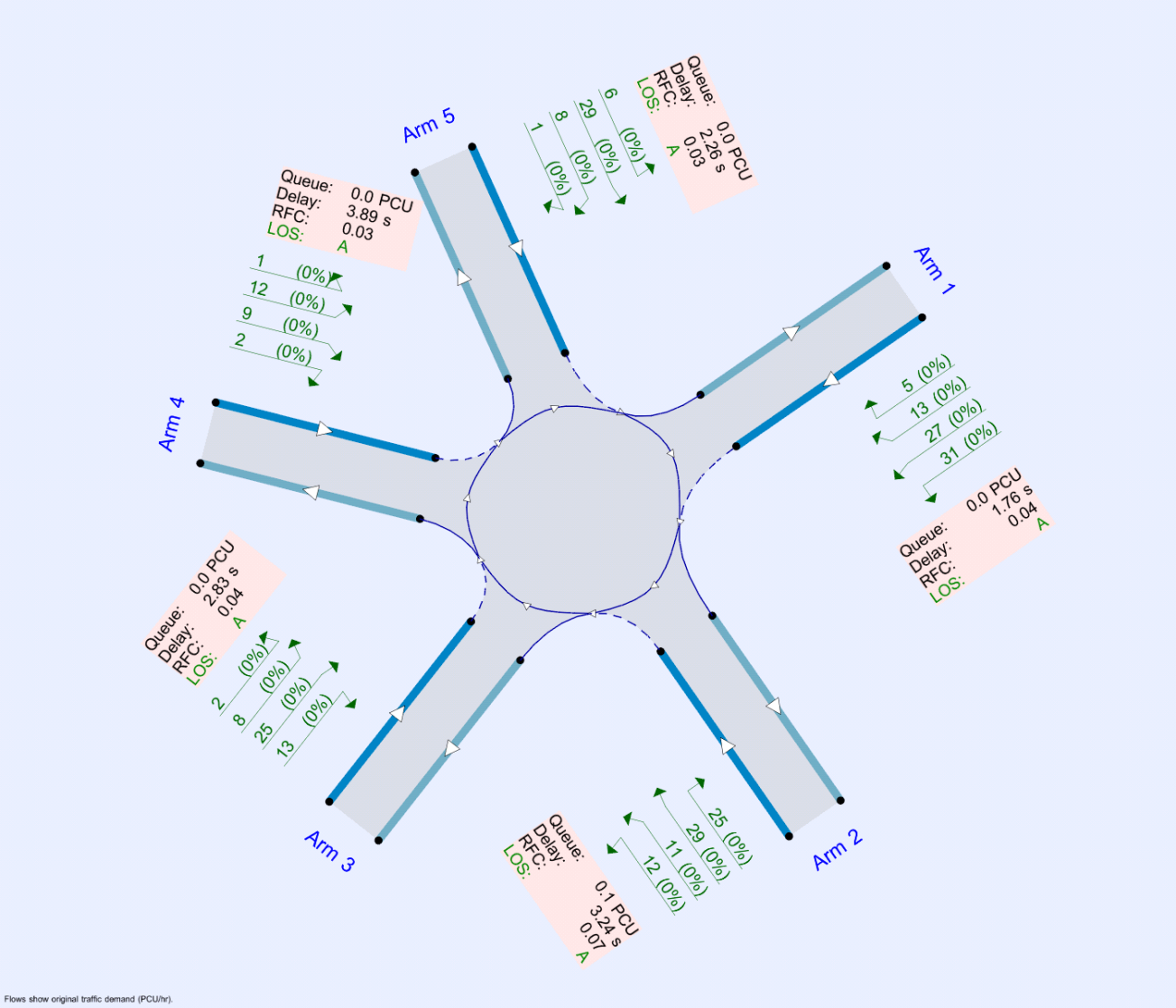
File summary

File Description

Title	Ollerton Roundabout - existing 2036+psd+tc1
Location	A614/ A616/ A6075 Ollerton
Site number	
Date	12/02/2018
Version	
Status	(new file)
Identifier	
Client	NCC
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓
D1-1	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	85.92	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-16	Arm 2

Arms

Arms

Arm	Name	Description
1	A616 Ollerton Rd	
2	A614S Old Rufford Road	
3	A6075 Mansfield Road	
4	A616 Worksop Road	
5	A614N Blyth Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.60	8.00	100.0	35.0	37.5	54.0	
2	4.00	4.20	5.0	13.0	37.5	31.0	
3	3.80	5.70	4.3	18.0	37.5	31.0	
4	3.50	4.10	4.5	7.5	37.5	51.0	
5	4.50	6.60	12.0	24.0	37.5	44.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.724	2178
2	0.543	1228
3	0.580	1378
4	0.460	1005
5	0.635	1700

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	817	100.000
2		ONE HOUR	✓	947	100.000
3		ONE HOUR	✓	475	100.000
4		ONE HOUR	✓	375	100.000
5		ONE HOUR	✓	524	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	407	198	142	70
	2	267	15	35	183	447
	3	307	53	0	8	107
	4	231	134	8	0	2
	5	74	363	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.54	4.74	1.2	1.5	A	750	1125
2	1.13	213.52	67.5	121.3	F	869	1303
3	0.72	17.72	2.5	11.0	C	436	654
4	1.02	135.81	15.5	48.7	F	344	516
5	0.56	8.00	1.3	2.5	A	481	721

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	493	1821	0.338	613	655	0.0	0.5	2.976	A
2	713	178	379	1022	0.697	704	728	0.0	2.2	11.030	B
3	358	89	839	891	0.401	355	243	0.0	0.7	6.684	A
4	282	71	944	570	0.495	279	251	0.0	1.0	12.183	B
5	394	99	756	1220	0.323	393	466	0.0	0.5	4.341	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	590	1750	0.420	734	782	0.5	0.7	3.537	A
2	851	213	453	982	0.867	838	871	2.2	5.5	23.177	C
3	427	107	1000	798	0.535	425	291	0.7	1.1	9.613	A
4	337	84	1126	486	0.693	333	299	1.0	2.1	22.755	C
5	471	118	903	1127	0.418	470	556	0.5	0.7	5.474	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	710	1664	0.541	898	908	0.7	1.2	4.690	A
2	1043	261	554	927	1.125	913	1054	5.5	37.8	98.966	F
3	523	131	1116	731	0.716	518	352	1.1	2.4	16.537	C
4	413	103	1289	411	1.004	381	345	2.1	10.2	78.858	F
5	577	144	1043	1038	0.556	575	627	0.7	1.2	7.745	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	717	1659	0.542	899	921	1.2	1.2	4.739	A
2	1043	261	556	926	1.126	924	1061	37.8	67.5	213.520	F
3	523	131	1126	725	0.722	522	353	2.4	2.5	17.715	C
4	413	103	1302	405	1.018	392	347	10.2	15.5	135.807	F
5	577	144	1061	1026	0.562	577	633	1.2	1.3	8.003	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	615	1733	0.424	736	854	1.2	0.7	3.617	A
2	851	213	456	980	0.868	966	895	67.5	38.9	200.115	F
3	427	107	1124	726	0.588	431	298	2.5	1.5	12.367	B
4	337	84	1231	438	0.769	383	325	15.5	4.0	78.499	F
5	471	118	995	1068	0.441	473	618	1.3	0.8	6.070	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	505	1813	0.339	616	711	0.7	0.5	3.010	A
2	713	178	381	1021	0.698	858	740	38.9	2.5	42.271	E
3	358	89	989	804	0.445	360	251	1.5	0.8	8.153	A
4	282	71	1068	513	0.550	293	281	4.0	1.3	17.132	C
5	394	99	820	1179	0.335	396	541	0.8	0.5	4.602	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	2.21	0.17	1.21	4.33	5.62			N/A	N/A
3	0.66	0.55	1.00	1.40	1.45			N/A	N/A
4	0.95	0.29	1.00	1.41	1.41			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.08	0.79	1.40	1.48			N/A	N/A
2	5.49	0.10	1.95	14.39	20.69			N/A	N/A
3	1.13	0.08	0.92	2.01	2.80			N/A	N/A
4	2.09	0.07	1.05	5.15	7.51			N/A	N/A
5	0.71	0.09	0.82	1.39	1.46			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.16	0.03	0.26	1.16	1.16			N/A	N/A
2	37.83	12.00	34.09	63.32	73.82			N/A	N/A
3	2.37	0.03	0.30	2.63	11.01			N/A	N/A
4	10.18	0.45	6.40	23.34	30.73			N/A	N/A
5	1.23	0.03	0.26	1.23	1.23			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.18	0.03	0.27	1.18	1.45			N/A	N/A
2	67.51	27.09	62.85	106.21	121.31			N/A	N/A
3	2.49	0.03	0.29	2.49	8.52			N/A	N/A
4	15.48	0.51	9.49	36.62	48.69			N/A	N/A
5	1.27	0.03	0.27	1.27	2.53			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.50	0.98	1.40	1.45			N/A	N/A
2	38.85	14.63	35.75	61.86	70.99			N/A	N/A
3	1.47	0.08	1.03	3.08	4.29			N/A	N/A
4	4.04	0.06	1.06	11.29	17.71			N/A	N/A
5	0.80	0.19	0.93	1.40	1.46			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.52	0.05	0.52	1.30	1.40			N/A	N/A
2	2.48	0.03	0.29	2.48	9.73			N/A	N/A
3	0.81	0.04	0.40	1.87	2.98			N/A	N/A
4	1.27	0.03	0.29	1.27	5.67			N/A	N/A
5	0.51	0.04	0.45	1.28	1.39			N/A	N/A

2023, PM

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	73.19	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-16	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1145	100.000
2		ONE HOUR	✓	781	100.000
3		ONE HOUR	✓	423	100.000
4		ONE HOUR	✓	315	100.000
5		ONE HOUR	✓	546	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	426	372	281	63
	2	154	3	56	165	403
	3	283	50	0	11	79
	4	171	132	8	0	4
	5	69	381	88	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.77	9.36	3.2	10.9	A	1051	1576
2	1.17	267.49	69.2	116.9	F	717	1075
3	0.62	12.38	1.6	3.8	B	388	582
4	0.67	20.70	1.9	8.4	C	289	434
5	0.52	6.51	1.1	2.2	A	501	752

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	502	1815	0.475	858	508	0.0	0.9	3.750	A
2	588	147	617	893	0.658	581	743	0.0	1.9	11.274	B
3	318	80	805	911	0.350	316	392	0.0	0.5	6.032	A
4	237	59	775	648	0.366	235	347	0.0	0.6	8.665	A
5	411	103	600	1319	0.312	409	410	0.0	0.4	3.949	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	601	1743	0.591	1027	607	0.9	1.4	5.015	A
2	702	176	738	827	0.849	690	890	1.9	4.8	24.486	C
3	380	95	959	821	0.463	379	469	0.5	0.8	8.113	A
4	283	71	924	579	0.489	282	414	0.6	0.9	12.040	B
5	491	123	718	1244	0.395	490	488	0.4	0.6	4.770	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	734	1647	0.766	1254	719	1.4	3.1	9.011	A
2	860	215	901	738	1.165	728	1086	4.8	37.8	120.474	F
3	466	116	1064	761	0.612	463	565	0.8	1.5	11.983	B
4	347	87	1046	523	0.663	343	481	0.9	1.9	19.599	C
5	601	150	853	1158	0.519	599	536	0.6	1.1	6.422	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	737	1644	0.767	1260	724	3.1	3.2	9.359	A
2	860	215	906	736	1.168	734	1091	37.8	69.2	267.488	F
3	466	116	1073	756	0.616	466	568	1.5	1.6	12.382	B
4	347	87	1054	520	0.667	346	484	1.9	1.9	20.700	C
5	601	150	860	1154	0.521	601	541	1.1	1.1	6.509	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	606	1739	0.592	1036	636	3.2	1.5	5.172	A
2	702	176	745	824	0.852	812	897	69.2	41.7	246.597	F
3	380	95	1075	755	0.504	382	482	1.6	1.0	9.729	A
4	283	71	1015	537	0.527	286	442	1.9	1.1	14.513	B
5	491	123	750	1224	0.401	492	552	1.1	0.7	4.934	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	507	1811	0.476	864	545	1.5	0.9	3.813	A
2	588	147	621	891	0.660	747	750	41.7	2.1	53.693	F
3	318	80	961	821	0.388	320	407	1.0	0.6	7.214	A
4	237	59	898	592	0.401	239	383	1.1	0.7	10.267	B
5	411	103	640	1293	0.318	412	496	0.7	0.5	4.087	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.90	0.55	1.00	1.40	1.45			N/A	N/A
2	1.86	0.11	1.34	3.81	5.06			N/A	N/A
3	0.53	0.53	1.00	1.40	1.45			N/A	N/A
4	0.57	0.55	1.00	1.40	1.45			N/A	N/A
5	0.45	0.00	0.00	0.45	0.45			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.42	0.05	0.48	3.61	5.62			N/A	N/A
2	4.78	0.09	1.45	12.74	18.65			N/A	N/A
3	0.85	0.10	0.88	1.49	1.50			N/A	N/A
4	0.93	0.11	0.93	1.37	1.75			N/A	N/A
5	0.65	0.09	0.82	1.37	1.43			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.14	0.03	0.29	3.14	10.95			N/A	N/A
2	37.82	13.76	34.65	60.81	70.01			N/A	N/A
3	1.53	0.03	0.27	1.53	3.19			N/A	N/A
4	1.85	0.03	0.30	1.85	8.38			N/A	N/A
5	1.06	0.03	0.26	1.06	1.06			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.21	0.03	0.27	3.21	3.89			N/A	N/A
2	69.18	31.75	65.37	103.84	116.91			N/A	N/A
3	1.57	0.03	0.28	1.57	3.79			N/A	N/A
4	1.93	0.03	0.29	1.93	7.46			N/A	N/A
5	1.08	0.03	0.27	1.08	2.17			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.47	0.06	0.90	3.31	4.71			N/A	N/A
2	41.73	18.37	39.11	63.18	71.42			N/A	N/A
3	1.04	0.11	0.99	1.63	1.93			N/A	N/A
4	1.15	0.07	0.87	2.27	3.05			N/A	N/A
5	0.68	0.18	0.92	1.38	1.44			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.04	0.40	2.18	3.62			N/A	N/A
2	2.09	0.03	0.28	2.09	5.89			N/A	N/A
3	0.64	0.05	0.48	1.46	1.50			N/A	N/A
4	0.68	0.04	0.40	1.47	2.23			N/A	N/A
5	0.47	0.04	0.40	1.24	1.37			N/A	N/A

2023, IP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	9.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	725	100.000
2		ONE HOUR	✓	682	100.000
3		ONE HOUR	✓	334	100.000
4		ONE HOUR	✓	232	100.000
5		ONE HOUR	✓	399	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	302	240	130	52
	2	247	2	42	107	284
	3	216	51	0	12	55
	4	125	89	11	0	7
	5	58	281	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.45	3.65	0.8	2.3	A	665	998
2	0.81	19.54	3.9	20.2	C	626	939
3	0.43	7.47	0.8	3.2	A	306	460
4	0.47	12.43	0.9	3.8	B	213	319
5	0.37	4.85	0.6	2.8	A	366	549

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	370	1910	0.286	544	484	0.0	0.4	2.634	A
2	513	128	371	1027	0.500	510	544	0.0	1.0	6.909	A
3	251	63	619	1019	0.247	250	261	0.0	0.3	4.677	A
4	175	44	679	692	0.252	173	190	0.0	0.3	6.921	A
5	300	75	555	1348	0.223	299	298	0.0	0.3	3.431	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	443	1857	0.351	651	580	0.4	0.5	2.984	A
2	613	153	444	987	0.621	611	651	1.0	1.6	9.500	A
3	300	75	742	948	0.317	300	312	0.3	0.5	5.552	A
4	209	52	814	630	0.331	208	228	0.3	0.5	8.515	A
5	359	90	665	1278	0.281	358	357	0.3	0.4	3.914	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	542	1785	0.447	797	708	0.5	0.8	3.640	A
2	751	188	543	933	0.805	742	796	1.6	3.7	18.100	C
3	368	92	903	854	0.431	367	382	0.5	0.7	7.368	A
4	255	64	992	548	0.466	254	278	0.5	0.9	12.177	B
5	439	110	811	1185	0.371	439	434	0.4	0.6	4.820	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	544	1784	0.447	798	712	0.8	0.8	3.650	A
2	751	188	544	933	0.805	750	798	3.7	3.9	19.539	C
3	368	92	911	850	0.433	368	383	0.7	0.8	7.471	A
4	255	64	999	545	0.469	255	280	0.9	0.9	12.430	B
5	439	110	817	1181	0.372	439	438	0.6	0.6	4.850	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	446	1855	0.351	653	587	0.8	0.5	2.998	A
2	613	153	445	986	0.622	622	653	3.9	1.7	10.111	B
3	300	75	753	941	0.319	301	314	0.8	0.5	5.637	A
4	209	52	824	625	0.334	210	230	0.9	0.5	8.700	A
5	359	90	673	1273	0.282	359	362	0.6	0.4	3.946	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	373	1908	0.286	546	489	0.5	0.4	2.646	A
2	513	128	372	1026	0.501	516	547	1.7	1.0	7.099	A
3	251	63	626	1015	0.248	252	262	0.5	0.3	4.723	A
4	175	44	686	689	0.254	175	192	0.5	0.3	7.019	A
5	300	75	561	1344	0.224	301	301	0.4	0.3	3.454	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	0.99	0.55	1.00	1.40	1.45			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.33	0.00	0.00	0.33	0.33			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.06	0.69	1.34	1.42			N/A	N/A
2	1.60	0.06	0.84	3.80	5.55			N/A	N/A
3	0.46	0.00	0.00	0.46	0.46			N/A	N/A
4	0.49	0.00	0.00	0.49	0.49			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.03	0.25	0.80	0.80			N/A	N/A
2	3.75	0.03	0.34	7.66	20.17			N/A	N/A
3	0.75	0.03	0.26	0.75	0.75			N/A	N/A
4	0.85	0.03	0.26	0.85	0.85			N/A	N/A
5	0.58	0.03	0.25	0.58	0.58			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.03	0.28	0.81	2.29			N/A	N/A
2	3.92	0.03	0.30	3.92	16.01			N/A	N/A
3	0.76	0.03	0.29	1.12	3.19			N/A	N/A
4	0.87	0.03	0.29	1.27	3.77			N/A	N/A
5	0.59	0.03	0.30	1.37	2.77			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2	1.69	0.05	0.47	4.45	7.10			N/A	N/A
3	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4	0.51	0.05	0.48	1.29	1.40			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	1.02	0.03	0.34	2.44	4.87			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.34	0.03	0.29	0.69	1.10			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2023, OP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.60	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	71	100.000
2		ONE HOUR	✓	66	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	39	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	30	23	13	5
	2	24	0	4	10	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	27	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.74	0.0	0.5	A	65	98
2	0.06	3.19	0.1	0.5	A	61	91
3	0.03	2.79	0.0	0.5	A	29	44
4	0.03	3.85	0.0	0.5	A	21	32
5	0.03	2.24	0.0	0.5	A	36	54

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36	2152	0.025	53	47	0.0	0.0	1.714	A
2	50	12	36	1208	0.041	50	53	0.0	0.0	3.106	A
3	24	6	61	1342	0.018	24	25	0.0	0.0	2.730	A
4	17	4	66	974	0.018	17	19	0.0	0.0	3.761	A
5	29	7	54	1665	0.018	29	29	0.0	0.0	2.199	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43	2147	0.030	64	57	0.0	0.0	1.727	A
2	59	15	43	1205	0.049	59	64	0.0	0.1	3.142	A
3	29	7	73	1335	0.022	29	30	0.0	0.0	2.754	A
4	21	5	79	968	0.021	21	22	0.0	0.0	3.798	A
5	35	9	65	1659	0.021	35	35	0.0	0.0	2.216	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53	2140	0.037	78	69	0.0	0.0	1.745	A
2	73	18	53	1199	0.061	73	78	0.1	0.1	3.194	A
3	35	9	89	1326	0.027	35	36	0.0	0.0	2.788	A
4	25	6	97	960	0.026	25	28	0.0	0.0	3.851	A
5	43	11	79	1649	0.026	43	43	0.0	0.0	2.240	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53	2140	0.037	78	69	0.0	0.0	1.745	A
2	73	18	53	1199	0.061	73	78	0.1	0.1	3.194	A
3	35	9	89	1326	0.027	35	36	0.0	0.0	2.788	A
4	25	6	97	960	0.026	25	28	0.0	0.0	3.851	A
5	43	11	79	1649	0.026	43	43	0.0	0.0	2.240	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43	2147	0.030	64	57	0.0	0.0	1.727	A
2	59	15	43	1205	0.049	59	64	0.1	0.1	3.145	A
3	29	7	73	1335	0.022	29	30	0.0	0.0	2.757	A
4	21	5	79	968	0.021	21	22	0.0	0.0	3.801	A
5	35	9	65	1659	0.021	35	35	0.0	0.0	2.217	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36	2152	0.025	53	47	0.0	0.0	1.714	A
2	50	12	36	1208	0.041	50	53	0.1	0.0	3.108	A
3	24	6	61	1342	0.018	24	25	0.0	0.0	2.730	A
4	17	4	66	974	0.018	17	19	0.0	0.0	3.761	A
5	29	7	54	1665	0.018	29	29	0.0	0.0	2.201	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.06	0.03	0.26	0.47	0.49			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037, AM

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	112.92	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	848	100.000
2		ONE HOUR	✓	981	100.000
3		ONE HOUR	✓	478	100.000
4		ONE HOUR	✓	381	100.000
5		ONE HOUR	✓	535	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	203	145	72
	2	278	16	36	189	462
	3	309	54	0	8	107
	4	233	138	8	0	2
	5	75	373	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.57	5.04	1.3	1.5	A	778	1167
2	1.17	293.60	89.1	143.4	F	900	1350
3	0.73	18.08	2.6	11.7	C	439	658
4	1.04	153.72	18.0	51.8	F	350	524
5	0.58	8.29	1.3	2.4	A	491	736

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	505	1812	0.352	636	666	0.0	0.5	3.056	A
2	739	185	386	1018	0.725	728	755	0.0	2.5	12.043	B
3	360	90	867	875	0.411	357	248	0.0	0.7	6.914	A
4	287	72	967	560	0.512	283	257	0.0	1.0	12.816	B
5	403	101	771	1210	0.333	401	479	0.0	0.5	4.436	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	604	1740	0.438	761	795	0.5	0.8	3.674	A
2	882	220	462	977	0.903	864	903	2.5	7.0	28.125	D
3	430	107	1030	781	0.550	428	296	0.7	1.2	10.139	B
4	343	86	1151	475	0.721	337	306	1.0	2.4	25.193	D
5	481	120	919	1116	0.431	480	569	0.5	0.7	5.647	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	725	1653	0.565	932	912	0.8	1.3	4.977	A
2	1080	270	565	921	1.172	913	1092	7.0	48.9	123.272	F
3	526	132	1121	728	0.723	521	357	1.2	2.4	17.015	C
4	419	105	1295	409	1.026	383	347	2.4	11.6	87.090	F
5	589	147	1050	1033	0.570	587	628	0.7	1.3	8.025	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	732	1648	0.567	934	924	1.3	1.3	5.038	A
2	1080	270	566	920	1.174	919	1099	48.9	89.1	276.138	F
3	526	132	1128	724	0.727	526	358	2.4	2.6	18.078	C
4	419	105	1305	404	1.038	394	349	11.6	18.0	153.715	F
5	589	147	1066	1023	0.576	589	632	1.3	1.3	8.291	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	632	1720	0.443	764	864	1.3	0.8	3.774	A
2	882	220	465	975	0.904	964	931	89.1	68.5	293.604	F
3	430	107	1127	724	0.593	434	302	2.6	1.5	12.580	B
4	343	86	1235	436	0.785	396	326	18.0	4.7	98.166	F
5	481	120	1012	1057	0.455	483	618	1.3	0.8	6.294	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	519	1802	0.354	639	756	0.8	0.6	3.100	A
2	739	185	389	1017	0.726	997	770	68.5	3.9	134.648	F
3	360	90	1126	725	0.497	362	259	1.5	1.0	9.977	A
4	287	72	1178	462	0.620	299	310	4.7	1.7	23.370	C
5	403	101	871	1147	0.351	404	606	0.8	0.5	4.854	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2	2.51	0.13	1.24	5.42	7.22			N/A	N/A
3	0.69	0.55	1.00	1.40	1.45			N/A	N/A
4	1.02	0.19	1.02	1.41	1.74			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.77	0.08	0.79	1.41	1.41			N/A	N/A
2	7.03	0.16	3.27	17.70	24.60			N/A	N/A
3	1.20	0.08	0.95	2.26	2.98			N/A	N/A
4	2.36	0.07	1.16	5.86	8.51			N/A	N/A
5	0.75	0.09	0.83	1.41	1.48			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.28	0.03	0.26	1.28	1.28			N/A	N/A
2	48.89	20.37	45.61	75.63	85.99			N/A	N/A
3	2.45	0.03	0.31	3.00	11.70			N/A	N/A
4	11.59	0.83	7.99	25.24	32.50			N/A	N/A
5	1.30	0.03	0.26	1.30	1.30			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.30	0.03	0.27	1.30	1.30			N/A	N/A
2	89.12	45.46	85.25	128.81	143.36			N/A	N/A
3	2.56	0.03	0.28	2.56	8.53			N/A	N/A
4	18.05	1.17	12.50	40.07	51.76			N/A	N/A
5	1.34	0.03	0.27	1.34	2.44			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.40	0.97	1.40	1.45			N/A	N/A
2	68.49	36.94	65.78	96.54	106.72			N/A	N/A
3	1.51	0.06	0.89	3.46	4.91			N/A	N/A
4	4.68	0.06	0.93	13.31	21.55			N/A	N/A
5	0.85	0.18	0.94	1.43	1.49			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.55	0.06	0.60	1.32	1.41			N/A	N/A
2	3.86	0.03	0.32	6.47	20.04			N/A	N/A
3	1.01	0.05	0.45	2.36	3.64			N/A	N/A
4	1.73	0.03	0.31	2.93	8.87			N/A	N/A
5	0.55	0.05	0.49	1.31	1.42			N/A	N/A

2037, PM

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	83.52	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1154	100.000
2		ONE HOUR	✓	802	100.000
3		ONE HOUR	✓	424	100.000
4		ONE HOUR	✓	320	100.000
5		ONE HOUR	✓	553	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	372	280	63
	2	161	3	56	169	413
	3	286	49	0	11	78
	4	173	135	8	0	4
	5	69	389	87	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.78	9.79	3.4	12.5	A	1059	1588
2	1.20	304.84	80.1	128.4	F	736	1104
3	0.62	12.48	1.6	3.7	B	389	584
4	0.68	21.61	2.0	9.3	C	294	440
5	0.53	6.68	1.1	2.1	A	507	761

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	508	1810	0.480	865	516	0.0	0.9	3.797	A
2	604	151	615	894	0.676	596	758	0.0	2.0	11.788	B
3	319	80	820	903	0.354	317	392	0.0	0.5	6.127	A
4	241	60	788	642	0.375	239	349	0.0	0.6	8.871	A
5	416	104	610	1312	0.317	414	416	0.0	0.5	4.001	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	609	1737	0.597	1035	617	0.9	1.5	5.112	A
2	721	180	737	828	0.871	707	907	2.0	5.5	27.095	D
3	381	95	975	812	0.469	380	468	0.5	0.9	8.300	A
4	288	72	939	573	0.502	286	416	0.6	1.0	12.497	B
5	497	124	730	1236	0.402	496	495	0.5	0.7	4.859	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	743	1640	0.775	1263	727	1.5	3.3	9.388	A
2	883	221	899	740	1.194	731	1108	5.5	43.4	134.963	F
3	467	117	1068	759	0.615	464	563	0.9	1.5	12.111	B
4	352	88	1052	521	0.677	348	480	1.0	2.0	20.442	C
5	609	152	864	1152	0.529	607	536	0.7	1.1	6.591	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	747	1637	0.776	1270	732	3.3	3.4	9.789	A
2	883	221	904	737	1.198	736	1113	43.4	80.1	304.843	F
3	467	117	1074	755	0.618	467	565	1.5	1.6	12.477	B
4	352	88	1058	518	0.680	352	483	2.0	2.0	21.608	C
5	609	152	870	1147	0.531	609	540	1.1	1.1	6.684	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	614	1733	0.599	1045	644	3.4	1.5	5.286	A
2	721	180	743	824	0.875	814	916	80.1	56.8	301.167	F
3	381	95	1078	753	0.506	383	479	1.6	1.0	9.802	A
4	288	72	1020	535	0.537	291	441	2.0	1.2	14.940	B
5	497	124	760	1218	0.408	499	551	1.1	0.7	5.021	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	514	1806	0.481	871	567	1.5	0.9	3.861	A
2	604	151	620	891	0.677	821	765	56.8	2.4	105.387	F
3	319	80	1031	780	0.409	321	410	1.0	0.7	7.863	A
4	241	60	954	566	0.426	243	398	1.2	0.8	11.206	B
5	416	104	663	1279	0.326	417	533	0.7	0.5	4.182	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.55	1.00	1.40	1.45			N/A	N/A
2	2.00	0.10	1.33	4.35	5.89			N/A	N/A
3	0.54	0.54	1.00	1.40	1.45			N/A	N/A
4	0.59	0.55	1.00	1.40	1.45			N/A	N/A
5	0.46	0.00	0.00	0.46	0.46			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.46	0.05	0.47	3.74	5.87			N/A	N/A
2	5.47	0.10	1.94	14.36	20.65			N/A	N/A
3	0.87	0.10	0.90	1.08	1.58			N/A	N/A
4	0.98	0.10	0.95	1.54	1.86			N/A	N/A
5	0.67	0.09	0.82	1.37	1.44			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.29	0.03	0.29	3.29	12.46			N/A	N/A
2	43.38	17.97	40.40	67.10	76.33			N/A	N/A
3	1.55	0.03	0.27	1.55	3.43			N/A	N/A
4	1.96	0.03	0.30	2.35	9.27			N/A	N/A
5	1.11	0.03	0.26	1.11	1.11			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.38	0.03	0.27	3.38	4.78			N/A	N/A
2	80.10	41.07	76.62	115.45	128.42			N/A	N/A
3	1.59	0.03	0.28	1.59	3.67			N/A	N/A
4	2.05	0.03	0.29	2.05	7.99			N/A	N/A
5	1.12	0.03	0.27	1.12	2.08			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.51	0.06	0.86	3.52	5.00			N/A	N/A
2	56.78	29.98	54.35	80.55	89.23			N/A	N/A
3	1.05	0.10	0.98	1.69	1.98			N/A	N/A
4	1.20	0.06	0.81	2.55	3.56			N/A	N/A
5	0.70	0.18	0.92	1.38	1.44			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.04	0.39	2.28	3.83			N/A	N/A
2	2.41	0.03	0.28	2.41	7.72			N/A	N/A
3	0.70	0.05	0.56	1.05	1.64			N/A	N/A
4	0.76	0.04	0.41	1.68	2.60			N/A	N/A
5	0.49	0.04	0.43	1.26	1.38			N/A	N/A

2037, IP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.75	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	6	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	739	100.000
2		ONE HOUR	✓	701	100.000
3		ONE HOUR	✓	336	100.000
4		ONE HOUR	✓	237	100.000
5		ONE HOUR	✓	408	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	242	131	52
	2	256	2	43	109	291
	3	218	51	0	12	55
	4	127	92	11	0	7
	5	59	289	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.46	3.74	0.8	2.1	A	678	1017
2	0.83	22.15	4.5	23.3	C	643	965
3	0.44	7.70	0.8	3.3	A	308	462
4	0.49	13.08	0.9	4.0	B	217	326
5	0.38	4.99	0.6	2.9	A	374	562

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	378	1904	0.292	555	494	0.0	0.4	2.664	A
2	528	132	373	1025	0.515	524	560	0.0	1.0	7.116	A
3	253	63	633	1010	0.250	252	263	0.0	0.3	4.737	A
4	178	45	692	686	0.260	177	192	0.0	0.3	7.056	A
5	307	77	567	1340	0.229	306	303	0.0	0.3	3.479	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	453	1850	0.359	664	592	0.4	0.6	3.033	A
2	630	158	446	986	0.639	627	671	1.0	1.7	9.974	A
3	302	76	759	938	0.322	302	315	0.3	0.5	5.653	A
4	213	53	830	623	0.342	212	230	0.3	0.5	8.759	A
5	367	92	679	1268	0.289	366	363	0.3	0.4	3.989	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	554	1777	0.458	813	722	0.6	0.8	3.729	A
2	772	193	546	931	0.829	762	821	1.7	4.3	20.084	C
3	370	92	923	843	0.439	369	385	0.5	0.8	7.574	A
4	261	65	1010	540	0.484	259	281	0.5	0.9	12.767	B
5	449	112	828	1174	0.383	448	441	0.4	0.6	4.958	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	556	1775	0.458	814	727	0.8	0.8	3.742	A
2	772	193	547	931	0.829	771	822	4.3	4.5	22.153	C
3	370	92	932	838	0.442	370	386	0.8	0.8	7.696	A
4	261	65	1019	536	0.487	261	283	0.9	0.9	13.084	B
5	449	112	834	1170	0.384	449	445	0.6	0.6	4.992	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	456	1848	0.359	665	600	0.8	0.6	3.048	A
2	630	158	448	985	0.640	641	673	4.5	1.8	10.778	B
3	302	76	772	930	0.325	303	317	0.8	0.5	5.755	A
4	213	53	842	617	0.345	215	233	0.9	0.5	8.982	A
5	367	92	688	1263	0.290	368	369	0.6	0.4	4.025	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	381	1902	0.292	557	500	0.6	0.4	2.678	A
2	528	132	375	1025	0.515	531	563	1.8	1.1	7.333	A
3	253	63	641	1006	0.251	254	265	0.5	0.3	4.788	A
4	178	45	700	682	0.261	179	194	0.5	0.4	7.162	A
5	307	77	573	1336	0.230	308	306	0.4	0.3	3.503	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2	1.04	0.55	1.00	1.40	1.45			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.35	0.00	0.00	0.35	0.35			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.07	0.73	1.35	1.42			N/A	N/A
2	1.72	0.06	0.83	4.22	6.23			N/A	N/A
3	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4	0.51	0.51	1.00	1.40	1.45			N/A	N/A
5	0.40	0.00	0.00	0.40	0.40			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.84	0.03	0.25	0.84	0.84			N/A	N/A
2	4.29	0.04	0.36	10.15	23.27			N/A	N/A
3	0.77	0.03	0.26	0.77	0.77			N/A	N/A
4	0.91	0.03	0.26	0.91	0.91			N/A	N/A
5	0.61	0.03	0.25	0.61	0.61			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.84	0.03	0.27	0.84	2.08			N/A	N/A
2	4.54	0.03	0.31	4.85	20.97			N/A	N/A
3	0.78	0.03	0.29	1.09	3.25			N/A	N/A
4	0.93	0.03	0.29	1.25	3.96			N/A	N/A
5	0.62	0.03	0.29	1.31	2.87			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.55	1.00	1.40	1.45			N/A	N/A
2	1.83	0.04	0.45	4.89	8.11			N/A	N/A
3	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4	0.54	0.05	0.56	1.31	1.41			N/A	N/A
5	0.41	0.00	0.00	0.41	0.41			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2	1.08	0.03	0.33	2.49	5.39			N/A	N/A
3	0.34	0.03	0.25	0.46	0.48			N/A	N/A
4	0.36	0.03	0.30	0.94	1.22			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

2037, OP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.60	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	73	100.000
2		ONE HOUR	✓	68	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	40	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	24	13	5
	2	25	0	4	11	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	28	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.75	0.0	0.5	A	67	100
2	0.06	3.20	0.1	0.5	A	62	94
3	0.03	2.79	0.0	0.5	A	29	44
4	0.03	3.85	0.0	0.5	A	21	32
5	0.03	2.24	0.0	0.5	A	37	55

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37	2151	0.026	55	48	0.0	0.0	1.716	A
2	51	13	37	1208	0.042	51	55	0.0	0.0	3.111	A
3	24	6	62	1341	0.018	24	26	0.0	0.0	2.732	A
4	17	4	67	974	0.018	17	20	0.0	0.0	3.762	A
5	30	8	55	1665	0.018	30	29	0.0	0.0	2.201	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44	2146	0.031	66	58	0.0	0.0	1.729	A
2	61	15	44	1204	0.051	61	66	0.0	0.1	3.148	A
3	29	7	75	1334	0.022	29	31	0.0	0.0	2.756	A
4	21	5	80	968	0.021	21	23	0.0	0.0	3.800	A
5	36	9	66	1658	0.022	36	35	0.0	0.0	2.218	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54	2139	0.038	80	70	0.0	0.0	1.747	A
2	75	19	54	1199	0.062	75	80	0.1	0.1	3.202	A
3	35	9	91	1325	0.027	35	37	0.0	0.0	2.791	A
4	25	6	98	959	0.026	25	29	0.0	0.0	3.853	A
5	44	11	80	1649	0.027	44	43	0.0	0.0	2.242	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54	2139	0.038	80	70	0.0	0.0	1.747	A
2	75	19	54	1199	0.062	75	80	0.1	0.1	3.202	A
3	35	9	91	1325	0.027	35	37	0.0	0.0	2.791	A
4	25	6	98	959	0.026	25	29	0.0	0.0	3.853	A
5	44	11	80	1649	0.027	44	43	0.0	0.0	2.243	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44	2146	0.031	66	58	0.0	0.0	1.732	A
2	61	15	44	1204	0.051	61	66	0.1	0.1	3.151	A
3	29	7	75	1334	0.022	29	31	0.0	0.0	2.759	A
4	21	5	80	968	0.021	21	23	0.0	0.0	3.800	A
5	36	9	66	1658	0.022	36	35	0.0	0.0	2.220	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37	2151	0.026	55	48	0.0	0.0	1.719	A
2	51	13	37	1208	0.042	51	55	0.1	0.0	3.111	A
3	24	6	63	1341	0.018	24	26	0.0	0.0	2.734	A
4	17	4	67	974	0.018	17	20	0.0	0.0	3.763	A
5	30	8	55	1665	0.018	30	29	0.0	0.0	2.203	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 final (incl rats), AM

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	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	419.23	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-32	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	914	100.000
2		ONE HOUR	✓	1164	100.000
3		ONE HOUR	✓	766	100.000
4		ONE HOUR	✓	400	100.000
5		ONE HOUR	✓	577	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	451	246	145	72
	2	357	16	129	192	470
	3	378	207	0	29	152
	4	233	139	26	0	2
	5	75	379	120	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.66	7.75	2.1	3.0	A	839	1258
2	1.48	1014.81	276.5	276.5	F	1068	1602
3	1.07	160.54	39.4	91.4	F	703	1054
4	1.32	707.39	70.0	117.8	F	367	551
5	0.68	13.21	2.3	7.6	B	529	794

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	661	1699	0.405	685	767	0.0	0.7	3.895	A
2	876	219	458	979	0.895	848	888	0.0	7.1	26.203	D
3	577	144	919	845	0.682	568	387	0.0	2.3	13.868	B
4	301	75	1214	446	0.675	293	272	0.0	2.1	24.695	C
5	434	109	997	1067	0.407	431	510	0.0	0.7	6.201	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	782	1611	0.510	820	876	0.7	1.1	4.994	A
2	1046	262	547	931	1.124	917	1055	7.1	39.4	106.716	F
3	689	172	1013	790	0.871	674	452	2.3	5.9	30.715	D
4	360	90	1377	371	0.970	334	310	2.1	8.5	79.070	F
5	519	130	1141	975	0.532	517	570	0.7	1.2	8.599	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	907	1521	0.662	1002	923	1.1	2.1	7.583	A
2	1282	320	664	867	1.478	867	1246	39.4	143.1	388.587	F
3	843	211	1012	791	1.066	769	519	5.9	24.5	87.447	F
4	440	110	1447	339	1.300	335	334	8.5	34.7	257.967	F
5	635	159	1199	939	0.677	631	583	1.2	2.2	12.717	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	913	1517	0.664	1006	928	2.1	2.1	7.752	A
2	1282	320	667	866	1.480	866	1253	143.1	247.0	790.794	F
3	843	211	1012	791	1.066	784	520	24.5	39.4	160.536	F
4	440	110	1460	333	1.324	332	335	34.7	61.8	546.385	F
5	635	159	1206	934	0.680	635	586	2.2	2.3	13.214	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	808	1593	0.516	825	919	2.1	1.2	5.185	A
2	1046	262	551	929	1.127	929	1083	247.0	276.5	1014.815	F
3	689	172	1025	784	0.879	762	455	39.4	21.0	147.014	F
4	360	90	1471	328	1.098	327	316	61.8	70.0	707.387	F
5	519	130	1205	935	0.555	522	593	2.3	1.4	9.679	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	718	1658	0.415	690	886	1.2	0.8	4.097	A
2	876	219	466	975	0.899	971	941	276.5	252.8	981.287	F
3	577	144	1029	781	0.739	647	408	21.0	3.4	40.456	E
4	301	75	1380	370	0.815	364	296	70.0	54.3	617.110	F
5	434	109	1167	959	0.453	436	577	1.4	0.9	7.606	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.61	1.10	1.54	1.60			N/A	N/A
2	7.10	0.03	0.31	7.10	19.26			N/A	N/A
3	2.25	0.26	1.34	4.04	5.09			N/A	N/A
4	2.10	0.03	0.33	2.78	10.20			N/A	N/A
5	0.75	0.61	1.10	1.54	1.60			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.13	0.07	0.86	2.13	3.01			N/A	N/A
2	39.40	0.40	19.66	102.82	143.23			N/A	N/A
3	5.90	0.18	2.96	14.21	19.43			N/A	N/A
4	8.45	0.10	2.50	23.24	34.42			N/A	N/A
5	1.23	0.09	1.05	2.11	2.88			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.10	0.03	0.30	2.10	2.40			N/A	N/A
2	143.11	>199	>199	>199	>199			N/A	N/A
3	24.49	3.60	19.88	47.49	58.22			N/A	N/A
4	34.71	10.49	31.04	58.61	68.55			N/A	N/A
5	2.21	0.03	0.31	2.21	7.62			N/A	N/A

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.14	0.03	0.29	2.14	2.14			N/A	N/A
2	247.04	>199	>199	>199	>199			N/A	N/A
3	39.42	6.99	32.91	75.13	91.38			N/A	N/A
4	61.82	29.09	58.50	91.73	102.96			N/A	N/A
5	2.28	0.03	0.30	2.28	4.76			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.19	0.12	1.10	1.92	2.32			N/A	N/A
2	276.45	>199	>199	>199	>199			N/A	N/A
3	20.96	1.63	14.98	45.59	58.36			N/A	N/A
4	70.01	32.40	66.19	104.71	117.79			N/A	N/A
5	1.40	0.08	1.07	2.81	3.80			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.79	0.06	0.57	1.33	1.93			N/A	N/A
2	252.78	>199	>199	>199	>199			N/A	N/A
3	3.43	0.04	0.37	7.02	18.42			N/A	N/A
4	54.33	17.06	49.01	91.58	106.91			N/A	N/A
5	0.92	0.05	0.51	1.96	2.90			N/A	N/A

2037 final (incl rats), PM

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	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	422.80	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-35	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1283	100.000
2		ONE HOUR	✓	1054	100.000
3		ONE HOUR	✓	641	100.000
4		ONE HOUR	✓	343	100.000
5		ONE HOUR	✓	603	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	2	495	437	285	64
	2	259	3	189	175	428
	3	339	155	0	30	117
	4	176	139	24	0	4
	5	71	400	124	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.94	35.99	13.2	69.9	E	1177	1766
2	1.74	1491.04	349.0	349.0	F	967	1451
3	0.85	29.93	5.6	29.0	D	588	882
4	0.82	44.65	4.4	23.8	E	315	472
5	0.66	11.32	2.0	4.7	B	553	830

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	637	1717	0.563	960	623	0.0	1.4	5.195	A
2	794	198	706	844	0.940	756	890	0.0	9.4	36.082	E
3	483	121	889	862	0.560	477	573	0.0	1.4	10.146	B
4	258	65	1000	545	0.474	254	366	0.0	1.0	13.480	B
5	454	113	809	1186	0.383	451	446	0.0	0.7	5.367	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1153	288	763	1626	0.709	1149	712	1.4	2.6	8.216	A
2	948	237	845	769	1.232	764	1066	9.4	55.4	172.041	F
3	576	144	948	828	0.696	572	661	1.4	2.4	15.223	C
4	308	77	1105	496	0.622	305	415	1.0	1.7	20.446	C
5	542	136	934	1107	0.490	541	476	0.7	1.0	6.978	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1413	353	927	1506	0.938	1379	802	2.6	11.0	26.145	D
2	1160	290	1017	676	1.718	675	1289	55.4	176.7	632.038	F
3	706	176	940	833	0.848	695	752	2.4	5.2	26.705	D
4	378	94	1176	463	0.815	369	459	1.7	4.0	38.517	E
5	664	166	1070	1021	0.650	660	475	1.0	2.0	10.871	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1413	353	936	1500	0.942	1404	809	11.0	13.2	35.995	E
2	1160	290	1034	667	1.741	667	1306	176.7	300.2	1295.629	F
3	706	176	940	833	0.847	704	760	5.2	5.6	29.933	D
4	378	94	1181	461	0.819	376	463	4.0	4.4	44.649	E
5	664	166	1082	1013	0.656	664	475	2.0	2.0	11.325	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1153	288	777	1615	0.714	1195	725	13.2	2.8	10.312	B
2	948	237	876	752	1.259	752	1096	300.2	349.0	1491.037	F
3	576	144	952	826	0.698	588	676	5.6	2.7	17.341	C
4	308	77	1115	491	0.627	318	424	4.4	2.0	23.950	C
5	542	136	956	1093	0.496	546	477	2.0	1.1	7.289	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	646	1710	0.565	971	653	2.8	1.4	5.403	A
2	794	198	715	840	0.945	837	903	349.0	338.0	1477.099	F
3	483	121	959	822	0.587	487	593	2.7	1.6	11.971	B
4	258	65	1063	515	0.501	262	383	2.0	1.1	15.787	C
5	454	113	843	1164	0.390	456	481	1.1	0.7	5.600	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.40	0.58	1.31	1.87	2.08			N/A	N/A
2	9.40	0.03	0.29	9.40	9.40			N/A	N/A
3	1.36	0.61	1.10	1.54	1.60			N/A	N/A
4	0.96	0.61	1.10	1.54	1.60			N/A	N/A
5	0.68	0.61	1.10	1.54	1.60			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.61	0.05	0.50	7.19	12.07			N/A	N/A
2	55.39	>199	>199	>199	>199			N/A	N/A
3	2.39	0.09	1.38	5.60	7.90			N/A	N/A
4	1.71	0.11	1.31	3.30	4.40			N/A	N/A
5	1.04	0.09	0.95	1.75	2.14			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	11.04	0.08	1.60	32.11	51.33			N/A	N/A
2	176.67	>199	>199	>199	>199			N/A	N/A
3	5.17	0.05	0.46	14.07	27.34			N/A	N/A
4	3.97	0.05	0.48	11.09	20.07			N/A	N/A
5	1.98	0.03	0.30	1.98	4.67			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	13.25	0.05	0.55	37.66	69.90			N/A	N/A
2	300.16	>199	>199	>199	>199			N/A	N/A
3	5.55	0.04	0.36	9.46	28.99			N/A	N/A
4	4.39	0.04	0.38	9.66	23.81			N/A	N/A
5	2.05	0.03	0.30	2.05	4.11			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.84	0.04	0.44	7.69	14.31			N/A	N/A
2	348.95	>199	>199	>199	>199			N/A	N/A
3	2.68	0.05	0.48	7.36	12.76			N/A	N/A
4	1.96	0.05	0.47	5.28	9.04			N/A	N/A
5	1.10	0.09	0.97	1.90	2.41			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.45	0.03	0.33	1.82	6.88			N/A	N/A
2	338.03	>199	>199	>199	>199			N/A	N/A
3	1.61	0.04	0.38	3.92	8.22			N/A	N/A
4	1.14	0.04	0.37	2.61	5.65			N/A	N/A
5	0.71	0.05	0.48	1.25	1.93			N/A	N/A

2037 final (incl rats), IP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	35.09	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-9	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1-1	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	795	100.000
2		ONE HOUR	✓	820	100.000
3		ONE HOUR	✓	488	100.000
4		ONE HOUR	✓	250	100.000
5		ONE HOUR	✓	437	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	334	277	131	52
	2	292	2	119	111	296
	3	254	130	0	24	80
	4	127	93	23	0	7
	5	59	293	79	5	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.52	4.48	1.1	1.5	A	730	1094
2	1.02	98.25	25.1	77.3	F	752	1129
3	0.65	12.46	1.8	4.5	B	448	672
4	0.61	20.00	1.5	6.5	C	229	344
5	0.45	6.18	0.8	3.1	A	401	601

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	469	1839	0.326	597	547	0.0	0.5	2.895	A
2	617	154	427	996	0.620	611	638	0.0	1.6	9.203	A
3	367	92	665	992	0.370	365	373	0.0	0.6	5.721	A
4	188	47	827	624	0.302	187	203	0.0	0.4	8.199	A
5	329	82	688	1263	0.261	328	325	0.0	0.4	3.844	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	561	1771	0.403	714	655	0.5	0.7	3.403	A
2	737	184	511	951	0.776	731	764	1.6	3.2	15.908	C
3	439	110	795	917	0.479	437	446	0.6	0.9	7.493	A
4	225	56	990	549	0.409	224	243	0.4	0.7	11.033	B
5	393	98	825	1176	0.334	392	389	0.4	0.5	4.589	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	686	1681	0.521	874	784	0.7	1.1	4.448	A
2	903	226	625	889	1.016	848	934	3.2	16.9	56.548	F
3	537	134	934	836	0.642	534	539	0.9	1.7	11.778	B
4	275	69	1177	463	0.595	272	291	0.7	1.4	18.624	C
5	481	120	990	1071	0.449	480	460	0.5	0.8	6.076	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	689	1679	0.521	875	795	1.1	1.1	4.478	A
2	903	226	626	888	1.017	870	938	16.9	25.1	98.245	F
3	537	134	953	825	0.651	537	543	1.7	1.8	12.462	B
4	275	69	1196	454	0.606	275	294	1.4	1.5	20.004	C
5	481	120	1003	1063	0.453	481	468	0.8	0.8	6.184	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	566	1768	0.404	716	692	1.1	0.7	3.430	A
2	737	184	513	949	0.776	822	769	25.1	3.9	40.482	E
3	439	110	874	871	0.504	442	461	1.8	1.0	8.448	A
4	225	56	1060	517	0.435	228	256	1.5	0.8	12.567	B
5	393	98	864	1151	0.341	394	423	0.8	0.5	4.764	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	473	1835	0.326	599	557	0.7	0.5	2.915	A
2	617	154	429	995	0.620	626	643	3.9	1.7	9.982	A
3	367	92	678	984	0.373	369	377	1.0	0.6	5.870	A
4	188	47	842	617	0.305	190	205	0.8	0.4	8.450	A
5	329	82	700	1255	0.262	330	332	0.5	0.4	3.892	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.48	0.00	0.00	0.48	0.48			N/A	N/A
2	1.59	0.47	1.44	2.36	2.83			N/A	N/A
3	0.58	0.55	1.00	1.40	1.45			N/A	N/A
4	0.43	0.00	0.00	0.43	0.43			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.67	0.08	0.79	1.37	1.44			N/A	N/A
2	3.21	0.06	1.12	8.67	13.16			N/A	N/A
3	0.90	0.08	0.87	1.42	1.81			N/A	N/A
4	0.68	0.10	0.84	1.37	1.44			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.08	0.03	0.26	1.08	1.08			N/A	N/A
2	16.90	0.91	11.32	38.31	49.96			N/A	N/A
3	1.74	0.03	0.28	1.74	4.41			N/A	N/A
4	1.40	0.03	0.28	1.40	4.68			N/A	N/A
5	0.81	0.03	0.26	0.81	0.81			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.08	0.03	0.27	1.08	1.20			N/A	N/A
2	25.09	1.02	16.24	58.66	77.30			N/A	N/A
3	1.82	0.03	0.28	1.82	4.51			N/A	N/A
4	1.48	0.03	0.29	1.48	6.45			N/A	N/A
5	0.82	0.03	0.28	0.85	3.07			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.68	0.55	1.00	1.40	1.45			N/A	N/A
2	3.87	0.04	0.41	10.52	20.27			N/A	N/A
3	1.03	0.09	0.94	1.72	2.10			N/A	N/A
4	0.79	0.07	0.75	1.11	1.63			N/A	N/A
5	0.52	0.52	1.00	1.40	1.45			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.04	0.43	1.26	1.38			N/A	N/A
2	1.68	0.03	0.29	1.68	7.10			N/A	N/A
3	0.60	0.04	0.42	1.49	1.66			N/A	N/A
4	0.44	0.04	0.36	1.30	1.49			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

2037 final (incl rats), OP

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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.65	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	862	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	77	100.000
3		ONE HOUR	✓	48	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	27	13	5
	2	25	0	12	11	29
	3	25	13	0	2	8
	4	12	9	2	0	1
	5	6	29	8	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.76	0.0	0.5	A	70	105
2	0.07	3.24	0.1	0.5	A	71	106
3	0.04	2.83	0.0	0.5	A	44	66
4	0.03	3.89	0.0	0.5	A	22	33
5	0.03	2.26	0.0	0.5	A	40	61

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47	2144	0.027	57	51	0.0	0.0	1.723	A
2	58	14	42	1205	0.048	58	62	0.0	0.1	3.137	A
3	36	9	63	1341	0.027	36	37	0.0	0.0	2.758	A
4	18	5	79	968	0.019	18	20	0.0	0.0	3.787	A
5	33	8	65	1659	0.020	33	32	0.0	0.0	2.214	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56	2138	0.032	68	61	0.0	0.0	1.738	A
2	69	17	50	1201	0.058	69	74	0.1	0.1	3.181	A
3	43	11	75	1334	0.032	43	44	0.0	0.0	2.788	A
4	22	5	94	961	0.022	22	24	0.0	0.0	3.830	A
5	40	10	77	1651	0.024	40	39	0.0	0.0	2.234	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68	2129	0.039	84	75	0.0	0.0	1.759	A
2	85	21	62	1195	0.071	85	90	0.1	0.1	3.243	A
3	53	13	92	1324	0.040	53	54	0.0	0.0	2.831	A
4	26	7	116	951	0.028	26	30	0.0	0.0	3.891	A
5	48	12	95	1640	0.030	48	47	0.0	0.0	2.261	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68	2129	0.039	84	75	0.0	0.0	1.759	A
2	85	21	62	1195	0.071	85	90	0.1	0.1	3.243	A
3	53	13	92	1324	0.040	53	54	0.0	0.0	2.831	A
4	26	7	116	951	0.028	26	30	0.0	0.0	3.891	A
5	48	12	95	1640	0.030	48	47	0.0	0.0	2.262	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56	2138	0.032	68	61	0.0	0.0	1.741	A
2	69	17	50	1201	0.058	69	74	0.1	0.1	3.181	A
3	43	11	76	1334	0.032	43	44	0.0	0.0	2.791	A
4	22	5	94	961	0.022	22	24	0.0	0.0	3.833	A
5	40	10	77	1651	0.024	40	39	0.0	0.0	2.235	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47	2144	0.027	57	51	0.0	0.0	1.726	A
2	58	14	42	1205	0.048	58	62	0.1	0.1	3.137	A
3	36	9	63	1341	0.027	36	37	0.0	0.0	2.760	A
4	18	5	79	968	0.019	18	20	0.0	0.0	3.788	A
5	33	8	65	1659	0.020	33	32	0.0	0.0	2.214	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3	0.03	0.03	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.08	0.03	0.26	0.47	0.49			N/A	N/A
3	0.04	0.03	0.25	0.45	0.48			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Do Something (DS)

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

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

Filename: Ollerton Rdbt rev impt2+xings 2037.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\1-olly
Report generation date: 15/04/2019 14:12:02

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final (incl rats), AM
»2037 final (incl rats), PM
»2037 final (incl rats), IP
»2037 final (incl rats), OP

Summary of junction performance

	AM								PM									
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95 Que (PC
2023																		
Arm 1	1.0	1.5	4.04	0.50	A	5.29	A	33 % [Arm 2]	2.4	4.2	6.89	0.71	A	5.85	A	25 % [Arm 1]	0.7	2.6
Arm 2	1.9	3.0	6.80	0.66	A				1.7	2.0	7.02	0.63	A				0.9	1.8
Arm 3	0.7	3.0	4.57	0.40	A				0.5	2.4	4.11	0.35	A				0.3	1.3
Arm 4	0.6	3.0	5.55	0.39	A				0.4	1.5	4.25	0.29	A				0.3	0.8
Arm 5	0.8	2.9	4.95	0.44	A				0.7	2.9	4.28	0.42	A				0.4	1.6
2037																		
Arm 1	1.1	1.5	4.26	0.53	A	5.61	A	29 % [Arm 2]	2.5	4.4	7.12	0.72	A	6.04	A	24 % [Arm 1]	0.7	2.5
Arm 2	2.2	3.7	7.41	0.69	A				1.8	2.3	7.33	0.64	A				1.0	1.6
Arm 3	0.7	3.0	4.74	0.41	A				0.5	2.5	4.18	0.35	A				0.3	1.3
Arm 4	0.7	3.1	5.78	0.40	A				0.4	1.6	4.33	0.30	A				0.3	1.0
Arm 5	0.8	2.8	5.13	0.46	A				0.7	2.8	4.36	0.42	A				0.4	1.7
2037 final (incl rats)																		
Arm 1	1.8	2.1	6.39	0.62	A	11.33	B	8 % [Arm 2]	6.1	31.7	16.32	0.86	C	15.45	C	2 % [Arm 2]	0.9	1.7
Arm 2	5.9	30.7	17.41	0.85	C				8.2	44.8	27.06	0.90	D				1.5	1.9
Arm 3	2.4	6.7	10.54	0.69	B				1.5	2.6	7.68	0.58	A				0.6	2.8
Arm 4	1.2	4.5	9.98	0.53	A				0.7	3.1	6.34	0.38	A				0.3	1.3
Arm 5	1.5	3.5	8.87	0.59	A				1.2	2.7	6.75	0.53	A				0.5	2.5

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

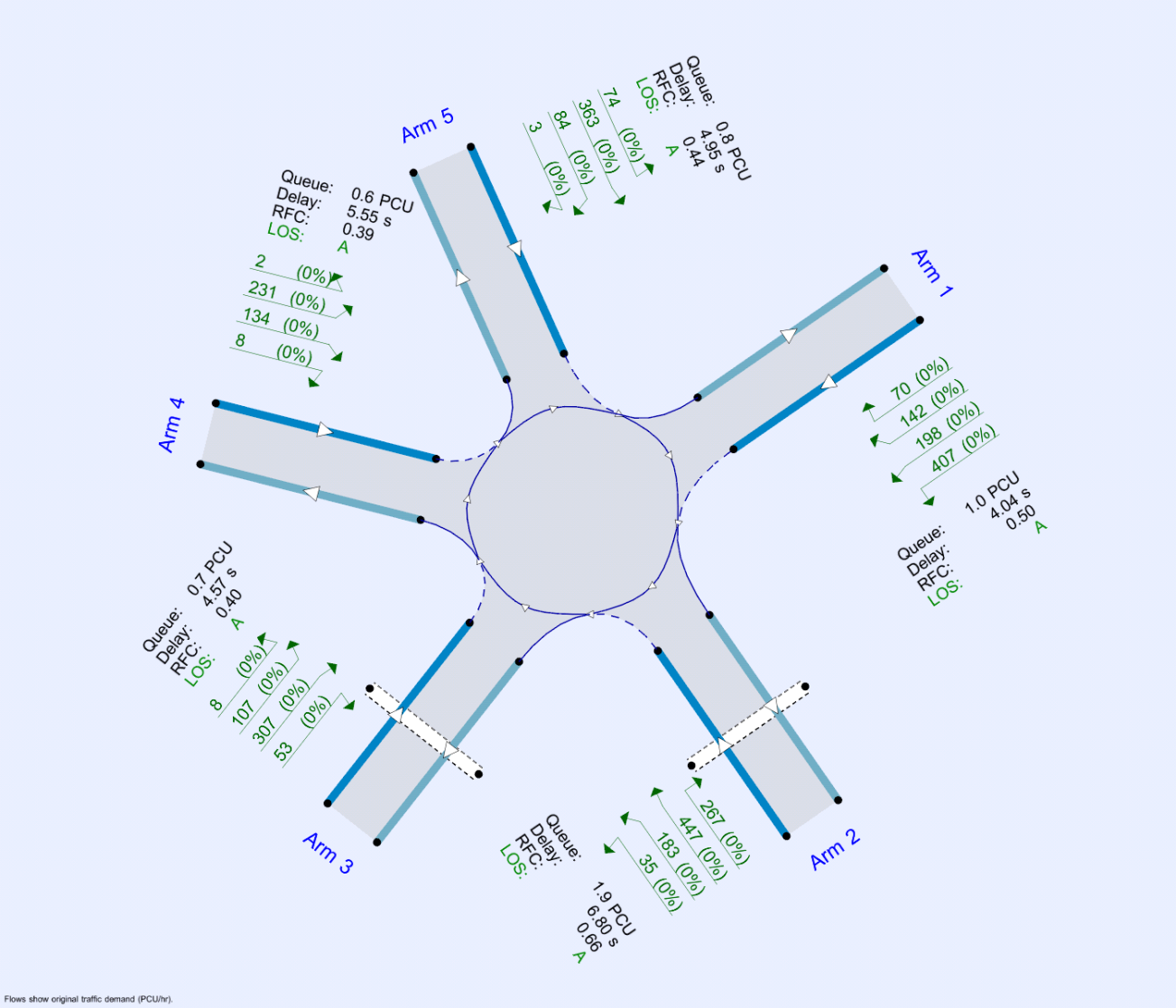
File summary

File Description

Title	Ollerton Roundabout - impt1+xings 2046+psd+tc2
Location	A614/ A616/ A6075 Ollerton
Site number	
Date	12/12/2017
Version	
Status	(new file)
Identifier	
Client	NCC
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.29	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	33	Arm 2

Arms

Arms

Arm	Name	Description
1	A616 Ollerton Rd	
2	A614S Old Rufford Road	
3	A6075 Mansfield Road	
4	A616 Worksop Road	
5	A614N Blyth Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.50	8.40	50.0	20.0	60.0	36.0	
2	4.60	8.60	15.0	12.5	60.0	44.0	
3	3.80	8.00	55.0	15.0	60.0	40.0	
4	3.30	8.90	40.0	7.5	60.0	56.0	
5	5.00	8.80	10.0	25.0	60.0	42.0	

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
2	4.00	3.00	2.90	3.00	6.00	9.00	7.00
3	4.00	3.00	2.90	3.00	6.00	9.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.649	2261
2	0.569	1888
3	0.607	2063
4	0.529	1799
5	0.595	1970

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	817	100.000
2		ONE HOUR	✓	947	100.000
3		ONE HOUR	✓	475	100.000
4		ONE HOUR	✓	375	100.000
5		ONE HOUR	✓	524	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	407	198	142	70
	2	267	15	35	183	447
	3	307	53	0	8	107
	4	231	134	8	0	2
	5	74	363	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.50	4.04	1.0	1.5	A	750	1125
2	0.66	6.80	1.9	3.0	A	869	1303
3	0.40	4.57	0.7	3.0	A	436	654
4	0.39	5.55	0.6	3.0	A	344	516
5	0.44	4.95	0.8	2.9	A	481	721

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	495		1940	0.317	613	659	0.0	0.5	2.710	A
2	713	178	379	0.00	1672	0.426	710	729	0.0	0.7	3.730	A
3	358	89	845	0.00	1551	0.231	356	244	0.0	0.3	3.012	A
4	282	71	950		1296	0.218	281	252	0.0	0.3	3.543	A
5	394	99	761		1516	0.260	393	469	0.0	0.3	3.200	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	593		1877	0.391	734	789	0.5	0.6	3.148	A
2	851	213	454	0.00	1630	0.522	850	873	0.7	1.1	4.606	A
3	427	107	1012	0.00	1450	0.295	427	292	0.3	0.4	3.517	A
4	337	84	1137		1197	0.282	337	302	0.3	0.4	4.180	A
5	471	118	911		1427	0.330	471	562	0.3	0.5	3.761	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	725		1791	0.502	898	965	0.6	1.0	4.027	A
2	1043	261	555	0.00	1572	0.663	1039	1068	1.1	1.9	6.712	A
3	523	131	1237	0.00	1313	0.398	522	357	0.4	0.7	4.547	A
4	413	103	1390		1063	0.388	412	369	0.4	0.6	5.519	A
5	577	144	1115		1306	0.442	576	687	0.5	0.8	4.922	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	727		1790	0.503	900	968	1.0	1.0	4.044	A
2	1043	261	556	0.00	1572	0.663	1043	1070	1.9	1.9	6.801	A
3	523	131	1241	0.00	1311	0.399	523	358	0.7	0.7	4.570	A
4	413	103	1394		1061	0.389	413	370	0.6	0.6	5.551	A
5	577	144	1117		1304	0.442	577	689	0.8	0.8	4.948	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	595		1875	0.392	736	793	1.0	0.6	3.165	A
2	851	213	455	0.00	1629	0.523	855	876	1.9	1.1	4.669	A
3	427	107	1017	0.00	1446	0.295	428	293	0.7	0.4	3.539	A
4	337	84	1142		1195	0.282	338	303	0.6	0.4	4.206	A
5	471	118	915		1425	0.331	472	565	0.8	0.5	3.785	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	498		1938	0.317	616	663	0.6	0.5	2.725	A
2	713	178	381	0.00	1672	0.427	714	733	1.1	0.7	3.768	A
3	358	89	850	0.00	1548	0.231	358	245	0.4	0.3	3.027	A
4	282	71	955		1294	0.218	283	253	0.4	0.3	3.564	A
5	394	99	765		1514	0.261	395	472	0.5	0.4	3.218	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.46	0.00	0.00	0.46	0.46			N/A	N/A
2	0.74	0.55	1.00	1.40	1.45			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.64	0.08	0.78	1.36	1.43			N/A	N/A
2	1.08	0.06	0.76	2.17	2.99			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.39	0.00	0.00	0.39	0.39			N/A	N/A
5	0.49	0.00	0.00	0.49	0.49			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.00	0.03	0.26	1.00	1.00			N/A	N/A
2	1.93	0.03	0.27	1.93	1.93			N/A	N/A
3	0.66	0.03	0.25	0.66	0.66			N/A	N/A
4	0.63	0.03	0.25	0.63	0.63			N/A	N/A
5	0.78	0.03	0.25	0.78	0.78			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.01	0.03	0.27	1.01	1.35			N/A	N/A
2	1.95	0.03	0.27	1.95	1.95			N/A	N/A
3	0.66	0.03	0.29	1.28	2.98			N/A	N/A
4	0.63	0.03	0.30	1.38	2.96			N/A	N/A
5	0.79	0.03	0.28	0.79	2.91			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.65	0.55	1.00	1.40	1.45			N/A	N/A
2	1.11	0.11	1.02	1.77	2.15			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.40	0.00	0.00	0.40	0.40			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.47	0.00	0.00	0.47	0.47			N/A	N/A
2	0.75	0.05	0.59	1.27	1.78			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

2023, PM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.85	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	25	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1145	100.000
2		ONE HOUR	✓	781	100.000
3		ONE HOUR	✓	423	100.000
4		ONE HOUR	✓	315	100.000
5		ONE HOUR	✓	546	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	426	372	281	63
	2	154	3	56	165	403
	3	283	50	0	11	79
	4	171	132	8	0	4
	5	69	381	88	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.71	6.89	2.4	4.2	A	1051	1576
2	0.63	7.02	1.7	2.0	A	717	1075
3	0.35	4.11	0.5	2.4	A	388	582
4	0.29	4.25	0.4	1.5	A	289	434
5	0.42	4.28	0.7	2.9	A	501	752

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	503		1935	0.446	859	510	0.0	0.8	3.336	A
2	588	147	617	0.00	1537	0.383	586	744	0.0	0.6	3.775	A
3	318	80	810	0.00	1572	0.203	317	393	0.0	0.3	2.866	A
4	237	59	779		1386	0.171	236	348	0.0	0.2	3.129	A
5	411	103	603		1611	0.255	410	412	0.0	0.3	2.995	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	602		1871	0.550	1028	611	0.8	1.2	4.261	A
2	702	176	739	0.00	1468	0.478	701	891	0.6	0.9	4.688	A
3	380	95	969	0.00	1475	0.258	380	470	0.3	0.3	3.286	A
4	283	71	933		1305	0.217	283	416	0.2	0.3	3.521	A
5	491	123	722		1540	0.319	490	494	0.3	0.5	3.428	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	737		1783	0.707	1256	747	1.2	2.4	6.769	A
2	860	215	903	0.00	1374	0.626	857	1090	0.9	1.6	6.923	A
3	466	116	1185	0.00	1344	0.346	465	575	0.3	0.5	4.090	A
4	347	87	1141		1195	0.290	346	509	0.3	0.4	4.238	A
5	601	150	884		1444	0.416	600	604	0.5	0.7	4.264	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	738		1782	0.707	1261	749	2.4	2.4	6.892	A
2	860	215	906	0.00	1372	0.627	860	1092	1.6	1.7	7.019	A
3	466	116	1189	0.00	1342	0.347	466	577	0.5	0.5	4.108	A
4	347	87	1144		1194	0.291	347	511	0.4	0.4	4.251	A
5	601	150	885		1443	0.417	601	606	0.7	0.7	4.277	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	603		1870	0.551	1034	613	2.4	1.2	4.331	A
2	702	176	743	0.00	1465	0.479	705	894	1.7	0.9	4.752	A
3	380	95	975	0.00	1472	0.258	381	473	0.5	0.4	3.304	A
4	283	71	937		1303	0.217	284	419	0.4	0.3	3.535	A
5	491	123	724		1538	0.319	492	496	0.7	0.5	3.444	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	505		1933	0.446	864	513	1.2	0.8	3.372	A
2	588	147	621	0.00	1535	0.383	589	748	0.9	0.6	3.813	A
3	318	80	815	0.00	1569	0.203	319	395	0.4	0.3	2.879	A
4	237	59	784		1384	0.171	237	350	0.3	0.2	3.139	A
5	411	103	606		1609	0.256	412	415	0.5	0.3	3.009	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.55	1.00	1.40	1.45			N/A	N/A
2	0.62	0.55	1.00	1.40	1.45			N/A	N/A
3	0.25	0.00	0.00	0.25	0.25			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.34	0.00	0.00	0.34	0.34			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.21	0.05	0.55	2.83	4.21			N/A	N/A
2	0.91	0.07	0.80	1.58	1.95			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.35	0.03	0.27	2.35	3.29			N/A	N/A
2	1.64	0.03	0.27	1.64	1.64			N/A	N/A
3	0.53	0.03	0.25	0.53	0.53			N/A	N/A
4	0.41	0.03	0.25	0.46	0.48			N/A	N/A
5	0.71	0.03	0.25	0.71	0.71			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.38	0.03	0.27	2.38	2.38			N/A	N/A
2	1.66	0.03	0.27	1.66	1.66			N/A	N/A
3	0.53	0.03	0.31	1.46	2.43			N/A	N/A
4	0.41	0.03	0.33	1.32	1.45			N/A	N/A
5	0.71	0.03	0.28	0.95	2.86			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.10	1.05	2.18	2.87			N/A	N/A
2	0.93	0.13	0.95	1.24	1.66			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.05	0.49	1.64	2.31			N/A	N/A
2	0.63	0.05	0.53	1.07	1.07			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.34	0.00	0.00	0.34	0.34			N/A	N/A

2023, IP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	3.61	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	70	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	725	100.000
2		ONE HOUR	✓	682	100.000
3		ONE HOUR	✓	334	100.000
4		ONE HOUR	✓	232	100.000
5		ONE HOUR	✓	399	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	302	240	130	52
	2	247	2	42	107	284
	3	216	51	0	12	55
	4	125	89	11	0	7
	5	58	281	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.42	3.24	0.7	2.6	A	665	998
2	0.48	4.35	0.9	1.8	A	626	939
3	0.24	3.15	0.3	1.3	A	306	460
4	0.20	3.55	0.3	0.8	A	213	319
5	0.30	3.45	0.4	1.6	A	366	549

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	371		2021	0.270	544	486	0.0	0.4	2.436	A
2	513	128	371	0.00	1677	0.306	512	544	0.0	0.4	3.085	A
3	251	63	621	0.00	1686	0.149	251	261	0.0	0.2	2.506	A
4	175	44	681		1438	0.121	174	191	0.0	0.1	2.846	A
5	300	75	557		1638	0.183	299	299	0.0	0.2	2.688	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	444		1973	0.330	651	581	0.4	0.5	2.723	A
2	613	153	444	0.00	1636	0.375	612	651	0.4	0.6	3.517	A
3	300	75	744	0.00	1612	0.186	300	313	0.2	0.2	2.743	A
4	209	52	816		1367	0.153	208	228	0.1	0.2	3.106	A
5	359	90	666		1573	0.228	358	357	0.2	0.3	2.964	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	543		1909	0.418	797	711	0.5	0.7	3.236	A
2	751	188	543	0.00	1579	0.476	750	797	0.6	0.9	4.335	A
3	368	92	910	0.00	1511	0.243	367	383	0.2	0.3	3.148	A
4	255	64	998		1271	0.201	255	279	0.2	0.3	3.545	A
5	439	110	816		1484	0.296	439	438	0.3	0.4	3.442	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	544		1908	0.418	798	712	0.7	0.7	3.242	A
2	751	188	544	0.00	1579	0.476	751	798	0.9	0.9	4.349	A
3	368	92	912	0.00	1510	0.244	368	383	0.3	0.3	3.150	A
4	255	64	1000		1270	0.201	255	280	0.3	0.3	3.547	A
5	439	110	817		1483	0.296	439	438	0.4	0.4	3.447	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	445		1973	0.330	653	583	0.7	0.5	2.730	A
2	613	153	445	0.00	1635	0.375	614	653	0.9	0.6	3.532	A
3	300	75	746	0.00	1611	0.186	301	313	0.3	0.2	2.747	A
4	209	52	818		1366	0.153	209	229	0.3	0.2	3.110	A
5	359	90	668		1572	0.228	359	358	0.4	0.3	2.968	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	372		2020	0.270	546	488	0.5	0.4	2.443	A
2	513	128	372	0.00	1676	0.306	514	546	0.6	0.4	3.098	A
3	251	63	624	0.00	1685	0.149	252	262	0.2	0.2	2.514	A
4	175	44	684		1437	0.122	175	191	0.2	0.1	2.852	A
5	300	75	559		1637	0.184	301	300	0.3	0.2	2.696	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.44	0.00	0.00	0.44	0.44			N/A	N/A
3	0.17	0.00	0.00	0.17	0.17			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.22	0.00	0.00	0.22	0.22			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.00	0.00	0.49	0.49			N/A	N/A
2	0.60	0.09	0.80	1.36	1.43			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.71	0.03	0.25	0.71	0.71			N/A	N/A
2	0.90	0.03	0.25	0.90	0.90			N/A	N/A
3	0.32	0.03	0.25	0.45	0.48			N/A	N/A
4	0.25	0.03	0.25	0.46	0.48			N/A	N/A
5	0.42	0.03	0.25	0.45	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.03	0.28	0.72	2.64			N/A	N/A
2	0.90	0.03	0.27	0.90	1.83			N/A	N/A
3	0.32	0.03	0.32	1.06	1.31			N/A	N/A
4	0.25	0.03	0.27	0.49	0.84			N/A	N/A
5	0.42	0.03	0.32	1.34	1.55			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2	0.60	0.55	1.00	1.40	1.45			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.44	0.00	0.00	0.44	0.44			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2023, OP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.88	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	71	100.000
2		ONE HOUR	✓	66	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	39	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	30	23	13	5
	2	24	0	4	10	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	27	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.67	0.0	0.5	A	65	98
2	0.04	2.02	0.0	0.5	A	61	91
3	0.02	1.89	0.0	0.5	A	29	44
4	0.01	2.09	0.0	0.5	A	21	32
5	0.02	1.91	0.0	0.5	A	36	54

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.979	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.060	A
5	29	7	54		1938	0.015	29	29	0.0	0.0	1.885	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.658	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.994	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.073	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.897	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A
2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A
2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.661	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.995	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.074	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.900	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.980	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.062	A
5	29	7	54		1937	0.015	29	29	0.0	0.0	1.885	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037, AM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.61	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	29	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	848	100.000
2		ONE HOUR	✓	981	100.000
3		ONE HOUR	✓	478	100.000
4		ONE HOUR	✓	381	100.000
5		ONE HOUR	✓	535	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	203	145	72
	2	278	16	36	189	462
	3	309	54	0	8	107
	4	233	138	8	0	2
	5	75	373	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.53	4.26	1.1	1.5	A	778	1167
2	0.69	7.41	2.2	3.7	A	900	1350
3	0.41	4.74	0.7	3.0	A	439	658
4	0.40	5.78	0.7	3.1	A	350	524
5	0.46	5.13	0.8	2.8	A	491	736

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	507		1932	0.330	636	671	0.0	0.5	2.775	A
2	739	185	386	0.00	1668	0.443	735	757	0.0	0.8	3.846	A
3	360	90	874	0.00	1533	0.235	359	248	0.0	0.3	3.062	A
4	287	72	973		1284	0.223	286	259	0.0	0.3	3.604	A
5	403	101	777		1507	0.267	401	482	0.0	0.4	3.251	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	607		1867	0.408	762	803	0.5	0.7	3.254	A
2	882	220	462	0.00	1625	0.543	880	906	0.8	1.2	4.825	A
3	430	107	1046	0.00	1429	0.301	429	297	0.3	0.4	3.599	A
4	343	86	1165		1182	0.290	342	310	0.3	0.4	4.283	A
5	481	120	930		1416	0.340	480	577	0.4	0.5	3.845	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	743		1779	0.525	932	983	0.7	1.1	4.242	A
2	1080	270	566	0.00	1566	0.690	1076	1109	1.2	2.2	7.288	A
3	526	132	1278	0.00	1288	0.409	525	364	0.4	0.7	4.716	A
4	419	105	1425		1045	0.401	418	379	0.4	0.7	5.737	A
5	589	147	1138		1292	0.456	588	706	0.5	0.8	5.100	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	744		1778	0.525	934	985	1.1	1.1	4.262	A
2	1080	270	567	0.00	1565	0.690	1080	1111	2.2	2.2	7.410	A
3	526	132	1283	0.00	1285	0.410	526	364	0.7	0.7	4.743	A
4	419	105	1429		1043	0.402	419	380	0.7	0.7	5.775	A
5	589	147	1141		1291	0.456	589	708	0.8	0.8	5.130	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	609		1866	0.409	764	807	1.1	0.7	3.274	A
2	882	220	464	0.00	1624	0.543	886	909	2.2	1.2	4.904	A
3	430	107	1052	0.00	1425	0.301	431	298	0.7	0.4	3.625	A
4	343	86	1171		1179	0.290	344	311	0.7	0.4	4.314	A
5	481	120	934		1413	0.340	482	580	0.8	0.5	3.870	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	510		1930	0.331	639	675	0.7	0.5	2.789	A
2	739	185	388	0.00	1667	0.443	740	761	1.2	0.8	3.889	A
3	360	90	879	0.00	1530	0.235	360	250	0.4	0.3	3.080	A
4	287	72	979		1281	0.224	287	260	0.4	0.3	3.627	A
5	403	101	781		1505	0.268	403	485	0.5	0.4	3.272	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.00	0.00	0.49	0.49			N/A	N/A
2	0.79	0.55	1.00	1.40	1.45			N/A	N/A
3	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.69	0.08	0.78	1.38	1.45			N/A	N/A
2	1.17	0.06	0.72	2.58	3.68			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.51	0.05	0.55	1.31	1.41			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.09	0.03	0.26	1.09	1.09			N/A	N/A
2	2.17	0.03	0.27	2.17	3.06			N/A	N/A
3	0.69	0.03	0.25	0.69	0.69			N/A	N/A
4	0.66	0.03	0.25	0.66	0.66			N/A	N/A
5	0.83	0.03	0.25	0.83	0.83			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.10	0.03	0.27	1.10	1.47			N/A	N/A
2	2.20	0.03	0.27	2.20	2.20			N/A	N/A
3	0.69	0.03	0.29	1.21	3.03			N/A	N/A
4	0.67	0.03	0.29	1.33	3.08			N/A	N/A
5	0.83	0.03	0.28	0.83	2.84			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.70	0.55	1.00	1.40	1.45			N/A	N/A
2	1.20	0.09	1.03	2.04	2.78			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.52	0.52	1.00	1.40	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.05	0.46	1.28	1.39			N/A	N/A
2	0.80	0.05	0.50	1.59	2.17			N/A	N/A
3	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.37	0.00	0.00	0.37	0.37			N/A	N/A

2037, PM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	6.04	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	24	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1154	100.000
2		ONE HOUR	✓	802	100.000
3		ONE HOUR	✓	424	100.000
4		ONE HOUR	✓	320	100.000
5		ONE HOUR	✓	553	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	372	280	63
	2	161	3	56	169	413
	3	286	49	0	11	78
	4	173	135	8	0	4
	5	69	389	87	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.72	7.12	2.5	4.4	A	1059	1588
2	0.64	7.33	1.8	2.3	A	736	1104
3	0.35	4.18	0.5	2.5	A	389	584
4	0.30	4.33	0.4	1.6	A	294	440
5	0.42	4.36	0.7	2.8	A	507	761

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	509		1931	0.450	866	519	0.0	0.8	3.371	A
2	604	151	616	0.00	1538	0.393	601	759	0.0	0.6	3.835	A
3	319	80	825	0.00	1563	0.204	318	392	0.0	0.3	2.889	A
4	241	60	793		1379	0.175	240	350	0.0	0.2	3.159	A
5	416	104	614		1604	0.260	415	419	0.0	0.3	3.024	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	610		1865	0.556	1036	621	0.8	1.2	4.330	A
2	721	180	737	0.00	1469	0.491	720	909	0.6	1.0	4.798	A
3	381	95	987	0.00	1464	0.260	381	469	0.3	0.4	3.322	A
4	288	72	949		1297	0.222	287	419	0.2	0.3	3.566	A
5	497	124	735		1532	0.324	497	502	0.3	0.5	3.473	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	746		1777	0.715	1266	760	1.2	2.4	6.979	A
2	883	221	901	0.00	1375	0.642	880	1111	1.0	1.8	7.217	A
3	467	117	1207	0.00	1331	0.351	466	574	0.4	0.5	4.157	A
4	352	88	1160		1185	0.297	352	512	0.3	0.4	4.319	A
5	609	152	899		1435	0.424	608	613	0.5	0.7	4.349	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	748		1776	0.715	1270	762	2.4	2.5	7.115	A
2	883	221	904	0.00	1374	0.643	883	1114	1.8	1.8	7.332	A
3	467	117	1211	0.00	1329	0.351	467	576	0.5	0.5	4.177	A
4	352	88	1164		1183	0.298	352	514	0.4	0.4	4.333	A
5	609	152	901		1434	0.425	609	615	0.7	0.7	4.365	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	612		1864	0.556	1042	624	2.5	1.3	4.404	A
2	721	180	741	0.00	1466	0.492	724	913	1.8	1.0	4.873	A
3	381	95	993	0.00	1461	0.261	382	472	0.5	0.4	3.341	A
4	288	72	954		1294	0.222	288	422	0.4	0.3	3.582	A
5	497	124	737		1531	0.325	498	505	0.7	0.5	3.488	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	512		1929	0.450	871	522	1.3	0.8	3.406	A
2	604	151	619	0.00	1536	0.393	605	763	1.0	0.7	3.875	A
3	319	80	830	0.00	1560	0.205	320	394	0.4	0.3	2.903	A
4	241	60	797		1377	0.175	241	352	0.3	0.2	3.172	A
5	416	104	617		1603	0.260	417	422	0.5	0.4	3.036	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.55	1.00	1.40	1.45			N/A	N/A
2	0.64	0.55	1.00	1.40	1.45			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.05	0.52	2.92	4.43			N/A	N/A
2	0.95	0.07	0.79	1.74	2.31			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.48	0.00	0.00	0.48	0.48			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.44	0.03	0.27	2.44	3.98			N/A	N/A
2	1.75	0.03	0.27	1.75	1.75			N/A	N/A
3	0.54	0.03	0.25	0.54	0.54			N/A	N/A
4	0.42	0.03	0.25	0.46	0.48			N/A	N/A
5	0.73	0.03	0.25	0.73	0.73			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.48	0.03	0.27	2.48	2.48			N/A	N/A
2	1.78	0.03	0.27	1.78	1.78			N/A	N/A
3	0.54	0.03	0.31	1.46	2.49			N/A	N/A
4	0.42	0.03	0.32	1.35	1.58			N/A	N/A
5	0.74	0.03	0.28	0.86	2.83			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.27	0.09	1.04	2.35	3.02			N/A	N/A
2	0.98	0.11	0.96	1.48	1.82			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.48	0.00	0.00	0.48	0.48			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.82	0.05	0.48	1.72	2.50			N/A	N/A
2	0.65	0.05	0.51	1.43	1.43			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

2037, IP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	3.69	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	66	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	739	100.000
2		ONE HOUR	✓	701	100.000
3		ONE HOUR	✓	336	100.000
4		ONE HOUR	✓	237	100.000
5		ONE HOUR	✓	408	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	242	131	52
	2	256	2	43	109	291
	3	218	51	0	12	55
	4	127	92	11	0	7
	5	59	289	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.43	3.31	0.7	2.5	A	678	1017
2	0.49	4.47	1.0	1.6	A	643	965
3	0.25	3.19	0.3	1.3	A	308	462
4	0.21	3.60	0.3	1.0	A	217	326
5	0.31	3.52	0.4	1.7	A	374	562

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	379		2015	0.276	555	496	0.0	0.4	2.463	A
2	528	132	373	0.00	1676	0.315	526	561	0.0	0.5	3.125	A
3	253	63	636	0.00	1678	0.151	252	263	0.0	0.2	2.524	A
4	178	45	695		1431	0.125	178	193	0.0	0.1	2.870	A
5	307	77	569		1631	0.188	306	304	0.0	0.2	2.716	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	454		1967	0.338	664	594	0.4	0.5	2.761	A
2	630	158	446	0.00	1634	0.386	630	671	0.5	0.6	3.582	A
3	302	76	761	0.00	1602	0.189	302	315	0.2	0.2	2.769	A
4	213	53	832		1359	0.157	213	231	0.1	0.2	3.141	A
5	367	92	681		1564	0.234	366	364	0.2	0.3	3.005	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	555		1901	0.428	813	727	0.5	0.7	3.305	A
2	772	193	547	0.00	1577	0.489	771	822	0.6	0.9	4.456	A
3	370	92	931	0.00	1498	0.247	370	386	0.2	0.3	3.189	A
4	261	65	1018		1260	0.207	261	283	0.2	0.3	3.602	A
5	449	112	833		1473	0.305	449	445	0.3	0.4	3.511	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	556		1900	0.428	814	728	0.7	0.7	3.312	A
2	772	193	547	0.00	1577	0.490	772	822	0.9	1.0	4.472	A
3	370	92	933	0.00	1498	0.247	370	386	0.3	0.3	3.191	A
4	261	65	1020		1259	0.207	261	283	0.3	0.3	3.604	A
5	449	112	835		1473	0.305	449	446	0.4	0.4	3.516	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	455		1966	0.338	665	595	0.7	0.5	2.771	A
2	630	158	447	0.00	1634	0.386	631	672	1.0	0.6	3.599	A
3	302	76	763	0.00	1600	0.189	302	316	0.3	0.2	2.775	A
4	213	53	834		1358	0.157	213	231	0.3	0.2	3.148	A
5	367	92	682		1563	0.235	367	365	0.4	0.3	3.010	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	381		2014	0.276	557	498	0.5	0.4	2.470	A
2	528	132	375	0.00	1675	0.315	528	563	0.6	0.5	3.140	A
3	253	63	638	0.00	1676	0.151	253	265	0.2	0.2	2.532	A
4	178	45	698		1430	0.125	179	194	0.2	0.1	2.879	A
5	307	77	571		1630	0.188	307	305	0.3	0.2	2.725	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	0.62	0.09	0.81	1.36	1.43			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.03	0.25	0.74	0.74			N/A	N/A
2	0.95	0.03	0.26	0.95	0.95			N/A	N/A
3	0.33	0.03	0.25	0.45	0.48			N/A	N/A
4	0.26	0.03	0.25	0.46	0.48			N/A	N/A
5	0.44	0.03	0.25	0.45	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.75	0.03	0.28	0.75	2.53			N/A	N/A
2	0.95	0.03	0.27	0.95	1.62			N/A	N/A
3	0.33	0.03	0.32	1.08	1.33			N/A	N/A
4	0.26	0.03	0.28	0.51	1.01			N/A	N/A
5	0.44	0.03	0.32	1.37	1.71			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	0.63	0.55	1.00	1.40	1.45			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A
5	0.31	0.00	0.00	0.31	0.31			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2037, OP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.89	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	73	100.000
2		ONE HOUR	✓	68	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	40	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	24	13	5
	2	25	0	4	11	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	28	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.68	0.0	0.5	A	67	100
2	0.04	2.02	0.0	0.5	A	62	94
3	0.02	1.89	0.0	0.5	A	29	44
4	0.01	2.09	0.0	0.5	A	21	32
5	0.02	1.92	0.0	0.5	A	37	55

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37		2237	0.025	55	48	0.0	0.0	1.648	A
2	51	13	37	0.00	1867	0.027	51	55	0.0	0.0	1.982	A
3	24	6	62	0.00	1934	0.012	24	26	0.0	0.0	1.884	A
4	17	4	67		1763	0.010	17	20	0.0	0.0	2.061	A
5	30	8	55		1937	0.016	30	29	0.0	0.0	1.886	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44		2233	0.029	66	58	0.0	0.0	1.660	A
2	61	15	44	0.00	1863	0.033	61	66	0.0	0.0	1.997	A
3	29	7	75	0.00	1934	0.015	29	31	0.0	0.0	1.888	A
4	21	5	80		1756	0.012	21	23	0.0	0.0	2.073	A
5	36	9	66		1931	0.019	36	35	0.0	0.0	1.899	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54		2226	0.036	80	70	0.0	0.0	1.676	A
2	75	19	54	0.00	1857	0.040	75	80	0.0	0.0	2.019	A
3	35	9	91	0.00	1934	0.018	35	37	0.0	0.0	1.895	A
4	25	6	98		1747	0.015	25	29	0.0	0.0	2.090	A
5	44	11	80		1922	0.023	44	43	0.0	0.0	1.916	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54		2226	0.036	80	70	0.0	0.0	1.676	A
2	75	19	54	0.00	1857	0.040	75	80	0.0	0.0	2.019	A
3	35	9	91	0.00	1934	0.018	35	37	0.0	0.0	1.895	A
4	25	6	98		1747	0.015	25	29	0.0	0.0	2.090	A
5	44	11	80		1922	0.023	44	43	0.0	0.0	1.916	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44		2232	0.029	66	58	0.0	0.0	1.663	A
2	61	15	44	0.00	1863	0.033	61	66	0.0	0.0	1.997	A
3	29	7	75	0.00	1934	0.015	29	31	0.0	0.0	1.888	A
4	21	5	80		1756	0.012	21	23	0.0	0.0	2.075	A
5	36	9	66		1931	0.019	36	35	0.0	0.0	1.899	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37		2237	0.025	55	48	0.0	0.0	1.648	A
2	51	13	37	0.00	1867	0.027	51	55	0.0	0.0	1.982	A
3	24	6	63	0.00	1934	0.012	24	26	0.0	0.0	1.884	A
4	17	4	67		1763	0.010	17	20	0.0	0.0	2.063	A
5	30	8	55		1937	0.016	30	29	0.0	0.0	1.889	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 final (incl rats), AM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.33	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	914	100.000
2		ONE HOUR	✓	1164	100.000
3		ONE HOUR	✓	766	100.000
4		ONE HOUR	✓	400	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	12.00
3	[ONEHOUR]	10.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	451	246	145	72
	2	357	16	129	192	470
	3	378	207	0	29	152
	4	233	139	26	0	2
	5	75	379	120	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.62	6.39	1.8	2.1	A	839	1258
2	0.85	17.41	5.9	30.7	C	1068	1602
3	0.69	10.54	2.4	6.7	B	703	1054
4	0.53	9.98	1.2	4.5	A	367	551
5	0.59	8.87	1.5	3.5	A	529	794

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	667		1828	0.376	685	781	0.0	0.7	3.458	A
2	876	219	459	9.03	1597	0.549	871	893	0.0	1.3	5.415	A
3	577	144	939	7.53	1469	0.393	574	390	0.0	0.7	4.426	A
4	301	75	1237		1144	0.263	300	276	0.0	0.4	4.679	A
5	434	109	1015		1365	0.318	432	521	0.0	0.5	4.236	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	798		1743	0.471	820	935	0.7	1.0	4.287	A
2	1046	262	549	10.79	1553	0.674	1043	1069	1.3	2.2	7.710	A
3	689	172	1125	8.99	1359	0.507	687	467	0.7	1.1	5.880	A
4	360	90	1481		1015	0.354	359	331	0.4	0.6	6.024	A
5	519	130	1216		1246	0.416	518	624	0.5	0.8	5.430	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	975		1629	0.618	1003	1140	1.0	1.7	6.300	A
2	1282	320	671	13.21	1506	0.851	1268	1307	2.2	5.6	15.794	C
3	843	211	1369	11.01	1219	0.692	838	571	1.1	2.4	10.279	B
4	440	110	1804		844	0.522	438	403	0.6	1.2	9.693	A
5	635	159	1482		1087	0.584	632	760	0.8	1.5	8.653	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	980		1625	0.619	1006	1148	1.7	1.8	6.392	A
2	1282	320	674	13.21	1505	0.852	1280	1312	5.6	5.9	17.407	C
3	843	211	1381	11.01	1218	0.692	843	573	2.4	2.4	10.543	B
4	440	110	1818		837	0.526	440	406	1.2	1.2	9.977	A
5	635	159	1492		1081	0.588	635	766	1.5	1.5	8.873	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	805		1739	0.473	825	946	1.8	1.0	4.349	A
2	1046	262	553	10.79	1574	0.665	1061	1077	5.9	2.2	7.941	A
3	689	172	1142	8.99	1356	0.508	694	472	2.4	1.2	6.024	A
4	360	90	1501		1005	0.358	362	335	1.2	0.6	6.185	A
5	519	130	1230		1237	0.419	522	633	1.5	0.8	5.555	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	672		1825	0.377	689	788	1.0	0.7	3.492	A
2	876	219	462	9.03	1605	0.546	880	900	2.2	1.3	5.487	A
3	577	144	948	7.53	1467	0.393	578	393	1.2	0.7	4.464	A
4	301	75	1248		1138	0.265	302	279	0.6	0.4	4.740	A
5	434	109	1024		1360	0.319	436	526	0.8	0.5	4.288	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.66	0.61	1.10	1.54	1.60			N/A	N/A
2	1.32	0.61	1.14	1.32	1.67			N/A	N/A
3	0.71	0.61	1.10	1.54	1.60			N/A	N/A
4	0.39	0.00	0.00	0.39	0.39			N/A	N/A
5	0.51	0.00	0.00	0.51	0.51			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.97	0.07	0.86	1.68	2.10			N/A	N/A
2	2.22	0.06	0.58	5.91	9.31			N/A	N/A
3	1.12	0.07	0.83	2.13	3.02			N/A	N/A
4	0.60	0.07	0.73	1.47	1.56			N/A	N/A
5	0.78	0.09	0.85	1.54	1.62			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.75	0.03	0.29	1.75	1.75			N/A	N/A
2	5.63	0.04	0.39	12.44	30.71			N/A	N/A
3	2.39	0.03	0.31	2.39	6.71			N/A	N/A
4	1.17	0.03	0.29	1.17	1.17			N/A	N/A
5	1.51	0.03	0.29	1.51	1.51			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.77	0.03	0.29	1.77	1.77			N/A	N/A
2	5.94	0.03	0.33	5.94	25.09			N/A	N/A
3	2.43	0.03	0.30	2.43	4.28			N/A	N/A
4	1.20	0.03	0.31	1.20	4.54			N/A	N/A
5	1.54	0.03	0.30	1.54	3.51			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.99	0.16	1.05	1.64	1.64			N/A	N/A
2	2.24	0.05	0.49	6.09	10.24			N/A	N/A
3	1.15	0.08	0.94	2.09	2.89			N/A	N/A
4	0.62	0.07	0.74	1.47	1.56			N/A	N/A
5	0.80	0.10	0.91	1.53	1.61			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.67	0.06	0.61	1.50	1.61			N/A	N/A
2	1.34	0.04	0.37	3.04	6.78			N/A	N/A
3	0.72	0.04	0.45	1.47	2.15			N/A	N/A
4	0.40	0.03	0.34	1.05	1.35			N/A	N/A
5	0.52	0.04	0.44	1.38	1.53			N/A	N/A

2037 final (incl rats), PM

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	15.45	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	2	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1284	100.000
2		ONE HOUR	✓	1054	100.000
3		ONE HOUR	✓	641	100.000
4		ONE HOUR	✓	343	100.000
5		ONE HOUR	✓	603	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	10.00
3	[ONEHOUR]	15.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	495	437	285	64
	2	259	3	189	175	428
	3	339	155	0	30	117
	4	176	139	24	0	4
	5	71	400	124	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.86	16.32	6.1	31.7	C	1178	1767
2	0.90	27.06	8.2	44.8	D	967	1451
3	0.58	7.68	1.5	2.6	A	588	882
4	0.38	6.34	0.7	3.1	A	315	472
5	0.53	6.75	1.2	2.7	A	553	830

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	967	242	639		1846	0.524	962	635	0.0	1.2	4.454	A
2	794	198	708	7.53	1463	0.543	788	893	0.0	1.3	5.829	A
3	483	121	917	11.29	1469	0.328	480	580	0.0	0.5	3.997	A
4	258	65	1025		1256	0.206	257	372	0.0	0.3	3.958	A
5	454	113	823		1480	0.307	452	460	0.0	0.5	3.845	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1154	289	766		1764	0.654	1151	760	1.2	2.0	6.419	A
2	948	237	847	8.99	1391	0.681	944	1069	1.3	2.3	8.777	A
3	576	144	1097	13.48	1362	0.423	575	694	0.5	0.8	5.029	A
4	308	77	1227		1150	0.268	308	445	0.3	0.4	4.702	A
5	542	136	985		1383	0.392	541	550	0.5	0.7	4.697	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1414	353	936		1654	0.855	1399	926	2.0	5.8	14.724	B
2	1160	290	1031	11.01	1302	0.892	1140	1304	2.3	7.3	22.215	C
3	706	176	1328	16.52	1226	0.575	703	843	0.8	1.5	7.529	A
4	378	94	1491		1010	0.374	377	540	0.4	0.6	6.241	A
5	664	166	1201		1255	0.529	662	667	0.7	1.2	6.656	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1414	353	939		1652	0.856	1412	933	5.8	6.1	16.322	C
2	1160	290	1040	11.01	1296	0.895	1157	1312	7.3	8.2	27.061	D
3	706	176	1346	16.52	1221	0.578	706	851	1.5	1.5	7.675	A
4	378	94	1505		1003	0.377	378	546	0.6	0.7	6.336	A
5	664	166	1208		1251	0.531	664	675	1.2	1.2	6.749	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1154	289	770		1762	0.655	1170	770	6.1	2.1	6.873	A
2	948	237	860	8.99	1399	0.677	971	1080	8.2	2.4	9.729	A
3	576	144	1125	13.48	1351	0.426	579	706	1.5	0.8	5.142	A
4	308	77	1249		1138	0.271	309	454	0.7	0.4	4.787	A
5	542	136	996		1377	0.394	544	563	1.2	0.7	4.767	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	967	242	644		1844	0.524	970	640	2.1	1.2	4.554	A
2	794	198	714	7.53	1468	0.541	798	900	2.4	1.3	5.944	A
3	483	121	927	11.29	1468	0.329	484	585	0.8	0.5	4.029	A
4	258	65	1035		1251	0.206	259	376	0.4	0.3	3.992	A
5	454	113	829		1476	0.308	455	464	0.7	0.5	3.882	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.20	0.61	1.12	1.58	1.64			N/A	N/A
2	1.29	0.61	1.19	1.39	1.80			N/A	N/A
3	0.53	0.00	0.00	0.53	0.53			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.48	0.00	0.00	0.48	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.04	0.05	0.50	5.45	9.02			N/A	N/A
2	2.28	0.05	0.55	6.13	9.72			N/A	N/A
3	0.80	0.09	0.87	1.55	1.63			N/A	N/A
4	0.40	0.00	0.00	0.40	0.40			N/A	N/A
5	0.70	0.09	0.87	1.50	1.58			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.82	0.04	0.39	12.56	31.75			N/A	N/A
2	7.35	0.05	0.50	20.63	38.30			N/A	N/A
3	1.46	0.03	0.29	1.46	1.46			N/A	N/A
4	0.65	0.03	0.28	0.65	0.65			N/A	N/A
5	1.22	0.03	0.29	1.22	1.22			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	6.15	0.03	0.33	6.15	25.62			N/A	N/A
2	8.20	0.04	0.39	17.30	44.83			N/A	N/A
3	1.49	0.03	0.30	1.49	2.62			N/A	N/A
4	0.66	0.03	0.33	1.60	3.11			N/A	N/A
5	1.23	0.03	0.30	1.23	2.68			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.13	0.05	0.51	5.74	9.41			N/A	N/A
2	2.38	0.05	0.45	6.46	11.61			N/A	N/A
3	0.83	0.13	0.97	1.53	1.61			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.72	0.15	0.98	1.52	1.58			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.23	0.04	0.36	2.74	6.17			N/A	N/A
2	1.31	0.03	0.34	2.25	6.64			N/A	N/A
3	0.54	0.05	0.47	1.40	1.53			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.49	0.04	0.41	1.32	1.48			N/A	N/A

2037 final (incl rats), IP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - 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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	4.58	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	43	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	795	100.000
2		ONE HOUR	✓	820	100.000
3		ONE HOUR	✓	488	100.000
4		ONE HOUR	✓	250	100.000
5		ONE HOUR	✓	436	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	15.00
3	[ONEHOUR]	10.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	334	277	131	52
	2	292	2	119	111	296
	3	254	130	0	24	80
	4	127	93	23	0	7
	5	59	293	79	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.48	3.83	0.9	1.7	A	730	1094
2	0.61	6.07	1.5	1.9	A	752	1129
3	0.37	4.00	0.6	2.8	A	448	672
4	0.24	4.10	0.3	1.3	A	229	344
5	0.35	4.07	0.5	2.5	A	400	600

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	469		1957	0.306	597	550	0.0	0.4	2.643	A
2	617	154	426	11.29	1605	0.385	615	639	0.0	0.6	3.628	A
3	367	92	667	7.53	1629	0.226	366	374	0.0	0.3	2.848	A
4	188	47	830		1359	0.138	188	203	0.0	0.2	3.070	A
5	328	82	692		1558	0.211	327	326	0.0	0.3	2.922	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	561		1897	0.377	714	658	0.4	0.6	3.042	A
2	737	184	510	13.48	1556	0.474	736	765	0.6	0.9	4.383	A
3	439	110	799	8.99	1547	0.284	438	447	0.3	0.4	3.246	A
4	225	56	994		1273	0.177	225	243	0.2	0.2	3.433	A
5	392	98	828		1477	0.265	392	391	0.3	0.4	3.317	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	687		1815	0.482	874	805	0.6	0.9	3.819	A
2	903	226	624	16.52	1492	0.605	900	937	0.9	1.5	6.061	A
3	537	134	977	11.01	1437	0.374	537	547	0.4	0.6	3.996	A
4	275	69	1216		1155	0.238	275	298	0.2	0.3	4.087	A
5	480	120	1013		1366	0.351	479	478	0.4	0.5	4.054	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	688		1815	0.482	875	807	0.9	0.9	3.831	A
2	903	226	625	16.52	1496	0.604	903	938	1.5	1.5	6.068	A
3	537	134	980	11.01	1436	0.374	537	548	0.6	0.6	4.003	A
4	275	69	1219		1154	0.239	275	298	0.3	0.3	4.096	A
5	480	120	1015		1365	0.352	480	479	0.5	0.5	4.066	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	563		1896	0.377	716	661	0.9	0.6	3.056	A
2	737	184	512	13.48	1561	0.472	740	767	1.5	0.9	4.393	A
3	439	110	802	8.99	1546	0.284	439	449	0.6	0.4	3.256	A
4	225	56	998		1271	0.177	225	244	0.3	0.2	3.442	A
5	392	98	831		1475	0.266	393	392	0.5	0.4	3.327	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	471		1955	0.306	599	553	0.6	0.4	2.655	A
2	617	154	428	11.29	1608	0.384	618	642	0.9	0.6	3.642	A
3	367	92	671	7.53	1628	0.226	368	375	0.4	0.3	2.856	A
4	188	47	835		1357	0.139	188	204	0.2	0.2	3.082	A
5	328	82	695		1556	0.211	329	328	0.4	0.3	2.933	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	0.62	0.55	1.00	1.40	1.45			N/A	N/A
3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
4	0.16	0.00	0.00	0.16	0.16			N/A	N/A
5	0.27	0.00	0.00	0.27	0.27			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.60	0.08	0.77	1.35	1.43			N/A	N/A
2	0.89	0.07	0.82	1.49	1.87			N/A	N/A
3	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.03	0.25	0.92	0.92			N/A	N/A
2	1.51	0.03	0.26	1.51	1.51			N/A	N/A
3	0.59	0.03	0.25	0.59	0.59			N/A	N/A
4	0.31	0.03	0.25	0.46	0.48			N/A	N/A
5	0.54	0.03	0.25	0.54	0.54			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.03	0.27	0.93	1.68			N/A	N/A
2	1.51	0.03	0.27	1.51	1.51			N/A	N/A
3	0.60	0.03	0.30	1.36	2.79			N/A	N/A
4	0.31	0.03	0.31	1.04	1.30			N/A	N/A
5	0.54	0.03	0.30	1.43	2.50			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.61	0.55	1.00	1.40	1.45			N/A	N/A
2	0.90	0.17	0.96	1.42	1.42			N/A	N/A
3	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4	0.22	0.00	0.00	0.22	0.22			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	0.63	0.06	0.62	1.37	1.46			N/A	N/A
3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
4	0.16	0.00	0.00	0.16	0.16			N/A	N/A
5	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2037 final (incl rats), OP

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	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - 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. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.95	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	77	100.000
3		ONE HOUR	✓	38	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	44	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	20.00
3	[ONEHOUR]	24.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	27	13	5
	2	25	0	12	11	29
	3	25	3	0	2	8
	4	12	9	2	0	1
	5	6	29	8	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.68	0.0	0.5	A	70	105
2	0.05	2.15	0.1	0.5	A	71	106
3	0.02	2.02	0.0	0.5	A	35	52
4	0.02	2.10	0.0	0.5	A	22	33
5	0.03	1.92	0.0	0.5	A	40	61

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	39		2236	0.026	57	51	0.0	0.0	1.651	A
2	58	14	42	15.06	1799	0.032	58	54	0.0	0.0	2.067	A
3	29	7	63	18.07	1853	0.015	29	37	0.0	0.0	1.972	A
4	18	5	71		1761	0.010	18	20	0.0	0.0	2.065	A
5	33	8	57		1936	0.017	33	32	0.0	0.0	1.891	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	47		2231	0.031	68	61	0.0	0.0	1.663	A
2	69	17	50	17.98	1783	0.039	69	65	0.0	0.0	2.100	A
3	34	9	75	21.58	1839	0.019	34	44	0.0	0.0	1.993	A
4	22	5	85		1754	0.012	22	24	0.0	0.0	2.078	A
5	40	10	68		1929	0.021	40	39	0.0	0.0	1.904	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	57		2224	0.038	84	75	0.0	0.0	1.681	A
2	85	21	62	22.02	1762	0.048	85	79	0.0	0.1	2.146	A
3	42	10	92	26.42	1821	0.023	42	54	0.0	0.0	2.023	A
4	26	7	105		1743	0.015	26	30	0.0	0.0	2.096	A
5	48	12	84		1920	0.025	48	47	0.0	0.0	1.923	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	57		2224	0.038	84	75	0.0	0.0	1.681	A
2	85	21	62	22.02	1762	0.048	85	79	0.1	0.1	2.146	A
3	42	10	92	26.42	1821	0.023	42	54	0.0	0.0	2.023	A
4	26	7	105		1743	0.015	26	30	0.0	0.0	2.096	A
5	48	12	84		1920	0.025	48	47	0.0	0.0	1.923	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	47		2231	0.031	68	61	0.0	0.0	1.666	A
2	69	17	50	17.98	1783	0.039	69	65	0.1	0.0	2.101	A
3	34	9	76	21.58	1839	0.019	34	44	0.0	0.0	1.993	A
4	22	5	85		1754	0.012	22	24	0.0	0.0	2.079	A
5	40	10	68		1929	0.021	40	39	0.0	0.0	1.907	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	39		2236	0.026	57	51	0.0	0.0	1.651	A
2	58	14	42	15.06	1799	0.032	58	54	0.0	0.0	2.067	A
3	29	7	63	18.07	1853	0.015	29	37	0.0	0.0	1.974	A
4	18	5	72		1761	0.010	18	20	0.0	0.0	2.065	A
5	33	8	57		1936	0.017	33	32	0.0	0.0	1.894	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

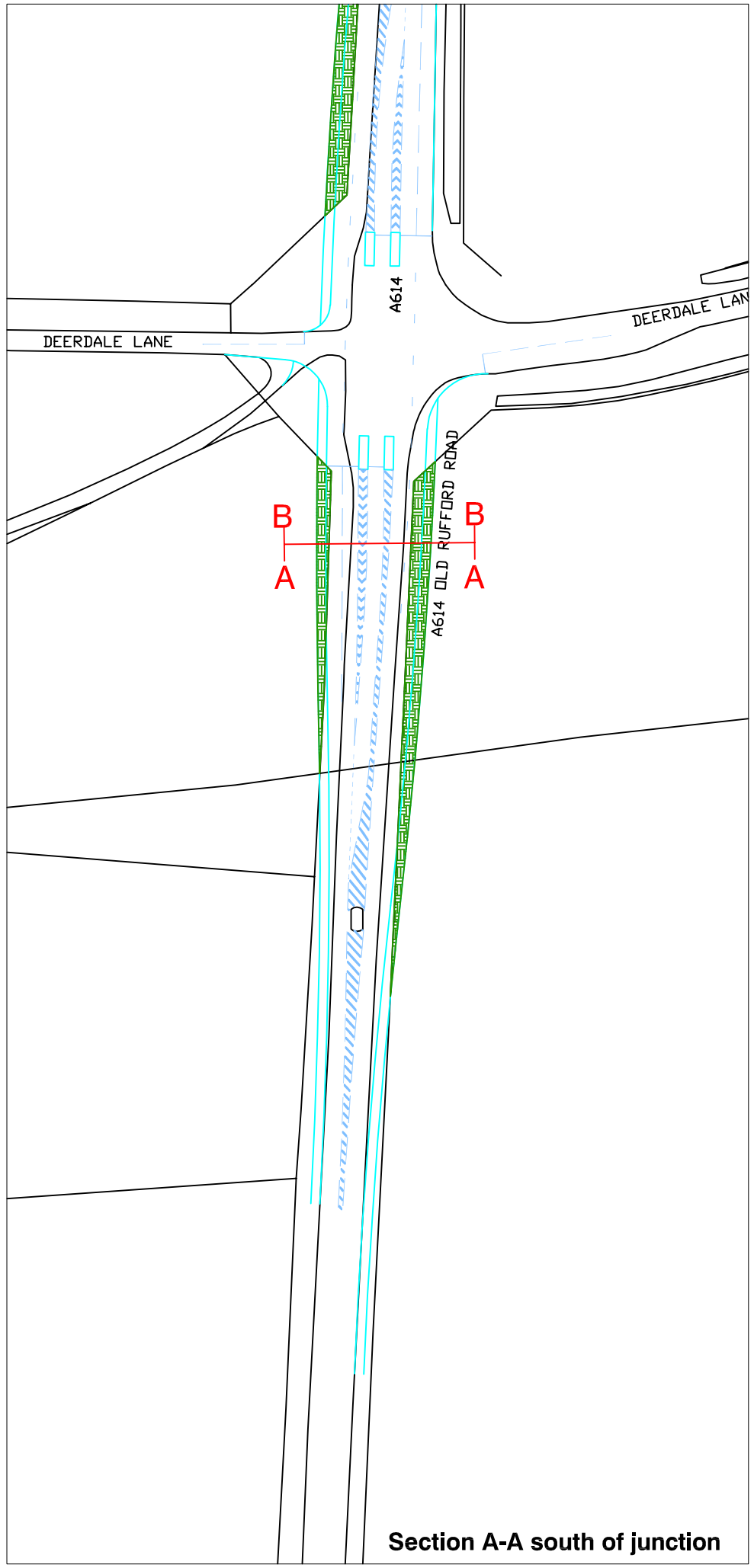
Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Appendix H – Deerdale Lane Scheme Drawing and PICADY / LINSIG Output

Section B-B north of junction



Section A-A south of junction

NORTH

KEY:

- Existing kerblines
- Proposed kerblines
- Proposed lining
- Land required beyond Highway Boundary (approx. 823 sq.m)

Rev Status	Description	Drawn	Ch'kd	Auth	Date

Project

A614/ A617 Bilsthorpe Junction Improvements

Property No.	Project No.
	HW20949/CN1800922

Title

A614/ Deerdale Lane proposed traffic signals 2+2 OS ref: 463812/361984

Scale	Drawn	Date
1/1250 @A3	rr	Dec 2017
	Ch'kd	Date Jan 2018
	Auth	Traced

Drawing No. Rev

HW20949/2/TS102

via

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Bilsthorpe Depot, Bilsthorpe Business Park, Bilst Nottinghamshire NG22 8ST

A3

Do Minimum (DM)

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: J2 A614-deer existing.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\2-deer
Report generation date: 15/04/2019 14:21:30

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037+dependent, AM
»2037+dependent, PM
»2037+dependent, IP
»2037+dependent, OP

Summary of junction performance

	AM								PM								
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Que (PC
2023																	
Stream B-CD	0.2	0.5	8.49	0.16	A	1.22	A	11 % [Stream B-AD]	0.2	0.5	8.71	0.17	A	1.25	A	15 % [Stream B-AD]	0.1
Stream B-AD	0.4	1.2	22.45	0.28	C				0.4	1.6	20.32	0.30	C				0.2
Stream A-BCD	0.0	0.5	6.73	0.01	A				0.0	0.5	6.71	0.00	A				0.0
Stream D-ABC	0.0	0.5	14.06	0.03	B				0.0	0.5	13.18	0.03	B				0.0
Stream C-ABD	0.2	0.5	8.90	0.16	A				0.1	0.5	7.81	0.10	A				0.1
2037																	
Stream B-CD	0.2	0.5	8.91	0.17	A	1.32	A	8 % [Stream B-AD]	0.2	0.6	8.95	0.18	A	1.29	A	13 % [Stream B-AD]	0.1
Stream B-AD	0.4	1.6	25.25	0.31	D				0.5	1.8	21.53	0.32	C				0.2
Stream A-BCD	0.0	0.5	6.85	0.01	A				0.0	0.5	6.77	0.00	A				0.0
Stream D-ABC	0.0	0.5	14.89	0.04	B				0.0	0.5	13.55	0.03	B				0.0
Stream C-ABD	0.2	0.5	9.16	0.17	A				0.1	0.5	7.92	0.11	A				0.1
2037+depen																	
Stream B-CD	0.3	1.2	11.98	0.21	B	1.94	A	-5 % [Stream B-AD]	0.5	2.0	11.00	0.33	B	1.96	A	-3 % [Stream B-AD]	0.2
Stream B-AD	0.9	4.0	47.39	0.47	E				0.4	1.4	40.93	0.29	E				0.2
Stream A-BCD	0.0	0.5	7.41	0.01	A				0.0	0.5	9.03	0.00	A				0.0
Stream D-ABC	0.0	0.5	19.53	0.04	C				0.0	~1	0.00	0.00	A				0.0
Stream C-ABD	0.2	1.1	10.80	0.19	B				0.6	2.9	12.69	0.37	B				0.2

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

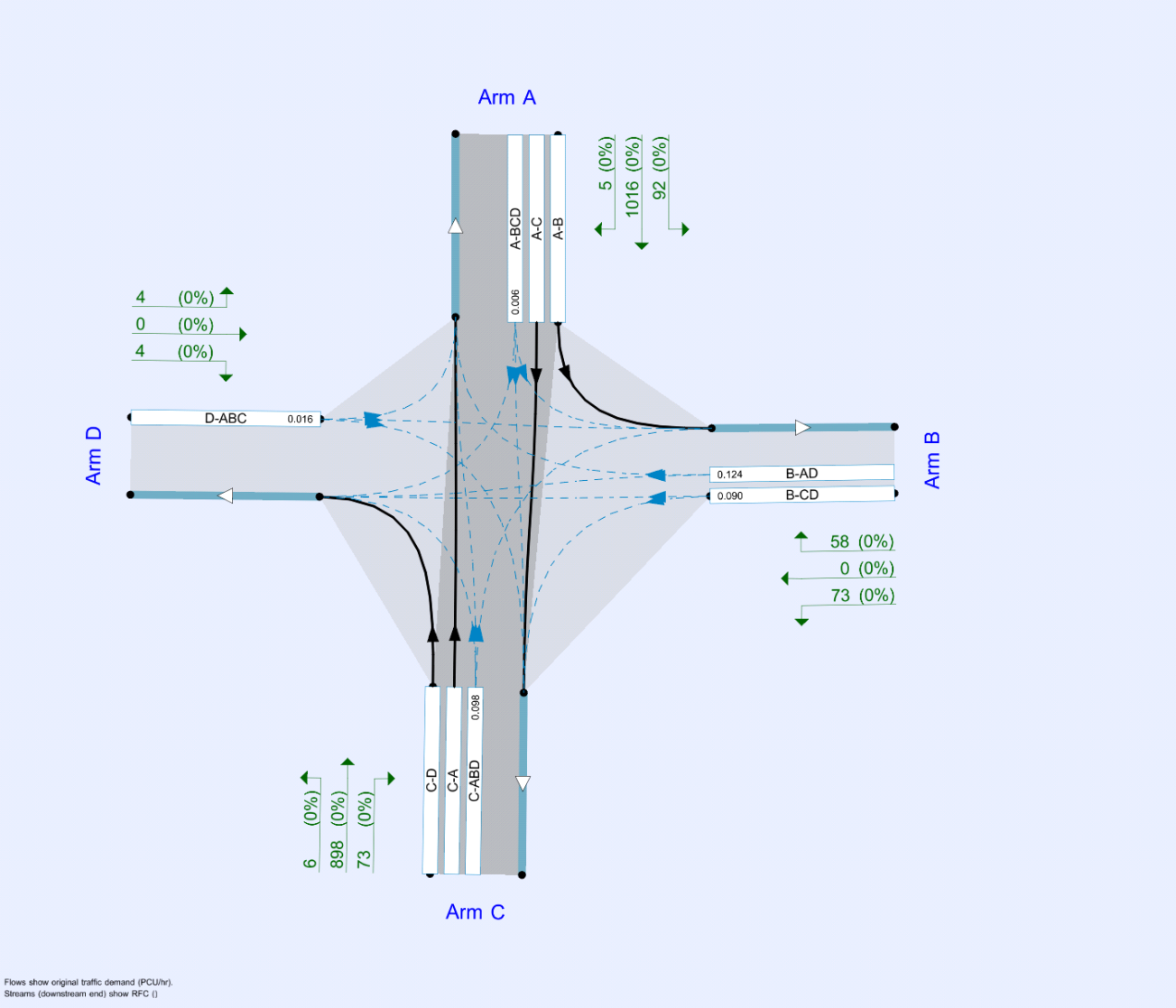
File summary

File Description

Title	A614/ A617 impts
Location	A614/ Mickledale Lane
Site number	J2
Date	22/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037+dependent	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037+dependent	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037+dependent	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037+dependent	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.22	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	11	Stream B-AD

Arms

Arms

Arm	Name	Description	Arm type
A	A614N		Major
B	Deerdale Lane E		Minor
C	A614S		Major
D	Deerdale Lane W		Minor

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)
A	11.00		✓	3.50	220.0	✓	20.00
C	11.00		✓	3.50	150.0	✓	25.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare		10.00	10.00	7.20	4.90	3.30		1.00	110	195
D	One lane	3.00								130	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	801	-	-	-	-	-	-	0.243	0.347	0.243	-	-	-
1	B-A	665	0.095	0.239	0.239	-	-	-	0.151	0.342	-	0.239	0.239	0.120
1	B-C	836	0.100	0.253	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	686	0.098	0.247	0.247	-	-	-	0.156	0.353	0.156	-	-	-
1	B-D, offside lane	665	0.095	0.239	0.239	-	-	-	0.151	0.342	0.151	-	-	-
1	C-B	754	0.229	0.229	0.327	-	-	-	-	-	-	-	-	-
1	D-A	655	-	-	-	-	-	-	0.199	-	0.079	-	-	-
1	D-B, nearside lane	545	0.124	0.124	0.280	-	-	-	0.196	0.196	0.078	-	-	-
1	D-B, offside lane	545	0.124	0.124	0.280	-	-	-	0.196	0.196	0.078	-	-	-
1	D-C	545	-	0.124	0.280	0.098	0.196	0.196	0.196	0.196	0.078	-	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1076	100.000
B		ONE HOUR	✓	127	100.000
C		ONE HOUR	✓	944	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	91	980	5
	B	56	0	71	0
	C	867	71	0	6
	D	4	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.16	8.49	0.2	0.5	A	65	98
B-AD	0.28	22.45	0.4	1.2	C	51	77
A-BCD	0.01	6.73	0.0	0.5	A	5	7
A-B						84	125
A-C						899	1349
D-ABC	0.03	14.06	0.0	0.5	B	7	11
C-ABD	0.16	8.90	0.2	0.5	A	65	98
C-D						6	8
C-A						796	1193

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	622	0.086	53	0.0	0.1	6.320	A
B-AD	42	11	363	0.116	42	0.0	0.1	11.199	B
A-BCD	4	0.94	623	0.006	4	0.0	0.0	5.817	A
A-B	69	17			69				
A-C	738	184			738				
D-ABC	6	2	381	0.016	6	0.0	0.0	9.591	A
C-ABD	53	13	569	0.094	53	0.0	0.1	6.971	A
C-D	5	1			5				
C-A	653	163			653				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	64	16	576	0.111	64	0.1	0.1	7.021	A
B-AD	50	13	304	0.166	50	0.1	0.2	14.183	B
A-BCD	4	1	588	0.008	4	0.0	0.0	6.170	A
A-B	82	20			82				
A-C	881	220			881				
D-ABC	7	2	334	0.022	7	0.0	0.0	10.998	B
C-ABD	64	16	533	0.120	64	0.1	0.1	7.674	A
C-D	5	1			5				
C-A	779	195			779				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	78	20	503	0.155	78	0.1	0.2	8.462	A
B-AD	62	15	222	0.278	61	0.2	0.4	22.270	C
A-BCD	6	1	540	0.010	5	0.0	0.0	6.734	A
A-B	100	25			100				
A-C	1079	270			1079				
D-ABC	9	2	265	0.033	9	0.0	0.0	14.051	B
C-ABD	78	20	483	0.162	78	0.1	0.2	8.886	A
C-D	7	2			7				
C-A	955	239			955				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	78	20	502	0.156	78	0.2	0.2	8.491	A
B-AD	62	15	222	0.278	62	0.4	0.4	22.453	C
A-BCD	6	1	540	0.010	6	0.0	0.0	6.735	A
A-B	100	25			100				
A-C	1079	270			1079				
D-ABC	9	2	265	0.033	9	0.0	0.0	14.062	B
C-ABD	78	20	483	0.162	78	0.2	0.2	8.895	A
C-D	7	2			7				
C-A	955	239			955				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	64	16	575	0.111	64	0.2	0.1	7.048	A
B-AD	50	13	304	0.166	51	0.4	0.2	14.284	B
A-BCD	4	1	588	0.008	5	0.0	0.0	6.174	A
A-B	82	20			82				
A-C	881	220			881				
D-ABC	7	2	334	0.022	7	0.0	0.0	11.011	B
C-ABD	64	16	533	0.120	64	0.2	0.1	7.687	A
C-D	5	1			5				
C-A	779	195			779				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	622	0.086	54	0.1	0.1	6.339	A
B-AD	42	11	363	0.116	42	0.2	0.1	11.253	B
A-BCD	4	0.94	622	0.006	4	0.0	0.0	5.819	A
A-B	69	17			69				
A-C	738	184			738				
D-ABC	6	2	381	0.016	6	0.0	0.0	9.601	A
C-ABD	53	13	569	0.094	54	0.1	0.1	6.992	A
C-D	5	1			5				
C-A	653	163			653				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
B-AD	0.20	0.00	0.00	0.20	0.20			N/A	N/A
A-BCD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.37	0.03	0.26	0.47	0.50			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.19	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.03	0.25	0.45	0.48			N/A	N/A
B-AD	0.38	0.03	0.32	1.17	1.17			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.19	0.03	0.26	0.46	0.49			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
B-AD	0.20	0.00	0.00	0.20	0.20			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.14	0.00	0.00	0.14	0.14			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.10	0.00	0.00	0.10	0.10			N/A	N/A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.25	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	15	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	956	100.000
B		ONE HOUR	✓	148	100.000
C		ONE HOUR	✓	963	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	63	892	1
	B	69	0	76	3
	C	902	48	0	13
	D	4	3	1	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.17	8.71	0.2	0.5	A	71	107
B-AD	0.30	20.32	0.4	1.6	C	64	97
A-BCD	0.00	6.71	0.0	0.5	A	0.92	1
A-B						58	87
A-C						819	1228
D-ABC	0.03	13.18	0.0	0.5	B	7	11
C-ABD	0.10	7.81	0.1	0.5	A	44	66
C-D						12	18
C-A						828	1242

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	15	620	0.094	58	0.0	0.1	6.405	A
B-AD	53	13	388	0.137	52	0.0	0.2	10.719	B
A-BCD	0.75	0.19	621	0.001	0.75	0.0	0.0	5.804	A
A-B	47	12			47				
A-C	672	168			672				
D-ABC	6	2	390	0.015	6	0.0	0.0	9.375	A
C-ABD	36	9	590	0.061	36	0.0	0.1	6.497	A
C-D	10	2			10				
C-A	679	170			679				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	574	0.122	70	0.1	0.1	7.134	A
B-AD	63	16	332	0.190	63	0.2	0.2	13.370	B
A-BCD	0.90	0.22	586	0.002	0.90	0.0	0.0	6.153	A
A-B	57	14			57				
A-C	802	200			802				
D-ABC	7	2	346	0.021	7	0.0	0.0	10.618	B
C-ABD	43	11	558	0.077	43	0.1	0.1	6.995	A
C-D	12	3			12				
C-A	811	203			811				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	500	0.172	86	0.1	0.2	8.683	A
B-AD	77	19	254	0.303	76	0.2	0.4	20.163	C
A-BCD	1	0.28	538	0.002	1	0.0	0.0	6.708	A
A-B	69	17			69				
A-C	982	246			982				
D-ABC	9	2	282	0.031	9	0.0	0.0	13.170	B
C-ABD	53	13	514	0.103	53	0.1	0.1	7.811	A
C-D	14	4			14				
C-A	993	248			993				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	499	0.172	86	0.2	0.2	8.715	A
B-AD	77	19	254	0.303	77	0.4	0.4	20.324	C
A-BCD	1	0.28	538	0.002	1	0.0	0.0	6.709	A
A-B	69	17			69				
A-C	982	246			982				
D-ABC	9	2	282	0.031	9	0.0	0.0	13.176	B
C-ABD	53	13	514	0.103	53	0.1	0.1	7.814	A
C-D	14	4			14				
C-A	993	248			993				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	573	0.122	70	0.2	0.1	7.161	A
B-AD	63	16	332	0.190	64	0.4	0.2	13.467	B
A-BCD	0.90	0.22	586	0.002	0.90	0.0	0.0	6.153	A
A-B	57	14			57				
A-C	802	200			802				
D-ABC	7	2	346	0.021	7	0.0	0.0	10.623	B
C-ABD	43	11	558	0.077	43	0.1	0.1	7.001	A
C-D	12	3			12				
C-A	811	203			811				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	15	619	0.095	59	0.1	0.1	6.428	A
B-AD	53	13	388	0.137	53	0.2	0.2	10.777	B
A-BCD	0.75	0.19	621	0.001	0.75	0.0	0.0	5.808	A
A-B	47	12			47				
A-C	672	168			672				
D-ABC	6	2	390	0.015	6	0.0	0.0	9.380	A
C-ABD	36	9	590	0.061	36	0.1	0.1	6.504	A
C-D	10	2			10				
C-A	679	170			679				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
B-AD	0.16	0.00	0.00	0.16	0.16			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.06	0.00	0.00	0.06	0.06			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.23	0.00	0.00	0.23	0.23			N/A	N/A
A-BCD	0.00	0.00	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.08	0.03	0.26	0.47	0.50			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.20	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.42	0.03	0.26	0.47	0.50			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.11	0.03	0.26	0.47	0.49			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.21	0.03	0.26	0.47	0.50			N/A	N/A
B-AD	0.43	0.03	0.32	1.36	1.63			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.11	0.03	0.25	0.45	0.48			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.24	0.00	0.00	0.24	0.24			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.08	0.00	0.00	0.08	0.08			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
B-AD	0.16	0.00	0.00	0.16	0.16			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.07	0.00	0.00	0.07	0.07			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.03	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	64	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	648	100.000
B		ONE HOUR	✓	113	100.000
C		ONE HOUR	✓	639	100.000
D		ONE HOUR	✓	10	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	57	589	2
	B	57	0	54	2
	C	585	51	0	3
	D	3	2	5	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.10	6.49	0.1	0.5	A	51	76
B-AD	0.16	11.00	0.2	0.5	B	53	80
A-BCD	0.00	5.79	0.0	0.5	A	2	3
A-B						52	78
A-C						540	811
D-ABC	0.03	10.48	0.0	0.5	B	9	14
C-ABD	0.10	6.73	0.1	0.5	A	47	70
C-D						3	4
C-A						537	805

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	41	10	684	0.061	41	0.0	0.1	5.597	A
B-AD	44	11	481	0.091	43	0.0	0.1	8.207	A
A-BCD	2	0.38	680	0.002	1	0.0	0.0	5.306	A
A-B	43	11			43				
A-C	443	111			443				
D-ABC	8	2	426	0.018	7	0.0	0.0	8.594	A
C-ABD	38	10	643	0.060	38	0.0	0.1	5.952	A
C-D	2	0.56			2				
C-A	440	110			440				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	12	656	0.076	49	0.1	0.1	5.936	A
B-AD	52	13	443	0.117	52	0.1	0.1	9.191	A
A-BCD	2	0.45	656	0.003	2	0.0	0.0	5.499	A
A-B	51	13			51				
A-C	529	132			529				
D-ABC	9	2	396	0.023	9	0.0	0.0	9.289	A
C-ABD	46	11	621	0.074	46	0.1	0.1	6.259	A
C-D	3	0.67			3				
C-A	526	131			526				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	61	15	616	0.099	61	0.1	0.1	6.485	A
B-AD	64	16	391	0.163	63	0.1	0.2	10.987	B
A-BCD	2	0.55	624	0.004	2	0.0	0.0	5.790	A
A-B	63	16			63				
A-C	649	162			649				
D-ABC	11	3	355	0.031	11	0.0	0.0	10.472	B
C-ABD	56	14	591	0.095	56	0.1	0.1	6.730	A
C-D	3	0.83			3				
C-A	644	161			644				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	61	15	615	0.099	61	0.1	0.1	6.490	A
B-AD	64	16	391	0.163	64	0.2	0.2	11.002	B
A-BCD	2	0.55	624	0.004	2	0.0	0.0	5.790	A
A-B	63	16			63				
A-C	649	162			649				
D-ABC	11	3	355	0.031	11	0.0	0.0	10.476	B
C-ABD	56	14	591	0.095	56	0.1	0.1	6.730	A
C-D	3	0.83			3				
C-A	644	161			644				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	12	656	0.076	50	0.1	0.1	5.941	A
B-AD	52	13	443	0.117	52	0.2	0.1	9.209	A
A-BCD	2	0.45	656	0.003	2	0.0	0.0	5.502	A
A-B	51	13			51				
A-C	529	132			529				
D-ABC	9	2	396	0.023	9	0.0	0.0	9.293	A
C-ABD	46	11	621	0.074	46	0.1	0.1	6.263	A
C-D	3	0.67			3				
C-A	526	131			526				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	41	10	683	0.061	42	0.1	0.1	5.610	A
B-AD	44	11	481	0.091	44	0.1	0.1	8.228	A
A-BCD	2	0.38	680	0.002	2	0.0	0.0	5.307	A
A-B	43	11			43				
A-C	443	111			443				
D-ABC	8	2	426	0.018	8	0.0	0.0	8.601	A
C-ABD	38	10	643	0.060	38	0.1	0.1	5.958	A
C-D	2	0.56			2				
C-A	440	110			440				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.06	0.00	0.00	0.06	0.06			N/A	N/A
B-AD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.06	0.00	0.00	0.06	0.06			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.08	0.03	0.26	0.47	0.49			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.00	0.00	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.08	0.03	0.26	0.46	0.48			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.03	0.26	0.47	0.49			N/A	N/A
B-AD	0.19	0.03	0.26	0.46	0.49			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.10	0.03	0.26	0.47	0.49			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.03	0.25	0.45	0.48			N/A	N/A
B-AD	0.19	0.03	0.26	0.47	0.49			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.10	0.03	0.25	0.45	0.48			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.08	0.00	0.00	0.08	0.08			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.08	0.00	0.00	0.08	0.08			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.07	0.00	0.00	0.07	0.07			N/A	N/A
B-AD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.06	0.00	0.00	0.06	0.06			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	64	100.000
B		ONE HOUR	✓	11	100.000
C		ONE HOUR	✓	62	100.000
D		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	6	58	0
	B	6	0	5	0
	C	57	5	0	0
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.57	0.0	0.5	A	5	7
B-AD	0.01	5.54	0.0	0.5	A	6	8
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						6	8
A-C						53	80
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	4.91	0.0	0.5	A	5	7
C-D						0	0
C-A						52	78

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	800	0.005	4	0.0	0.0	4.523	A
B-AD	5	1	665	0.007	4	0.0	0.0	5.451	A
A-BCD	0	0	1578	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	44	11			44				
D-ABC	0	0	555	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	743	0.005	4	0.0	0.0	4.867	A
C-D	0	0			0				
C-A	43	11			43				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	797	0.006	4	0.0	0.0	4.541	A
B-AD	5	1	661	0.008	5	0.0	0.0	5.489	A
A-BCD	0	0	1573	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	52	13			52				
D-ABC	0	0	552	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	741	0.006	4	0.0	0.0	4.886	A
C-D	0	0			0				
C-A	51	13			51				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	794	0.007	5	0.0	0.0	4.567	A
B-AD	7	2	656	0.010	7	0.0	0.0	5.543	A
A-BCD	0	0	1567	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	64	16			64				
D-ABC	0	0	548	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	738	0.007	5	0.0	0.0	4.912	A
C-D	0	0			0				
C-A	63	16			63				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	794	0.007	6	0.0	0.0	4.567	A
B-AD	7	2	656	0.010	7	0.0	0.0	5.543	A
A-BCD	0	0	1567	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	64	16			64				
D-ABC	0	0	548	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	738	0.007	6	0.0	0.0	4.912	A
C-D	0	0			0				
C-A	63	16			63				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	797	0.006	5	0.0	0.0	4.542	A
B-AD	5	1	661	0.008	5	0.0	0.0	5.489	A
A-BCD	0	0	1573	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	52	13			52				
D-ABC	0	0	552	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	741	0.006	5	0.0	0.0	4.888	A
C-D	0	0			0				
C-A	51	13			51				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	799	0.005	4	0.0	0.0	4.523	A
B-AD	5	1	665	0.007	5	0.0	0.0	5.451	A
A-BCD	0	0	1578	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	44	11			44				
D-ABC	0	0	555	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	743	0.005	4	0.0	0.0	4.869	A
C-D	0	0			0				
C-A	43	11			43				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.32	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1113	100.000
B		ONE HOUR	✓	131	100.000
C		ONE HOUR	✓	977	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	92	1016	5
	B	58	0	73	0
	C	898	73	0	6
	D	4	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.17	8.91	0.2	0.5	A	67	100
B-AD	0.31	25.25	0.4	1.6	D	53	80
A-BCD	0.01	6.85	0.0	0.5	A	5	7
A-B						84	127
A-C						932	1398
D-ABC	0.04	14.89	0.0	0.5	B	7	11
C-ABD	0.17	9.16	0.2	0.5	A	67	100
C-D						6	8
C-A						824	1236

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	614	0.090	55	0.0	0.1	6.432	A
B-AD	44	11	352	0.124	43	0.0	0.1	11.629	B
A-BCD	4	0.94	616	0.006	4	0.0	0.0	5.876	A
A-B	69	17			69				
A-C	765	191			765				
D-ABC	6	2	373	0.016	6	0.0	0.0	9.808	A
C-ABD	55	14	562	0.098	55	0.0	0.1	7.083	A
C-D	5	1			5				
C-A	676	169			676				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	16	565	0.116	65	0.1	0.1	7.198	A
B-AD	52	13	291	0.179	52	0.1	0.2	15.030	C
A-BCD	4	1	580	0.008	4	0.0	0.0	6.249	A
A-B	83	21			83				
A-C	913	228			913				
D-ABC	7	2	324	0.022	7	0.0	0.0	11.362	B
C-ABD	66	16	525	0.125	65	0.1	0.1	7.830	A
C-D	5	1			5				
C-A	807	202			807				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	80	20	486	0.165	80	0.1	0.2	8.870	A
B-AD	64	16	206	0.310	63	0.2	0.4	24.967	C
A-BCD	6	1	531	0.010	5	0.0	0.0	6.850	A
A-B	101	25			101				
A-C	1119	280			1119				
D-ABC	9	2	251	0.035	9	0.0	0.0	14.875	B
C-ABD	80	20	474	0.170	80	0.1	0.2	9.145	A
C-D	7	2			7				
C-A	989	247			989				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	80	20	484	0.166	80	0.2	0.2	8.911	A
B-AD	64	16	206	0.310	64	0.4	0.4	25.248	D
A-BCD	6	1	531	0.010	6	0.0	0.0	6.851	A
A-B	101	25			101				
A-C	1119	280			1119				
D-ABC	9	2	251	0.035	9	0.0	0.0	14.893	B
C-ABD	80	20	474	0.170	80	0.2	0.2	9.156	A
C-D	7	2			7				
C-A	989	247			989				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	16	564	0.116	66	0.2	0.1	7.232	A
B-AD	52	13	291	0.179	53	0.4	0.2	15.163	C
A-BCD	4	1	580	0.008	5	0.0	0.0	6.251	A
A-B	83	21			83				
A-C	913	228			913				
D-ABC	7	2	324	0.022	7	0.0	0.0	11.375	B
C-ABD	66	16	525	0.125	66	0.2	0.1	7.845	A
C-D	5	1			5				
C-A	807	202			807				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	613	0.090	55	0.1	0.1	6.453	A
B-AD	44	11	352	0.124	44	0.2	0.1	11.693	B
A-BCD	4	0.94	616	0.006	4	0.0	0.0	5.880	A
A-B	69	17			69				
A-C	765	191			765				
D-ABC	6	2	373	0.016	6	0.0	0.0	9.818	A
C-ABD	55	14	562	0.098	55	0.1	0.1	7.098	A
C-D	5	1			5				
C-A	676	169			676				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.11	0.00	0.00	0.11	0.11			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
B-AD	0.21	0.00	0.00	0.21	0.21			N/A	N/A
A-BCD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.14	0.00	0.00	0.14	0.14			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.20	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.43	0.03	0.26	0.47	0.58			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.20	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.20	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.44	0.03	0.33	1.38	1.63			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.20	0.03	0.26	0.47	0.50			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
B-AD	0.22	0.00	0.00	0.22	0.22			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.14	0.00	0.00	0.14	0.14			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
B-AD	0.14	0.03	0.25	0.45	0.48			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.11	0.00	0.00	0.11	0.11			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.29	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	13	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	977	100.000
B		ONE HOUR	✓	150	100.000
C		ONE HOUR	✓	982	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	65	911	1
	B	70	0	77	3
	C	920	49	0	13
	D	4	3	1	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.18	8.95	0.2	0.6	A	72	109
B-AD	0.32	21.53	0.5	1.8	C	65	98
A-BCD	0.00	6.77	0.0	0.5	A	0.92	1
A-B						60	89
A-C						836	1254
D-ABC	0.03	13.55	0.0	0.5	B	7	11
C-ABD	0.11	7.92	0.1	0.5	A	45	67
C-D						12	18
C-A						844	1266

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	59	15	615	0.096	59	0.0	0.1	6.465	A
B-AD	54	13	382	0.141	53	0.0	0.2	10.936	B
A-BCD	0.75	0.19	617	0.001	0.75	0.0	0.0	5.838	A
A-B	49	12			49				
A-C	686	171			686				
D-ABC	6	2	385	0.016	6	0.0	0.0	9.486	A
C-ABD	37	9	586	0.063	37	0.0	0.1	6.549	A
C-D	10	2			10				
C-A	693	173			693				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	71	18	568	0.125	71	0.1	0.1	7.232	A
B-AD	64	16	325	0.197	64	0.2	0.2	13.779	B
A-BCD	0.90	0.22	582	0.002	0.90	0.0	0.0	6.198	A
A-B	58	15			58				
A-C	819	205			819				
D-ABC	7	2	341	0.021	7	0.0	0.0	10.797	B
C-ABD	44	11	553	0.080	44	0.1	0.1	7.067	A
C-D	12	3			12				
C-A	827	207			827				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	87	22	490	0.177	87	0.1	0.2	8.910	A
B-AD	78	20	245	0.319	77	0.2	0.5	21.327	C
A-BCD	1	0.28	532	0.002	1	0.0	0.0	6.774	A
A-B	72	18			72				
A-C	1003	251			1003				
D-ABC	9	2	275	0.032	9	0.0	0.0	13.541	B
C-ABD	54	13	508	0.106	54	0.1	0.1	7.921	A
C-D	14	4			14				
C-A	1013	253			1013				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	87	22	489	0.178	87	0.2	0.2	8.948	A
B-AD	78	20	245	0.319	78	0.5	0.5	21.525	C
A-BCD	1	0.28	532	0.002	1	0.0	0.0	6.775	A
A-B	72	18			72				
A-C	1003	251			1003				
D-ABC	9	2	275	0.032	9	0.0	0.0	13.546	B
C-ABD	54	13	508	0.106	54	0.1	0.1	7.924	A
C-D	14	4			14				
C-A	1013	253			1013				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	71	18	567	0.125	71	0.2	0.1	7.264	A
B-AD	64	16	325	0.197	65	0.5	0.3	13.891	B
A-BCD	0.90	0.22	582	0.002	0.90	0.0	0.0	6.198	A
A-B	58	15			58				
A-C	819	205			819				
D-ABC	7	2	341	0.021	7	0.0	0.0	10.803	B
C-ABD	44	11	553	0.080	44	0.1	0.1	7.070	A
C-D	12	3			12				
C-A	827	207			827				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	59	15	614	0.096	59	0.1	0.1	6.487	A
B-AD	54	13	382	0.141	54	0.3	0.2	10.997	B
A-BCD	0.75	0.19	617	0.001	0.75	0.0	0.0	5.841	A
A-B	49	12			49				
A-C	686	171			686				
D-ABC	6	2	385	0.016	6	0.0	0.0	9.491	A
C-ABD	37	9	586	0.063	37	0.1	0.1	6.559	A
C-D	10	2			10				
C-A	693	173			693				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
B-AD	0.16	0.00	0.00	0.16	0.16			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.07	0.00	0.00	0.07	0.07			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.24	0.00	0.00	0.24	0.24			N/A	N/A
A-BCD	0.00	0.00	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.09	0.03	0.26	0.46	0.49			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.21	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.45	0.03	0.26	0.47	0.50			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.12	0.03	0.26	0.47	0.49			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.21	0.03	0.27	0.48	0.65			N/A	N/A
B-AD	0.46	0.03	0.32	1.41	1.81			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.12	0.03	0.25	0.45	0.48			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.25	0.00	0.00	0.25	0.25			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.09	0.00	0.00	0.09	0.09			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
B-AD	0.17	0.03	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.07	0.00	0.00	0.07	0.07			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.04	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	59	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	669	100.000
B		ONE HOUR	✓	115	100.000
C		ONE HOUR	✓	659	100.000
D		ONE HOUR	✓	10	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	58	609	2
	B	58	0	55	2
	C	603	52	0	4
	D	3	2	5	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.10	6.58	0.1	0.5	A	52	77
B-AD	0.17	11.35	0.2	0.6	B	54	81
A-BCD	0.00	5.84	0.0	0.5	A	2	3
A-B						53	80
A-C						559	838
D-ABC	0.03	10.70	0.0	0.5	B	9	14
C-ABD	0.10	6.81	0.1	0.5	A	48	72
C-D						4	6
C-A						553	830

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	11	680	0.062	42	0.0	0.1	5.642	A
B-AD	44	11	475	0.093	44	0.0	0.1	8.338	A
A-BCD	2	0.38	676	0.002	1	0.0	0.0	5.335	A
A-B	44	11			44				
A-C	458	115			458				
D-ABC	8	2	422	0.018	7	0.0	0.0	8.692	A
C-ABD	39	10	639	0.061	39	0.0	0.1	5.996	A
C-D	3	0.75			3				
C-A	454	113			454				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	13	651	0.078	50	0.1	0.1	5.997	A
B-AD	53	13	436	0.121	53	0.1	0.1	9.388	A
A-BCD	2	0.45	652	0.003	2	0.0	0.0	5.537	A
A-B	52	13			52				
A-C	547	137			547				
D-ABC	9	2	391	0.023	9	0.0	0.0	9.427	A
C-ABD	47	12	617	0.076	47	0.1	0.1	6.316	A
C-D	4	0.90			4				
C-A	542	136			542				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	609	0.102	62	0.1	0.1	6.579	A
B-AD	65	16	382	0.170	65	0.1	0.2	11.333	B
A-BCD	2	0.55	618	0.004	2	0.0	0.0	5.841	A
A-B	64	16			64				
A-C	671	168			671				
D-ABC	11	3	348	0.032	11	0.0	0.0	10.693	B
C-ABD	57	14	586	0.098	57	0.1	0.1	6.809	A
C-D	4	1			4				
C-A	664	166			664				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	608	0.102	62	0.1	0.1	6.585	A
B-AD	65	16	382	0.170	65	0.2	0.2	11.350	B
A-BCD	2	0.55	618	0.004	2	0.0	0.0	5.841	A
A-B	64	16			64				
A-C	671	168			671				
D-ABC	11	3	348	0.032	11	0.0	0.0	10.697	B
C-ABD	57	14	586	0.098	57	0.1	0.1	6.812	A
C-D	4	1			4				
C-A	664	166			664				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	13	650	0.078	51	0.1	0.1	6.005	A
B-AD	53	13	436	0.121	53	0.2	0.1	9.406	A
A-BCD	2	0.45	652	0.003	2	0.0	0.0	5.537	A
A-B	52	13			52				
A-C	547	137			547				
D-ABC	9	2	391	0.023	9	0.0	0.0	9.433	A
C-ABD	47	12	617	0.076	47	0.1	0.1	6.318	A
C-D	4	0.90			4				
C-A	542	136			542				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	11	679	0.062	42	0.1	0.1	5.652	A
B-AD	44	11	475	0.093	44	0.1	0.1	8.360	A
A-BCD	2	0.38	676	0.002	2	0.0	0.0	5.336	A
A-B	44	11			44				
A-C	458	115			458				
D-ABC	8	2	421	0.018	8	0.0	0.0	8.699	A
C-ABD	39	10	639	0.061	39	0.1	0.1	6.002	A
C-D	3	0.75			3				
C-A	454	113			454				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.07	0.00	0.00	0.07	0.07			N/A	N/A
B-AD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.06	0.00	0.00	0.06	0.06			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.08	0.03	0.26	0.47	0.50			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.00	0.00	0.25	0.45	0.48			N/A	N/A
D-ABC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-ABD	0.08	0.03	0.26	0.47	0.49			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.03	0.26	0.47	0.49			N/A	N/A
B-AD	0.20	0.03	0.26	0.46	0.49			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.11	0.03	0.26	0.47	0.49			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.03	0.25	0.45	0.48			N/A	N/A
B-AD	0.20	0.03	0.26	0.48	0.62			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.11	0.03	0.25	0.45	0.48			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.08	0.00	0.00	0.08	0.08			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.08	0.00	0.00	0.08	0.08			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.07	0.00	0.00	0.07	0.07			N/A	N/A
B-AD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.07	0.00	0.00	0.07	0.07			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.57	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	66	100.000
B		ONE HOUR	✓	11	100.000
C		ONE HOUR	✓	64	100.000
D		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	6	60	0
	B	6	0	5	0
	C	59	5	0	0
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.57	0.0	0.5	A	5	7
B-AD	0.01	5.55	0.0	0.5	A	6	8
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						6	8
A-C						55	83
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	4.92	0.0	0.5	A	5	7
C-D						0	0
C-A						54	81

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	799	0.005	4	0.0	0.0	4.525	A
B-AD	5	1	664	0.007	4	0.0	0.0	5.456	A
A-BCD	0	0	1577	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	45	11			45				
D-ABC	0	0	554	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	743	0.005	4	0.0	0.0	4.869	A
C-D	0	0			0				
C-A	44	11			44				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	797	0.006	4	0.0	0.0	4.544	A
B-AD	5	1	660	0.008	5	0.0	0.0	5.495	A
A-BCD	0	0	1572	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	54	13			54				
D-ABC	0	0	551	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	741	0.006	4	0.0	0.0	4.889	A
C-D	0	0			0				
C-A	53	13			53				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	793	0.007	5	0.0	0.0	4.570	A
B-AD	7	2	655	0.010	7	0.0	0.0	5.551	A
A-BCD	0	0	1566	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	66	17			66				
D-ABC	0	0	548	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	738	0.007	5	0.0	0.0	4.916	A
C-D	0	0			0				
C-A	65	16			65				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	793	0.007	6	0.0	0.0	4.570	A
B-AD	7	2	655	0.010	7	0.0	0.0	5.550	A
A-BCD	0	0	1566	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	66	17			66				
D-ABC	0	0	548	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	738	0.007	6	0.0	0.0	4.916	A
C-D	0	0			0				
C-A	65	16			65				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	797	0.006	5	0.0	0.0	4.546	A
B-AD	5	1	660	0.008	5	0.0	0.0	5.495	A
A-BCD	0	0	1572	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	54	13			54				
D-ABC	0	0	551	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	741	0.006	5	0.0	0.0	4.889	A
C-D	0	0			0				
C-A	53	13			53				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	799	0.005	4	0.0	0.0	4.527	A
B-AD	5	1	664	0.007	5	0.0	0.0	5.458	A
A-BCD	0	0	1577	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	45	11			45				
D-ABC	0	0	554	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	743	0.005	4	0.0	0.0	4.869	A
C-D	0	0			0				
C-A	44	11			44				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037+dependent, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.94	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-5	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037+dependent	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1280	100.000
B		ONE HOUR	✓	137	100.000
C		ONE HOUR	✓	1083	100.000
D		ONE HOUR	✓	8	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	104	1170	6
	B	63	0	74	0
	C	1003	74	0	6
	D	4	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	15	2
	B	2	0	2	0
	C	15	5	0	2
	D	2	0	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.21	11.98	0.3	1.2	B	68	102
B-AD	0.47	47.39	0.9	4.0	E	58	87
A-BCD	0.01	7.41	0.0	0.5	A	6	8
A-B						95	143
A-C						1074	1610
D-ABC	0.04	19.53	0.0	0.5	C	7	11
C-ABD	0.19	10.80	0.2	1.1	B	68	102
C-D						6	8
C-A						920	1381

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	56	14	577	0.097	55	0.0	0.1	7.034	A
B-AD	47	12	313	0.152	47	0.0	0.2	13.776	B
A-BCD	5	1	597	0.008	4	0.0	0.0	6.197	A
A-B	78	20			78				
A-C	881	220			881				
D-ABC	6	2	343	0.018	6	0.0	0.0	10.888	B
C-ABD	56	14	534	0.104	55	0.0	0.1	7.895	A
C-D	5	1			5				
C-A	755	189			755				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	67	17	518	0.129	66	0.1	0.1	8.136	A
B-AD	57	14	243	0.233	56	0.2	0.3	19.590	C
A-BCD	5	1	557	0.010	5	0.0	0.0	6.653	A
A-B	93	23			93				
A-C	1052	263			1052				
D-ABC	7	2	286	0.025	7	0.0	0.0	13.178	B
C-ABD	67	17	491	0.136	66	0.1	0.2	8.905	A
C-D	5	1			5				
C-A	902	225			902				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	81	20	394	0.207	81	0.1	0.3	11.717	B
B-AD	69	17	146	0.474	67	0.3	0.8	45.277	E
A-BCD	7	2	502	0.013	7	0.0	0.0	7.404	A
A-B	115	29			115				
A-C	1288	322			1288				
D-ABC	9	2	197	0.045	9	0.0	0.0	19.463	C
C-ABD	81	20	431	0.189	81	0.2	0.2	10.783	B
C-D	7	2			7				
C-A	1104	276			1104				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	81	20	388	0.210	81	0.3	0.3	11.977	B
B-AD	69	17	146	0.474	69	0.8	0.9	47.392	E
A-BCD	7	2	502	0.013	7	0.0	0.0	7.405	A
A-B	115	29			115				
A-C	1288	322			1288				
D-ABC	9	2	197	0.045	9	0.0	0.0	19.525	C
C-ABD	81	20	431	0.189	81	0.2	0.2	10.802	B
C-D	7	2			7				
C-A	1104	276			1104				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	67	17	514	0.129	67	0.3	0.2	8.225	A
B-AD	57	14	243	0.233	59	0.9	0.3	20.117	C
A-BCD	5	1	557	0.010	5	0.0	0.0	6.656	A
A-B	93	23			93				
A-C	1052	263			1052				
D-ABC	7	2	285	0.025	7	0.0	0.0	13.212	B
C-ABD	67	17	491	0.136	67	0.2	0.2	8.927	A
C-D	5	1			5				
C-A	902	225			902				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	56	14	575	0.097	56	0.2	0.1	7.071	A
B-AD	47	12	313	0.152	48	0.3	0.2	13.901	B
A-BCD	5	1	597	0.008	5	0.0	0.0	6.200	A
A-B	78	20			78				
A-C	881	220			881				
D-ABC	6	2	343	0.018	6	0.0	0.0	10.906	B
C-ABD	56	14	533	0.104	56	0.2	0.1	7.918	A
C-D	5	1			5				
C-A	755	189			755				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
B-AD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.12	0.00	0.00	0.12	0.12			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
B-AD	0.30	0.00	0.00	0.30	0.30			N/A	N/A
A-BCD	0.01	0.01	0.26	0.46	0.49			N/A	N/A
D-ABC	0.03	0.03	0.26	0.46	0.49			N/A	N/A
C-ABD	0.16	0.00	0.00	0.16	0.16			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.26	0.03	0.26	0.47	0.50			N/A	N/A
B-AD	0.84	0.03	0.28	0.84	2.89			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.05	0.03	0.26	0.47	0.49			N/A	N/A
C-ABD	0.24	0.03	0.27	0.49	0.51			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.27	0.03	0.30	0.81	1.18			N/A	N/A
B-AD	0.88	0.04	0.35	2.03	4.04			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-ABD	0.24	0.03	0.29	0.62	1.10			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
B-AD	0.32	0.03	0.30	0.87	1.20			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.17	0.00	0.00	0.17	0.17			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
B-AD	0.19	0.03	0.27	0.49	0.67			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.12	0.00	0.00	0.12	0.12			N/A	N/A

2037+dependent, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.96	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-3	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037+dependent	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1108	100.000
B		ONE HOUR	✓	180	100.000
C		ONE HOUR	✓	1274	100.000
D		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	65	1041	2
	B	33	0	147	0
	C	1108	161	0	5
	D	0	1	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.33	11.00	0.5	2.0	B	135	202
B-AD	0.29	40.93	0.4	1.4	E	30	45
A-BCD	0.00	9.03	0.0	0.5	A	2	3
A-B						60	89
A-C						955	1433
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.37	12.69	0.6	2.9	B	148	222
C-D						5	7
C-A						1017	1525

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	111	28	633	0.175	110	0.0	0.2	7.009	A
B-AD	25	6	288	0.086	24	0.0	0.1	13.933	B
A-BCD	2	0.38	555	0.003	1	0.0	0.0	7.151	A
A-B	49	12			49				
A-C	784	196			784				
D-ABC	0	0	282	0.000	0	0.0	0.0	0.000	A
C-ABD	121	30	563	0.215	120	0.0	0.3	8.505	A
C-D	4	0.94			4				
C-A	834	209			834				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	132	33	584	0.226	132	0.2	0.3	8.112	A
B-AD	30	7	220	0.135	29	0.1	0.2	19.239	C
A-BCD	2	0.45	507	0.004	2	0.0	0.0	7.835	A
A-B	58	15			58				
A-C	936	234			936				
D-ABC	0	0	222	0.000	0	0.0	0.0	0.000	A
C-ABD	145	36	526	0.275	144	0.3	0.4	9.883	A
C-D	4	1			4				
C-A	996	249			996				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	162	40	498	0.325	161	0.3	0.5	10.878	B
B-AD	36	9	126	0.288	35	0.2	0.4	40.022	E
A-BCD	2	0.55	441	0.005	2	0.0	0.0	9.021	A
A-B	72	18			72				
A-C	1146	287			1146				
D-ABC	0	0	133	0.000	0	0.0	0.0	0.000	A
C-ABD	177	44	475	0.373	176	0.4	0.6	12.615	B
C-D	6	1			6				
C-A	1220	305			1220				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	162	40	496	0.327	162	0.5	0.5	10.996	B
B-AD	36	9	126	0.289	36	0.4	0.4	40.930	E
A-BCD	2	0.55	441	0.005	2	0.0	0.0	9.027	A
A-B	72	18			72				
A-C	1146	287			1146				
D-ABC	0	0	133	0.000	0	0.0	0.0	0.000	A
C-ABD	177	44	475	0.373	177	0.6	0.6	12.687	B
C-D	6	1			6				
C-A	1220	305			1220				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	132	33	583	0.227	133	0.5	0.3	8.176	A
B-AD	30	7	220	0.135	31	0.4	0.2	19.518	C
A-BCD	2	0.45	507	0.004	2	0.0	0.0	7.843	A
A-B	58	15			58				
A-C	936	234			936				
D-ABC	0	0	221	0.000	0	0.0	0.0	0.000	A
C-ABD	145	36	526	0.275	146	0.6	0.4	9.951	A
C-D	4	1			4				
C-A	996	249			996				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	111	28	632	0.175	111	0.3	0.2	7.048	A
B-AD	25	6	287	0.087	25	0.2	0.1	14.028	B
A-BCD	2	0.38	555	0.003	2	0.0	0.0	7.161	A
A-B	49	12			49				
A-C	784	196			784				
D-ABC	0	0	282	0.000	0	0.0	0.0	0.000	A
C-ABD	121	30	563	0.215	122	0.4	0.3	8.565	A
C-D	4	0.94			4				
C-A	834	209			834				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.21	0.00	0.00	0.21	0.21			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.29	0.00	0.00	0.29	0.29			N/A	N/A
B-AD	0.16	0.00	0.00	0.16	0.16			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.39	0.00	0.00	0.39	0.39			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.48	0.03	0.26	0.48	0.50			N/A	N/A
B-AD	0.39	0.03	0.27	0.49	1.36			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.61	0.03	0.27	0.61	0.61			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.49	0.03	0.32	1.45	2.03			N/A	N/A
B-AD	0.40	0.03	0.34	1.04	1.04			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.62	0.03	0.31	1.48	2.92			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.30	0.00	0.00	0.30	0.30			N/A	N/A
B-AD	0.16	0.03	0.26	0.46	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.40	0.00	0.00	0.40	0.40			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.22	0.00	0.00	0.22	0.22			N/A	N/A
B-AD	0.10	0.03	0.26	0.46	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.29	0.03	0.26	0.47	0.50			N/A	N/A

2037+dependent, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.35	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	39	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037+dependent	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	750	100.000
B		ONE HOUR	✓	141	100.000
C		ONE HOUR	✓	796	100.000
D		ONE HOUR	✓	10	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	47	702	1
	B	40	0	98	3
	C	698	87	0	11
	D	2	2	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	10	0
	B	10	0	10	0
	C	10	10	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.18	7.95	0.2	1.0	A	91	137
B-AD	0.15	14.97	0.2	0.5	B	38	57
A-BCD	0.00	6.24	0.0	0.5	A	0.92	1
A-B						43	65
A-C						644	966
D-ABC	0.04	13.16	0.0	0.5	B	9	14
C-ABD	0.17	8.43	0.2	0.6	A	80	120
C-D						10	15
C-A						640	961

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	75	19	688	0.109	74	0.0	0.1	6.443	A
B-AD	31	8	415	0.075	31	0.0	0.1	10.272	B
A-BCD	0.75	0.19	648	0.001	0.75	0.0	0.0	5.558	A
A-B	35	9			35				
A-C	529	132			529				
D-ABC	8	2	376	0.020	7	0.0	0.0	9.770	A
C-ABD	65	16	625	0.105	65	0.0	0.1	7.064	A
C-D	8	2			8				
C-A	525	131			525				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	90	22	655	0.137	89	0.1	0.2	6.990	A
B-AD	37	9	371	0.100	37	0.1	0.1	11.826	B
A-BCD	0.90	0.22	619	0.001	0.90	0.0	0.0	5.827	A
A-B	42	11			42				
A-C	631	158			631				
D-ABC	9	2	338	0.027	9	0.0	0.0	10.945	B
C-ABD	78	20	600	0.130	78	0.1	0.2	7.584	A
C-D	10	2			10				
C-A	627	157			627				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	110	27	607	0.181	110	0.2	0.2	7.942	A
B-AD	45	11	309	0.147	45	0.1	0.2	14.934	B
A-BCD	1	0.28	578	0.002	1	0.0	0.0	6.242	A
A-B	52	13			52				
A-C	773	193			773				
D-ABC	11	3	285	0.039	11	0.0	0.0	13.155	B
C-ABD	96	24	565	0.169	96	0.2	0.2	8.424	A
C-D	12	3			12				
C-A	769	192			769				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	110	27	607	0.181	110	0.2	0.2	7.954	A
B-AD	45	11	309	0.147	45	0.2	0.2	14.967	B
A-BCD	1	0.28	578	0.002	1	0.0	0.0	6.243	A
A-B	52	13			52				
A-C	773	193			773				
D-ABC	11	3	285	0.039	11	0.0	0.0	13.161	B
C-ABD	96	24	565	0.169	96	0.2	0.2	8.432	A
C-D	12	3			12				
C-A	769	192			769				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	90	22	654	0.137	90	0.2	0.2	7.004	A
B-AD	37	9	370	0.100	37	0.2	0.1	11.862	B
A-BCD	0.90	0.22	618	0.001	0.90	0.0	0.0	5.830	A
A-B	42	11			42				
A-C	631	158			631				
D-ABC	9	2	338	0.027	9	0.0	0.0	10.956	B
C-ABD	78	20	600	0.130	78	0.2	0.2	7.594	A
C-D	10	2			10				
C-A	627	157			627				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	75	19	687	0.109	75	0.2	0.1	6.463	A
B-AD	31	8	415	0.075	31	0.1	0.1	10.304	B
A-BCD	0.75	0.19	648	0.001	0.75	0.0	0.0	5.562	A
A-B	35	9			35				
A-C	529	132			529				
D-ABC	8	2	376	0.020	8	0.0	0.0	9.784	A
C-ABD	65	16	625	0.105	66	0.2	0.1	7.079	A
C-D	8	2			8				
C-A	525	131			525				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.17	0.00	0.00	0.17	0.17			N/A	N/A
B-AD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
A-BCD	0.00	0.00	0.25	0.45	0.48			N/A	N/A
D-ABC	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.16	0.00	0.00	0.16	0.16			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.24	0.03	0.28	0.51	0.53			N/A	N/A
B-AD	0.19	0.03	0.29	0.51	0.54			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.22	0.03	0.28	0.51	0.54			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.24	0.03	0.30	0.54	0.95			N/A	N/A
B-AD	0.19	0.03	0.28	0.50	0.53			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.22	0.03	0.29	0.52	0.60			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
B-AD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.17	0.00	0.00	0.17	0.17			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

2037+dependent, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.52	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037+dependent	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	74	100.000
B		ONE HOUR	✓	11	100.000
C		ONE HOUR	✓	72	100.000
D		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	6	68	0
	B	6	0	5	0
	C	67	5	0	0
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	5	0
	B	0	0	0	0
	C	5	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.58	0.0	0.5	A	5	7
B-AD	0.01	5.58	0.0	0.5	A	6	8
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						6	8
A-C						62	94
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	4.93	0.0	0.5	A	5	7
C-D						0	0
C-A						61	92

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	798	0.005	4	0.0	0.0	4.533	A
B-AD	5	1	662	0.007	4	0.0	0.0	5.476	A
A-BCD	0	0	1594	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	51	13			51				
D-ABC	0	0	553	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	742	0.005	4	0.0	0.0	4.878	A
C-D	0	0			0				
C-A	50	13			50				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	795	0.006	4	0.0	0.0	4.554	A
B-AD	5	1	657	0.008	5	0.0	0.0	5.520	A
A-BCD	0	0	1588	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	61	15			61				
D-ABC	0	0	549	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	739	0.006	4	0.0	0.0	4.900	A
C-D	0	0			0				
C-A	60	15			60				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	791	0.007	5	0.0	0.0	4.582	A
B-AD	7	2	652	0.010	7	0.0	0.0	5.581	A
A-BCD	0	0	1581	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	75	19			75				
D-ABC	0	0	545	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	736	0.007	5	0.0	0.0	4.929	A
C-D	0	0			0				
C-A	74	18			74				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	6	1	791	0.007	6	0.0	0.0	4.583	A
B-AD	7	2	652	0.010	7	0.0	0.0	5.581	A
A-BCD	0	0	1581	0.000	0	0.0	0.0	0.000	A
A-B	7	2			7				
A-C	75	19			75				
D-ABC	0	0	545	0.000	0	0.0	0.0	0.000	A
C-ABD	6	1	736	0.007	6	0.0	0.0	4.929	A
C-D	0	0			0				
C-A	74	18			74				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	1	795	0.006	5	0.0	0.0	4.556	A
B-AD	5	1	658	0.008	5	0.0	0.0	5.520	A
A-BCD	0	0	1588	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	61	15			61				
D-ABC	0	0	549	0.000	0	0.0	0.0	0.000	A
C-ABD	4	1	739	0.006	5	0.0	0.0	4.900	A
C-D	0	0			0				
C-A	60	15			60				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	4	0.94	798	0.005	4	0.0	0.0	4.534	A
B-AD	5	1	662	0.007	5	0.0	0.0	5.476	A
A-BCD	0	0	1594	0.000	0	0.0	0.0	0.000	A
A-B	5	1			5				
A-C	51	13			51				
D-ABC	0	0	553	0.000	0	0.0	0.0	0.000	A
C-ABD	4	0.94	742	0.005	4	0.0	0.0	4.880	A
C-D	0	0			0				
C-A	50	13			50				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

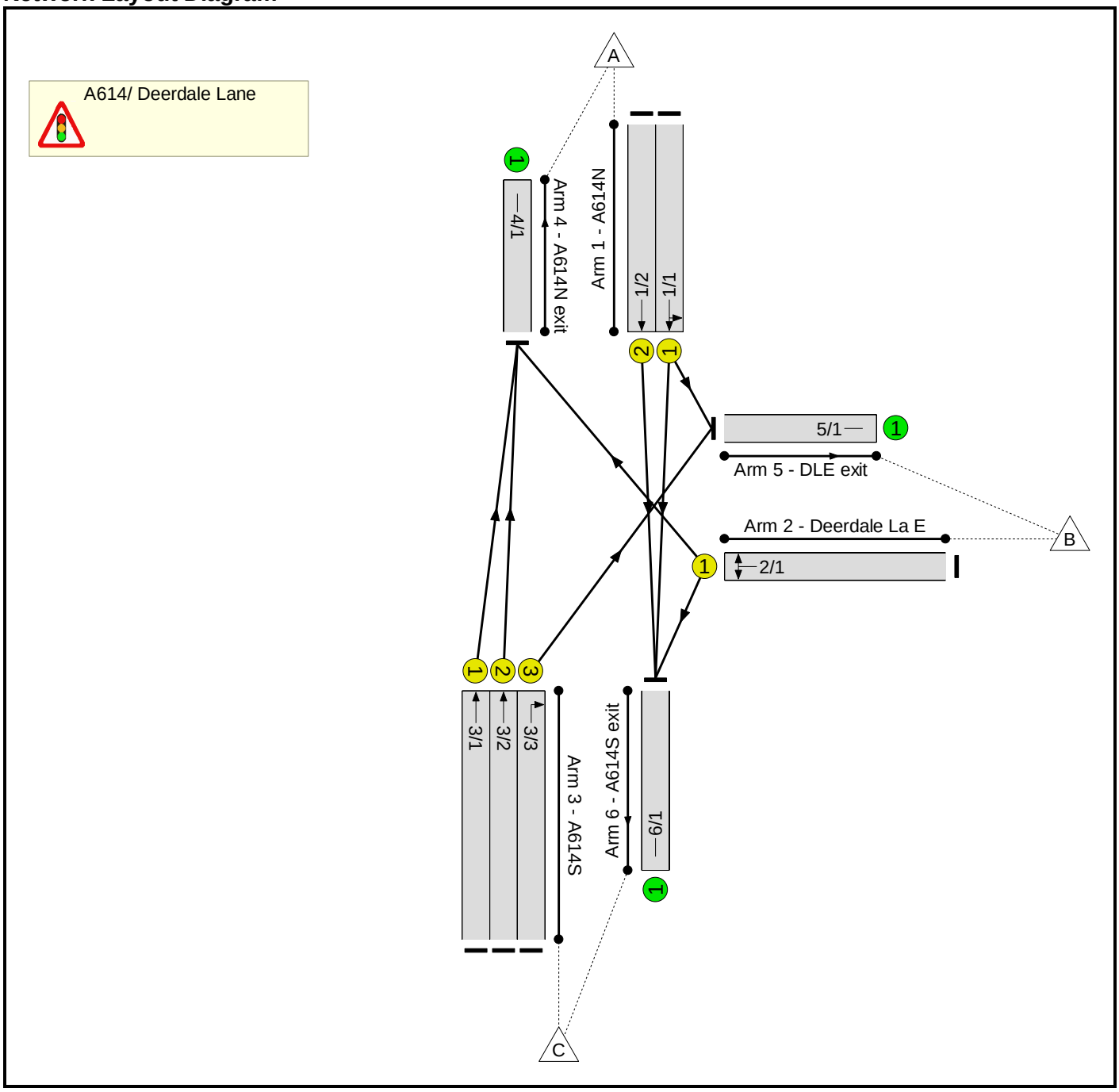
Do Something (DS)

Full Input Data And Results

User and Project Details

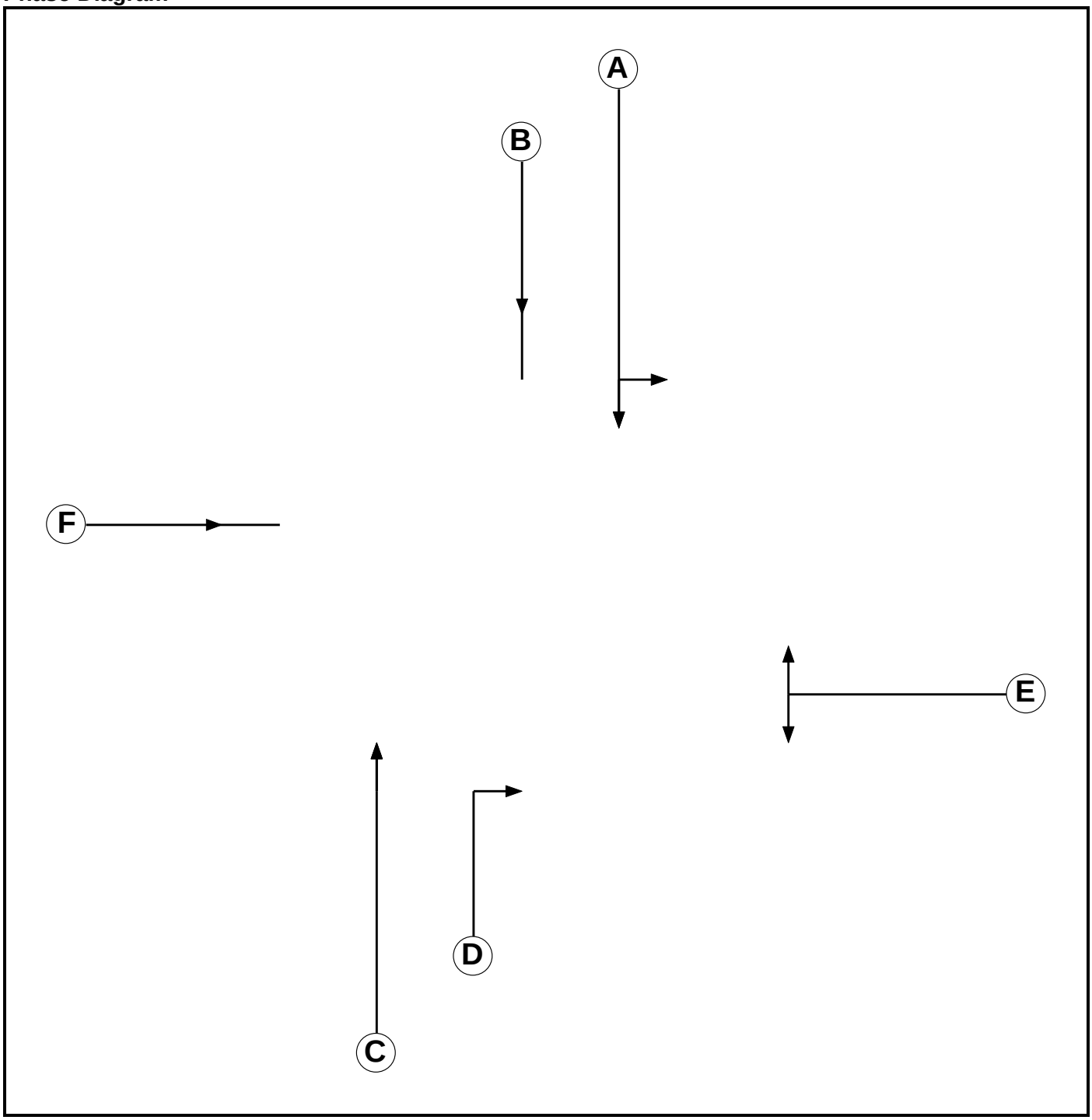
Project:	**A614/ A617 tests**
Title:	**A614/ Deerdale Lane - minor moves removed 2 lane**
Location:	
File name:	A614-Deerdale 2 lane aheads minor moves removed.lsg3x
Author:	rr
Company:	via
Address:	tbh
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

Full Input Data And Results

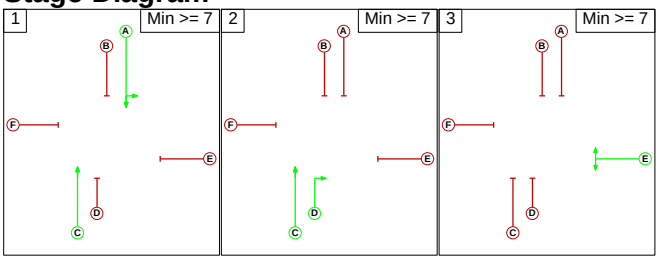
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F
A		-	-	7	7	7
B	-		7	5	7	7
C	-	7		-	7	7
D	7	5	-		7	7
E	8	8	8	8		8
F	8	8	8	8	8	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	C 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		7	7
2	7		7
3	8	8	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A614/ Deerdale Lane
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: A614/ Deerdale Lane

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A614N)	U	A	2	3	60.0	User	1900	-	-	-	-	-
1/2 (A614N)	U	A	2	3	60.0	User	1900	-	-	-	-	-
2/1 (Deerdale La E)	U	E	2	3	60.0	User	1800	-	-	-	-	-
3/1 (A614S)	U	C	2	3	60.0	User	1900	-	-	-	-	-
3/2 (A614S)	U	C	2	3	60.0	User	1900	-	-	-	-	-
3/3 (A614S)	U	D	2	3	60.0	User	1800	-	-	-	-	-
4/1 (A614N exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (DLE exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A614S exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'am2023'	08:00	09:00	01:00	
2: 'pm2023'	17:00	18:00	01:00	
3: 'ip2023'	13:00	14:00	01:00	
4: 'op2023'	23:00	00:00	01:00	
5: 'am2037'	08:00	09:00	01:00	
6: 'pm2037'	17:00	18:00	01:00	
7: 'ip2037'	13:00	14:00	01:00	
8: 'op2037'	23:00	00:00	01:00	
9: 'am2037 final'	08:00	09:00	01:00	
10: 'pm2037 final'	17:00	18:00	01:00	
11: 'ip2037 final'	13:00	14:00	01:00	
12: 'op2037 final'	23:00	00:00	01:00	

Scenario 1: 'am2023' (FG1: 'am2023', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	91	980	1071
	B	56	0	71	127
	C	873	71	0	944
	Tot.	929	162	1051	2142

Traffic Lane Flows

Lane	Scenario 1: am2023
Junction: A614/ Deerdale Lane	
1/1	535
1/2	536
2/1	127
3/1	437
3/2	436
3/3	71
4/1	929
5/1	162
6/1	1051

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'pm2023' (FG2: 'pm2023', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	63	892	955
	B	69	0	79	148
	C	915	48	0	963
	Tot.	984	111	971	2066

Traffic Lane Flows

Lane	Scenario 2: pm2023
Junction: A614/ Deerdale Lane	
1/1	478
1/2	477
2/1	148
3/1	458
3/2	457
3/3	48
4/1	984
5/1	111
6/1	971

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'ip2023' (FG3: 'ip2023', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	57	589	646
	B	57	0	56	113
	C	588	51	0	639
	Tot.	645	108	645	1398

Traffic Lane Flows

Lane	**Scenario 3: ip2023**
Junction: A614/ Deerdale Lane	
1/1	323
1/2	323
2/1	113
3/1	294
3/2	294
3/3	51
4/1	645
5/1	108
6/1	645

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'op2023' (FG4: 'op2023', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	6	58	64
	B	6	0	5	11
	C	57	5	0	62
	Tot.	63	11	63	137

Traffic Lane Flows

Lane	**Scenario 4: op2023**
Junction: A614/ Deerdale Lane	
1/1	31
1/2	33
2/1	11
3/1	29
3/2	28
3/3	5
4/1	63
5/1	11
6/1	63

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'am2037' (FG5: 'am2037', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	92	1016	1108
	B	58	0	73	131
	C	904	73	0	977
	Tot.	962	165	1089	2216

Traffic Lane Flows

Lane	Scenario 5: am2037
Junction: A614/ Deerdale Lane	
1/1	554
1/2	554
2/1	131
3/1	452
3/2	452
3/3	73
4/1	962
5/1	165
6/1	1089

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'pm2037' (FG6: 'pm2037', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	65	911	976
	B	70	0	80	150
	C	933	49	0	982
	Tot.	1003	114	991	2108

Traffic Lane Flows

Lane	**Scenario 6: pm2037**
Junction: A614/ Deerdale Lane	
1/1	488
1/2	488
2/1	150
3/1	467
3/2	466
3/3	49
4/1	1003
5/1	114
6/1	991

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: 'ip2037' (FG7: 'ip2037', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	58	609	667
	B	58	0	57	115
	C	607	52	0	659
	Tot.	665	110	666	1441

Traffic Lane Flows

Lane	**Scenario 7: ip2037**
Junction: A614/ Deerdale Lane	
1/1	334
1/2	333
2/1	115
3/1	304
3/2	303
3/3	52
4/1	665
5/1	110
6/1	666

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: 'op2037' (FG8: 'op2037', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	6	60	66
	B	6	0	5	11
	C	59	5	0	64
	Tot.	65	11	65	141

Traffic Lane Flows

Lane	**Scenario 8: op2037**
Junction: A614/ Deerdale Lane	
1/1	32
1/2	34
2/1	11
3/1	30
3/2	29
3/3	5
4/1	65
5/1	11
6/1	65

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: 'am2037 final' (FG9: 'am2037 final', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	104	1170	1274
	B	63	0	74	137
	C	1009	74	0	1083
	Tot.	1072	178	1244	2494

Traffic Lane Flows

Lane	**Scenario 9: am2037 final**
Junction: A614/ Deerdale Lane	
1/1	637
1/2	637
2/1	137
3/1	505
3/2	504
3/3	74
4/1	1072
5/1	178
6/1	1244

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: 'pm2037 final' (FG10: 'pm2037 final', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	71	1038	1109
	B	79	0	82	161
	C	1087	50	0	1137
	Tot.	1166	121	1120	2407

Traffic Lane Flows

Lane	**Scenario 10: pm2037 final**
Junction: A614/ Deerdale Lane	
1/1	554
1/2	555
2/1	161
3/1	544
3/2	543
3/3	50
4/1	1166
5/1	121
6/1	1120

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 11: 'ip2037 final' (FG11: 'ip2037 final', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	64	692	756
	B	64	0	58	122
	C	687	53	0	740
	Tot.	751	117	750	1618

Traffic Lane Flows

Lane	**Scenario 11: ip2037 final**
Junction: A614/ Deerdale Lane	
1/1	378
1/2	378
2/1	122
3/1	344
3/2	343
3/3	53
4/1	751
5/1	117
6/1	750

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 12: 'op2037 final' (FG12: 'op2037 final', Plan 1: 'normal')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	6	68	74
	B	6	0	5	11
	C	67	5	0	72
	Tot.	73	11	73	157

Traffic Lane Flows

Lane	**Scenario 12: op2037 final**
Junction: A614/ Deerdale Lane	
1/1	36
1/2	38
2/1	11
3/1	34
3/2	33
3/3	5
4/1	73
5/1	11
6/1	73

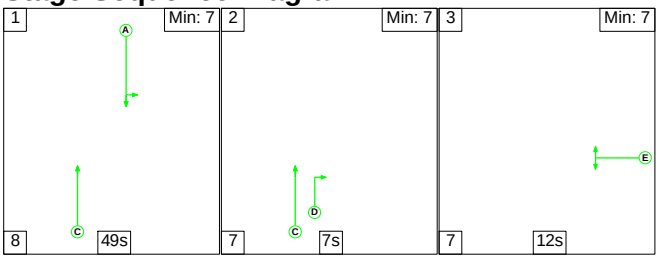
Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Deerdale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Deerdale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (DLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'am2023' (FG1: 'am2023', Plan 1: 'normal')

Stage Sequence Diagram

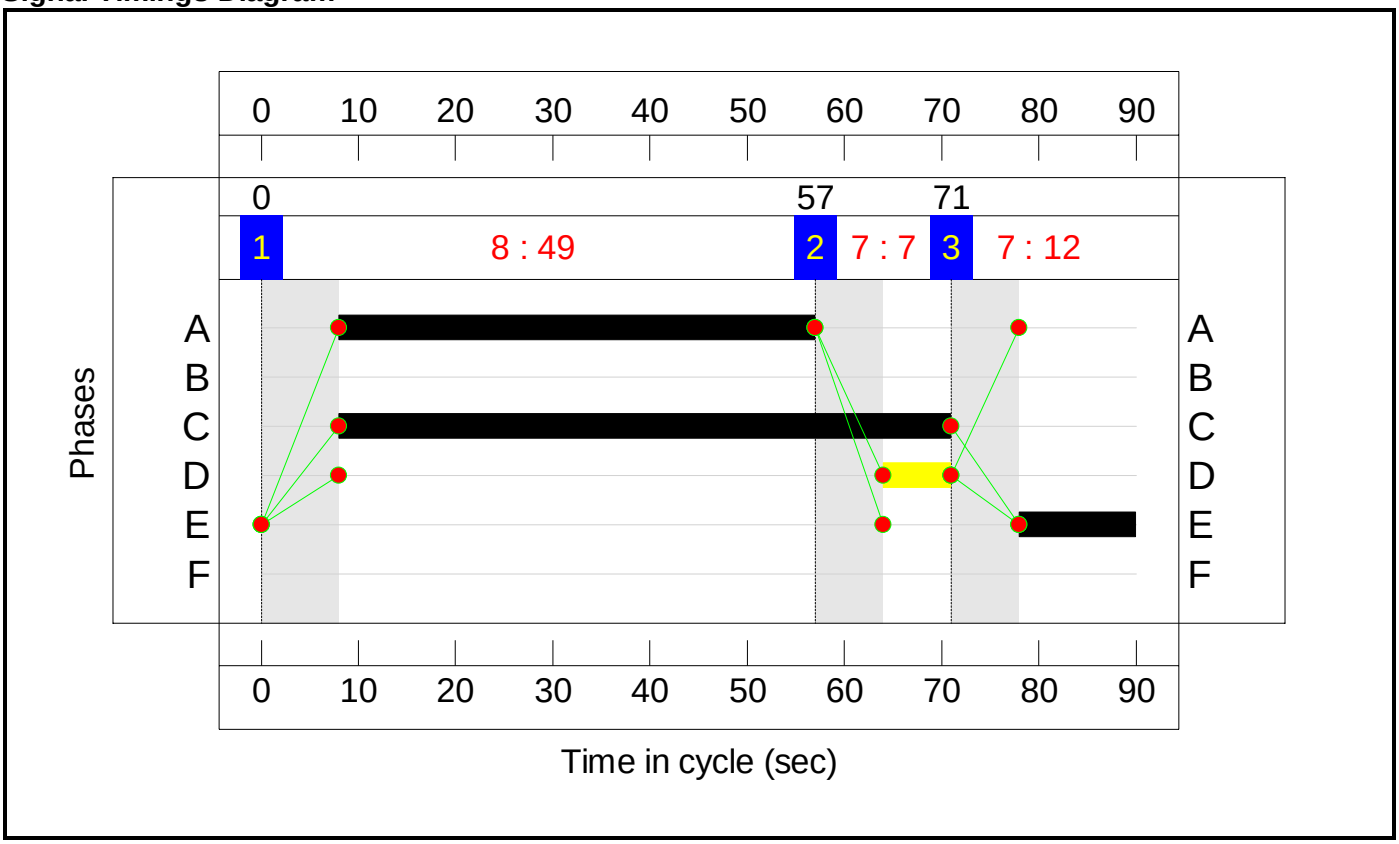


Stage Timings

Stage	1	2	3
Duration	49	7	12
Change Point	0	57	71

Full Input Data And Results

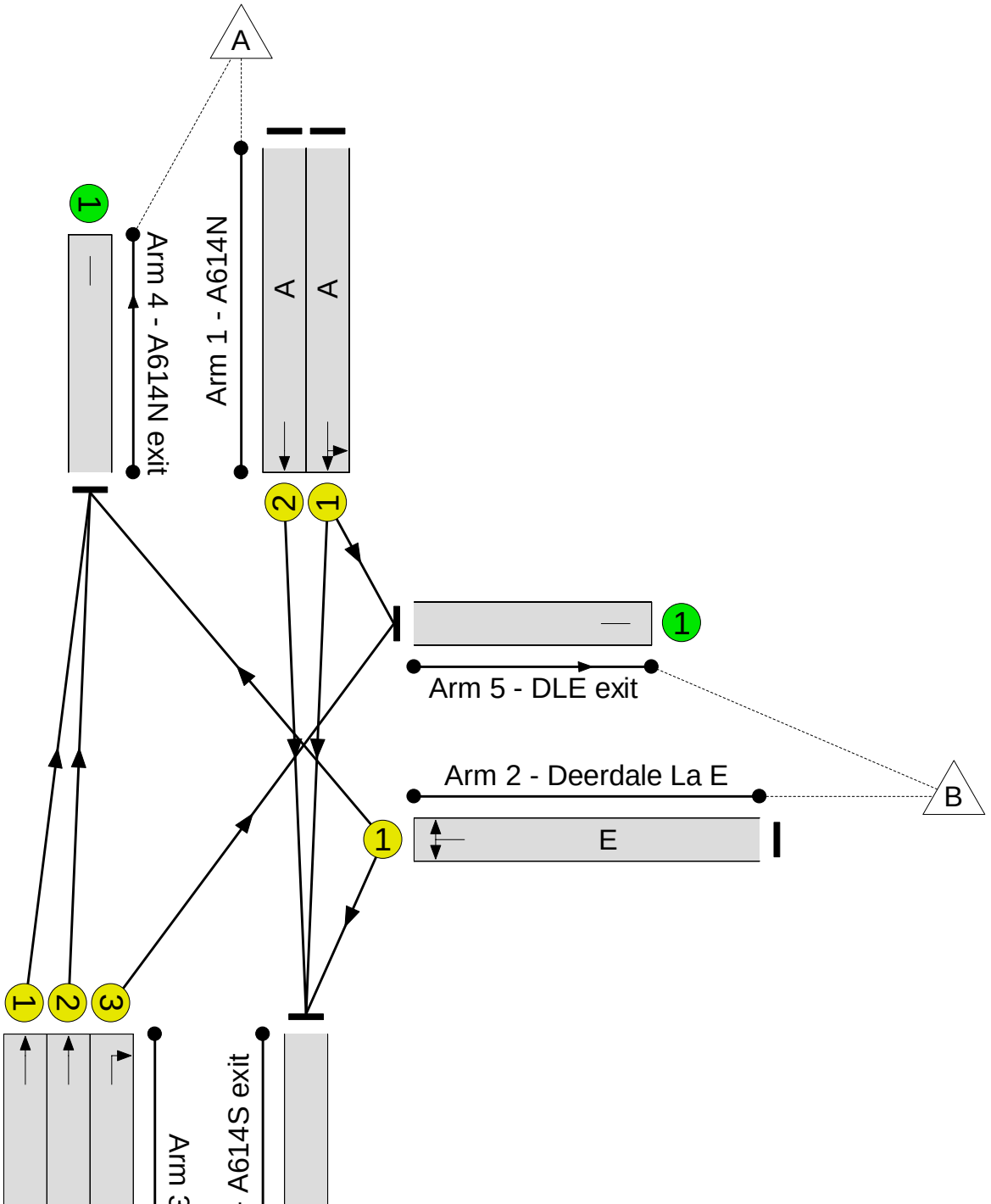
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 77.2 %
Total Traffic Delay: 9.3 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.8%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.8%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	49	-	535	1900	1056	50.7%
1/2	A614N Ahead	U	N/A	N/A	A		1	49	-	536	1900	1056	50.8%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	12	-	127	1800	260	48.8%
3/1	A614S Ahead	U	N/A	N/A	C		1	63	-	437	1900	1351	32.3%
3/2	A614S Ahead	U	N/A	N/A	C		1	63	-	436	1900	1351	32.3%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	71	1800	160	44.4%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	929	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	162	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1051	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**6.9**	**2.4**	**0.0**	**9.3**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**6.9**	**2.4**	**0.0**	**9.3**	**-**	**-**	**-**	**-**
1/1	535	535	-	-	-	1.8	0.5	-	2.4	15.8	8.2	0.5	8.7
1/2	536	536	-	-	-	1.8	0.5	-	2.4	15.8	8.2	0.5	8.7
2/1	127	127	-	-	-	1.3	0.5	-	1.7	48.9	2.9	0.5	3.4
3/1	437	437	-	-	-	0.6	0.2	-	0.8	6.8	4.0	0.2	4.2
3/2	436	436	-	-	-	0.6	0.2	-	0.8	6.8	4.0	0.2	4.2
3/3	71	71	-	-	-	0.8	0.4	-	1.2	59.0	1.7	0.4	2.1
4/1	929	929	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	162	162	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1051	1051	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 77.2
PRC Over All Lanes (%): 77.2

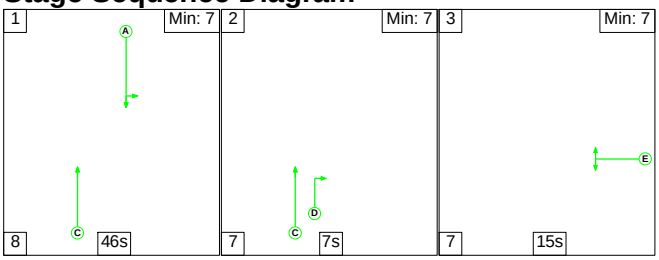
Total Delay for Signalled Lanes (pcuHr): 9.26
Total Delay Over All Lanes(pcuHr): 9.26

Cycle Time (s): 90

Full Input Data And Results

Scenario 2: 'pm2023' (FG2: 'pm2023', Plan 1: 'normal')

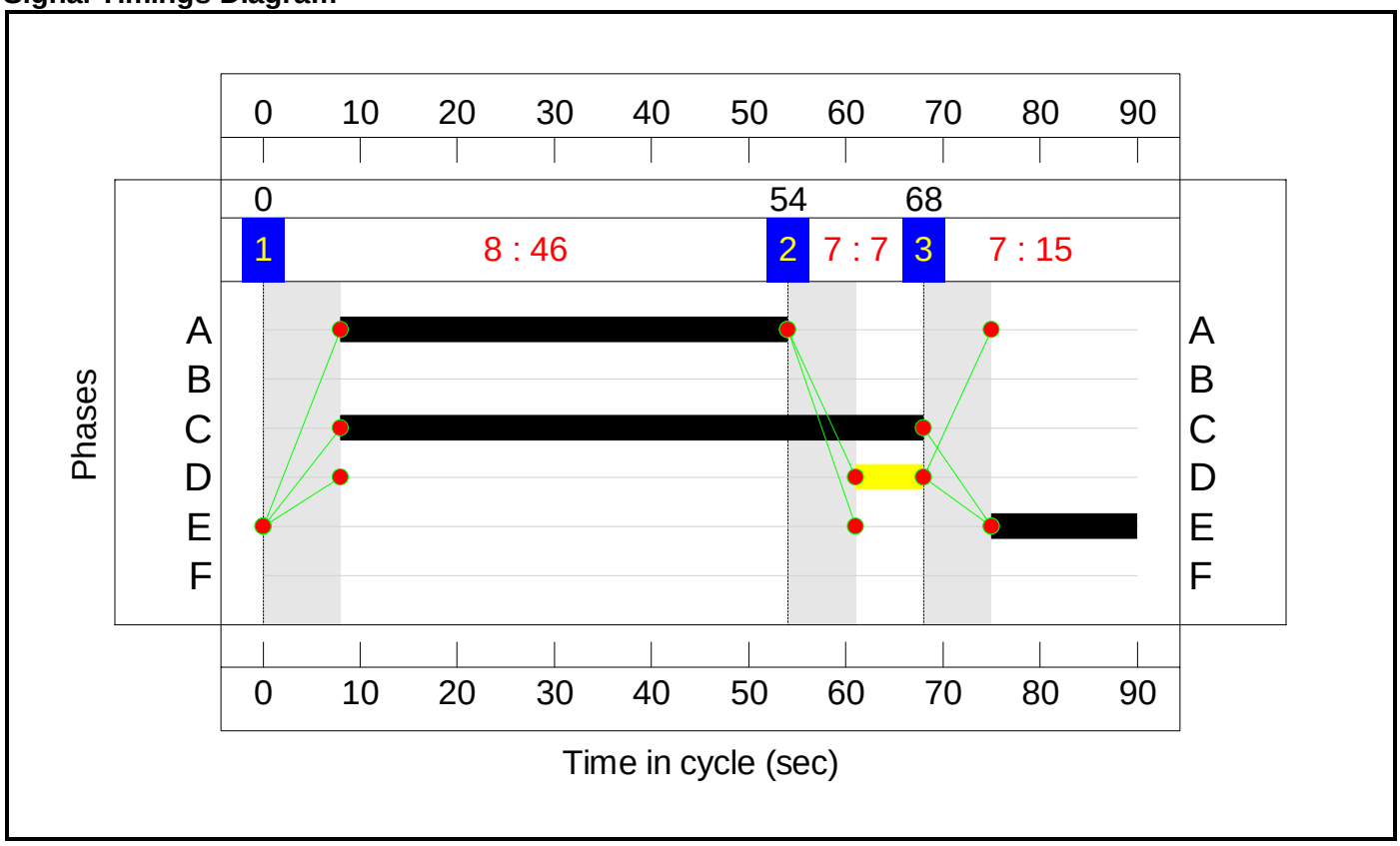
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	46	7	15
Change Point	0	54	68

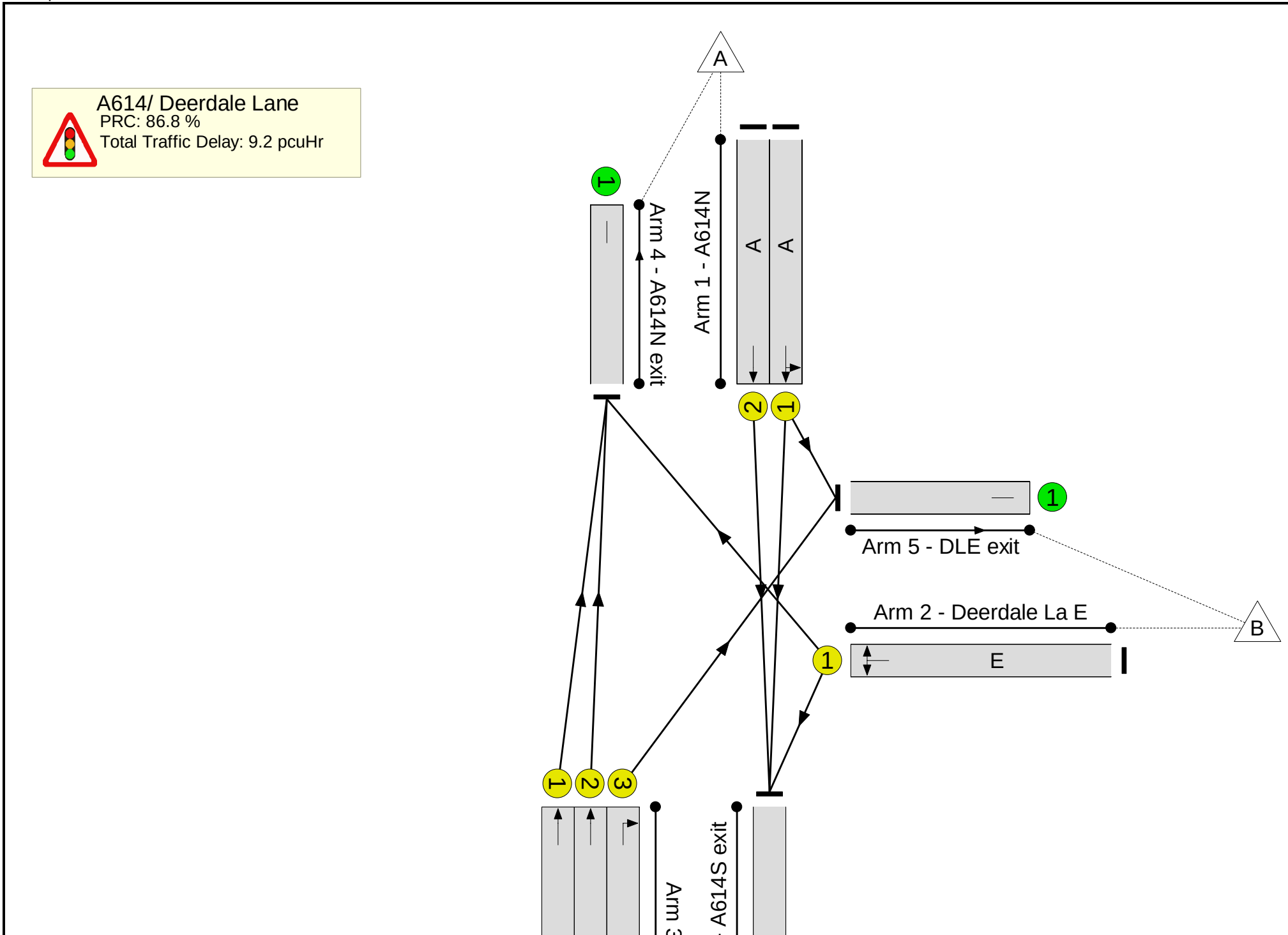
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 86.8 %
Total Traffic Delay: 9.2 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**48.2%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**48.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	46	-	478	1900	992	48.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	46	-	477	1900	992	48.1%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	15	-	148	1800	320	46.3%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	458	1900	1288	35.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	457	1900	1288	35.5%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	48	1800	160	30.0%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	984	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	971	Inf	Inf	0.0%

Full Input Data And Results

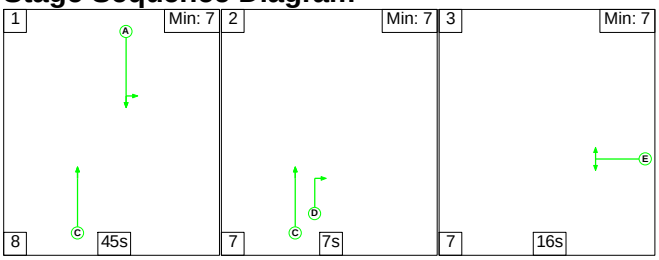
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**7.1**	**2.1**	**0.0**	**9.2**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**7.1**	**2.1**	**0.0**	**9.2**	**-**	**-**	**-**	**-**
1/1	478	478	-	-	-	1.8	0.5	-	2.3	17.2	7.6	0.5	8.0
1/2	477	477	-	-	-	1.8	0.5	-	2.3	17.2	7.6	0.5	8.0
2/1	148	148	-	-	-	1.4	0.4	-	1.8	43.6	3.3	0.4	3.7
3/1	458	458	-	-	-	0.8	0.3	-	1.1	8.3	4.8	0.3	5.1
3/2	457	457	-	-	-	0.8	0.3	-	1.1	8.3	4.8	0.3	5.1
3/3	48	48	-	-	-	0.5	0.2	-	0.7	54.4	1.1	0.2	1.3
4/1	984	984	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	111	111	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	971	971	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane
PRC for Signalled Lanes (%): 86.8
PRC Over All Lanes (%): 86.8
Total Delay for Signalled Lanes (pcuHr): 9.20
Total Delay Over All Lanes(pcuHr): 9.20
Cycle Time (s): 90

Full Input Data And Results

Scenario 3: 'ip2023' (FG3: 'ip2023', Plan 1: 'normal')

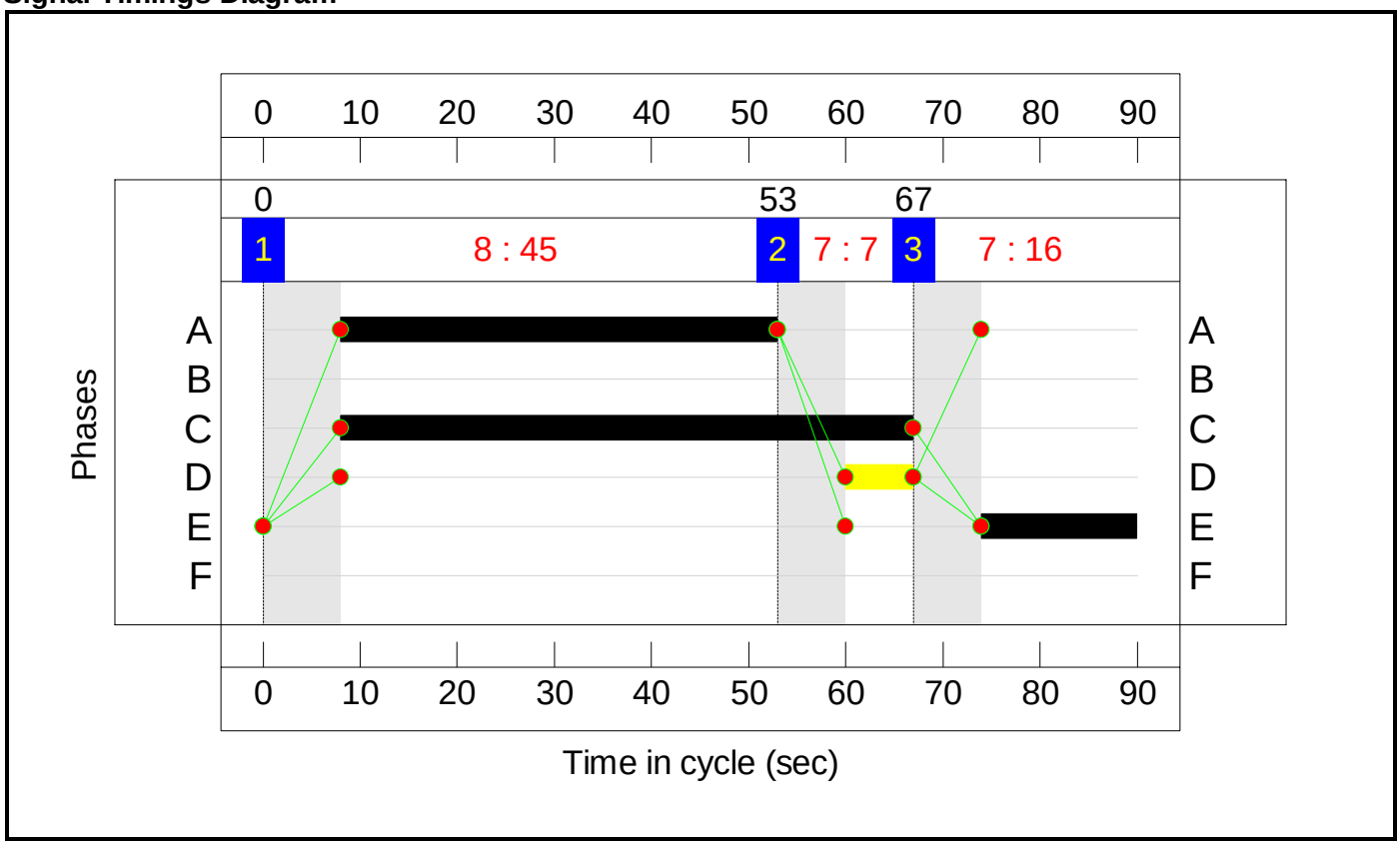
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	45	7	16
Change Point	0	53	67

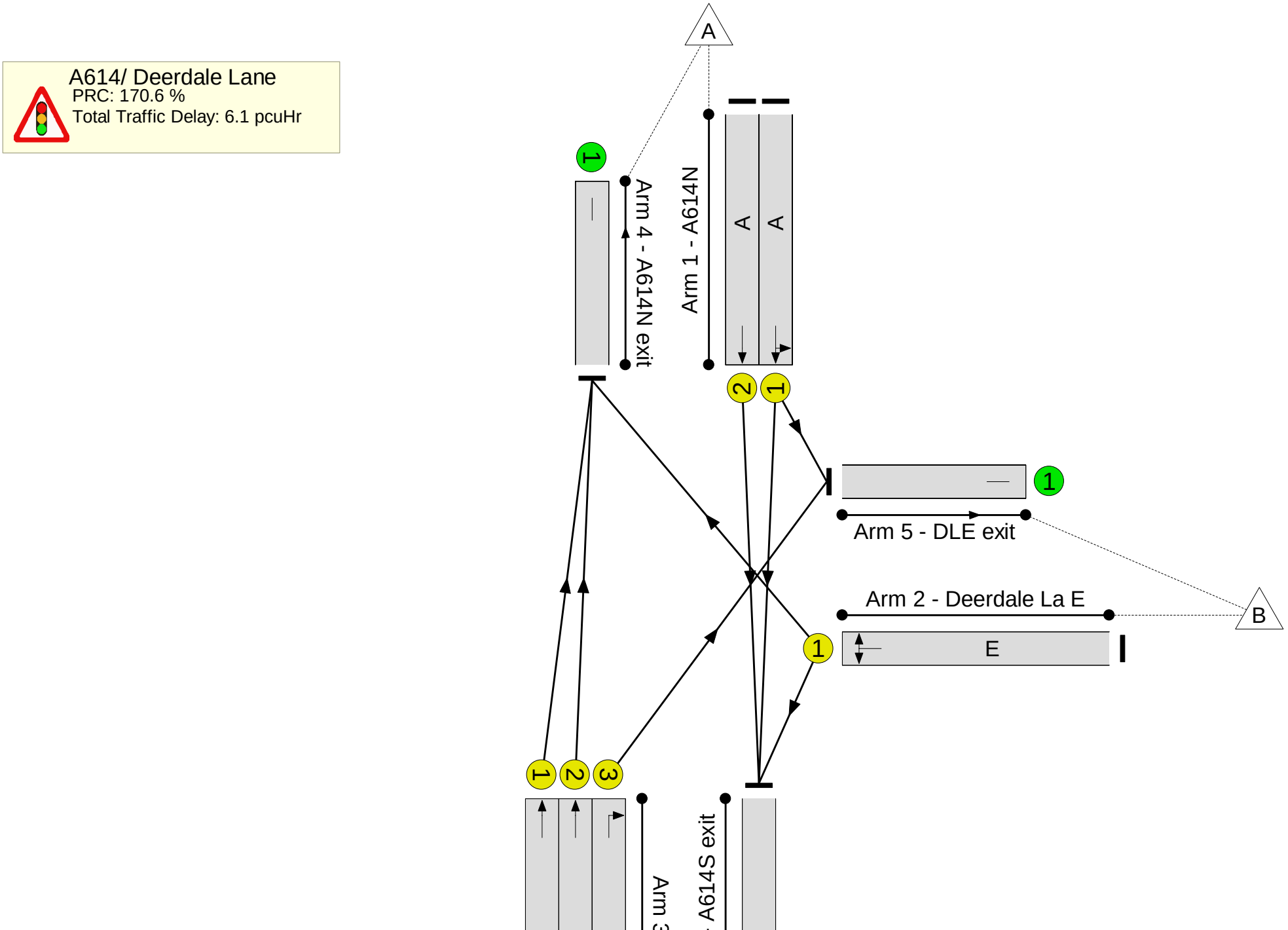
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 170.6 %
Total Traffic Delay: 6.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**33.3%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**33.3%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	45	-	323	1900	971	33.3%
1/2	A614N Ahead	U	N/A	N/A	A		1	45	-	323	1900	971	33.3%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	16	-	113	1800	340	33.2%
3/1	A614S Ahead	U	N/A	N/A	C		1	59	-	294	1900	1267	23.2%
3/2	A614S Ahead	U	N/A	N/A	C		1	59	-	294	1900	1267	23.2%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	51	1800	160	31.9%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	645	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	108	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	645	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**4.8**	**1.3**	**0.0**	**6.1**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**4.8**	**1.3**	**0.0**	**6.1**	**-**	**-**	**-**	**-**
1/1	323	323	-	-	-	1.2	0.2	-	1.4	15.7	4.8	0.2	5.0
1/2	323	323	-	-	-	1.2	0.2	-	1.4	15.7	4.8	0.2	5.0
2/1	113	113	-	-	-	1.0	0.2	-	1.2	39.5	2.4	0.2	2.7
3/1	294	294	-	-	-	0.5	0.2	-	0.6	7.8	2.9	0.2	3.0
3/2	294	294	-	-	-	0.5	0.2	-	0.6	7.8	2.9	0.2	3.0
3/3	51	51	-	-	-	0.5	0.2	-	0.8	54.9	1.2	0.2	1.4
4/1	645	645	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	108	108	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	645	645	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 170.6
PRC Over All Lanes (%): 170.6

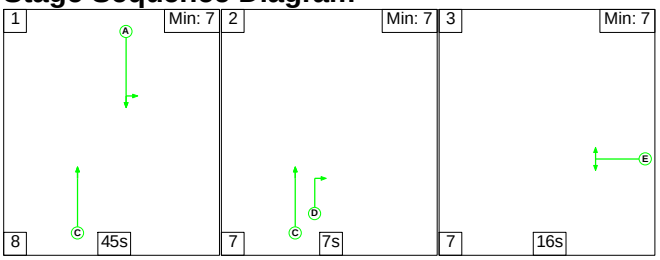
Total Delay for Signalled Lanes (pcuHr): 6.11
Total Delay Over All Lanes(pcuHr): 6.11

Cycle Time (s): 90

Full Input Data And Results

Scenario 4: 'op2023' (FG4: 'op2023', Plan 1: 'normal')

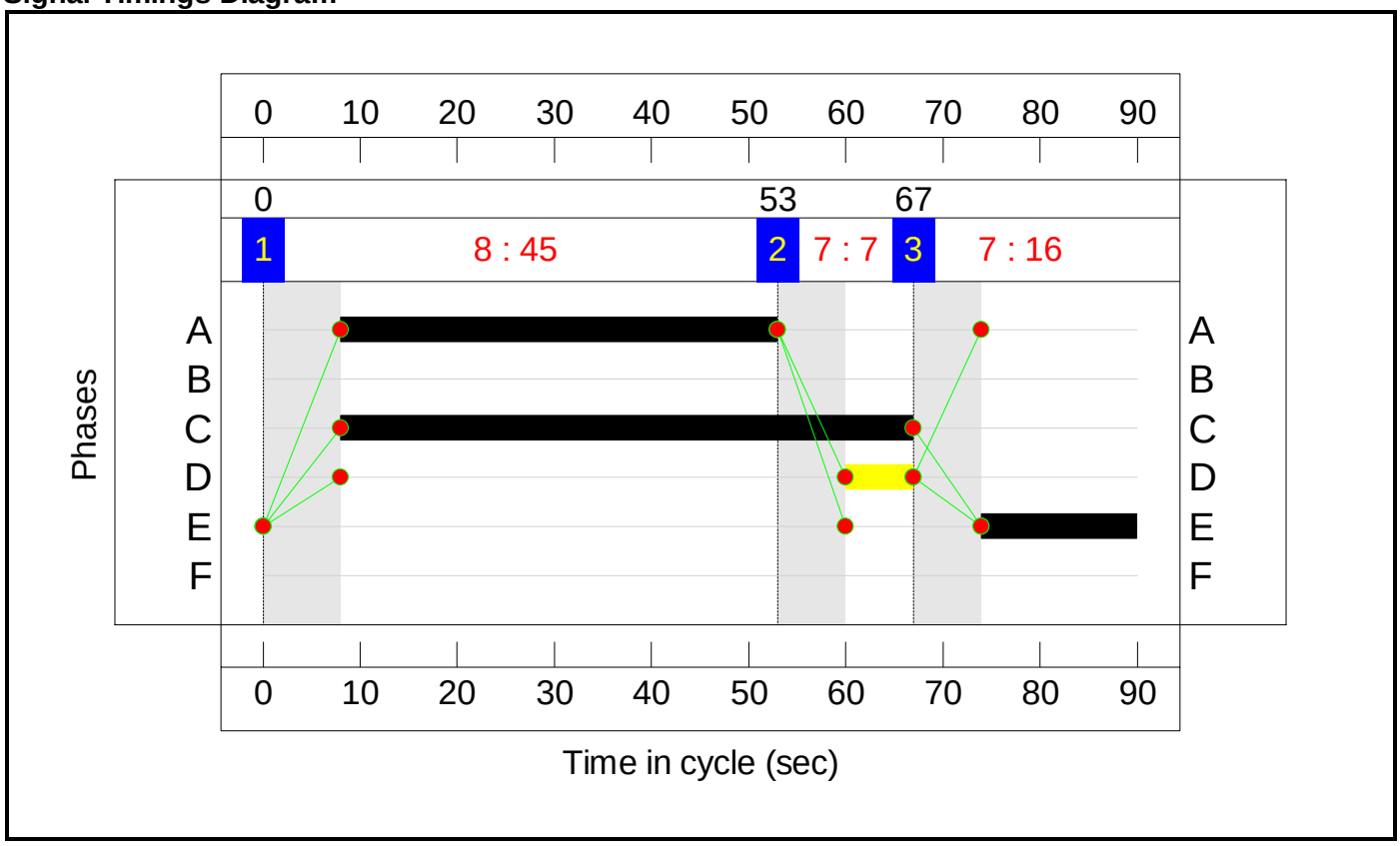
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	45	7	16
Change Point	0	53	67

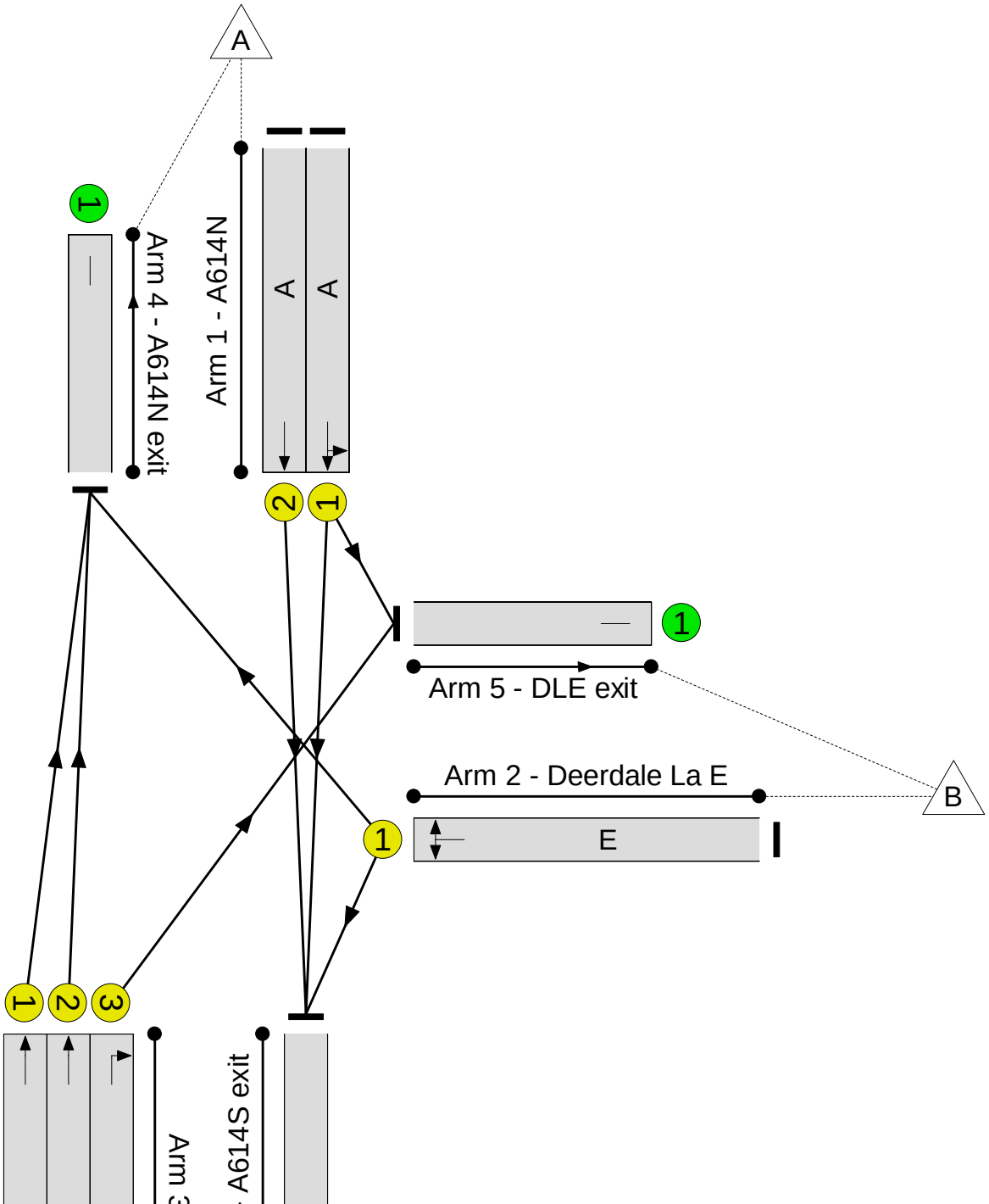
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 2548.5 %
Total Traffic Delay: 0.5 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	45	-	31	1900	971	3.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	45	-	33	1900	971	3.4%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	16	-	11	1800	340	3.2%
3/1	A614S Ahead	U	N/A	N/A	C		1	59	-	29	1900	1267	2.3%
3/2	A614S Ahead	U	N/A	N/A	C		1	59	-	28	1900	1267	2.2%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	5	1800	160	3.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	63	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	11	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	63	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
1/1	31	31	-	-	-	0.1	0.0	-	0.1	12.9	0.4	0.0	0.4
1/2	33	33	-	-	-	0.1	0.0	-	0.1	12.9	0.4	0.0	0.4
2/1	11	11	-	-	-	0.1	0.0	-	0.1	35.5	0.2	0.0	0.2
3/1	29	29	-	-	-	0.0	0.0	-	0.1	6.6	0.2	0.0	0.3
3/2	28	28	-	-	-	0.0	0.0	-	0.1	6.6	0.2	0.0	0.2
3/3	5	5	-	-	-	0.1	0.0	-	0.1	49.4	0.1	0.0	0.1
4/1	63	63	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	11	11	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	63	63	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 2548.5
PRC Over All Lanes (%): 2548.5

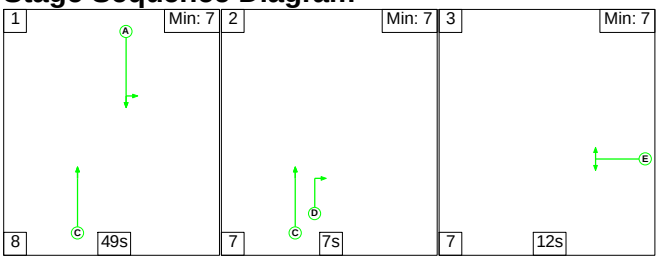
Total Delay for Signalled Lanes (pcuHr): 0.51
Total Delay Over All Lanes(pcuHr): 0.51

Cycle Time (s): 90

Full Input Data And Results

Scenario 5: 'am2037' (FG5: 'am2037', Plan 1: 'normal')

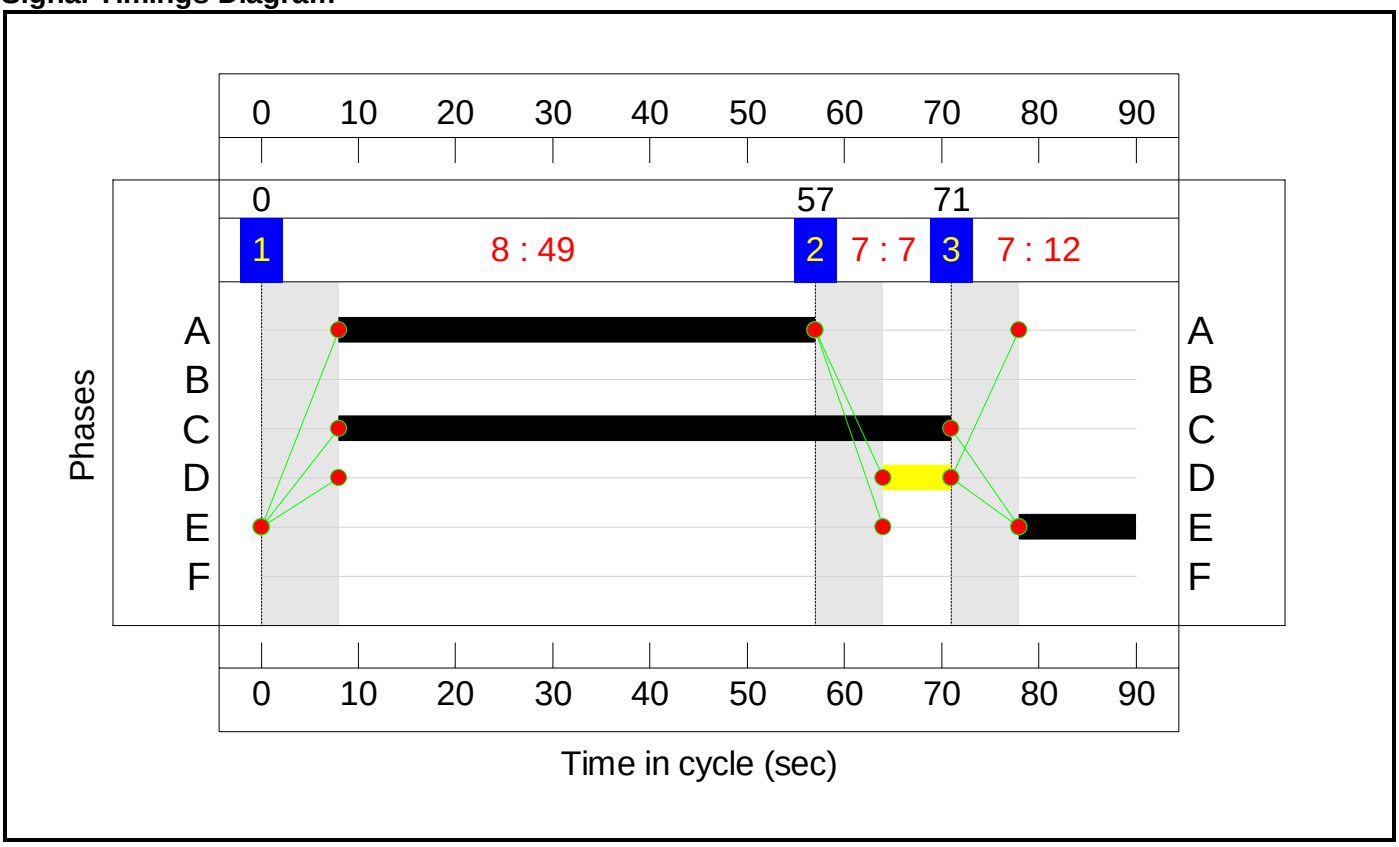
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	49	7	12
Change Point	0	57	71

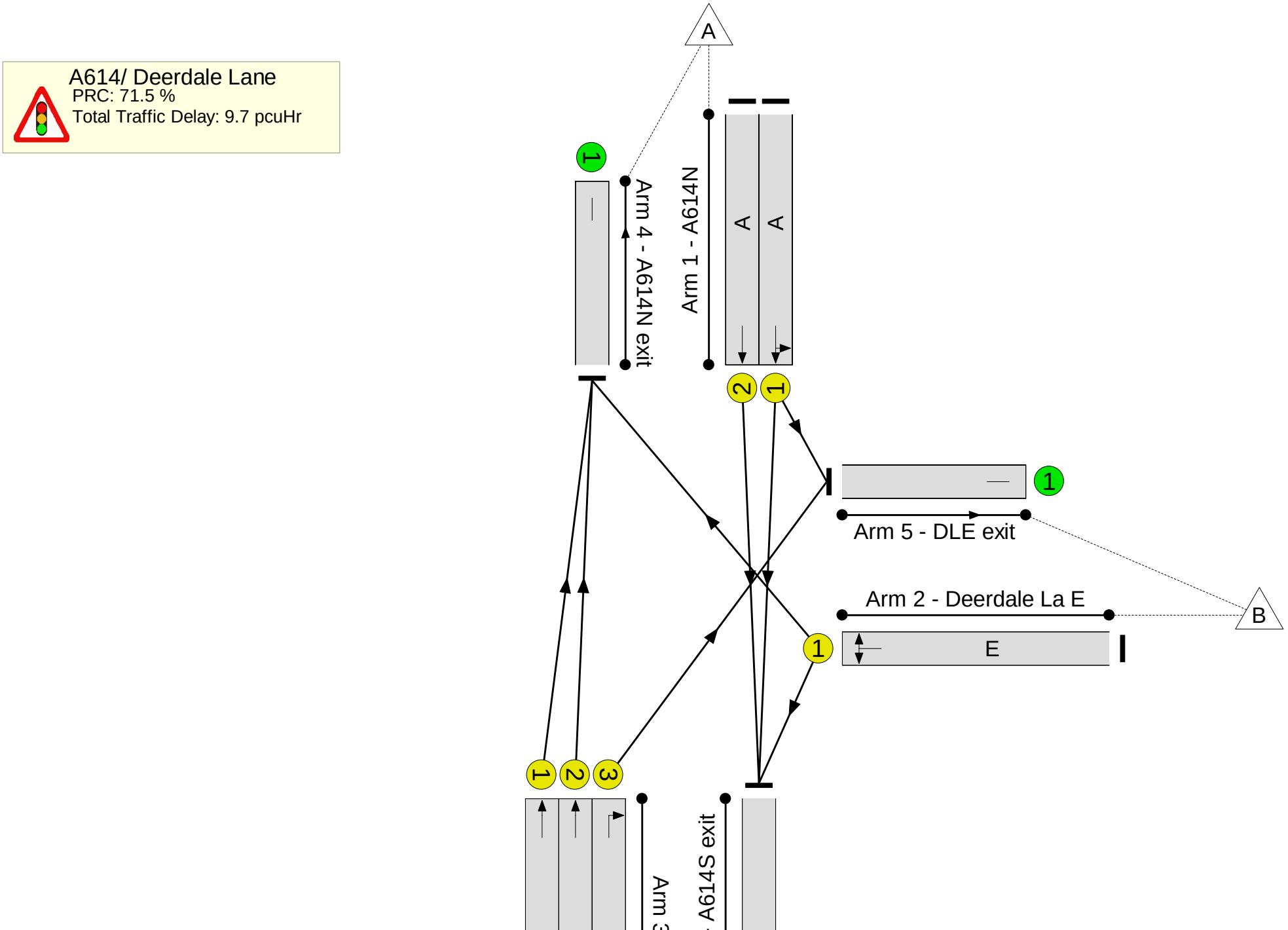
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 71.5 %
Total Traffic Delay: 9.7 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.5%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.5%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	49	-	554	1900	1056	52.5%
1/2	A614N Ahead	U	N/A	N/A	A		1	49	-	554	1900	1056	52.5%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	12	-	131	1800	260	50.4%
3/1	A614S Ahead	U	N/A	N/A	C		1	63	-	452	1900	1351	33.5%
3/2	A614S Ahead	U	N/A	N/A	C		1	63	-	452	1900	1351	33.5%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	73	1800	160	45.6%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	962	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	165	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1089	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**7.2**	**2.5**	**0.0**	**9.7**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**7.2**	**2.5**	**0.0**	**9.7**	**-**	**-**	**-**	**-**
1/1	554	554	-	-	-	1.9	0.6	-	2.5	16.1	8.6	0.6	9.2
1/2	554	554	-	-	-	1.9	0.6	-	2.5	16.1	8.6	0.6	9.2
2/1	131	131	-	-	-	1.3	0.5	-	1.8	49.4	3.0	0.5	3.5
3/1	452	452	-	-	-	0.6	0.3	-	0.9	6.9	4.3	0.3	4.5
3/2	452	452	-	-	-	0.6	0.3	-	0.9	6.9	4.3	0.3	4.5
3/3	73	73	-	-	-	0.8	0.4	-	1.2	59.5	1.7	0.4	2.1
4/1	962	962	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	165	165	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1089	1089	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 71.5
PRC Over All Lanes (%): 71.5

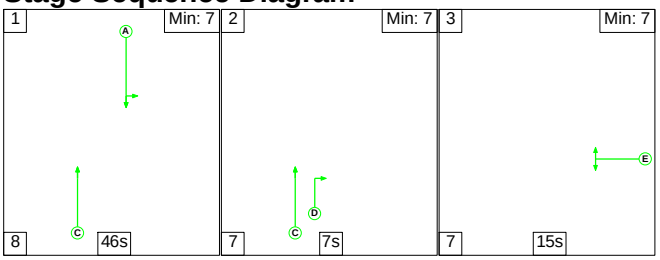
Total Delay for Signalled Lanes (pcuHr): 9.71
Total Delay Over All Lanes(pcuHr): 9.71

Cycle Time (s): 90

Full Input Data And Results

Scenario 6: 'pm2037' (FG6: 'pm2037', Plan 1: 'normal')

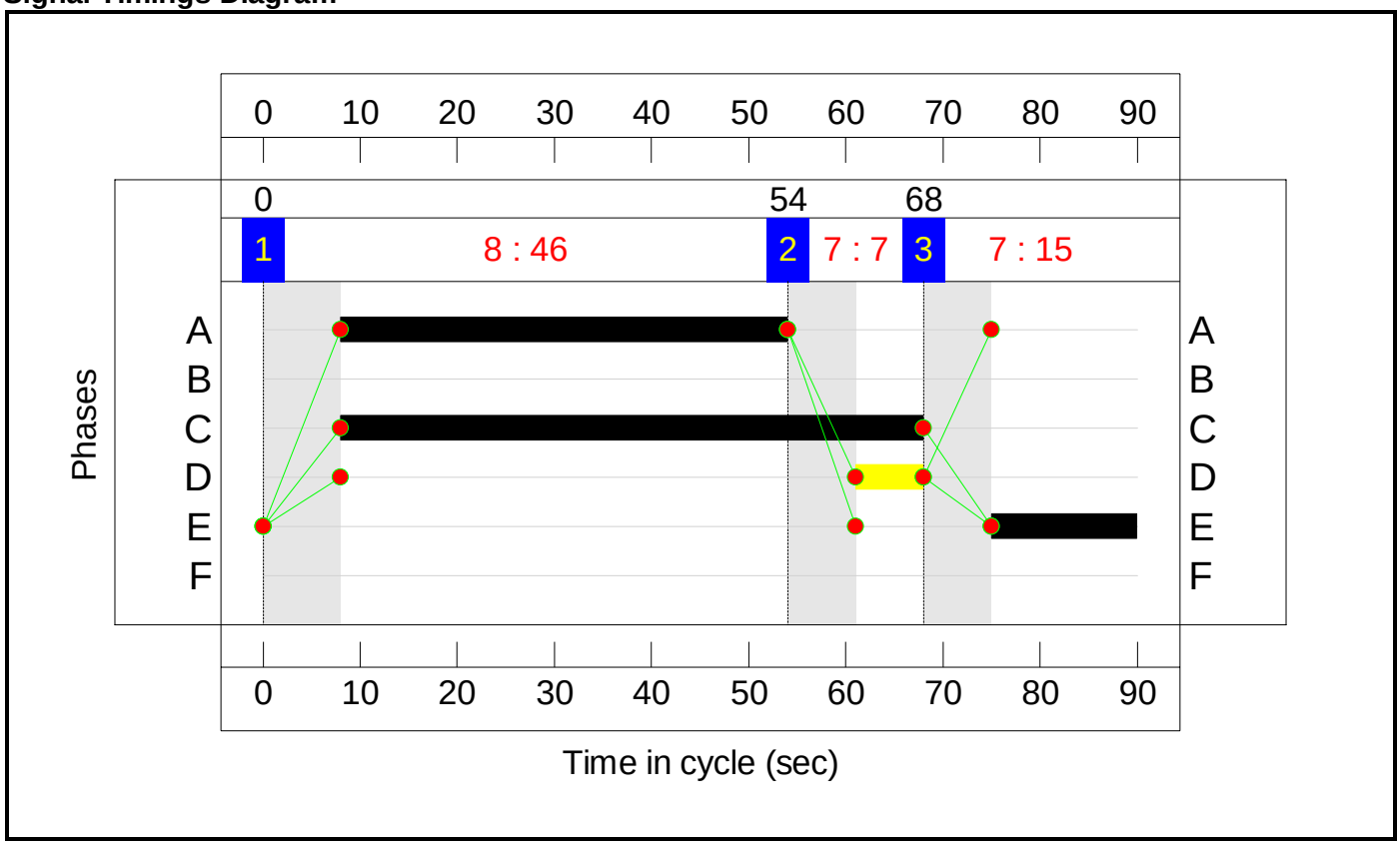
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	46	7	15
Change Point	0	54	68

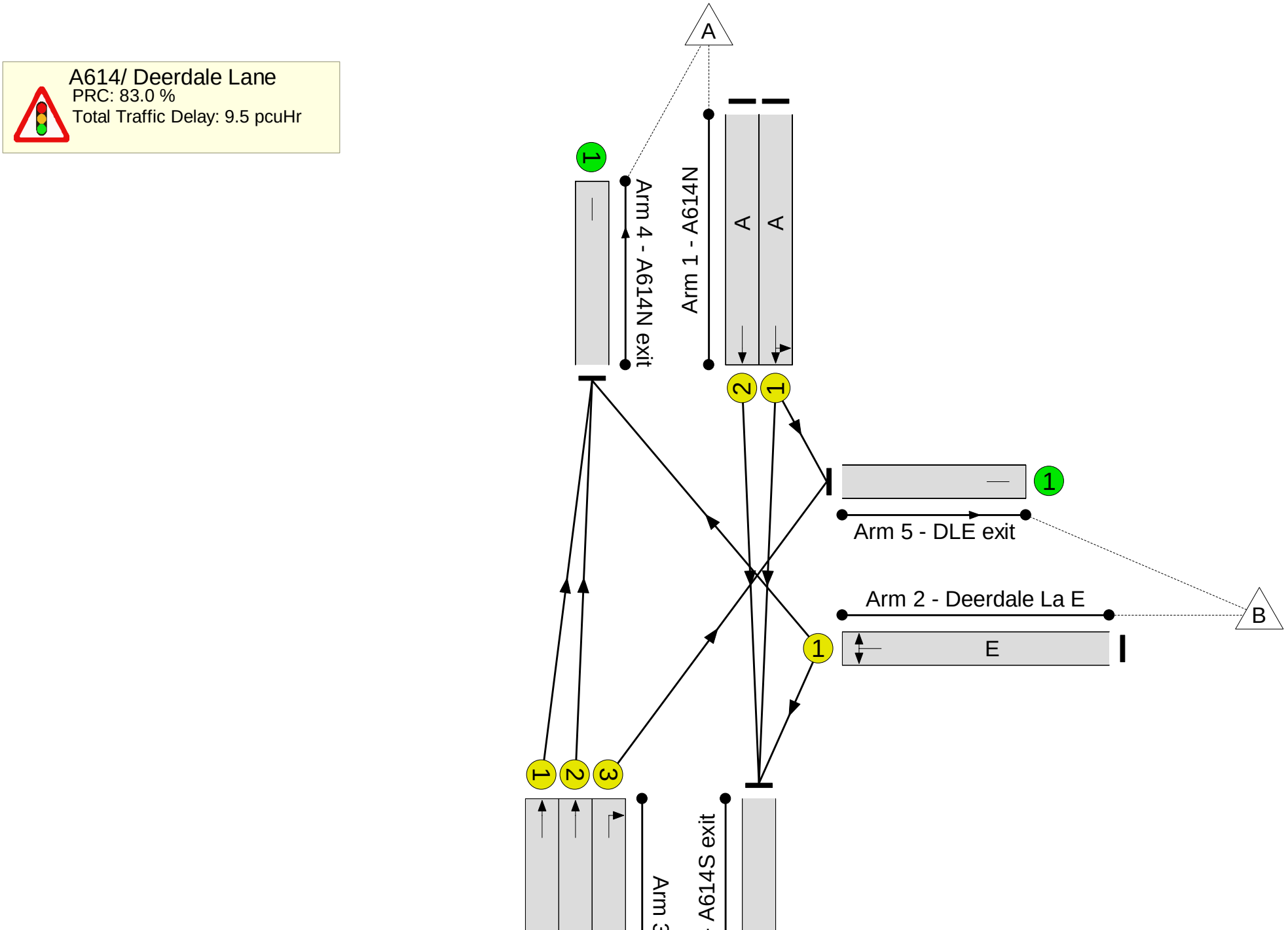
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 83.0 %
Total Traffic Delay: 9.5 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**49.2%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**49.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	46	-	488	1900	992	49.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	46	-	488	1900	992	49.2%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	15	-	150	1800	320	46.9%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	467	1900	1288	36.3%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	466	1900	1288	36.2%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	49	1800	160	30.6%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	1003	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	114	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	991	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**7.3**	**2.2**	**0.0**	**9.5**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**7.3**	**2.2**	**0.0**	**9.5**	**-**	**-**	**-**	**-**
1/1	488	488	-	-	-	1.9	0.5	-	2.4	17.4	7.7	0.5	8.2
1/2	488	488	-	-	-	1.9	0.5	-	2.4	17.4	7.7	0.5	8.2
2/1	150	150	-	-	-	1.4	0.4	-	1.8	43.7	3.3	0.4	3.8
3/1	467	467	-	-	-	0.8	0.3	-	1.1	8.4	4.9	0.3	5.2
3/2	466	466	-	-	-	0.8	0.3	-	1.1	8.4	4.9	0.3	5.2
3/3	49	49	-	-	-	0.5	0.2	-	0.7	54.6	1.1	0.2	1.4
4/1	1003	1003	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	114	114	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	991	991	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 83.0
PRC Over All Lanes (%): 83.0

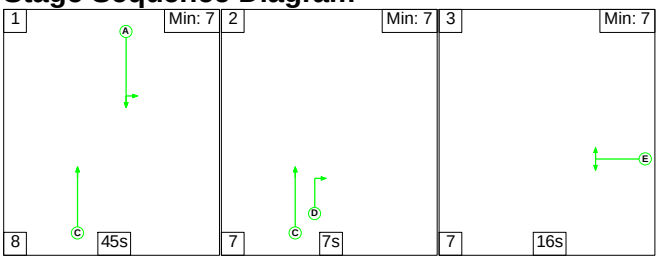
Total Delay for Signalled Lanes (pcuHr): 9.45
Total Delay Over All Lanes(pcuHr): 9.45

Cycle Time (s): 90

Full Input Data And Results

Scenario 7: 'ip2037' (FG7: 'ip2037', Plan 1: 'normal')

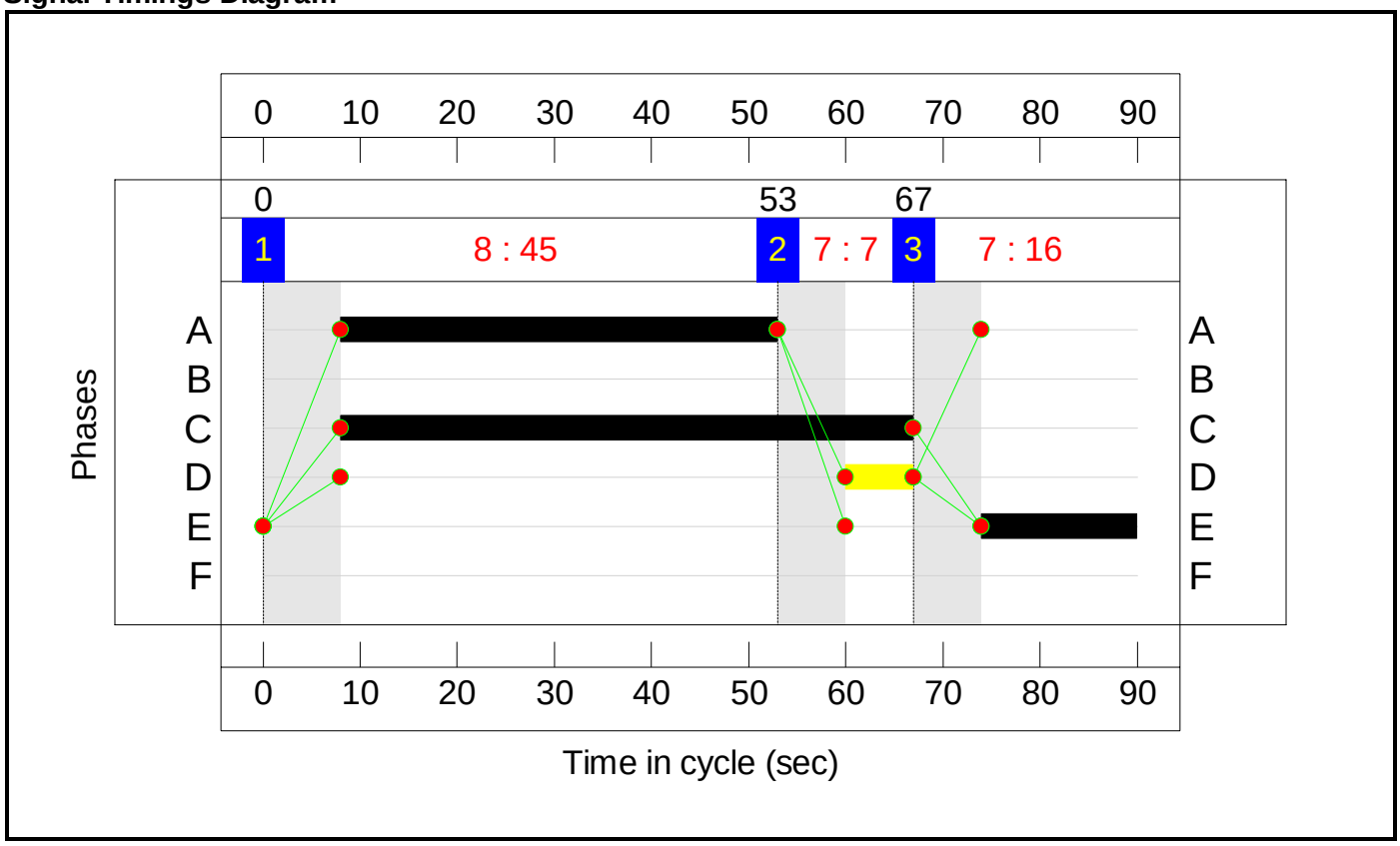
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	45	7	16
Change Point	0	53	67

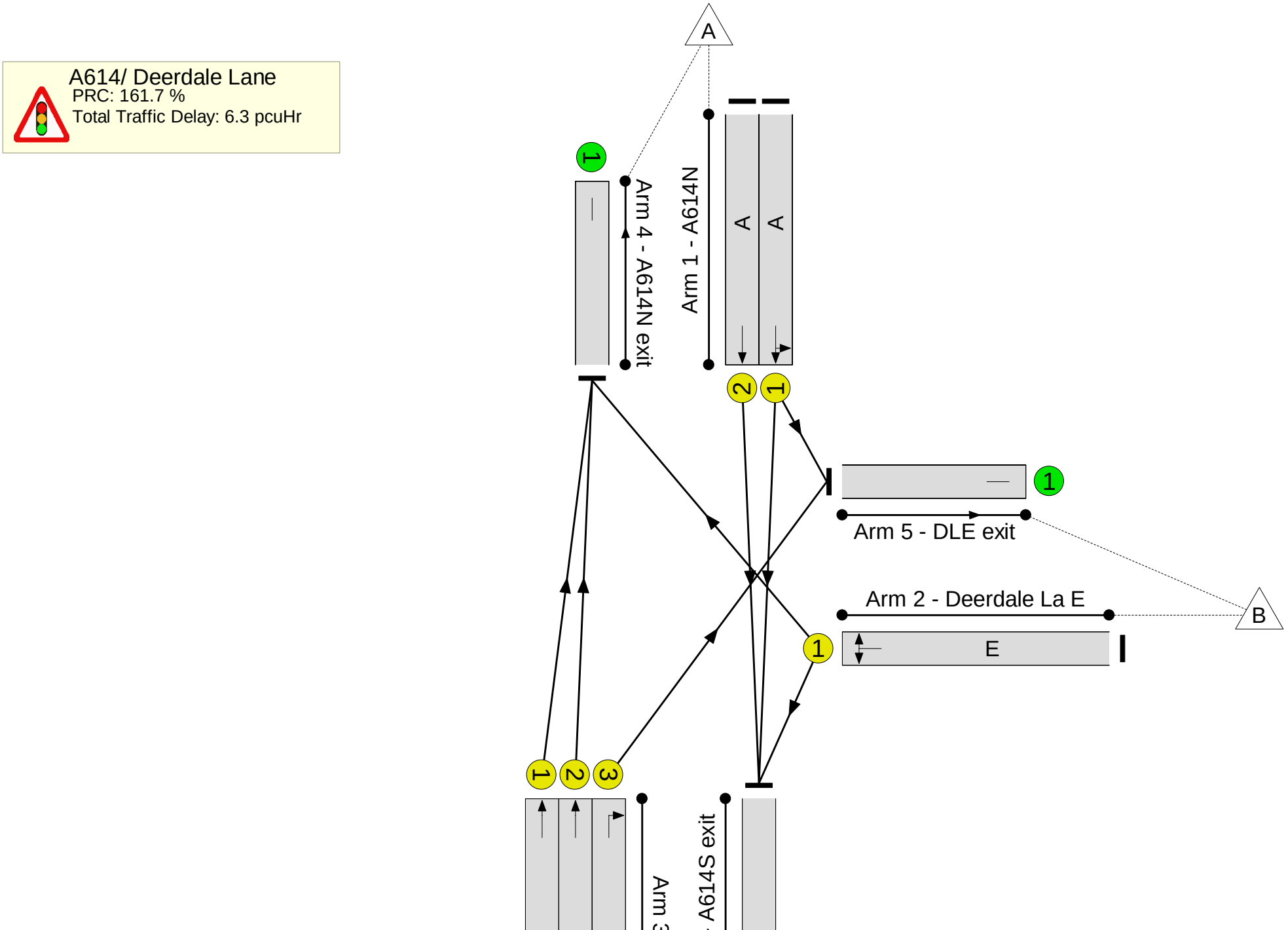
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 161.7 %
Total Traffic Delay: 6.3 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.4%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.4%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	45	-	334	1900	971	34.4%
1/2	A614N Ahead	U	N/A	N/A	A		1	45	-	333	1900	971	34.3%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	16	-	115	1800	340	33.8%
3/1	A614S Ahead	U	N/A	N/A	C		1	59	-	304	1900	1267	24.0%
3/2	A614S Ahead	U	N/A	N/A	C		1	59	-	303	1900	1267	23.9%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	52	1800	160	32.5%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	666	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**5.0**	**1.3**	**0.0**	**6.3**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**5.0**	**1.3**	**0.0**	**6.3**	**-**	**-**	**-**	**-**
1/1	334	334	-	-	-	1.2	0.3	-	1.5	15.9	4.9	0.3	5.2
1/2	333	333	-	-	-	1.2	0.3	-	1.5	15.9	4.9	0.3	5.2
2/1	115	115	-	-	-	1.0	0.3	-	1.3	39.6	2.5	0.3	2.7
3/1	304	304	-	-	-	0.5	0.2	-	0.7	7.8	3.0	0.2	3.1
3/2	303	303	-	-	-	0.5	0.2	-	0.7	7.8	2.9	0.2	3.1
3/3	52	52	-	-	-	0.6	0.2	-	0.8	55.1	1.2	0.2	1.5
4/1	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	110	110	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	666	666	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 161.7
PRC Over All Lanes (%): 161.7

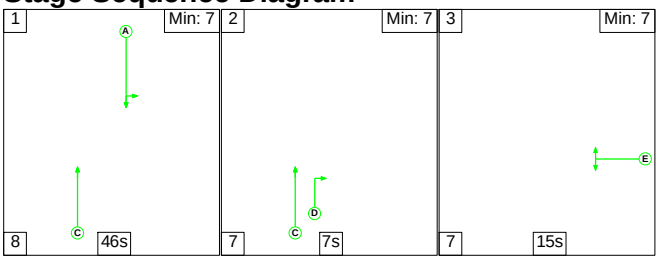
Total Delay for Signalled Lanes (pcuHr): 6.32
Total Delay Over All Lanes(pcuHr): 6.32

Cycle Time (s): 90

Full Input Data And Results

Scenario 8: 'op2037' (FG8: 'op2037', Plan 1: 'normal')

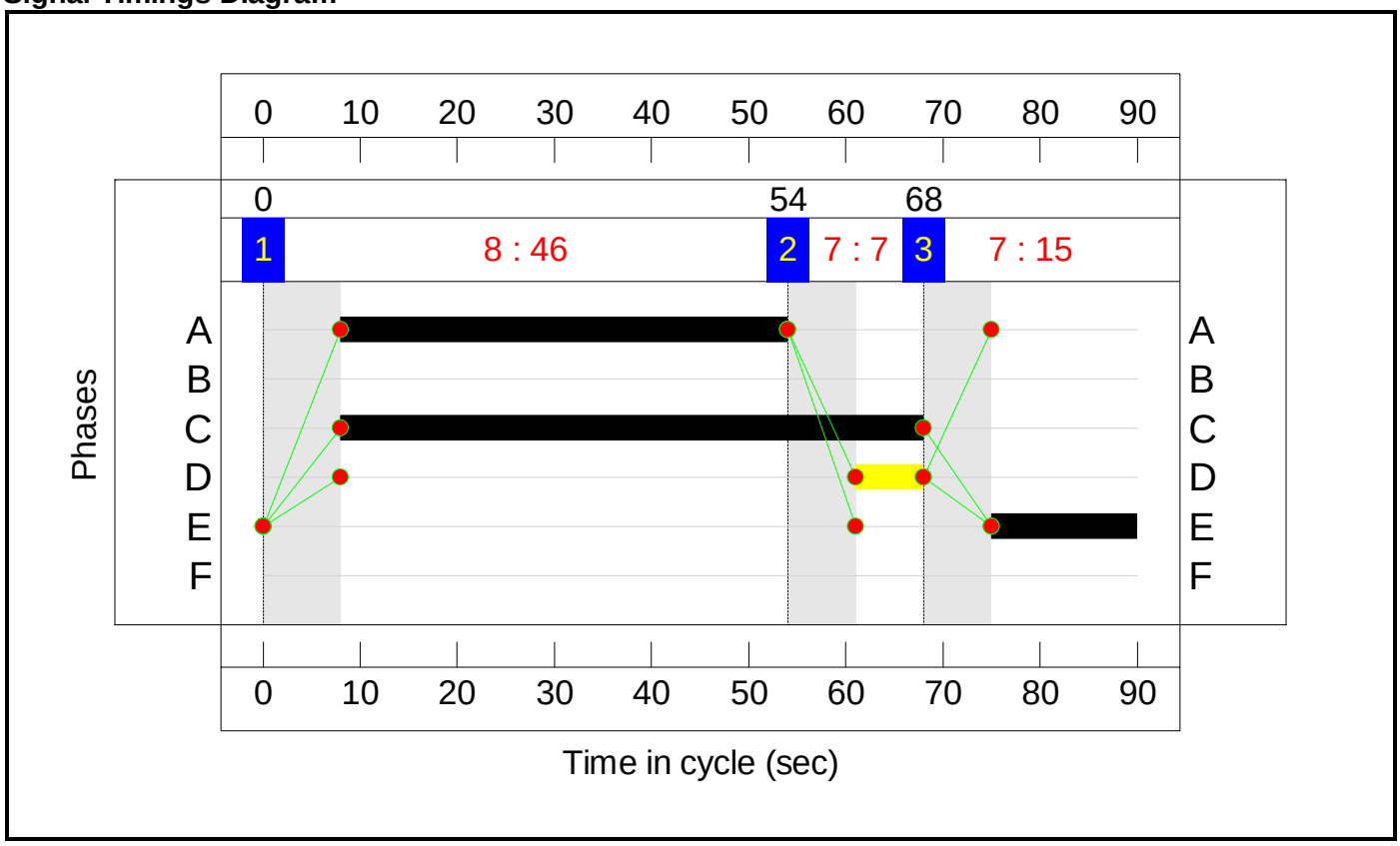
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	46	7	15
Change Point	0	54	68

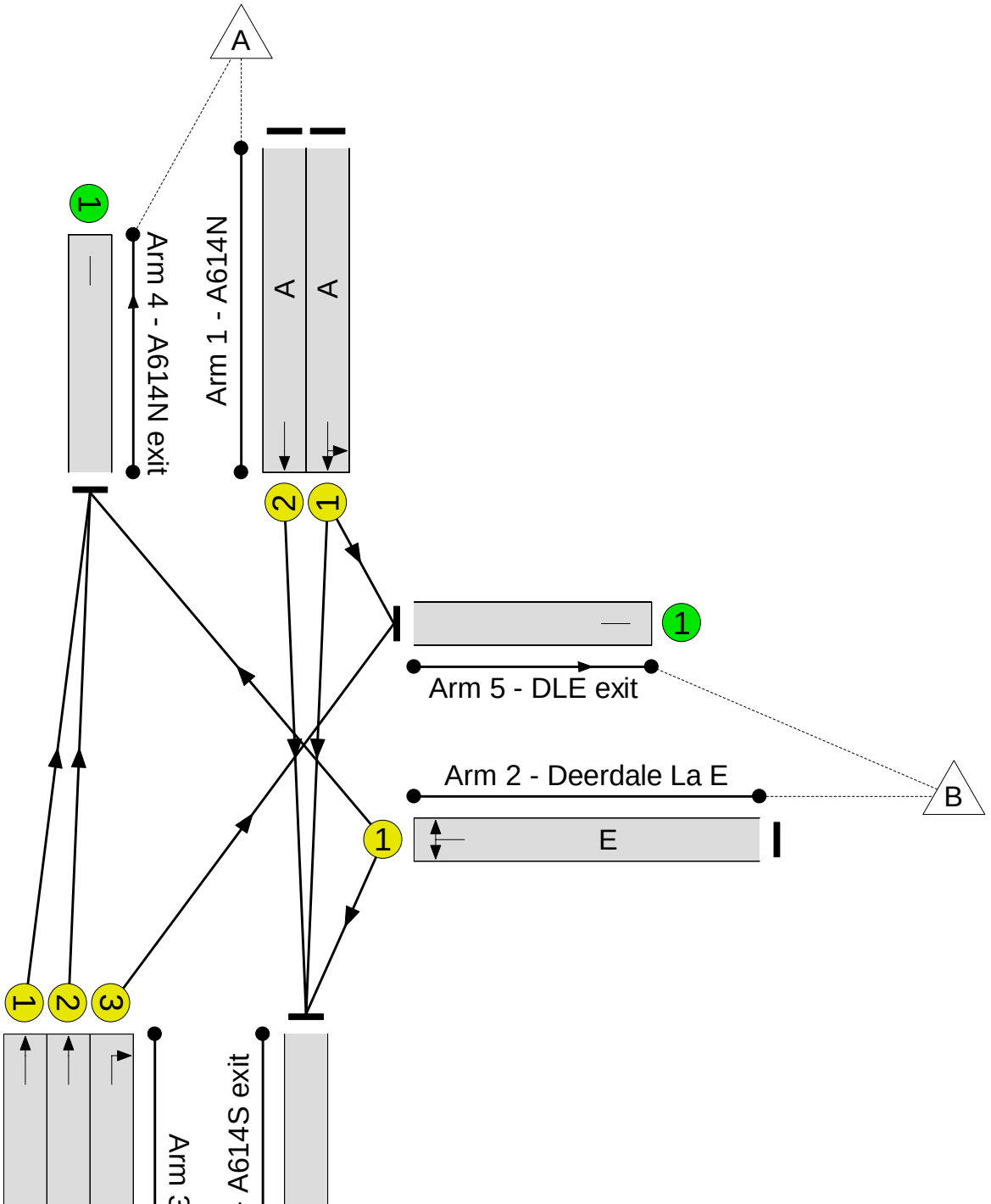
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 2518.2 %
Total Traffic Delay: 0.5 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	46	-	32	1900	992	3.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	46	-	34	1900	992	3.4%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	15	-	11	1800	320	3.4%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	30	1900	1288	2.3%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	29	1900	1288	2.3%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	5	1800	160	3.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	65	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	11	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	65	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
1/1	32	32	-	-	-	0.1	0.0	-	0.1	12.4	0.4	0.0	0.4
1/2	34	34	-	-	-	0.1	0.0	-	0.1	12.4	0.4	0.0	0.4
2/1	11	11	-	-	-	0.1	0.0	-	0.1	36.7	0.2	0.0	0.2
3/1	30	30	-	-	-	0.0	0.0	-	0.1	6.3	0.2	0.0	0.3
3/2	29	29	-	-	-	0.0	0.0	-	0.1	6.3	0.2	0.0	0.2
3/3	5	5	-	-	-	0.1	0.0	-	0.1	49.4	0.1	0.0	0.1
4/1	65	65	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	11	11	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	65	65	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 2518.2
PRC Over All Lanes (%): 2518.2

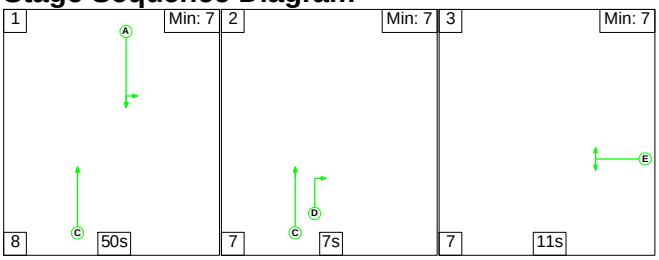
Total Delay for Signalled Lanes (pcuHr): 0.51
Total Delay Over All Lanes(pcuHr): 0.51

Cycle Time (s): 90

Full Input Data And Results

Scenario 9: 'am2037 final' (FG9: 'am2037 final', Plan 1: 'normal')

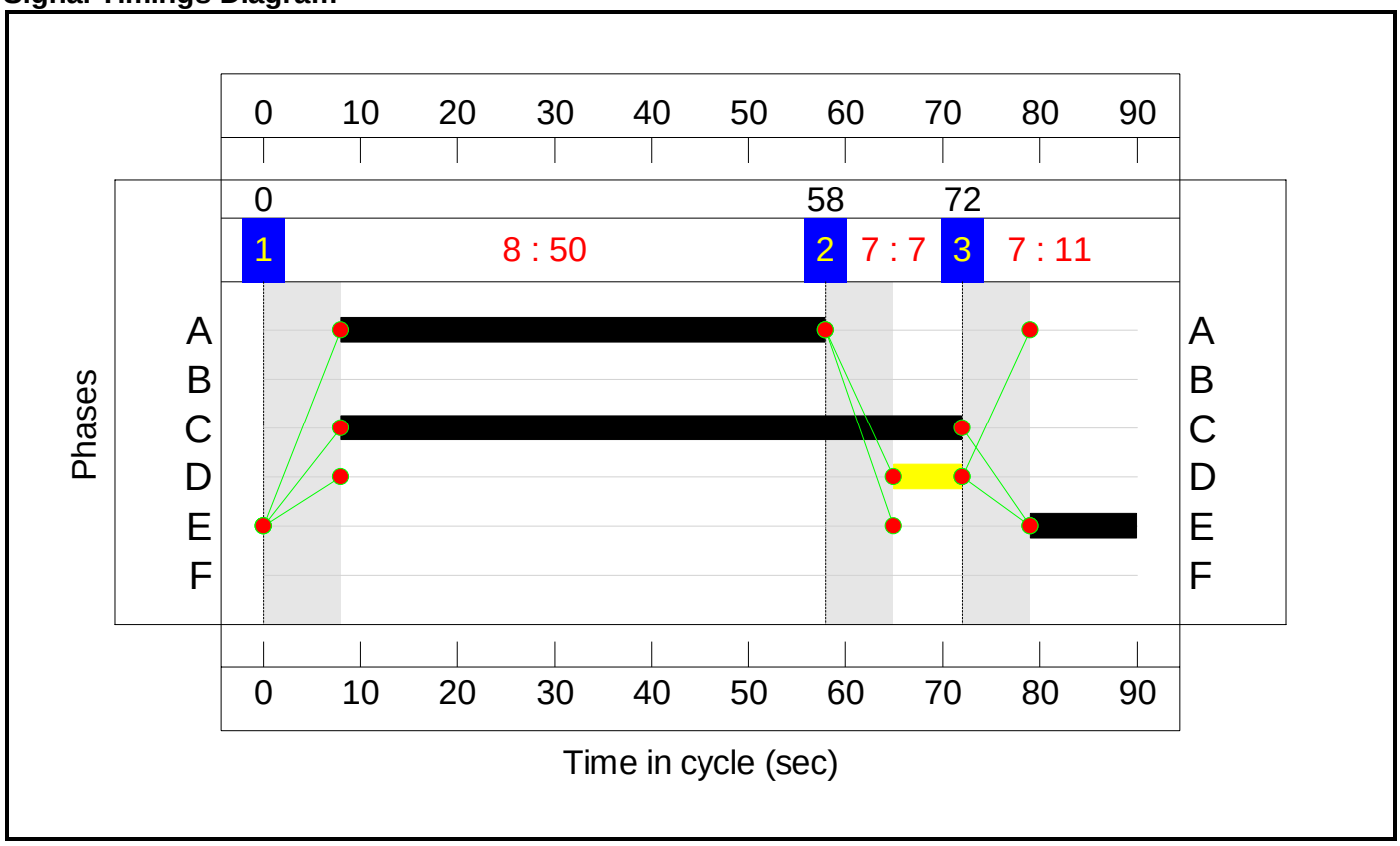
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	50	7	11
Change Point	0	58	72

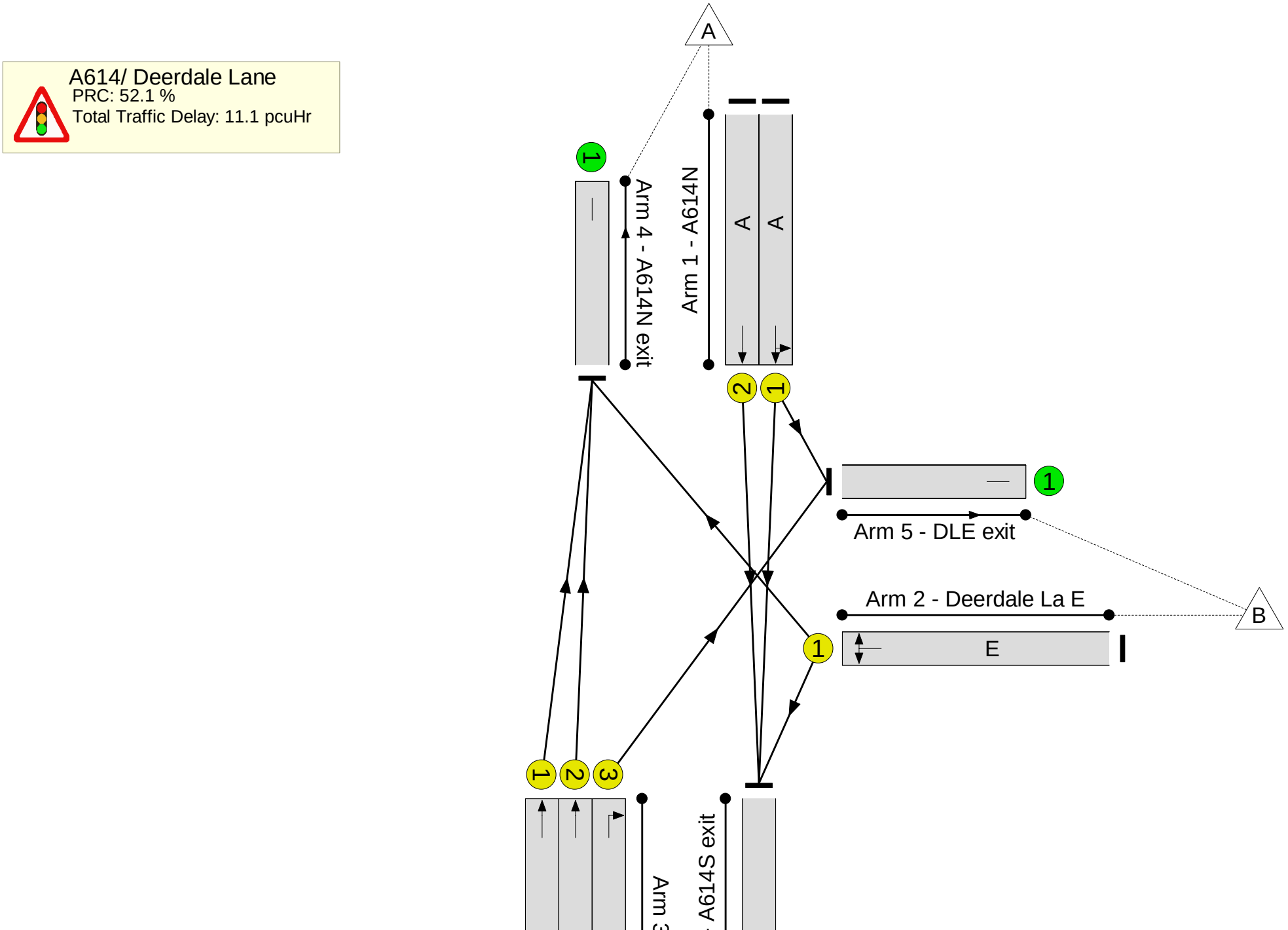
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 52.1 %
Total Traffic Delay: 11.1 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.2%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	50	-	637	1900	1077	59.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	50	-	637	1900	1077	59.2%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	11	-	137	1800	240	57.1%
3/1	A614S Ahead	U	N/A	N/A	C		1	64	-	505	1900	1372	36.8%
3/2	A614S Ahead	U	N/A	N/A	C		1	64	-	504	1900	1372	36.7%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	74	1800	160	46.3%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	1072	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	178	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1244	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**8.0**	**3.1**	**0.0**	**11.1**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**8.0**	**3.1**	**0.0**	**11.1**	**-**	**-**	**-**	**-**
1/1	637	637	-	-	-	2.2	0.7	-	3.0	16.8	10.3	0.7	11.0
1/2	637	637	-	-	-	2.2	0.7	-	3.0	16.8	10.3	0.7	11.0
2/1	137	137	-	-	-	1.4	0.7	-	2.0	53.9	3.2	0.7	3.9
3/1	505	505	-	-	-	0.7	0.3	-	1.0	6.8	4.8	0.3	5.1
3/2	504	504	-	-	-	0.7	0.3	-	1.0	6.8	4.8	0.3	5.1
3/3	74	74	-	-	-	0.8	0.4	-	1.2	59.7	1.7	0.4	2.2
4/1	1072	1072	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	178	178	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1244	1244	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 52.1
PRC Over All Lanes (%): 52.1

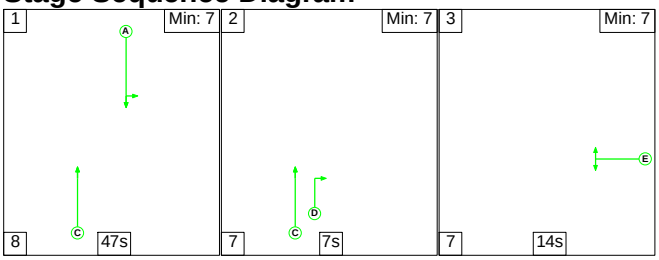
Total Delay for Signalled Lanes (pcuHr): 11.13
Total Delay Over All Lanes(pcuHr): 11.13

Cycle Time (s): 90

Full Input Data And Results

Scenario 10: 'pm2037 final' (FG10: 'pm2037 final', Plan 1: 'normal')

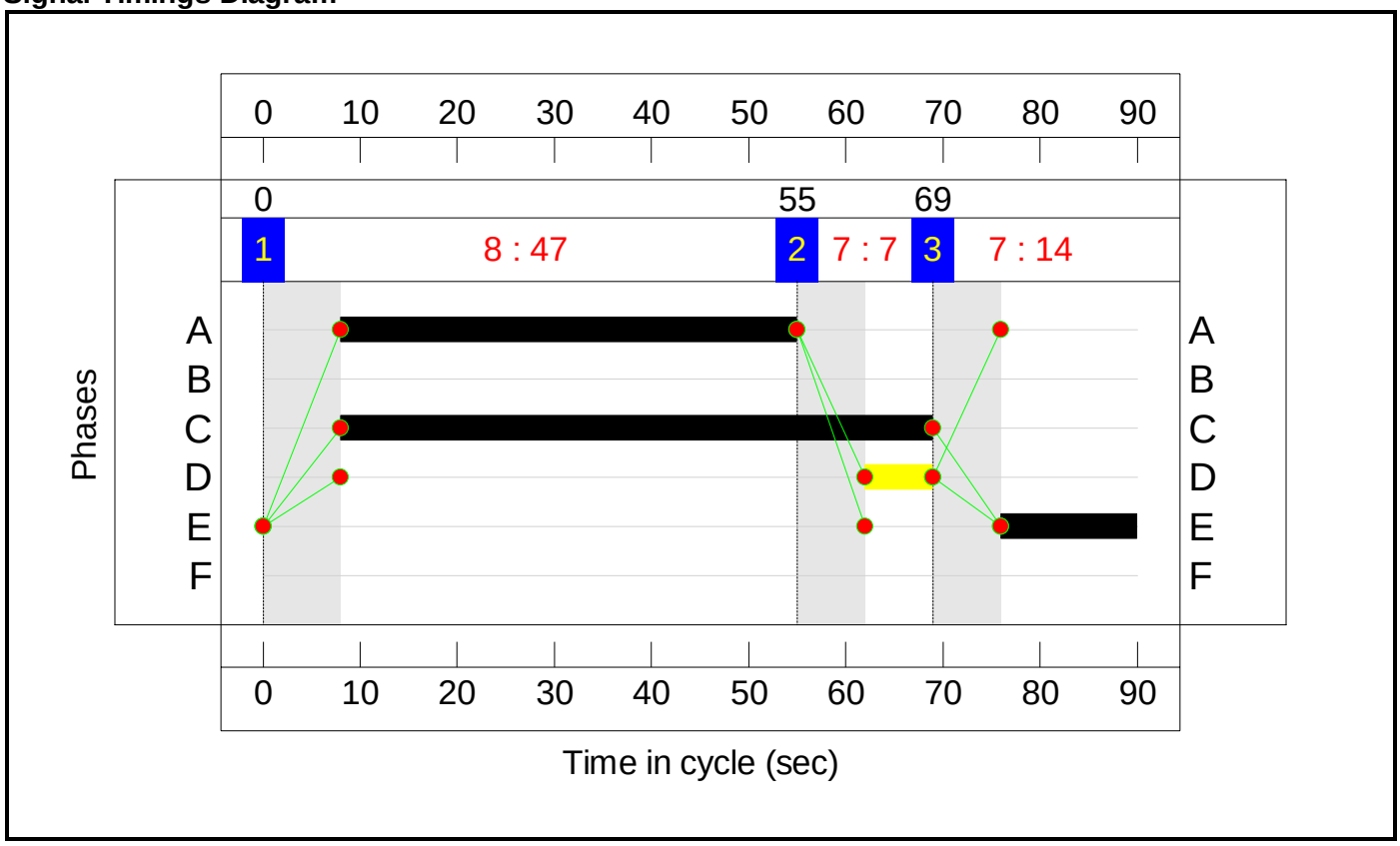
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	47	7	14
Change Point	0	55	69

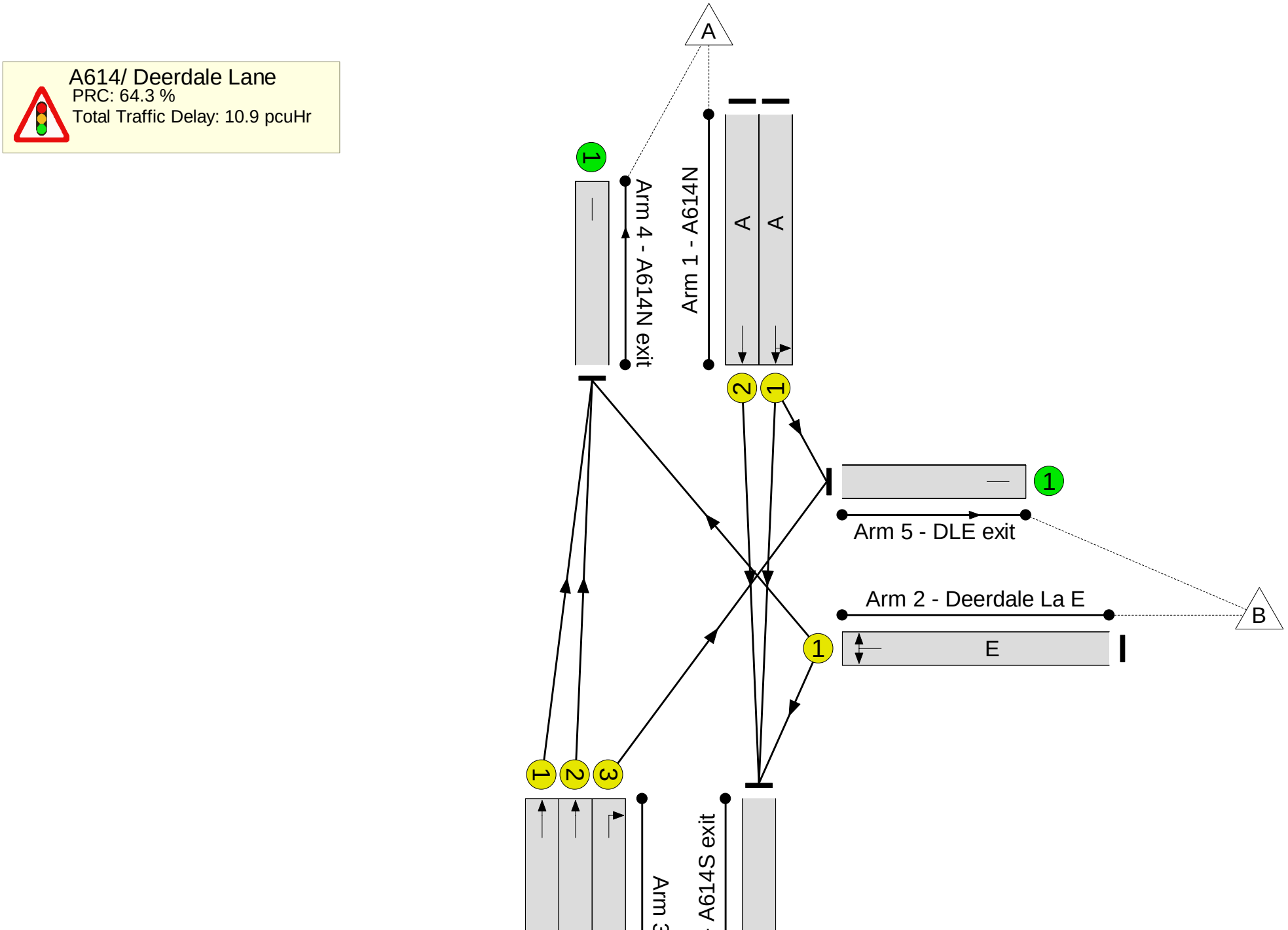
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 64.3 %
Total Traffic Delay: 10.9 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.8%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.8%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	47	-	554	1900	1013	54.7%
1/2	A614N Ahead	U	N/A	N/A	A		1	47	-	555	1900	1013	54.8%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	14	-	161	1800	300	53.7%
3/1	A614S Ahead	U	N/A	N/A	C		1	61	-	544	1900	1309	41.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	61	-	543	1900	1309	41.5%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	50	1800	160	31.3%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	1166	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	121	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1120	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**8.2**	**2.7**	**0.0**	**10.9**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**8.2**	**2.7**	**0.0**	**10.9**	**-**	**-**	**-**	**-**
1/1	554	554	-	-	-	2.1	0.6	-	2.7	17.7	9.1	0.6	9.7
1/2	555	555	-	-	-	2.1	0.6	-	2.7	17.8	9.1	0.6	9.7
2/1	161	161	-	-	-	1.5	0.6	-	2.1	47.2	3.7	0.6	4.2
3/1	544	544	-	-	-	0.9	0.4	-	1.3	8.5	5.9	0.4	6.2
3/2	543	543	-	-	-	0.9	0.4	-	1.3	8.4	5.9	0.4	6.2
3/3	50	50	-	-	-	0.5	0.2	-	0.8	54.8	1.2	0.2	1.4
4/1	1166	1166	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	121	121	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1120	1120	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 64.3
PRC Over All Lanes (%): 64.3

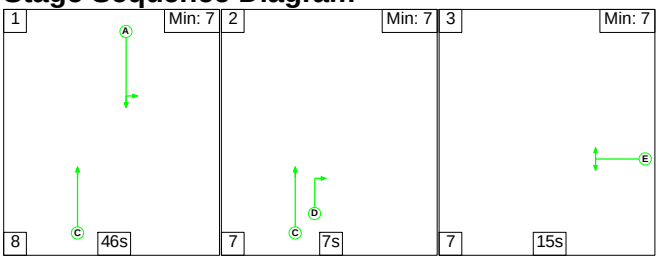
Total Delay for Signalled Lanes (pcuHr): 10.89
Total Delay Over All Lanes(pcuHr): 10.89

Cycle Time (s): 90

Full Input Data And Results

Scenario 11: 'ip2037 final' (FG11: 'ip2037 final', Plan 1: 'normal')

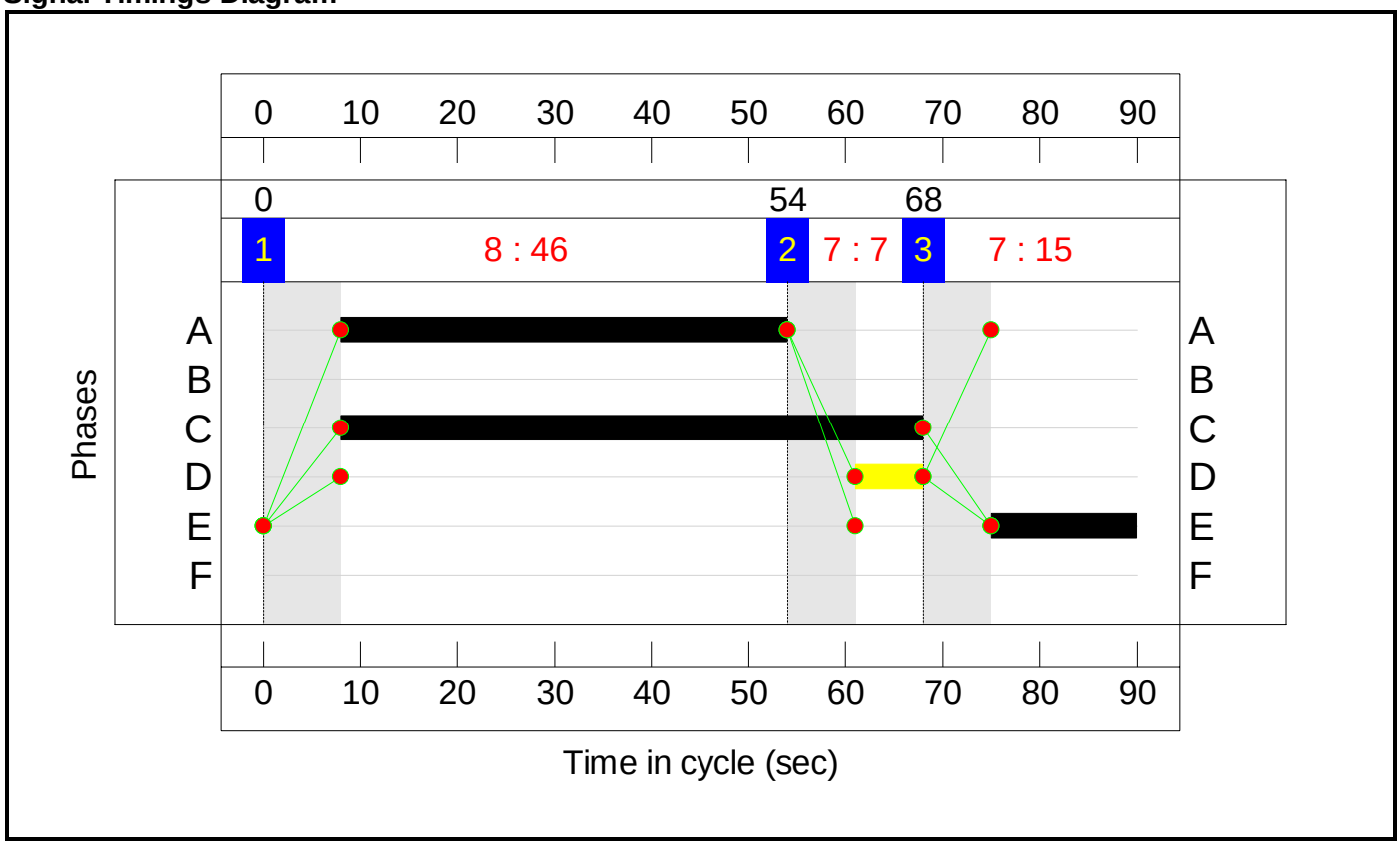
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	46	7	15
Change Point	0	54	68

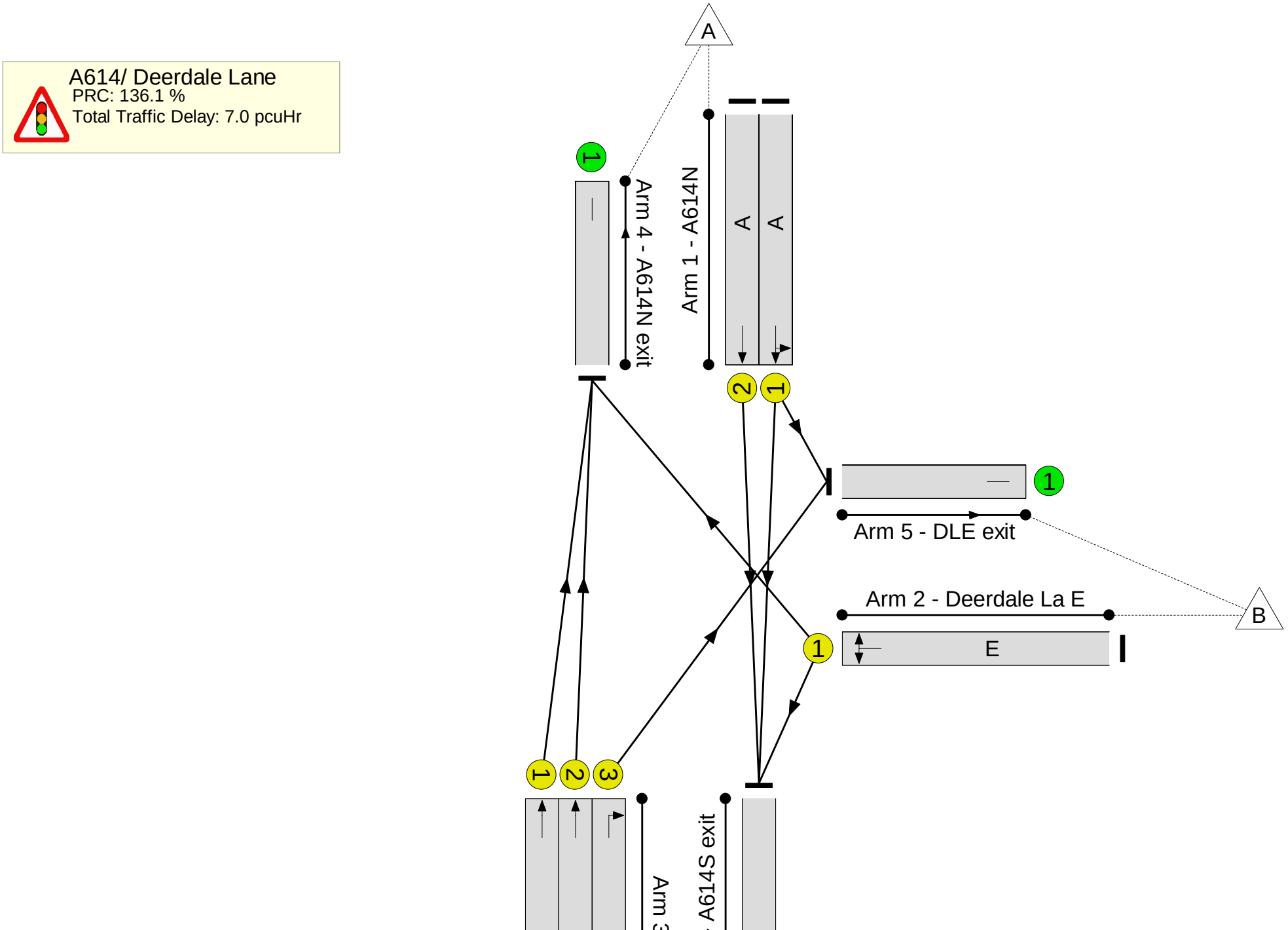
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 136.1 %
Total Traffic Delay: 7.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**38.1%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**38.1%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	46	-	378	1900	992	38.1%
1/2	A614N Ahead	U	N/A	N/A	A		1	46	-	378	1900	992	38.1%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	15	-	122	1800	320	38.1%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	344	1900	1288	26.7%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	343	1900	1288	26.6%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	53	1800	160	33.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	751	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	117	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	750	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**5.5**	**1.5**	**0.0**	**7.0**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**5.5**	**1.5**	**0.0**	**7.0**	**-**	**-**	**-**	**-**
1/1	378	378	-	-	-	1.3	0.3	-	1.7	15.8	5.6	0.3	5.9
1/2	378	378	-	-	-	1.3	0.3	-	1.7	15.8	5.6	0.3	5.9
2/1	122	122	-	-	-	1.1	0.3	-	1.4	41.7	2.7	0.3	3.0
3/1	344	344	-	-	-	0.5	0.2	-	0.7	7.6	3.3	0.2	3.5
3/2	343	343	-	-	-	0.5	0.2	-	0.7	7.6	3.3	0.2	3.5
3/3	53	53	-	-	-	0.6	0.2	-	0.8	55.3	1.2	0.2	1.5
4/1	751	751	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	117	117	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	750	750	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 136.1
PRC Over All Lanes (%): 136.1

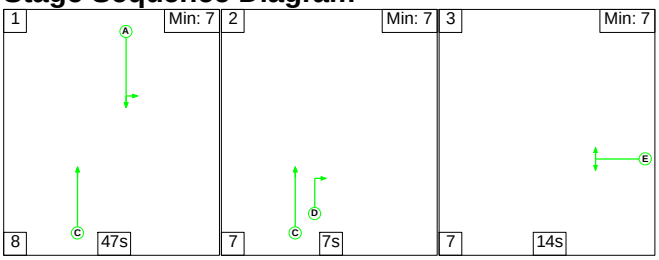
Total Delay for Signalled Lanes (pcuHr): 6.99
Total Delay Over All Lanes(pcuHr): 6.99

Cycle Time (s): 90

Full Input Data And Results

Scenario 12: 'op2037 final' (FG12: 'op2037 final', Plan 1: 'normal')

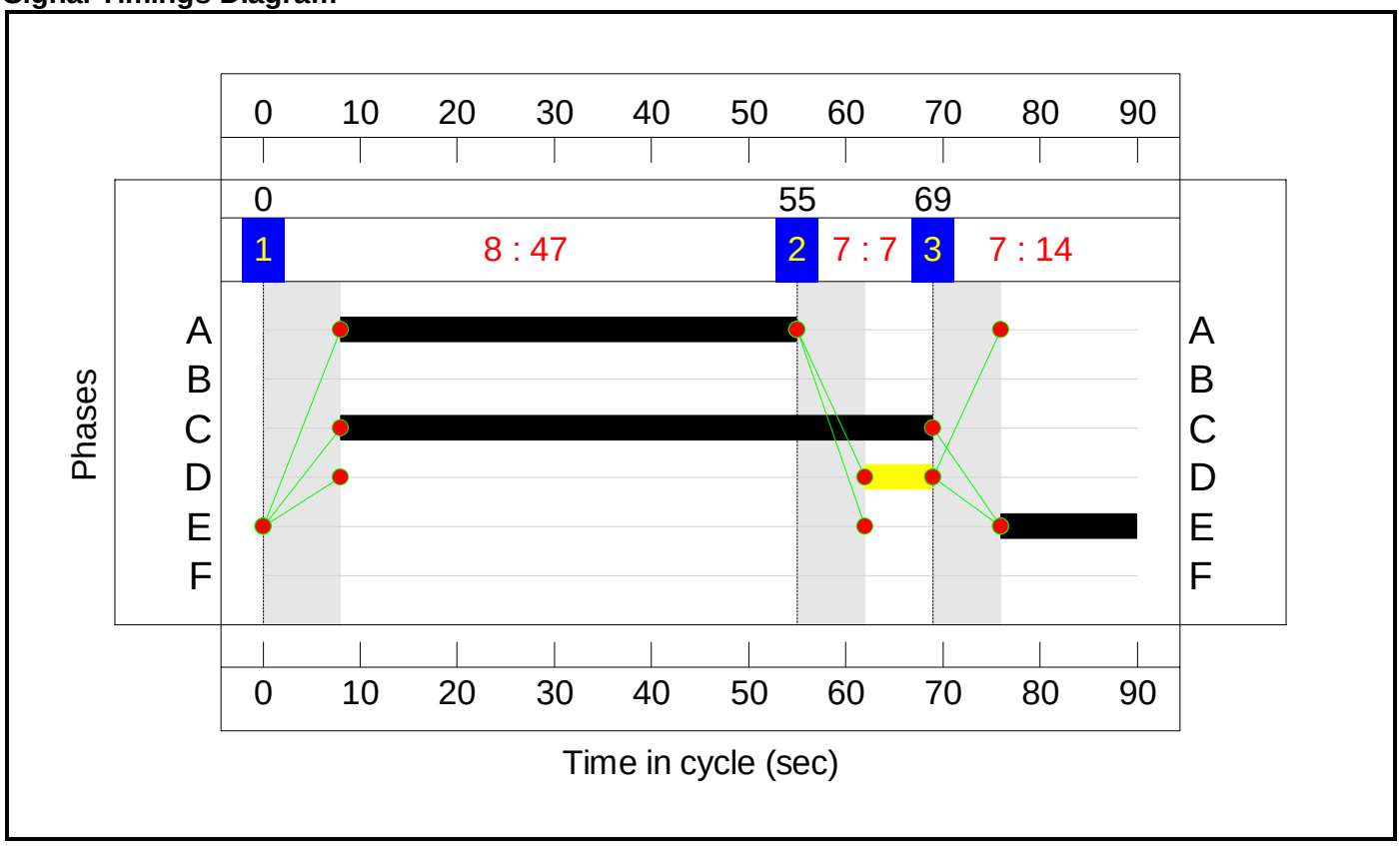
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	47	7	14
Change Point	0	55	69

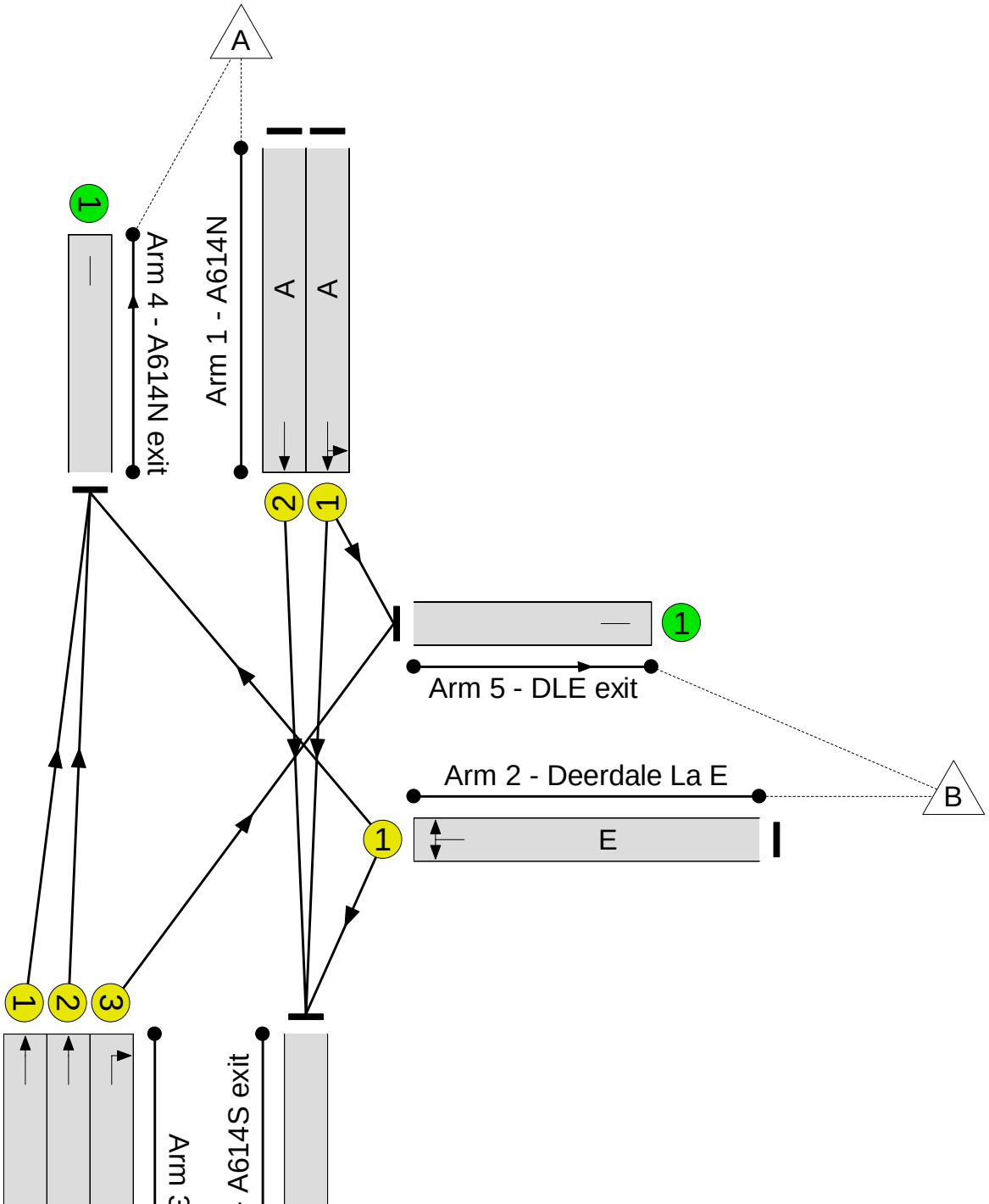
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Deerdale Lane
PRC: 2300.0 %
Total Traffic Delay: 0.5 pcuHr



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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.8%**
A614/ Deerdale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.8%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	47	-	36	1900	1013	3.6%
1/2	A614N Ahead	U	N/A	N/A	A		1	47	-	38	1900	1013	3.8%
2/1	Deerdale La E Right Left	U	N/A	N/A	E		1	14	-	11	1800	300	3.7%
3/1	A614S Ahead	U	N/A	N/A	C		1	61	-	34	1900	1309	2.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	61	-	33	1900	1309	2.5%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	5	1800	160	3.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
5/1	DLE exit	U	N/A	N/A	-		-	-	-	11	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	73	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: A614/ Deerdale Lane - minor moves removed 2 lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
A614/ Deerdale Lane	**-**	**-**	**0**	**0**	**0**	**0.4**	**0.1**	**0.0**	**0.5**	**-**	**-**	**-**	**-**
1/1	36	36	-	-	-	0.1	0.0	-	0.1	11.9	0.4	0.0	0.4
1/2	38	38	-	-	-	0.1	0.0	-	0.1	11.9	0.4	0.0	0.5
2/1	11	11	-	-	-	0.1	0.0	-	0.1	37.9	0.2	0.0	0.2
3/1	34	34	-	-	-	0.0	0.0	-	0.1	5.9	0.3	0.0	0.3
3/2	33	33	-	-	-	0.0	0.0	-	0.1	5.9	0.3	0.0	0.3
3/3	5	5	-	-	-	0.1	0.0	-	0.1	49.4	0.1	0.0	0.1
4/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	11	11	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

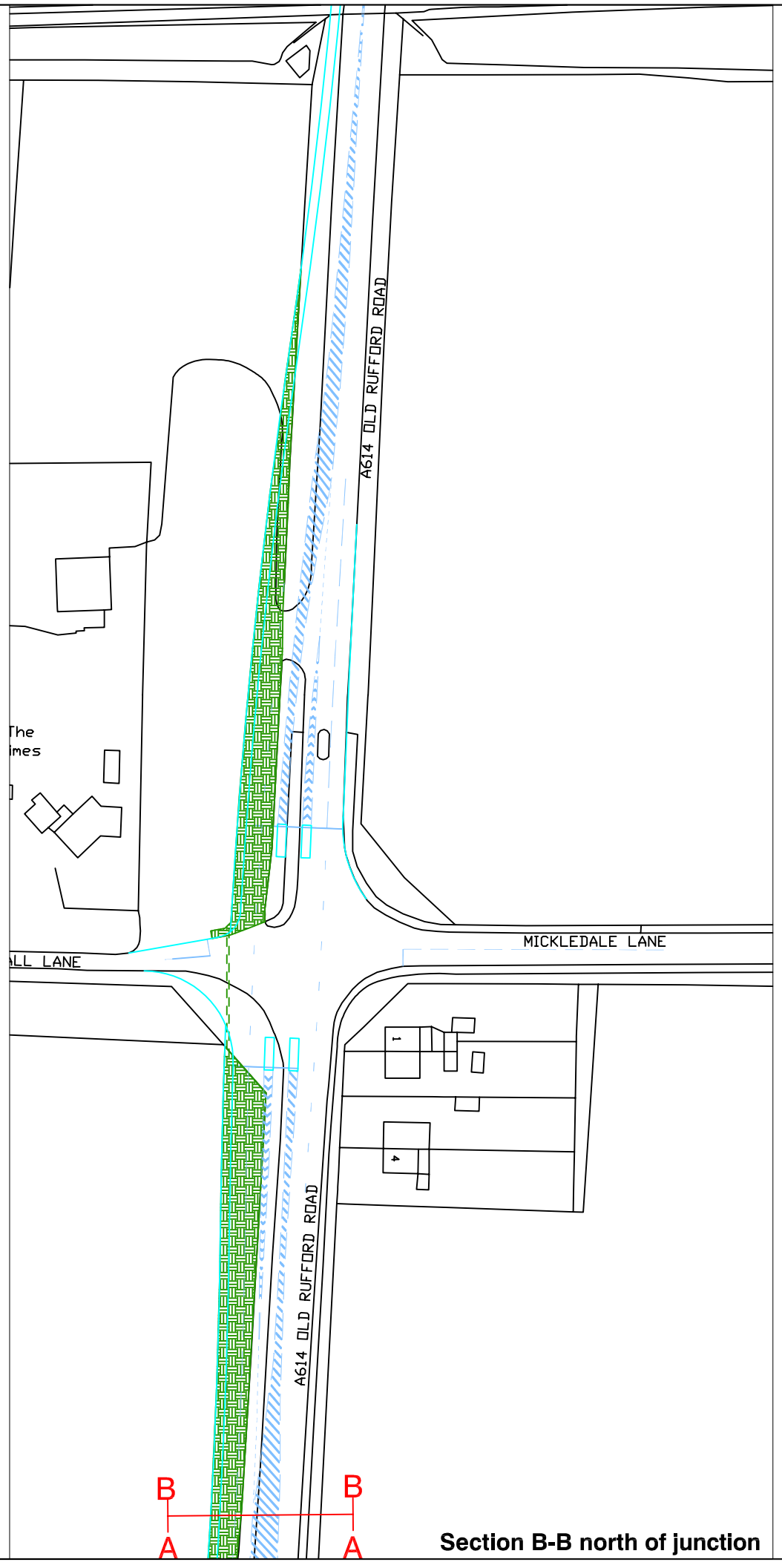
C1 - A614/ Deerdale Lane

PRC for Signalled Lanes (%): 2300.0
PRC Over All Lanes (%): 2300.0

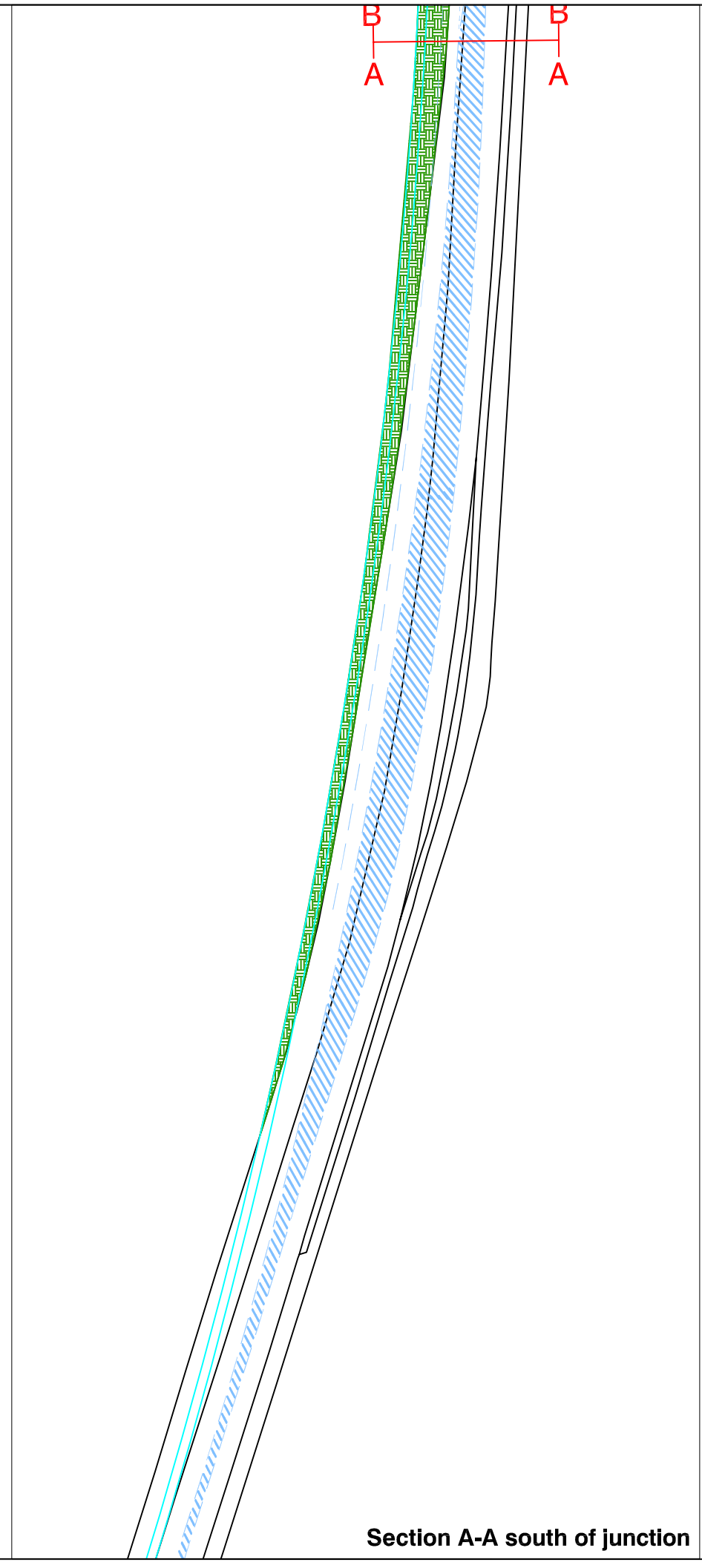
Total Delay for Signalled Lanes (pcuHr): 0.54
Total Delay Over All Lanes(pcuHr): 0.54

Cycle Time (s): 90

Appendix I – Mickledale Lane Scheme Drawing and PICADY / LINSIG Output



Section B-B north of junction



Section A-A south of junction

NORTH

KEY:

- Existing kerblines
- Proposed kerblines
- Proposed lining
- Land required beyond Highway Boundary (approx. 2445 sq.m)

Rev Status	Description	Drawn	Ch'kd	Auth	Date

Project

A614/ A617 Bilsthorpe Junction Improvements

Property No.	Project No.
	HW20949/CN1800924

Title

A614/ Mickledale Lane proposed traffic signals 2+2 OS ref: 463755/360943

Scale	Drawn	Date
1/1250 @A3	rr	Dec 2017
	Ch'kd: cfa	Date: Jan 2018
	Auth	Traced

Drawing No. HW20949/4/TS101 Rev

via in partnership with Nottinghamshire County Council
www.viaem.co.uk | Tel 01623 873873
Bilsthorpe Depot, Bilsthorpe Business Park, Bils
Nottinghamshire NG22 8ST

Via East Midlands Limited,Registered in England no.09903846

Mar 06,2019 - 5:42pm I:\Highways\Design and Construction\Roads and Highways\Projects18-19\20000\20949 A614 Corridor\Signals\CAD\A614-A617 bigger junctions os base.dwg

A3

Do Minimum (DM)

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896

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

Filename: J1 A614-mickle existing.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\3-mick
Report generation date: 15/04/2019 14:26:52

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final, AM
»2037 final, PM
»2037 final, IP
»2037 final, OP

Summary of junction performance

	AM								PM								
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Que (PC
2023																	
Stream B-CD	0.6	3.0	13.53	0.39	B	1.86	A	1 % [Stream B-AD]	0.5	2.0	11.20	0.32	B	2.00	A	1 % [Stream B-AD]	0.2
Stream B-AD	0.4	1.5	33.85	0.26	D				0.3	1.3	33.31	0.22	D				0.2
Stream A-BCD	0.0	0.5	8.59	0.00	A				0.0	0.5	9.39	0.01	A				0.0
Stream D-ABC	0.0	0.5	19.59	0.03	C				0.0	~1	0.00	0.00	A				0.0
Stream C-ABD	0.2	0.5	10.01	0.17	B				0.6	2.7	12.35	0.36	B				0.2
2037																	
Stream B-CD	0.7	3.4	14.57	0.41	B	1.99	A	-2 % [Stream B-AD]	0.5	2.2	11.61	0.33	B	2.07	A	-1 % [Stream B-AD]	0.3
Stream B-AD	0.4	1.3	39.12	0.29	E				0.3	1.4	36.11	0.24	E				0.2
Stream A-BCD	0.0	0.5	8.77	0.00	A				0.0	0.5	9.52	0.01	A				0.0
Stream D-ABC	0.0	0.5	21.43	0.04	C				0.0	~1	0.00	0.00	A				0.0
Stream C-ABD	0.2	0.9	10.34	0.18	B				0.6	2.8	12.66	0.37	B				0.2
2037 final																	
Stream B-CD	1.2	6.2	25.34	0.55	D	3.47	A	-13 % [Stream B-AD]	0.7	3.5	16.45	0.42	C	2.90	A	-12 % [Stream B-AD]	0.3
Stream B-AD	1.1	4.7	95.50	0.54	F				0.8	3.0	80.24	0.45	F				0.2
Stream A-BCD	0.0	0.5	9.33	0.00	A				0.0	0.5	10.55	0.01	B				0.0
Stream D-ABC	0.1	0.5	31.98	0.05	D				0.0	~1	0.00	0.00	A				0.0
Stream C-ABD	0.3	1.2	11.66	0.20	B				0.7	3.3	14.51	0.41	B				0.2

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

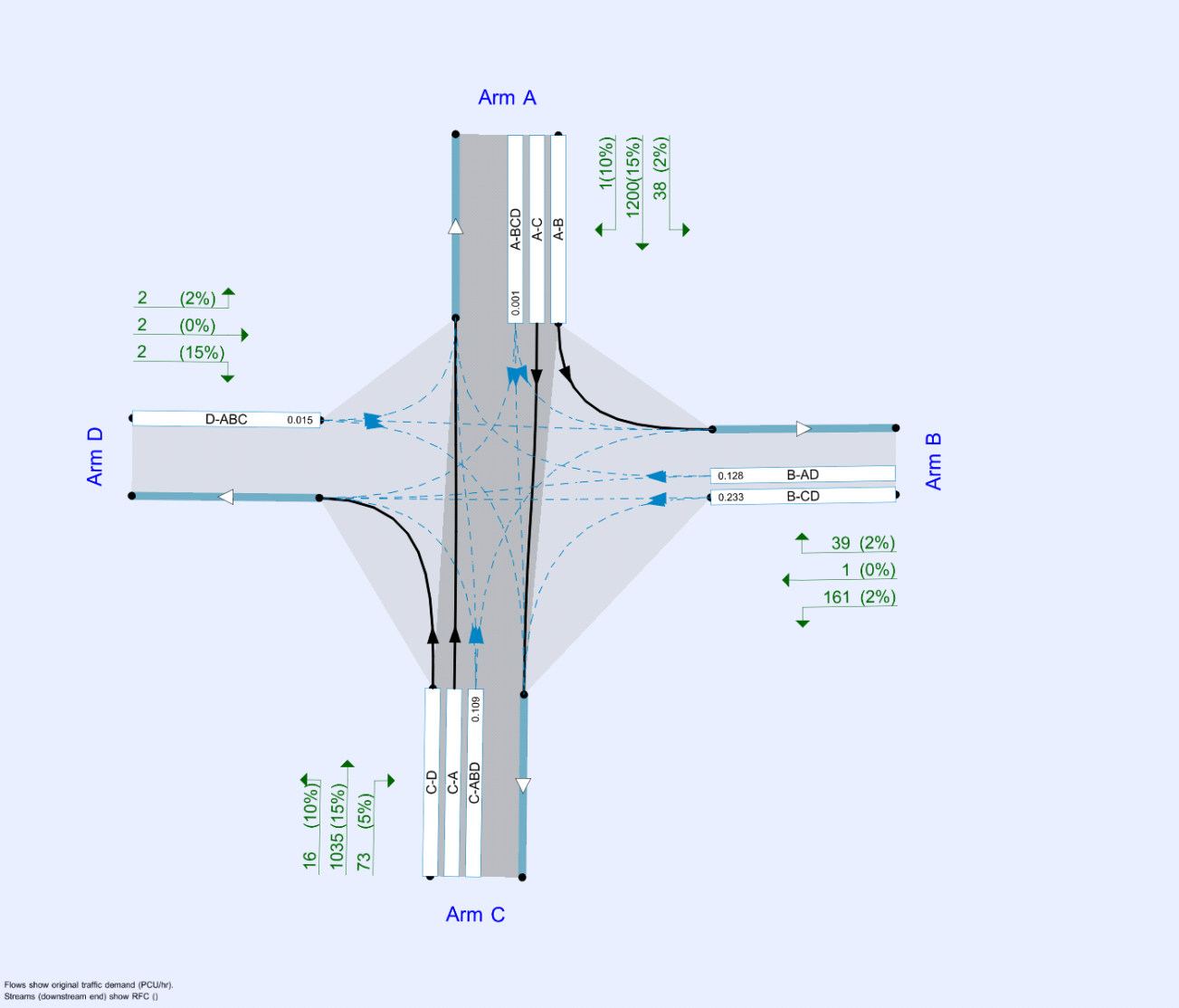
File summary

File Description

Title	A614/ A617 impts
Location	A614/ Mickledale Lane
Site number	
Date	22/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.86	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Stream B-AD

Arms

Arms

Arm	Name	Description	Arm type
A	A614N		Major
B	Mickledale Lane E		Minor
C	A614S		Major
D	Mickledale Lane W		Minor

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)
A	10.00		✓	3.00	150.0	✓	8.00
C	10.00		✓	3.00	150.0	✓	20.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare		10.00	8.00	5.00	3.90	3.70		1.00	60	85
D	One lane	3.00								150	65

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	718	-	-	-	-	-	-	0.230	0.328	0.230	-	-	-
1	B-A	538	0.081	0.205	0.205	-	-	-	0.129	0.292	-	0.205	0.205	0.102
1	B-C	768	0.097	0.246	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611	0.092	0.232	0.232	-	-	-	0.146	0.332	0.146	-	-	-
1	B-D, offside lane	538	0.081	0.205	0.205	-	-	-	0.129	0.292	0.129	-	-	-
1	C-B	718	0.230	0.230	0.328	-	-	-	-	-	-	-	-	-
1	D-A	665	-	-	-	-	-	-	0.213	-	0.084	-	-	-
1	D-B, nearside lane	560	0.134	0.134	0.304	-	-	-	0.213	0.213	0.084	-	-	-
1	D-B, offside lane	560	0.134	0.134	0.304	-	-	-	0.213	0.213	0.084	-	-	-
1	D-C	560	-	0.134	0.304	0.106	0.213	0.213	0.213	0.213	0.084	-	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1046	100.000
B		ONE HOUR	✓	192	100.000
C		ONE HOUR	✓	983	100.000
D		ONE HOUR	✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	33	1012	1
	B	35	0	156	1
	C	899	69	0	15
	D	2	2	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.39	13.53	0.6	3.0	B	144	216
B-AD	0.26	33.85	0.4	1.5	D	32	49
A-BCD	0.00	8.59	0.0	0.5	A	0.92	1
A-B						30	45
A-C						929	1393
D-ABC	0.03	19.59	0.0	0.5	C	6	8
C-ABD	0.17	10.01	0.2	0.5	B	63	95
C-D						14	21
C-A						825	1237

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	118	29	562	0.210	117	0.0	0.3	8.235	A
B-AD	27	7	275	0.097	26	0.0	0.1	14.755	B
A-BCD	0.75	0.19	543	0.001	0.75	0.0	0.0	7.300	A
A-B	25	6			25				
A-C	762	190			762				
D-ABC	5	1	336	0.013	4	0.0	0.0	11.440	B
C-ABD	52	13	537	0.097	52	0.0	0.1	7.774	A
C-D	11	3			11				
C-A	677	169			677				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	141	35	517	0.272	140	0.3	0.4	9.736	A
B-AD	32	8	222	0.144	32	0.1	0.2	19.271	C
A-BCD	0.90	0.22	509	0.002	0.90	0.0	0.0	7.794	A
A-B	30	7			30				
A-C	910	227			910				
D-ABC	5	1	281	0.019	5	0.0	0.0	13.752	B
C-ABD	62	16	502	0.124	62	0.1	0.1	8.584	A
C-D	13	3			13				
C-A	808	202			808				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	172	43	445	0.388	171	0.4	0.6	13.375	B
B-AD	39	10	148	0.264	38	0.2	0.3	33.371	D
A-BCD	1	0.28	462	0.002	1	0.0	0.0	8.593	A
A-B	36	9			36				
A-C	1114	279			1114				
D-ABC	7	2	200	0.033	7	0.0	0.0	19.552	C
C-ABD	76	19	453	0.168	76	0.1	0.2	10.000	A
C-D	17	4			17				
C-A	990	247			990				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	172	43	444	0.389	172	0.6	0.6	13.528	B
B-AD	39	10	147	0.264	39	0.3	0.4	33.852	D
A-BCD	1	0.28	462	0.002	1	0.0	0.0	8.595	A
A-B	36	9			36				
A-C	1114	279			1114				
D-ABC	7	2	200	0.033	7	0.0	0.0	19.590	C
C-ABD	76	19	453	0.168	76	0.2	0.2	10.012	B
C-D	17	4			17				
C-A	990	247			990				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	141	35	516	0.273	142	0.6	0.4	9.831	A
B-AD	32	8	222	0.144	33	0.4	0.2	19.482	C
A-BCD	0.90	0.22	509	0.002	0.90	0.0	0.0	7.797	A
A-B	30	7			30				
A-C	910	227			910				
D-ABC	5	1	281	0.019	5	0.0	0.0	13.773	B
C-ABD	62	16	502	0.124	62	0.2	0.1	8.598	A
C-D	13	3			13				
C-A	808	202			808				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	118	29	561	0.210	118	0.4	0.3	8.301	A
B-AD	27	7	274	0.097	27	0.2	0.1	14.849	B
A-BCD	0.75	0.19	543	0.001	0.75	0.0	0.0	7.303	A
A-B	25	6			25				
A-C	762	190			762				
D-ABC	5	1	335	0.013	5	0.0	0.0	11.457	B
C-ABD	52	13	537	0.097	52	0.1	0.1	7.793	A
C-D	11	3			11				
C-A	677	169			677				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.27	0.00	0.00	0.27	0.27			N/A	N/A
B-AD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-ABD	0.11	0.00	0.00	0.11	0.11			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.38	0.00	0.00	0.38	0.38			N/A	N/A
B-AD	0.17	0.00	0.00	0.17	0.17			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.02	0.02	0.26	0.48	0.50			N/A	N/A
C-ABD	0.15	0.00	0.00	0.15	0.15			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.63	0.03	0.26	0.63	0.63			N/A	N/A
B-AD	0.35	0.03	0.27	0.49	1.04			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.21	0.03	0.27	0.49	0.51			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.64	0.03	0.31	1.51	3.02			N/A	N/A
B-AD	0.36	0.03	0.33	1.20	1.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.21	0.03	0.28	0.50	0.52			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.39	0.03	0.27	0.48	0.51			N/A	N/A
B-AD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.15	0.00	0.00	0.15	0.15			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.27	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.11	0.03	0.25	0.46	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-ABD	0.11	0.00	0.00	0.11	0.11			N/A	N/A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		2.00	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	958	100.000
B		ONE HOUR	✓	169	100.000
C		ONE HOUR	✓	1095	100.000
D		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	58	898	2
	B	29	0	140	0
	C	937	154	0	4
	D	0	1	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.32	11.20	0.5	2.0	B	128	193
B-AD	0.22	33.31	0.3	1.3	D	27	40
A-BCD	0.01	9.39	0.0	0.5	A	2	3
A-B						53	80
A-C						824	1236
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.36	12.35	0.6	2.7	B	141	212
C-D						4	6
C-A						860	1290

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	586	0.180	105	0.0	0.2	7.619	A
B-AD	22	5	269	0.081	21	0.0	0.1	14.808	B
A-BCD	2	0.38	517	0.003	1	0.0	0.0	7.674	A
A-B	44	11			44				
A-C	676	169			676				
D-ABC	0	0	317	0.000	0	0.0	0.0	0.000	A
C-ABD	116	29	552	0.210	115	0.0	0.3	8.617	A
C-D	3	0.75			3				
C-A	705	176			705				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	126	31	546	0.230	126	0.2	0.3	8.727	A
B-AD	26	7	216	0.121	26	0.1	0.1	19.288	C
A-BCD	2	0.45	478	0.004	2	0.0	0.0	8.314	A
A-B	52	13			52				
A-C	807	202			807				
D-ABC	0	0	261	0.000	0	0.0	0.0	0.000	A
C-ABD	138	35	520	0.266	138	0.3	0.4	9.881	A
C-D	4	0.90			4				
C-A	842	211			842				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	154	39	483	0.319	153	0.3	0.5	11.120	B
B-AD	32	8	142	0.224	31	0.1	0.3	32.907	D
A-BCD	2	0.55	424	0.005	2	0.0	0.0	9.387	A
A-B	64	16			64				
A-C	989	247			989				
D-ABC	0	0	181	0.000	0	0.0	0.0	0.000	A
C-ABD	170	42	476	0.356	169	0.4	0.6	12.285	B
C-D	4	1			4				
C-A	1032	258			1032				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	154	39	482	0.320	154	0.5	0.5	11.197	B
B-AD	32	8	142	0.225	32	0.3	0.3	33.307	D
A-BCD	2	0.55	424	0.005	2	0.0	0.0	9.393	A
A-B	64	16			64				
A-C	989	247			989				
D-ABC	0	0	181	0.000	0	0.0	0.0	0.000	A
C-ABD	170	42	476	0.356	170	0.6	0.6	12.345	B
C-D	4	1			4				
C-A	1032	258			1032				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	126	31	545	0.231	127	0.5	0.3	8.778	A
B-AD	26	7	216	0.121	27	0.3	0.1	19.476	C
A-BCD	2	0.45	478	0.004	2	0.0	0.0	8.323	A
A-B	52	13			52				
A-C	807	202			807				
D-ABC	0	0	261	0.000	0	0.0	0.0	0.000	A
C-ABD	138	35	520	0.266	139	0.6	0.4	9.942	A
C-D	4	0.90			4				
C-A	842	211			842				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	585	0.180	106	0.3	0.2	7.667	A
B-AD	22	5	269	0.081	22	0.1	0.1	14.901	B
A-BCD	2	0.38	517	0.003	2	0.0	0.0	7.684	A
A-B	44	11			44				
A-C	676	169			676				
D-ABC	0	0	317	0.000	0	0.0	0.0	0.000	A
C-ABD	116	29	552	0.210	116	0.4	0.3	8.676	A
C-D	3	0.75			3				
C-A	705	176			705				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.22	0.00	0.00	0.22	0.22			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.30	0.00	0.00	0.30	0.30			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.38	0.00	0.00	0.38	0.38			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.47	0.03	0.26	0.47	0.50			N/A	N/A
B-AD	0.28	0.03	0.27	0.49	0.97			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.57	0.03	0.27	0.57	0.57			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.47	0.03	0.32	1.42	1.99			N/A	N/A
B-AD	0.29	0.03	0.31	0.99	1.29			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.58	0.03	0.32	1.47	2.69			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.31	0.00	0.00	0.31	0.31			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.39	0.00	0.00	0.39	0.39			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.23	0.00	0.00	0.23	0.23			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.28	0.00	0.00	0.28	0.28			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.51	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	43	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	645	100.000
B		ONE HOUR	✓	133	100.000
C		ONE HOUR	✓	696	100.000
D		ONE HOUR	✓	9	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	42	602	1
	B	36	0	94	3
	C	602	84	0	10
	D	2	2	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	10	2
	B	10	0	10	0
	C	10	10	0	5
	D	10	5	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.18	8.40	0.2	1.0	A	88	132
B-AD	0.14	16.02	0.2	0.5	C	34	51
A-BCD	0.00	6.90	0.0	0.5	A	0.92	1
A-B						39	58
A-C						552	829
D-ABC	0.03	12.67	0.0	0.5	B	8	12
C-ABD	0.17	8.56	0.2	0.5	A	77	116
C-D						9	14
C-A						552	829

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	72	18	644	0.112	71	0.0	0.1	6.895	A
B-AD	28	7	371	0.076	28	0.0	0.1	11.493	B
A-BCD	0.75	0.19	592	0.001	0.75	0.0	0.0	6.213	A
A-B	32	8			32				
A-C	453	113			453				
D-ABC	7	2	404	0.017	7	0.0	0.0	9.852	A
C-ABD	63	16	607	0.104	63	0.0	0.1	7.274	A
C-D	8	2			8				
C-A	453	113			453				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	617	0.139	86	0.1	0.2	7.446	A
B-AD	34	8	336	0.100	33	0.1	0.1	13.040	B
A-BCD	0.90	0.22	567	0.002	0.90	0.0	0.0	6.486	A
A-B	38	9			38				
A-C	541	135			541				
D-ABC	8	2	369	0.022	8	0.0	0.0	10.859	B
C-ABD	76	19	585	0.129	75	0.1	0.2	7.769	A
C-D	9	2			9				
C-A	541	135			541				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	576	0.183	105	0.2	0.2	8.384	A
B-AD	41	10	287	0.143	41	0.1	0.2	15.980	C
A-BCD	1	0.28	533	0.002	1	0.0	0.0	6.904	A
A-B	46	12			46				
A-C	663	166			663				
D-ABC	10	2	319	0.031	10	0.0	0.0	12.665	B
C-ABD	92	23	555	0.167	92	0.2	0.2	8.553	A
C-D	11	3			11				
C-A	663	166			663				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	576	0.183	105	0.2	0.2	8.396	A
B-AD	41	10	287	0.143	41	0.2	0.2	16.018	C
A-BCD	1	0.28	533	0.002	1	0.0	0.0	6.905	A
A-B	46	12			46				
A-C	663	166			663				
D-ABC	10	2	319	0.031	10	0.0	0.0	12.671	B
C-ABD	92	23	555	0.167	92	0.2	0.2	8.561	A
C-D	11	3			11				
C-A	663	166			663				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	616	0.140	86	0.2	0.2	7.463	A
B-AD	34	8	336	0.100	34	0.2	0.1	13.078	B
A-BCD	0.90	0.22	567	0.002	0.90	0.0	0.0	6.490	A
A-B	38	9			38				
A-C	541	135			541				
D-ABC	8	2	369	0.022	8	0.0	0.0	10.868	B
C-ABD	76	19	585	0.129	76	0.2	0.2	7.780	A
C-D	9	2			9				
C-A	541	135			541				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	72	18	644	0.112	72	0.2	0.1	6.917	A
B-AD	28	7	371	0.076	28	0.1	0.1	11.529	B
A-BCD	0.75	0.19	591	0.001	0.75	0.0	0.0	6.218	A
A-B	32	8			32				
A-C	453	113			453				
D-ABC	7	2	404	0.017	7	0.0	0.0	9.864	A
C-ABD	63	16	607	0.104	63	0.2	0.1	7.293	A
C-D	8	2			8				
C-A	453	113			453				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
B-AD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
A-BCD	0.00	0.00	0.26	0.46	0.48			N/A	N/A
D-ABC	0.02	0.02	0.27	0.49	0.52			N/A	N/A
C-ABD	0.16	0.00	0.00	0.16	0.16			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.24	0.03	0.28	0.51	0.53			N/A	N/A
B-AD	0.18	0.03	0.29	0.51	0.54			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.22	0.03	0.28	0.51	0.54			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.24	0.03	0.30	0.54	1.04			N/A	N/A
B-AD	0.18	0.03	0.28	0.50	0.53			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.22	0.03	0.29	0.52	0.55			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
B-AD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.16	0.00	0.00	0.16	0.16			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.78	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	63	100.000
B		ONE HOUR	✓	13	100.000
C		ONE HOUR	✓	68	100.000
D		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	4	59	0
	B	4	0	9	0
	C	59	8	0	1
	D	0	0	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	10	0
	B	0	0	0	0
	C	10	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.80	0.0	0.5	A	8	12
B-AD	0.01	6.93	0.0	0.5	A	4	6
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						4	6
A-C						54	81
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	5.19	0.0	0.5	A	7	11
C-D						0.92	1
C-A						54	81

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	7	2	766	0.009	7	0.0	0.0	4.742	A
B-AD	3	0.75	532	0.006	3	0.0	0.0	6.805	A
A-BCD	0	0	1447	0.000	0	0.0	0.0	0.000	A
A-B	3	0.75			3				
A-C	44	11			44				
D-ABC	0	0	566	0.000	0	0.0	0.0	0.000	A
C-ABD	6	2	707	0.009	6	0.0	0.0	5.131	A
C-D	0.75	0.19			0.75				
C-A	44	11			44				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	763	0.011	8	0.0	0.0	4.765	A
B-AD	4	0.90	529	0.007	4	0.0	0.0	6.856	A
A-BCD	0	0	1442	0.000	0	0.0	0.0	0.000	A
A-B	4	0.90			4				
A-C	53	13			53				
D-ABC	0	0	563	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	705	0.010	7	0.0	0.0	5.155	A
C-D	0.90	0.22			0.90				
C-A	53	13			53				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	10	2	760	0.013	10	0.0	0.0	4.798	A
B-AD	4	1	524	0.008	4	0.0	0.0	6.927	A
A-BCD	0	0	1436	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	65	16			65				
D-ABC	0	0	559	0.000	0	0.0	0.0	0.000	A
C-ABD	9	2	702	0.013	9	0.0	0.0	5.189	A
C-D	1	0.28			1				
C-A	65	16			65				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	10	2	760	0.013	10	0.0	0.0	4.798	A
B-AD	4	1	524	0.008	4	0.0	0.0	6.927	A
A-BCD	0	0	1436	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	65	16			65				
D-ABC	0	0	559	0.000	0	0.0	0.0	0.000	A
C-ABD	9	2	702	0.013	9	0.0	0.0	5.189	A
C-D	1	0.28			1				
C-A	65	16			65				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	763	0.011	8	0.0	0.0	4.768	A
B-AD	4	0.90	529	0.007	4	0.0	0.0	6.859	A
A-BCD	0	0	1442	0.000	0	0.0	0.0	0.000	A
A-B	4	0.90			4				
A-C	53	13			53				
D-ABC	0	0	563	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	705	0.010	7	0.0	0.0	5.158	A
C-D	0.90	0.22			0.90				
C-A	53	13			53				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	7	2	766	0.009	7	0.0	0.0	4.742	A
B-AD	3	0.75	532	0.006	3	0.0	0.0	6.805	A
A-BCD	0	0	1447	0.000	0	0.0	0.0	0.000	A
A-B	3	0.75			3				
A-C	44	11			44				
D-ABC	0	0	566	0.000	0	0.0	0.0	0.000	A
C-ABD	6	2	707	0.009	6	0.0	0.0	5.133	A
C-D	0.75	0.19			0.75				
C-A	44	11			44				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.99	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-2	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1085	100.000
B		ONE HOUR	✓	195	100.000
C		ONE HOUR	✓	1019	100.000
D		ONE HOUR	✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	34	1050	1
	B	35	0	159	1
	C	932	71	0	16
	D	2	2	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.41	14.57	0.7	3.4	B	146	220
B-AD	0.29	39.12	0.4	1.3	E	32	49
A-BCD	0.00	8.77	0.0	0.5	A	0.92	1
A-B						31	47
A-C						963	1445
D-ABC	0.04	21.43	0.0	0.5	C	6	8
C-ABD	0.18	10.34	0.2	0.9	B	65	98
C-D						15	22
C-A						855	1283

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	120	30	554	0.217	119	0.0	0.3	8.417	A
B-AD	27	7	265	0.101	26	0.0	0.1	15.360	C
A-BCD	0.75	0.19	537	0.001	0.75	0.0	0.0	7.387	A
A-B	26	6			26				
A-C	790	198			790				
D-ABC	5	1	326	0.014	4	0.0	0.0	11.791	B
C-ABD	53	13	531	0.101	53	0.0	0.1	7.909	A
C-D	12	3			12				
C-A	702	175			702				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	143	36	508	0.283	143	0.3	0.4	10.056	B
B-AD	32	8	210	0.152	32	0.1	0.2	20.535	C
A-BCD	0.90	0.22	501	0.002	0.90	0.0	0.0	7.912	A
A-B	31	8			31				
A-C	944	236			944				
D-ABC	5	1	269	0.020	5	0.0	0.0	14.394	B
C-ABD	64	16	494	0.129	64	0.1	0.2	8.780	A
C-D	14	4			14				
C-A	838	209			838				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	176	44	429	0.410	175	0.4	0.7	14.354	B
B-AD	39	10	133	0.293	38	0.2	0.4	38.352	E
A-BCD	1	0.28	453	0.002	1	0.0	0.0	8.771	A
A-B	37	9			37				
A-C	1156	289			1156				
D-ABC	7	2	184	0.036	7	0.0	0.0	21.390	C
C-ABD	78	20	444	0.176	78	0.2	0.2	10.328	B
C-D	18	4			18				
C-A	1026	257			1026				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	176	44	428	0.411	176	0.7	0.7	14.573	B
B-AD	39	10	133	0.294	39	0.4	0.4	39.121	E
A-BCD	1	0.28	452	0.002	1	0.0	0.0	8.773	A
A-B	37	9			37				
A-C	1156	289			1156				
D-ABC	7	2	183	0.036	7	0.0	0.0	21.435	C
C-ABD	78	20	444	0.176	78	0.2	0.2	10.343	B
C-D	18	4			18				
C-A	1026	257			1026				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	143	36	506	0.283	145	0.7	0.4	10.182	B
B-AD	32	8	210	0.152	33	0.4	0.2	20.823	C
A-BCD	0.90	0.22	501	0.002	0.90	0.0	0.0	7.916	A
A-B	31	8			31				
A-C	944	236			944				
D-ABC	5	1	268	0.020	5	0.0	0.0	14.427	B
C-ABD	64	16	494	0.129	64	0.2	0.2	8.798	A
C-D	14	4			14				
C-A	838	209			838				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	120	30	554	0.217	121	0.4	0.3	8.491	A
B-AD	27	7	265	0.101	27	0.2	0.1	15.467	C
A-BCD	0.75	0.19	537	0.001	0.75	0.0	0.0	7.393	A
A-B	26	6			26				
A-C	790	198			790				
D-ABC	5	1	325	0.014	5	0.0	0.0	11.810	B
C-ABD	53	13	530	0.101	54	0.2	0.1	7.930	A
C-D	12	3			12				
C-A	702	175			702				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.28	0.00	0.00	0.28	0.28			N/A	N/A
B-AD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-ABD	0.12	0.00	0.00	0.12	0.12			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.40	0.00	0.00	0.40	0.40			N/A	N/A
B-AD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.02	0.02	0.26	0.48	0.50			N/A	N/A
C-ABD	0.15	0.00	0.00	0.15	0.15			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.69	0.03	0.26	0.69	0.69			N/A	N/A
B-AD	0.40	0.03	0.27	0.49	1.30			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.03	0.26	0.47	0.50			N/A	N/A
C-ABD	0.22	0.03	0.27	0.49	0.51			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.70	0.03	0.31	1.03	3.37			N/A	N/A
B-AD	0.41	0.03	0.34	1.29	1.29			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.22	0.03	0.28	0.51	0.88			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.41	0.03	0.30	0.79	1.16			N/A	N/A
B-AD	0.19	0.03	0.26	0.46	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.16	0.00	0.00	0.16	0.16			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.29	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.12	0.03	0.26	0.46	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.12	0.00	0.00	0.12	0.12			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		2.07	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	979	100.000
B		ONE HOUR	✓	172	100.000
C		ONE HOUR	✓	1117	100.000
D		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	58	919	2
	B	29	0	143	0
	C	957	156	0	4
	D	0	1	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.33	11.61	0.5	2.2	B	131	197
B-AD	0.24	36.11	0.3	1.4	E	27	40
A-BCD	0.01	9.52	0.0	0.5	A	2	3
A-B						53	80
A-C						843	1265
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.37	12.66	0.6	2.8	B	143	215
C-D						4	6
C-A						878	1317

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	108	27	582	0.185	107	0.0	0.2	7.718	A
B-AD	22	5	263	0.083	21	0.0	0.1	15.162	C
A-BCD	2	0.38	513	0.003	1	0.0	0.0	7.734	A
A-B	44	11			44				
A-C	692	173			692				
D-ABC	0	0	311	0.000	0	0.0	0.0	0.000	A
C-ABD	117	29	549	0.214	116	0.0	0.3	8.718	A
C-D	3	0.75			3				
C-A	720	180			720				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	129	32	541	0.238	128	0.2	0.3	8.884	A
B-AD	26	7	209	0.125	26	0.1	0.1	20.017	C
A-BCD	2	0.45	473	0.004	2	0.0	0.0	8.397	A
A-B	52	13			52				
A-C	826	207			826				
D-ABC	0	0	254	0.000	0	0.0	0.0	0.000	A
C-ABD	140	35	516	0.272	140	0.3	0.4	10.041	B
C-D	4	0.90			4				
C-A	860	215			860				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	157	39	475	0.332	157	0.3	0.5	11.516	B
B-AD	32	8	134	0.239	31	0.1	0.3	35.817	E
A-BCD	2	0.55	418	0.005	2	0.0	0.0	9.518	A
A-B	64	16			64				
A-C	1012	253			1012				
D-ABC	0	0	172	0.000	0	0.0	0.0	0.000	A
C-ABD	172	43	470	0.365	171	0.4	0.6	12.589	B
C-D	4	1			4				
C-A	1054	263			1054				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	157	39	474	0.332	157	0.5	0.5	11.610	B
B-AD	32	8	134	0.239	32	0.3	0.3	36.106	E
A-BCD	2	0.55	418	0.005	2	0.0	0.0	9.525	A
A-B	64	16			64				
A-C	1012	253			1012				
D-ABC	0	0	171	0.000	0	0.0	0.0	0.000	A
C-ABD	172	43	470	0.365	172	0.6	0.6	12.656	B
C-D	4	1			4				
C-A	1054	263			1054				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	129	32	540	0.238	129	0.5	0.3	8.951	A
B-AD	26	7	209	0.125	27	0.3	0.1	20.242	C
A-BCD	2	0.45	473	0.004	2	0.0	0.0	8.405	A
A-B	52	13			52				
A-C	826	207			826				
D-ABC	0	0	254	0.000	0	0.0	0.0	0.000	A
C-ABD	140	35	516	0.272	141	0.6	0.4	10.106	B
C-D	4	0.90			4				
C-A	860	215			860				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	108	27	581	0.185	108	0.3	0.2	7.768	A
B-AD	22	5	263	0.083	22	0.1	0.1	15.265	C
A-BCD	2	0.38	513	0.003	2	0.0	0.0	7.742	A
A-B	44	11			44				
A-C	692	173			692				
D-ABC	0	0	311	0.000	0	0.0	0.0	0.000	A
C-ABD	117	29	549	0.214	118	0.4	0.3	8.782	A
C-D	3	0.75			3				
C-A	720	180			720				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.23	0.00	0.00	0.23	0.23			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.31	0.00	0.00	0.31	0.31			N/A	N/A
B-AD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.39	0.00	0.00	0.39	0.39			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.50	0.03	0.26	0.50	0.50			N/A	N/A
B-AD	0.30	0.03	0.27	0.49	1.08			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.59	0.03	0.27	0.59	0.59			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.50	0.03	0.32	1.45	2.21			N/A	N/A
B-AD	0.31	0.03	0.32	1.08	1.35			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.60	0.03	0.31	1.47	2.81			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.32	0.00	0.00	0.32	0.32			N/A	N/A
B-AD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.40	0.00	0.00	0.40	0.40			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.23	0.00	0.00	0.23	0.23			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.29	0.03	0.26	0.47	0.50			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.55	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	39	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	666	100.000
B		ONE HOUR	✓	136	100.000
C		ONE HOUR	✓	718	100.000
D		ONE HOUR	✓	10	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	42	623	1
	B	37	0	96	3
	C	621	86	0	11
	D	2	2	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	10	2
	B	10	0	10	0
	C	10	10	0	5
	D	10	5	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.19	8.57	0.3	1.2	A	90	134
B-AD	0.15	16.67	0.2	0.5	C	35	53
A-BCD	0.00	6.98	0.0	0.5	A	0.92	1
A-B						39	58
A-C						572	858
D-ABC	0.04	13.28	0.0	0.5	B	9	14
C-ABD	0.17	8.70	0.2	0.8	A	79	118
C-D						10	15
C-A						570	855

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	640	0.115	73	0.0	0.1	6.966	A
B-AD	29	7	365	0.079	29	0.0	0.1	11.712	B
A-BCD	0.75	0.19	588	0.001	0.75	0.0	0.0	6.255	A
A-B	32	8			32				
A-C	469	117			469				
D-ABC	8	2	395	0.019	7	0.0	0.0	10.121	B
C-ABD	65	16	603	0.107	64	0.0	0.1	7.344	A
C-D	8	2			8				
C-A	468	117			468				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	88	22	611	0.144	88	0.1	0.2	7.552	A
B-AD	34	9	329	0.105	34	0.1	0.1	13.384	B
A-BCD	0.90	0.22	562	0.002	0.90	0.0	0.0	6.541	A
A-B	38	9			38				
A-C	560	140			560				
D-ABC	9	2	358	0.025	9	0.0	0.0	11.238	B
C-ABD	77	19	581	0.133	77	0.1	0.2	7.862	A
C-D	10	2			10				
C-A	558	140			558				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	108	27	569	0.189	107	0.2	0.3	8.557	A
B-AD	42	11	279	0.151	42	0.1	0.2	16.626	C
A-BCD	1	0.28	527	0.002	1	0.0	0.0	6.980	A
A-B	46	12			46				
A-C	686	171			686				
D-ABC	11	3	306	0.036	11	0.0	0.0	13.277	B
C-ABD	95	24	550	0.172	94	0.2	0.2	8.694	A
C-D	12	3			12				
C-A	684	171			684				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	108	27	569	0.189	108	0.3	0.3	8.572	A
B-AD	42	11	279	0.151	42	0.2	0.2	16.667	C
A-BCD	1	0.28	527	0.002	1	0.0	0.0	6.981	A
A-B	46	12			46				
A-C	686	171			686				
D-ABC	11	3	306	0.036	11	0.0	0.0	13.285	B
C-ABD	95	24	550	0.172	95	0.2	0.2	8.703	A
C-D	12	3			12				
C-A	684	171			684				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	88	22	611	0.144	88	0.3	0.2	7.567	A
B-AD	34	9	329	0.105	35	0.2	0.1	13.423	B
A-BCD	0.90	0.22	562	0.002	0.90	0.0	0.0	6.545	A
A-B	38	9			38				
A-C	560	140			560				
D-ABC	9	2	358	0.025	9	0.0	0.0	11.249	B
C-ABD	77	19	581	0.133	78	0.2	0.2	7.876	A
C-D	10	2			10				
C-A	558	140			558				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	639	0.115	74	0.2	0.1	6.992	A
B-AD	29	7	365	0.079	29	0.1	0.1	11.755	B
A-BCD	0.75	0.19	587	0.001	0.75	0.0	0.0	6.257	A
A-B	32	8			32				
A-C	469	117			469				
D-ABC	8	2	395	0.019	8	0.0	0.0	10.136	B
C-ABD	65	16	603	0.107	65	0.2	0.1	7.362	A
C-D	8	2			8				
C-A	468	117			468				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.09	0.00	0.00	0.09	0.09			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.18	0.00	0.00	0.18	0.18			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.00	0.00	0.26	0.46	0.48			N/A	N/A
D-ABC	0.03	0.03	0.27	0.49	0.52			N/A	N/A
C-ABD	0.17	0.00	0.00	0.17	0.17			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.25	0.03	0.28	0.51	0.53			N/A	N/A
B-AD	0.19	0.03	0.29	0.51	0.54			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.03	0.27	0.49	0.52			N/A	N/A
C-ABD	0.23	0.03	0.28	0.51	0.54			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.25	0.03	0.31	0.65	1.16			N/A	N/A
B-AD	0.19	0.03	0.28	0.51	0.54			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.23	0.03	0.29	0.53	0.79			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.19	0.00	0.00	0.19	0.19			N/A	N/A
B-AD	0.13	0.00	0.00	0.13	0.13			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.17	0.00	0.00	0.17	0.17			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.10	0.00	0.00	0.10	0.10			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.76	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	65	100.000
B		ONE HOUR	✓	13	100.000
C		ONE HOUR	✓	70	100.000
D		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	4	61	0
	B	4	0	9	0
	C	61	8	0	1
	D	0	0	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	10	0
	B	0	0	0	0
	C	10	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.80	0.0	0.5	A	8	12
B-AD	0.01	6.94	0.0	0.5	A	4	6
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						4	6
A-C						56	84
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	5.19	0.0	0.5	A	7	11
C-D						0.92	1
C-A						56	84

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	7	2	765	0.009	7	0.0	0.0	4.744	A
B-AD	3	0.75	531	0.006	3	0.0	0.0	6.812	A
A-BCD	0	0	1447	0.000	0	0.0	0.0	0.000	A
A-B	3	0.75			3				
A-C	46	11			46				
D-ABC	0	0	566	0.000	0	0.0	0.0	0.000	A
C-ABD	6	2	707	0.009	6	0.0	0.0	5.134	A
C-D	0.75	0.19			0.75				
C-A	46	11			46				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	763	0.011	8	0.0	0.0	4.768	A
B-AD	4	0.90	528	0.007	4	0.0	0.0	6.864	A
A-BCD	0	0	1442	0.000	0	0.0	0.0	0.000	A
A-B	4	0.90			4				
A-C	55	14			55				
D-ABC	0	0	563	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	705	0.010	7	0.0	0.0	5.159	A
C-D	0.90	0.22			0.90				
C-A	55	14			55				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	10	2	759	0.013	10	0.0	0.0	4.802	A
B-AD	4	1	523	0.008	4	0.0	0.0	6.937	A
A-BCD	0	0	1435	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	67	17			67				
D-ABC	0	0	558	0.000	0	0.0	0.0	0.000	A
C-ABD	9	2	702	0.013	9	0.0	0.0	5.193	A
C-D	1	0.28			1				
C-A	67	17			67				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	10	2	759	0.013	10	0.0	0.0	4.802	A
B-AD	4	1	523	0.008	4	0.0	0.0	6.937	A
A-BCD	0	0	1435	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	67	17			67				
D-ABC	0	0	558	0.000	0	0.0	0.0	0.000	A
C-ABD	9	2	702	0.013	9	0.0	0.0	5.193	A
C-D	1	0.28			1				
C-A	67	17			67				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	763	0.011	8	0.0	0.0	4.770	A
B-AD	4	0.90	528	0.007	4	0.0	0.0	6.864	A
A-BCD	0	0	1442	0.000	0	0.0	0.0	0.000	A
A-B	4	0.90			4				
A-C	55	14			55				
D-ABC	0	0	563	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	705	0.010	7	0.0	0.0	5.161	A
C-D	0.90	0.22			0.90				
C-A	55	14			55				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	7	2	765	0.009	7	0.0	0.0	4.746	A
B-AD	3	0.75	531	0.006	3	0.0	0.0	6.814	A
A-BCD	0	0	1447	0.000	0	0.0	0.0	0.000	A
A-B	3	0.75			3				
A-C	46	11			46				
D-ABC	0	0	566	0.000	0	0.0	0.0	0.000	A
C-ABD	6	2	707	0.009	6	0.0	0.0	5.136	A
C-D	0.75	0.19			0.75				
C-A	46	11			46				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		3.47	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-13	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1239	100.000
B		ONE HOUR	✓	201	100.000
C		ONE HOUR	✓	1124	100.000
D		ONE HOUR	✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	38	1200	1
	B	39	0	161	1
	C	1035	73	0	16
	D	2	2	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.55	25.34	1.2	6.2	D	148	222
B-AD	0.54	95.50	1.1	4.7	F	36	54
A-BCD	0.00	9.33	0.0	0.5	A	0.92	1
A-B						35	52
A-C						1101	1652
D-ABC	0.05	31.98	0.1	0.5	D	6	8
C-ABD	0.20	11.66	0.3	1.2	B	67	100
C-D						15	22
C-A						950	1425

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	122	30	521	0.233	120	0.0	0.3	9.128	A
B-AD	30	7	231	0.128	29	0.0	0.1	18.105	C
A-BCD	0.75	0.19	518	0.001	0.75	0.0	0.0	7.648	A
A-B	29	7			29				
A-C	903	226			903				
D-ABC	5	1	293	0.015	4	0.0	0.0	13.138	B
C-ABD	55	14	504	0.109	54	0.0	0.1	8.402	A
C-D	12	3			12				
C-A	779	195			779				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	145	36	464	0.313	145	0.3	0.5	11.466	B
B-AD	35	9	170	0.209	35	0.1	0.3	27.183	D
A-BCD	0.90	0.22	479	0.002	0.90	0.0	0.0	8.274	A
A-B	34	9			34				
A-C	1079	270			1079				
D-ABC	5	1	227	0.024	5	0.0	0.0	17.108	C
C-ABD	66	16	462	0.142	65	0.1	0.2	9.523	A
C-D	14	4			14				
C-A	930	233			930				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	178	45	333	0.534	175	0.5	1.1	22.879	C
B-AD	43	11	82	0.530	40	0.3	1.0	84.641	F
A-BCD	1	0.28	426	0.003	1	0.0	0.0	9.325	A
A-B	42	10			42				
A-C	1321	330			1321				
D-ABC	7	2	126	0.052	6	0.0	0.1	31.698	D
C-ABD	80	20	405	0.199	80	0.2	0.3	11.633	B
C-D	18	4			18				
C-A	1140	285			1140				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	178	45	322	0.553	178	1.1	1.2	25.341	D
B-AD	43	11	80	0.537	43	1.0	1.1	95.498	F
A-BCD	1	0.28	426	0.003	1	0.0	0.0	9.328	A
A-B	42	10			42				
A-C	1321	330			1321				
D-ABC	7	2	125	0.053	7	0.1	0.1	31.983	D
C-ABD	80	20	405	0.199	80	0.3	0.3	11.656	B
C-D	18	4			18				
C-A	1140	285			1140				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	145	36	460	0.316	148	1.2	0.5	11.901	B
B-AD	35	9	169	0.209	39	1.1	0.3	28.718	D
A-BCD	0.90	0.22	479	0.002	0.90	0.0	0.0	8.279	A
A-B	34	9			34				
A-C	1079	270			1079				
D-ABC	5	1	226	0.024	6	0.1	0.0	17.197	C
C-ABD	66	16	462	0.142	66	0.3	0.2	9.548	A
C-D	14	4			14				
C-A	930	233			930				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	122	30	520	0.234	122	0.5	0.3	9.235	A
B-AD	30	7	231	0.128	30	0.3	0.2	18.319	C
A-BCD	0.75	0.19	518	0.001	0.75	0.0	0.0	7.652	A
A-B	29	7			29				
A-C	903	226			903				
D-ABC	5	1	292	0.015	5	0.0	0.0	13.169	B
C-ABD	55	14	504	0.109	55	0.2	0.1	8.429	A
C-D	12	3			12				
C-A	779	195			779				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.31	0.00	0.00	0.31	0.31			N/A	N/A
B-AD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.46	0.00	0.00	0.46	0.46			N/A	N/A
B-AD	0.26	0.00	0.00	0.26	0.26			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.03	0.03	0.26	0.48	0.50			N/A	N/A
C-ABD	0.17	0.00	0.00	0.17	0.17			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	1.11	0.03	0.28	1.11	2.79			N/A	N/A
B-AD	0.96	0.03	0.31	1.51	4.74			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.06	0.03	0.27	0.48	0.51			N/A	N/A
C-ABD	0.26	0.03	0.27	0.49	0.51			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	1.21	0.03	0.32	2.25	6.16			N/A	N/A
B-AD	1.06	0.04	0.40	2.66	4.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-ABD	0.26	0.03	0.30	0.82	1.21			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.48	0.04	0.41	1.27	1.41			N/A	N/A
B-AD	0.28	0.03	0.31	0.93	1.24			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.18	0.00	0.00	0.18	0.18			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.32	0.03	0.31	0.98	1.26			N/A	N/A
B-AD	0.15	0.03	0.28	0.50	0.87			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.13	0.00	0.00	0.13	0.13			N/A	N/A

2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		2.90	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-12	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1108	100.000
B		ONE HOUR	✓	180	100.000
C		ONE HOUR	✓	1274	100.000
D		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	65	1041	2
	B	33	0	147	0
	C	1108	161	0	5
	D	0	1	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	2	15	10
	B	2	0	2	0
	C	15	5	0	10
	D	2	0	15	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.42	16.45	0.7	3.5	C	135	202
B-AD	0.45	80.24	0.8	3.0	F	30	45
A-BCD	0.01	10.55	0.0	0.5	B	2	3
A-B						60	89
A-C						955	1433
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.41	14.51	0.7	3.3	B	148	222
C-D						5	7
C-A						1017	1525

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	111	28	554	0.200	110	0.0	0.3	8.245	A
B-AD	25	6	229	0.109	24	0.0	0.1	17.919	C
A-BCD	2	0.38	486	0.003	1	0.0	0.0	8.174	A
A-B	49	12			49				
A-C	784	196			784				
D-ABC	0	0	272	0.000	0	0.0	0.0	0.000	A
C-ABD	121	30	526	0.230	120	0.0	0.3	9.272	A
C-D	4	0.94			4				
C-A	834	209			834				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	132	33	505	0.262	132	0.3	0.4	9.837	A
B-AD	30	7	168	0.177	29	0.1	0.2	26.493	D
A-BCD	2	0.45	440	0.004	2	0.0	0.0	9.028	A
A-B	58	15			58				
A-C	936	234			936				
D-ABC	0	0	206	0.000	0	0.0	0.0	0.000	A
C-ABD	145	36	489	0.296	144	0.3	0.4	10.941	B
C-D	4	1			4				
C-A	996	249			996				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	162	40	393	0.412	161	0.4	0.7	15.696	C
B-AD	36	9	82	0.443	34	0.2	0.7	74.357	F
A-BCD	2	0.55	378	0.006	2	0.0	0.0	10.541	B
A-B	72	18			72				
A-C	1146	287			1146				
D-ABC	0	0	107	0.000	0	0.0	0.0	0.000	A
C-ABD	177	44	438	0.405	176	0.4	0.7	14.397	B
C-D	6	1			6				
C-A	1220	305			1220				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	162	40	385	0.421	162	0.7	0.7	16.448	C
B-AD	36	9	81	0.446	36	0.7	0.8	80.238	F
A-BCD	2	0.55	378	0.006	2	0.0	0.0	10.550	B
A-B	72	18			72				
A-C	1146	287			1146				
D-ABC	0	0	106	0.000	0	0.0	0.0	0.000	A
C-ABD	177	44	438	0.405	177	0.7	0.7	14.508	B
C-D	6	1			6				
C-A	1220	305			1220				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	132	33	501	0.264	134	0.7	0.4	10.024	B
B-AD	30	7	167	0.178	32	0.8	0.2	27.519	D
A-BCD	2	0.45	440	0.004	2	0.0	0.0	9.041	A
A-B	58	15			58				
A-C	936	234			936				
D-ABC	0	0	205	0.000	0	0.0	0.0	0.000	A
C-ABD	145	36	489	0.296	146	0.7	0.4	11.040	B
C-D	4	1			4				
C-A	996	249			996				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	111	28	553	0.200	111	0.4	0.3	8.316	A
B-AD	25	6	228	0.109	25	0.2	0.1	18.116	C
A-BCD	2	0.38	485	0.003	2	0.0	0.0	8.186	A
A-B	49	12			49				
A-C	784	196			784				
D-ABC	0	0	271	0.000	0	0.0	0.0	0.000	A
C-ABD	121	30	526	0.230	122	0.4	0.3	9.351	A
C-D	4	0.94			4				
C-A	834	209			834				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.25	0.00	0.00	0.25	0.25			N/A	N/A
B-AD	0.12	0.00	0.00	0.12	0.12			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.36	0.00	0.00	0.36	0.36			N/A	N/A
B-AD	0.21	0.00	0.00	0.21	0.21			N/A	N/A
A-BCD	0.00	0.00	0.28	0.50	0.52			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.43	0.00	0.00	0.43	0.43			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.69	0.03	0.27	0.69	0.69			N/A	N/A
B-AD	0.71	0.03	0.29	1.13	3.00			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.70	0.03	0.27	0.70	0.70			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.73	0.03	0.32	1.38	3.49			N/A	N/A
B-AD	0.76	0.04	0.38	1.78	2.95			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.71	0.03	0.31	1.47	3.31			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.37	0.03	0.27	0.49	0.63			N/A	N/A
B-AD	0.23	0.03	0.27	0.49	0.65			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.45	0.03	0.34	1.11	1.34			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.26	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.13	0.03	0.26	0.47	0.50			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.32	0.03	0.27	0.49	0.51			N/A	N/A

2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		1.57	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	26	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	750	100.000
B		ONE HOUR	✓	141	100.000
C		ONE HOUR	✓	796	100.000
D		ONE HOUR	✓	10	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	47	702	1
	B	40	0	98	3
	C	698	87	0	11
	D	2	2	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	5	10	2
	B	10	0	10	0
	C	10	10	0	5
	D	10	5	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.20	9.21	0.3	1.3	A	91	137
B-AD	0.18	19.39	0.2	1.1	C	38	57
A-BCD	0.00	7.26	0.0	0.5	A	0.92	1
A-B						43	65
A-C						644	966
D-ABC	0.04	14.87	0.0	0.5	B	9	14
C-ABD	0.18	9.15	0.2	1.1	A	80	120
C-D						10	15
C-A						640	961

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	75	19	622	0.121	74	0.0	0.1	7.218	A
B-AD	31	8	345	0.090	31	0.0	0.1	12.540	B
A-BCD	0.75	0.19	574	0.001	0.75	0.0	0.0	6.403	A
A-B	35	9			35				
A-C	529	132			529				
D-ABC	8	2	374	0.020	7	0.0	0.0	10.692	B
C-ABD	65	16	588	0.111	65	0.0	0.1	7.556	A
C-D	8	2			8				
C-A	525	131			525				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	90	22	589	0.152	89	0.1	0.2	7.917	A
B-AD	37	9	305	0.122	37	0.1	0.1	14.722	B
A-BCD	0.90	0.22	546	0.002	0.90	0.0	0.0	6.735	A
A-B	42	11			42				
A-C	631	158			631				
D-ABC	9	2	333	0.027	9	0.0	0.0	12.104	B
C-ABD	78	20	563	0.139	78	0.1	0.2	8.158	A
C-D	10	2			10				
C-A	627	157			627				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	110	27	539	0.204	110	0.2	0.3	9.194	A
B-AD	45	11	249	0.182	45	0.1	0.2	19.315	C
A-BCD	1	0.28	507	0.002	1	0.0	0.0	7.254	A
A-B	52	13			52				
A-C	773	193			773				
D-ABC	11	3	275	0.040	11	0.0	0.0	14.851	B
C-ABD	96	24	528	0.181	96	0.2	0.2	9.142	A
C-D	12	3			12				
C-A	769	192			769				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	110	27	539	0.204	110	0.3	0.3	9.209	A
B-AD	45	11	249	0.182	45	0.2	0.2	19.389	C
A-BCD	1	0.28	507	0.002	1	0.0	0.0	7.255	A
A-B	52	13			52				
A-C	773	193			773				
D-ABC	11	3	275	0.040	11	0.0	0.0	14.865	B
C-ABD	96	24	528	0.181	96	0.2	0.2	9.153	A
C-D	12	3			12				
C-A	769	192			769				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	90	22	588	0.152	90	0.3	0.2	7.939	A
B-AD	37	9	305	0.122	37	0.2	0.2	14.787	B
A-BCD	0.90	0.22	546	0.002	0.90	0.0	0.0	6.740	A
A-B	42	11			42				
A-C	631	158			631				
D-ABC	9	2	333	0.027	9	0.0	0.0	12.121	B
C-ABD	78	20	563	0.139	78	0.2	0.2	8.173	A
C-D	10	2			10				
C-A	627	157			627				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	75	19	621	0.121	75	0.2	0.2	7.246	A
B-AD	31	8	345	0.090	31	0.2	0.1	12.596	B
A-BCD	0.75	0.19	574	0.001	0.75	0.0	0.0	6.408	A
A-B	35	9			35				
A-C	529	132			529				
D-ABC	8	2	374	0.020	8	0.0	0.0	10.707	B
C-ABD	65	16	588	0.111	66	0.2	0.1	7.575	A
C-D	8	2			8				
C-A	525	131			525				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
B-AD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.14	0.00	0.00	0.14	0.14			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.20	0.00	0.00	0.20	0.20			N/A	N/A
B-AD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
A-BCD	0.00	0.00	0.26	0.46	0.48			N/A	N/A
D-ABC	0.03	0.03	0.27	0.49	0.52			N/A	N/A
C-ABD	0.18	0.00	0.00	0.18	0.18			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.28	0.03	0.28	0.51	0.53			N/A	N/A
B-AD	0.24	0.03	0.29	0.52	0.54			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.03	0.28	0.50	0.52			N/A	N/A
C-ABD	0.24	0.03	0.28	0.51	0.54			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.28	0.03	0.32	0.92	1.30			N/A	N/A
B-AD	0.24	0.03	0.31	0.60	1.13			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-ABD	0.24	0.03	0.30	0.55	1.06			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.20	0.00	0.00	0.20	0.20			N/A	N/A
B-AD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.18	0.00	0.00	0.18	0.18			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.15	0.00	0.00	0.15	0.15			N/A	N/A
B-AD	0.11	0.00	0.00	0.11	0.11			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-ABD	0.14	0.00	0.00	0.14	0.14			N/A	N/A

2037 final, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		0.74	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	74	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	78	100.000
D		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	5	69	0
	B	4	0	10	0
	C	68	9	0	1
	D	0	0	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	10	0
	B	0	0	0	0
	C	10	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.01	4.81	0.0	0.5	A	9	14
B-AD	0.01	7.01	0.0	0.5	A	4	6
A-BCD	0.00	0.00	0.0	~1	A	0	0
A-B						5	7
A-C						63	95
D-ABC	0.00	0.00	0.0	~1	A	0	0
C-ABD	0.01	5.22	0.0	0.5	A	8	12
C-D						0.92	1
C-A						62	94

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	766	0.010	7	0.0	0.0	4.743	A
B-AD	3	0.75	527	0.006	3	0.0	0.0	6.866	A
A-BCD	0	0	1444	0.000	0	0.0	0.0	0.000	A
A-B	4	0.94			4				
A-C	52	13			52				
D-ABC	0	0	564	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	706	0.010	7	0.0	0.0	5.151	A
C-D	0.75	0.19			0.75				
C-A	51	13			51				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	9	2	763	0.012	9	0.0	0.0	4.770	A
B-AD	4	0.90	523	0.007	4	0.0	0.0	6.924	A
A-BCD	0	0	1438	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	62	16			62				
D-ABC	0	0	560	0.000	0	0.0	0.0	0.000	A
C-ABD	8	2	703	0.012	8	0.0	0.0	5.179	A
C-D	0.90	0.22			0.90				
C-A	61	15			61				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	11	3	760	0.014	11	0.0	0.0	4.808	A
B-AD	4	1	518	0.009	4	0.0	0.0	7.007	A
A-BCD	0	0	1430	0.000	0	0.0	0.0	0.000	A
A-B	6	1			6				
A-C	76	19			76				
D-ABC	0	0	555	0.000	0	0.0	0.0	0.000	A
C-ABD	10	2	700	0.014	10	0.0	0.0	5.218	A
C-D	1	0.28			1				
C-A	75	19			75				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	11	3	760	0.015	11	0.0	0.0	4.808	A
B-AD	4	1	518	0.009	4	0.0	0.0	7.007	A
A-BCD	0	0	1430	0.000	0	0.0	0.0	0.000	A
A-B	6	1			6				
A-C	76	19			76				
D-ABC	0	0	555	0.000	0	0.0	0.0	0.000	A
C-ABD	10	2	700	0.014	10	0.0	0.0	5.218	A
C-D	1	0.28			1				
C-A	75	19			75				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	9	2	763	0.012	9	0.0	0.0	4.771	A
B-AD	4	0.90	523	0.007	4	0.0	0.0	6.924	A
A-BCD	0	0	1438	0.000	0	0.0	0.0	0.000	A
A-B	4	1			4				
A-C	62	16			62				
D-ABC	0	0	560	0.000	0	0.0	0.0	0.000	A
C-ABD	8	2	703	0.012	8	0.0	0.0	5.179	A
C-D	0.90	0.22			0.90				
C-A	61	15			61				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	8	2	766	0.010	8	0.0	0.0	4.746	A
B-AD	3	0.75	527	0.006	3	0.0	0.0	6.866	A
A-BCD	0	0	1444	0.000	0	0.0	0.0	0.000	A
A-B	4	0.94			4				
A-C	52	13			52				
D-ABC	0	0	564	0.000	0	0.0	0.0	0.000	A
C-ABD	7	2	706	0.010	7	0.0	0.0	5.151	A
C-D	0.75	0.19			0.75				
C-A	51	13			51				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-AD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-CD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-AD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

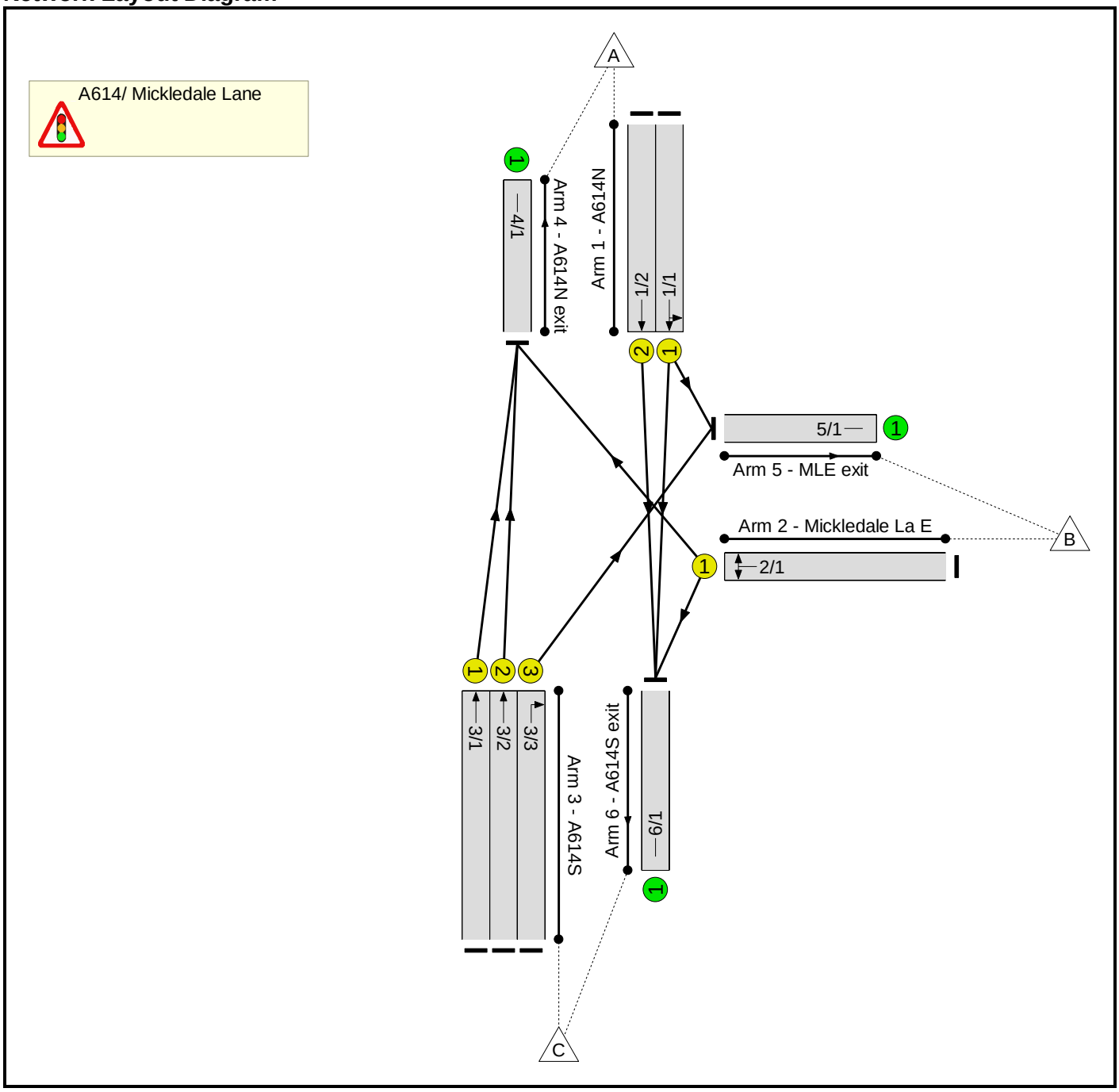
Do Something (DS)

Full Input Data And Results

User and Project Details

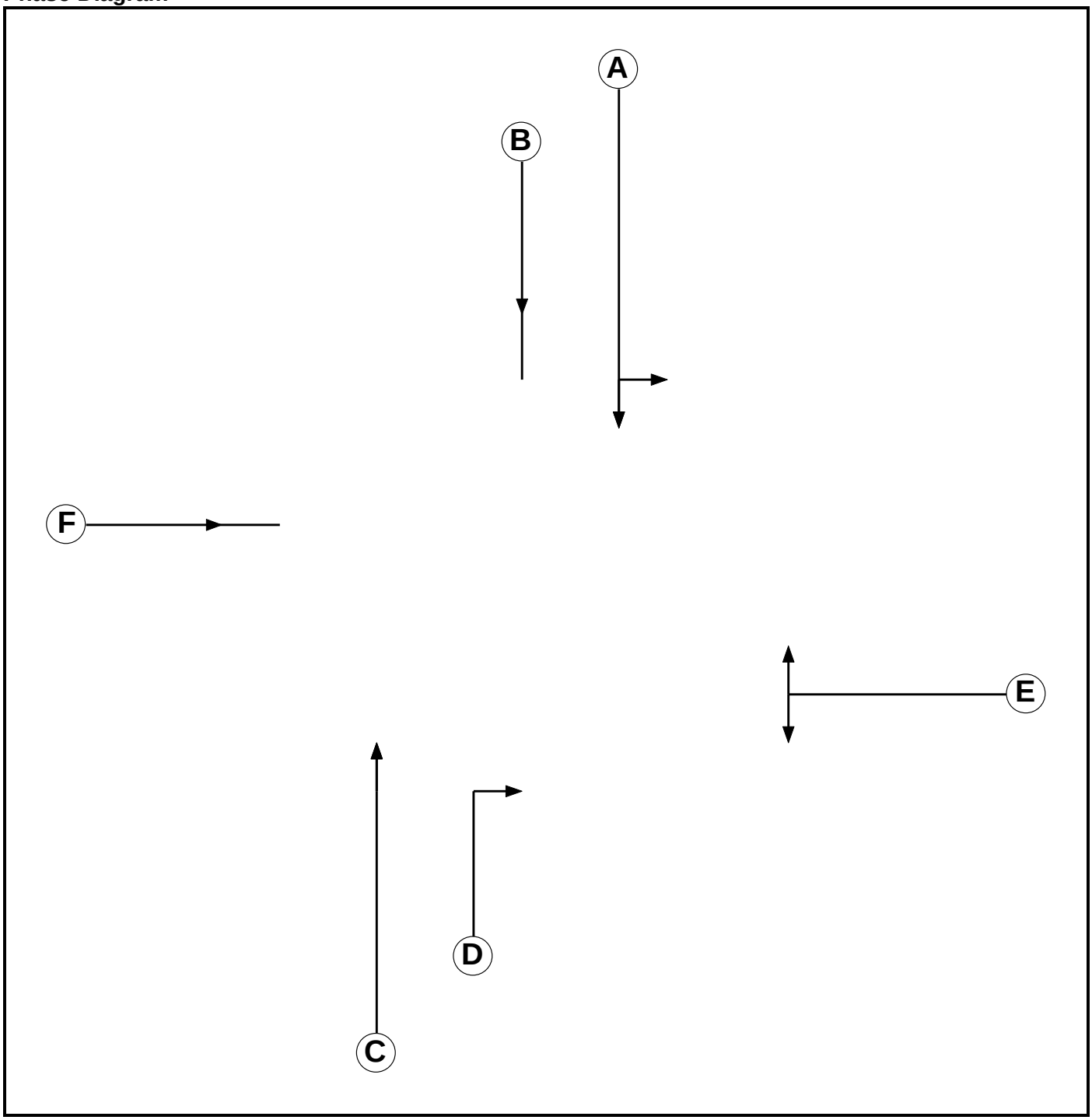
Project:	**A614/ A617 tests 2 lanes**
Title:	**A614/ Mickledale Lane - no minor moves**
Location:	
File name:	A614-Mickledale 2 lane aheads minor moves removed.lsg3x
Author:	rr
Company:	via
Address:	tbh
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

Full Input Data And Results

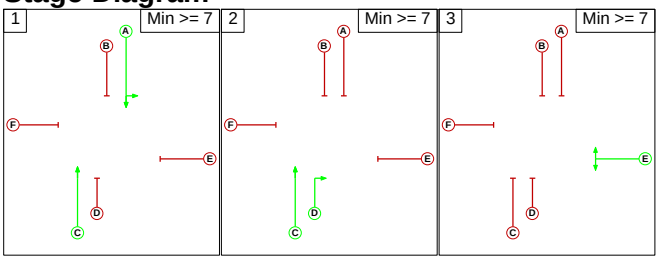
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F
A		-	-	7	7	7
B	-		7	5	7	7
C	-	7		-	7	7
D	7	5	-		7	7
E	8	8	8	8		8
F	8	8	8	8	8	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	C 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		7	7
2	7		7
3	8	8	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A614/ Mickledale Lane
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: A614/ Mickledale Lane

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A614N)	U	A	2	3	60.0	User	1900	-	-	-	-	-
1/2 (A614N)	U	A	2	3	60.0	User	1900	-	-	-	-	-
2/1 (Mickledale La E)	U	E	2	3	60.0	User	1800	-	-	-	-	-
3/1 (A614S)	U	C	2	3	60.0	User	1900	-	-	-	-	-
3/2 (A614S)	U	C	2	3	60.0	User	1900	-	-	-	-	-
3/3 (A614S)	U	D	2	3	60.0	User	1800	-	-	-	-	-
4/1 (A614N exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (MLE exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A614S exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023am'	08:00	09:00	01:00	
2: '2023pm'	17:00	18:00	01:00	
3: '2023ip'	13:00	14:00	01:00	
4: '2023op'	23:00	00:00	01:00	
5: '2037am'	08:00	09:00	01:00	
6: '2037pm'	17:00	18:00	01:00	
7: '2037ip'	13:00	14:00	01:00	
8: '2037op'	23:00	00:00	01:00	
9: '2037am final'	08:00	09:00	01:00	
10: '2037pm final'	17:00	18:00	01:00	
11: '2037ip final'	13:00	14:00	01:00	
12: '2037op final'	23:00	00:00	01:00	

Scenario 1: '2023am' (FG1: '2023am', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	33	1012	1045
	B	35	0	157	192
	C	914	69	0	983
	Tot.	949	102	1169	2220

Traffic Lane Flows

Lane	Scenario 1: 2023am
Junction: A614/ Mickledale Lane	
1/1	523
1/2	522
2/1	192
3/1	457
3/2	457
3/3	69
4/1	949
5/1	102
6/1	1169

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2023pm' (FG2: '2023pm', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	58	898	956
	B	29	0	140	169
	C	941	154	0	1095
	Tot.	970	212	1038	2220

Traffic Lane Flows

Lane	Scenario 2: 2023pm
Junction: A614/ Mickledale Lane	
1/1	478
1/2	478
2/1	169
3/1	471
3/2	470
3/3	154
4/1	970
5/1	212
6/1	1038

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2023ip' (FG3: '2023ip', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	42	602	644
	B	36	0	97	133
	C	612	84	0	696
	Tot.	648	126	699	1473

Traffic Lane Flows

Lane	Scenario 3: 2023ip
Junction: A614/ Mickledale Lane	
1/1	322
1/2	322
2/1	133
3/1	306
3/2	306
3/3	84
4/1	648
5/1	126
6/1	699

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2023op' (FG4: '2023op', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	4	59	63
	B	4	0	9	13
	C	60	8	0	68
	Tot.	64	12	68	144

Traffic Lane Flows

Lane	Scenario 4: 2023op
Junction: A614/ Mickledale Lane	
1/1	31
1/2	32
2/1	13
3/1	30
3/2	30
3/3	8
4/1	64
5/1	12
6/1	68

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2037am' (FG5: '2037am', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	34	1050	1084
	B	35	0	160	195
	C	948	71	0	1019
	Tot.	983	105	1210	2298

Traffic Lane Flows

Lane	Scenario 5: 2037am
Junction: A614/ Mickledale Lane	
1/1	542
1/2	542
2/1	195
3/1	474
3/2	474
3/3	71
4/1	983
5/1	105
6/1	1210

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2037pm' (FG6: '2037pm', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	58	919	977
	B	29	0	143	172
	C	961	156	0	1117
	Tot.	990	214	1062	2266

Traffic Lane Flows

Lane	Scenario 6: 2037pm
Junction: A614/ Mickledale Lane	
1/1	489
1/2	488
2/1	172
3/1	481
3/2	480
3/3	156
4/1	990
5/1	214
6/1	1062

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2037ip' (FG7: '2037ip', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	42	623	665
	B	37	0	99	136
	C	632	86	0	718
	Tot.	669	128	722	1519

Traffic Lane Flows

Lane	Scenario 7: 2037ip
Junction: A614/ Mickledale Lane	
1/1	332
1/2	333
2/1	136
3/1	316
3/2	316
3/3	86
4/1	669
5/1	128
6/1	722

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2037op' (FG8: '2037op', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	4	61	65
	B	4	0	9	13
	C	62	8	0	70
	Tot.	66	12	70	148

Traffic Lane Flows

Lane	**Scenario 8: 2037op**
Junction: A614/ Mickledale Lane	
1/1	32
1/2	33
2/1	13
3/1	31
3/2	31
3/3	8
4/1	66
5/1	12
6/1	70

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: '2037am final' (FG9: '2037am final', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	38	1200	1238
	B	39	0	161	200
	C	1051	73	0	1124
	Tot.	1090	111	1361	2562

Traffic Lane Flows

Lane	Scenario 9: 2037am final
Junction: A614/ Mickledale Lane	
1/1	619
1/2	619
2/1	200
3/1	526
3/2	525
3/3	73
4/1	1090
5/1	111
6/1	1361

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: '2037pm final' (FG10: '2037pm final', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	65	1041	1106
	B	33	0	147	180
	C	1113	161	0	1274
	Tot.	1146	226	1188	2560

Traffic Lane Flows

Lane	**Scenario 10: 2037pm final**
Junction: A614/ Mickledale Lane	
1/1	553
1/2	553
2/1	180
3/1	557
3/2	556
3/3	161
4/1	1146
5/1	226
6/1	1188

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 11: '2037ip final' (FG11: '2037ip final', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	47	702	749
	B	40	0	98	138
	C	709	87	0	796
	Tot.	749	134	800	1683

Traffic Lane Flows

Lane	Scenario 11: 2037ip final
Junction: A614/ Mickledale Lane	
1/1	375
1/2	374
2/1	138
3/1	355
3/2	354
3/3	87
4/1	749
5/1	134
6/1	800

Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 12: '2037op final' (FG12: '2037op final', Plan 1: 'all stages')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	5	69	74
	B	4	0	10	14
	C	69	9	0	78
	Tot.	73	14	79	166

Traffic Lane Flows

Lane	Scenario 12: 2037op final
Junction: A614/ Mickledale Lane	
1/1	36
1/2	38
2/1	14
3/1	35
3/2	34
3/3	9
4/1	73
5/1	14
6/1	79

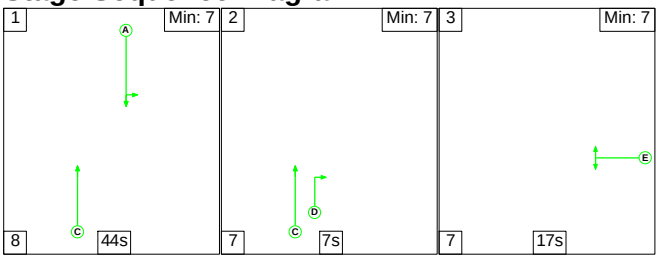
Full Input Data And Results

Lane Saturation Flows

Junction: A614/ Mickledale Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A614N Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A614N Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (Mickledale La E Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A614S Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A614S Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A614S Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (A614N exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (MLE exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A614S exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2023am' (FG1: '2023am', Plan 1: 'all stages')

Stage Sequence Diagram

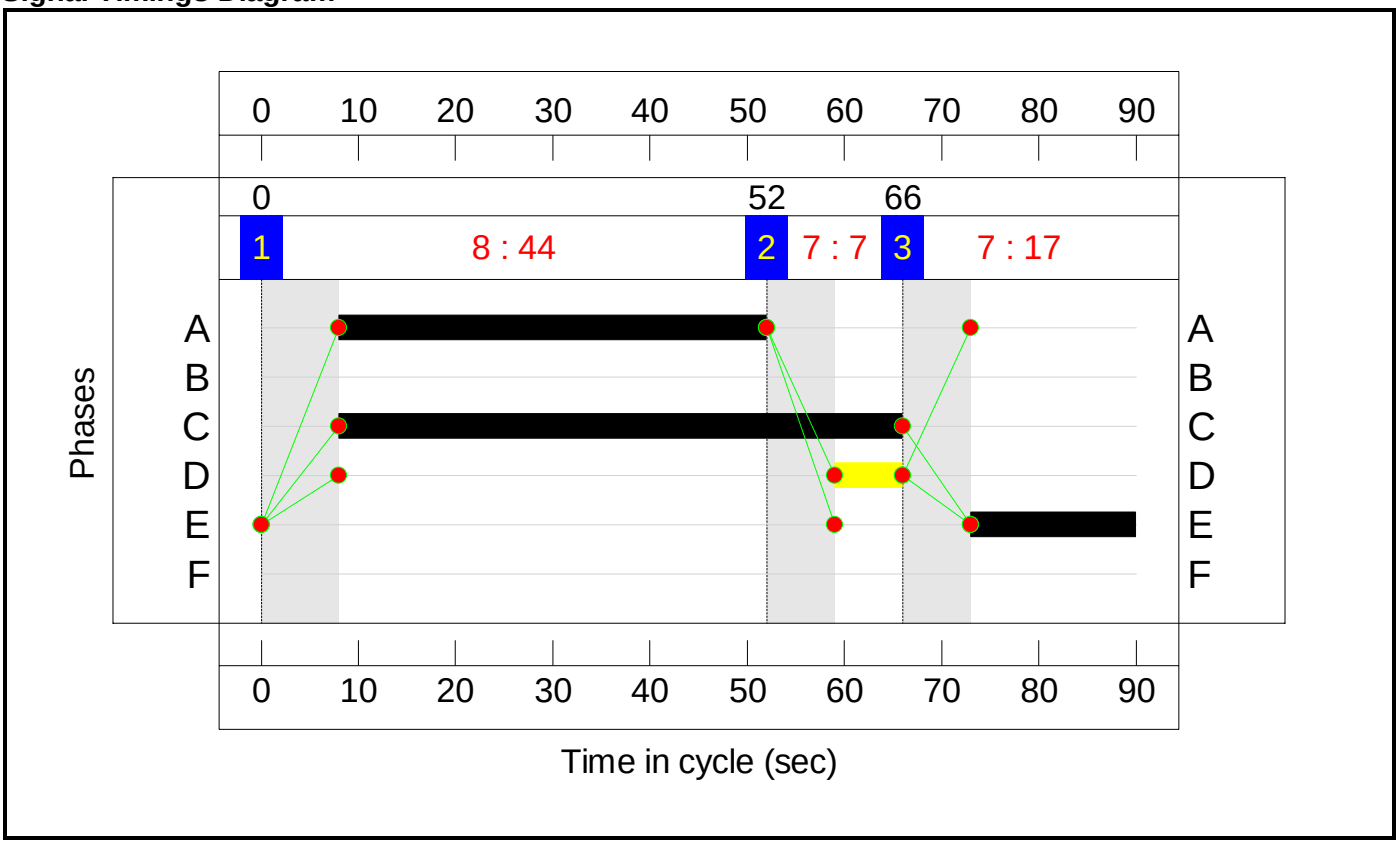


Stage Timings

Stage	1	2	3
Duration	44	7	17
Change Point	0	52	66

Full Input Data And Results

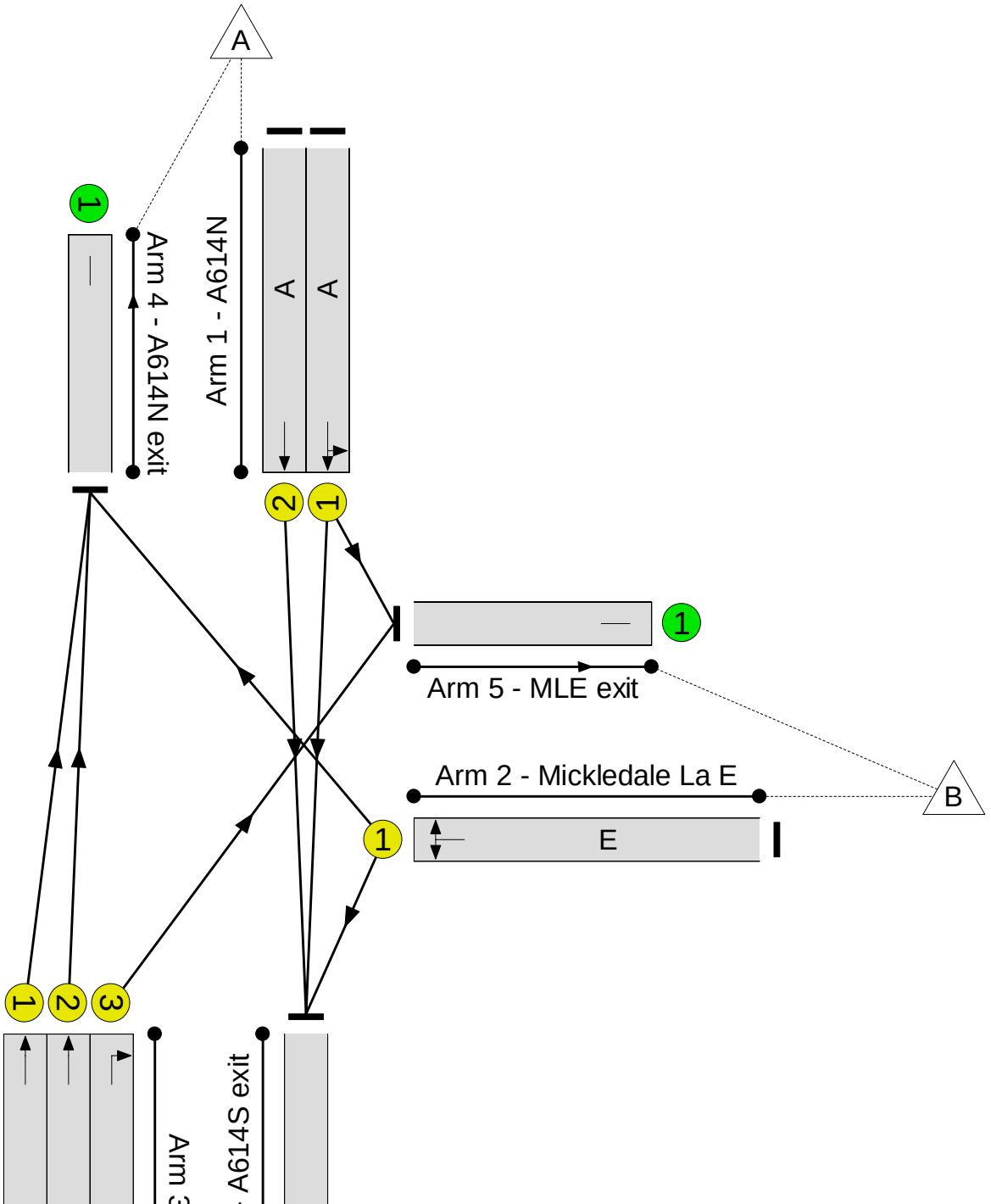
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 63.5 %
Total Traffic Delay: 11.5 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	44	-	523	1900	950	55.1%
1/2	A614N Ahead	U	N/A	N/A	A		1	44	-	522	1900	950	54.9%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	192	1800	360	53.3%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	457	1900	1246	36.7%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	457	1900	1246	36.7%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	69	1800	160	43.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	949	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	102	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1169	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**8.8**	**2.7**	**0.0**	**11.5**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**8.8**	**2.7**	**0.0**	**11.5**	**-**	**-**	**-**	**-**
1/1	523	523	-	-	-	2.3	0.6	-	2.9	19.7	9.0	0.6	9.6
1/2	522	522	-	-	-	2.2	0.6	-	2.9	19.7	9.0	0.6	9.6
2/1	192	192	-	-	-	1.7	0.6	-	2.3	42.9	4.3	0.6	4.8
3/1	457	457	-	-	-	0.9	0.3	-	1.2	9.3	5.1	0.3	5.4
3/2	457	457	-	-	-	0.9	0.3	-	1.2	9.3	5.1	0.3	5.4
3/3	69	69	-	-	-	0.7	0.4	-	1.1	58.5	1.6	0.4	2.0
4/1	949	949	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	102	102	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1169	1169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 63.5
PRC Over All Lanes (%): 63.5

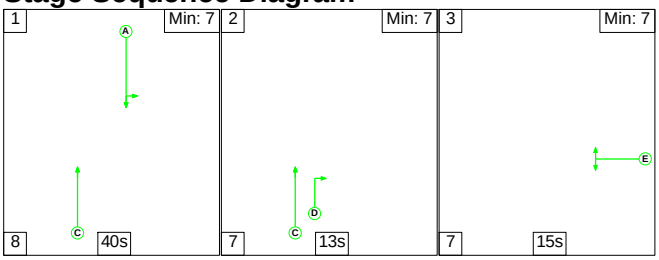
Total Delay for Signalled Lanes (pcuHr): 11.50
Total Delay Over All Lanes(pcuHr): 11.50

Cycle Time (s): 90

Full Input Data And Results

Scenario 2: '2023pm' (FG2: '2023pm', Plan 1: 'all stages')

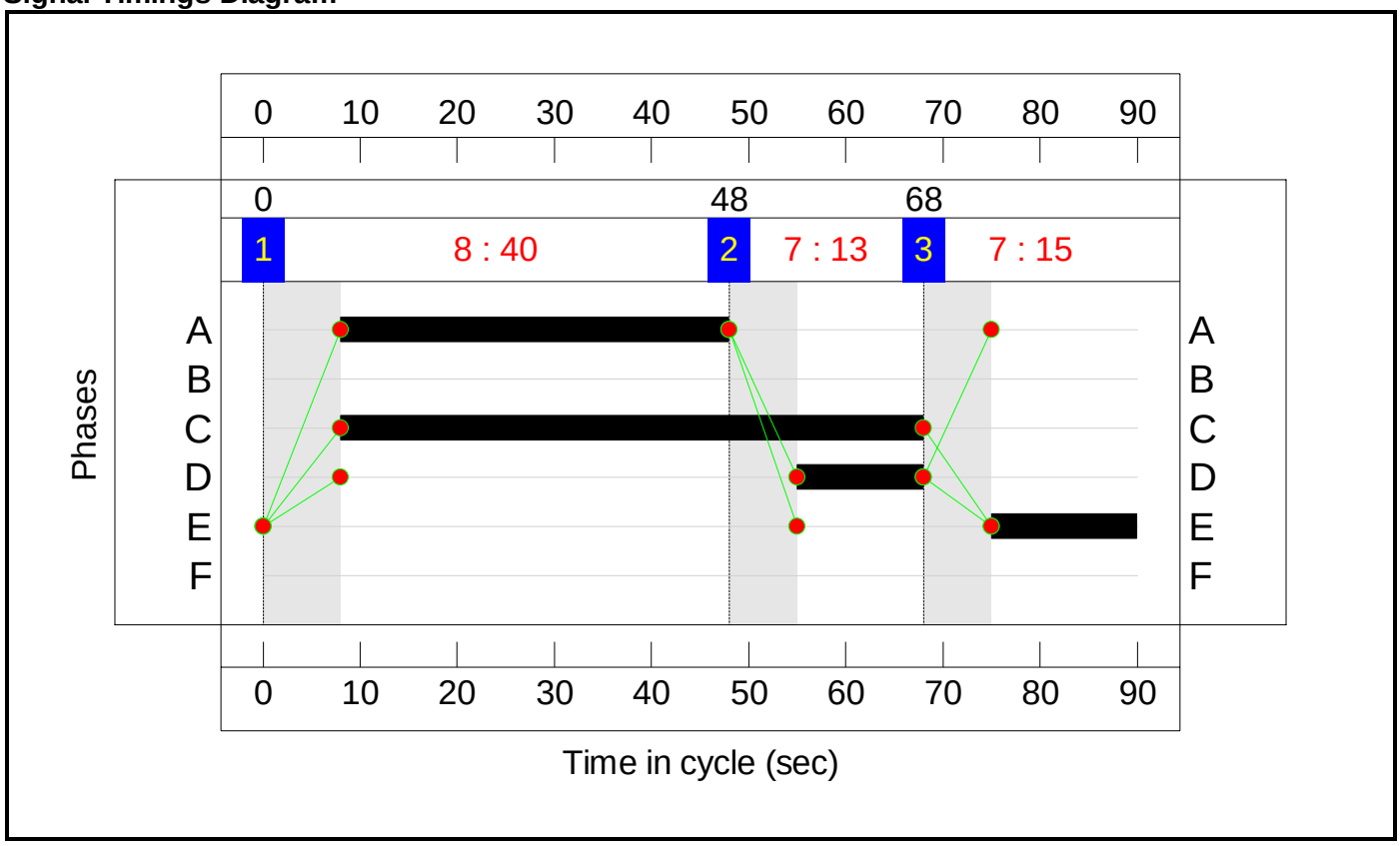
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	40	13	15
Change Point	0	48	68

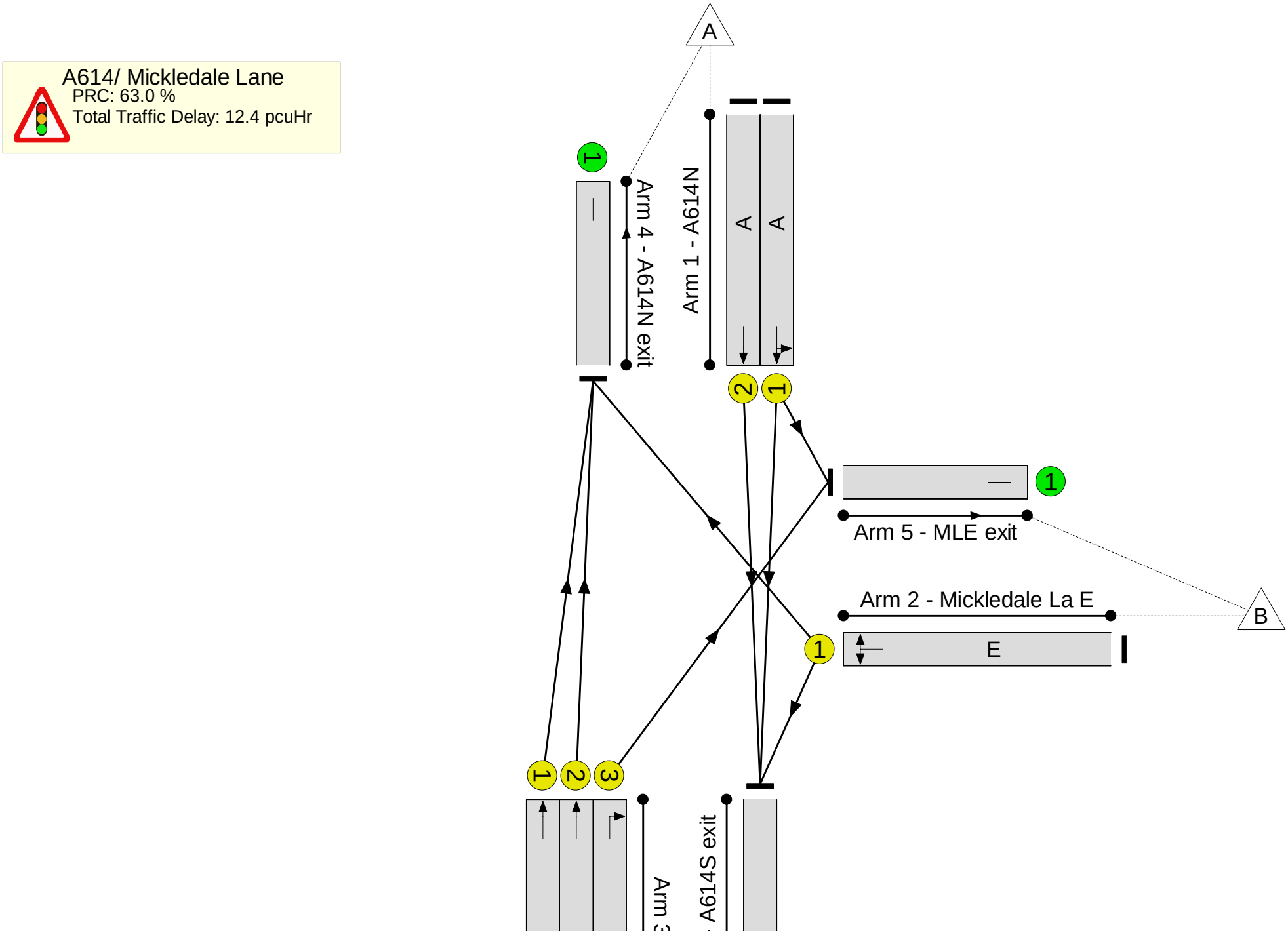
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 63.0 %
Total Traffic Delay: 12.4 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.2%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	40	-	478	1900	866	55.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	40	-	478	1900	866	55.2%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	15	-	169	1800	320	52.8%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	471	1900	1288	36.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	470	1900	1288	36.5%
3/3	A614S Right	U	N/A	N/A	D		1	13	-	154	1800	280	55.0%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	970	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	212	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1038	Inf	Inf	0.0%

Full Input Data And Results

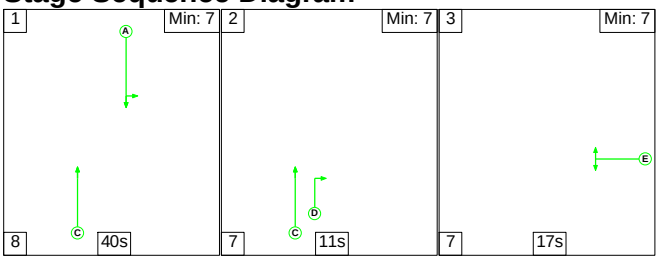
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**9.4**	**3.0**	**0.0**	**12.4**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**9.4**	**3.0**	**0.0**	**12.4**	**-**	**-**	**-**	**-**
1/1	478	478	-	-	-	2.4	0.6	-	3.0	22.5	8.6	0.6	9.2
1/2	478	478	-	-	-	2.4	0.6	-	3.0	22.5	8.6	0.6	9.2
2/1	169	169	-	-	-	1.6	0.6	-	2.1	45.4	3.8	0.6	4.4
3/1	471	471	-	-	-	0.8	0.3	-	1.1	8.4	5.0	0.3	5.3
3/2	470	470	-	-	-	0.8	0.3	-	1.1	8.4	5.0	0.3	5.2
3/3	154	154	-	-	-	1.5	0.6	-	2.1	49.2	3.6	0.6	4.2
4/1	970	970	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	212	212	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1038	1038	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane
PRC for Signalled Lanes (%): 63.0
PRC Over All Lanes (%): 63.0
Total Delay for Signalled Lanes (pcuHr): 12.40
Total Delay Over All Lanes(pcuHr): 12.40
Cycle Time (s): 90

Full Input Data And Results

Scenario 3: '2023ip' (FG3: '2023ip', Plan 1: 'all stages')

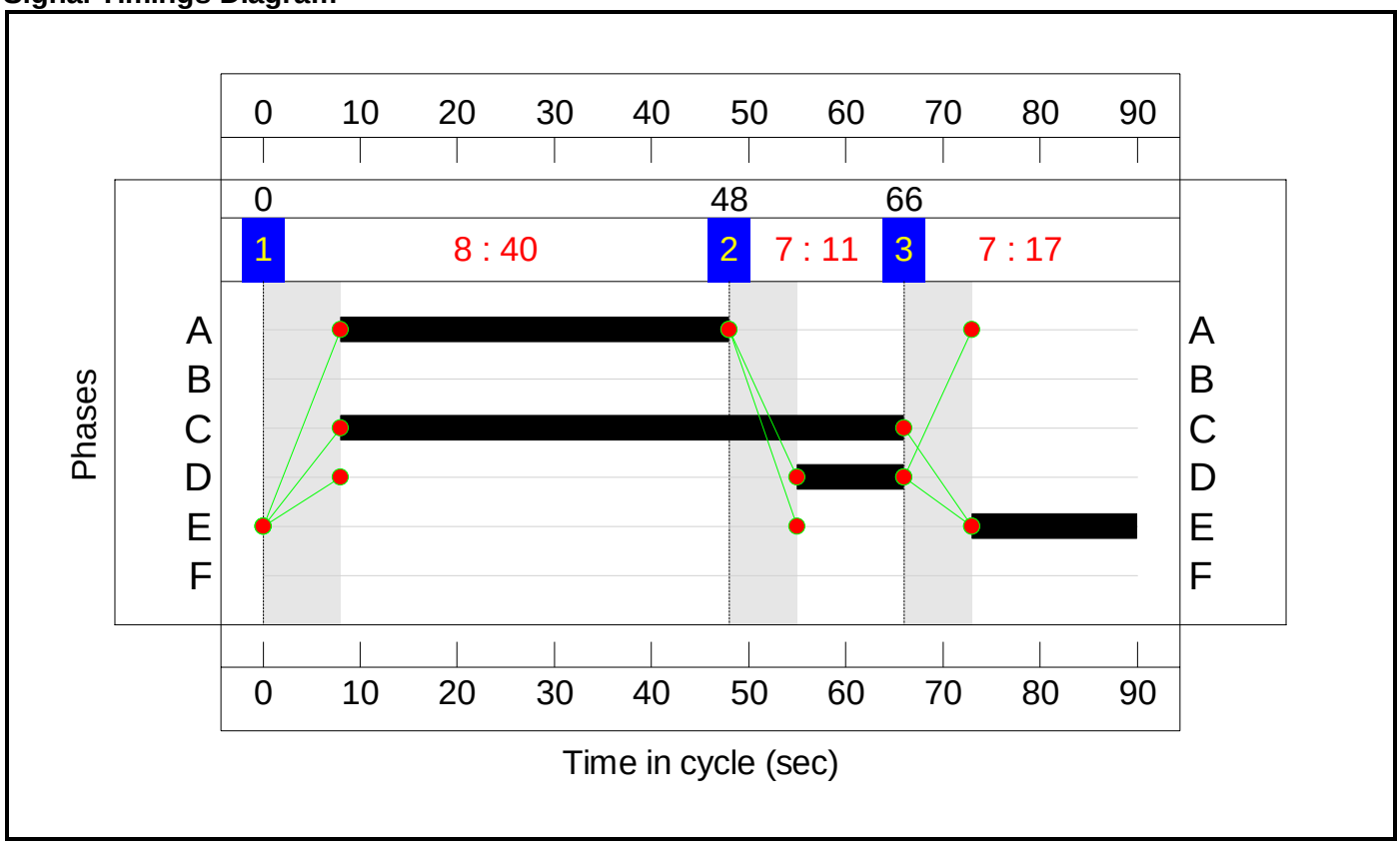
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	40	11	17
Change Point	0	48	66

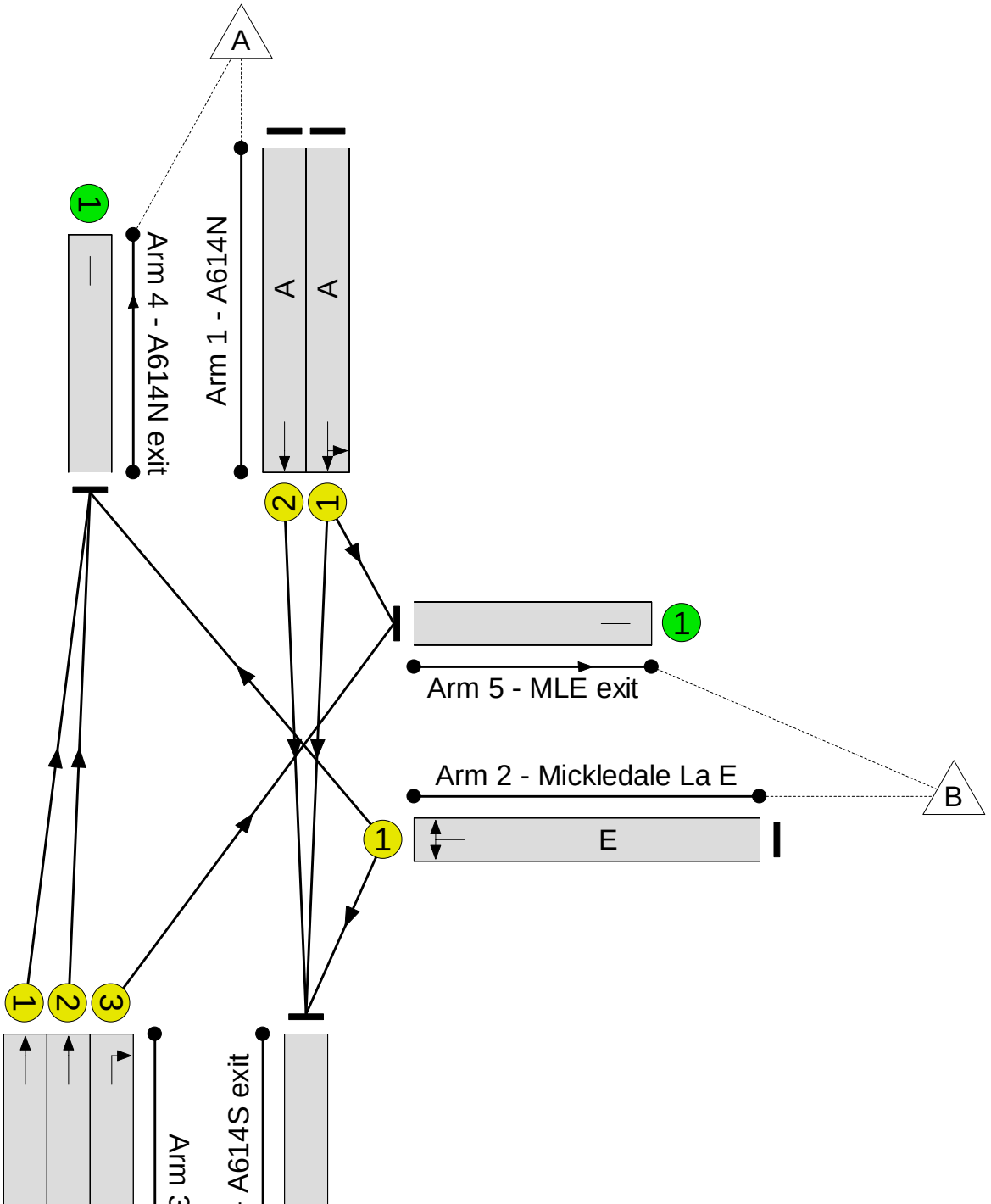
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 141.9 %
Total Traffic Delay: 7.4 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**37.2%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**37.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	40	-	322	1900	866	37.2%
1/2	A614N Ahead	U	N/A	N/A	A		1	40	-	322	1900	866	37.2%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	133	1800	360	36.9%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	306	1900	1246	24.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	306	1900	1246	24.6%
3/3	A614S Right	U	N/A	N/A	D		1	11	-	84	1800	240	35.0%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	648	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	126	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	699	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**5.9**	**1.5**	**0.0**	**7.4**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**5.9**	**1.5**	**0.0**	**7.4**	**-**	**-**	**-**	**-**
1/1	322	322	-	-	-	1.4	0.3	-	1.7	19.4	5.2	0.3	5.5
1/2	322	322	-	-	-	1.4	0.3	-	1.7	19.4	5.2	0.3	5.5
2/1	133	133	-	-	-	1.1	0.3	-	1.4	39.0	2.8	0.3	3.1
3/1	306	306	-	-	-	0.5	0.2	-	0.7	8.3	3.1	0.2	3.2
3/2	306	306	-	-	-	0.5	0.2	-	0.7	8.3	3.1	0.2	3.2
3/3	84	84	-	-	-	0.8	0.3	-	1.1	47.0	1.9	0.3	2.2
4/1	648	648	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	126	126	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	699	699	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 141.9
PRC Over All Lanes (%): 141.9

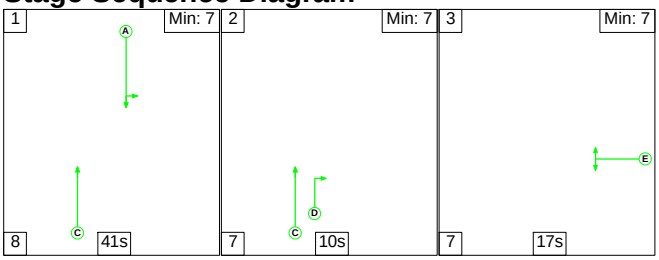
Total Delay for Signalled Lanes (pcuHr): 7.41
Total Delay Over All Lanes(pcuHr): 7.41

Cycle Time (s): 90

Full Input Data And Results

Scenario 4: '2023op' (FG4: '2023op', Plan 1: 'all stages')

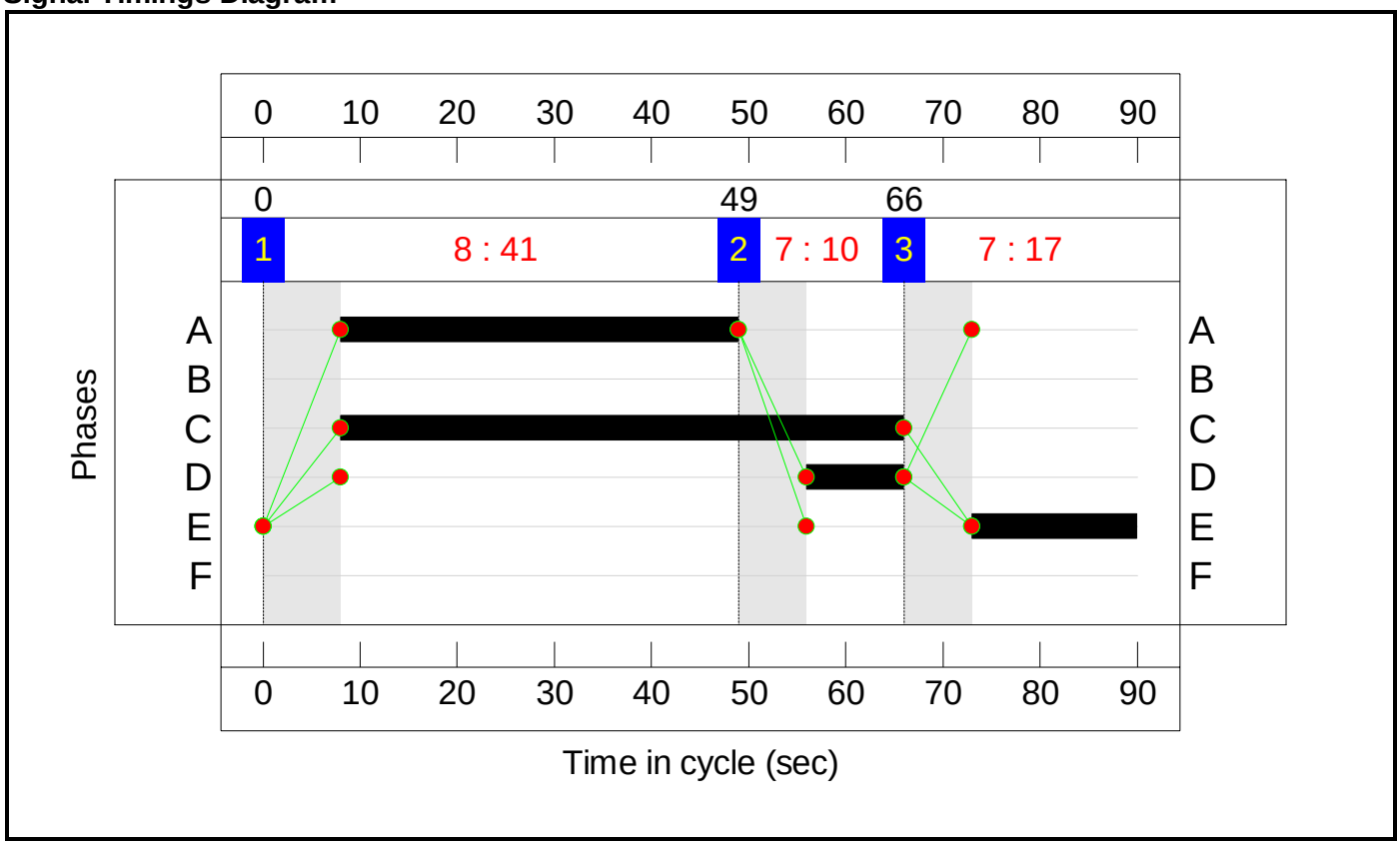
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	41	10	17
Change Point	0	49	66

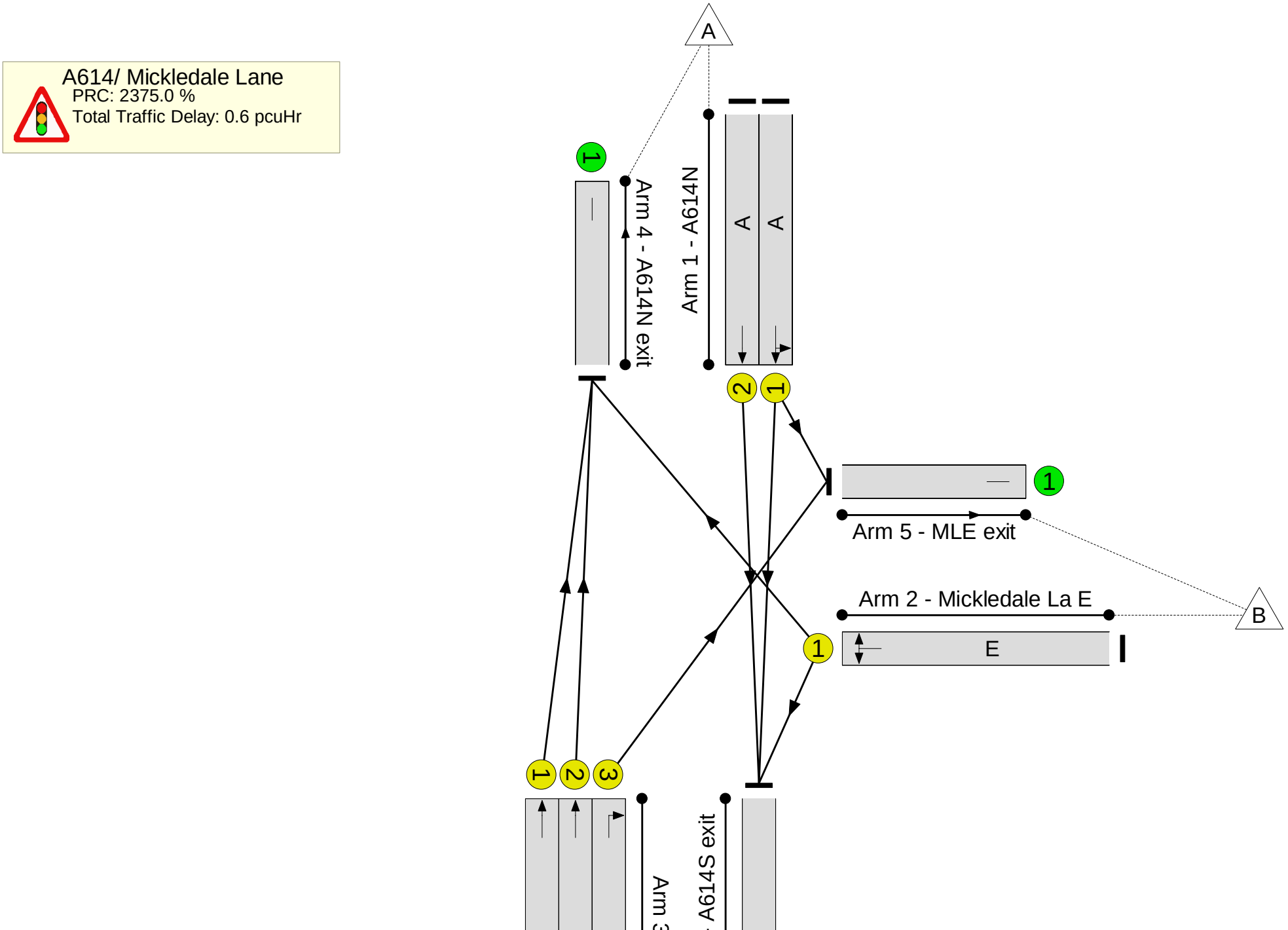
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 2375.0 %
Total Traffic Delay: 0.6 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.6%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.6%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	41	-	31	1900	887	3.5%
1/2	A614N Ahead	U	N/A	N/A	A		1	41	-	32	1900	887	3.6%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	13	1800	360	3.6%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	30	1900	1246	2.4%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	30	1900	1246	2.4%
3/3	A614S Right	U	N/A	N/A	D		1	10	-	8	1800	220	3.6%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	12	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	68	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**0.5**	**0.1**	**0.0**	**0.6**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**0.5**	**0.1**	**0.0**	**0.6**	**-**	**-**	**-**	**-**
1/1	31	31	-	-	-	0.1	0.0	-	0.1	15.2	0.4	0.0	0.4
1/2	32	32	-	-	-	0.1	0.0	-	0.1	15.2	0.4	0.0	0.4
2/1	13	13	-	-	-	0.1	0.0	-	0.1	34.4	0.3	0.0	0.3
3/1	30	30	-	-	-	0.0	0.0	-	0.1	7.0	0.3	0.0	0.3
3/2	30	30	-	-	-	0.0	0.0	-	0.1	7.0	0.3	0.0	0.3
3/3	8	8	-	-	-	0.1	0.0	-	0.1	43.6	0.2	0.0	0.2
4/1	64	64	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	12	12	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	68	68	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 2375.0
PRC Over All Lanes (%): 2375.0

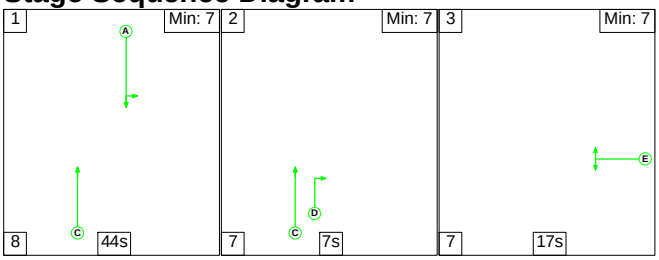
Total Delay for Signalled Lanes (pcuHr): 0.60
Total Delay Over All Lanes(pcuHr): 0.60

Cycle Time (s): 90

Full Input Data And Results

Scenario 5: '2037am' (FG5: '2037am', Plan 1: 'all stages')

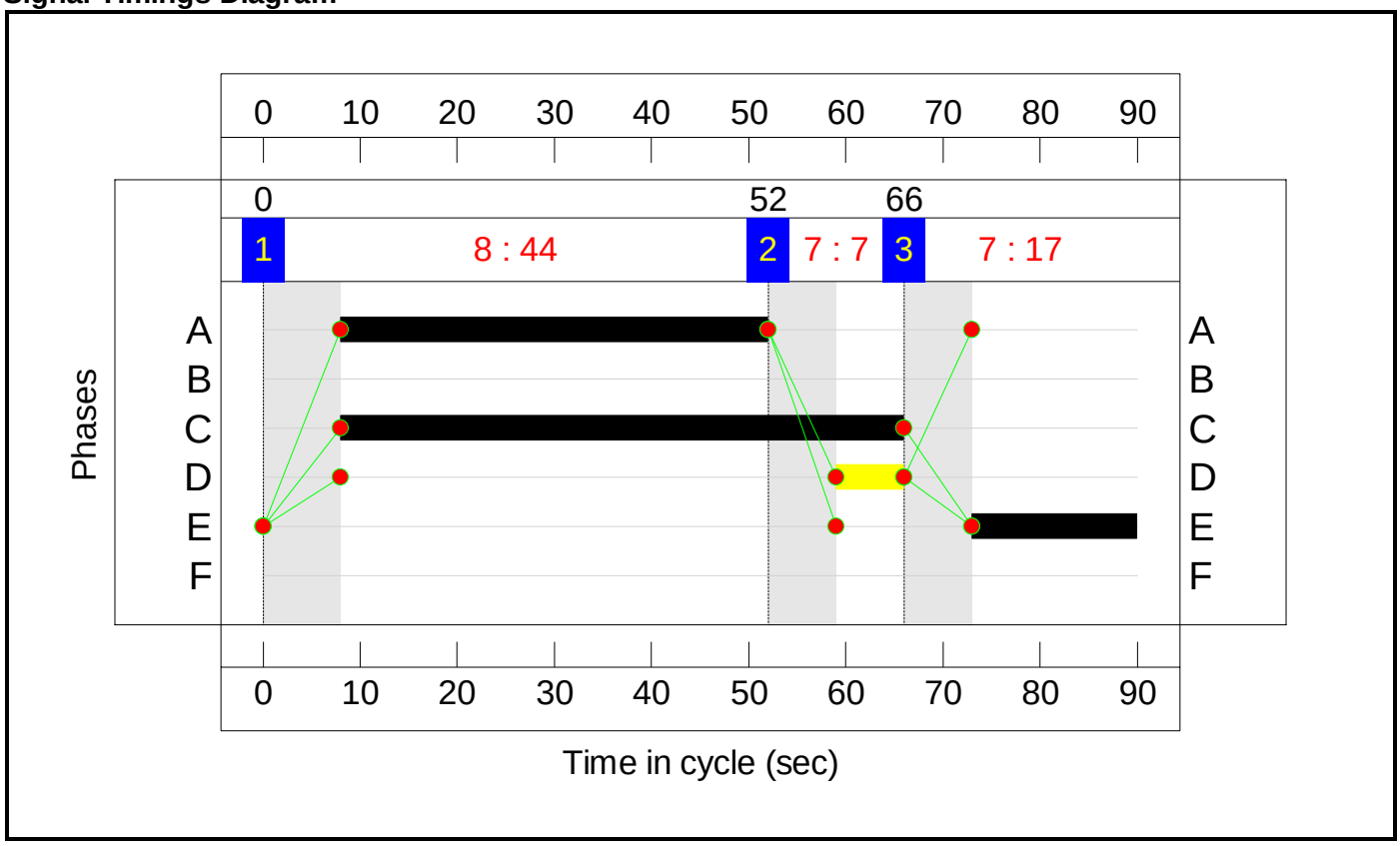
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	44	7	17
Change Point	0	52	66

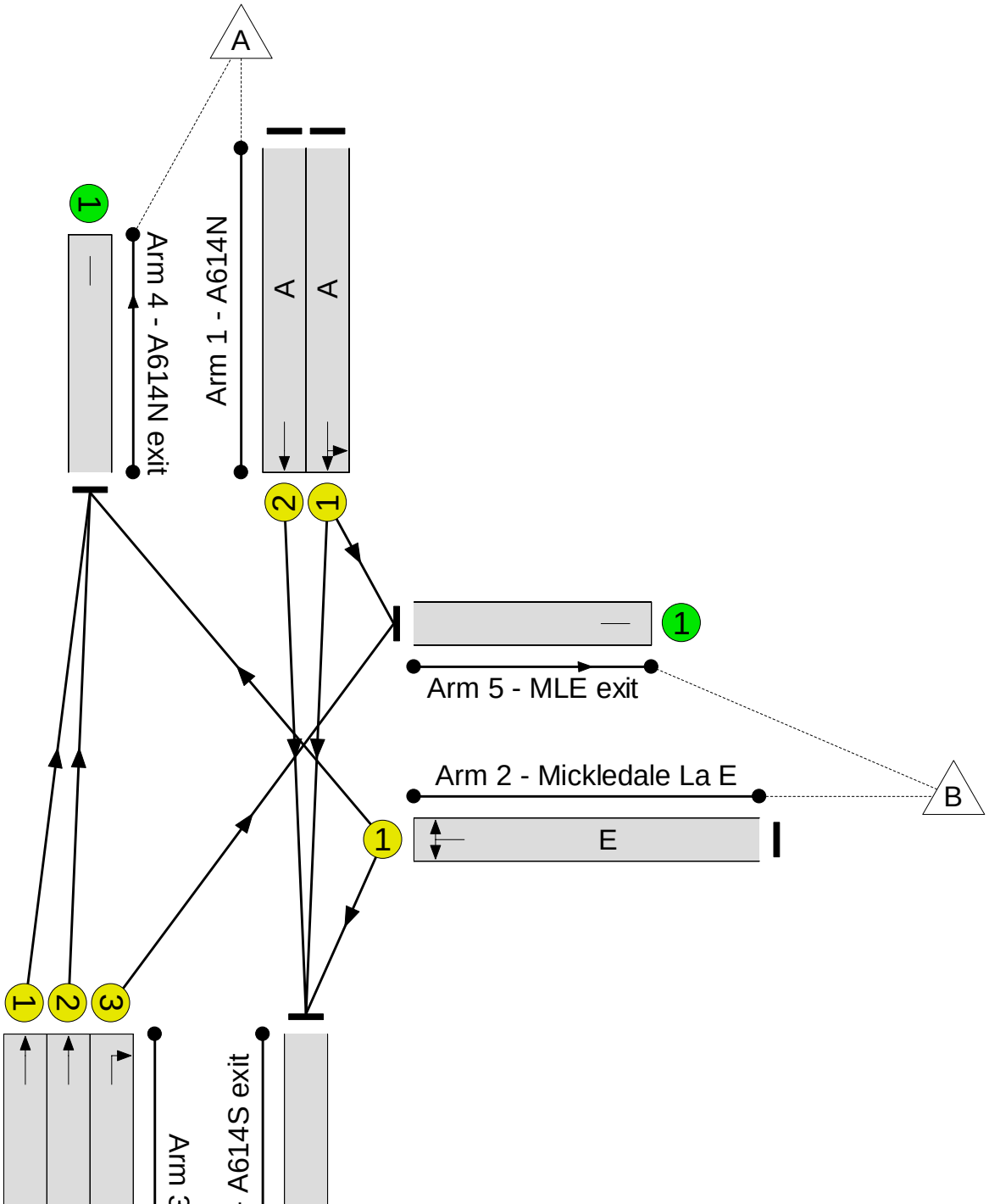
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 57.7 %
Total Traffic Delay: 12.1 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.1%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.1%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	44	-	542	1900	950	57.1%
1/2	A614N Ahead	U	N/A	N/A	A		1	44	-	542	1900	950	57.1%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	195	1800	360	54.2%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	474	1900	1246	38.1%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	474	1900	1246	38.1%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	71	1800	160	44.4%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	983	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	105	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1210	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**9.1**	**2.9**	**0.0**	**12.1**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**9.1**	**2.9**	**0.0**	**12.1**	**-**	**-**	**-**	**-**
1/1	542	542	-	-	-	2.4	0.7	-	3.0	20.1	9.3	0.7	10.0
1/2	542	542	-	-	-	2.4	0.7	-	3.0	20.1	9.3	0.7	10.0
2/1	195	195	-	-	-	1.8	0.6	-	2.3	43.1	4.3	0.6	4.9
3/1	474	474	-	-	-	0.9	0.3	-	1.2	9.4	5.4	0.3	5.7
3/2	474	474	-	-	-	0.9	0.3	-	1.2	9.4	5.4	0.3	5.7
3/3	71	71	-	-	-	0.8	0.4	-	1.2	59.0	1.7	0.4	2.1
4/1	983	983	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	105	105	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1210	1210	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 57.7
PRC Over All Lanes (%): 57.7

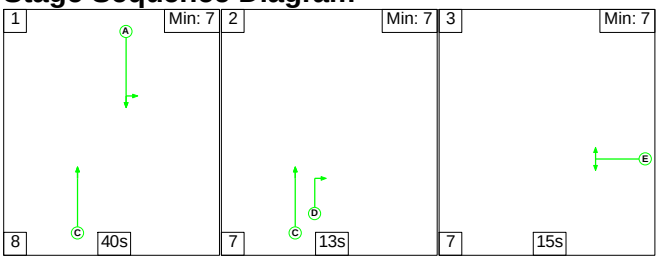
Total Delay for Signalled Lanes (pcuHr): 12.05
Total Delay Over All Lanes(pcuHr): 12.05

Cycle Time (s): 90

Full Input Data And Results

Scenario 6: '2037pm' (FG6: '2037pm', Plan 1: 'all stages')

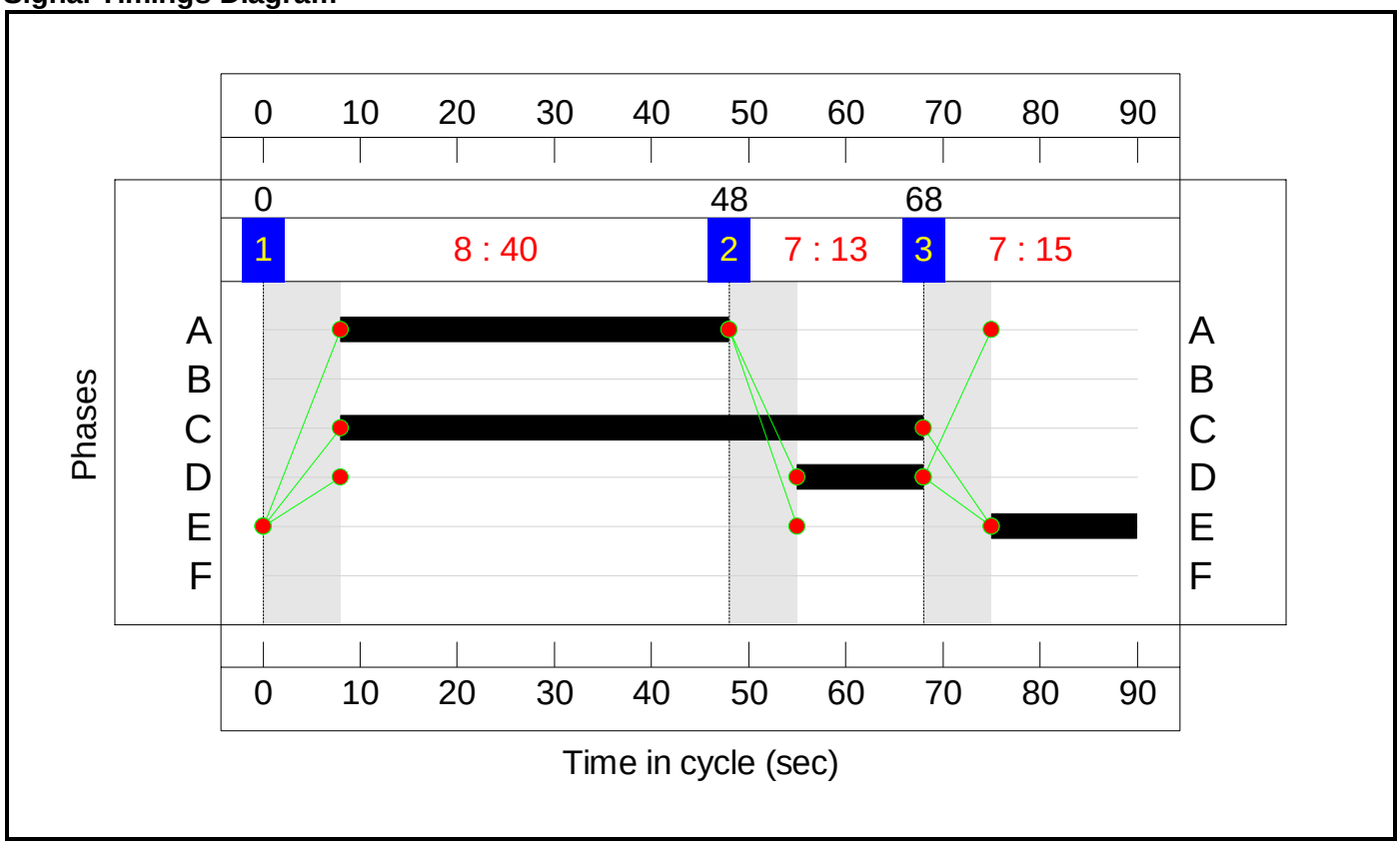
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	40	13	15
Change Point	0	48	68

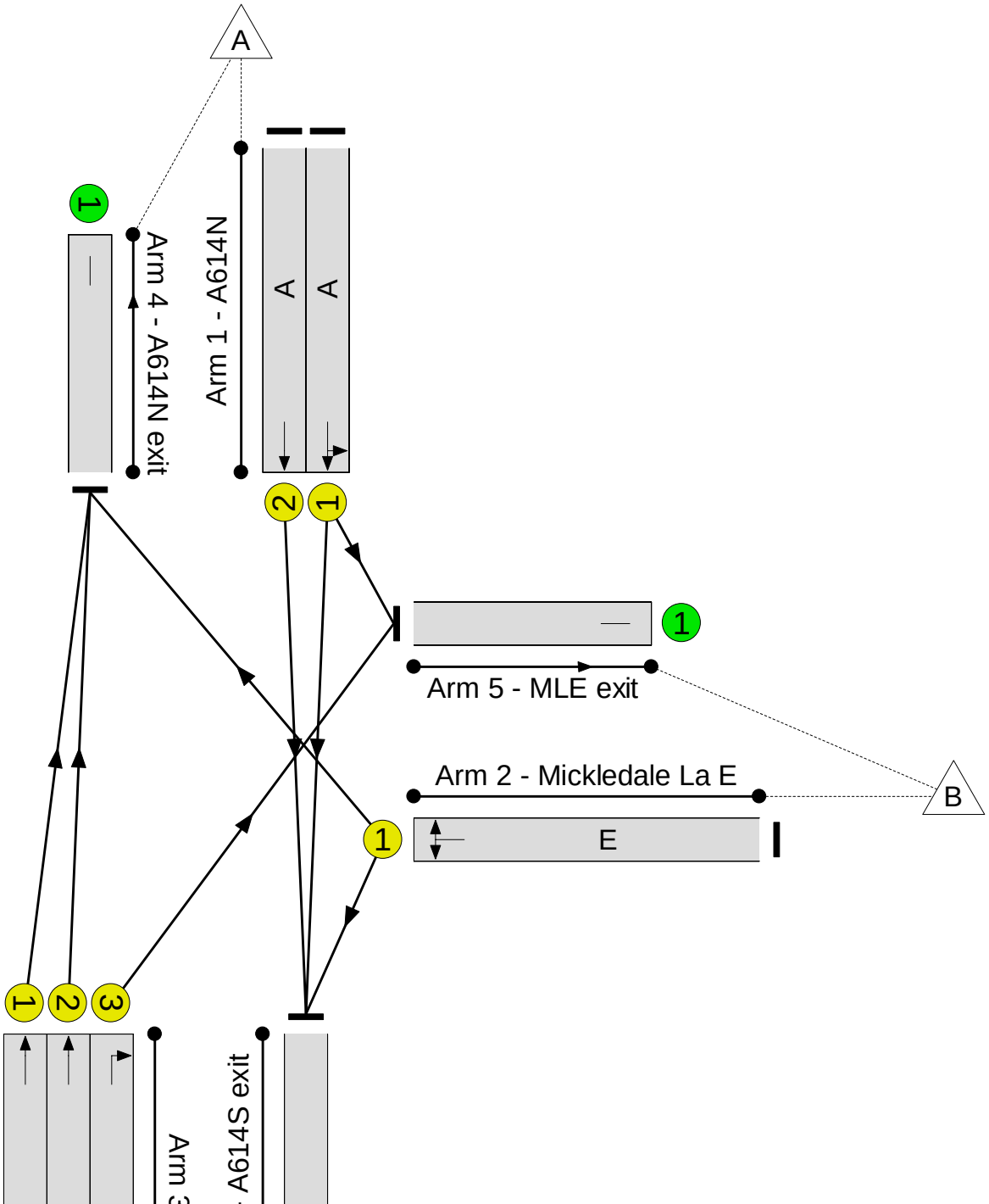
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 59.3 %
Total Traffic Delay: 12.8 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.5%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.5%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	40	-	489	1900	866	56.5%
1/2	A614N Ahead	U	N/A	N/A	A		1	40	-	488	1900	866	56.4%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	15	-	172	1800	320	53.8%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	481	1900	1288	37.4%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	480	1900	1288	37.3%
3/3	A614S Right	U	N/A	N/A	D		1	13	-	156	1800	280	55.7%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	990	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	214	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1062	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**9.7**	**3.1**	**0.0**	**12.8**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**9.7**	**3.1**	**0.0**	**12.8**	**-**	**-**	**-**	**-**
1/1	489	489	-	-	-	2.4	0.6	-	3.1	22.7	8.8	0.6	9.5
1/2	488	488	-	-	-	2.4	0.6	-	3.1	22.7	8.8	0.6	9.5
2/1	172	172	-	-	-	1.6	0.6	-	2.2	45.7	3.9	0.6	4.4
3/1	481	481	-	-	-	0.8	0.3	-	1.1	8.5	5.1	0.3	5.4
3/2	480	480	-	-	-	0.8	0.3	-	1.1	8.5	5.1	0.3	5.4
3/3	156	156	-	-	-	1.5	0.6	-	2.1	49.5	3.6	0.6	4.2
4/1	990	990	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	214	214	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1062	1062	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 59.3
PRC Over All Lanes (%): 59.3

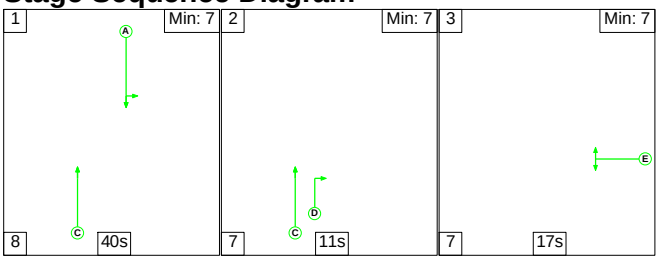
Total Delay for Signalled Lanes (pcuHr): 12.76
Total Delay Over All Lanes(pcuHr): 12.76

Cycle Time (s): 90

Full Input Data And Results

Scenario 7: '2037ip' (FG7: '2037ip', Plan 1: 'all stages')

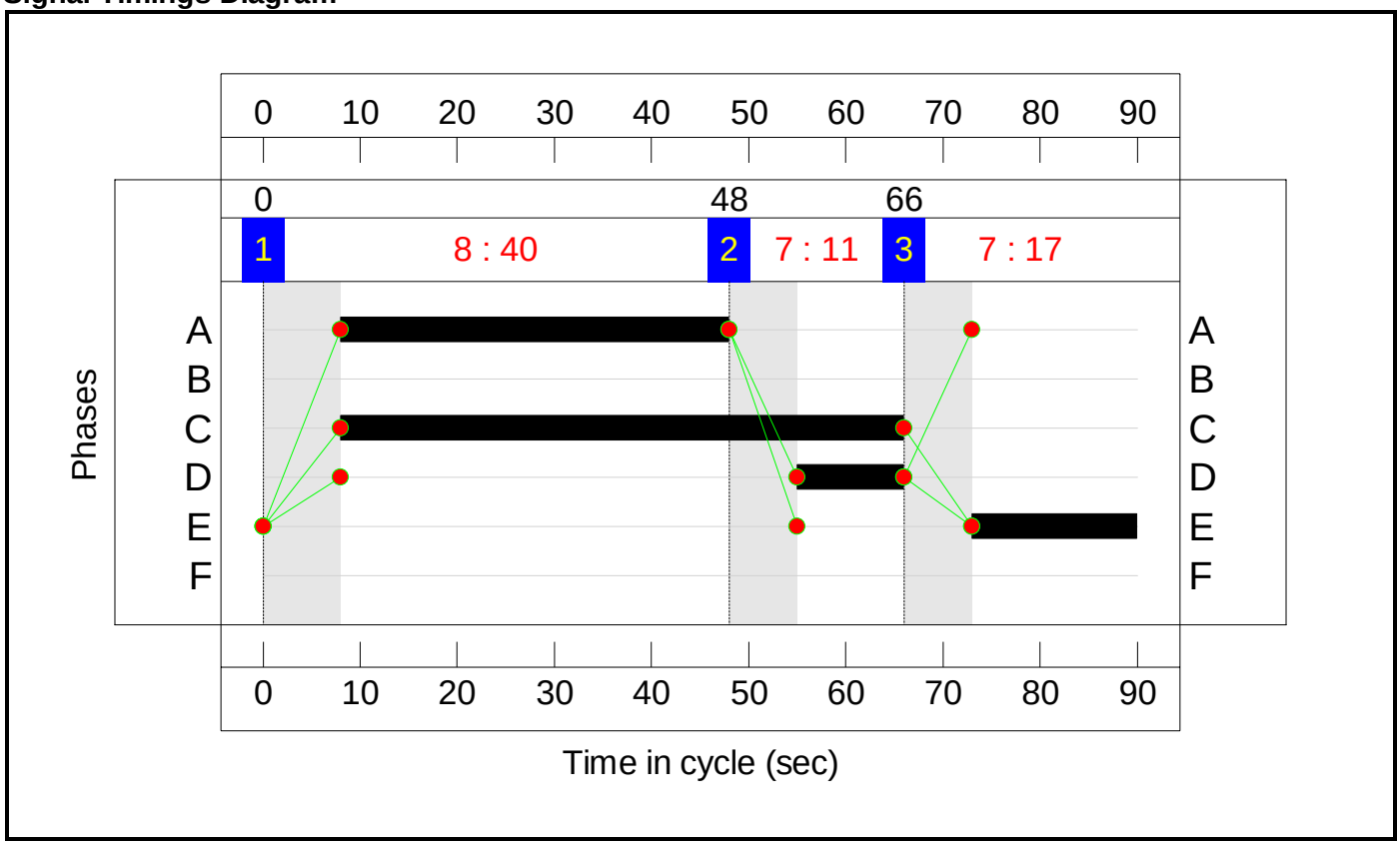
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	40	11	17
Change Point	0	48	66

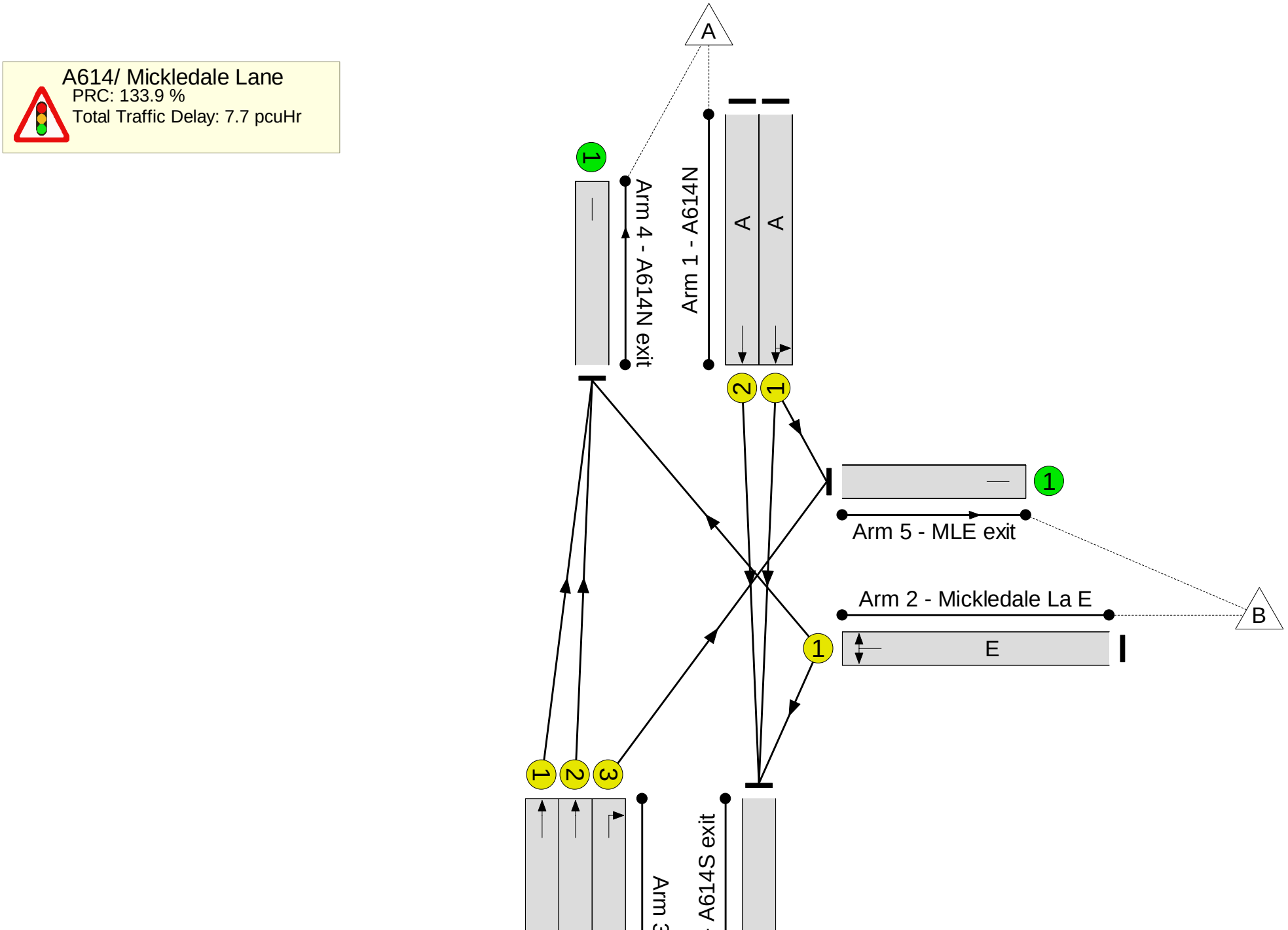
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 133.9 %
Total Traffic Delay: 7.7 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**38.5%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**38.5%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	40	-	332	1900	866	38.4%
1/2	A614N Ahead	U	N/A	N/A	A		1	40	-	333	1900	866	38.5%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	136	1800	360	37.8%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	316	1900	1246	25.4%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	316	1900	1246	25.4%
3/3	A614S Right	U	N/A	N/A	D		1	11	-	86	1800	240	35.8%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	669	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	722	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**6.1**	**1.5**	**0.0**	**7.7**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**6.1**	**1.5**	**0.0**	**7.7**	**-**	**-**	**-**	**-**
1/1	332	332	-	-	-	1.5	0.3	-	1.8	19.5	5.4	0.3	5.8
1/2	333	333	-	-	-	1.5	0.3	-	1.8	19.6	5.5	0.3	5.8
2/1	136	136	-	-	-	1.2	0.3	-	1.5	39.2	2.9	0.3	3.2
3/1	316	316	-	-	-	0.6	0.2	-	0.7	8.3	3.2	0.2	3.4
3/2	316	316	-	-	-	0.6	0.2	-	0.7	8.3	3.2	0.2	3.4
3/3	86	86	-	-	-	0.8	0.3	-	1.1	47.2	1.9	0.3	2.2
4/1	669	669	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 133.9
PRC Over All Lanes (%): 133.9

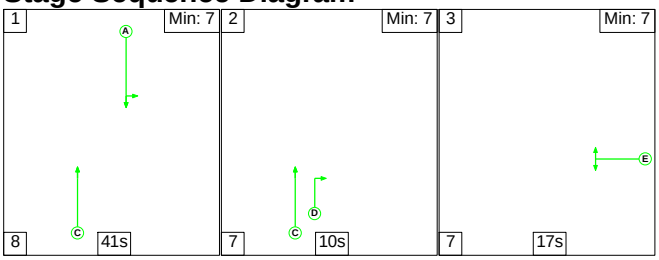
Total Delay for Signalled Lanes (pcuHr): 7.68
Total Delay Over All Lanes(pcuHr): 7.68

Cycle Time (s): 90

Full Input Data And Results

Scenario 8: '2037op' (FG8: '2037op', Plan 1: 'all stages')

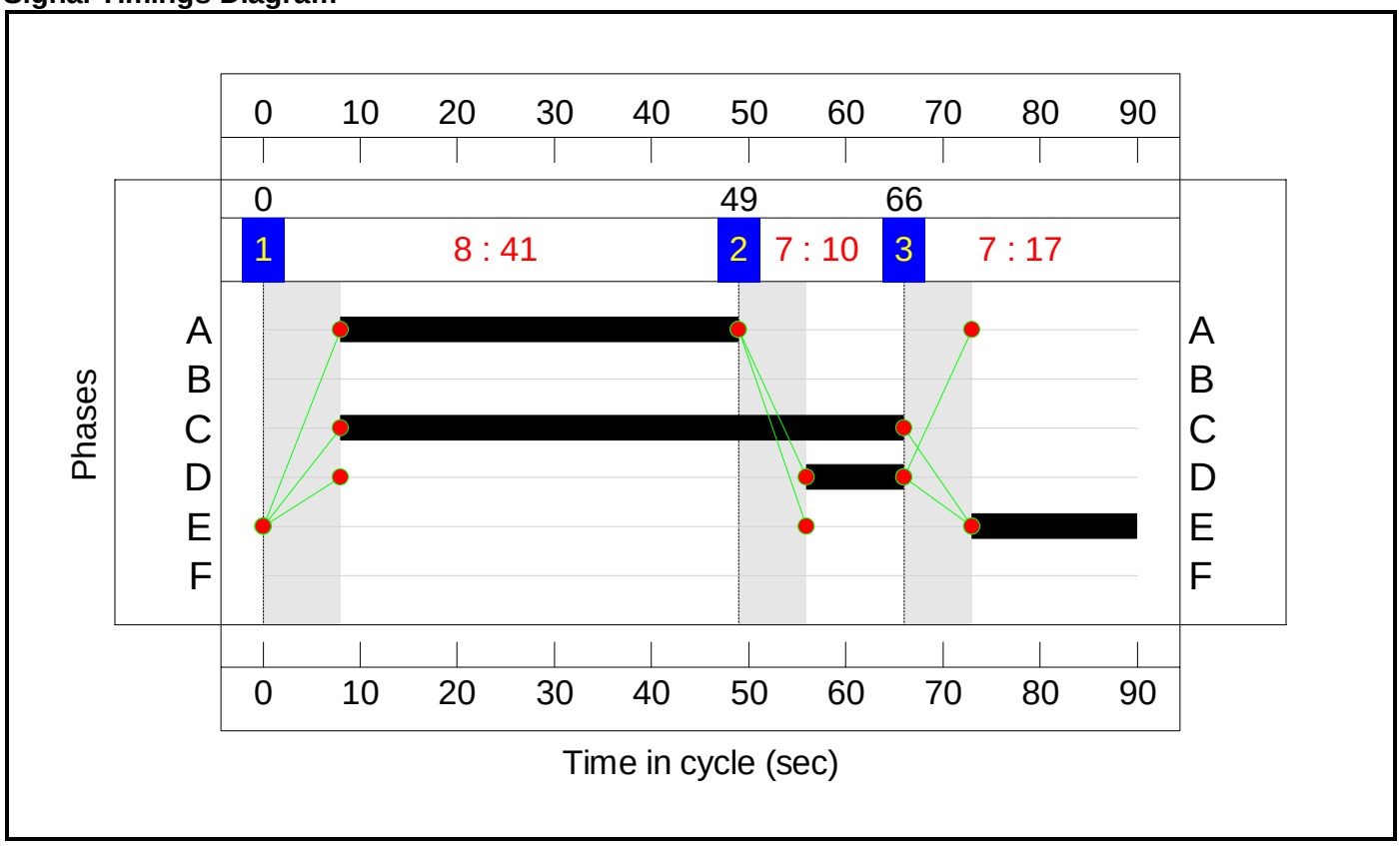
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	41	10	17
Change Point	0	49	66

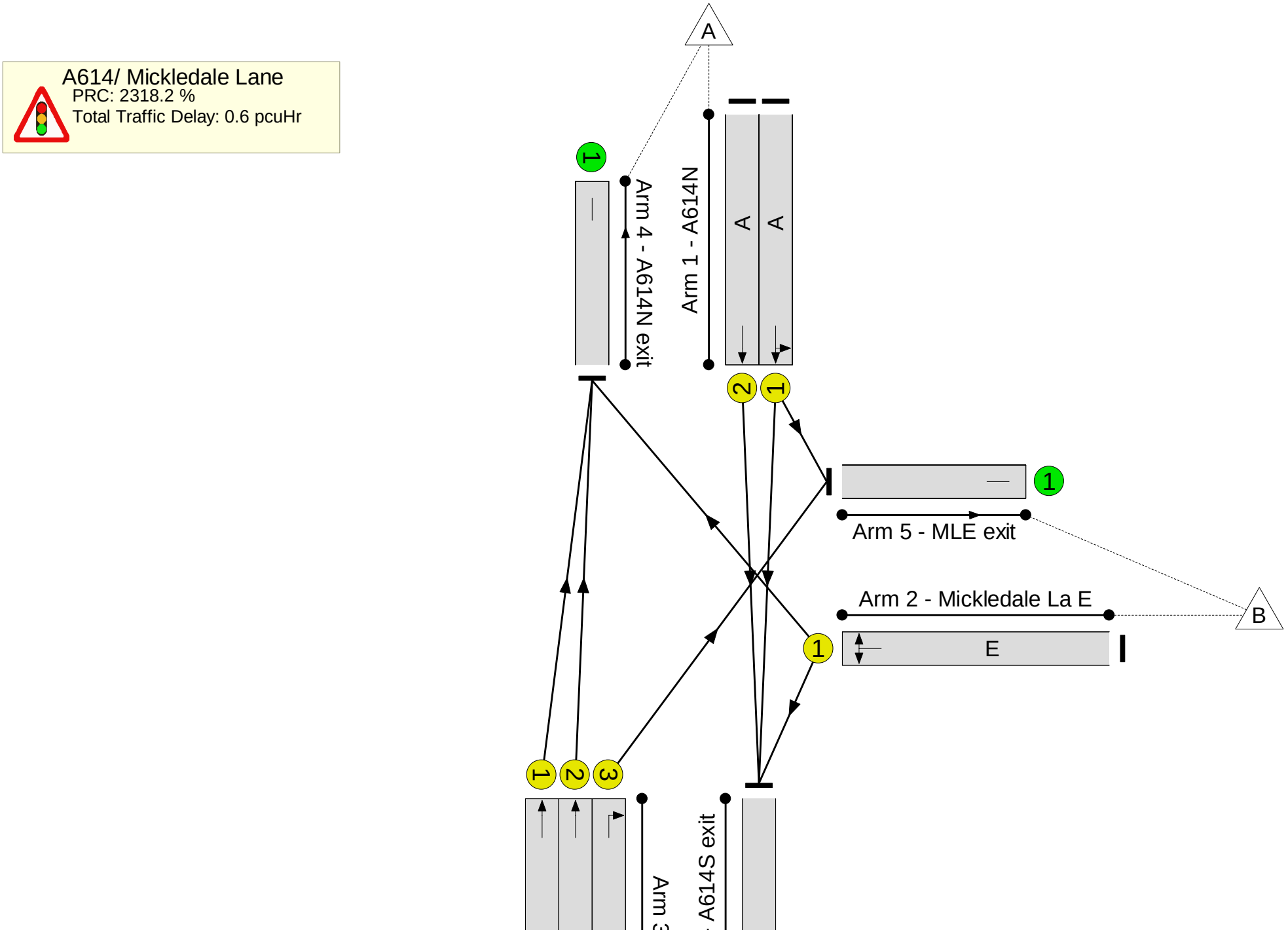
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 2318.2 %
Total Traffic Delay: 0.6 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	41	-	32	1900	887	3.6%
1/2	A614N Ahead	U	N/A	N/A	A		1	41	-	33	1900	887	3.7%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	17	-	13	1800	360	3.6%
3/1	A614S Ahead	U	N/A	N/A	C		1	58	-	31	1900	1246	2.5%
3/2	A614S Ahead	U	N/A	N/A	C		1	58	-	31	1900	1246	2.5%
3/3	A614S Right	U	N/A	N/A	D		1	10	-	8	1800	220	3.6%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	12	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	70	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**0.5**	**0.1**	**0.0**	**0.6**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**0.5**	**0.1**	**0.0**	**0.6**	**-**	**-**	**-**	**-**
1/1	32	32	-	-	-	0.1	0.0	-	0.1	15.2	0.4	0.0	0.4
1/2	33	33	-	-	-	0.1	0.0	-	0.1	15.2	0.4	0.0	0.5
2/1	13	13	-	-	-	0.1	0.0	-	0.1	34.4	0.3	0.0	0.3
3/1	31	31	-	-	-	0.0	0.0	-	0.1	7.0	0.3	0.0	0.3
3/2	31	31	-	-	-	0.0	0.0	-	0.1	7.0	0.3	0.0	0.3
3/3	8	8	-	-	-	0.1	0.0	-	0.1	43.6	0.2	0.0	0.2
4/1	66	66	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	12	12	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 2318.2
PRC Over All Lanes (%): 2318.2

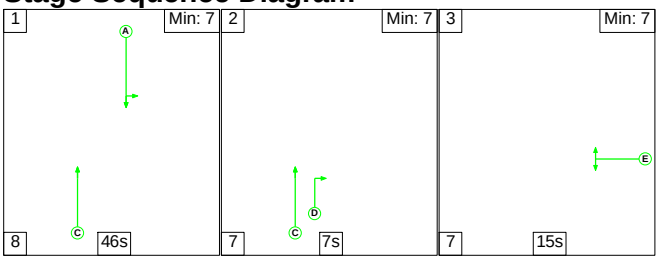
Total Delay for Signalled Lanes (pcuHr): 0.62
Total Delay Over All Lanes(pcuHr): 0.62

Cycle Time (s): 90

Full Input Data And Results

Scenario 9: '2037am final' (FG9: '2037am final', Plan 1: 'all stages')

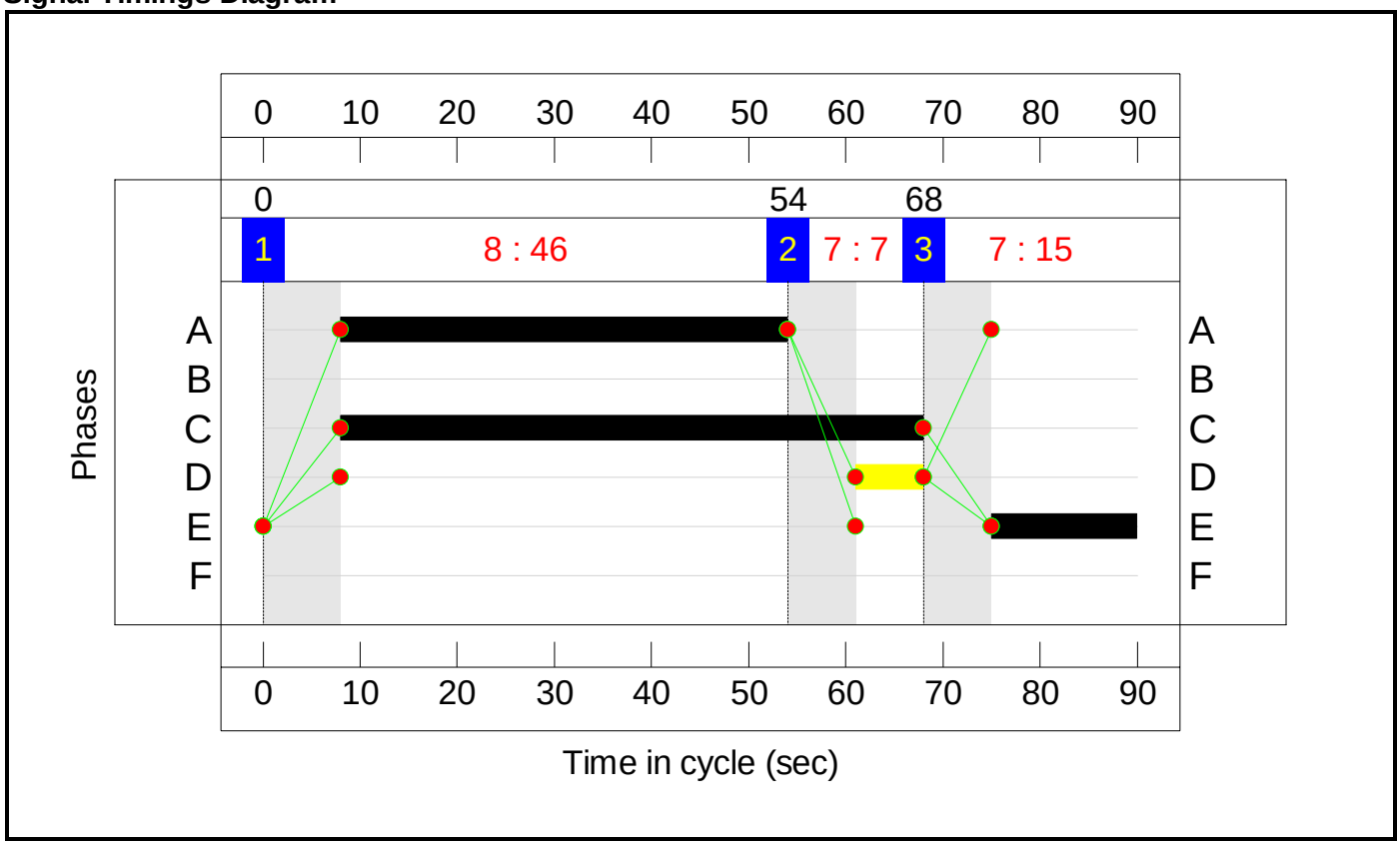
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	46	7	15
Change Point	0	54	68

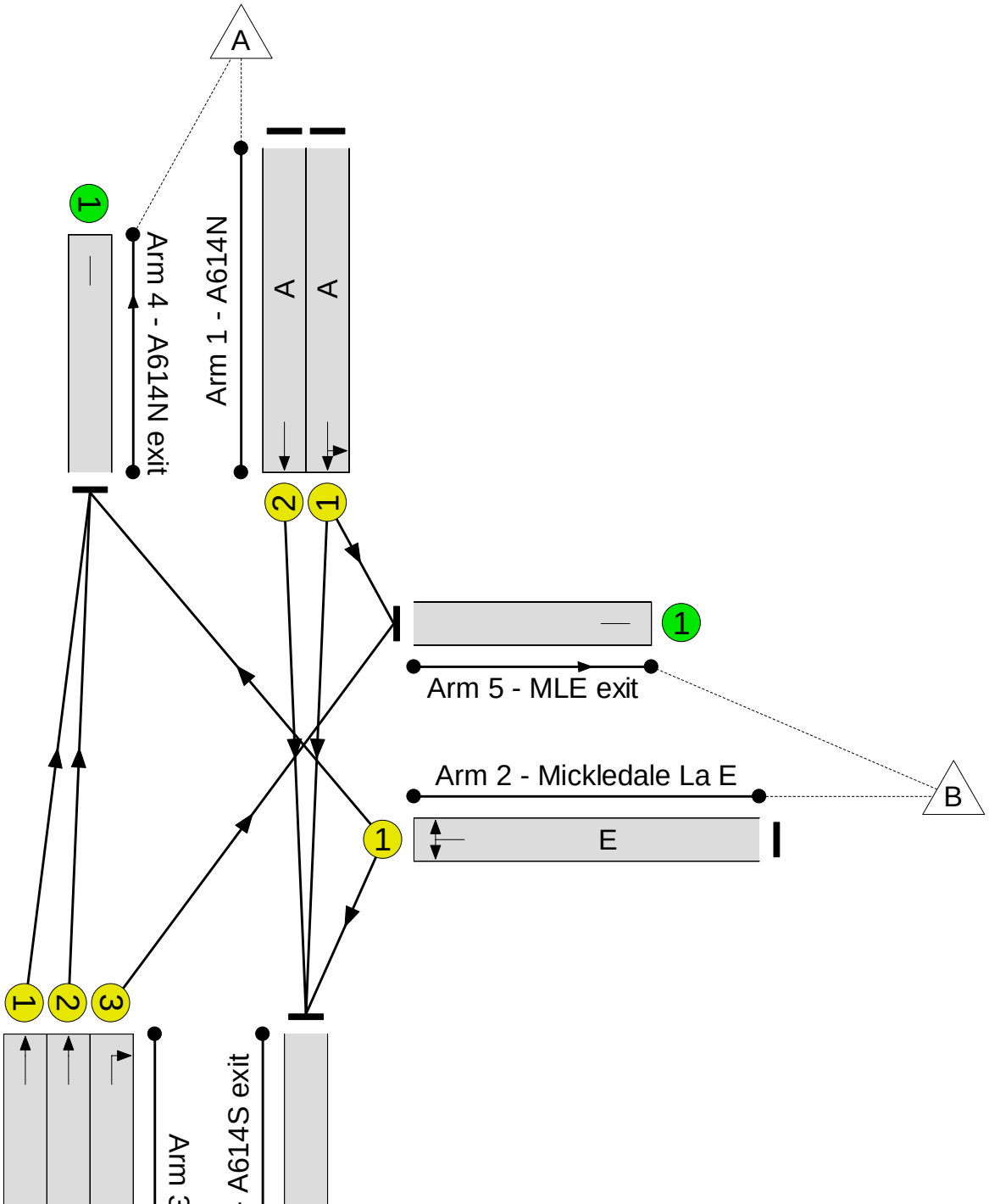
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 44.0 %
Total Traffic Delay: 13.4 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.5%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.5%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	46	-	619	1900	992	62.4%
1/2	A614N Ahead	U	N/A	N/A	A		1	46	-	619	1900	992	62.4%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	15	-	200	1800	320	62.5%
3/1	A614S Ahead	U	N/A	N/A	C		1	60	-	526	1900	1288	40.8%
3/2	A614S Ahead	U	N/A	N/A	C		1	60	-	525	1900	1288	40.8%
3/3	A614S Right	U	N/A	N/A	D		1	7	-	73	1800	160	45.6%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	1090	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1361	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**9.8**	**3.6**	**0.0**	**13.4**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**9.8**	**3.6**	**0.0**	**13.4**	**-**	**-**	**-**	**-**
1/1	619	619	-	-	-	2.6	0.8	-	3.4	20.0	10.8	0.8	11.7
1/2	619	619	-	-	-	2.6	0.8	-	3.4	20.0	10.8	0.8	11.7
2/1	200	200	-	-	-	1.9	0.8	-	2.7	49.0	4.6	0.8	5.4
3/1	526	526	-	-	-	0.9	0.3	-	1.3	8.8	5.8	0.3	6.2
3/2	525	525	-	-	-	0.9	0.3	-	1.3	8.8	5.8	0.3	6.2
3/3	73	73	-	-	-	0.8	0.4	-	1.2	59.5	1.7	0.4	2.1
4/1	1090	1090	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	111	111	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1361	1361	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 44.0
PRC Over All Lanes (%): 44.0

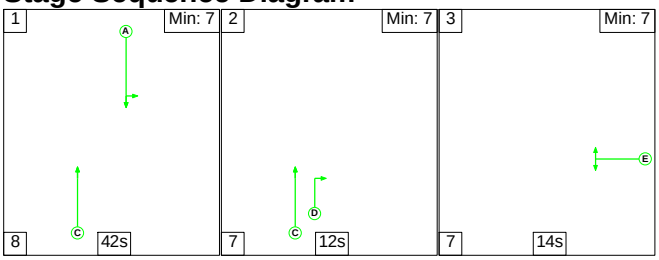
Total Delay for Signalled Lanes (pcuHr): 13.40
Total Delay Over All Lanes(pcuHr): 13.40

Cycle Time (s): 90

Full Input Data And Results

Scenario 10: '2037pm final' (FG10: '2037pm final', Plan 1: 'all stages')

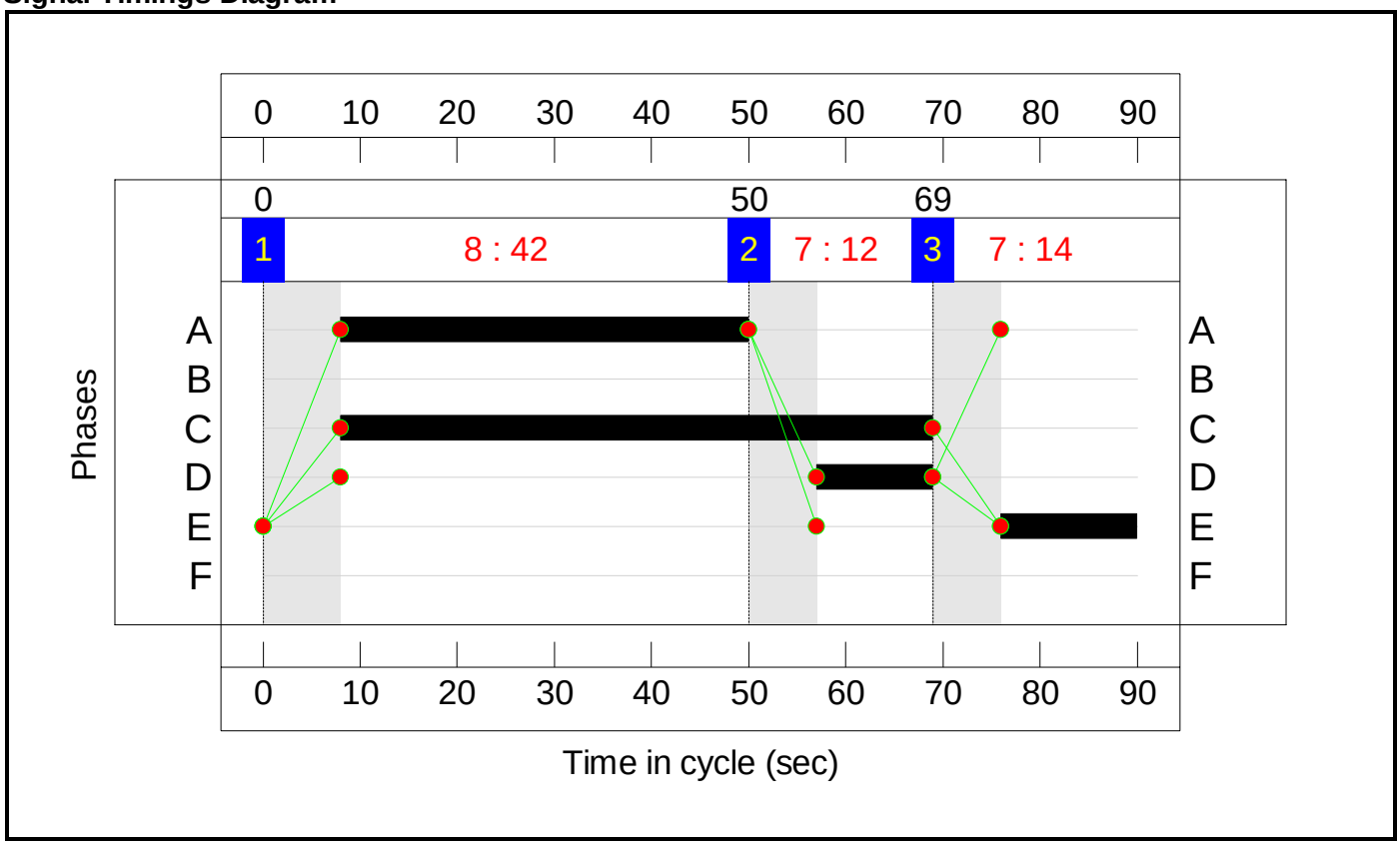
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	42	12	14
Change Point	0	50	69

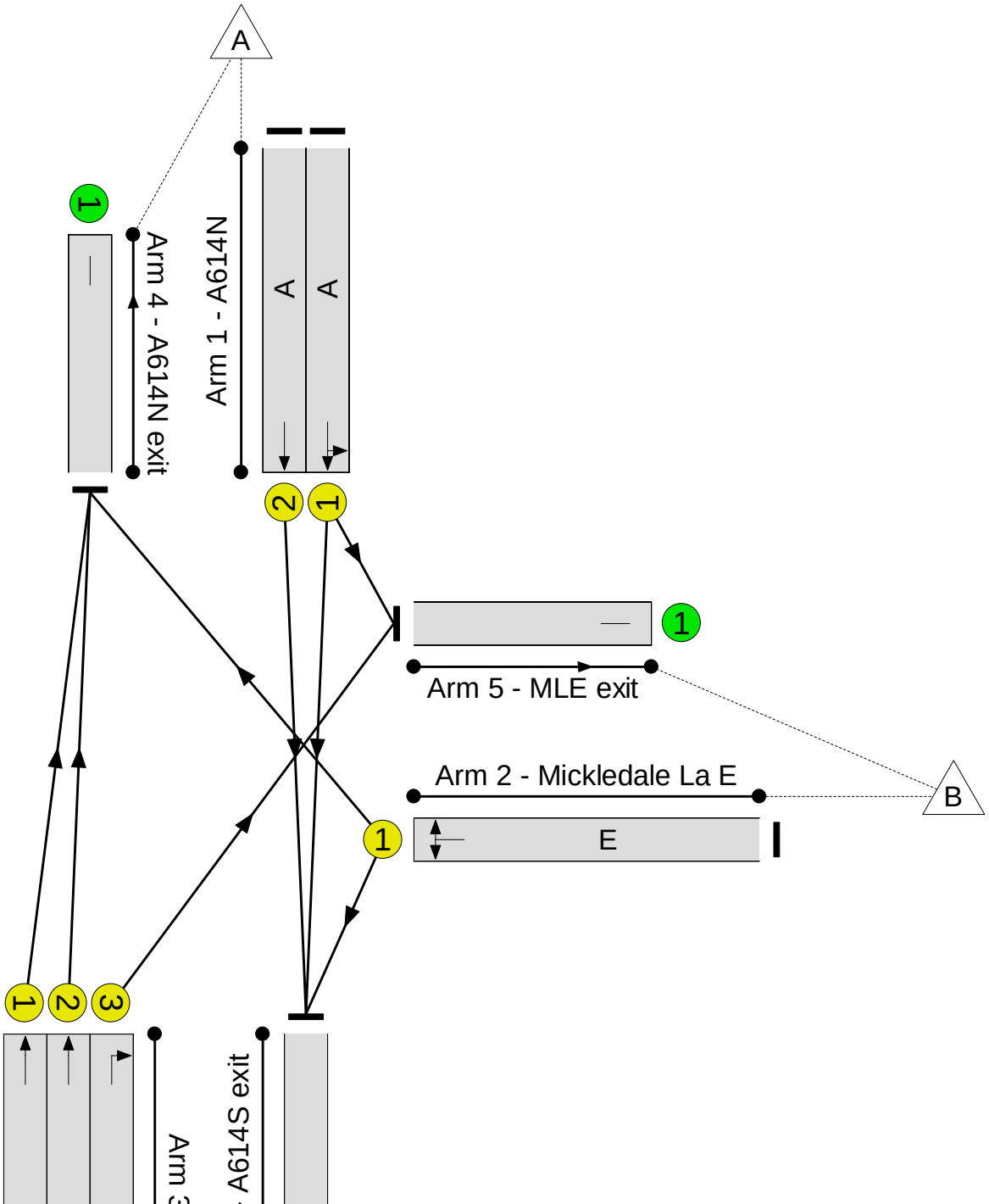
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 45.3 %
Total Traffic Delay: 14.4 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.9%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.9%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	42	-	553	1900	908	60.9%
1/2	A614N Ahead	U	N/A	N/A	A		1	42	-	553	1900	908	60.9%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	14	-	180	1800	300	60.0%
3/1	A614S Ahead	U	N/A	N/A	C		1	61	-	557	1900	1309	42.6%
3/2	A614S Ahead	U	N/A	N/A	C		1	61	-	556	1900	1309	42.5%
3/3	A614S Right	U	N/A	N/A	D		1	12	-	161	1800	260	61.9%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	1146	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	226	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	1188	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**10.6**	**3.8**	**0.0**	**14.4**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**10.6**	**3.8**	**0.0**	**14.4**	**-**	**-**	**-**	**-**
1/1	553	553	-	-	-	2.7	0.8	-	3.4	22.4	10.1	0.8	10.9
1/2	553	553	-	-	-	2.7	0.8	-	3.4	22.4	10.1	0.8	10.9
2/1	180	180	-	-	-	1.7	0.7	-	2.5	49.6	4.2	0.7	4.9
3/1	557	557	-	-	-	1.0	0.4	-	1.3	8.6	6.0	0.4	6.4
3/2	556	556	-	-	-	1.0	0.4	-	1.3	8.5	6.0	0.4	6.4
3/3	161	161	-	-	-	1.6	0.8	-	2.4	54.1	3.8	0.8	4.6
4/1	1146	1146	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1188	1188	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 45.3
PRC Over All Lanes (%): 45.3

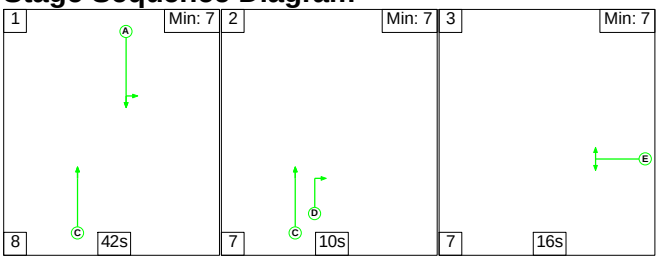
Total Delay for Signalled Lanes (pcuHr): 14.41
Total Delay Over All Lanes(pcuHr): 14.41

Cycle Time (s): 90

Full Input Data And Results

Scenario 11: '2037ip final' (FG11: '2037ip final', Plan 1: 'all stages')

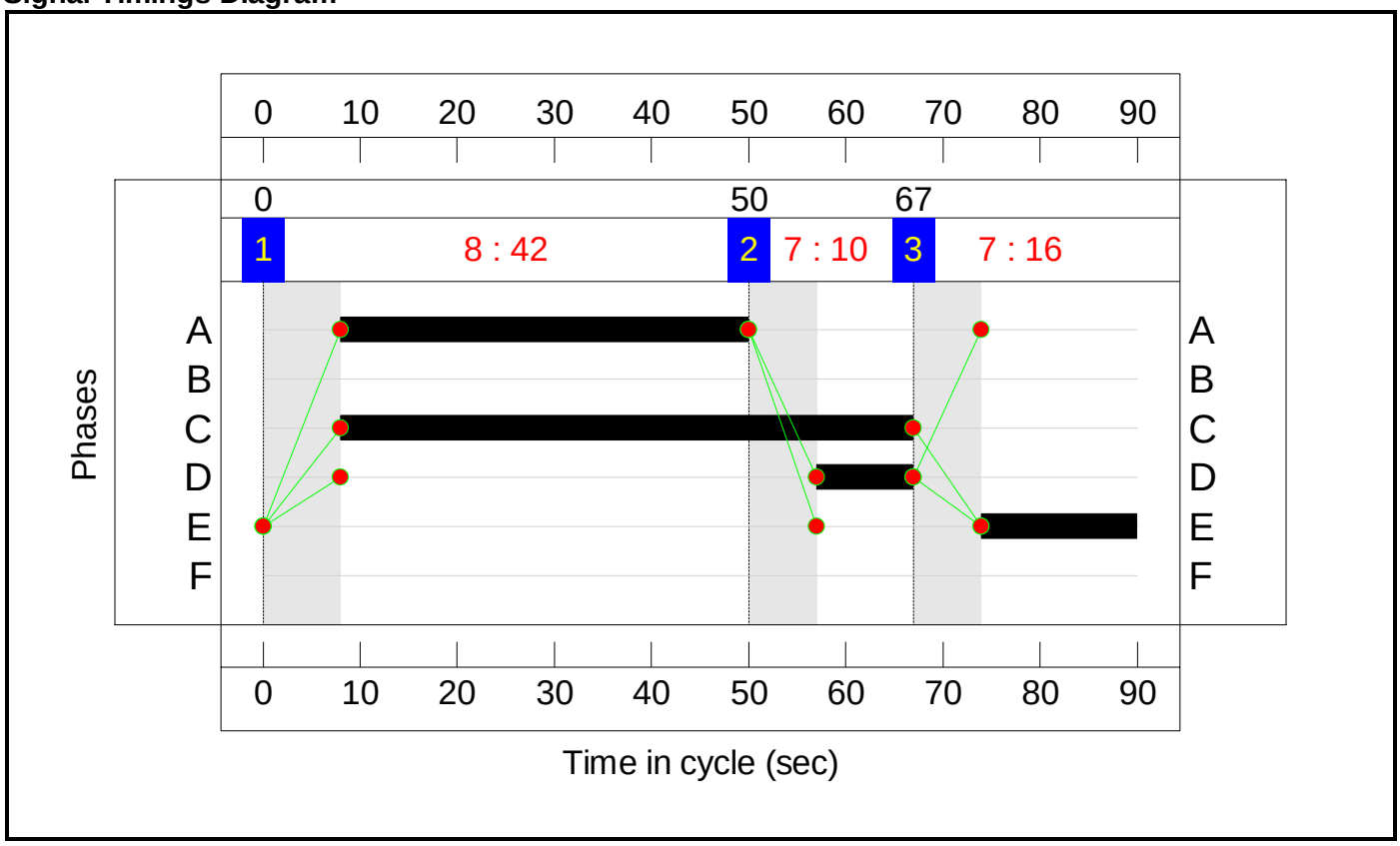
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	42	10	16
Change Point	0	50	67

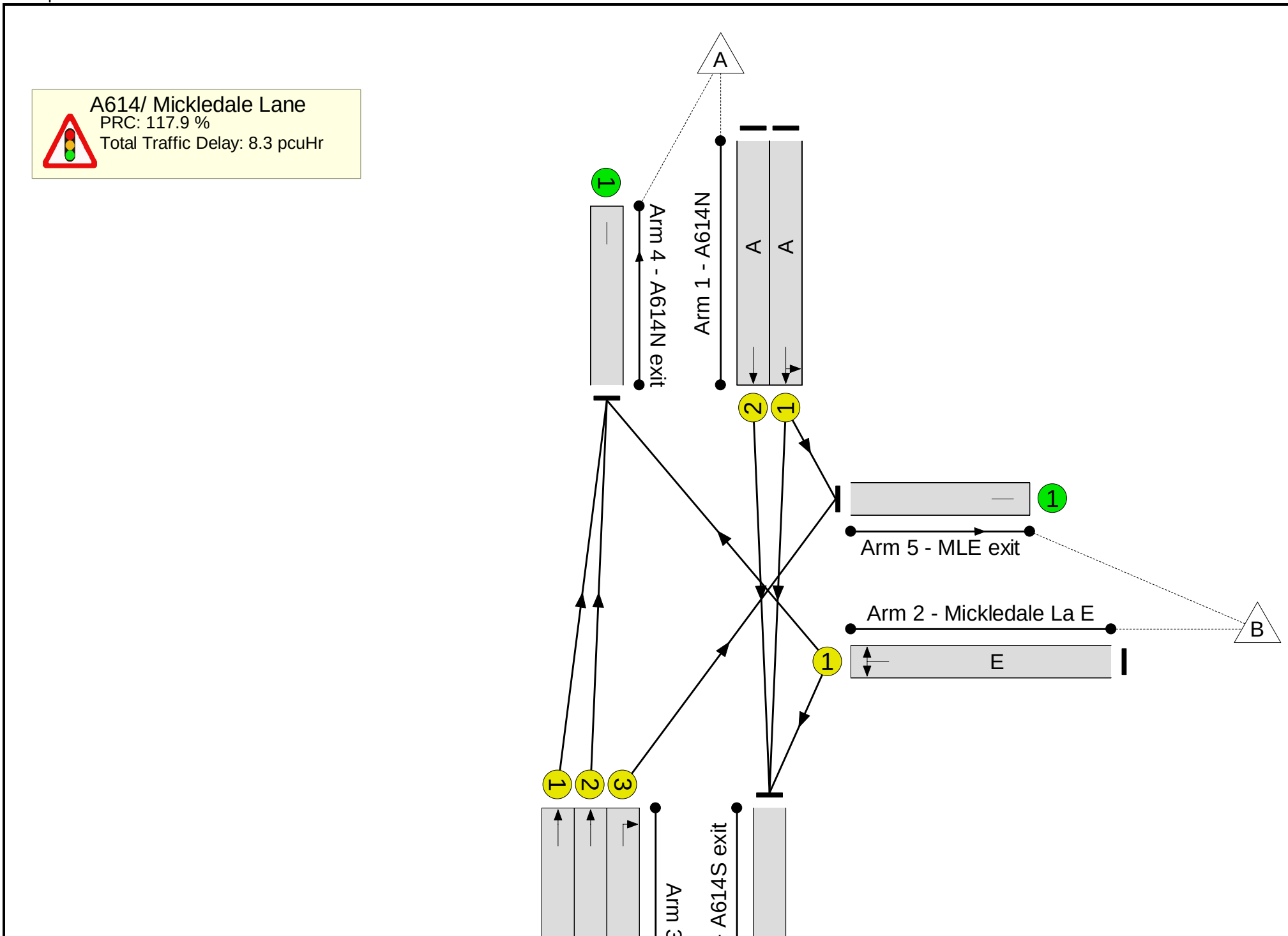
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 117.9 %
Total Traffic Delay: 8.3 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**41.3%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**41.3%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	42	-	375	1900	908	41.3%
1/2	A614N Ahead	U	N/A	N/A	A		1	42	-	374	1900	908	41.2%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	16	-	138	1800	340	40.6%
3/1	A614S Ahead	U	N/A	N/A	C		1	59	-	355	1900	1267	28.0%
3/2	A614S Ahead	U	N/A	N/A	C		1	59	-	354	1900	1267	27.9%
3/3	A614S Right	U	N/A	N/A	D		1	10	-	87	1800	220	39.5%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	749	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	134	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	800	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**6.5**	**1.8**	**0.0**	**8.3**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**6.5**	**1.8**	**0.0**	**8.3**	**-**	**-**	**-**	**-**
1/1	375	375	-	-	-	1.6	0.4	-	1.9	18.7	6.0	0.4	6.4
1/2	374	374	-	-	-	1.6	0.3	-	1.9	18.7	6.0	0.3	6.4
2/1	138	138	-	-	-	1.2	0.3	-	1.6	40.9	3.0	0.3	3.4
3/1	355	355	-	-	-	0.6	0.2	-	0.8	8.1	3.5	0.2	3.7
3/2	354	354	-	-	-	0.6	0.2	-	0.8	8.1	3.5	0.2	3.7
3/3	87	87	-	-	-	0.9	0.3	-	1.2	49.9	2.0	0.3	2.3
4/1	749	749	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	134	134	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	800	800	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 117.9
PRC Over All Lanes (%): 117.9

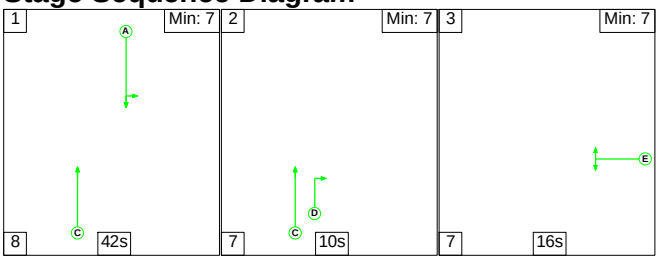
Total Delay for Signalled Lanes (pcuHr): 8.26
Total Delay Over All Lanes(pcuHr): 8.26

Cycle Time (s): 90

Full Input Data And Results

Scenario 12: '2037op final' (FG12: '2037op final', Plan 1: 'all stages')

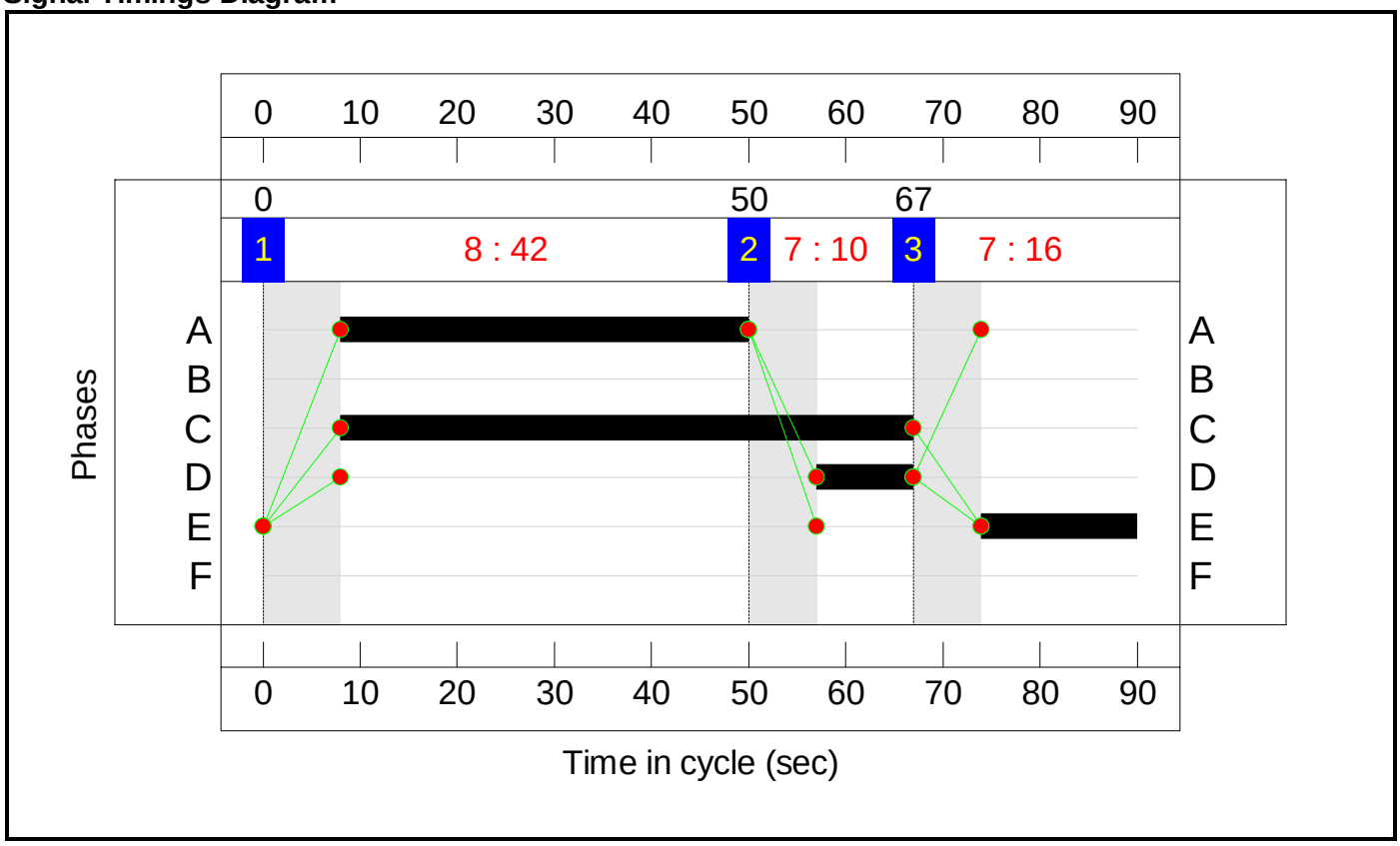
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	42	10	16
Change Point	0	50	67

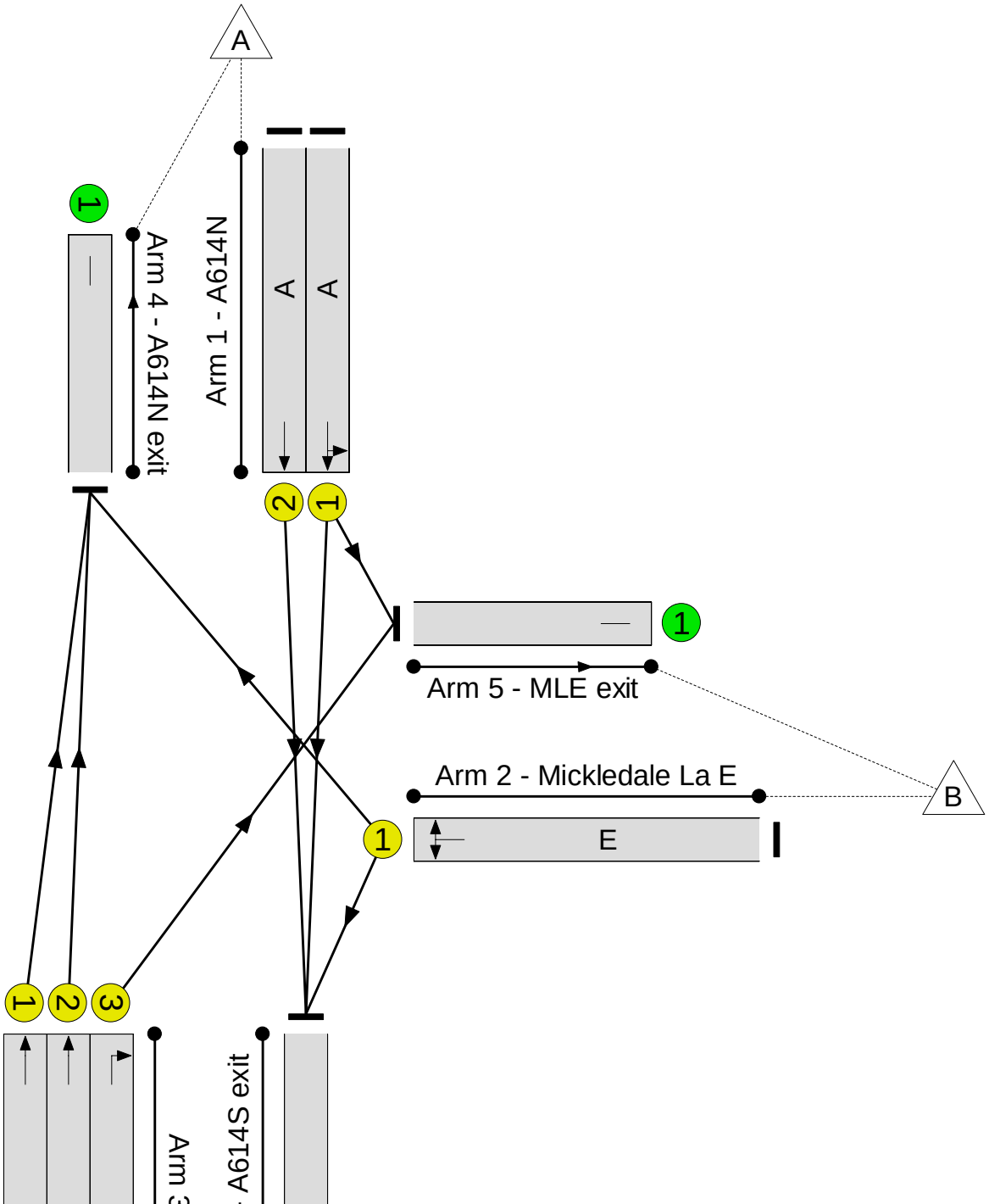
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

A614/ Mickledale Lane
PRC: 2050.0 %
Total Traffic Delay: 0.7 pcuHr



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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.2%**
A614/ Mickledale Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.2%**
1/1	A614N Left Ahead	U	N/A	N/A	A		1	42	-	36	1900	908	4.0%
1/2	A614N Ahead	U	N/A	N/A	A		1	42	-	38	1900	908	4.2%
2/1	Mickledale La E Right Left	U	N/A	N/A	E		1	16	-	14	1800	340	4.1%
3/1	A614S Ahead	U	N/A	N/A	C		1	59	-	35	1900	1267	2.8%
3/2	A614S Ahead	U	N/A	N/A	C		1	59	-	34	1900	1267	2.7%
3/3	A614S Right	U	N/A	N/A	D		1	10	-	9	1800	220	4.1%
4/1	A614N exit	U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
5/1	MLE exit	U	N/A	N/A	-		-	-	-	14	Inf	Inf	0.0%
6/1	A614S exit	U	N/A	N/A	-		-	-	-	79	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: A614/ Mickledale Lane - no minor moves	**-**	**-**	**0**	**0**	**0**	**0.6**	**0.1**	**0.0**	**0.7**	**-**	**-**	**-**	**-**
A614/ Mickledale Lane	**-**	**-**	**0**	**0**	**0**	**0.6**	**0.1**	**0.0**	**0.7**	**-**	**-**	**-**	**-**
1/1	36	36	-	-	-	0.1	0.0	-	0.1	14.6	0.5	0.0	0.5
1/2	38	38	-	-	-	0.1	0.0	-	0.2	14.6	0.5	0.0	0.5
2/1	14	14	-	-	-	0.1	0.0	-	0.1	35.5	0.3	0.0	0.3
3/1	35	35	-	-	-	0.1	0.0	-	0.1	6.6	0.3	0.0	0.3
3/2	34	34	-	-	-	0.0	0.0	-	0.1	6.6	0.3	0.0	0.3
3/3	9	9	-	-	-	0.1	0.0	-	0.1	43.6	0.2	0.0	0.2
4/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	14	14	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	79	79	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - A614/ Mickledale Lane

PRC for Signalled Lanes (%): 2050.0
PRC Over All Lanes (%): 2050.0

Total Delay for Signalled Lanes (pcuHr): 0.67
Total Delay Over All Lanes(pcuHr): 0.67

Cycle Time (s): 90

Appendix J – White Post Scheme Drawing and ARCADY Output

Junctions 9

ARCADY 9 - Roundabout Module

Filename: white existing rdbt test.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\4-white
Report generation date: 15/04/2019 14:37:28

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final, AM
»2037 final, PM
»2037 final, IP
»2037 final, OP

Summary of junction performance

	AM								PM									
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95 Qu (P
2023																		
Arm 1	7.8	42.1	25.70	0.89	D	19.25	C	3 % [Arm 1]	4.0	18.9	13.91	0.79	B	27.61	D	-3 % [Arm 3]	1.2	1.
Arm 2	0.6	2.5	8.52	0.35	A				0.5	2.3	7.21	0.34	A				0.2	0.
Arm 3	5.7	29.4	17.82	0.85	C				15.8	76.7	45.83	0.96	E				1.2	1.
Arm 4	0.9	3.8	9.56	0.47	A				0.3	1.4	6.73	0.25	A				0.2	0.
2037																		
Arm 1	11.7	62.6	37.10	0.93	E	25.76	D	-1 % [Arm 1]	4.5	22.5	15.28	0.81	C	35.27	E	-5 % [Arm 3]	1.3	1.
Arm 2	0.6	2.9	9.30	0.38	A				0.5	2.4	7.39	0.34	A				0.2	0.
Arm 3	7.2	36.7	22.13	0.88	C				22.2	89.5	60.73	0.99	F				1.3	1.
Arm 4	1.0	4.0	10.43	0.49	B				0.3	1.4	6.84	0.25	A				0.2	0.
2037 final																		
Arm 1	54.9	122.1	131.66	1.06	F	75.13	F	-11 % [Arm 1]	9.7	53.5	30.12	0.91	D	106.00	F	-15 % [Arm 3]	1.7	2.
Arm 2	0.7	3.6	10.83	0.42	B				0.7	3.3	9.08	0.41	A				0.2	1.
Arm 3	16.1	78.3	45.36	0.96	E				91.0	159.6	197.83	1.12	F				1.7	2.
Arm 4	1.2	5.0	12.88	0.55	B				0.4	1.2	7.36	0.27	A				0.2	0.

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

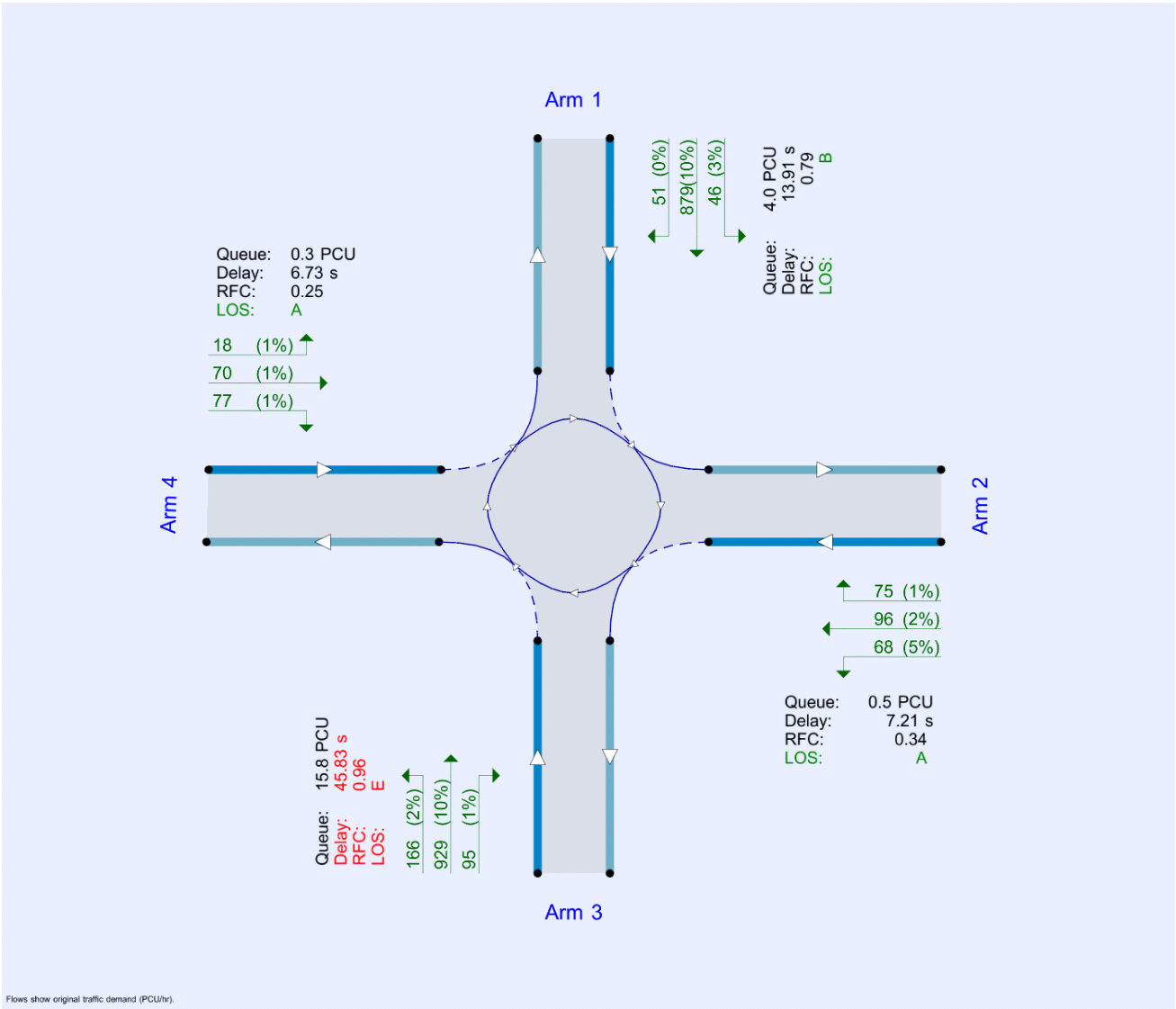
File summary

File Description

Title	A614/A6097 impts
Location	A614/ mansfield Rd (white post)
Site number	
Date	05/02/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	19.25	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	Arm 1

Arms

Arms

Arm	Name	Description
1	A614N	
2	Farnsfield Rd	
3	A614S	
4	Mansfield Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.00	6.00	10.0	25.0	36.0	45.0	
2	3.50	6.00	10.0	25.0	36.0	45.0	
3	4.00	6.00	10.0	25.0	36.0	45.0	
4	3.50	6.00	10.0	25.0	36.0	45.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.600	1515
2	0.580	1419
3	0.600	1515
4	0.580	1419

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1055	100.000
2		ONE HOUR	✓	215	100.000
3		ONE HOUR	✓	1087	100.000
4		ONE HOUR	✓	304	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	1	47	978	29
	2	67	0	91	57
	3	971	56	2	58
	4	46	90	168	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	10	1
	2	2	0	2	2
	3	10	1	0	3
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.89	25.70	7.8	42.1	D	968	1452
2	0.35	8.52	0.6	2.5	A	197	296
3	0.85	17.82	5.7	29.4	C	997	1496
4	0.47	9.56	0.9	3.8	A	279	418

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	199	237	1373	0.579	788	811	0.0	1.5	6.669	A
2	162	40	880	908	0.178	161	144	0.0	0.2	4.912	A
3	818	205	115	1446	0.566	813	926	0.0	1.4	6.152	A
4	229	57	820	943	0.243	228	108	0.0	0.3	5.124	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	948	237	283	1345	0.705	944	972	1.5	2.5	9.723	A
2	193	48	1055	807	0.240	193	173	0.2	0.3	5.976	A
3	977	244	138	1432	0.682	974	1109	1.4	2.3	8.504	A
4	273	68	983	849	0.322	273	129	0.3	0.5	6.369	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1162	290	346	1307	0.889	1143	1183	2.5	7.2	21.848	C
2	237	59	1278	677	0.350	236	211	0.3	0.5	8.305	A
3	1197	299	169	1414	0.847	1184	1346	2.3	5.4	16.292	C
4	335	84	1196	725	0.462	333	157	0.5	0.9	9.334	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1162	290	348	1306	0.889	1159	1194	7.2	7.8	25.701	D
2	237	59	1294	668	0.354	237	212	0.5	0.6	8.516	A
3	1197	299	169	1413	0.847	1196	1362	5.4	5.7	17.824	C
4	335	84	1207	719	0.466	335	158	0.9	0.9	9.557	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	948	237	286	1343	0.706	969	988	7.8	2.7	11.046	B
2	193	48	1079	793	0.244	194	176	0.6	0.3	6.147	A
3	977	244	140	1431	0.683	990	1134	5.7	2.4	9.160	A
4	273	68	999	839	0.326	275	131	0.9	0.5	6.524	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	199	239	1372	0.579	799	821	2.7	1.5	6.933	A
2	162	40	892	901	0.180	162	146	0.3	0.2	4.972	A
3	818	205	116	1445	0.566	822	938	2.4	1.4	6.347	A
4	229	57	830	937	0.244	230	109	0.5	0.3	5.193	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.47	0.62	1.33	1.84	2.02			N/A	N/A
2	0.22	0.00	0.00	0.22	0.22			N/A	N/A
3	1.40	0.61	1.21	1.56	1.87			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.53	0.06	0.79	6.75	10.50			N/A	N/A
2	0.32	0.00	0.00	0.32	0.32			N/A	N/A
3	2.28	0.06	0.76	6.00	9.23			N/A	N/A
4	0.48	0.00	0.00	0.48	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	7.16	0.05	0.49	19.94	37.74			N/A	N/A
2	0.54	0.03	0.26	0.54	0.54			N/A	N/A
3	5.40	0.04	0.39	11.92	29.44			N/A	N/A
4	0.86	0.03	0.26	0.86	0.86			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	7.82	0.04	0.38	15.09	42.11			N/A	N/A
2	0.55	0.03	0.32	1.04	2.51			N/A	N/A
3	5.68	0.03	0.33	5.68	23.79			N/A	N/A
4	0.88	0.03	0.29	1.26	3.78			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.72	0.05	0.47	7.49	13.19			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	2.42	0.05	0.51	6.58	10.89			N/A	N/A
4	0.50	0.04	0.44	1.29	1.41			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.53	0.04	0.35	3.10	7.92			N/A	N/A
2	0.22	0.00	0.00	0.22	0.22			N/A	N/A
3	1.45	0.04	0.38	3.46	7.32			N/A	N/A
4	0.33	0.03	0.27	0.48	0.51			N/A	N/A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	27.61	D

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-3	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	976	100.000
2		ONE HOUR	✓	239	100.000
3		ONE HOUR	✓	1191	100.000
4		ONE HOUR	✓	165	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	46	879	51
	2	75	0	68	96
	3	929	95	1	166
	4	18	70	77	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	3	10	0
	2	1	0	5	2
	3	10	1	0	2
	4	1	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.79	13.91	4.0	18.9	B	896	1343
2	0.34	7.21	0.5	2.3	A	219	329
3	0.96	45.83	15.8	76.7	E	1093	1639
4	0.25	6.73	0.3	1.4	A	151	227

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	735	184	182	1406	0.523	730	763	0.0	1.2	5.772	A
2	180	45	754	981	0.183	179	158	0.0	0.2	4.596	A
3	897	224	166	1415	0.634	889	767	0.0	1.8	7.303	A
4	124	31	822	942	0.132	124	234	0.0	0.2	4.439	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	219	218	1384	0.634	875	914	1.2	1.8	7.667	A
2	215	54	904	895	0.240	214	189	0.2	0.3	5.424	A
3	1071	268	199	1395	0.767	1064	919	1.8	3.4	11.536	B
4	148	37	983	848	0.175	148	280	0.2	0.2	5.192	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1075	269	264	1356	0.792	1066	1095	1.8	3.9	13.180	B
2	263	66	1102	780	0.338	262	229	0.3	0.5	7.126	A
3	1311	328	243	1369	0.958	1274	1121	3.4	12.8	32.374	D
4	182	45	1178	735	0.247	181	339	0.2	0.3	6.558	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1075	269	267	1355	0.793	1074	1116	3.9	4.0	13.912	B
2	263	66	1109	775	0.339	263	231	0.5	0.5	7.206	A
3	1311	328	244	1368	0.958	1300	1128	12.8	15.8	45.826	E
4	182	45	1201	722	0.252	182	343	0.3	0.3	6.728	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	219	223	1381	0.635	886	956	4.0	1.9	8.055	A
2	215	54	914	888	0.242	216	194	0.5	0.3	5.494	A
3	1071	268	201	1394	0.768	1119	929	15.8	3.8	16.249	C
4	148	37	1030	821	0.181	149	289	0.3	0.2	5.414	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	735	184	184	1404	0.523	738	775	1.9	1.2	5.916	A
2	180	45	762	977	0.184	180	160	0.3	0.2	4.637	A
3	897	224	168	1414	0.634	904	775	3.8	1.9	7.733	A
4	124	31	835	934	0.133	124	237	0.2	0.2	4.491	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.18	0.60	1.09	1.53	1.58			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	1.83	0.62	1.21	2.51	2.98			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.85	0.06	0.81	4.59	6.87			N/A	N/A
2	0.32	0.00	0.00	0.32	0.32			N/A	N/A
3	3.38	0.06	0.98	9.30	14.52			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.89	0.03	0.34	5.09	18.90			N/A	N/A
2	0.52	0.03	0.26	0.52	0.52			N/A	N/A
3	12.83	0.11	3.80	35.97	53.64			N/A	N/A
4	0.33	0.03	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	4.03	0.03	0.31	4.03	10.76			N/A	N/A
2	0.52	0.03	0.32	1.49	2.31			N/A	N/A
3	15.76	0.07	1.70	46.46	76.72			N/A	N/A
4	0.34	0.03	0.32	1.14	1.39			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.94	0.06	0.67	5.02	7.66			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	3.79	0.04	0.45	10.38	19.41			N/A	N/A
4	0.22	0.00	0.00	0.22	0.22			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.21	0.04	0.41	3.05	5.51			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	1.91	0.03	0.33	2.85	9.55			N/A	N/A
4	0.16	0.00	0.00	0.16	0.16			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.60	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	67	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	678	100.000
2		ONE HOUR	✓	158	100.000
3		ONE HOUR	✓	677	100.000
4		ONE HOUR	✓	138	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	39	595	44
	2	44	0	48	66
	3	577	50	0	50
	4	31	60	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	10	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.53	5.89	1.2	1.6	A	622	933
2	0.18	4.46	0.2	0.5	A	145	217
3	0.53	5.84	1.2	1.6	A	621	932
4	0.15	4.29	0.2	0.5	A	127	190

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	510	128	118	1444	0.353	508	489	0.0	0.6	4.170	A
2	119	30	514	1120	0.106	118	112	0.0	0.1	3.590	A
3	510	127	115	1445	0.353	507	517	0.0	0.6	4.150	A
4	104	26	503	1127	0.092	103	120	0.0	0.1	3.515	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	610	152	141	1430	0.426	609	585	0.6	0.8	4.757	A
2	142	36	616	1061	0.134	142	134	0.1	0.2	3.915	A
3	609	152	138	1432	0.425	608	619	0.6	0.8	4.731	A
4	124	31	602	1069	0.116	124	144	0.1	0.1	3.807	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	746	187	173	1411	0.529	745	716	0.8	1.2	5.857	A
2	174	43	754	981	0.177	174	164	0.2	0.2	4.456	A
3	745	186	169	1413	0.527	744	758	0.8	1.2	5.815	A
4	152	38	737	991	0.153	152	176	0.1	0.2	4.288	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	746	187	173	1411	0.529	746	718	1.2	1.2	5.886	A
2	174	43	755	981	0.177	174	164	0.2	0.2	4.462	A
3	745	186	170	1413	0.528	745	760	1.2	1.2	5.844	A
4	152	38	739	990	0.153	152	176	0.2	0.2	4.294	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	610	152	141	1430	0.426	611	588	1.2	0.8	4.788	A
2	142	36	618	1060	0.134	142	134	0.2	0.2	3.923	A
3	609	152	139	1432	0.425	610	622	1.2	0.8	4.760	A
4	124	31	605	1068	0.116	124	144	0.2	0.1	3.814	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	510	128	118	1444	0.354	511	492	0.8	0.6	4.200	A
2	119	30	517	1119	0.106	119	112	0.2	0.1	3.604	A
3	510	127	116	1445	0.353	511	520	0.8	0.6	4.180	A
4	104	26	506	1125	0.092	104	121	0.1	0.1	3.527	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.59	0.59	1.09	1.52	1.58			N/A	N/A
2	0.12	0.00	0.00	0.12	0.12			N/A	N/A
3	0.59	0.59	1.08	1.52	1.57			N/A	N/A
4	0.10	0.00	0.00	0.10	0.10			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.12	0.93	1.51	1.58			N/A	N/A
2	0.15	0.00	0.00	0.15	0.15			N/A	N/A
3	0.79	0.12	0.93	1.51	1.58			N/A	N/A
4	0.13	0.00	0.00	0.13	0.13			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.20	0.03	0.28	1.20	1.20			N/A	N/A
2	0.21	0.03	0.25	0.46	0.48			N/A	N/A
3	1.19	0.03	0.28	1.19	1.19			N/A	N/A
4	0.18	0.03	0.26	0.46	0.49			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.21	0.03	0.29	1.21	1.25			N/A	N/A
2	0.21	0.03	0.26	0.46	0.49			N/A	N/A
3	1.20	0.03	0.29	1.20	1.25			N/A	N/A
4	0.18	0.03	0.25	0.45	0.48			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.27	1.03	1.51	1.57			N/A	N/A
2	0.16	0.00	0.00	0.16	0.16			N/A	N/A
3	0.81	0.28	1.03	1.51	1.57			N/A	N/A
4	0.13	0.00	0.00	0.13	0.13			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.60	0.06	0.67	1.44	1.53			N/A	N/A
2	0.12	0.00	0.00	0.12	0.12			N/A	N/A
3	0.59	0.06	0.67	1.44	1.53			N/A	N/A
4	0.10	0.00	0.00	0.10	0.10			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.67	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	66	100.000
2		ONE HOUR	✓	15	100.000
3		ONE HOUR	✓	68	100.000
4		ONE HOUR	✓	14	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	4	58	4
	2	4	0	5	6
	3	56	5	2	5
	4	3	6	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	5	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.05	2.73	0.1	0.5	A	61	91
2	0.01	2.65	0.0	0.5	A	14	21
3	0.05	2.62	0.1	0.5	A	62	94
4	0.01	2.65	0.0	0.5	A	13	19

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	50	12	14	1507	0.033	50	47	0.0	0.0	2.685	A
2	11	3	52	1389	0.008	11	11	0.0	0.0	2.613	A
3	51	13	11	1508	0.034	51	53	0.0	0.0	2.570	A
4	11	3	50	1390	0.008	11	11	0.0	0.0	2.610	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	59	15	16	1505	0.039	59	57	0.0	0.0	2.705	A
2	13	3	62	1383	0.010	13	13	0.0	0.0	2.628	A
3	61	15	13	1507	0.041	61	63	0.0	0.0	2.590	A
4	13	3	60	1384	0.009	13	13	0.0	0.0	2.624	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	73	18	20	1503	0.048	73	69	0.0	0.1	2.735	A
2	17	4	76	1375	0.012	17	17	0.0	0.0	2.650	A
3	75	19	15	1505	0.050	75	77	0.0	0.1	2.618	A
4	15	4	74	1376	0.011	15	17	0.0	0.0	2.645	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	73	18	20	1503	0.048	73	69	0.1	0.1	2.735	A
2	17	4	76	1375	0.012	17	17	0.0	0.0	2.650	A
3	75	19	15	1505	0.050	75	77	0.1	0.1	2.618	A
4	15	4	74	1376	0.011	15	17	0.0	0.0	2.645	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	59	15	16	1505	0.039	59	57	0.1	0.0	2.708	A
2	13	3	62	1383	0.010	13	13	0.0	0.0	2.628	A
3	61	15	13	1507	0.041	61	63	0.1	0.0	2.590	A
4	13	3	60	1384	0.009	13	13	0.0	0.0	2.625	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	50	12	14	1507	0.033	50	47	0.0	0.0	2.685	A
2	11	3	52	1389	0.008	11	11	0.0	0.0	2.615	A
3	51	13	11	1508	0.034	51	53	0.0	0.0	2.573	A
4	11	3	50	1389	0.008	11	11	0.0	0.0	2.612	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.03	0.27	0.49	0.52			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.04	0.03	0.26	0.47	0.50			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.03	0.28	0.50	0.53			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.05	0.03	0.27	0.48	0.51			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.00	0.00	0.06	0.06			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	25.76	D

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1101	100.000
2		ONE HOUR	✓	220	100.000
3		ONE HOUR	✓	1128	100.000
4		ONE HOUR	✓	311	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	1	48	1023	29
	2	68	0	95	57
	3	1007	58	2	61
	4	46	90	175	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	10	1
	2	2	0	2	2
	3	10	1	0	3
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.93	37.10	11.7	62.6	E	1010	1515
2	0.38	9.30	0.6	2.9	A	202	303
3	0.88	22.13	7.2	36.7	C	1035	1553
4	0.49	10.43	1.0	4.0	B	285	428

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	829	207	243	1369	0.606	822	839	0.0	1.6	7.121	A
2	166	41	919	886	0.187	165	147	0.0	0.2	5.087	A
3	849	212	116	1445	0.588	843	968	0.0	1.5	6.460	A
4	234	59	849	926	0.253	233	110	0.0	0.3	5.284	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	990	247	291	1340	0.739	985	1005	1.6	3.0	10.911	B
2	198	49	1100	780	0.253	197	176	0.2	0.3	6.294	A
3	1014	254	139	1431	0.708	1010	1159	1.5	2.6	9.225	A
4	280	70	1017	829	0.337	279	132	0.3	0.5	6.671	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1212	303	355	1302	0.931	1184	1220	3.0	10.0	28.343	D
2	242	61	1326	649	0.373	241	213	0.3	0.6	8.973	A
3	1242	310	169	1413	0.879	1225	1398	2.6	6.7	19.365	C
4	342	86	1235	702	0.487	341	160	0.5	0.9	10.100	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1212	303	358	1300	0.932	1206	1233	10.0	11.7	37.099	E
2	242	61	1348	637	0.380	242	215	0.6	0.6	9.302	A
3	1242	310	170	1412	0.879	1240	1420	6.7	7.2	22.133	C
4	342	86	1249	694	0.493	342	162	0.9	1.0	10.427	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	990	247	295	1338	0.740	1023	1025	11.7	3.3	13.728	B
2	198	49	1139	758	0.261	199	179	0.6	0.4	6.578	A
3	1014	254	141	1430	0.709	1032	1197	7.2	2.8	10.276	B
4	280	70	1039	816	0.343	281	134	1.0	0.5	6.889	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	829	207	246	1367	0.606	835	849	3.3	1.7	7.477	A
2	166	41	932	878	0.189	166	148	0.4	0.2	5.162	A
3	849	212	117	1444	0.588	854	981	2.8	1.6	6.700	A
4	234	59	860	920	0.255	235	111	0.5	0.4	5.365	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.65	0.64	1.55	2.05	2.18			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	1.53	0.63	1.39	1.89	2.04			N/A	N/A
4	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.96	0.06	0.87	8.05	12.55			N/A	N/A
2	0.34	0.00	0.00	0.34	0.34			N/A	N/A
3	2.56	0.06	0.78	6.88	10.70			N/A	N/A
4	0.51	0.51	1.02	1.43	1.48			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	10.05	0.07	1.33	29.18	46.83			N/A	N/A
2	0.60	0.03	0.26	0.60	0.60			N/A	N/A
3	6.73	0.04	0.44	17.87	36.44			N/A	N/A
4	0.95	0.03	0.27	0.95	0.95			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	11.69	0.05	0.51	32.72	62.64			N/A	N/A
2	0.62	0.03	0.31	1.13	2.89			N/A	N/A
3	7.24	0.04	0.36	10.91	36.68			N/A	N/A
4	0.98	0.03	0.29	1.22	4.04			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.26	0.05	0.45	8.93	16.49			N/A	N/A
2	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3	2.75	0.05	0.48	7.58	13.09			N/A	N/A
4	0.54	0.06	0.59	1.34	1.44			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.72	0.03	0.34	2.84	8.72			N/A	N/A
2	0.24	0.00	0.00	0.24	0.24			N/A	N/A
3	1.58	0.04	0.36	3.45	8.17			N/A	N/A
4	0.35	0.03	0.29	0.65	1.09			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	35.27	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-5	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1001	100.000
2		ONE HOUR	✓	238	100.000
3		ONE HOUR	✓	1226	100.000
4		ONE HOUR	✓	161	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	46	905	50
	2	74	0	69	95
	3	957	97	1	171
	4	18	69	74	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	3	10	0
	2	1	0	5	2
	3	10	1	0	2
	4	1	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.81	15.28	4.5	22.5	C	919	1378
2	0.34	7.39	0.5	2.4	A	218	328
3	0.99	60.73	22.2	89.5	F	1125	1687
4	0.25	6.84	0.3	1.4	A	148	222

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	754	188	180	1407	0.536	749	783	0.0	1.2	5.928	A
2	179	45	770	972	0.184	178	158	0.0	0.2	4.647	A
3	923	231	164	1416	0.652	915	785	0.0	2.0	7.645	A
4	121	30	843	930	0.130	121	236	0.0	0.2	4.491	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	216	1385	0.650	897	937	1.2	2.0	7.993	A
2	214	53	923	883	0.242	214	190	0.2	0.3	5.510	A
3	1102	276	196	1397	0.789	1095	940	2.0	3.8	12.575	B
4	145	36	1009	834	0.174	144	283	0.2	0.2	5.275	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1102	276	261	1358	0.811	1093	1115	2.0	4.3	14.294	B
2	262	66	1125	766	0.342	261	229	0.3	0.5	7.297	A
3	1350	337	240	1371	0.985	1299	1146	3.8	16.6	38.839	E
4	177	44	1199	723	0.245	177	340	0.2	0.3	6.647	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1102	276	264	1357	0.812	1101	1138	4.3	4.5	15.276	C
2	262	66	1133	761	0.344	262	232	0.5	0.5	7.393	A
3	1350	337	241	1370	0.985	1328	1154	16.6	22.2	60.732	F
4	177	44	1224	709	0.250	177	345	0.3	0.3	6.840	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	223	1381	0.652	910	999	4.5	2.1	8.495	A
2	214	53	935	876	0.244	215	197	0.5	0.3	5.590	A
3	1102	276	198	1396	0.790	1173	952	22.2	4.4	22.067	C
4	145	36	1076	794	0.182	145	295	0.3	0.2	5.607	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	754	188	182	1405	0.536	757	797	2.1	1.3	6.089	A
2	179	45	779	967	0.185	180	161	0.3	0.2	4.689	A
3	923	231	165	1416	0.652	932	793	4.4	2.1	8.194	A
4	121	30	858	921	0.132	122	240	0.2	0.2	4.551	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.60	1.09	1.53	1.58			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	1.97	0.59	1.31	2.94	3.43			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.97	0.06	0.79	5.02	7.55			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	3.80	0.07	1.13	10.48	16.23			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	4.34	0.04	0.35	7.20	22.47			N/A	N/A
2	0.53	0.03	0.26	0.53	0.53			N/A	N/A
3	16.59	0.25	8.11	42.74	59.45			N/A	N/A
4	0.32	0.03	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	4.52	0.03	0.31	4.52	14.62			N/A	N/A
2	0.53	0.03	0.32	1.50	2.40			N/A	N/A
3	22.17	0.17	8.09	61.31	89.45			N/A	N/A
4	0.33	0.03	0.32	1.13	1.39			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.09	0.05	0.55	5.51	8.70			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	4.38	0.05	0.46	12.02	22.60			N/A	N/A
4	0.23	0.00	0.00	0.23	0.23			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.28	0.04	0.39	3.18	6.12			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	2.07	0.03	0.33	2.65	9.97			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.85	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	61	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	704	100.000
2		ONE HOUR	✓	160	100.000
3		ONE HOUR	✓	703	100.000
4		ONE HOUR	✓	139	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	39	621	44
	2	44	0	50	66
	3	600	52	0	51
	4	31	60	48	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	10	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.55	6.17	1.3	1.6	A	646	969
2	0.18	4.57	0.2	0.5	A	147	220
3	0.55	6.11	1.3	1.6	A	645	968
4	0.16	4.38	0.2	0.5	A	128	191

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	530	133	120	1443	0.367	528	506	0.0	0.6	4.265	A
2	120	30	534	1109	0.109	120	113	0.0	0.1	3.638	A
3	529	132	115	1445	0.366	527	539	0.0	0.6	4.237	A
4	105	26	522	1116	0.094	104	121	0.0	0.1	3.555	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	633	158	144	1429	0.443	632	606	0.6	0.9	4.910	A
2	144	36	640	1047	0.137	144	136	0.1	0.2	3.983	A
3	632	158	138	1432	0.441	631	645	0.6	0.8	4.869	A
4	125	31	625	1056	0.118	125	145	0.1	0.1	3.865	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	775	194	176	1409	0.550	773	742	0.9	1.3	6.137	A
2	176	44	783	964	0.183	176	166	0.2	0.2	4.565	A
3	774	194	169	1413	0.548	772	790	0.8	1.3	6.072	A
4	153	38	765	975	0.157	153	177	0.1	0.2	4.376	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	775	194	176	1409	0.550	775	743	1.3	1.3	6.173	A
2	176	44	785	963	0.183	176	166	0.2	0.2	4.572	A
3	774	194	170	1413	0.548	774	792	1.3	1.3	6.107	A
4	153	38	766	974	0.157	153	177	0.2	0.2	4.383	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	633	158	144	1428	0.443	635	608	1.3	0.9	4.942	A
2	144	36	643	1046	0.138	144	136	0.2	0.2	3.992	A
3	632	158	139	1431	0.441	634	648	1.3	0.9	4.904	A
4	125	31	627	1055	0.118	125	145	0.2	0.1	3.873	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	530	133	121	1442	0.367	531	509	0.9	0.6	4.298	A
2	120	30	538	1107	0.109	121	114	0.2	0.1	3.650	A
3	529	132	116	1445	0.366	530	542	0.9	0.6	4.271	A
4	105	26	525	1114	0.094	105	121	0.1	0.1	3.568	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.63	0.60	1.09	1.52	1.58			N/A	N/A
2	0.12	0.00	0.00	0.12	0.12			N/A	N/A
3	0.62	0.60	1.08	1.52	1.57			N/A	N/A
4	0.10	0.00	0.00	0.10	0.10			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.86	0.11	0.94	1.15	1.15			N/A	N/A
2	0.16	0.00	0.00	0.16	0.16			N/A	N/A
3	0.85	0.11	0.93	1.55	1.62			N/A	N/A
4	0.13	0.00	0.00	0.13	0.13			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.31	0.03	0.28	1.31	1.31			N/A	N/A
2	0.22	0.03	0.25	0.46	0.48			N/A	N/A
3	1.29	0.03	0.28	1.29	1.29			N/A	N/A
4	0.19	0.03	0.26	0.46	0.49			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.32	0.03	0.29	1.32	1.60			N/A	N/A
2	0.22	0.03	0.26	0.47	0.49			N/A	N/A
3	1.30	0.03	0.29	1.30	1.59			N/A	N/A
4	0.19	0.03	0.25	0.45	0.48			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.87	0.23	1.02	1.52	1.59			N/A	N/A
2	0.16	0.00	0.00	0.16	0.16			N/A	N/A
3	0.87	0.24	1.02	1.52	1.58			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.64	0.07	0.71	1.45	1.54			N/A	N/A
2	0.12	0.00	0.00	0.12	0.12			N/A	N/A
3	0.63	0.07	0.71	1.45	1.54			N/A	N/A
4	0.10	0.00	0.00	0.10	0.10			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.68	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	69	100.000
2		ONE HOUR	✓	15	100.000
3		ONE HOUR	✓	71	100.000
4		ONE HOUR	✓	14	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	4	61	4
	2	4	0	5	6
	3	59	5	2	5
	4	3	6	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	5	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.05	2.74	0.1	0.5	A	63	95
2	0.01	2.65	0.0	0.5	A	14	21
3	0.05	2.63	0.1	0.5	A	65	98
4	0.01	2.65	0.0	0.5	A	13	19

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	52	13	14	1507	0.034	52	50	0.0	0.0	2.690	A
2	11	3	54	1387	0.008	11	11	0.0	0.0	2.615	A
3	53	13	11	1508	0.035	53	55	0.0	0.0	2.575	A
4	11	3	53	1388	0.008	11	11	0.0	0.0	2.612	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	62	16	16	1505	0.041	62	59	0.0	0.0	2.712	A
2	13	3	65	1381	0.010	13	13	0.0	0.0	2.631	A
3	64	16	13	1507	0.042	64	66	0.0	0.0	2.596	A
4	13	3	63	1382	0.009	13	13	0.0	0.0	2.627	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	76	19	20	1503	0.051	76	73	0.0	0.1	2.743	A
2	17	4	79	1373	0.012	17	17	0.0	0.0	2.653	A
3	78	20	15	1505	0.052	78	80	0.0	0.1	2.625	A
4	15	4	77	1374	0.011	15	17	0.0	0.0	2.649	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	76	19	20	1503	0.051	76	73	0.1	0.1	2.743	A
2	17	4	79	1373	0.012	17	17	0.0	0.0	2.653	A
3	78	20	15	1505	0.052	78	80	0.1	0.1	2.625	A
4	15	4	77	1374	0.011	15	17	0.0	0.0	2.649	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	62	16	16	1505	0.041	62	59	0.1	0.0	2.714	A
2	13	3	65	1381	0.010	13	13	0.0	0.0	2.631	A
3	64	16	13	1507	0.042	64	66	0.1	0.0	2.596	A
4	13	3	63	1382	0.009	13	13	0.0	0.0	2.628	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	52	13	14	1507	0.034	52	50	0.0	0.0	2.690	A
2	11	3	54	1387	0.008	11	11	0.0	0.0	2.615	A
3	53	13	11	1508	0.035	53	55	0.0	0.0	2.577	A
4	11	3	53	1388	0.008	11	11	0.0	0.0	2.612	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.05	0.03	0.27	0.49	0.52			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.05	0.03	0.26	0.47	0.50			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.03	0.28	0.50	0.53			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.06	0.03	0.27	0.48	0.51			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.00	0.00	0.06	0.06			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.06	0.00	0.00	0.06	0.06			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.05	0.00	0.00	0.05	0.05			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

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Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	75.13	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1253	100.000
2		ONE HOUR	✓	226	100.000
3		ONE HOUR	✓	1226	100.000
4		ONE HOUR	✓	318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	1	54	1165	33
	2	73	0	96	57
	3	1103	59	2	62
	4	50	90	178	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	10	1
	2	2	0	2	2
	3	10	1	0	3
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1.06	131.66	54.9	122.1	F	1150	1725
2	0.42	10.83	0.7	3.6	B	207	311
3	0.96	45.36	16.1	78.3	E	1125	1687
4	0.55	12.88	1.2	5.0	B	292	438

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	943	236	246	1367	0.690	934	916	0.0	2.4	8.908	A
2	170	43	1028	822	0.207	169	152	0.0	0.3	5.613	A
3	923	231	123	1441	0.640	915	1075	0.0	1.9	7.371	A
4	239	60	924	882	0.271	238	114	0.0	0.4	5.685	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1126	282	295	1338	0.842	1115	1097	2.4	5.2	16.828	C
2	203	51	1228	706	0.288	203	181	0.3	0.4	7.284	A
3	1102	276	147	1427	0.773	1096	1284	1.9	3.5	11.643	B
4	286	71	1107	777	0.368	285	136	0.4	0.6	7.456	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1380	345	358	1300	1.061	1270	1316	5.2	32.6	65.837	F
2	249	62	1412	599	0.415	248	216	0.4	0.7	10.400	B
3	1350	337	177	1409	0.958	1312	1483	3.5	13.1	32.101	D
4	350	88	1326	649	0.539	348	162	0.6	1.2	12.087	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1380	345	361	1298	1.063	1290	1340	32.6	54.9	131.663	F
2	249	62	1433	588	0.424	249	219	0.7	0.7	10.831	B
3	1350	337	178	1408	0.959	1338	1503	13.1	16.1	45.359	E
4	350	88	1352	635	0.552	350	164	1.2	1.2	12.876	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1126	282	300	1335	0.844	1309	1147	54.9	9.2	94.786	F
2	203	51	1416	597	0.340	204	193	0.7	0.5	9.355	A
3	1102	276	153	1423	0.775	1150	1467	16.1	4.0	16.631	C
4	286	71	1159	746	0.383	288	144	1.2	0.6	8.058	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	943	236	249	1365	0.691	970	931	9.2	2.5	10.597	B
2	170	43	1064	801	0.212	171	155	0.5	0.3	5.837	A
3	923	231	125	1440	0.641	931	1111	4.0	2.0	7.837	A
4	239	60	940	873	0.274	240	116	0.6	0.4	5.809	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.36	0.30	1.45	4.19	5.27			N/A	N/A
2	0.26	0.00	0.00	0.26	0.26			N/A	N/A
3	1.90	0.64	1.28	2.66	3.09			N/A	N/A
4	0.38	0.00	0.00	0.38	0.38			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.23	0.08	1.30	14.21	21.25			N/A	N/A
2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
3	3.51	0.06	1.04	9.65	15.03			N/A	N/A
4	0.59	0.08	0.76	1.38	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	32.59	5.35	26.89	62.72	76.60			N/A	N/A
2	0.71	0.03	0.26	0.71	0.71			N/A	N/A
3	13.08	0.12	3.84	36.70	54.79			N/A	N/A
4	1.16	0.03	0.27	1.16	1.25			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	54.90	11.68	47.06	101.56	122.15			N/A	N/A
2	0.74	0.03	0.30	1.03	3.55			N/A	N/A
3	16.06	0.07	1.71	47.36	78.30			N/A	N/A
4	1.23	0.03	0.29	1.29	4.96			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	9.25	0.09	1.91	26.38	40.70			N/A	N/A
2	0.53	0.53	1.02	1.43	1.48			N/A	N/A
3	3.99	0.05	0.46	11.00	20.38			N/A	N/A
4	0.64	0.07	0.75	1.38	1.46			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.53	0.03	0.32	2.53	10.77			N/A	N/A
2	0.28	0.03	0.26	0.46	0.48			N/A	N/A
3	1.99	0.03	0.34	3.07	10.04			N/A	N/A
4	0.39	0.03	0.34	1.13	1.33			N/A	N/A

2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	106.00	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-15	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1126	100.000
2		ONE HOUR	✓	253	100.000
3		ONE HOUR	✓	1378	100.000
4		ONE HOUR	✓	168	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	51	1019	56
	2	85	0	72	96
	3	1099	101	1	177
	4	21	70	77	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	3	10	0
	2	1	0	5	2
	3	10	1	0	2
	4	1	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.91	30.12	9.7	53.5	D	1033	1550
2	0.41	9.08	0.7	3.3	A	232	348
3	1.12	197.83	91.0	159.6	F	1264	1897
4	0.27	7.36	0.4	1.2	A	154	231

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	848	212	186	1403	0.604	841	897	0.0	1.6	6.914	A
2	190	48	861	919	0.207	189	166	0.0	0.3	5.050	A
3	1037	259	177	1408	0.737	1026	874	0.0	2.9	9.905	A
4	126	32	958	863	0.147	126	245	0.0	0.2	4.927	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1012	253	222	1381	0.733	1007	1069	1.6	2.9	10.359	B
2	227	57	1032	820	0.277	227	198	0.3	0.4	6.213	A
3	1239	310	212	1387	0.893	1221	1046	2.9	7.4	21.349	C
4	151	38	1140	757	0.199	151	293	0.2	0.2	5.992	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1240	310	261	1358	0.913	1217	1188	2.9	8.7	24.460	C
2	279	70	1247	695	0.401	277	230	0.4	0.7	8.808	A
3	1517	379	259	1359	1.116	1344	1265	7.4	50.7	89.196	F
4	185	46	1265	685	0.270	184	338	0.2	0.4	7.257	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1240	310	262	1357	0.913	1236	1198	8.7	9.7	30.120	D
2	279	70	1265	685	0.407	278	232	0.7	0.7	9.081	A
3	1517	379	261	1358	1.117	1356	1283	50.7	91.0	195.857	F
4	185	46	1275	679	0.272	185	341	0.4	0.4	7.360	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1012	253	234	1374	0.736	1038	1188	9.7	3.2	12.513	B
2	227	57	1062	803	0.283	229	210	0.7	0.4	6.440	A
3	1239	310	215	1386	0.894	1369	1075	91.0	58.4	197.827	F
4	151	38	1270	682	0.222	151	314	0.4	0.3	6.858	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	848	212	204	1392	0.609	854	1083	3.2	1.7	7.366	A
2	190	48	874	912	0.209	191	184	0.4	0.3	5.124	A
3	1037	259	179	1407	0.737	1258	886	58.4	3.3	56.099	F
4	126	32	1160	746	0.170	127	276	0.3	0.2	5.878	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.63	0.64	1.55	2.01	2.14			N/A	N/A
2	0.27	0.00	0.00	0.27	0.27			N/A	N/A
3	2.90	0.21	1.66	5.88	7.59			N/A	N/A
4	0.17	0.00	0.00	0.17	0.17			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.87	0.06	0.87	7.77	12.11			N/A	N/A
2	0.39	0.00	0.00	0.39	0.39			N/A	N/A
3	7.41	0.13	2.98	19.33	27.49			N/A	N/A
4	0.25	0.00	0.00	0.25	0.25			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	8.68	0.06	0.87	25.17	43.52			N/A	N/A
2	0.67	0.03	0.26	0.67	0.67			N/A	N/A
3	50.72	17.24	46.18	83.56	96.86			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	9.73	0.04	0.42	23.69	53.49			N/A	N/A
2	0.69	0.03	0.31	1.53	3.33			N/A	N/A
3	91.05	38.82	85.44	140.61	159.64			N/A	N/A
4	0.38	0.03	0.32	1.22	1.22			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.19	0.05	0.47	8.83	15.83			N/A	N/A
2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
3	58.40	26.79	55.09	87.44	98.43			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.73	0.03	0.35	3.33	9.02			N/A	N/A
2	0.27	0.00	0.00	0.27	0.27			N/A	N/A
3	3.32	0.03	0.32	3.32	14.86			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A

2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.76	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	46	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	785	100.000
2		ONE HOUR	✓	166	100.000
3		ONE HOUR	✓	777	100.000
4		ONE HOUR	✓	143	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	43	693	49
	2	49	0	51	66
	3	671	53	0	53
	4	34	60	49	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	10	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.61	7.20	1.7	2.1	A	720	1080
2	0.20	4.93	0.2	1.0	A	152	228
3	0.61	7.09	1.7	2.1	A	713	1069
4	0.17	4.69	0.2	0.5	A	131	197

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	591	148	121	1442	0.410	588	565	0.0	0.7	4.569	A
2	125	31	593	1075	0.116	124	117	0.0	0.1	3.785	A
3	585	146	123	1441	0.406	582	594	0.0	0.7	4.533	A
4	108	27	579	1083	0.099	107	126	0.0	0.1	3.687	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	706	176	145	1427	0.494	704	677	0.7	1.1	5.405	A
2	149	37	710	1007	0.148	149	140	0.1	0.2	4.195	A
3	699	175	147	1426	0.490	697	712	0.7	1.0	5.349	A
4	129	32	694	1016	0.127	128	151	0.1	0.1	4.055	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	864	216	178	1408	0.614	862	828	1.1	1.7	7.131	A
2	183	46	868	915	0.200	182	171	0.2	0.2	4.912	A
3	855	214	180	1407	0.608	853	871	1.0	1.7	7.023	A
4	157	39	849	926	0.170	157	185	0.1	0.2	4.679	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	864	216	178	1408	0.614	864	830	1.7	1.7	7.198	A
2	183	46	871	914	0.200	183	172	0.2	0.2	4.925	A
3	855	214	181	1406	0.608	855	873	1.7	1.7	7.087	A
4	157	39	851	925	0.170	157	185	0.2	0.2	4.689	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	706	176	146	1427	0.494	708	680	1.7	1.1	5.465	A
2	149	37	714	1005	0.149	150	141	0.2	0.2	4.210	A
3	699	175	148	1426	0.490	701	715	1.7	1.1	5.407	A
4	129	32	697	1014	0.127	129	151	0.2	0.1	4.068	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	591	148	122	1441	0.410	592	569	1.1	0.8	4.615	A
2	125	31	597	1073	0.117	125	118	0.2	0.1	3.802	A
3	585	146	124	1441	0.406	586	598	1.1	0.7	4.579	A
4	108	27	583	1080	0.100	108	127	0.1	0.1	3.703	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.75	0.60	1.09	1.52	1.58			N/A	N/A
2	0.13	0.00	0.00	0.13	0.13			N/A	N/A
3	0.74	0.60	1.09	1.52	1.57			N/A	N/A
4	0.11	0.00	0.00	0.11	0.11			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.05	0.09	0.96	1.77	2.13			N/A	N/A
2	0.17	0.00	0.00	0.17	0.17			N/A	N/A
3	1.03	0.09	0.96	1.70	2.08			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.69	0.03	0.29	1.69	1.69			N/A	N/A
2	0.25	0.03	0.25	0.46	0.48			N/A	N/A
3	1.65	0.03	0.29	1.65	1.65			N/A	N/A
4	0.20	0.03	0.26	0.46	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.71	0.03	0.29	1.71	1.71			N/A	N/A
2	0.25	0.03	0.28	0.50	0.99			N/A	N/A
3	1.67	0.03	0.29	1.67	1.67			N/A	N/A
4	0.20	0.03	0.25	0.45	0.48			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.08	0.14	1.07	1.59	1.95			N/A	N/A
2	0.18	0.00	0.00	0.18	0.18			N/A	N/A
3	1.05	0.15	1.06	1.49	1.89			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.76	0.06	0.71	1.51	1.51			N/A	N/A
2	0.13	0.00	0.00	0.13	0.13			N/A	N/A
3	0.75	0.06	0.71	1.38	1.38			N/A	N/A
4	0.11	0.00	0.00	0.11	0.11			N/A	N/A

2037 final, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.69	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	77	100.000
2		ONE HOUR	✓	16	100.000
3		ONE HOUR	✓	78	100.000
4		ONE HOUR	✓	14	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	4	68	5
	2	5	0	5	6
	3	66	5	2	5
	4	3	6	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	10	0
	2	0	0	0	0
	3	5	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.06	2.76	0.1	0.5	A	71	106
2	0.01	2.67	0.0	0.5	A	15	22
3	0.06	2.64	0.1	0.5	A	72	107
4	0.01	2.66	0.0	0.5	A	13	19

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	58	14	14	1507	0.038	58	56	0.0	0.0	2.701	A
2	12	3	60	1384	0.009	12	11	0.0	0.0	2.623	A
3	59	15	12	1507	0.039	59	60	0.0	0.0	2.588	A
4	11	3	59	1385	0.008	11	12	0.0	0.0	2.619	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	69	17	16	1505	0.046	69	66	0.0	0.1	2.725	A
2	14	4	72	1377	0.010	14	13	0.0	0.0	2.641	A
3	70	18	14	1506	0.047	70	72	0.0	0.1	2.611	A
4	13	3	70	1378	0.009	13	14	0.0	0.0	2.635	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	85	21	20	1503	0.056	85	81	0.1	0.1	2.759	A
2	18	4	88	1368	0.013	18	17	0.0	0.0	2.666	A
3	86	21	18	1504	0.057	86	88	0.1	0.1	2.644	A
4	15	4	86	1369	0.011	15	18	0.0	0.0	2.659	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	85	21	20	1503	0.056	85	81	0.1	0.1	2.759	A
2	18	4	88	1368	0.013	18	17	0.0	0.0	2.666	A
3	86	21	18	1504	0.057	86	88	0.1	0.1	2.644	A
4	15	4	86	1369	0.011	15	18	0.0	0.0	2.659	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	69	17	16	1505	0.046	69	67	0.1	0.1	2.728	A
2	14	4	72	1377	0.010	14	13	0.0	0.0	2.641	A
3	70	18	14	1506	0.047	70	72	0.1	0.1	2.614	A
4	13	3	70	1378	0.009	13	14	0.0	0.0	2.636	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	58	14	14	1507	0.038	58	56	0.1	0.0	2.701	A
2	12	3	60	1384	0.009	12	11	0.0	0.0	2.626	A
3	59	15	12	1507	0.039	59	60	0.1	0.0	2.590	A
4	11	3	59	1385	0.008	11	12	0.0	0.0	2.621	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.05	0.03	0.27	0.49	0.52			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.05	0.03	0.26	0.47	0.50			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.03	0.28	0.51	0.53			N/A	N/A
2	0.01	0.01	0.25	0.45	0.48			N/A	N/A
3	0.06	0.03	0.27	0.48	0.51			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.06	0.00	0.00	0.06	0.06			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.06	0.00	0.00	0.06	0.06			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

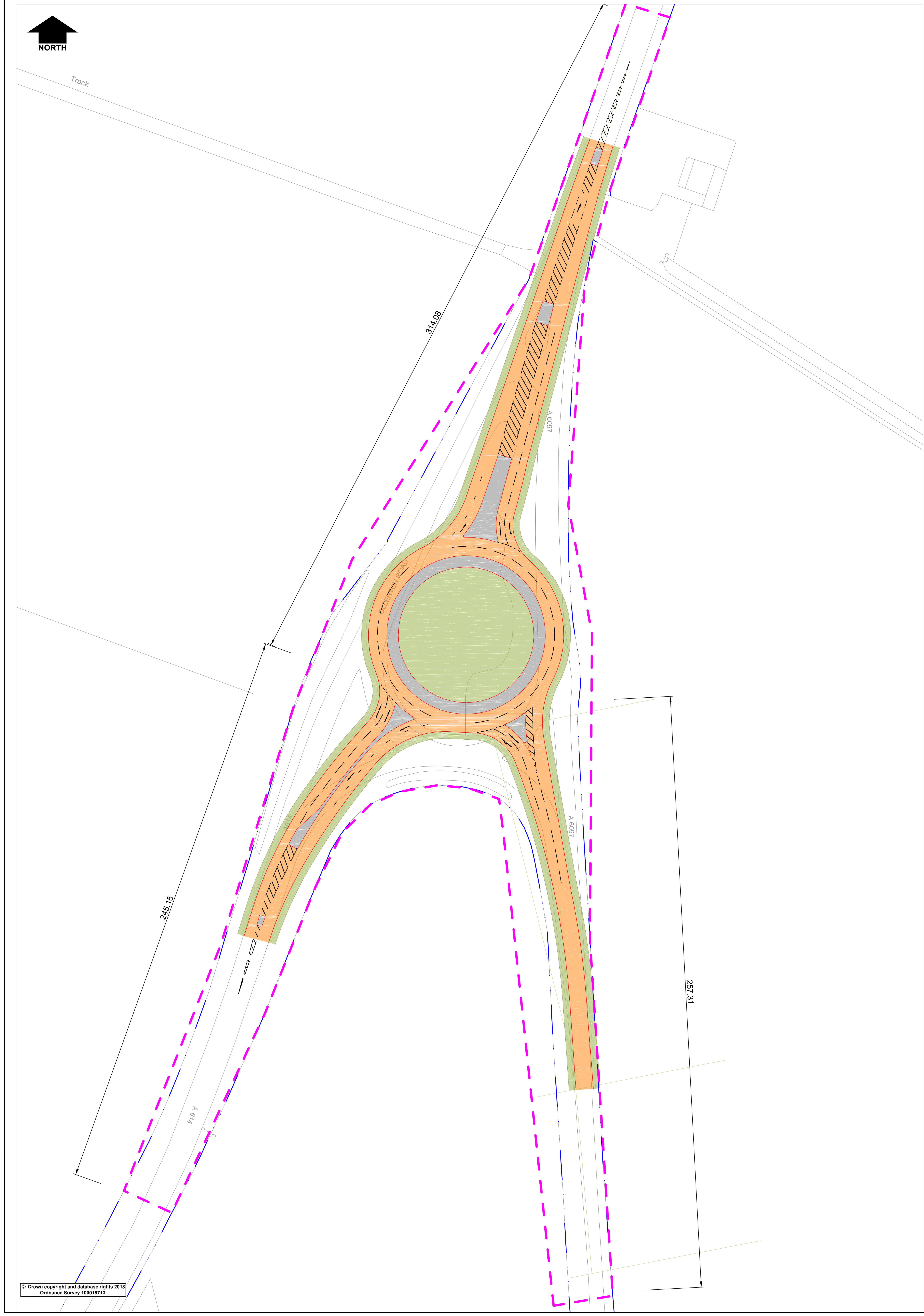
23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.05	0.00	0.00	0.05	0.05			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A

Appendix K – Warren Hill Scheme Drawing and PICADY / ARCADY Output



KEY

	Highway boundary
	Topographical survey extents, some areas are with private land, liaise with A Patel/T Boylan for permissions

NOTES

1. This drawing is to be read in conjunction with all other relevant drawings, details and specifications.
2. Do not scale from this drawing.
3. All measurements are given in metres unless otherwise stated.

Rev.	Description	Drawn	Ch'kd	Auth	Date

Project
A614/A6097 CORRIDOR IMPROVEMENTS
005 WARREN HILL

Status	Project No.
FOR INFO.	HW20949

Drawing Title
TOPOGRAPHICAL SURVEY EXTENTS

Scale	Drawn		Date
1:1000@A1	AP		28.02.2019
	Ch'kd AP		Date 28.02.2019
	Auth JJP	Traced AP	

Drawing No.	Rev.
HW 20949.005/01	0

NOT FOR CONSTRUCTION

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Bilsthorpe Depot, Bilsthorpe Business Park, Bilsthorpe, Nottinghamshire, NG22 8ST

Feb 28,2019 - 11:17am I:\Highways\Old N Drive\Highways\Design1\Admin\Misc Schemes\A614 MRN Programme\topo survey request.dwg

A1

Do Minimum (DM)

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: warren priority a614 nbnd test.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\5-warren
Report generation date: 15/04/2019 14:45:26

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final, AM
»2037 final, PM
»2037 final, IP
»2037 final, OP

Summary of junction performance

	AM								PM								
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queu (PCU
2023																	
Stream B-AC	3.4	17.4	26.27	0.78	D	11.84	B	7 % [Stream B-AC]	12.1	51.6	79.35	0.96	F	34.79	D	-11 % [Stream B-AC]	0.9
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0
2037																	
Stream B-AC	5.1	27.9	37.10	0.85	E	17.46	C	-1 % [Stream B-AC]	22.0	64.4	127.18	1.03	F	57.83	F	-16 % [Stream B-AC]	1.0
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0
2037 final																	
Stream B-AC	11.7	51.2	75.66	0.96	F	36.14	E	-11 % [Stream B-AC]	65.3	109.7	368.76	1.19	F	169.77	F	-26 % [Stream B-AC]	1.4
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

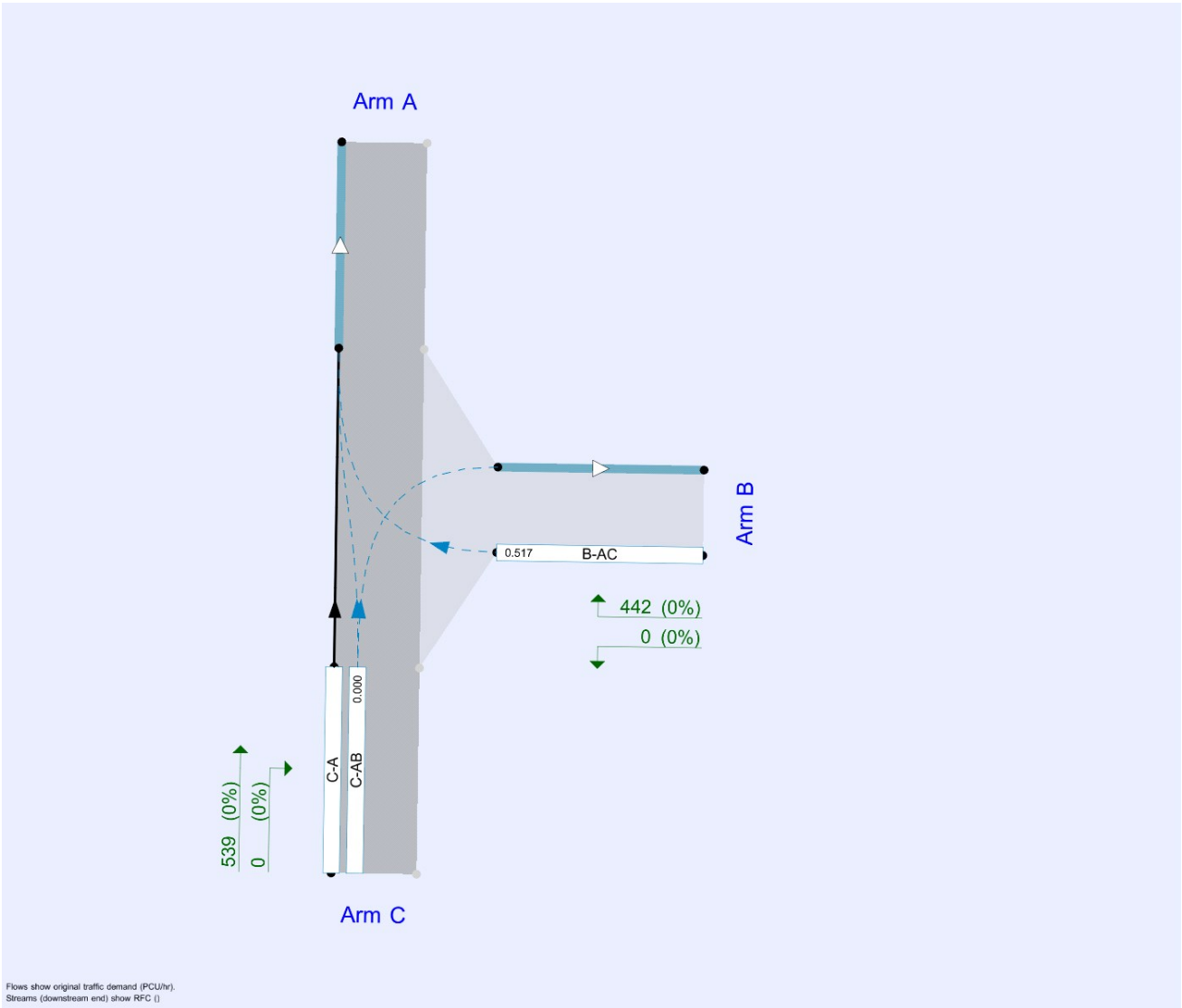
File summary

File Description

Title	
Location	
Site number	
Date	28/02/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		11.84	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	7	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	A614N		Major
B	A6097		Minor
C	A614S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.50	✓	0.00		120.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	120	120

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
2	B-A	694	0.077	0.194	0.122	0.278
2	B-C	840	0.078	0.198	-	-
2	C-B	643	0.152	0.152	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	442	100.000
C		ONE HOUR	✓	539	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	442	0	0
	C	539	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.78	26.27	3.4	17.4	D	406	608
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						495	742
A-B						0	0
A-C						0	0

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	333	83	644	0.517	329	0.0	1.0	11.263	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	406	101			406				
A-B	0	0			0				
A-C	0	0			0				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	397	99	635	0.626	395	1.0	1.6	14.882	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	485	121			485				
A-B	0	0			0				
A-C	0	0			0				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	487	122	621	0.783	480	1.6	3.2	24.411	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	593	148			593				
A-B	0	0			0				
A-C	0	0			0				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	487	122	621	0.783	486	3.2	3.4	26.268	D
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	593	148			593				
A-B	0	0			0				
A-C	0	0			0				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	397	99	635	0.626	404	3.4	1.7	16.024	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	485	121			485				
A-B	0	0			0				
A-C	0	0			0				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	333	83	644	0.517	335	1.7	1.1	11.751	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	406	101			406				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.04	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.61	0.09	1.16	3.33	4.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.23	0.04	0.35	7.48	17.40			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.40	0.03	0.30	3.46	15.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.75	0.05	0.45	4.65	7.60			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.10	0.04	0.36	2.72	5.18			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		34.79	D

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	527	100.000
C		ONE HOUR	✓	675	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	527	0	0
	C	675	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.96	79.35	12.1	51.6	F	484	725
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						619	929
A-B						0	0
A-C						0	0

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	397	99	632	0.628	390	0.0	1.6	14.551	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	508	127			508				
A-B	0	0			0				
A-C	0	0			0				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	474	118	620	0.765	468	1.6	2.9	22.988	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	607	152			607				
A-B	0	0			0				
A-C	0	0			0				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	580	145	603	0.962	554	2.9	9.5	55.243	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	743	186			743				
A-B	0	0			0				
A-C	0	0			0				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	580	145	603	0.962	570	9.5	12.1	79.347	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	743	186			743				
A-B	0	0			0				
A-C	0	0			0				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	474	118	620	0.765	508	12.1	3.6	38.399	E
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	607	152			607				
A-B	0	0			0				
A-C	0	0			0				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	397	99	632	0.628	404	3.6	1.8	16.309	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	508	127			508				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.62	0.61	1.10	1.92	2.20			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.95	0.09	1.08	7.15	10.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	9.48	0.16	4.21	24.59	34.58			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	12.13	0.10	3.29	34.26	51.59			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.64	0.04	0.43	10.06	18.58			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.76	0.03	0.31	3.02	9.06			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		4.72	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	71	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	276	100.000
C		ONE HOUR	✓	333	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	276	0	0
	C	333	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.47	10.42	0.9	2.8	B	253	380
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						306	458
A-B						0	0
A-C						0	0

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	208	52	663	0.313	206	0.0	0.5	7.844	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	251	63			251				
A-B	0	0			0				
A-C	0	0			0				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	248	62	657	0.378	248	0.5	0.6	8.773	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	299	75			299				
A-B	0	0			0				
A-C	0	0			0				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	304	76	649	0.468	303	0.6	0.9	10.398	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	367	92			367				
A-B	0	0			0				
A-C	0	0			0				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	304	76	649	0.468	304	0.9	0.9	10.425	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	367	92			367				
A-B	0	0			0				
A-C	0	0			0				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	248	62	657	0.378	249	0.9	0.6	8.844	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	299	75			299				
A-B	0	0			0				
A-C	0	0			0				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	208	52	663	0.313	208	0.6	0.5	7.926	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	251	63			251				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.45	0.00	0.00	0.45	0.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.60	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.86	0.03	0.26	0.86	0.86			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.87	0.03	0.28	0.87	2.81			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.62	0.08	0.78	1.36	1.43			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.46	0.04	0.40	1.23	1.36			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		2.46	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	27	0	0
	C	33	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	5.46	0.0	0.5	A	25	37
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						30	45
A-B						0	0
A-C						0	0

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	691	0.029	20	0.0	0.0	5.368	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	25	6			25				
A-B	0	0			0				
A-C	0	0			0				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	690	0.035	24	0.0	0.0	5.405	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	30	7			30				
A-B	0	0			0				
A-C	0	0			0				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	689	0.043	30	0.0	0.0	5.456	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	36	9			36				
A-B	0	0			0				
A-C	0	0			0				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	689	0.043	30	0.0	0.0	5.456	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	36	9			36				
A-B	0	0			0				
A-C	0	0			0				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	690	0.035	24	0.0	0.0	5.407	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	30	7			30				
A-B	0	0			0				
A-C	0	0			0				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	691	0.029	20	0.0	0.0	5.369	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	25	6			25				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.25	0.46	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		17.46	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	481	100.000
C		ONE HOUR	✓	541	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	481	0	0
	C	541	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.85	37.10	5.1	27.9	E	441	662
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						496	745
A-B						0	0
A-C						0	0

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	362	91	644	0.562	357	0.0	1.2	12.347	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	407	102			407				
A-B	0	0			0				
A-C	0	0			0				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	432	108	634	0.682	429	1.2	2.0	17.277	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	486	122			486				
A-B	0	0			0				
A-C	0	0			0				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	530	132	621	0.853	519	2.0	4.7	32.231	D
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	596	149			596				
A-B	0	0			0				
A-C	0	0			0				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	530	132	621	0.853	528	4.7	5.1	37.101	E
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	596	149			596				
A-B	0	0			0				
A-C	0	0			0				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	432	108	634	0.682	444	5.1	2.3	19.890	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	486	122			486				
A-B	0	0			0				
A-C	0	0			0				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	362	91	644	0.562	366	2.3	1.3	13.113	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	407	102			407				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.24	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.03	0.08	1.26	4.62	6.40			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	4.70	0.05	0.46	13.28	23.95			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.13	0.03	0.35	10.95	27.92			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.27	0.04	0.42	6.19	10.92			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.32	0.03	0.33	2.98	6.76			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		57.83	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-16	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	562	100.000
C		ONE HOUR	✓	674	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	562	0	0
	C	674	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.03	127.18	22.0	64.4	F	516	774
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						618	928
A-B						0	0
A-C						0	0

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	423	106	632	0.670	415	0.0	1.9	16.120	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	507	127			507				
A-B	0	0			0				
A-C	0	0			0				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	505	126	620	0.815	498	1.9	3.8	27.806	D
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	606	151			606				
A-B	0	0			0				
A-C	0	0			0				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	619	155	603	1.026	575	3.8	14.9	75.848	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	742	186			742				
A-B	0	0			0				
A-C	0	0			0				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	619	155	603	1.026	590	14.9	22.0	127.177	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	742	186			742				
A-B	0	0			0				
A-C	0	0			0				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	505	126	620	0.815	571	22.0	5.6	82.428	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	606	151			606				
A-B	0	0			0				
A-C	0	0			0				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	423	106	632	0.670	437	5.6	2.1	19.629	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	507	127			507				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.92	0.60	1.33	2.76	3.21			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.82	0.11	1.63	9.31	12.94			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	14.87	1.10	10.44	32.46	41.71			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	22.05	1.28	15.10	49.65	64.40			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.61	0.05	0.69	16.13	27.35			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.14	0.03	0.31	3.28	10.80			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		5.34	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	59	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	300	100.000
C		ONE HOUR	✓	335	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	300	0	0
	C	335	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.51	11.30	1.0	2.8	B	275	413
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						307	461
A-B						0	0
A-C						0	0

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	226	56	663	0.341	224	0.0	0.5	8.160	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	252	63			252				
A-B	0	0			0				
A-C	0	0			0				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	270	67	657	0.410	269	0.5	0.7	9.259	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	301	75			301				
A-B	0	0			0				
A-C	0	0			0				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	330	83	649	0.509	329	0.7	1.0	11.211	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	369	92			369				
A-B	0	0			0				
A-C	0	0			0				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	330	83	649	0.509	330	1.0	1.0	11.297	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	369	92			369				
A-B	0	0			0				
A-C	0	0			0				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	270	67	657	0.410	271	1.0	0.7	9.357	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	301	75			301				
A-B	0	0			0				
A-C	0	0			0				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	226	56	663	0.341	227	0.7	0.5	8.262	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	252	63			252				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.51	0.51	1.00	1.40	1.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.68	0.21	0.93	1.39	1.44			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.01	0.03	0.26	1.01	1.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.02	0.03	0.28	1.02	2.80			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.71	0.09	0.81	1.39	1.46			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.52	0.05	0.47	1.29	1.40			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		2.56	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	29	100.000
C		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	29	0	0
	C	33	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	5.47	0.0	0.5	A	27	40
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						30	45
A-B						0	0
A-C						0	0

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	5	691	0.032	22	0.0	0.0	5.380	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	25	6			25				
A-B	0	0			0				
A-C	0	0			0				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	7	690	0.038	26	0.0	0.0	5.419	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	30	7			30				
A-B	0	0			0				
A-C	0	0			0				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	689	0.046	32	0.0	0.0	5.474	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	36	9			36				
A-B	0	0			0				
A-C	0	0			0				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	689	0.046	32	0.0	0.0	5.474	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	36	9			36				
A-B	0	0			0				
A-C	0	0			0				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	7	690	0.038	26	0.0	0.0	5.422	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	30	7			30				
A-B	0	0			0				
A-C	0	0			0				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	5	691	0.032	22	0.0	0.0	5.383	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	25	6			25				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		36.14	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	535	100.000
C		ONE HOUR	✓	585	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	535	0	0
	C	585	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.96	75.66	11.7	51.2	F	491	736
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						537	805
A-B						0	0
A-C						0	0

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	403	101	640	0.629	396	0.0	1.6	14.415	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	440	110			440				
A-B	0	0			0				
A-C	0	0			0				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	481	120	630	0.764	476	1.6	2.9	22.611	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	526	131			526				
A-B	0	0			0				
A-C	0	0			0				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	589	147	615	0.958	564	2.9	9.3	53.376	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	644	161			644				
A-B	0	0			0				
A-C	0	0			0				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	589	147	615	0.958	579	9.3	11.7	75.664	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	644	161			644				
A-B	0	0			0				
A-C	0	0			0				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	481	120	630	0.764	513	11.7	3.6	36.640	E
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	526	131			526				
A-B	0	0			0				
A-C	0	0			0				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	403	101	640	0.629	410	3.6	1.8	16.125	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	440	110			440				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.63	0.61	1.11	1.92	2.19			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.94	0.09	1.08	7.14	10.02			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	9.25	0.14	3.87	24.33	34.54			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	11.70	0.09	2.74	33.47	51.23			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.61	0.04	0.43	9.98	18.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.77	0.03	0.32	3.14	9.16			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		169.77	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-26	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	639	100.000
C		ONE HOUR	✓	749	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	639	0	0
	C	749	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.19	368.76	65.3	109.7	F	586	880
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						687	1031
A-B						0	0
A-C						0	0

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	481	120	625	0.770	469	0.0	3.0	21.692	C
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	564	141			564				
A-B	0	0			0				
A-C	0	0			0				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	574	144	612	0.939	554	3.0	8.2	49.666	E
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	673	168			673				
A-B	0	0			0				
A-C	0	0			0				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	704	176	593	1.186	587	8.2	37.4	156.966	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	825	206			825				
A-B	0	0			0				
A-C	0	0			0				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	704	176	593	1.186	592	37.4	65.3	322.870	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	825	206			825				
A-B	0	0			0				
A-C	0	0			0				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	574	144	612	0.939	602	65.3	58.4	368.765	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	673	168			673				
A-B	0	0			0				
A-C	0	0			0				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	481	120	625	0.770	614	58.4	25.0	248.768	F
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	564	141			564				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.01	0.11	1.27	7.09	9.82			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	8.17	0.28	4.73	19.23	25.73			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	37.37	13.95	34.34	59.63	68.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	65.31	30.34	61.78	97.57	109.72			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	58.35	21.66	53.78	93.90	108.00			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	25.03	4.89	21.10	46.38	55.95			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		6.40	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	41	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	340	100.000
C		ONE HOUR	✓	368	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	340	0	0
	C	368	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.58	13.32	1.4	3.2	B	312	468
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						338	507
A-B						0	0
A-C						0	0

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	660	0.388	253	0.0	0.6	8.804	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	277	69			277				
A-B	0	0			0				
A-C	0	0			0				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	306	76	653	0.468	305	0.6	0.9	10.295	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	331	83			331				
A-B	0	0			0				
A-C	0	0			0				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	374	94	644	0.581	372	0.9	1.3	13.144	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	405	101			405				
A-B	0	0			0				
A-C	0	0			0				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	374	94	644	0.581	374	1.3	1.4	13.318	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	405	101			405				
A-B	0	0			0				
A-C	0	0			0				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	306	76	653	0.468	308	1.4	0.9	10.465	B
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	331	83			331				
A-B	0	0			0				
A-C	0	0			0				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	660	0.388	257	0.9	0.6	8.957	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	277	69			277				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.62	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.86	0.17	0.94	1.13	1.13			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.34	0.03	0.27	1.34	2.66			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.36	0.03	0.28	1.36	3.19			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.90	0.08	0.84	1.47	1.86			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.64	0.05	0.49	1.46	1.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	a614nbnd	T-Junction	One-way from C to A		5.47	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	0	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	3	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	33	0	0
	C	3	0	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	5.47	0.1	0.5	A	30	45
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						0	0

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	694	0.036	25	0.0	0.0	5.378	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	694	0.043	30	0.0	0.0	5.419	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	694	0.052	36	0.0	0.1	5.474	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	694	0.052	36	0.1	0.1	5.474	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	694	0.043	30	0.1	0.0	5.420	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	694	0.036	25	0.0	0.0	5.381	A
C-AB	0	0	643	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: warren priority top of a6097 test.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\5-warren
Report generation date: 15/04/2019 14:41:53

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final, AM
»2037 final, PM
»2037 final, IP
»2037 final, OP

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)
																	2023
Stream B-AC	2.4	10.8	17.86	0.70	C	6.97	A	17 % [Stream B-AC]	3.6	18.7	23.34	0.79	C	11.92	B	9 % [Stream B-AC]	0.7
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0
																	2037
Stream B-AC	3.3	16.7	22.63	0.77	C	9.23	A	9 % [Stream B-AC]	4.9	25.5	30.06	0.84	D	15.84	C	3 % [Stream B-AC]	0.8
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0
																	2037 final
Stream B-AC	5.9	32.5	38.09	0.87	E	15.64	C	-1 % [Stream B-AC]	14.1	59.5	75.14	0.97	F	39.90	E	-10 % [Stream B-AC]	1.0
Stream C-AB	0.0	~1	0.00	0.00	A				0.0	~1	0.00	0.00	A				0.0

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

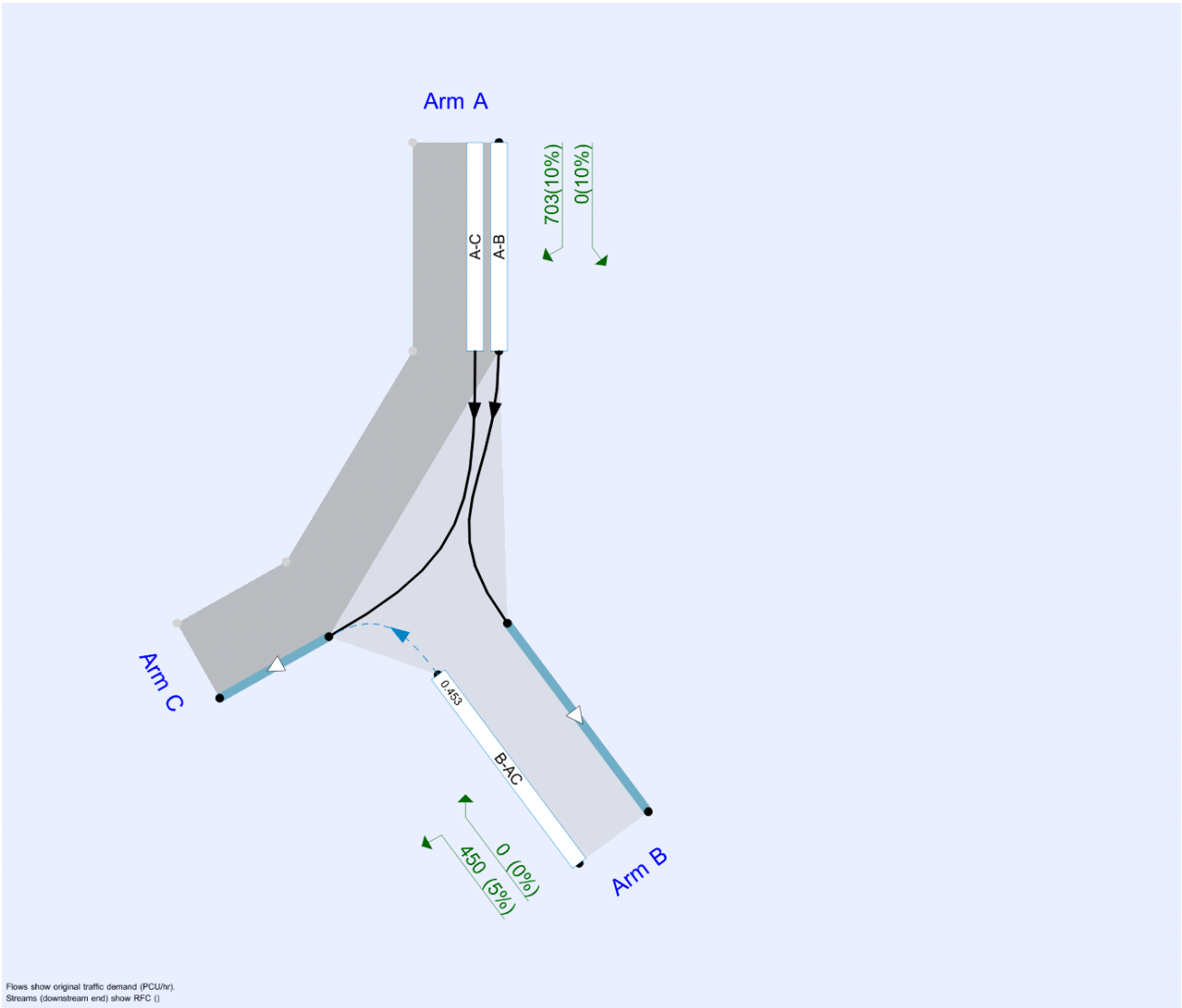
File summary

File Description

Title	a614/a6097
Location	warren hill priority
Site number	
Date	06/02/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		6.97	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	17	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	A6097N		Major
B	A6097		Minor
C	A614S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.40				✓	

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	0	120

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	643	0.062	0.157	0.099	0.224
1	B-C	840	0.068	0.172	-	-
1	C-B	574	0.118	0.118	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	703	100.000
B		ONE HOUR	✓	450	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	703
	B	0	0	450
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.70	17.86	2.4	10.8	C	413	619
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						645	968

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	339	85	748	0.453	335	0.0	0.9	9.082	A
C-AB	0	0	512	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	529	132			529				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	405	101	731	0.554	403	0.9	1.3	11.476	B
C-AB	0	0	499	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	632	158			632				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	495	124	706	0.702	491	1.3	2.3	17.250	C
C-AB	0	0	483	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	774	194			774				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	495	124	706	0.702	495	2.3	2.4	17.863	C
C-AB	0	0	483	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	774	194			774				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	405	101	731	0.554	409	2.4	1.3	11.896	B
C-AB	0	0	499	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	632	158			632				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	339	85	748	0.453	341	1.3	0.9	9.313	A
C-AB	0	0	512	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	529	132			529				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.85	0.58	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.27	0.10	1.08	2.16	2.93			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.33	0.03	0.32	2.52	10.77			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.39	0.03	0.30	2.39	7.37			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.34	0.06	0.69	3.07	4.54			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.88	0.04	0.42	2.04	3.35			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		11.92	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	9	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	508	100.000
B		ONE HOUR	✓	530	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	508
	B	0	0	530
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.79	23.34	3.6	18.7	C	486	730
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						466	699

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	399	100	774	0.516	395	0.0	1.1	9.866	A
C-AB	0	0	529	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	382	96			382				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	476	119	761	0.626	474	1.1	1.7	13.067	B
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	457	114			457				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	584	146	743	0.785	576	1.7	3.5	21.782	C
C-AB	0	0	508	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	559	140			559				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	584	146	743	0.785	583	3.5	3.6	23.341	C
C-AB	0	0	508	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	559	140			559				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	476	119	761	0.626	484	3.6	1.8	13.973	B
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	457	114			457				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	399	100	774	0.516	402	1.8	1.1	10.238	B
C-AB	0	0	529	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	382	96			382				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.09	0.58	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.70	0.08	1.16	3.66	5.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.47	0.04	0.36	7.54	18.71			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.63	0.03	0.31	3.63	15.63			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.83	0.05	0.49	4.85	7.84			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.14	0.04	0.38	2.84	5.39			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		3.66	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	105	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	315	100.000
B		ONE HOUR	✓	273	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	315
	B	0	0	273
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.39	7.89	0.7	2.8	A	251	376
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						289	434

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	206	51	799	0.257	204	0.0	0.4	6.342	A
C-AB	0	0	546	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	237	59			237				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	245	61	791	0.310	245	0.4	0.5	6.920	A
C-AB	0	0	541	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	283	71			283				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	301	75	780	0.385	300	0.5	0.6	7.865	A
C-AB	0	0	533	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	347	87			347				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	301	75	780	0.385	301	0.6	0.7	7.888	A
C-AB	0	0	533	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	347	87			347				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	245	61	791	0.310	246	0.7	0.5	6.952	A
C-AB	0	0	541	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	283	71			283				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	206	51	799	0.257	206	0.5	0.4	6.384	A
C-AB	0	0	546	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	237	59			237				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.36	0.00	0.00	0.36	0.36			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.47	0.00	0.00	0.47	0.47			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.65	0.03	0.27	0.65	0.65			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.65	0.03	0.30	1.15	2.83			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.48	0.00	0.00	0.48	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.37	0.00	0.00	0.37	0.37			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		2.23	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	31	100.000
B		ONE HOUR	✓	28	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	31
	B	0	0	28
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	4.71	0.0	0.5	A	26	39
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						28	43

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	836	0.025	21	0.0	0.0	4.640	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	23	6			23				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	835	0.030	25	0.0	0.0	4.668	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	28	7			28				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	834	0.037	31	0.0	0.0	4.707	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	34	9			34				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	834	0.037	31	0.0	0.0	4.707	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	34	9			34				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	835	0.030	25	0.0	0.0	4.670	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	28	7			28				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	5	836	0.025	21	0.0	0.0	4.642	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	23	6			23				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.26	0.48	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		9.23	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	9	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	711	100.000
B		ONE HOUR	✓	490	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	711
	B	0	0	490
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.77	22.63	3.3	16.7	C	450	674
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						652	979

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	369	92	747	0.494	365	0.0	1.0	9.787	A
C-AB	0	0	511	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	535	134			535				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	440	110	729	0.604	438	1.0	1.5	12.887	B
C-AB	0	0	499	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	639	160			639				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	540	135	705	0.766	533	1.5	3.1	21.284	C
C-AB	0	0	482	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	783	196			783				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	540	135	705	0.766	539	3.1	3.3	22.631	C
C-AB	0	0	482	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	783	196			783				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	440	110	729	0.604	447	3.3	1.7	13.675	B
C-AB	0	0	499	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	639	160			639				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	369	92	747	0.494	371	1.7	1.0	10.122	B
C-AB	0	0	511	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	535	134			535				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.00	0.58	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.55	0.09	1.14	3.12	4.24			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.13	0.03	0.35	6.26	16.73			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.27	0.03	0.31	3.27	13.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.66	0.05	0.50	4.27	6.81			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.05	0.04	0.38	2.60	4.78			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		15.84	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	507	100.000
B		ONE HOUR	✓	565	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	507
	B	0	0	565
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.84	30.06	4.9	25.5	D	518	778
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						465	698

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	425	106	774	0.550	420	0.0	1.2	10.555	B
C-AB	0	0	529	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	382	95			382				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	508	127	761	0.667	505	1.2	2.0	14.579	B
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	456	114			456				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	622	156	743	0.837	612	2.0	4.6	26.808	D
C-AB	0	0	508	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	558	140			558				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	622	156	743	0.837	621	4.6	4.9	30.055	D
C-AB	0	0	508	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	558	140			558				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	508	127	761	0.667	519	4.9	2.2	16.241	C
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	456	114			456				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	425	106	774	0.550	429	2.2	1.3	11.073	B
C-AB	0	0	529	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	382	95			382				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.25	0.58	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.02	0.08	1.21	4.66	6.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	4.59	0.04	0.42	12.33	24.37			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	4.92	0.03	0.34	8.12	25.47			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.21	0.05	0.45	6.02	10.35			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.31	0.04	0.36	3.05	6.66			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		4.21	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	86	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	318	100.000
B		ONE HOUR	✓	307	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	318
	B	0	0	307
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.43	8.57	0.8	2.9	A	282	423
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						292	438

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	231	58	798	0.290	229	0.0	0.4	6.625	A
C-AB	0	0	546	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	239	60			239				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	276	69	790	0.349	275	0.4	0.6	7.335	A
C-AB	0	0	540	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	286	71			286				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	338	85	779	0.434	337	0.6	0.8	8.531	A
C-AB	0	0	533	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	350	88			350				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	338	85	779	0.434	338	0.8	0.8	8.566	A
C-AB	0	0	533	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	350	88			350				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	276	69	790	0.349	277	0.8	0.6	7.375	A
C-AB	0	0	540	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	286	71			286				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	231	58	798	0.290	232	0.6	0.4	6.677	A
C-AB	0	0	546	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	239	60			239				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.42	0.00	0.00	0.42	0.42			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.56	0.56	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.79	0.03	0.27	0.79	0.79			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.80	0.03	0.29	0.80	2.89			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.57	0.07	0.75	1.41	1.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.43	0.03	0.32	0.97	1.28			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		2.32	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	31	100.000
B		ONE HOUR	✓	30	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	31
	B	0	0	30
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	4.72	0.0	0.5	A	28	41
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						28	43

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	836	0.027	22	0.0	0.0	4.649	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	23	6			23				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	835	0.032	27	0.0	0.0	4.679	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	28	7			28				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	834	0.040	33	0.0	0.0	4.720	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	34	9			34				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	834	0.040	33	0.0	0.0	4.720	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	34	9			34				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	835	0.032	27	0.0	0.0	4.679	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	28	7			28				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	836	0.027	23	0.0	0.0	4.649	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	23	6			23				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.27	0.48	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		15.64	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	781	100.000
B		ONE HOUR	✓	544	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	781
	B	0	0	544
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.87	38.09	5.9	32.5	E	499	749
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						717	1075

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	410	102	738	0.555	404	0.0	1.3	11.169	B
C-AB	0	0	505	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	588	147			588				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	489	122	718	0.681	486	1.3	2.1	15.991	C
C-AB	0	0	491	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	702	176			702				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	599	150	691	0.866	586	2.1	5.4	32.402	D
C-AB	0	0	473	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	860	215			860				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	599	150	691	0.866	597	5.4	5.9	38.087	E
C-AB	0	0	473	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	860	215			860				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	489	122	718	0.681	503	5.9	2.4	18.602	C
C-AB	0	0	491	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	702	176			702				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	410	102	738	0.555	414	2.4	1.3	11.790	B
C-AB	0	0	505	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	588	147			588				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.27	0.58	1.05	1.47	1.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.13	0.08	1.23	5.00	7.07			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.40	0.05	0.51	15.42	27.08			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.94	0.04	0.38	13.63	32.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.36	0.04	0.44	6.43	11.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.34	0.03	0.34	2.84	6.90			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		39.90	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-10	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	568	100.000
B		ONE HOUR	✓	643	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	568
	B	0	0	643
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.97	75.14	14.1	59.5	F	590	885
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						521	782

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	484	121	766	0.632	477	0.0	1.7	12.808	B
C-AB	0	0	524	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	428	107			428				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	578	145	751	0.769	572	1.7	3.2	20.411	C
C-AB	0	0	514	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	511	128			511				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	708	177	732	0.968	677	3.2	10.9	51.484	F
C-AB	0	0	500	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	625	156			625				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	708	177	732	0.968	695	10.9	14.1	75.144	F
C-AB	0	0	500	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	625	156			625				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	578	145	751	0.769	619	14.1	3.9	34.401	D
C-AB	0	0	514	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	511	128			511				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	484	121	766	0.632	492	3.9	1.9	14.190	B
C-AB	0	0	524	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	428	107			428				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.74	0.64	1.18	2.07	2.59			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.20	0.09	1.55	8.03	11.45			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	10.93	0.18	4.94	28.33	39.79			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	14.08	0.11	4.05	39.70	59.47			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.89	0.04	0.44	10.73	19.91			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.87	0.03	0.33	3.02	9.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		4.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	64	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	352	100.000
B		ONE HOUR	✓	348	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	352
	B	0	0	348
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.50	9.70	1.0	2.7	A	319	479
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						323	485

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	262	65	794	0.330	260	0.0	0.5	7.053	A
C-AB	0	0	543	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	265	66			265				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	313	78	785	0.399	312	0.5	0.7	7.982	A
C-AB	0	0	537	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	316	79			316				

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	383	96	773	0.496	382	0.7	1.0	9.638	A
C-AB	0	0	528	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	388	97			388				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	383	96	773	0.496	383	1.0	1.0	9.699	A
C-AB	0	0	528	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	388	97			388				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	313	78	785	0.399	314	1.0	0.7	8.050	A
C-AB	0	0	537	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	316	79			316				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	262	65	794	0.330	263	0.7	0.5	7.128	A
C-AB	0	0	543	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	265	66			265				

Queue Variation Results for each time segment

12:45 - 13:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.51	0.00	0.00	0.51	0.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:00 - 13:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.69	0.19	0.97	1.45	1.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:15 - 13:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.01	0.03	0.27	1.01	1.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:30 - 13:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.02	0.03	0.29	1.02	2.73			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

13:45 - 14:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.71	0.10	0.87	1.44	1.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:00 - 14:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.52	0.05	0.47	1.34	1.46			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2037 final, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	warren	T-Junction	One-way from A to C		2.37	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	34	100.000
B		ONE HOUR	✓	34	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	34
	B	0	0	34
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	0	0	5
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	4.75	0.0	0.5	A	31	47
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						31	47

Main Results for each time segment

22:45 - 23:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	6	835	0.031	25	0.0	0.0	4.668	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	26	6			26				

23:00 - 23:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	834	0.037	31	0.0	0.0	4.702	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	31	8			31				

23:15 - 23:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	833	0.045	37	0.0	0.0	4.750	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	37	9			37				

23:30 - 23:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	9	833	0.045	37	0.0	0.0	4.750	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	37	9			37				

23:45 - 00:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	8	834	0.037	31	0.0	0.0	4.705	A
C-AB	0	0	570	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	31	8			31				

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	6	835	0.031	26	0.0	0.0	4.671	A
C-AB	0	0	571	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	26	6			26				

Queue Variation Results for each time segment

22:45 - 23:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:00 - 23:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:15 - 23:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.27	0.48	0.51			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:30 - 23:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

23:45 - 00:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

Do Something (DS)

Junctions 9

ARCADY 9 - Roundabout Module

Filename: warren 90m icd rdbt test.j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\5-warren
Report generation date: 15/04/2019 14:43:15

»2023, AM
»2023, PM
»2023, IP
»2023, OP
»2037, AM
»2037, PM
»2037, IP
»2037, OP
»2037 final, AM
»2037 final, PM
»2037 final, IP
»2037 final, OP

Summary of junction performance

	AM								PM									
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95 Que (PC
2023																		
Arm 1	2.8	5.5	7.14	0.72	A	5.62	A	33 % [Arm 1]	1.0	1.6	3.81	0.47	A	3.93	A	81 % [Arm 3]	0.5	2.3
Arm 2	0.5	2.1	3.75	0.32	A				0.6	2.8	3.70	0.35	A				0.2	0.5
Arm 3	0.6	2.7	3.53	0.35	A				0.9	2.5	4.27	0.44	A				0.3	0.9
2037																		
Arm 1	3.2	8.6	8.04	0.75	A	6.18	A	27 % [Arm 1]	1.1	1.6	3.94	0.49	A	4.05	A	78 % [Arm 3]	0.6	2.6
Arm 2	0.6	2.7	3.93	0.35	A				0.7	3.0	3.84	0.38	A				0.3	0.5
Arm 3	0.6	2.8	3.60	0.35	A				0.9	2.5	4.35	0.45	A				0.3	1.0
2037 final																		
Arm 1	5.2	24.8	11.83	0.83	B	8.49	A	15 % [Arm 1]	1.4	1.7	4.51	0.55	A	4.63	A	59 % [Arm 3]	0.7	2.9
Arm 2	0.7	3.1	4.35	0.40	A				0.8	2.7	4.34	0.44	A				0.3	1.3
Arm 3	0.7	3.0	3.88	0.39	A				1.1	1.6	5.03	0.51	A				0.3	1.4

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

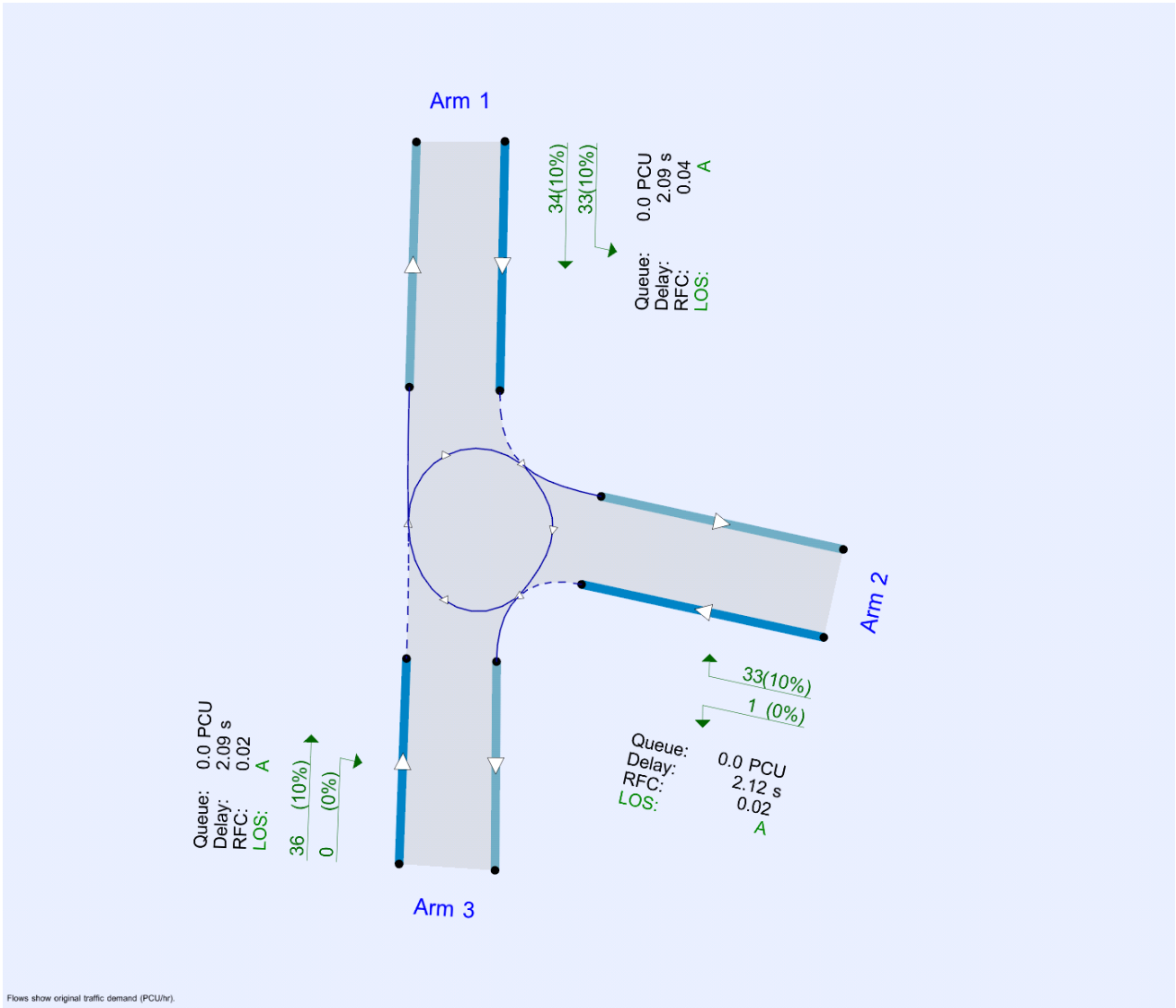
File summary

File Description

Title	A614/A6097 impts
Location	A614/A6097 Warren Hill
Site number	
Date	05/02/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NCCADMIN\br18
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	13:45	15:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	13:45	15:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final	IP	ONE HOUR	13:45	15:15	15	✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

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

2023, AM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.62	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	33	Arm 1

Arms

Arms

Arm	Name	Description
1	A614N	
2	A6097	
3	A614S	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.70	7.30	120.0	20.0	90.0	50.0	
2	3.70	7.30	45.0	20.0	90.0	40.0	
3	3.70	7.30	60.0	20.0	90.0	42.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.480	1969
2	0.480	1921
3	0.483	1951

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1286	100.000
2		ONE HOUR	✓	450	100.000
3		ONE HOUR	✓	539	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	3	583	700
	2	442	0	8
	3	539	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.72	7.14	2.8	5.5	A	1180	1770
2	0.32	3.75	0.5	2.1	A	413	619
3	0.35	3.53	0.6	2.7	A	495	742

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	968	242	0	1969	0.492	964	738	0.0	1.1	3.921	A
2	339	85	527	1668	0.203	338	437	0.0	0.3	2.969	A
3	406	101	334	1790	0.227	405	531	0.0	0.3	2.855	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1156	289	0	1969	0.587	1154	884	1.1	1.5	4.844	A
2	405	101	631	1618	0.250	404	523	0.3	0.4	3.257	A
3	485	121	400	1758	0.276	484	635	0.3	0.4	3.108	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1416	354	0	1969	0.719	1411	1082	1.5	2.7	7.030	A
2	495	124	771	1550	0.320	495	640	0.4	0.5	3.743	A
3	593	148	489	1715	0.346	593	777	0.4	0.6	3.526	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1416	354	0	1969	0.719	1416	1083	2.7	2.8	7.145	A
2	495	124	774	1549	0.320	495	642	0.5	0.5	3.751	A
3	593	148	490	1715	0.346	593	779	0.6	0.6	3.530	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1156	289	0	1969	0.587	1161	886	2.8	1.6	4.924	A
2	405	101	635	1616	0.250	405	526	0.5	0.4	3.265	A
3	485	121	401	1758	0.276	485	639	0.6	0.4	3.112	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	968	242	0	1969	0.492	970	742	1.6	1.1	3.969	A
2	339	85	530	1666	0.203	339	440	0.4	0.3	2.979	A
3	406	101	335	1789	0.227	406	534	0.4	0.3	2.865	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.05	0.60	1.10	1.54	1.59			N/A	N/A
2	0.28	0.00	0.00	0.28	0.28			N/A	N/A
3	0.32	0.00	0.00	0.32	0.32			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.54	0.06	0.69	3.74	5.52			N/A	N/A
2	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.74	0.03	0.30	2.74	4.73			N/A	N/A
2	0.51	0.03	0.28	0.51	0.53			N/A	N/A
3	0.58	0.03	0.28	0.58	0.58			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.77	0.03	0.29	2.77	2.77			N/A	N/A
2	0.51	0.03	0.34	1.54	2.14			N/A	N/A
3	0.58	0.03	0.33	1.52	2.69			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.58	0.10	1.20	3.13	4.22			N/A	N/A
2	0.37	0.00	0.00	0.37	0.37			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.07	0.06	0.57	2.24	3.29			N/A	N/A
2	0.28	0.00	0.00	0.28	0.28			N/A	N/A
3	0.32	0.00	0.00	0.32	0.32			N/A	N/A

2023, PM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	3.93	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	81	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	845	100.000
2		ONE HOUR	✓	530	100.000
3		ONE HOUR	✓	675	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	337	507
	2	527	0	3
	3	675	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.47	3.81	1.0	1.6	A	775	1163
2	0.35	3.70	0.6	2.8	A	486	730
3	0.44	4.27	0.9	2.5	A	619	929

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	636	159	0	1969	0.323	634	903	0.0	0.5	2.962	A
2	399	100	381	1738	0.230	398	253	0.0	0.3	2.951	A
3	508	127	396	1760	0.289	506	383	0.0	0.4	3.155	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	760	190	0	1969	0.386	759	1080	0.5	0.7	3.269	A
2	476	119	456	1701	0.280	476	303	0.3	0.4	3.229	A
3	607	152	474	1722	0.352	606	458	0.4	0.6	3.546	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	930	233	0	1969	0.472	929	1323	0.7	1.0	3.803	A
2	584	146	559	1652	0.353	583	371	0.4	0.6	3.699	A
3	743	186	581	1671	0.445	742	561	0.6	0.9	4.257	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	930	233	0	1969	0.472	930	1325	1.0	1.0	3.809	A
2	584	146	559	1652	0.353	584	371	0.6	0.6	3.703	A
3	743	186	581	1671	0.445	743	562	0.9	0.9	4.269	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	760	190	0	1969	0.386	761	1083	1.0	0.7	3.278	A
2	476	119	457	1701	0.280	477	303	0.6	0.4	3.234	A
3	607	152	475	1722	0.352	608	459	0.9	0.6	3.557	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	636	159	0	1969	0.323	637	907	0.7	0.5	2.972	A
2	399	100	383	1737	0.230	399	254	0.4	0.3	2.962	A
3	508	127	398	1759	0.289	509	384	0.6	0.4	3.167	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.52	0.00	0.00	0.52	0.52			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	0.44	0.00	0.00	0.44	0.44			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.69	0.11	0.91	1.50	1.58			N/A	N/A
2	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3	0.59	0.08	0.79	1.48	1.56			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.98	0.03	0.28	0.98	0.98			N/A	N/A
2	0.60	0.03	0.28	0.60	0.60			N/A	N/A
3	0.87	0.03	0.28	0.87	0.87			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.98	0.03	0.30	0.98	1.51			N/A	N/A
2	0.60	0.03	0.33	1.49	2.80			N/A	N/A
3	0.88	0.03	0.30	0.88	2.55			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.69	0.60	1.10	1.54	1.59			N/A	N/A
2	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3	0.60	0.60	1.10	1.54	1.60			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.53	0.00	0.00	0.53	0.53			N/A	N/A
2	0.33	0.00	0.00	0.33	0.33			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A

2023, IP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	2.86	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	195	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	13:45	15:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	581	100.000
2		ONE HOUR	✓	283	100.000
3		ONE HOUR	✓	333	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	266	314
	2	276	0	7
	3	333	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.32	2.98	0.5	2.3	A	533	800
2	0.18	2.74	0.2	0.5	A	260	390
3	0.20	2.75	0.3	0.9	A	306	458

Main Results for each time segment

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	437	109	0	1969	0.222	436	458	0.0	0.3	2.579	A
2	213	53	236	1807	0.118	212	200	0.0	0.1	2.477	A
3	251	63	208	1851	0.135	250	241	0.0	0.2	2.472	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	522	131	0	1969	0.265	522	548	0.3	0.4	2.735	A
2	254	64	283	1785	0.143	254	239	0.1	0.2	2.580	A
3	299	75	249	1831	0.163	299	288	0.2	0.2	2.584	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	0	1969	0.325	639	671	0.4	0.5	2.974	A
2	312	78	347	1754	0.178	311	293	0.2	0.2	2.737	A
3	367	92	305	1804	0.203	366	353	0.2	0.3	2.754	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	0	1969	0.325	640	672	0.5	0.5	2.976	A
2	312	78	347	1754	0.178	312	293	0.2	0.2	2.737	A
3	367	92	305	1804	0.203	367	353	0.3	0.3	2.754	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	522	131	0	1969	0.265	523	549	0.5	0.4	2.737	A
2	254	64	283	1784	0.143	255	239	0.2	0.2	2.581	A
3	299	75	249	1831	0.163	300	289	0.3	0.2	2.585	A

15:00 - 15:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	437	109	0	1969	0.222	438	460	0.4	0.3	2.586	A
2	213	53	237	1807	0.118	213	200	0.2	0.1	2.480	A
3	251	63	209	1851	0.135	251	242	0.2	0.2	2.475	A

Queue Variation Results for each time segment

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2	0.15	0.00	0.00	0.15	0.15			N/A	N/A
3	0.17	0.00	0.00	0.17	0.17			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	0.18	0.00	0.00	0.18	0.18			N/A	N/A
3	0.21	0.00	0.00	0.21	0.21			N/A	N/A

14:15 - 14:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.53	0.03	0.28	0.53	0.53			N/A	N/A
2	0.24	0.03	0.28	0.50	0.53			N/A	N/A
3	0.28	0.03	0.28	0.50	0.53			N/A	N/A

14:30 - 14:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.53	0.03	0.34	1.54	2.29			N/A	N/A
2	0.24	0.03	0.28	0.50	0.52			N/A	N/A
3	0.28	0.03	0.30	0.54	0.93			N/A	N/A

14:45 - 15:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	0.18	0.00	0.00	0.18	0.18			N/A	N/A
3	0.22	0.00	0.00	0.22	0.22			N/A	N/A

15:00 - 15:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2	0.15	0.00	0.00	0.15	0.15			N/A	N/A
3	0.17	0.00	0.00	0.17	0.17			N/A	N/A

2023, OP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	2.08	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	57	100.000
2		ONE HOUR	✓	28	100.000
3		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	26	31
	2	27	0	1
	3	33	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.03	2.08	0.0	0.5	A	52	78
2	0.02	2.11	0.0	0.5	A	26	39
3	0.02	2.08	0.0	0.5	A	30	45

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	43	11	0	1969	0.022	43	45	0.0	0.0	2.055	A
2	21	5	23	1909	0.011	21	20	0.0	0.0	2.089	A
3	25	6	20	1942	0.013	25	24	0.0	0.0	2.065	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	51	13	0	1969	0.026	51	54	0.0	0.0	2.064	A
2	25	6	28	1907	0.013	25	23	0.0	0.0	2.096	A
3	30	7	24	1940	0.015	30	29	0.0	0.0	2.072	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	63	16	0	1969	0.032	63	66	0.0	0.0	2.076	A
2	31	8	34	1904	0.016	31	29	0.0	0.0	2.106	A
3	36	9	30	1937	0.019	36	35	0.0	0.0	2.083	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	63	16	0	1969	0.032	63	66	0.0	0.0	2.076	A
2	31	8	34	1904	0.016	31	29	0.0	0.0	2.106	A
3	36	9	30	1937	0.019	36	35	0.0	0.0	2.083	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	51	13	0	1969	0.026	51	54	0.0	0.0	2.065	A
2	25	6	28	1907	0.013	25	23	0.0	0.0	2.098	A
3	30	7	24	1940	0.015	30	29	0.0	0.0	2.073	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	43	11	0	1969	0.022	43	45	0.0	0.0	2.055	A
2	21	5	23	1909	0.011	21	20	0.0	0.0	2.089	A
3	25	6	20	1942	0.013	25	24	0.0	0.0	2.065	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.28	0.50	0.52			N/A	N/A
2	0.01	0.01	0.27	0.49	0.52			N/A	N/A
3	0.02	0.02	0.28	0.50	0.52			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.02	0.28	0.50	0.52			N/A	N/A
3	0.02	0.02	0.28	0.50	0.52			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037, AM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	6.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	27	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1342	100.000
2		ONE HOUR	✓	490	100.000
3		ONE HOUR	✓	541	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	3	631	708
	2	481	0	9
	3	541	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.75	8.04	3.2	8.6	A	1231	1847
2	0.35	3.93	0.6	2.7	A	450	674
3	0.35	3.60	0.6	2.8	A	496	745

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1010	253	0	1969	0.513	1006	769	0.0	1.1	4.088	A
2	369	92	533	1665	0.222	368	473	0.0	0.3	3.044	A
3	407	102	363	1776	0.229	406	537	0.0	0.3	2.888	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1206	302	0	1969	0.613	1204	921	1.1	1.7	5.157	A
2	440	110	638	1614	0.273	440	566	0.3	0.4	3.366	A
3	486	122	435	1741	0.279	486	643	0.3	0.4	3.154	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1478	369	0	1969	0.750	1472	1127	1.7	3.2	7.859	A
2	540	135	780	1546	0.349	539	692	0.4	0.6	3.921	A
3	596	149	532	1694	0.352	595	786	0.4	0.6	3.600	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1478	369	0	1969	0.750	1477	1129	3.2	3.2	8.035	A
2	540	135	783	1545	0.349	539	695	0.6	0.6	3.931	A
3	596	149	533	1694	0.352	596	789	0.6	0.6	3.604	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1206	302	0	1969	0.613	1212	923	3.2	1.8	5.270	A
2	440	110	642	1612	0.273	441	570	0.6	0.4	3.379	A
3	486	122	436	1741	0.279	487	648	0.6	0.4	3.161	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1010	253	0	1969	0.513	1013	772	1.8	1.2	4.149	A
2	369	92	537	1663	0.222	369	476	0.4	0.3	3.055	A
3	407	102	365	1775	0.229	408	541	0.4	0.3	2.895	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.15	0.60	1.10	1.54	1.59			N/A	N/A
2	0.31	0.00	0.00	0.31	0.31			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.71	0.06	0.58	4.32	6.64			N/A	N/A
2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.19	0.03	0.31	3.19	8.57			N/A	N/A
2	0.58	0.03	0.28	0.58	0.58			N/A	N/A
3	0.59	0.03	0.28	0.59	0.59			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.25	0.03	0.29	3.25	3.25			N/A	N/A
2	0.59	0.03	0.33	1.52	2.73			N/A	N/A
3	0.59	0.03	0.33	1.50	2.78			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.76	0.08	1.14	3.93	5.44			N/A	N/A
2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.17	0.05	0.50	2.80	4.27			N/A	N/A
2	0.31	0.00	0.00	0.31	0.31			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A

2037, PM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	4.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	78	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	877	100.000
2		ONE HOUR	✓	565	100.000
3		ONE HOUR	✓	674	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	370	506
	2	562	0	3
	3	674	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.49	3.94	1.1	1.6	A	805	1207
2	0.38	3.84	0.7	3.0	A	518	778
3	0.45	4.35	0.9	2.5	A	618	928

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	660	165	0	1969	0.335	658	928	0.0	0.6	3.014	A
2	425	106	380	1738	0.245	424	278	0.0	0.4	3.010	A
3	507	127	422	1747	0.290	506	382	0.0	0.4	3.185	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	788	197	0	1969	0.400	788	1111	0.6	0.7	3.349	A
2	508	127	455	1702	0.298	507	332	0.4	0.5	3.314	A
3	606	151	506	1707	0.355	605	457	0.4	0.6	3.592	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	0	1969	0.490	964	1360	0.7	1.0	3.934	A
2	622	156	557	1653	0.376	621	407	0.5	0.7	3.835	A
3	742	186	619	1652	0.449	741	560	0.6	0.9	4.339	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	0	1969	0.490	966	1362	1.0	1.1	3.943	A
2	622	156	558	1653	0.376	622	407	0.7	0.7	3.840	A
3	742	186	620	1652	0.449	742	560	0.9	0.9	4.351	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	788	197	0	1969	0.400	790	1114	1.1	0.7	3.358	A
2	508	127	457	1701	0.299	509	333	0.7	0.5	3.319	A
3	606	151	507	1707	0.355	607	458	0.9	0.6	3.604	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	660	165	0	1969	0.335	661	932	0.7	0.6	3.027	A
2	425	106	382	1737	0.245	426	279	0.5	0.4	3.018	A
3	507	127	424	1747	0.291	508	384	0.6	0.5	3.198	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.55	0.55	1.10	1.54	1.59			N/A	N/A
2	0.35	0.00	0.00	0.35	0.35			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.73	0.11	0.91	1.51	1.58			N/A	N/A
2	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3	0.60	0.08	0.81	1.48	1.57			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.05	0.03	0.28	1.05	1.05			N/A	N/A
2	0.66	0.03	0.28	0.66	0.66			N/A	N/A
3	0.89	0.03	0.28	0.89	0.89			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.05	0.03	0.29	1.05	1.64			N/A	N/A
2	0.66	0.03	0.32	1.34	3.00			N/A	N/A
3	0.89	0.03	0.30	0.89	2.51			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.60	1.10	1.54	1.59			N/A	N/A
2	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3	0.61	0.61	1.10	1.54	1.60			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.56	1.10	1.54	1.59			N/A	N/A
2	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A

2037, IP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	2.92	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	180	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	13:45	15:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	611	100.000
2		ONE HOUR	✓	307	100.000
3		ONE HOUR	✓	335	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	293	317
	2	300	0	7
	3	335	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.34	3.05	0.6	2.6	A	561	841
2	0.19	2.79	0.3	0.5	A	282	423
3	0.21	2.78	0.3	1.0	A	307	461

Main Results for each time segment

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	460	115	0	1969	0.234	459	477	0.0	0.3	2.618	A
2	231	58	239	1806	0.128	230	220	0.0	0.2	2.506	A
3	252	63	226	1842	0.137	252	243	0.0	0.2	2.488	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	549	137	0	1969	0.279	549	571	0.3	0.4	2.787	A
2	276	69	286	1783	0.155	276	263	0.2	0.2	2.620	A
3	301	75	270	1821	0.165	301	291	0.2	0.2	2.605	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	673	168	0	1969	0.342	672	700	0.4	0.6	3.050	A
2	338	85	350	1753	0.193	338	322	0.2	0.3	2.792	A
3	369	92	331	1791	0.206	369	356	0.2	0.3	2.782	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	673	168	0	1969	0.342	673	700	0.6	0.6	3.052	A
2	338	85	350	1752	0.193	338	323	0.3	0.3	2.792	A
3	369	92	331	1791	0.206	369	357	0.3	0.3	2.783	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	549	137	0	1969	0.279	550	572	0.6	0.4	2.789	A
2	276	69	286	1783	0.155	276	264	0.3	0.2	2.621	A
3	301	75	271	1821	0.165	301	292	0.3	0.2	2.608	A

15:00 - 15:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	460	115	0	1969	0.234	460	479	0.4	0.3	2.623	A
2	231	58	240	1806	0.128	231	221	0.2	0.2	2.511	A
3	252	63	227	1842	0.137	252	244	0.2	0.2	2.491	A

Queue Variation Results for each time segment

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.33	0.00	0.00	0.33	0.33			N/A	N/A
2	0.16	0.00	0.00	0.16	0.16			N/A	N/A
3	0.17	0.00	0.00	0.17	0.17			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2	0.20	0.00	0.00	0.20	0.20			N/A	N/A
3	0.22	0.00	0.00	0.22	0.22			N/A	N/A

14:15 - 14:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.57	0.03	0.28	0.57	0.57			N/A	N/A
2	0.26	0.03	0.28	0.50	0.53			N/A	N/A
3	0.28	0.03	0.28	0.50	0.53			N/A	N/A

14:30 - 14:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.57	0.03	0.33	1.50	2.62			N/A	N/A
2	0.26	0.03	0.29	0.51	0.54			N/A	N/A
3	0.28	0.03	0.30	0.54	1.02			N/A	N/A

14:45 - 15:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.43	0.00	0.00	0.43	0.43			N/A	N/A
2	0.20	0.00	0.00	0.20	0.20			N/A	N/A
3	0.22	0.00	0.00	0.22	0.22			N/A	N/A

15:00 - 15:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.34	0.00	0.00	0.34	0.34			N/A	N/A
2	0.16	0.00	0.00	0.16	0.16			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A

2037, OP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	2.09	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	60	100.000
2		ONE HOUR	✓	30	100.000
3		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	29	31
	2	29	0	1
	3	33	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.03	2.08	0.0	0.5	A	55	83
2	0.02	2.11	0.0	0.5	A	28	41
3	0.02	2.08	0.0	0.5	A	30	45

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	45	11	0	1969	0.023	45	47	0.0	0.0	2.057	A
2	23	6	23	1909	0.012	23	22	0.0	0.0	2.091	A
3	25	6	22	1941	0.013	25	24	0.0	0.0	2.066	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	54	13	0	1969	0.027	54	56	0.0	0.0	2.066	A
2	27	7	28	1907	0.014	27	26	0.0	0.0	2.098	A
3	30	7	26	1939	0.015	30	29	0.0	0.0	2.073	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	17	0	1969	0.034	66	68	0.0	0.0	2.080	A
2	33	8	34	1904	0.017	33	32	0.0	0.0	2.109	A
3	36	9	32	1936	0.019	36	35	0.0	0.0	2.084	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	17	0	1969	0.034	66	68	0.0	0.0	2.080	A
2	33	8	34	1904	0.017	33	32	0.0	0.0	2.109	A
3	36	9	32	1936	0.019	36	35	0.0	0.0	2.084	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	54	13	0	1969	0.027	54	56	0.0	0.0	2.068	A
2	27	7	28	1907	0.014	27	26	0.0	0.0	2.100	A
3	30	7	26	1939	0.015	30	29	0.0	0.0	2.073	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	45	11	0	1969	0.023	45	47	0.0	0.0	2.057	A
2	23	6	23	1909	0.012	23	22	0.0	0.0	2.091	A
3	25	6	22	1941	0.013	25	24	0.0	0.0	2.068	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.28	0.50	0.52			N/A	N/A
2	0.02	0.02	0.27	0.49	0.52			N/A	N/A
3	0.02	0.02	0.28	0.50	0.52			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.02	0.27	0.49	0.52			N/A	N/A
3	0.02	0.02	0.28	0.50	0.52			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2037 final, AM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	8.49	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	15	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1487	100.000
2		ONE HOUR	✓	544	100.000
3		ONE HOUR	✓	585	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	3	706	778
	2	535	0	9
	3	585	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.83	11.83	5.2	24.8	B	1364	2047
2	0.40	4.35	0.7	3.1	A	499	749
3	0.39	3.88	0.7	3.0	A	537	805

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1119	280	0	1969	0.568	1114	843	0.0	1.4	4.597	A
2	410	102	585	1640	0.250	408	529	0.0	0.4	3.205	A
3	440	110	404	1757	0.251	439	589	0.0	0.4	3.003	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1337	334	0	1969	0.679	1333	1009	1.4	2.3	6.190	A
2	489	122	700	1584	0.309	489	633	0.4	0.5	3.605	A
3	526	131	483	1718	0.306	525	706	0.4	0.5	3.318	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1637	409	0	1969	0.831	1626	1235	2.3	5.1	11.179	B
2	599	150	854	1511	0.397	598	772	0.5	0.7	4.328	A
3	644	161	591	1666	0.387	643	861	0.5	0.7	3.869	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1637	409	0	1969	0.831	1637	1236	5.1	5.2	11.826	B
2	599	150	860	1508	0.397	599	777	0.7	0.7	4.349	A
3	644	161	592	1665	0.387	644	866	0.7	0.7	3.877	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1337	334	0	1969	0.679	1348	1011	5.2	2.4	6.484	A
2	489	122	708	1581	0.309	490	640	0.7	0.5	3.626	A
3	526	131	485	1717	0.306	527	713	0.7	0.5	3.329	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1119	280	0	1969	0.568	1123	846	2.4	1.5	4.697	A
2	410	102	590	1637	0.250	410	533	0.5	0.4	3.221	A
3	440	110	406	1756	0.251	441	594	0.5	0.4	3.012	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.43	0.62	1.24	1.65	1.92			N/A	N/A
2	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3	0.37	0.00	0.00	0.37	0.37			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.28	0.05	0.52	6.17	10.00			N/A	N/A
2	0.49	0.00	0.00	0.49	0.49			N/A	N/A
3	0.48	0.00	0.00	0.48	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.06	0.03	0.35	6.81	24.76			N/A	N/A
2	0.72	0.03	0.28	0.72	0.72			N/A	N/A
3	0.69	0.03	0.28	0.69	0.69			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.22	0.03	0.31	5.22	12.81			N/A	N/A
2	0.72	0.03	0.31	1.20	3.08			N/A	N/A
3	0.69	0.03	0.32	1.24	3.02			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.37	0.06	0.68	6.34	9.90			N/A	N/A
2	0.49	0.00	0.00	0.49	0.49			N/A	N/A
3	0.49	0.00	0.00	0.49	0.49			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.47	0.04	0.40	3.74	7.07			N/A	N/A
2	0.37	0.00	0.00	0.37	0.37			N/A	N/A
3	0.37	0.00	0.00	0.37	0.37			N/A	N/A

2037 final, PM

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	4.63	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	59	Arm 3

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	992	100.000
2		ONE HOUR	✓	643	100.000
3		ONE HOUR	✓	749	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	424	567
	2	639	0	4
	3	749	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.55	4.51	1.4	1.7	A	910	1365
2	0.44	4.34	0.8	2.7	A	590	885
3	0.51	5.03	1.1	1.6	A	687	1031

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	747	187	0	1969	0.379	744	1042	0.0	0.7	3.225	A
2	484	121	426	1716	0.282	482	318	0.0	0.4	3.204	A
3	564	141	480	1720	0.328	562	428	0.0	0.5	3.415	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	892	223	0	1969	0.453	891	1247	0.7	0.9	3.667	A
2	578	145	510	1676	0.345	577	381	0.4	0.6	3.601	A
3	673	168	575	1674	0.402	673	513	0.5	0.7	3.951	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1092	273	0	1969	0.555	1090	1527	0.9	1.4	4.495	A
2	708	177	624	1621	0.437	707	466	0.6	0.8	4.324	A
3	825	206	704	1612	0.512	823	628	0.7	1.1	5.011	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1092	273	0	1969	0.555	1092	1529	1.4	1.4	4.513	A
2	708	177	625	1620	0.437	708	467	0.8	0.8	4.337	A
3	825	206	705	1611	0.512	825	629	1.1	1.1	5.034	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	892	223	0	1969	0.453	894	1251	1.4	0.9	3.685	A
2	578	145	512	1675	0.345	579	382	0.8	0.6	3.616	A
3	673	168	576	1673	0.402	675	514	1.1	0.7	3.975	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	747	187	0	1969	0.379	748	1047	0.9	0.7	3.245	A
2	484	121	428	1715	0.282	485	320	0.6	0.4	3.217	A
3	564	141	482	1718	0.328	565	430	0.7	0.5	3.436	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.67	0.60	1.10	1.54	1.59			N/A	N/A
2	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3	0.53	0.00	0.00	0.53	0.53			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.90	0.09	0.92	1.10	1.70			N/A	N/A
2	0.58	0.58	1.10	1.54	1.59			N/A	N/A
3	0.74	0.10	0.90	1.51	1.58			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.35	0.03	0.28	1.35	1.35			N/A	N/A
2	0.85	0.03	0.28	0.85	0.85			N/A	N/A
3	1.14	0.03	0.28	1.14	1.14			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.36	0.03	0.29	1.36	1.36			N/A	N/A
2	0.85	0.03	0.30	0.85	2.72			N/A	N/A
3	1.15	0.03	0.30	1.15	1.56			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.56	1.08	1.54	1.60			N/A	N/A
2	0.58	0.58	1.10	1.54	1.59			N/A	N/A
3	0.75	0.39	1.06	1.53	1.59			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.68	0.09	0.86	1.49	1.57			N/A	N/A
2	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3	0.54	0.05	0.49	1.40	1.53			N/A	N/A

2037 final, IP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	3.08	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	150	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	13:45	15:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	685	100.000
2		ONE HOUR	✓	348	100.000
3		ONE HOUR	✓	368	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	333	351
	2	340	0	8
	3	368	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.38	3.26	0.7	2.9	A	629	943
2	0.22	2.92	0.3	1.3	A	319	479
3	0.23	2.90	0.3	1.4	A	338	507

Main Results for each time segment

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	516	129	0	1969	0.262	514	532	0.0	0.4	2.718	A
2	262	65	264	1794	0.146	261	250	0.0	0.2	2.576	A
3	277	69	256	1828	0.152	276	269	0.0	0.2	2.551	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2	313	78	316	1769	0.177	313	299	0.2	0.2	2.713	A
3	331	83	306	1803	0.183	331	323	0.2	0.2	2.688	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	754	189	0	1969	0.383	753	780	0.5	0.7	3.254	A
2	383	96	387	1735	0.221	383	366	0.2	0.3	2.922	A
3	405	101	375	1770	0.229	405	395	0.2	0.3	2.900	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	754	189	0	1969	0.383	754	781	0.7	0.7	3.257	A
2	383	96	388	1734	0.221	383	367	0.3	0.3	2.923	A
3	405	101	375	1770	0.229	405	395	0.3	0.3	2.900	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	616	154	0	1969	0.313	617	638	0.7	0.5	2.927	A
2	313	78	317	1768	0.177	313	300	0.3	0.2	2.714	A
3	331	83	307	1803	0.183	331	323	0.3	0.2	2.692	A

15:00 - 15:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	516	129	0	1969	0.262	516	534	0.5	0.4	2.724	A
2	262	65	265	1793	0.146	262	251	0.2	0.2	2.580	A
3	277	69	257	1827	0.152	277	271	0.2	0.2	2.556	A

Queue Variation Results for each time segment

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.39	0.00	0.00	0.39	0.39			N/A	N/A
2	0.19	0.00	0.00	0.19	0.19			N/A	N/A
3	0.20	0.00	0.00	0.20	0.20			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
3	0.25	0.00	0.00	0.25	0.25			N/A	N/A

14:15 - 14:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.68	0.03	0.28	0.68	0.68			N/A	N/A
2	0.31	0.03	0.28	0.50	0.53			N/A	N/A
3	0.33	0.03	0.28	0.50	0.53			N/A	N/A

14:30 - 14:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.68	0.03	0.31	1.15	2.90			N/A	N/A
2	0.31	0.03	0.32	0.93	1.29			N/A	N/A
3	0.33	0.03	0.33	1.04	1.36			N/A	N/A

14:45 - 15:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2	0.24	0.00	0.00	0.24	0.24			N/A	N/A
3	0.25	0.00	0.00	0.25	0.25			N/A	N/A

15:00 - 15:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.39	0.00	0.00	0.39	0.39			N/A	N/A
2	0.19	0.00	0.00	0.19	0.19			N/A	N/A
3	0.20	0.00	0.00	0.20	0.20			N/A	N/A

2037 final, OP

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	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	2.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	67	100.000
2		ONE HOUR	✓	34	100.000
3		ONE HOUR	✓	36	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	33	34
	2	33	0	1
	3	36	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	10	10
	2	10	0	0
	3	10	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	2.09	0.0	0.5	A	61	92
2	0.02	2.12	0.0	0.5	A	31	47
3	0.02	2.09	0.0	0.5	A	33	50

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	50	13	0	1969	0.026	50	52	0.0	0.0	2.063	A
2	26	6	26	1908	0.013	26	25	0.0	0.0	2.096	A
3	27	7	25	1939	0.014	27	26	0.0	0.0	2.070	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	60	15	0	1969	0.031	60	62	0.0	0.0	2.073	A
2	31	8	31	1906	0.016	31	30	0.0	0.0	2.105	A
3	32	8	30	1937	0.017	32	31	0.0	0.0	2.078	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	74	18	0	1969	0.037	74	76	0.0	0.0	2.088	A
2	37	9	37	1903	0.020	37	36	0.0	0.0	2.116	A
3	40	10	36	1934	0.021	40	39	0.0	0.0	2.090	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	74	18	0	1969	0.037	74	76	0.0	0.0	2.088	A
2	37	9	37	1903	0.020	37	36	0.0	0.0	2.116	A
3	40	10	36	1934	0.021	40	39	0.0	0.0	2.090	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	60	15	0	1969	0.031	60	62	0.0	0.0	2.073	A
2	31	8	31	1906	0.016	31	30	0.0	0.0	2.106	A
3	32	8	30	1937	0.017	32	31	0.0	0.0	2.080	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	50	13	0	1969	0.026	50	52	0.0	0.0	2.064	A
2	26	6	26	1908	0.013	26	25	0.0	0.0	2.098	A
3	27	7	25	1939	0.014	27	26	0.0	0.0	2.072	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.28	0.50	0.52			N/A	N/A
2	0.02	0.02	0.27	0.49	0.52			N/A	N/A
3	0.02	0.02	0.28	0.50	0.52			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

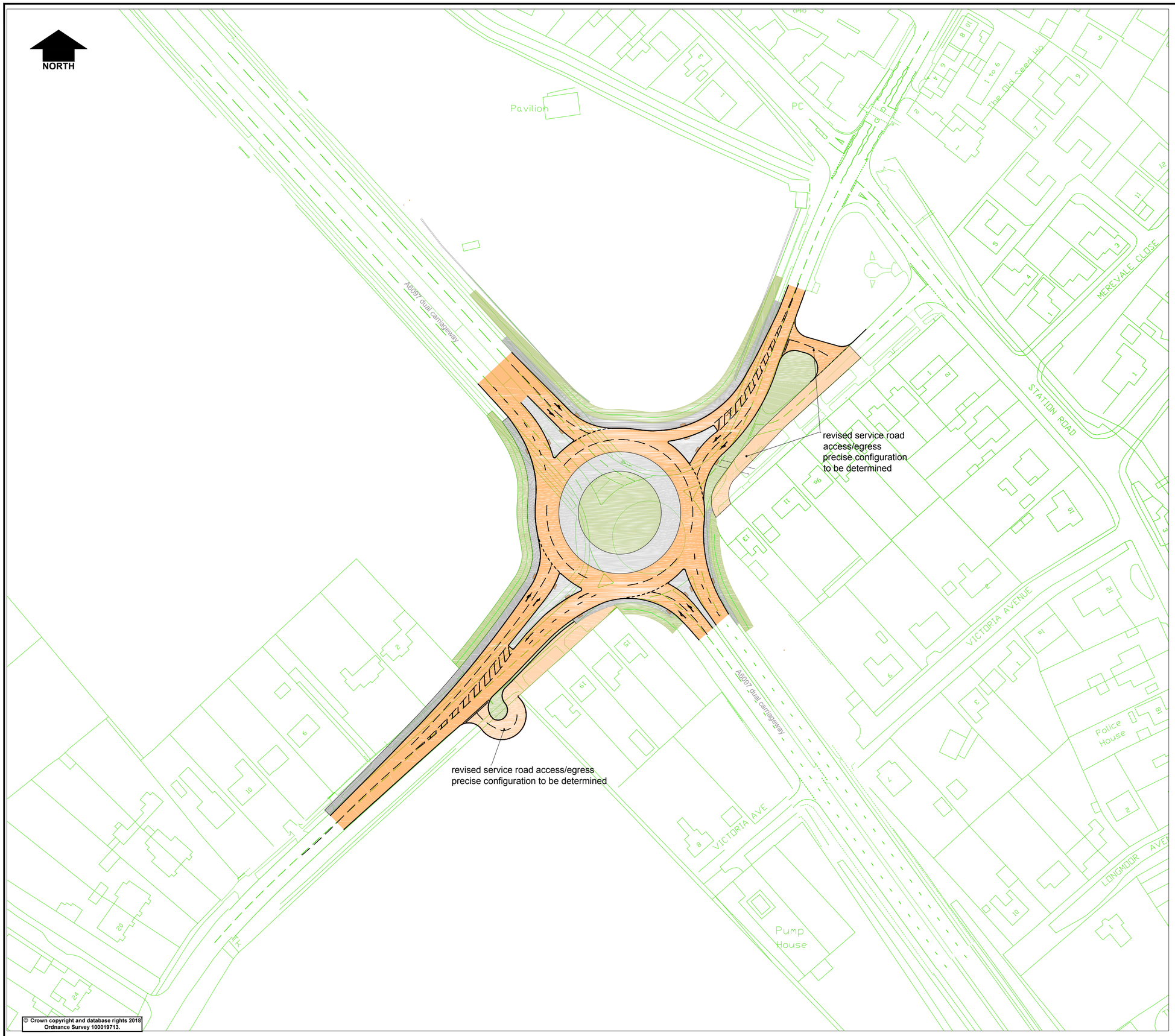
23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Appendix L – Lowdham Roundabout Scheme Drawing and ARCADY Output



NOTES

1. This drawing shows the updated revised layout of the enlarged 65m ICD roundabout improvements.
2. The lane arrangements are configured to suit the current and future traffic forecast (2033) requirements.
3. The proposed lane destination markings are provided to suit the current and future peak flow and are suggested to compliment the road signage to reduce the potential conflict associated with vehicles crossing over lanes.
4. The layouts are subject to further road safety audits which will be commissioned following the detailed design stage.
5. The revised layout has been produced using OS information, the layout is to be updated against topographical survey information. The topographical survey (part survey) is shown on the layout for reference.
6. The precise extents of private land are subject to change which may be required as a result of the the detailed design process. The extents of embankments/ earth slopes are shown for indicative purposes and are based on the assumption that adjoining land does not significantly fluctuate in level. Where private land interfaces are restricted in respect of widths available retaining features may be required at these locations. Further verification for the embankment interface will be determined once updated private land topographical survey information and detailed design information is available.
7. A preliminary analysis has been undertaken to verify vertical design requirements, this has determined that the outstanding topographical survey information is needed to verify compliance. Further verification in to the affect of the vertical design on to adjoining land is to be determined during the detailed design process following reciept of the completed topographical survey.
8. Refer to feasibility report produced November 2018 by Via EM Ltd. for further information on the proposals and the departures from standards required.

KEY

- Carriageway
- Service road carriageway
- Footway
- Traffic islands
- Verge/embankment
- Landscaped areas. No planting in visibility splays

Rev.	Description	Drawn	Ch'kd	Auth	Date

Project

A614/A6097 CORRIDOR IMPROVEMENTS

Status	Project No.
INFO	20949

Drawing Title

A614/NCC GA 006

Scale	Drawn	Date
1/1000 @A2	AP	20.02.2019
	Ch'kd JJP	20.02.2019
	Auth JJP	Plotted AP

Drawing No.	Rev.
HW 20949.006/ 01	0

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Feb 21,2019 - 1:30pm I:\Highways\Design and Construction\Roads and Highways\20949 A614 Corridor\Design\CAD\CIVIL\1800623 Lowdham Roundabout\HW 20949.006 01 GA.dwg

A2

Do Minimum (DM)

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

Filename: Junction 6 (Lowdham Rbt Existing).j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\6-lowdham
Report generation date: 15/04/2019 14:48:51

»Existing Layout - 2023, AM
»Existing Layout - 2023, PM
»Existing Layout - 2023, IP
»Existing Layout - 2023, OP
»Existing Layout - 2037, AM
»Existing Layout - 2037, PM
»Existing Layout - 2037, IP
»Existing Layout - 2037, OP
»Existing Layout - 2037 final, AM
»Existing Layout - 2037 final, PM
»Existing Layout - 2037 final, IP
»Existing Layout - 2037 final, OP

Summary of junction performance

	AM							PM							
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)
Existing Layout - 20															
1 - Southwell Road	6.6	56.37	0.90	F	24.62	C	-4 % [1 - Southwell Road]	1.7	12.38	0.63	B	121.15	F	-18 % [3 - Nottingham Road]	0.8
2 - A6097	8.2	23.57	0.90	C				15.3	36.53	0.96	E				1.2
3 - Nottingham Road	4.9	24.03	0.84	C				117.5	451.52	1.32	F				1.4
4 - Epperstone By-Pass	6.2	16.01	0.87	C				1.7	5.85	0.63	A				0.8
Existing Layout - 20															
1 - Southwell Road	13.9	109.06	1.00	F	40.22	E	-8 % [1 - Southwell Road]	1.8	13.67	0.65	B	153.82	F	-20 % [3 - Nottingham Road]	0.9
2 - A6097	13.3	36.01	0.95	E				27.4	59.28	1.00	F				1.4
3 - Nottingham Road	8.2	38.62	0.91	E				133.1	558.40	1.37	F				1.6
4 - Epperstone By-Pass	9.5	24.06	0.92	C				1.8	6.14	0.65	A				0.9
Existing Layout - 2037															
1 - Southwell Road	35.3	240.87	1.16	F	77.76	F	-13 % [1 - Southwell Road]	2.6	18.03	0.73	C	297.69	F	-25 % [3 - Nottingham Road]	1.0
2 - A6097	22.5	56.88	0.99	F				69.2	127.88	1.07	F				1.5
3 - Nottingham Road	19.5	79.00	1.00	F				229.7	1042.62	1.49	F				2.0
4 - Epperstone By-Pass	19.9	46.64	0.98	E				2.2	6.89	0.69	A				1.0

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

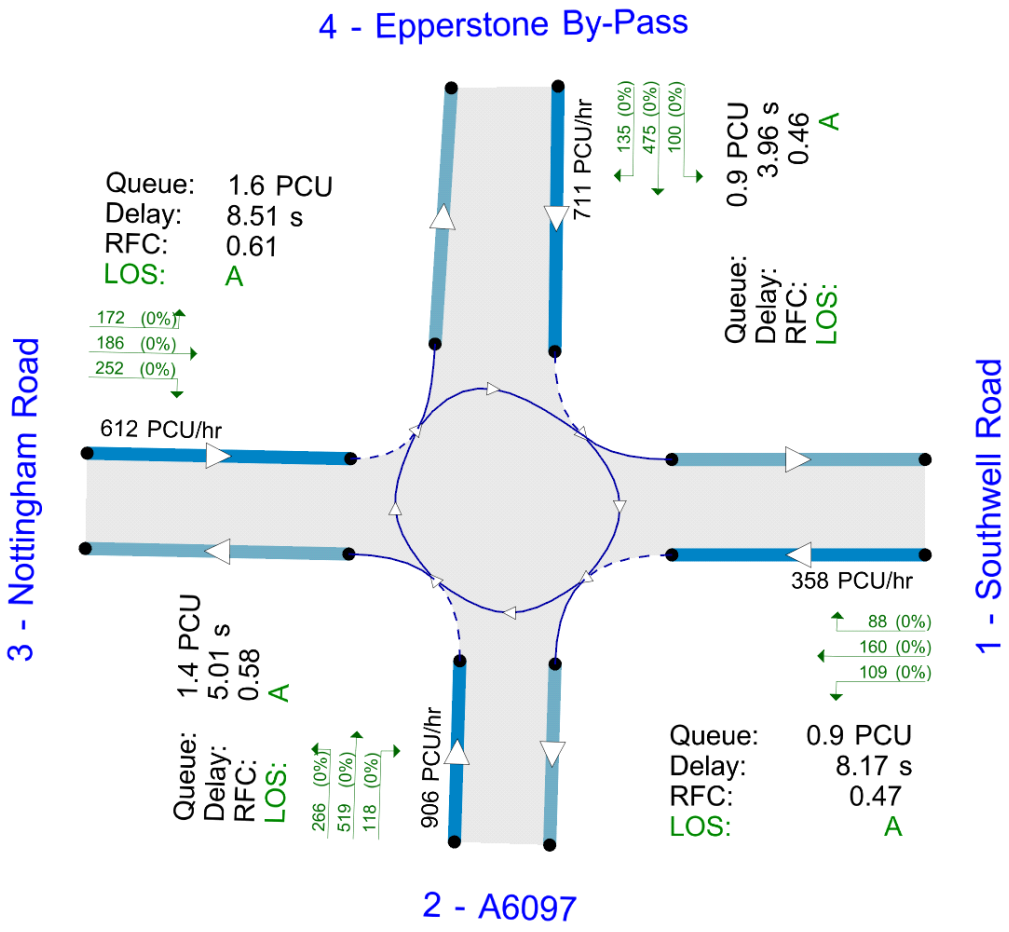
File summary

File Description

Title	Southwell Road / A6097 / Nottingham Road / Epperstone By-Pass
Location	Gedling, Nottingham
Site number	Junction 11
Date	04/04/2013
Version	
Status	Existing Layout
Identifier	
Client	
Jobnumber	90372
Enumerator	T Nichol
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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15		✓
D3	2023	IP	ONE HOUR	12:45	14:15	15		✓
D4	2023	OP	ONE HOUR	22:45	00:15	15		✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15		✓
D7	2037	IP	ONE HOUR	12:45	14:15	15		✓
D8	2037	OP	ONE HOUR	22:45	00:15	15		✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15		✓
D11	2037 final	IP	ONE HOUR	12:45	14:15	15		✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15		✓

Analysis Set Details

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

Existing Layout - 2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2023, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	24.62	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	1 - Southwell Road

Arms

Arms

Arm	Name	Description
1	Southwell Road	
2	A6097	
3	Nottingham Road	
4	Epperstone By-Pass	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Southwell Road	3.50	5.40	10.0	48.8	42.3	48.0	
2 - A6097	6.70	6.70	0.0	26.3	42.3	36.0	
3 - Nottingham Road	3.70	6.50	10.0	27.5	42.3	29.0	
4 - Epperstone By-Pass	6.70	6.70	0.0	26.2	42.3	16.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Southwell Road	0.561	1371
2 - A6097	0.695	2012
3 - Nottingham Road	0.620	1595
4 - Epperstone By-Pass	0.744	2152

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)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	412	100.000
2 - A6097		ONE HOUR	✓	1214	100.000
3 - Nottingham Road		ONE HOUR	✓	705	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	1320	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	78	259	75
	2 - A6097	122	0	300	792
	3 - Nottingham Road	206	258	1	240
	4 - Epperstone By-Pass	175	779	364	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.90	56.37	6.6	F	412	412
2 - A6097	0.90	23.57	8.2	C	1214	1214
3 - Nottingham Road	0.84	24.03	4.9	C	705	705
4 - Epperstone By-Pass	0.87	16.01	6.2	C	1320	1320

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	370	93	1258	665	0.557	368	451	0.6	1.2	12.026	B
2 - A6097	1091	273	627	1576	0.693	1087	999	1.2	2.2	7.317	A
3 - Nottingham Road	634	158	888	1044	0.607	631	827	0.9	1.5	8.659	A
4 - Epperstone By-Pass	1187	297	526	1761	0.674	1183	993	1.2	2.0	6.191	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	454	113	1529	514	0.883	437	546	1.2	5.4	40.639	E
2 - A6097	1337	334	754	1487	0.899	1316	1211	2.2	7.3	19.109	C
3 - Nottingham Road	776	194	1073	930	0.835	764	998	1.5	4.4	20.501	C
4 - Epperstone By-Pass	1453	363	636	1679	0.866	1438	1201	2.0	5.8	14.159	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	454	113	1544	505	0.898	449	553	5.4	6.6	56.371	F
2 - A6097	1337	334	767	1478	0.904	1333	1225	7.3	8.2	23.565	C
3 - Nottingham Road	776	194	1087	920	0.843	774	1013	4.4	4.9	24.031	C
4 - Epperstone By-Pass	1453	363	645	1673	0.869	1452	1217	5.8	6.2	16.008	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	370	93	1281	652	0.568	391	460	6.6	1.4	14.834	B
2 - A6097	1091	273	652	1559	0.700	1115	1021	8.2	2.4	8.513	A
3 - Nottingham Road	634	158	912	1029	0.616	647	854	4.9	1.6	9.726	A
4 - Epperstone By-Pass	1187	297	539	1752	0.677	1203	1020	6.2	2.1	6.745	A

Existing Layout - 2023, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	121.15	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	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	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	444	100.000
2 - A6097		ONE HOUR	✓	1451	100.000
3 - Nottingham Road		ONE HOUR	✓	854	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	963	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	137	169	138
	2 - A6097	155	1	290	1005
	3 - Nottingham Road	321	243	0	290
	4 - Epperstone By-Pass	190	633	139	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.63	12.38	1.7	B	407	611
2 - A6097	0.96	36.53	15.3	E	1331	1997
3 - Nottingham Road	1.32	451.52	117.5	F	784	1175
4 - Epperstone By-Pass	0.63	5.85	1.7	A	884	1325

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	334	84	761	944	0.354	332	497	0.0	0.5	5.865	A
2 - A6097	1092	273	335	1779	0.614	1086	759	0.0	1.6	5.149	A
3 - Nottingham Road	643	161	973	991	0.649	636	448	0.0	1.8	9.935	A
4 - Epperstone By-Pass	725	181	537	1753	0.414	722	1072	0.0	0.7	3.483	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	399	100	909	861	0.463	398	592	0.5	0.9	7.748	A
2 - A6097	1304	326	401	1733	0.753	1299	906	1.6	2.9	8.187	A
3 - Nottingham Road	768	192	1164	873	0.879	752	536	1.8	5.8	26.712	D
4 - Epperstone By-Pass	866	216	636	1679	0.516	864	1279	0.7	1.1	4.410	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	489	122	1056	779	0.628	486	647	0.9	1.6	12.153	B
2 - A6097	1598	399	490	1671	0.956	1559	1052	2.9	12.6	25.959	D
3 - Nottingham Road	940	235	1399	727	1.293	722	649	5.8	60.4	179.226	F
4 - Epperstone By-Pass	1060	265	644	1673	0.634	1058	1477	1.1	1.7	5.825	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	489	122	1055	779	0.627	489	646	1.6	1.7	12.376	B
2 - A6097	1598	399	492	1670	0.957	1587	1051	12.6	15.3	36.527	E
3 - Nottingham Road	940	235	1423	712	1.320	712	656	60.4	117.5	435.159	F
4 - Epperstone By-Pass	1060	265	641	1676	0.633	1060	1494	1.7	1.7	5.848	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	399	100	936	846	0.472	402	631	1.7	0.9	8.168	A
2 - A6097	1304	326	404	1731	0.754	1353	934	15.3	3.2	10.679	B
3 - Nottingham Road	768	192	1208	845	0.908	838	549	117.5	99.8	451.521	F
4 - Epperstone By-Pass	866	216	699	1632	0.530	868	1348	1.7	1.1	4.722	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	334	84	861	888	0.376	335	627	0.9	0.6	6.529	A
2 - A6097	1092	273	338	1777	0.615	1099	859	3.2	1.6	5.355	A
3 - Nottingham Road	643	161	984	985	0.653	975	452	99.8	16.9	220.045	F
4 - Epperstone By-Pass	725	181	762	1586	0.457	726	1197	1.1	0.8	4.195	A

Existing Layout - 2023, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	5.53	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	33	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	352	100.000
2 - A6097		ONE HOUR	✓	857	100.000
3 - Nottingham Road		ONE HOUR	✓	588	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	683	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	1	104	159	88
	2 - A6097	113	3	245	496
	3 - Nottingham Road	185	231	2	170
	4 - Epperstone By-Pass	99	450	133	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.45	7.55	0.8	A	323	485
2 - A6097	0.55	4.65	1.2	A	786	1180
3 - Nottingham Road	0.58	7.69	1.4	A	540	809
4 - Epperstone By-Pass	0.44	3.74	0.8	A	627	940

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	265	66	615	1026	0.258	264	298	0.0	0.3	4.714	A
2 - A6097	645	161	288	1812	0.356	643	591	0.0	0.6	3.076	A
3 - Nottingham Road	443	111	527	1268	0.349	441	404	0.0	0.5	4.337	A
4 - Epperstone By-Pass	514	129	401	1854	0.277	513	566	0.0	0.4	2.682	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	316	79	736	958	0.330	316	357	0.3	0.5	5.602	A
2 - A6097	770	193	345	1772	0.435	770	707	0.6	0.8	3.587	A
3 - Nottingham Road	529	132	630	1204	0.439	528	484	0.5	0.8	5.315	A
4 - Epperstone By-Pass	614	154	480	1795	0.342	613	678	0.4	0.5	3.044	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	388	97	901	866	0.448	386	437	0.5	0.8	7.492	A
2 - A6097	944	236	422	1719	0.549	942	866	0.8	1.2	4.624	A
3 - Nottingham Road	647	162	771	1116	0.580	645	592	0.8	1.4	7.598	A
4 - Epperstone By-Pass	752	188	587	1716	0.438	751	829	0.5	0.8	3.729	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	388	97	903	865	0.448	388	438	0.8	0.8	7.546	A
2 - A6097	944	236	423	1718	0.549	944	868	1.2	1.2	4.649	A
3 - Nottingham Road	647	162	773	1116	0.580	647	593	1.4	1.4	7.687	A
4 - Epperstone By-Pass	752	188	589	1714	0.439	752	831	0.8	0.8	3.740	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	316	79	739	956	0.331	318	359	0.8	0.5	5.646	A
2 - A6097	770	193	346	1771	0.435	772	710	1.2	0.8	3.609	A
3 - Nottingham Road	529	132	633	1203	0.440	531	486	1.4	0.8	5.380	A
4 - Epperstone By-Pass	614	154	483	1793	0.342	615	681	0.8	0.5	3.059	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	265	66	618	1024	0.259	266	300	0.5	0.4	4.749	A
2 - A6097	645	161	290	1810	0.356	646	594	0.8	0.6	3.093	A
3 - Nottingham Road	443	111	529	1267	0.349	444	406	0.8	0.5	4.379	A
4 - Epperstone By-Pass	514	129	404	1852	0.278	515	569	0.5	0.4	2.694	A

Existing Layout - 2023, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	2.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	35	100.000
2 - A6097		ONE HOUR	✓	83	100.000
3 - Nottingham Road		ONE HOUR	✓	58	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	67	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	10	16	9
	2 - A6097	11	0	24	48
	3 - Nottingham Road	18	23	0	17
	4 - Epperstone By-Pass	10	44	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.03	2.81	0.0	A	32	48
2 - A6097	0.05	1.90	0.0	A	76	114
3 - Nottingham Road	0.04	2.42	0.0	A	53	80
4 - Epperstone By-Pass	0.03	1.77	0.0	A	61	92

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	26	7	60	1337	0.020	26	29	0.0	0.0	2.745	A
2 - A6097	62	16	29	1992	0.031	62	58	0.0	0.0	1.865	A
3 - Nottingham Road	44	11	51	1563	0.028	44	40	0.0	0.0	2.368	A
4 - Epperstone By-Pass	50	13	39	2123	0.024	50	56	0.0	0.0	1.735	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	31	8	72	1331	0.024	31	35	0.0	0.0	2.770	A
2 - A6097	75	19	34	1988	0.038	75	69	0.0	0.0	1.880	A
3 - Nottingham Road	52	13	61	1557	0.033	52	48	0.0	0.0	2.391	A
4 - Epperstone By-Pass	60	15	47	2117	0.028	60	66	0.0	0.0	1.749	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	39	10	88	1321	0.029	39	43	0.0	0.0	2.805	A
2 - A6097	91	23	42	1983	0.046	91	85	0.0	0.0	1.902	A
3 - Nottingham Road	64	16	75	1549	0.041	64	58	0.0	0.0	2.424	A
4 - Epperstone By-Pass	74	18	57	2110	0.035	74	81	0.0	0.0	1.767	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	39	10	88	1321	0.029	39	43	0.0	0.0	2.805	A
2 - A6097	91	23	42	1983	0.046	91	85	0.0	0.0	1.902	A
3 - Nottingham Road	64	16	75	1548	0.041	64	58	0.0	0.0	2.424	A
4 - Epperstone By-Pass	74	18	57	2110	0.035	74	81	0.0	0.0	1.767	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	31	8	72	1331	0.024	31	35	0.0	0.0	2.770	A
2 - A6097	75	19	34	1988	0.038	75	69	0.0	0.0	1.880	A
3 - Nottingham Road	52	13	61	1557	0.033	52	48	0.0	0.0	2.393	A
4 - Epperstone By-Pass	60	15	47	2117	0.028	60	67	0.0	0.0	1.749	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	26	7	60	1337	0.020	26	29	0.0	0.0	2.746	A
2 - A6097	62	16	29	1992	0.031	63	58	0.0	0.0	1.865	A
3 - Nottingham Road	44	11	51	1563	0.028	44	40	0.0	0.0	2.370	A
4 - Epperstone By-Pass	50	13	39	2123	0.024	50	56	0.0	0.0	1.736	A

Existing Layout - 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2037, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	40.22	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-8	1 - Southwell Road

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)	Results for central hour only	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	417	100.000
2 - A6097		ONE HOUR	✓	1280	100.000
3 - Nottingham Road		ONE HOUR	✓	742	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	1368	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	82	260	75
	2 - A6097	127	0	323	830
	3 - Nottingham Road	209	290	1	242
	4 - Epperstone By-Pass	176	824	366	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	1.00	109.06	13.9	F	417	417
2 - A6097	0.95	36.01	13.3	E	1280	1280
3 - Nottingham Road	0.91	38.62	8.2	E	742	742
4 - Epperstone By-Pass	0.92	24.06	9.5	C	1368	1368

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	375	94	1328	626	0.599	372	458	0.7	1.4	14.015	B
2 - A6097	1151	288	629	1574	0.731	1146	1071	1.4	2.6	8.305	A
3 - Nottingham Road	667	167	925	1021	0.653	664	850	1.0	1.8	9.982	A
4 - Epperstone By-Pass	1230	307	561	1735	0.709	1226	1028	1.3	2.4	7.005	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	459	115	1604	471	0.975	429	552	1.4	9.0	62.374	F
2 - A6097	1409	352	744	1494	0.943	1377	1289	2.6	10.8	25.553	D
3 - Nottingham Road	817	204	1109	907	0.900	797	1012	1.8	6.8	28.677	D
4 - Epperstone By-Pass	1506	377	674	1651	0.912	1482	1232	2.4	8.3	19.123	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	459	115	1627	459	1.001	440	561	9.0	13.9	109.060	F
2 - A6097	1409	352	758	1485	0.949	1399	1308	10.8	13.3	36.008	E
3 - Nottingham Road	817	204	1128	896	0.912	811	1030	6.8	8.2	38.619	E
4 - Epperstone By-Pass	1506	377	686	1642	0.917	1502	1253	8.3	9.5	24.057	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	375	94	1367	604	0.620	424	475	13.9	1.7	25.045	D
2 - A6097	1151	288	680	1539	0.748	1191	1111	13.3	3.1	11.471	B
3 - Nottingham Road	667	167	969	994	0.671	691	902	8.2	2.1	12.784	B
4 - Epperstone By-Pass	1230	307	584	1718	0.716	1257	1076	9.5	2.6	8.257	A

Existing Layout - 2037, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	153.82	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-20	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	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	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	449	100.000
2 - A6097		ONE HOUR	✓	1511	100.000
3 - Nottingham Road		ONE HOUR	✓	870	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	990	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	142	170	137
	2 - A6097	159	1	316	1035
	3 - Nottingham Road	320	261	0	289
	4 - Epperstone By-Pass	188	660	141	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.65	13.67	1.8	B	412	618
2 - A6097	1.00	59.28	27.4	F	1387	2080
3 - Nottingham Road	1.37	558.40	133.1	F	798	1197
4 - Epperstone By-Pass	0.65	6.14	1.8	A	908	1363

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	338	85	796	924	0.366	336	498	0.0	0.6	6.094	A
2 - A6097	1138	284	336	1778	0.640	1131	796	0.0	1.7	5.503	A
3 - Nottingham Road	655	164	997	976	0.671	647	469	0.0	2.0	10.697	B
4 - Epperstone By-Pass	745	186	552	1742	0.428	742	1093	0.0	0.7	3.591	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	404	101	949	839	0.481	402	591	0.6	0.9	8.221	A
2 - A6097	1358	340	402	1732	0.784	1351	949	1.7	3.5	9.294	A
3 - Nottingham Road	782	196	1192	855	0.914	760	561	2.0	7.4	32.420	D
4 - Epperstone By-Pass	890	222	651	1668	0.533	888	1302	0.7	1.1	4.607	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	494	124	1096	756	0.654	491	637	0.9	1.8	13.376	B
2 - A6097	1664	416	491	1670	0.996	1600	1095	3.5	19.5	35.356	E
3 - Nottingham Road	958	239	1416	717	1.337	713	675	7.4	68.6	205.981	F
4 - Epperstone By-Pass	1090	273	646	1672	0.652	1087	1483	1.1	1.8	6.125	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	494	124	1094	757	0.653	494	636	1.8	1.8	13.666	B
2 - A6097	1664	416	494	1668	0.997	1632	1094	19.5	27.4	59.283	F
3 - Nottingham Road	958	239	1443	700	1.368	700	684	68.6	133.1	502.621	F
4 - Epperstone By-Pass	1090	273	640	1676	0.650	1090	1502	1.8	1.8	6.140	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	404	101	964	830	0.486	407	616	1.8	1.0	8.575	A
2 - A6097	1358	340	406	1729	0.786	1452	964	27.4	3.9	17.151	C
3 - Nottingham Road	782	196	1274	805	0.972	799	585	133.1	128.9	558.404	F
4 - Epperstone By-Pass	890	222	687	1641	0.542	893	1385	1.8	1.2	4.826	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	338	85	894	870	0.389	339	616	1.0	0.6	6.806	A
2 - A6097	1138	284	339	1776	0.641	1146	894	3.9	1.8	5.785	A
3 - Nottingham Road	655	164	1011	968	0.677	961	474	128.9	52.5	342.469	F
4 - Epperstone By-Pass	745	186	763	1585	0.470	747	1208	1.2	0.9	4.301	A

Existing Layout - 2037, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	5.99	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	28	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	358	100.000
2 - A6097		ONE HOUR	✓	906	100.000
3 - Nottingham Road		ONE HOUR	✓	612	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	711	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	1	109	160	88
	2 - A6097	118	3	266	519
	3 - Nottingham Road	186	252	2	172
	4 - Epperstone By-Pass	100	475	135	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.47	8.17	0.9	A	329	493
2 - A6097	0.58	5.01	1.4	A	831	1247
3 - Nottingham Road	0.61	8.51	1.6	A	562	842
4 - Epperstone By-Pass	0.46	3.96	0.9	A	652	979

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	270	67	651	1006	0.268	268	304	0.0	0.4	4.873	A
2 - A6097	682	171	290	1810	0.377	680	629	0.0	0.6	3.178	A
3 - Nottingham Road	461	115	548	1255	0.367	458	422	0.0	0.6	4.505	A
4 - Epperstone By-Pass	535	134	421	1839	0.291	534	585	0.0	0.4	2.754	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	322	80	779	934	0.345	321	364	0.4	0.5	5.870	A
2 - A6097	814	204	347	1770	0.460	813	753	0.6	0.8	3.759	A
3 - Nottingham Road	550	138	655	1188	0.463	549	505	0.6	0.9	5.622	A
4 - Epperstone By-Pass	639	160	504	1777	0.360	639	700	0.4	0.6	3.160	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	394	99	954	836	0.471	393	445	0.5	0.9	8.093	A
2 - A6097	998	249	425	1716	0.581	995	921	0.8	1.4	4.980	A
3 - Nottingham Road	674	168	802	1098	0.614	671	618	0.9	1.6	8.385	A
4 - Epperstone By-Pass	783	196	616	1694	0.462	782	856	0.6	0.9	3.942	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	394	99	956	835	0.472	394	446	0.9	0.9	8.166	A
2 - A6097	998	249	426	1716	0.581	997	924	1.4	1.4	5.013	A
3 - Nottingham Road	674	168	804	1096	0.615	674	620	1.6	1.6	8.513	A
4 - Epperstone By-Pass	783	196	619	1692	0.463	783	859	0.9	0.9	3.958	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	322	80	782	932	0.345	323	365	0.9	0.5	5.929	A
2 - A6097	814	204	349	1769	0.460	817	757	1.4	0.9	3.789	A
3 - Nottingham Road	550	138	658	1187	0.464	553	508	1.6	0.9	5.704	A
4 - Epperstone By-Pass	639	160	508	1775	0.360	640	704	0.9	0.6	3.178	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	270	67	654	1004	0.269	270	305	0.5	0.4	4.913	A
2 - A6097	682	171	292	1809	0.377	683	633	0.9	0.6	3.200	A
3 - Nottingham Road	461	115	550	1253	0.368	462	425	0.9	0.6	4.554	A
4 - Epperstone By-Pass	535	134	424	1837	0.291	536	588	0.6	0.4	2.767	A

Existing Layout - 2037, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	2.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	36	100.000
2 - A6097		ONE HOUR	✓	89	100.000
3 - Nottingham Road		ONE HOUR	✓	60	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	69	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	11	16	9
	2 - A6097	12	0	26	51
	3 - Nottingham Road	18	25	0	17
	4 - Epperstone By-Pass	10	46	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.03	2.81	0.0	A	33	50
2 - A6097	0.05	1.91	0.1	A	82	123
3 - Nottingham Road	0.04	2.43	0.0	A	55	83
4 - Epperstone By-Pass	0.04	1.77	0.0	A	63	95

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	27	7	63	1335	0.020	27	30	0.0	0.0	2.750	A
2 - A6097	67	17	29	1992	0.034	67	62	0.0	0.0	1.869	A
3 - Nottingham Road	45	11	54	1561	0.029	45	41	0.0	0.0	2.373	A
4 - Epperstone By-Pass	52	13	41	2122	0.024	52	58	0.0	0.0	1.738	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	32	8	75	1329	0.024	32	36	0.0	0.0	2.776	A
2 - A6097	80	20	34	1988	0.040	80	74	0.0	0.0	1.885	A
3 - Nottingham Road	54	13	65	1555	0.035	54	49	0.0	0.0	2.398	A
4 - Epperstone By-Pass	62	16	49	2115	0.029	62	69	0.0	0.0	1.752	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	40	10	92	1319	0.030	40	44	0.0	0.0	2.813	A
2 - A6097	98	24	42	1983	0.049	98	90	0.0	0.1	1.909	A
3 - Nottingham Road	66	17	79	1546	0.043	66	61	0.0	0.0	2.432	A
4 - Epperstone By-Pass	76	19	61	2107	0.036	76	85	0.0	0.0	1.771	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	40	10	92	1319	0.030	40	44	0.0	0.0	2.813	A
2 - A6097	98	24	42	1983	0.049	98	90	0.1	0.1	1.909	A
3 - Nottingham Road	66	17	79	1546	0.043	66	61	0.0	0.0	2.432	A
4 - Epperstone By-Pass	76	19	61	2107	0.036	76	85	0.0	0.0	1.771	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	32	8	76	1328	0.024	32	36	0.0	0.0	2.777	A
2 - A6097	80	20	34	1988	0.040	80	74	0.1	0.0	1.886	A
3 - Nottingham Road	54	13	65	1555	0.035	54	49	0.0	0.0	2.400	A
4 - Epperstone By-Pass	62	16	49	2115	0.029	62	69	0.0	0.0	1.755	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	27	7	63	1335	0.020	27	30	0.0	0.0	2.753	A
2 - A6097	67	17	29	1992	0.034	67	62	0.0	0.0	1.869	A
3 - Nottingham Road	45	11	54	1561	0.029	45	41	0.0	0.0	2.375	A
4 - Epperstone By-Pass	52	13	41	2121	0.024	52	58	0.0	0.0	1.738	A

Existing Layout - 2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2037 final, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	77.76	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-13	1 - Southwell Road

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)	Results for central hour only	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	438	100.000
2 - A6097		ONE HOUR	✓	1321	100.000
3 - Nottingham Road		ONE HOUR	✓	809	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	1442	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	82	278	78
	2 - A6097	127	0	342	852
	3 - Nottingham Road	227	309	1	272
	4 - Epperstone By-Pass	183	855	404	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	1.16	240.87	35.3	F	438	438
2 - A6097	0.99	56.88	22.5	F	1321	1321
3 - Nottingham Road	1.00	79.00	19.5	F	809	809
4 - Epperstone By-Pass	0.98	46.64	19.9	E	1442	1442

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	394	98	1403	584	0.675	389	480	0.8	2.0	18.114	C
2 - A6097	1188	297	679	1540	0.771	1181	1114	1.6	3.2	9.853	A
3 - Nottingham Road	727	182	945	1009	0.721	722	915	1.2	2.5	12.339	B
4 - Epperstone By-Pass	1296	324	593	1711	0.758	1290	1074	1.5	3.0	8.435	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	482	121	1670	434	1.110	417	568	2.0	18.3	109.085	F
2 - A6097	1454	364	771	1476	0.986	1401	1315	3.2	16.5	35.124	E
3 - Nottingham Road	891	223	1113	905	0.985	848	1060	2.5	13.1	45.887	E
4 - Epperstone By-Pass	1588	397	698	1633	0.972	1540	1263	3.0	14.8	29.671	D

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	482	121	1700	417	1.155	415	579	18.3	35.3	240.874	F
2 - A6097	1454	364	777	1472	0.988	1430	1337	16.5	22.5	56.881	F
3 - Nottingham Road	891	223	1134	892	0.999	865	1074	13.1	19.5	79.000	F
4 - Epperstone By-Pass	1588	397	712	1623	0.978	1567	1287	14.8	19.9	46.644	E

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	394	98	1492	534	0.737	517	516	35.3	4.3	146.461	F
2 - A6097	1188	297	803	1454	0.817	1258	1207	22.5	4.9	23.439	C
3 - Nottingham Road	727	182	1025	959	0.758	792	1037	19.5	3.4	28.150	D
4 - Epperstone By-Pass	1296	324	647	1671	0.776	1361	1170	19.9	3.6	13.872	B

Existing Layout - 2037 final, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	297.69	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-25	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	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	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	477	100.000
2 - A6097		ONE HOUR	✓	1584	100.000
3 - Nottingham Road		ONE HOUR	✓	952	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	1055	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	145	188	144
	2 - A6097	162	1	336	1085
	3 - Nottingham Road	344	284	0	324
	4 - Epperstone By-Pass	198	691	165	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.73	18.03	2.6	C	438	657
2 - A6097	1.07	127.88	69.2	F	1454	2180
3 - Nottingham Road	1.49	1042.62	229.7	F	874	1310
4 - Epperstone By-Pass	0.69	6.89	2.2	A	968	1452

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	359	90	854	892	0.403	356	524	0.0	0.7	6.686	A
2 - A6097	1193	298	373	1753	0.680	1184	837	0.0	2.1	6.244	A
3 - Nottingham Road	717	179	1041	949	0.755	705	515	0.0	2.9	14.165	B
4 - Epperstone By-Pass	794	199	587	1716	0.463	791	1159	0.0	0.9	3.878	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	429	107	1006	807	0.532	427	608	0.7	1.1	9.434	A
2 - A6097	1424	356	446	1702	0.837	1413	987	2.1	4.7	12.059	B
3 - Nottingham Road	856	214	1243	824	1.039	791	616	2.9	19.1	65.551	F
4 - Epperstone By-Pass	948	237	667	1656	0.573	947	1367	0.9	1.3	5.060	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	525	131	1154	724	0.726	520	639	1.1	2.5	17.208	C
2 - A6097	1744	436	544	1634	1.068	1605	1130	4.7	39.5	59.705	F
3 - Nottingham Road	1048	262	1423	713	1.471	712	726	19.1	103.3	322.380	F
4 - Epperstone By-Pass	1162	290	635	1680	0.691	1158	1500	1.3	2.2	6.844	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	525	131	1154	724	0.726	525	638	2.5	2.6	18.029	C
2 - A6097	1744	436	548	1631	1.069	1625	1131	39.5	69.2	127.885	F
3 - Nottingham Road	1048	262	1440	702	1.494	702	733	103.3	189.9	761.774	F
4 - Epperstone By-Pass	1162	290	630	1684	0.690	1162	1511	2.2	2.2	6.891	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	429	107	982	820	0.523	435	601	2.6	1.1	9.474	A
2 - A6097	1424	356	452	1697	0.839	1670	965	69.2	7.8	87.426	F
3 - Nottingham Road	856	214	1448	697	1.228	697	674	189.9	229.7	1042.625	F
4 - Epperstone By-Pass	948	237	631	1683	0.564	952	1513	2.2	1.3	4.952	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	359	90	924	853	0.421	361	609	1.1	0.7	7.340	A
2 - A6097	1193	298	376	1750	0.681	1215	909	7.8	2.2	6.995	A
3 - Nottingham Road	717	179	1067	933	0.768	929	524	229.7	176.5	787.556	F
4 - Epperstone By-Pass	794	199	738	1604	0.495	796	1258	1.3	1.0	4.462	A

Existing Layout - 2037 final, IP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	6.74	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	21	3 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	373	100.000
2 - A6097		ONE HOUR	✓	934	100.000
3 - Nottingham Road		ONE HOUR	✓	659	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	750	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	109	173	91
	2 - A6097	118	3	278	535
	3 - Nottingham Road	199	265	2	193
	4 - Epperstone By-Pass	103	491	155	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.51	9.13	1.0	A	342	513
2 - A6097	0.61	5.45	1.5	A	857	1286
3 - Nottingham Road	0.67	10.03	2.0	B	605	907
4 - Epperstone By-Pass	0.49	4.25	1.0	A	688	1032

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	281	70	688	985	0.285	279	315	0.0	0.4	5.088	A
2 - A6097	703	176	316	1792	0.392	701	651	0.0	0.6	3.292	A
3 - Nottingham Road	496	124	561	1247	0.398	494	456	0.0	0.7	4.762	A
4 - Epperstone By-Pass	565	141	440	1825	0.309	563	615	0.0	0.4	2.848	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	335	84	823	909	0.369	335	377	0.4	0.6	6.258	A
2 - A6097	840	210	379	1748	0.480	839	779	0.6	0.9	3.951	A
3 - Nottingham Road	592	148	671	1178	0.503	591	546	0.7	1.0	6.113	A
4 - Epperstone By-Pass	674	169	527	1761	0.383	674	736	0.4	0.6	3.310	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	411	103	1007	806	0.509	409	461	0.6	1.0	9.022	A
2 - A6097	1028	257	463	1690	0.609	1026	953	0.9	1.5	5.401	A
3 - Nottingham Road	726	181	821	1085	0.668	722	668	1.0	2.0	9.796	A
4 - Epperstone By-Pass	826	206	643	1674	0.493	824	900	0.6	1.0	4.230	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	411	103	1010	805	0.510	411	462	1.0	1.0	9.133	A
2 - A6097	1028	257	465	1689	0.609	1028	956	1.5	1.5	5.450	A
3 - Nottingham Road	726	181	824	1084	0.669	725	669	2.0	2.0	10.026	B
4 - Epperstone By-Pass	826	206	646	1672	0.494	826	903	1.0	1.0	4.255	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	335	84	827	907	0.370	337	379	1.0	0.6	6.335	A
2 - A6097	840	210	381	1747	0.481	842	783	1.5	0.9	3.989	A
3 - Nottingham Road	592	148	675	1176	0.504	596	548	2.0	1.0	6.246	A
4 - Epperstone By-Pass	674	169	531	1758	0.384	676	740	1.0	0.6	3.330	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	281	70	692	983	0.286	282	317	0.6	0.4	5.139	A
2 - A6097	703	176	318	1790	0.393	704	655	0.9	0.7	3.320	A
3 - Nottingham Road	496	124	564	1245	0.398	498	459	1.0	0.7	4.825	A
4 - Epperstone By-Pass	565	141	443	1823	0.310	565	619	0.6	0.5	2.866	A

Existing Layout - 2037 final, OP

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		1, 2, 3, 4	2.13	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Southwell Road		ONE HOUR	✓	37	100.000
2 - A6097		ONE HOUR	✓	91	100.000
3 - Nottingham Road		ONE HOUR	✓	64	100.000
4 - Epperstone By-Pass		ONE HOUR	✓	73	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	11	17	9
	2 - A6097	12	0	27	52
	3 - Nottingham Road	19	26	0	19
	4 - Epperstone By-Pass	10	48	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Southwell Road	2 - A6097	3 - Nottingham Road	4 - Epperstone By-Pass
From	1 - Southwell Road	0	0	0	0
	2 - A6097	0	0	0	0
	3 - Nottingham Road	0	0	0	0
	4 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Southwell Road	0.03	2.82	0.0	A	34	51
2 - A6097	0.05	1.91	0.1	A	84	125
3 - Nottingham Road	0.05	2.44	0.0	A	59	88
4 - Epperstone By-Pass	0.04	1.78	0.0	A	67	100

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	28	7	67	1333	0.021	28	31	0.0	0.0	2.756	A
2 - A6097	69	17	31	1990	0.034	68	64	0.0	0.0	1.872	A
3 - Nottingham Road	48	12	55	1561	0.031	48	44	0.0	0.0	2.379	A
4 - Epperstone By-Pass	55	14	43	2120	0.026	55	60	0.0	0.0	1.742	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	33	8	80	1326	0.025	33	37	0.0	0.0	2.784	A
2 - A6097	82	20	37	1986	0.041	82	76	0.0	0.0	1.889	A
3 - Nottingham Road	58	14	66	1554	0.037	58	53	0.0	0.0	2.404	A
4 - Epperstone By-Pass	66	16	51	2114	0.031	66	72	0.0	0.0	1.756	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	41	10	98	1316	0.031	41	45	0.0	0.0	2.822	A
2 - A6097	100	25	45	1980	0.051	100	94	0.0	0.1	1.913	A
3 - Nottingham Road	70	18	80	1545	0.046	70	65	0.0	0.0	2.440	A
4 - Epperstone By-Pass	80	20	63	2106	0.038	80	88	0.0	0.0	1.776	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	41	10	98	1316	0.031	41	45	0.0	0.0	2.822	A
2 - A6097	100	25	45	1980	0.051	100	94	0.1	0.1	1.913	A
3 - Nottingham Road	70	18	80	1545	0.046	70	65	0.0	0.0	2.440	A
4 - Epperstone By-Pass	80	20	63	2106	0.038	80	88	0.0	0.0	1.776	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	33	8	80	1326	0.025	33	37	0.0	0.0	2.786	A
2 - A6097	82	20	37	1986	0.041	82	76	0.1	0.0	1.892	A
3 - Nottingham Road	58	14	66	1554	0.037	58	53	0.0	0.0	2.405	A
4 - Epperstone By-Pass	66	16	51	2114	0.031	66	72	0.0	0.0	1.756	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Southwell Road	28	7	67	1333	0.021	28	31	0.0	0.0	2.759	A
2 - A6097	69	17	31	1990	0.034	69	64	0.0	0.0	1.872	A
3 - Nottingham Road	48	12	55	1561	0.031	48	44	0.0	0.0	2.381	A
4 - Epperstone By-Pass	55	14	43	2120	0.026	55	60	0.0	0.0	1.744	A

Do Something (DS)

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Junction 6 (Lowdham Rbt Proposed).j9
Path: K:\60595614_A614 Corridor MRN\02_Docs In\190221_Junction Models V2\6-lowdham
Report generation date: 15/04/2019 14:50:58

»Proposed Layout - 2023, AM
»Proposed Layout - 2023, PM
»Proposed Layout - 2023, IP
»Proposed Layout - 2023, OP
»Proposed Layout - 2037, AM
»Proposed Layout - 2037, PM
»Proposed Layout - 2037, IP
»Proposed Layout - 2037, OP
»Proposed Layout - 2037 final, AM
»Proposed Layout - 2037 final, PM
»Proposed Layout - 2037 final, IP
»Proposed Layout - 2037 final, OP

Summary of junction performance

	AM					PM					IP							
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	
	Proposed Layout - 2023																	
1 - Epperstone By-Pass	3.2	8.17	0.77	A	6.48	1.4	4.92	0.59	A	6.67	0.6	3.06	0.39	A	3.11	0.0	1.75	
2 - Southwell Road	0.7	5.43	0.41	A		0.6	4.10	0.36	A		0.3	3.25	0.26	A		0.0	1.89	
3 - A6097	2.2	5.96	0.69	A		3.0	6.83	0.75	A		0.8	2.93	0.43	A		0.0	1.64	
4 - Nottingham Road	1.0	4.82	0.51	A		2.5	9.71	0.72	A		0.6	3.35	0.38	A		0.0	1.77	
	Proposed Layout - 2037																	
1 - Epperstone By-Pass	4.1	9.97	0.81	A	7.56	1.6	5.16	0.61	A	7.42	0.7	3.19	0.41	A	3.25	0.0	1.76	
2 - Southwell Road	0.8	5.94	0.43	A		0.6	4.28	0.37	A		0.4	3.37	0.27	A		0.0	1.89	
3 - A6097	2.6	6.80	0.73	A		3.6	7.83	0.78	A		0.9	3.08	0.46	A		0.0	1.65	
4 - Nottingham Road	1.2	5.32	0.55	A		2.8	10.88	0.74	B		0.7	3.50	0.40	A		0.0	1.77	
	Proposed Layout - 2037 final																	
1 - Epperstone By-Pass	6.0	14.16	0.86	B	9.76	1.9	6.09	0.66	A	10.36	0.8	3.37	0.44	A	3.43	0.0	1.77	
2 - Southwell Road	0.9	6.84	0.48	A		0.7	4.73	0.41	A		0.4	3.53	0.29	A		0.0	1.90	
3 - A6097	3.2	8.14	0.77	A		4.9	10.43	0.84	B		0.9	3.23	0.48	A		0.0	1.65	
4 - Nottingham Road	1.5	6.14	0.60	A		5.0	17.77	0.84	C		0.7	3.73	0.43	A		0.0	1.77	

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. Junction LOS and Junction Delay are demand-weighted averages.

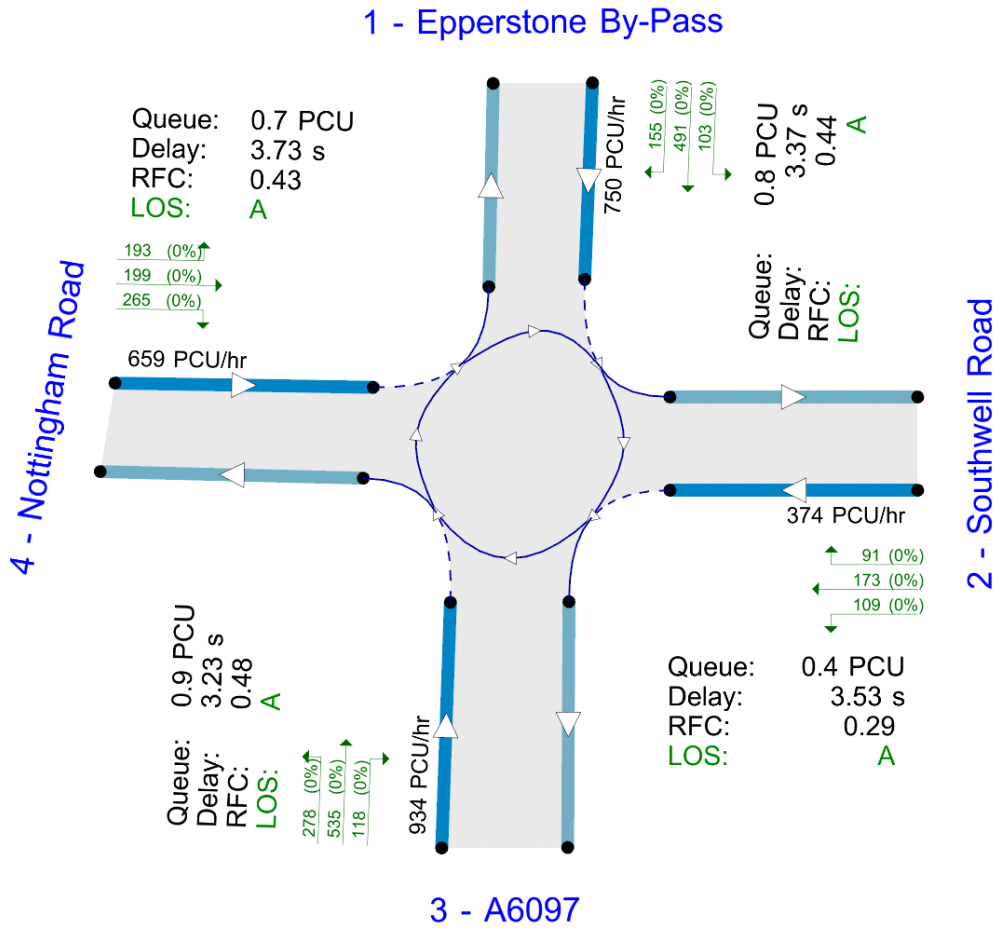
File summary

File Description

Title	Southwell Road / A6097 / Nottingham Road / Epperstone By-Pass
Location	Gedling, Nottingham
Site number	Junction 11
Date	04/04/2013
Version	
Status	Existing Layout
Identifier	
Client	
Jobnumber	90372
Enumerator	T Nichol
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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15		✓
D3	2023	IP	ONE HOUR	12:15	13:45	15		✓
D4	2023	OP	ONE HOUR	22:45	00:15	15		✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15		✓
D7	2037	IP	ONE HOUR	12:15	13:45	15		✓
D8	2037	OP	ONE HOUR	22:45	00:15	15		✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15		✓
D11	2037 final	IP	ONE HOUR	12:15	13:45	15		✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15		✓

Analysis Set Details

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

Proposed Layout - 2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2023, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	6.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Epperstone By-Pass	
2	Southwell Road	
3	A6097	
4	Nottingham Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Epperstone By-Pass	6.70	8.00	10.0	30.3	65.0	36.0	
2 - Southwell Road	3.50	7.50	43.0	28.0	65.0	30.0	
3 - A6097	6.70	8.00	100.0	29.8	65.0	30.0	
4 - Nottingham Road	3.70	7.50	70.0	31.5	65.0	21.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Epperstone By-Pass	0.627	2299
2 - Southwell Road	0.586	2022
3 - A6097	0.657	2447
4 - Nottingham Road	0.625	2205

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)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1320	100.000
2 - Southwell Road		ONE HOUR	✓	412	100.000
3 - A6097		ONE HOUR	✓	1214	100.000
4 - Nottingham Road		ONE HOUR	✓	705	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	2	175	779	364
	2 - Southwell Road	75	0	78	259
	3 - A6097	792	122	0	300
	4 - Nottingham Road	240	206	258	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.77	8.17	3.2	A	1320	1320
2 - Southwell Road	0.41	5.43	0.7	A	412	412
3 - A6097	0.69	5.96	2.2	A	1214	1214
4 - Nottingham Road	0.51	4.82	1.0	A	705	705

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1187	297	527	1968	0.603	1184	996	1.0	1.5	4.582	A
2 - Southwell Road	370	93	1260	1284	0.289	370	452	0.3	0.4	3.939	A
3 - A6097	1091	273	629	2034	0.537	1090	1001	0.8	1.1	3.807	A
4 - Nottingham Road	634	158	890	1649	0.384	633	829	0.4	0.6	3.542	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1453	363	645	1894	0.767	1447	1218	1.5	3.2	7.929	A
2 - Southwell Road	454	113	1539	1120	0.405	453	552	0.4	0.7	5.387	A
3 - A6097	1337	334	769	1942	0.688	1333	1223	1.1	2.2	5.867	A
4 - Nottingham Road	776	194	1088	1525	0.509	775	1014	0.6	1.0	4.786	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1453	363	646	1893	0.768	1453	1221	3.2	3.2	8.169	A
2 - Southwell Road	454	113	1546	1116	0.406	454	554	0.7	0.7	5.434	A
3 - A6097	1337	334	772	1940	0.689	1337	1227	2.2	2.2	5.962	A
4 - Nottingham Road	776	194	1091	1523	0.510	776	1017	1.0	1.0	4.819	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1187	297	529	1967	0.603	1193	1000	3.2	1.5	4.697	A
2 - Southwell Road	370	93	1269	1278	0.290	371	454	0.7	0.4	3.975	A
3 - A6097	1091	273	633	2031	0.537	1095	1007	2.2	1.2	3.864	A
4 - Nottingham Road	634	158	894	1646	0.385	635	834	1.0	0.6	3.566	A

Proposed Layout - 2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	6.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	971	100.000
2 - Southwell Road		ONE HOUR	✓	444	100.000
3 - A6097		ONE HOUR	✓	1451	100.000
4 - Nottingham Road		ONE HOUR	✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	198	633	139
	2 - Southwell Road	138	0	137	169
	3 - A6097	1005	155	1	290
	4 - Nottingham Road	290	321	243	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.59	4.92	1.4	A	891	1337
2 - Southwell Road	0.36	4.10	0.6	A	407	611
3 - A6097	0.75	6.83	3.0	A	1331	1997
4 - Nottingham Road	0.72	9.71	2.5	A	784	1175

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	731	183	540	1960	0.373	729	1076	0.0	0.6	2.919	A
2 - Southwell Road	334	84	763	1575	0.212	333	506	0.0	0.3	2.896	A
3 - A6097	1092	273	335	2227	0.491	1089	761	0.0	1.0	3.153	A
4 - Nottingham Road	643	161	975	1595	0.403	640	449	0.0	0.7	3.757	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	873	218	646	1893	0.461	872	1287	0.6	0.8	3.521	A
2 - Southwell Road	399	100	913	1487	0.268	399	605	0.3	0.4	3.308	A
3 - A6097	1304	326	401	2183	0.597	1302	910	1.0	1.5	4.078	A
4 - Nottingham Road	768	192	1167	1476	0.520	766	537	0.7	1.1	5.063	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1069	267	789	1804	0.593	1067	1573	0.8	1.4	4.868	A
2 - Southwell Road	489	122	1116	1368	0.357	488	739	0.4	0.6	4.089	A
3 - A6097	1598	399	491	2124	0.752	1592	1113	1.5	2.9	6.684	A
4 - Nottingham Road	940	235	1426	1313	0.716	935	657	1.1	2.4	9.378	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1069	267	793	1801	0.593	1069	1579	1.4	1.4	4.915	A
2 - Southwell Road	489	122	1120	1366	0.358	489	742	0.6	0.6	4.104	A
3 - A6097	1598	399	492	2124	0.752	1597	1116	2.9	3.0	6.833	A
4 - Nottingham Road	940	235	1431	1310	0.718	940	658	2.4	2.5	9.705	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	873	218	652	1890	0.462	875	1295	1.4	0.9	3.555	A
2 - Southwell Road	399	100	918	1484	0.269	400	609	0.6	0.4	3.321	A
3 - A6097	1304	326	403	2182	0.598	1310	915	3.0	1.5	4.156	A
4 - Nottingham Road	768	192	1174	1471	0.522	773	539	2.5	1.1	5.196	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	731	183	543	1958	0.373	732	1082	0.9	0.6	2.939	A
2 - Southwell Road	334	84	767	1573	0.213	335	509	0.4	0.3	2.910	A
3 - A6097	1092	273	337	2226	0.491	1095	765	1.5	1.0	3.187	A
4 - Nottingham Road	643	161	981	1592	0.404	645	451	1.1	0.7	3.808	A

Proposed Layout - 2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:15	13:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	683	100.000
2 - Southwell Road		ONE HOUR	✓	352	100.000
3 - A6097		ONE HOUR	✓	857	100.000
4 - Nottingham Road		ONE HOUR	✓	587	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	99	450	133
	2 - Southwell Road	88	1	104	159
	3 - A6097	496	113	3	245
	4 - Nottingham Road	170	185	231	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.39	3.06	0.6	A	627	940
2 - Southwell Road	0.26	3.25	0.3	A	323	485
3 - A6097	0.43	2.93	0.8	A	786	1180
4 - Nottingham Road	0.38	3.35	0.6	A	539	808

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	514	129	401	2047	0.251	513	567	0.0	0.3	2.344	A
2 - Southwell Road	265	66	615	1662	0.159	264	299	0.0	0.2	2.574	A
3 - A6097	645	161	288	2258	0.286	644	592	0.0	0.4	2.228	A
4 - Nottingham Road	442	110	527	1876	0.236	441	404	0.0	0.3	2.506	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	614	154	480	1998	0.307	614	678	0.3	0.4	2.601	A
2 - Southwell Road	316	79	736	1591	0.199	316	358	0.2	0.2	2.824	A
3 - A6097	770	193	344	2221	0.347	770	708	0.4	0.5	2.481	A
4 - Nottingham Road	528	132	631	1811	0.291	527	483	0.3	0.4	2.804	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	752	188	587	1930	0.390	751	830	0.4	0.6	3.052	A
2 - Southwell Road	388	97	901	1494	0.259	387	438	0.2	0.3	3.252	A
3 - A6097	944	236	421	2170	0.435	943	867	0.5	0.8	2.931	A
4 - Nottingham Road	646	162	772	1722	0.375	646	592	0.4	0.6	3.341	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	752	188	588	1930	0.390	752	831	0.6	0.6	3.056	A
2 - Southwell Road	388	97	902	1494	0.259	388	438	0.3	0.3	3.254	A
3 - A6097	944	236	422	2170	0.435	944	868	0.8	0.8	2.934	A
4 - Nottingham Road	646	162	773	1722	0.375	646	592	0.6	0.6	3.345	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	614	154	481	1997	0.307	615	680	0.6	0.4	2.607	A
2 - Southwell Road	316	79	737	1590	0.199	317	358	0.3	0.2	2.829	A
3 - A6097	770	193	345	2221	0.347	771	709	0.8	0.5	2.485	A
4 - Nottingham Road	528	132	632	1810	0.292	528	484	0.6	0.4	2.811	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	514	129	402	2046	0.251	515	569	0.4	0.3	2.352	A
2 - Southwell Road	265	66	617	1660	0.160	265	300	0.2	0.2	2.582	A
3 - A6097	645	161	289	2257	0.286	646	594	0.5	0.4	2.235	A
4 - Nottingham Road	442	110	529	1875	0.236	442	405	0.4	0.3	2.515	A

Proposed Layout - 2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	67	100.000
2 - Southwell Road		ONE HOUR	✓	35	100.000
3 - A6097		ONE HOUR	✓	83	100.000
4 - Nottingham Road		ONE HOUR	✓	79	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	10	44	13
	2 - Southwell Road	9	0	10	16
	3 - A6097	48	11	0	24
	4 - Nottingham Road	48	8	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	1	10	2
	2 - Southwell Road	1	0	1	2
	3 - A6097	10	1	0	2
	4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.03	1.75	0.0	A	61	92
2 - Southwell Road	0.02	1.89	0.0	A	32	48
3 - A6097	0.04	1.64	0.0	A	76	114
4 - Nottingham Road	0.04	1.77	0.0	A	72	109

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	50	13	32	2279	0.022	50	79	0.0	0.0	1.726	A
2 - Southwell Road	26	7	60	1987	0.013	26	22	0.0	0.0	1.861	A
3 - A6097	62	16	29	2428	0.026	62	58	0.0	0.0	1.617	A
4 - Nottingham Road	59	15	51	2173	0.027	59	40	0.0	0.0	1.738	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	60	15	38	2275	0.026	60	94	0.0	0.0	1.737	A
2 - Southwell Road	31	8	72	1980	0.016	31	26	0.0	0.0	1.873	A
3 - A6097	75	19	34	2425	0.031	75	69	0.0	0.0	1.628	A
4 - Nottingham Road	71	18	61	2167	0.033	71	48	0.0	0.0	1.753	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	74	18	46	2270	0.033	74	116	0.0	0.0	1.752	A
2 - Southwell Road	39	10	88	1971	0.020	39	32	0.0	0.0	1.889	A
3 - A6097	91	23	42	2420	0.038	91	85	0.0	0.0	1.643	A
4 - Nottingham Road	87	22	75	2158	0.040	87	58	0.0	0.0	1.774	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	74	18	46	2270	0.033	74	116	0.0	0.0	1.752	A
2 - Southwell Road	39	10	88	1971	0.020	39	32	0.0	0.0	1.889	A
3 - A6097	91	23	42	2420	0.038	91	85	0.0	0.0	1.643	A
4 - Nottingham Road	87	22	75	2158	0.040	87	58	0.0	0.0	1.774	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	60	15	38	2275	0.026	60	94	0.0	0.0	1.740	A
2 - Southwell Road	31	8	72	1980	0.016	31	26	0.0	0.0	1.876	A
3 - A6097	75	19	34	2425	0.031	75	69	0.0	0.0	1.628	A
4 - Nottingham Road	71	18	61	2167	0.033	71	48	0.0	0.0	1.756	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	50	13	32	2279	0.022	50	79	0.0	0.0	1.727	A
2 - Southwell Road	26	7	60	1987	0.013	26	22	0.0	0.0	1.864	A
3 - A6097	62	16	29	2428	0.026	63	58	0.0	0.0	1.619	A
4 - Nottingham Road	59	15	51	2173	0.027	59	40	0.0	0.0	1.738	A

Proposed Layout - 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2037, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	7.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1368	100.000
2 - Southwell Road		ONE HOUR	✓	417	100.000
3 - A6097		ONE HOUR	✓	1280	100.000
4 - Nottingham Road		ONE HOUR	✓	742	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	2	176	824	366
	2 - Southwell Road	75	0	82	260
	3 - A6097	830	127	0	323
	4 - Nottingham Road	242	209	290	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.81	9.97	4.1	A	1368	1368
2 - Southwell Road	0.43	5.94	0.8	A	417	417
3 - A6097	0.73	6.80	2.6	A	1280	1280
4 - Nottingham Road	0.55	5.32	1.2	A	742	742

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1230	307	563	1945	0.632	1227	1031	1.0	1.7	4.994	A
2 - Southwell Road	375	94	1331	1242	0.302	374	460	0.3	0.4	4.145	A
3 - A6097	1151	288	632	2032	0.566	1149	1073	0.8	1.3	4.068	A
4 - Nottingham Road	667	167	928	1625	0.411	666	853	0.5	0.7	3.751	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1506	377	688	1867	0.807	1497	1261	1.7	4.0	9.514	A
2 - Southwell Road	459	115	1624	1070	0.429	458	561	0.4	0.7	5.869	A
3 - A6097	1409	352	772	1940	0.726	1404	1310	1.3	2.6	6.654	A
4 - Nottingham Road	817	204	1134	1496	0.546	815	1041	0.7	1.2	5.272	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1506	377	690	1866	0.807	1506	1265	4.0	4.1	9.973	A
2 - Southwell Road	459	115	1632	1065	0.431	459	564	0.7	0.8	5.939	A
3 - A6097	1409	352	775	1938	0.727	1409	1317	2.6	2.6	6.803	A
4 - Nottingham Road	817	204	1138	1493	0.547	817	1046	1.2	1.2	5.320	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1230	307	566	1944	0.633	1239	1037	4.1	1.7	5.173	A
2 - Southwell Road	375	94	1342	1235	0.303	376	463	0.8	0.4	4.195	A
3 - A6097	1151	288	636	2029	0.567	1156	1082	2.6	1.3	4.149	A
4 - Nottingham Road	667	167	934	1621	0.411	669	859	1.2	0.7	3.789	A

Proposed Layout - 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	7.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	990	100.000
2 - Southwell Road		ONE HOUR	✓	449	100.000
3 - A6097		ONE HOUR	✓	1511	100.000
4 - Nottingham Road		ONE HOUR	✓	870	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	188	660	141
	2 - Southwell Road	137	0	142	170
	3 - A6097	1035	159	1	316
	4 - Nottingham Road	289	320	261	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.61	5.16	1.6	A	908	1363
2 - Southwell Road	0.37	4.28	0.6	A	412	618
3 - A6097	0.78	7.83	3.6	A	1387	2080
4 - Nottingham Road	0.74	10.88	2.8	B	798	1197

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	745	186	556	1950	0.382	743	1097	0.0	0.6	2.975	A
2 - Southwell Road	338	85	798	1554	0.217	337	500	0.0	0.3	2.954	A
3 - A6097	1138	284	337	2226	0.511	1133	798	0.0	1.0	3.284	A
4 - Nottingham Road	655	164	1000	1580	0.415	652	470	0.0	0.7	3.868	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	890	222	665	1882	0.473	889	1312	0.6	0.9	3.623	A
2 - Southwell Road	404	101	955	1462	0.276	403	599	0.3	0.4	3.399	A
3 - A6097	1358	340	403	2182	0.622	1356	955	1.0	1.6	4.345	A
4 - Nottingham Road	782	196	1196	1457	0.537	780	563	0.7	1.1	5.304	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1090	273	811	1790	0.609	1087	1602	0.9	1.5	5.106	A
2 - Southwell Road	494	124	1167	1338	0.370	494	731	0.4	0.6	4.261	A
3 - A6097	1664	416	493	2123	0.784	1656	1168	1.6	3.5	7.595	A
4 - Nottingham Road	958	239	1462	1291	0.742	951	688	1.1	2.8	10.399	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1090	273	816	1787	0.610	1090	1609	1.5	1.6	5.165	A
2 - Southwell Road	494	124	1171	1336	0.370	494	734	0.6	0.6	4.279	A
3 - A6097	1664	416	494	2122	0.784	1663	1171	3.5	3.6	7.832	A
4 - Nottingham Road	958	239	1467	1288	0.744	958	690	2.8	2.8	10.878	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	890	222	671	1877	0.474	893	1322	1.6	0.9	3.666	A
2 - Southwell Road	404	101	961	1459	0.277	404	603	0.6	0.4	3.415	A
3 - A6097	1358	340	405	2181	0.623	1366	960	3.6	1.7	4.456	A
4 - Nottingham Road	782	196	1205	1452	0.539	789	566	2.8	1.2	5.481	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	745	186	559	1948	0.383	746	1103	0.9	0.6	3.001	A
2 - Southwell Road	338	85	803	1552	0.218	338	503	0.4	0.3	2.969	A
3 - A6097	1138	284	338	2225	0.511	1140	802	1.7	1.1	3.325	A
4 - Nottingham Road	655	164	1006	1576	0.415	657	473	1.2	0.7	3.922	A

Proposed Layout - 2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:15	13:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	711	100.000
2 - Southwell Road		ONE HOUR	✓	358	100.000
3 - A6097		ONE HOUR	✓	906	100.000
4 - Nottingham Road		ONE HOUR	✓	612	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	100	475	135
	2 - Southwell Road	88	1	109	160
	3 - A6097	519	118	3	266
	4 - Nottingham Road	172	186	252	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.41	3.19	0.7	A	652	979
2 - Southwell Road	0.27	3.37	0.4	A	329	493
3 - A6097	0.46	3.08	0.9	A	831	1247
4 - Nottingham Road	0.40	3.50	0.7	A	562	842

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	535	134	422	2034	0.263	534	586	0.0	0.4	2.398	A
2 - Southwell Road	270	67	652	1640	0.164	269	304	0.0	0.2	2.623	A
3 - A6097	682	171	291	2256	0.302	680	630	0.0	0.4	2.283	A
4 - Nottingham Road	461	115	548	1863	0.247	459	423	0.0	0.3	2.563	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	639	160	505	1982	0.323	639	701	0.4	0.5	2.680	A
2 - Southwell Road	322	80	780	1565	0.206	322	364	0.2	0.3	2.894	A
3 - A6097	814	204	348	2219	0.367	814	754	0.4	0.6	2.561	A
4 - Nottingham Road	550	138	656	1795	0.306	550	506	0.3	0.4	2.890	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	783	196	618	1911	0.410	782	858	0.5	0.7	3.188	A
2 - Southwell Road	394	99	955	1463	0.270	394	445	0.3	0.4	3.365	A
3 - A6097	998	249	426	2167	0.460	996	923	0.6	0.8	3.071	A
4 - Nottingham Road	674	168	803	1703	0.396	673	619	0.4	0.7	3.490	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	783	196	619	1910	0.410	783	859	0.7	0.7	3.191	A
2 - Southwell Road	394	99	956	1462	0.270	394	446	0.4	0.4	3.370	A
3 - A6097	998	249	426	2167	0.460	998	924	0.8	0.9	3.077	A
4 - Nottingham Road	674	168	804	1703	0.396	674	620	0.7	0.7	3.498	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	639	160	506	1981	0.323	640	702	0.7	0.5	2.685	A
2 - Southwell Road	322	80	781	1564	0.206	322	365	0.4	0.3	2.899	A
3 - A6097	814	204	348	2218	0.367	816	755	0.9	0.6	2.568	A
4 - Nottingham Road	550	138	657	1794	0.307	551	507	0.7	0.4	2.898	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	535	134	424	2033	0.263	536	588	0.5	0.4	2.406	A
2 - Southwell Road	270	67	654	1639	0.164	270	305	0.3	0.2	2.631	A
3 - A6097	682	171	292	2255	0.302	683	632	0.6	0.4	2.289	A
4 - Nottingham Road	461	115	550	1861	0.248	461	424	0.4	0.3	2.571	A

Proposed Layout - 2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	69	100.000
2 - Southwell Road		ONE HOUR	✓	36	100.000
3 - A6097		ONE HOUR	✓	89	100.000
4 - Nottingham Road		ONE HOUR	✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	10	46	13
	2 - Southwell Road	9	0	11	16
	3 - A6097	51	12	0	26
	4 - Nottingham Road	17	18	25	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	1	10	2
	2 - Southwell Road	1	0	1	2
	3 - A6097	10	1	0	2
	4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.03	1.76	0.0	A	63	95
2 - Southwell Road	0.02	1.89	0.0	A	33	50
3 - A6097	0.04	1.65	0.0	A	82	123
4 - Nottingham Road	0.03	1.77	0.0	A	55	83

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	52	13	41	2273	0.023	52	58	0.0	0.0	1.734	A
2 - Southwell Road	27	7	63	1985	0.014	27	30	0.0	0.0	1.863	A
3 - A6097	67	17	29	2428	0.028	67	62	0.0	0.0	1.619	A
4 - Nottingham Road	45	11	54	2171	0.021	45	41	0.0	0.0	1.736	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	62	16	49	2268	0.027	62	69	0.0	0.0	1.746	A
2 - Southwell Road	32	8	75	1978	0.016	32	36	0.0	0.0	1.875	A
3 - A6097	80	20	34	2425	0.033	80	74	0.0	0.0	1.631	A
4 - Nottingham Road	54	13	65	2165	0.025	54	49	0.0	0.0	1.749	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	76	19	61	2261	0.034	76	85	0.0	0.0	1.762	A
2 - Southwell Road	40	10	92	1968	0.020	40	44	0.0	0.0	1.892	A
3 - A6097	98	24	42	2420	0.041	98	90	0.0	0.0	1.647	A
4 - Nottingham Road	66	17	79	2156	0.031	66	61	0.0	0.0	1.767	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	76	19	61	2261	0.034	76	85	0.0	0.0	1.762	A
2 - Southwell Road	40	10	92	1968	0.020	40	44	0.0	0.0	1.892	A
3 - A6097	98	24	42	2420	0.041	98	90	0.0	0.0	1.647	A
4 - Nottingham Road	66	17	79	2156	0.031	66	61	0.0	0.0	1.767	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	62	16	49	2268	0.027	62	69	0.0	0.0	1.749	A
2 - Southwell Road	32	8	76	1978	0.016	32	36	0.0	0.0	1.876	A
3 - A6097	80	20	34	2425	0.033	80	74	0.0	0.0	1.631	A
4 - Nottingham Road	54	13	65	2165	0.025	54	49	0.0	0.0	1.749	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	52	13	41	2273	0.023	52	58	0.0	0.0	1.734	A
2 - Southwell Road	27	7	63	1985	0.014	27	30	0.0	0.0	1.866	A
3 - A6097	67	17	29	2428	0.028	67	62	0.0	0.0	1.622	A
4 - Nottingham Road	45	11	54	2171	0.021	45	41	0.0	0.0	1.736	A

Proposed Layout - 2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D9 - 2037 final, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	9.76	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)	Results for central hour only	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1444	100.000
2 - Southwell Road		ONE HOUR	✓	438	100.000
3 - A6097		ONE HOUR	✓	1321	100.000
4 - Nottingham Road		ONE HOUR	✓	809	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	2	183	855	404
	2 - Southwell Road	78	0	82	278
	3 - A6097	852	127	0	342
	4 - Nottingham Road	272	227	309	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.86	14.16	6.0	B	1444	1444
2 - Southwell Road	0.48	6.84	0.9	A	438	438
3 - A6097	0.77	8.14	3.2	A	1321	1321
4 - Nottingham Road	0.60	6.14	1.5	A	809	809

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1298	325	596	1925	0.674	1295	1081	1.2	2.0	5.684	A
2 - Southwell Road	394	98	1409	1196	0.329	393	482	0.3	0.5	4.479	A
3 - A6097	1188	297	684	1997	0.595	1185	1118	0.9	1.4	4.422	A
4 - Nottingham Road	727	182	950	1611	0.451	726	920	0.6	0.8	4.063	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1590	397	729	1841	0.863	1575	1320	2.0	5.7	12.860	B
2 - Southwell Road	482	121	1716	1016	0.475	481	588	0.5	0.9	6.701	A
3 - A6097	1454	364	835	1899	0.766	1448	1362	1.4	3.2	7.863	A
4 - Nottingham Road	891	223	1161	1480	0.602	888	1122	0.8	1.5	6.058	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1590	397	731	1840	0.864	1589	1325	5.7	6.0	14.159	B
2 - Southwell Road	482	121	1729	1009	0.478	482	591	0.9	0.9	6.837	A
3 - A6097	1454	364	840	1895	0.767	1454	1371	3.2	3.2	8.144	A
4 - Nottingham Road	891	223	1166	1476	0.603	891	1128	1.5	1.5	6.144	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1298	325	599	1923	0.675	1314	1088	6.0	2.1	6.057	A
2 - Southwell Road	394	98	1427	1186	0.332	395	486	0.9	0.5	4.566	A
3 - A6097	1188	297	692	1993	0.596	1195	1131	3.2	1.5	4.548	A
4 - Nottingham Road	727	182	957	1607	0.453	730	929	1.5	0.8	4.118	A

Proposed Layout - 2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	10.36	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1055	100.000
2 - Southwell Road		ONE HOUR	✓	477	100.000
3 - A6097		ONE HOUR	✓	1584	100.000
4 - Nottingham Road		ONE HOUR	✓	952	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	198	691	165
	2 - Southwell Road	144	0	145	188
	3 - A6097	1085	162	1	336
	4 - Nottingham Road	324	344	284	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.66	6.09	1.9	A	968	1452
2 - Southwell Road	0.41	4.73	0.7	A	438	657
3 - A6097	0.84	10.43	4.9	B	1454	2180
4 - Nottingham Road	0.84	17.77	5.0	C	874	1310

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	794	199	593	1927	0.412	791	1165	0.0	0.7	3.163	A
2 - Southwell Road	359	90	856	1520	0.236	358	528	0.0	0.3	3.095	A
3 - A6097	1193	298	374	2202	0.542	1188	841	0.0	1.2	3.536	A
4 - Nottingham Road	717	179	1045	1552	0.462	713	517	0.0	0.9	4.275	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	948	237	709	1854	0.512	947	1394	0.7	1.0	3.965	A
2 - Southwell Road	429	107	1025	1421	0.302	428	631	0.3	0.4	3.622	A
3 - A6097	1424	356	447	2153	0.661	1421	1006	1.2	1.9	4.895	A
4 - Nottingham Road	856	214	1250	1424	0.601	853	618	0.9	1.5	6.283	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1162	290	861	1758	0.661	1158	1699	1.0	1.9	5.965	A
2 - Southwell Road	525	131	1251	1289	0.407	524	769	0.4	0.7	4.702	A
3 - A6097	1744	436	547	2088	0.835	1733	1228	1.9	4.8	9.839	A
4 - Nottingham Road	1048	262	1524	1252	0.837	1036	755	1.5	4.6	15.790	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1162	290	870	1753	0.663	1161	1710	1.9	1.9	6.086	A
2 - Southwell Road	525	131	1257	1285	0.409	525	775	0.7	0.7	4.735	A
3 - A6097	1744	436	548	2087	0.836	1743	1234	4.8	4.9	10.432	B
4 - Nottingham Road	1048	262	1533	1247	0.841	1047	758	4.6	5.0	17.774	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	948	237	721	1846	0.514	952	1410	1.9	1.1	4.041	A
2 - Southwell Road	429	107	1034	1416	0.303	430	640	0.7	0.4	3.652	A
3 - A6097	1424	356	449	2152	0.662	1436	1014	4.9	2.0	5.106	A
4 - Nottingham Road	856	214	1262	1416	0.604	869	623	5.0	1.6	6.743	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	794	199	598	1924	0.413	796	1173	1.1	0.7	3.197	A
2 - Southwell Road	359	90	862	1517	0.237	360	532	0.4	0.3	3.110	A
3 - A6097	1193	298	375	2200	0.542	1196	846	2.0	1.2	3.593	A
4 - Nottingham Road	717	179	1051	1548	0.463	719	520	1.6	0.9	4.361	A

Proposed Layout - 2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - 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. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:15	13:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	750	100.000
2 - Southwell Road		ONE HOUR	✓	374	100.000
3 - A6097		ONE HOUR	✓	934	100.000
4 - Nottingham Road		ONE HOUR	✓	659	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	103	491	155
	2 - Southwell Road	91	1	109	173
	3 - A6097	535	118	3	278
	4 - Nottingham Road	193	199	265	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.44	3.37	0.8	A	688	1032
2 - Southwell Road	0.29	3.53	0.4	A	343	515
3 - A6097	0.48	3.23	0.9	A	857	1286
4 - Nottingham Road	0.43	3.73	0.7	A	605	907

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	565	141	441	2022	0.279	563	616	0.0	0.4	2.466	A
2 - Southwell Road	282	70	688	1619	0.174	281	316	0.0	0.2	2.689	A
3 - A6097	703	176	318	2238	0.314	701	652	0.0	0.5	2.338	A
4 - Nottingham Road	496	124	562	1854	0.268	495	456	0.0	0.4	2.647	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	674	169	528	1967	0.343	674	737	0.4	0.5	2.781	A
2 - Southwell Road	336	84	824	1539	0.218	336	378	0.2	0.3	2.991	A
3 - A6097	840	210	380	2197	0.382	839	780	0.5	0.6	2.648	A
4 - Nottingham Road	592	148	673	1785	0.332	592	546	0.4	0.5	3.016	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	826	206	647	1893	0.436	825	902	0.5	0.8	3.367	A
2 - Southwell Road	412	103	1008	1431	0.288	411	463	0.3	0.4	3.528	A
3 - A6097	1028	257	465	2141	0.480	1027	954	0.6	0.9	3.228	A
4 - Nottingham Road	726	181	824	1690	0.429	725	669	0.5	0.7	3.725	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	826	206	647	1892	0.436	826	903	0.8	0.8	3.374	A
2 - Southwell Road	412	103	1010	1430	0.288	412	464	0.4	0.4	3.533	A
3 - A6097	1028	257	466	2141	0.480	1028	956	0.9	0.9	3.234	A
4 - Nottingham Road	726	181	825	1690	0.429	726	669	0.7	0.7	3.733	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	674	169	529	1966	0.343	675	738	0.8	0.5	2.791	A
2 - Southwell Road	336	84	826	1538	0.219	337	379	0.4	0.3	2.999	A
3 - A6097	840	210	381	2197	0.382	841	782	0.9	0.6	2.658	A
4 - Nottingham Road	592	148	674	1784	0.332	593	547	0.7	0.5	3.028	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	565	141	443	2021	0.279	565	618	0.5	0.4	2.475	A
2 - Southwell Road	282	70	691	1617	0.174	282	317	0.3	0.2	2.698	A
3 - A6097	703	176	319	2238	0.314	704	654	0.6	0.5	2.349	A
4 - Nottingham Road	496	124	564	1852	0.268	497	458	0.5	0.4	2.655	A

Proposed Layout - 2037 final, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Southwell Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A6097 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Nottingham Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	73	100.000
2 - Southwell Road		ONE HOUR	✓	37	100.000
3 - A6097		ONE HOUR	✓	91	100.000
4 - Nottingham Road		ONE HOUR	✓	64	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	10	48	15
	2 - Southwell Road	9	0	11	17
	3 - A6097	52	12	0	27
	4 - Nottingham Road	19	19	26	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	1	10	2
	2 - Southwell Road	1	0	1	2
	3 - A6097	10	1	0	2
	4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.04	1.77	0.0	A	67	100
2 - Southwell Road	0.02	1.90	0.0	A	34	51
3 - A6097	0.04	1.65	0.0	A	84	125
4 - Nottingham Road	0.03	1.77	0.0	A	59	88

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	55	14	43	2272	0.024	55	60	0.0	0.0	1.736	A
2 - Southwell Road	28	7	67	1983	0.014	28	31	0.0	0.0	1.867	A
3 - A6097	69	17	31	2427	0.028	68	64	0.0	0.0	1.621	A
4 - Nottingham Road	48	12	55	2171	0.022	48	44	0.0	0.0	1.738	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	66	16	51	2266	0.029	66	72	0.0	0.0	1.748	A
2 - Southwell Road	33	8	80	1975	0.017	33	37	0.0	0.0	1.879	A
3 - A6097	82	20	37	2423	0.034	82	76	0.0	0.0	1.633	A
4 - Nottingham Road	58	14	66	2164	0.027	58	53	0.0	0.0	1.752	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	80	20	63	2259	0.036	80	88	0.0	0.0	1.766	A
2 - Southwell Road	41	10	98	1965	0.021	41	45	0.0	0.0	1.897	A
3 - A6097	100	25	45	2417	0.041	100	94	0.0	0.0	1.650	A
4 - Nottingham Road	70	18	80	2155	0.033	70	65	0.0	0.0	1.770	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	80	20	63	2259	0.036	80	88	0.0	0.0	1.766	A
2 - Southwell Road	41	10	98	1965	0.021	41	45	0.0	0.0	1.897	A
3 - A6097	100	25	45	2417	0.041	100	94	0.0	0.0	1.650	A
4 - Nottingham Road	70	18	80	2155	0.033	70	65	0.0	0.0	1.770	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	66	16	51	2266	0.029	66	72	0.0	0.0	1.751	A
2 - Southwell Road	33	8	80	1975	0.017	33	37	0.0	0.0	1.882	A
3 - A6097	82	20	37	2423	0.034	82	76	0.0	0.0	1.633	A
4 - Nottingham Road	58	14	66	2164	0.027	58	53	0.0	0.0	1.752	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	55	14	43	2272	0.024	55	60	0.0	0.0	1.736	A
2 - Southwell Road	28	7	67	1983	0.014	28	31	0.0	0.0	1.870	A
3 - A6097	69	17	31	2427	0.028	69	64	0.0	0.0	1.624	A
4 - Nottingham Road	48	12	55	2171	0.022	48	44	0.0	0.0	1.741	A

Appendix M – Ollerton TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:18:14

ERRORS AND WARNINGS

3094 Warnings found

Warning (434 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
3	1	2	Car	Business	All	2037	0.053	0.002	31.750	18.052	18.052
3	2	2	Car	Business	All	2037	0.053	0.002	31.750	7.037	7.037
3	3	2	Car	Business	All	2037	0.053	0.002	31.750	0.131	0.131
3	4	2	Car	Business	All	2037	0.053	0.002	31.750	2.448	2.448
3	5	2	Car	Business	All	2037	0.053	0.002	31.750	7.387	7.387
3	1	2	Car	Commuting	All	2037	0.053	0.002	31.750	114.983	114.983
3	2	2	Car	Commuting	All	2037	0.053	0.002	31.750	44.824	44.824
3	3	2	Car	Commuting	All	2037	0.053	0.002	31.750	0.835	0.835
3	4	2	Car	Commuting	All	2037	0.053	0.002	31.750	15.591	15.591
3	5	2	Car	Commuting	All	2037	0.053	0.002	31.750	47.051	47.051
3	1	2	Car	Other	All	2037	0.053	0.002	31.750	219.918	219.918
3	2	2	Car	Other	All	2037	0.053	0.002	31.750	85.731	85.731
3	3	2	Car	Other	All	2037	0.053	0.002	31.750	1.597	1.597
3	4	2	Car	Other	All	2037	0.053	0.002	31.750	29.819	29.819
3	5	2	Car	Other	All	2037	0.053	0.002	31.750	89.991	89.991
3	1	2	LGV Personal	Other	All	2037	0.053	0.002	31.750	5.481	5.481
3	2	2	LGV Personal	Other	All	2037	0.053	0.002	31.750	2.136	2.136
3	3	2	LGV Personal	Other	All	2037	0.053	0.002	31.750	0.040	0.040
3	4	2	LGV Personal	Other	All	2037	0.053	0.002	31.750	0.743	0.743
3	5	2	LGV Personal	Other	All	2037	0.053	0.002	31.750	2.243	2.243

Displayed 20 warnings of a total of 714 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	0.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	3.639
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	2.790
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	1.577
2	1	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.274
2	2	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.000
2	3	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.642
2	4	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.259
2	5	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.712
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	0.606
2	1	4	Car	Business	All	2023	2.000	0.000	4166.667	0.166

2	2	4	Car	Business	All	2023	2.000	0.000	4166.667	0.000
2	3	4	Car	Business	All	2023	2.000	0.000	4166.667	0.994
2	4	4	Car	Business	All	2023	2.000	0.000	4166.667	0.762
2	1	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.193
2	2	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4166.667	1.157
2	4	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.887
2	5	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.502
2	5	4	Car	Business	All	2023	2.000	0.000	4166.667	0.431

Displayed 20 warnings of a total of 1092 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	3.639
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	2.790
2	2	4	Car	Business	All	2023	2.000	0.000	4347.826	0.000
2	3	4	Car	Business	All	2023	2.000	0.000	4347.826	0.994
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	1.577
2	1	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.274
2	2	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.000
2	3	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.642
2	4	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.259
2	5	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.712
2	1	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.193
2	2	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4347.826	1.157
2	4	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.887
2	4	4	Car	Business	All	2023	2.000	0.000	4347.826	0.762
2	5	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.502
2	5	4	Car	Business	All	2023	2.000	0.000	4347.826	0.431
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.606
2	1	4	Car	Business	All	2023	2.000	0.000	4347.826	0.166

Displayed 20 warnings of a total of 1288 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-1_Ollerton
DM scheme	DM
DS scheme	DS

Economic parameter file K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt

Scheme parameter file K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 1_Ollerton_V2.1_Costs.txt

First year of scheme costs 2019

First Appraisal Year 2023

Last Appraisal Year 2082

Modelled years 2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	153	0	0	205	0	0	0	0
Road	2021	262	208	4913	205	0	0	0	0
Road	2022	0	208	992	308	0	0	0	0
Road	2023	0	0	0	153	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	254	254
Road	2021	0	3828	3828
Road	2022	0	998	998

Road	2023	0	98	98
Road	2024	0	0	0
Road	Total	0	5177	5177

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1966	1966
Car	2023	PM peak	2140	2140
Car	2023	Inter-peak	2845	2845
Car	2023	Off-peak	554	554
Car	2023	All	7505	7505
Car	2037	AM peak	2019	2019
Car	2037	PM peak	2168	2168
Car	2037	Inter-peak	2904	2904
Car	2037	Off-peak	566	566
Car	2037	All	7657	7657
LGV Personal	2023	AM peak	38	38
LGV Personal	2023	PM peak	33	33
LGV Personal	2023	Inter-peak	61	61
LGV Personal	2023	Off-peak	12	12
LGV Personal	2023	All	144	144
LGV Personal	2037	AM peak	39	39
LGV Personal	2037	PM peak	34	34
LGV Personal	2037	Inter-peak	62	62
LGV Personal	2037	Off-peak	12	12
LGV Personal	2037	All	147	147
LGV Freight	2023	AM peak	276	276
LGV Freight	2023	PM peak	244	244
LGV Freight	2023	Inter-peak	449	449
LGV Freight	2023	Off-peak	87	87
LGV Freight	2023	All	1055	1055
LGV Freight	2037	AM peak	283	283
LGV Freight	2037	PM peak	247	247
LGV Freight	2037	Inter-peak	458	458
LGV Freight	2037	Off-peak	89	89
LGV Freight	2037	All	1077	1077
OGV1	2023	AM peak	94	94
OGV1	2023	PM peak	40	40
OGV1	2023	Inter-peak	203	203
OGV1	2023	Off-peak	39	39
OGV1	2023	All	376	376
OGV1	2037	AM peak	96	96

OGV1	2037	PM peak	41	41
OGV1	2037	Inter-peak	207	207
OGV1	2037	Off-peak	40	40
OGV1	2037	All	384	384
OGV2	2023	AM peak	75	75
OGV2	2023	PM peak	47	47
OGV2	2023	Inter-peak	143	143
OGV2	2023	Off-peak	28	28
OGV2	2023	All	293	293
OGV2	2037	AM peak	77	77
OGV2	2037	PM peak	48	48
OGV2	2037	Inter-peak	146	146
OGV2	2037	Off-peak	28	28
OGV2	2037	All	299	299
All	2023	AM peak	2448	2448
All	2023	PM peak	2504	2504
All	2023	Inter-peak	3700	3700
All	2023	Off-peak	721	721
All	2023	All	9372	9372
All	2037	AM peak	2514	2514
All	2037	PM peak	2537	2537
All	2037	Inter-peak	3777	3777
All	2037	Off-peak	736	736
All	2037	All	9564	9564

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	574	0	1111	699	76	0	1141	682
Road	2037	561	0	719	443	63	0	732	430

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

		Do minimum			Do something		
Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	426	419	65	436	429	65
Car	2037	355	317	320	360	321	320
LGV Personal	2023	0	32	1	0	35	1
LGV Personal	2037	0	27	11	0	29	11
LGV Freight	2023	2	237	4	3	255	4
LGV Freight	2037	1	198	81	1	213	81
OGV1	2023	0	193	0	0	195	0
OGV1	2037	0	199	0	0	200	0

OGV2	2023	0	239	0	0	238	0
OGV2	2037	0	247	0	0	243	0
All	2023	429	1121	69	439	1153	69
All	2037	356	988	411	361	1007	411
Car	Total	20476	18157	23203	20810	18439	23203
LGV Personal	Total	10	1510	975	10	1626	975
LGV Freight	Total	72	11076	7153	74	11922	7153
OGV1	Total	0	11887	0	0	11939	0
OGV2	Total	0	14742	0	0	14550	0
All	Total	20558	57372	31332	20894	58475	31332

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	1897	1941	44	39	40	1	77	79	2	116	119	3
Car	2037	1501	1523	22	35	35	1	69	70	1	104	105	2
LGV Personal	2023	79	85	6	2	2	0	3	3	0	5	5	0
LGV Personal	2037	66	71	5	2	2	0	3	3	0	5	5	0
LGV Freight	2023	580	623	44	12	13	1	24	25	2	35	38	3
LGV Freight	2037	483	519	37	11	12	1	22	24	2	33	36	3
OGV1	2023	468	473	5	10	10	0	19	19	0	29	29	0
OGV1	2037	481	483	2	11	11	0	22	22	0	33	33	0
OGV2	2023	578	576	-1	12	12	-0	24	23	-0	35	35	-0
OGV2	2037	597	588	-9	14	14	-0	28	27	-0	41	41	-1
All	2023	3601	3698	97	73	75	2	147	151	4	220	226	6
All	2024	3549	3643	94	71	73	2	142	146	4	213	219	6
All	2025	3493	3583	90	69	70	2	137	141	4	206	211	5
All	2026	3448	3535	87	66	68	2	133	136	3	199	204	5
All	2027	3407	3490	84	64	66	2	129	132	3	193	198	5
All	2028	3362	3442	80	62	64	1	124	127	3	187	191	4
All	2029	3326	3403	77	60	62	1	121	124	3	181	185	4
All	2030	3292	3366	74	59	60	1	117	120	3	176	180	4
All	2031	3255	3327	71	61	63	1	122	125	3	183	188	4
All	2032	3229	3298	69	64	65	1	127	130	3	191	195	4
All	2033	3207	3273	66	66	67	1	132	134	3	197	201	4
All	2034	3181	3244	64	68	69	1	135	138	3	203	207	4
All	2035	3163	3225	61	69	71	1	139	141	3	208	212	4
All	2036	3148	3207	59	71	72	1	142	145	3	213	217	4
All	2037	3128	3184	57	72	73	1	144	147	3	217	220	4
All	2038	3109	3165	56	73	75	1	146	149	3	220	224	4

All	2039	3090	3146	55	74	75	1	148	151	3	222	226	4
All	2040	3066	3120	55	75	76	1	149	152	3	224	228	4
All	2041	3045	3099	54	75	76	1	150	153	3	225	229	4
All	2042	3026	3079	53	75	77	1	151	153	3	226	230	4
All	2043	3002	3054	53	75	77	1	151	153	3	226	230	4
All	2044	2986	3038	52	75	77	1	151	154	3	226	230	4
All	2045	2971	3023	52	76	77	1	151	154	3	227	230	4
All	2046	2951	3002	51	75	77	1	151	153	3	226	230	4
All	2047	2939	2989	50	75	76	1	150	153	3	225	229	4
All	2048	2927	2977	50	75	76	1	150	152	3	225	229	4
All	2049	2910	2960	49	74	76	1	149	151	3	223	227	4
All	2050	2898	2946	49	74	76	1	149	151	2	223	227	4
All	2051	2898	2946	49	74	75	1	150	152	3	225	229	4
All	2052	2898	2946	49	74	75	1	150	153	3	227	230	4
All	2053	2898	2946	49	73	74	1	150	153	3	228	232	4
All	2054	2898	2946	49	72	73	1	151	153	3	229	233	4
All	2055	2898	2946	49	71	73	1	150	153	3	229	233	4
All	2056	2898	2946	49	71	72	1	150	153	3	230	234	4
All	2057	2898	2946	49	70	71	1	150	152	3	230	234	4
All	2058	2898	2946	49	69	70	1	149	152	3	230	233	4
All	2059	2898	2946	49	67	69	1	148	151	2	229	233	4
All	2060	2898	2946	49	66	67	1	147	150	2	228	232	4
All	2061	2898	2946	49	65	66	1	146	148	2	226	230	4
All	2062	2898	2946	49	63	64	1	144	146	2	224	228	4
All	2063	2898	2946	49	62	63	1	142	144	2	222	226	4
All	2064	2898	2946	49	60	61	1	140	142	2	219	223	4
All	2065	2898	2946	49	58	59	1	137	140	2	216	220	4
All	2066	2898	2946	49	57	58	1	135	137	2	213	217	4
All	2067	2898	2946	49	55	56	1	132	135	2	210	213	4

All	2068	2898	2946	49	53	54	1	130	132	2	206	210	3
All	2069	2898	2946	49	51	52	1	127	129	2	202	206	3
All	2070	2898	2946	49	50	50	1	124	126	2	198	202	3
All	2071	2898	2946	49	48	49	1	121	123	2	194	198	3
All	2072	2898	2946	49	46	47	1	118	120	2	190	194	3
All	2073	2898	2946	49	44	45	1	115	117	2	186	189	3
All	2074	2898	2946	49	43	43	1	112	114	2	182	185	3
All	2075	2898	2946	49	41	42	1	109	111	2	178	181	3
All	2076	2898	2946	49	39	40	1	106	108	2	173	176	3
All	2077	2898	2946	49	38	38	1	103	105	2	169	171	3
All	2078	2898	2946	49	36	37	1	100	102	2	164	167	3
All	2079	2898	2946	49	34	35	1	97	98	2	159	162	3
All	2080	2898	2946	49	33	33	1	94	95	2	155	157	3
All	2081	2898	2946	49	31	32	1	91	92	2	150	153	3
All	2082	2898	2946	49	30	30	1	88	90	1	146	149	2
Car	Total	86347	87720	1373	1766	1794	28	3820	3881	60	5875	5967	92
LGV Personal	Total	3676	3956	280	75	81	6	163	175	12	250	269	19
LGV Freight	Total	26955	29007	2052	552	594	42	1192	1283	91	1833	1972	140
OGV1	Total	28769	28896	127	589	591	3	1280	1285	5	1971	1980	8
OGV2	Total	35680	35215	-465	730	720	-10	1588	1567	-21	2445	2413	-32
All	Total	181427	184793	3366	3712	3781	69	8043	8191	148	12374	12601	227

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	16	16	0	0	0	0	0	0	0	0	0	0
Car	2037	22	22	0	1	1	0	1	1	0	2	2	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	1	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	6	6	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	18	18	0	0	0	0	0	0	0	0	0
All	2024	22	22	0	0	0	0	0	0	0	1	1	0
All	2025	26	26	0	0	0	0	1	1	0	1	1	0
All	2026	29	29	0	0	0	0	1	1	0	1	1	0
All	2027	32	32	0	1	1	0	1	1	0	1	1	0
All	2028	33	33	0	1	1	0	1	1	0	2	2	0
All	2029	33	33	0	1	1	0	1	1	0	2	2	0
All	2030	32	32	0	1	1	0	1	1	0	2	2	0
All	2031	32	32	0	1	1	0	1	1	0	2	2	0
All	2032	32	32	0	1	1	0	1	1	0	2	2	0
All	2033	32	32	0	1	1	0	1	1	0	2	2	0
All	2034	31	31	0	1	1	0	1	1	0	2	2	0
All	2035	31	31	0	1	1	0	1	1	0	2	2	0
All	2036	30	30	0	1	1	0	1	1	0	2	2	0
All	2037	29	29	0	1	1	0	1	1	0	2	2	0
All	2038	28	28	0	1	1	0	1	1	0	2	2	0
All	2039	26	26	0	1	1	0	1	1	0	2	2	0
All	2040	25	25	0	1	1	0	1	1	0	2	2	0
All	2041	25	25	0	1	1	0	1	1	0	2	2	0
All	2042	25	25	0	1	1	0	1	1	0	2	2	0
All	2043	24	24	0	1	1	0	1	1	0	2	2	0
All	2044	24	24	0	1	1	0	1	1	0	2	2	0
All	2045	23	23	0	1	1	0	1	1	0	2	2	0

All	2046	22	22	0	1	1	0	1	1	0	2	2	0
All	2047	21	21	0	1	1	0	1	1	0	2	2	0
All	2048	20	20	0	1	1	0	1	1	0	2	2	0
All	2049	19	19	0	1	1	0	1	1	0	1	1	0
All	2050	18	18	0	1	1	0	1	1	0	1	1	0
All	2051	18	18	0	1	1	0	1	1	0	1	1	0
All	2052	18	18	0	1	1	0	1	1	0	1	1	0
All	2053	18	18	0	1	1	0	1	1	0	1	1	0
All	2054	18	18	0	1	1	0	1	1	0	1	1	0
All	2055	18	18	0	1	1	0	1	1	0	1	1	0
All	2056	18	18	0	1	1	0	1	1	0	1	1	0
All	2057	18	18	0	1	1	0	1	1	0	1	1	0
All	2058	18	18	0	0	0	0	1	1	0	1	1	0
All	2059	18	18	0	0	0	0	1	1	0	1	1	0
All	2060	18	18	0	0	0	0	1	1	0	1	1	0
All	2061	18	18	0	0	0	0	1	1	0	1	1	0
All	2062	18	18	0	0	0	0	1	1	0	1	1	0
All	2063	18	18	0	0	0	0	1	1	0	1	1	0
All	2064	18	18	0	0	0	0	1	1	0	1	1	0
All	2065	18	18	0	0	0	0	1	1	0	1	1	0
All	2066	18	18	0	0	0	0	1	1	0	1	1	0
All	2067	18	18	0	0	0	0	1	1	0	1	1	0
All	2068	18	18	0	0	0	0	1	1	0	1	1	0
All	2069	18	18	0	0	0	0	1	1	0	1	1	0
All	2070	18	18	0	0	0	0	1	1	0	1	1	0
All	2071	18	18	0	0	0	0	1	1	0	1	1	0
All	2072	18	18	0	0	0	0	1	1	0	1	1	0
All	2073	18	18	0	0	0	0	1	1	0	1	1	0
All	2074	18	18	0	0	0	0	1	1	0	1	1	0

All	2075	18	18	0	0	0	0	1	1	0	1	1	0
All	2076	18	18	0	0	0	0	1	1	0	1	1	0
All	2077	18	18	0	0	0	0	1	1	0	1	1	0
All	2078	18	18	0	0	0	0	1	1	0	1	1	0
All	2079	18	18	0	0	0	0	1	1	0	1	1	0
All	2080	18	18	0	0	0	0	1	1	0	1	1	0
All	2081	18	18	0	0	0	0	1	1	0	1	1	0
All	2082	18	18	0	0	0	0	1	1	0	1	1	0
Car	Total	1006	1006	0	23	23	0	42	42	0	65	65	0
LGV Personal	Total	36	36	0	1	1	0	2	2	0	2	2	0
LGV Freight	Total	267	267	0	6	6	0	12	12	0	18	18	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	1309	1309	0	31	31	0	55	55	0	85	85	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	891	959	68	18	20	1	36	39	3	54	59	4
AM peak	2037	788	829	41	18	19	1	36	38	2	55	57	3
PM peak	2023	830	860	30	17	18	1	34	35	1	51	53	2
PM peak	2037	696	712	16	16	16	0	32	33	1	48	49	1
Inter-peak	2023	1573	1573	0	32	32	0	64	64	0	96	96	0
Inter-peak	2037	1375	1375	0	32	32	0	63	63	0	95	95	0
Off-peak	2023	306	306	0	6	6	0	12	12	0	19	19	0
Off-peak	2037	268	268	0	6	6	0	12	12	0	19	19	0
AM peak	Total	45635	48062	2428	934	983	50	2024	2130	107	3114	3278	164
PM peak	Total	40185	41123	939	822	841	19	1780	1821	41	2738	2801	63
Inter-peak	Total	80011	80011	0	1637	1637	0	3548	3548	0	5458	5458	0

Off-peak	Total	15597	15597	0	319	319	0	692	692	0	1064	1064	0

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	5	5	0	0	0	0	0	0	0	0	0	0
AM peak	2037	8	8	0	0	0	0	0	0	0	1	1	0
PM peak	2023	5	5	0	0	0	0	0	0	0	0	0	0
PM peak	2037	8	8	0	0	0	0	0	0	0	1	1	0
Inter-peak	2023	7	7	0	0	0	0	0	0	0	0	0	0
Inter-peak	2037	11	11	0	0	0	0	1	1	0	1	1	0
Off-peak	2023	1	1	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	2	2	0	0	0	0	0	0	0	0	0	0
AM peak	Total	345	345	0	8	8	0	15	15	0	22	22	0
PM peak	Total	355	355	0	8	8	0	15	15	0	23	23	0
Inter-peak	Total	510	510	0	12	12	0	22	22	0	33	33	0
Off-peak	Total	100	100	0	2	2	0	4	4	0	6	6	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	498	0	-30	17	0	17
Road	2024	497	0	-28	17	0	16
Road	2025	496	0	-27	16	0	15
Road	2026	495	0	-25	16	0	14
Road	2027	495	0	-24	16	0	13
Road	2028	496	0	-22	16	0	13
Road	2029	496	0	-21	15	0	12
Road	2030	497	0	-20	15	0	11
Road	2031	497	0	-19	15	0	10
Road	2032	497	0	-17	15	0	10
Road	2033	498	0	-16	14	0	9
Road	2034	498	0	-15	14	0	9
Road	2035	498	0	-14	14	0	8
Road	2036	498	0	-13	14	0	8
Road	2037	498	0	-12	13	0	7
Road	2038	491	0	-12	13	0	7
Road	2039	484	0	-11	13	0	7
Road	2040	476	0	-11	12	0	6
Road	2041	469	0	-11	12	0	6
Road	2042	462	0	-10	11	0	6
Road	2043	455	0	-10	11	0	6
Road	2044	448	0	-9	11	0	5
Road	2045	441	0	-9	10	0	5
Road	2046	435	0	-9	10	0	5
Road	2047	428	0	-8	9	0	5
Road	2048	421	0	-8	9	0	5
Road	2049	414	0	-8	9	0	5
Road	2050	410	0	-7	9	0	4
Road	2051	406	0	-7	8	0	4
Road	2052	402	0	-7	8	0	4
Road	2053	398	0	-7	8	0	4
Road	2054	394	0	-7	8	0	4
Road	2055	390	0	-6	7	0	4
Road	2056	386	0	-6	7	0	4
Road	2057	382	0	-6	7	0	4
Road	2058	378	0	-6	7	0	4
Road	2059	374	0	-6	7	0	4
Road	2060	371	0	-6	6	0	4
Road	2061	367	0	-6	6	0	3

Road	2062	363	0	-5	6	0	3
Road	2063	360	0	-5	6	0	3
Road	2064	356	0	-5	6	0	3
Road	2065	353	0	-5	6	0	3
Road	2066	350	0	-5	5	0	3
Road	2067	346	0	-5	5	0	3
Road	2068	343	0	-5	5	0	3
Road	2069	340	0	-5	5	0	3
Road	2070	336	0	-4	5	0	3
Road	2071	333	0	-4	5	0	3
Road	2072	330	0	-4	4	0	3
Road	2073	327	0	-4	4	0	3
Road	2074	323	0	-4	4	0	3
Road	2075	320	0	-4	4	0	3
Road	2076	317	0	-4	4	0	2
Road	2077	314	0	-4	4	0	2
Road	2078	311	0	-4	4	0	2
Road	2079	308	0	-4	4	0	2
Road	2080	305	0	-3	4	0	2
Road	2081	302	0	-3	3	0	2
Road	2082	299	0	-3	3	0	2
Road	Total	24469	0	-587	541	0	345

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	376	0	-14	4	0	8
Car	2037	375	0	-5	3	0	3
LGV Personal	2023	5	0	-2	0	0	1
LGV Personal	2037	5	0	-1	0	0	1
LGV Freight	2023	77	0	-13	3	0	7
LGV Freight	2037	78	0	-8	2	0	4
OGV1	2023	21	0	-1	4	0	1
OGV1	2037	22	0	-0	3	0	0
OGV2	2023	19	0	0	7	0	-0
OGV2	2037	19	0	2	5	0	-1
All	2023	498	0	-30	17	0	17
All	2037	498	0	-12	13	0	7
Car	Total	18438	0	-251	112	0	149
LGV Personal	Total	236	0	-46	0	0	27
LGV Freight	Total	3814	0	-333	82	0	194
OGV1	Total	1058	0	-22	130	0	13

OGV2	Total	923	0	66	218	0	-39
All	Total	24469	0	-587	541	0	345

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	498	0	-30	17	0	17
All	2037	498	0	-12	13	0	7
All	Total	24469	0	-587	541	0	345

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	141	0	-15	17	0	9
Business	2037	142	0	-7	13	0	4
Commuting	2023	157	0	-5	0	0	3
Commuting	2037	158	0	-2	0	0	1
Other	2023	200	0	-10	0	0	6
Other	2037	198	0	-4	0	0	2
Business	Total	6947	0	-306	541	0	178
Commuting	Total	7769	0	-92	0	0	55
Other	Total	9753	0	-188	0	0	112

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	252	0	-21	10	0	12
AM peak	2037	268	0	-9	8	0	5
PM peak	2023	212	0	-9	5	0	5
PM peak	2037	199	0	-3	4	0	2
Inter-peak	2023	34	0	0	2	0	0
Inter-peak	2037	30	0	0	1	0	0
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	1	0	0	0	0	0
AM peak	Total	13070	0	-420	330	0	247
PM peak	Total	9858	0	-167	162	0	98
Inter-peak	Total	1498	0	0	48	0	0
Off-peak	Total	43	0	0	1	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	1	3	0
Car	Business	2037	0	0	0	1	4	0
Car	Business	Total	0	0	0	59	230	0
Car	Commuting	2023	0	0	0	4	18	0
Car	Commuting	2037	0	0	0	4	23	0
Car	Commuting	Total	0	0	0	250	1347	0
Car	Other	2023	0	0	0	13	45	0
Car	Other	2037	0	0	0	15	59	0
Car	Other	Total	0	0	0	864	3419	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	1	0
LGV Personal	Other	2037	0	0	0	0	1	0
LGV Personal	Other	Total	0	0	0	22	85	0
LGV Freight	Business	2023	0	0	0	2	7	0
LGV Freight	Business	2037	0	0	0	2	9	0
LGV Freight	Business	Total	0	0	0	130	511	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	1	1	0
OGV1	Business	2037	0	0	0	1	2	0
OGV1	Business	Total	0	0	0	39	112	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	1	0
OGV2	Business	2037	0	0	0	1	2	0
OGV2	Business	Total	0	0	0	30	101	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	5	18	0
Car	Business	2037	0	0	0	5	19	0
Car	Business	Total	0	0	0	235	918	0
Car	Commuting	2023	0	0	0	27	130	0
Car	Commuting	2037	0	0	0	24	134	0
Car	Commuting	Total	0	0	0	1224	6545	0
Car	Other	2023	0	0	0	43	152	0

Car	Other	2037	0	0	0	39	155	0
Car	Other	Total	0	0	0	1928	7588	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	4	0
LGV Personal	Other	2037	0	0	0	1	4	0
LGV Personal	Other	Total	0	0	0	48	188	0
LGV Freight	Business	2023	0	0	0	17	60	0
LGV Freight	Business	2037	0	0	0	16	62	0
LGV Freight	Business	Total	0	0	0	776	3038	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	6	15	0
OGV1	Business	2037	0	0	0	5	16	0
OGV1	Business	Total	0	0	0	273	786	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0

OGV2	Business	2023	0	0	0	5	14	0
OGV2	Business	2037	0	0	0	4	15	0
OGV2	Business	Total	0	0	0	213	710	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	20	0
Car	Business	2037	0	0	0	5	21	0
Car	Business	Total	0	0	0	252	996	0
Car	Commuting	2023	0	0	0	26	126	0
Car	Commuting	2037	0	0	0	24	133	0
Car	Commuting	Total	0	0	0	1195	6482	0
Car	Other	2023	0	0	0	42	145	0
Car	Other	2037	0	0	0	38	153	0
Car	Other	Total	0	0	0	1887	7487	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	2	0
LGV Personal	Other	2037	0	0	0	1	3	0

LGV Personal	Other	Total	0	0	0	41	149	0
LGV Freight	Business	2023	0	0	0	16	51	0
LGV Freight	Business	2037	0	0	0	15	57	0
LGV Freight	Business	Total	0	0	0	742	2821	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	7	17	0
OGV1	Business	2037	0	0	0	6	18	0
OGV1	Business	Total	0	0	0	297	868	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	7	19	0
OGV2	Business	2037	0	0	0	5	21	0
OGV2	Business	Total	0	0	0	256	950	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	4	0	0	0	0	0	0
Car	Business	2037	0	5	0	0	0	0	0	0
Car	Business	Total	0	289	0	0	0	0	0	0
Car	Commuting	2023	0	21	0	0	0	0	0	0
Car	Commuting	2037	0	27	0	0	0	0	0	0
Car	Commuting	Total	0	1597	0	0	0	0	0	0
Car	Other	2023	0	58	0	0	0	0	0	0
Car	Other	2037	0	73	0	0	0	0	0	0
Car	Other	Total	0	4283	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	1	0	0	0	0	0	0
LGV Personal	Other	2037	0	2	0	0	0	0	0	0
LGV Personal	Other	Total	0	106	0	0	0	0	0	0
LGV Freight	Business	2023	0	9	0	0	0	0	0	0
LGV Freight	Business	2037	0	11	0	0	0	0	0	0
LGV Freight	Business	Total	0	640	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0

OGV1	Business	2023	0	2	0	0	0	0	0
OGV1	Business	2037	0	3	0	0	0	0	0
OGV1	Business	Total	0	151	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	2	0	0	0	0	0
OGV2	Business	2037	0	2	0	0	0	0	0
OGV2	Business	Total	0	132	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	23	0	0	0	0	0	0
Car	Business	2037	0	23	0	0	0	0	0	0
Car	Business	Total	0	1152	0	0	0	0	0	0
Car	Commuting	2023	0	157	0	0	0	0	0	0
Car	Commuting	2037	0	158	0	0	0	0	0	0
Car	Commuting	Total	0	7769	0	0	0	0	0	0
Car	Other	2023	0	195	0	0	0	0	0	0
Car	Other	2037	0	193	0	0	0	0	0	0

Car	Other	Total	0	9517	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	5	0	0	0	0	0
LGV Personal	Other	2037	0	5	0	0	0	0	0
LGV Personal	Other	Total	0	236	0	0	0	0	0
LGV Freight	Business	2023	0	77	0	0	0	0	0
LGV Freight	Business	2037	0	78	0	0	0	0	0
LGV Freight	Business	Total	0	3814	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	21	0	0	0	0	0
OGV1	Business	2037	0	22	0	0	0	0	0
OGV1	Business	Total	0	1058	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	19	0	0	0	0	0

OGV2	Business	2037	0	19	0	0	0	0	0	0
OGV2	Business	Total	0	923	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	26	0	0	0	0	0	0
Car	Business	2037	0	26	0	0	0	0	0	0
Car	Business	Total	0	1248	0	0	0	0	0	0
Car	Commuting	2023	0	152	0	0	0	0	0	0
Car	Commuting	2037	0	156	0	0	0	0	0	0
Car	Commuting	Total	0	7677	0	0	0	0	0	0
Car	Other	2023	0	187	0	0	0	0	0	0
Car	Other	2037	0	191	0	0	0	0	0	0
Car	Other	Total	0	9374	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	3	0	0	0	0	0	0
LGV Personal	Other	2037	0	4	0	0	0	0	0	0
LGV Personal	Other	Total	0	190	0	0	0	0	0	0

LGV Freight	Business	2023	0	67	0	0	0	0	0	0
LGV Freight	Business	2037	0	72	0	0	0	0	0	0
LGV Freight	Business	Total	0	3562	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	24	0	0	0	0	0	0
OGV1	Business	2037	0	24	0	0	0	0	0	0
OGV1	Business	Total	0	1166	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	26	0	0	0	0	0	0
OGV2	Business	2037	0	26	0	0	0	0	0	0
OGV2	Business	Total	0	1206	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	20.36%	28.95%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	7769	7769
Vehicle operating costs	-92	-92
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	7677	7677

Consumer - Other user benefits	All Modes	Road
Travel Time	9753	9753
Vehicle operating costs	-188	-188
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	9564	9564

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	6947	1152	5795		
Vehicle operating costs	235	96	139		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	7183	1248	5934		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	7183	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	24424

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	777	777
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	777	777

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	4401	4401
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	4401	4401

Central Government Funding: Non-Transport		
Indirect Tax Revenues	-345	-345

TOTALS		
Broad Transport Budget	5177	5177
Wider Public Finances	-345	-345

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-148
Economic Efficiency: Consumer Users (Commuting)	7677
Economic Efficiency: Consumer Users (Other)	9564
Economic Efficiency: Business Users and Providers	7183
Wider Public Finances (Indirect Taxation Revenues)	345
Present Value of Benefits (PVB)	24621
Broad Transport Budget	5177
Present Value of Costs (PVC)	5177
OVERALL IMPACTS	

Net Present Value (NPV)	19444
Benefit to Cost Ratio (BCR)	4.756

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 1_Ollerton_V2.1_Costs.txt
- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\1_Ollerton_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix N – Deerdale Lane TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:18:55

ERRORS AND WARNINGS

938 Warnings found

Warning (140 serious): Ratio of DM to DS travel time lower than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
3	2	4	LGV Personal	Other	All	2023	0.001	0.014	0.099	0.090	0.090
3	2	4	Car	Other	All	2023	0.001	0.014	0.099	2.446	2.446
3	2	4	OGV2	Business	All	2037	0.001	0.014	0.099	0.231	0.231
3	2	4	LGV Personal	Other	All	2037	0.001	0.014	0.099	0.090	0.090
3	2	4	OGV1	Business	All	2037	0.001	0.014	0.099	0.369	0.369
3	2	4	LGV Freight	Business	All	2023	0.001	0.014	0.099	0.657	0.657
3	2	4	Car	Business	All	2023	0.001	0.014	0.099	0.157	0.157
3	2	4	OGV1	Business	All	2023	0.001	0.014	0.099	0.369	0.369
3	2	4	Car	Other	All	2037	0.001	0.014	0.099	2.446	2.446
3	2	4	LGV Freight	Business	All	2037	0.001	0.014	0.099	0.657	0.657
3	2	4	Car	Commuting	All	2037	0.001	0.014	0.099	1.051	1.051
3	2	4	Car	Business	All	2037	0.001	0.014	0.099	0.157	0.157
3	2	4	OGV2	Business	All	2023	0.001	0.014	0.099	0.231	0.231
3	2	4	Car	Commuting	All	2023	0.001	0.014	0.099	1.051	1.051
3	2	3	Car	Business	All	2023	0.002	0.015	0.118	2.680	2.680
3	2	3	LGV Freight	Business	All	2023	0.002	0.015	0.118	6.705	6.705
3	2	3	OGV1	Business	All	2023	0.002	0.015	0.118	3.759	3.759
3	2	3	OGV2	Business	All	2023	0.002	0.015	0.118	2.356	2.356
3	2	3	Car	Other	All	2023	0.002	0.015	0.118	30.382	30.382
3	2	3	Car	Commuting	All	2023	0.002	0.015	0.118	4.204	4.204

Displayed 20 warnings of a total of 252 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
2	3	4	LGV Freight	Business	All	2023	2.000	0.001	1574.803	0.657
2	3	4	Car	Other	All	2023	2.000	0.001	1574.803	2.446
2	3	4	LGV Personal	Other	All	2023	2.000	0.001	1574.803	0.090
2	3	4	Car	Business	All	2037	2.000	0.001	1574.803	0.157
2	3	4	LGV Freight	Business	All	2037	2.000	0.001	1574.803	0.657
2	3	4	OGV1	Business	All	2037	2.000	0.001	1574.803	0.369
2	3	4	Car	Commuting	All	2023	2.000	0.001	1574.803	1.051
2	3	4	OGV1	Business	All	2023	2.000	0.001	1574.803	0.369
2	3	4	OGV2	Business	All	2037	2.000	0.001	1574.803	0.231
2	3	4	Car	Commuting	All	2037	2.000	0.001	1574.803	1.051

2	3	4	OGV2	Business	All	2023	2.000	0.001	1574.803	0.231
2	3	4	Car	Other	All	2037	2.000	0.001	1574.803	2.446
2	3	4	LGV Personal	Other	All	2037	2.000	0.001	1574.803	0.090
2	3	4	Car	Business	All	2023	2.000	0.001	1574.803	0.157
3	4	4	OGV2	Business	All	2023	2.000	0.001	1470.588	0.000
3	4	4	Car	Business	All	2023	2.000	0.001	1470.588	0.000
3	2	4	OGV1	Business	All	2023	2.000	0.001	1470.588	0.369
3	2	4	Car	Commuting	All	2023	2.000	0.001	1470.588	1.051
3	4	4	Car	Commuting	All	2023	2.000	0.001	1470.588	0.000
3	1	4	OGV1	Business	All	2023	2.000	0.001	1470.588	4.201

Displayed 20 warnings of a total of 322 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
3	1	4	LGV Personal	Other	All	2037	2.000	0.002	1142.857	1.058
3	1	4	OGV1	Business	All	2037	2.000	0.002	1142.857	4.348
3	1	4	Car	Business	All	2037	2.000	0.002	1142.857	1.857
3	1	4	OGV2	Business	All	2037	2.000	0.002	1142.857	2.726
3	1	4	Car	Other	All	2037	2.000	0.002	1142.857	28.857
3	1	4	Car	Commuting	All	2037	2.000	0.002	1142.857	12.397
3	1	4	LGV Freight	Business	All	2037	2.000	0.002	1142.857	7.757
3	1	4	LGV Personal	Other	All	2023	2.000	0.002	1092.896	1.022
3	1	4	Car	Business	All	2023	2.000	0.002	1092.896	1.794
3	1	4	LGV Freight	Business	All	2023	2.000	0.002	1092.896	7.494
3	1	4	Car	Other	All	2023	2.000	0.002	1092.896	27.879
3	1	4	Car	Commuting	All	2023	2.000	0.002	1092.896	11.977
3	1	4	OGV1	Business	All	2023	2.000	0.002	1092.896	4.201
3	1	4	OGV2	Business	All	2023	2.000	0.002	1092.896	2.633
3	1	1	OGV2	Business	All	2023	2.000	0.002	1058.201	21.675
3	1	1	Car	Commuting	All	2023	2.000	0.002	1058.201	260.612
3	1	1	LGV Freight	Business	All	2023	2.000	0.002	1058.201	115.666
3	1	1	Car	Business	All	2023	2.000	0.002	1058.201	47.304
3	1	1	Car	Other	All	2023	2.000	0.002	1058.201	372.507
3	1	1	LGV Personal	Other	All	2023	2.000	0.002	1058.201	15.771

Displayed 20 warnings of a total of 336 of this type.

Serious Warning: Possible introduction of new mode one of DM and DS time is zero, but not both, for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time
1	2	4	Car	Business	All	2023	0.000	0.004
1	3	4	Car	Business	All	2023	0.000	0.004
1	2	4	Car	Business	All	2037	0.000	0.003
1	3	4	Car	Business	All	2037	0.000	0.003
1	2	4	Car	Commuting	All	2023	0.000	0.004

1	3	4	Car	Commuting	All	2023	0.000	0.004
1	2	4	Car	Commuting	All	2037	0.000	0.003
1	3	4	Car	Commuting	All	2037	0.000	0.003
1	2	4	Car	Other	All	2023	0.000	0.004
1	3	4	Car	Other	All	2023	0.000	0.004
1	2	4	Car	Other	All	2037	0.000	0.003
1	3	4	Car	Other	All	2037	0.000	0.003
1	2	4	LGV Personal	Other	All	2023	0.000	0.004
1	3	4	LGV Personal	Other	All	2023	0.000	0.004
1	2	4	LGV Personal	Other	All	2037	0.000	0.003
1	3	4	LGV Personal	Other	All	2037	0.000	0.003
1	2	4	LGV Freight	Business	All	2023	0.000	0.004
1	3	4	LGV Freight	Business	All	2023	0.000	0.004
1	2	4	LGV Freight	Business	All	2037	0.000	0.003
1	3	4	LGV Freight	Business	All	2037	0.000	0.003

Displayed 20 warnings of a total of 28 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-2_Deerdale
DM scheme	DM
DS scheme	DS
Economic parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
Scheme parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 2_Deerdale_2+2_Costs.txt
First year of scheme costs	2019
First Appraisal Year	2023
Last Appraisal Year	2082
Modelled years	2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	51	0	0	102	0	0	0	0
Road	2022	51	0	0	26	0	0	0	0
Road	2023	0	102	3332	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	0	0
Road	2021	0	105	105
Road	2022	0	51	51
Road	2023	0	2196	2196
Road	2024	0	0	0
Road	Total	0	2352	2352

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1319	1319
Car	2023	PM peak	1354	1354
Car	2023	Inter-peak	1607	1607
Car	2023	Off-peak	312	312
Car	2023	All	4593	4593
Car	2037	AM peak	1364	1364
Car	2037	PM peak	1382	1382
Car	2037	Inter-peak	1656	1656
Car	2037	Off-peak	321	321

Car	2037	All	4724	4724
LGV Personal	2023	AM peak	31	31
LGV Personal	2023	PM peak	25	25
LGV Personal	2023	Inter-peak	39	39
LGV Personal	2023	Off-peak	8	8
LGV Personal	2023	All	103	103
LGV Personal	2037	AM peak	32	32
LGV Personal	2037	PM peak	25	25
LGV Personal	2037	Inter-peak	41	41
LGV Personal	2037	Off-peak	8	8
LGV Personal	2037	All	106	106
LGV Freight	2023	AM peak	224	224
LGV Freight	2023	PM peak	182	182
LGV Freight	2023	Inter-peak	289	289
LGV Freight	2023	Off-peak	56	56
LGV Freight	2023	All	752	752
LGV Freight	2037	AM peak	232	232
LGV Freight	2037	PM peak	186	186
LGV Freight	2037	Inter-peak	298	298
LGV Freight	2037	Off-peak	58	58
LGV Freight	2037	All	774	774
OGV1	2023	AM peak	65	65
OGV1	2023	PM peak	36	36
OGV1	2023	Inter-peak	162	162
OGV1	2023	Off-peak	32	32
OGV1	2023	All	294	294
OGV1	2037	AM peak	67	67
OGV1	2037	PM peak	37	37
OGV1	2037	Inter-peak	167	167
OGV1	2037	Off-peak	32	32
OGV1	2037	All	303	303
OGV2	2023	AM peak	42	42
OGV2	2023	PM peak	21	21
OGV2	2023	Inter-peak	102	102
OGV2	2023	Off-peak	20	20
OGV2	2023	All	185	185
OGV2	2037	AM peak	43	43
OGV2	2037	PM peak	22	22
OGV2	2037	Inter-peak	105	105
OGV2	2037	Off-peak	20	20
OGV2	2037	All	190	190
All	2023	AM peak	1681	1681
All	2023	PM peak	1619	1619

All	2023	Inter-peak	2200	2200
All	2023	Off-peak	427	427
All	2023	All	5926	5926
All	2037	AM peak	1739	1739
All	2037	PM peak	1651	1651
All	2037	Inter-peak	2267	2267
All	2037	Off-peak	440	440
All	2037	All	6097	6097

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	81	0	711	440	189	0	739	445
Road	2037	67	0	462	280	155	0	480	283

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

		Do minimum			Do something		
Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	256	251	38	264	260	39
Car	2037	213	190	189	220	196	195
LGV Personal	2023	0	24	0	0	25	0
LGV Personal	2037	0	20	8	0	21	8
LGV Freight	2023	2	174	3	2	180	3
LGV Freight	2037	1	146	55	1	152	57
OGV1	2023	0	144	0	0	152	0
OGV1	2037	0	148	0	0	156	0
OGV2	2023	0	141	0	0	149	0
OGV2	2037	0	145	0	0	153	0
All	2023	258	734	41	266	765	43
All	2037	214	650	252	221	678	260
Car	Total	12283	10882	13706	12691	11244	14162
LGV Personal	Total	7	1113	669	7	1154	693
LGV Freight	Total	51	8165	4904	52	8464	5084
OGV1	Total	0	8858	0	0	9329	0
OGV2	Total	0	8695	0	0	9158	0
All	Total	12340	37714	19278	12751	39349	19938

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	1138	1176	38	23	24	1	46	48	2	70	72	2
Car	2037	900	930	30	21	21	1	42	43	1	62	64	2
LGV Personal	2023	58	60	2	1	1	0	2	2	0	4	4	0
LGV Personal	2037	49	50	2	1	1	0	2	2	0	3	3	0
LGV Freight	2023	424	440	16	9	9	0	17	18	1	26	27	1
LGV Freight	2037	356	369	13	8	9	0	16	17	1	25	26	1
OGV1	2023	348	367	19	7	7	0	14	15	1	21	22	1
OGV1	2037	359	378	19	8	9	0	17	17	1	25	26	1
OGV2	2023	342	360	18	7	7	0	14	15	1	21	22	1
OGV2	2037	352	371	19	8	9	0	16	17	1	24	26	1
All	2023	2310	2402	92	47	49	2	94	98	4	141	147	6
All	2024	2278	2369	91	46	47	2	91	95	4	137	142	5
All	2025	2243	2333	90	44	46	2	88	92	4	132	137	5
All	2026	2215	2304	89	43	44	2	85	89	3	128	133	5
All	2027	2190	2278	88	41	43	2	83	86	3	124	129	5
All	2028	2162	2249	87	40	42	2	80	83	3	120	125	5
All	2029	2139	2226	87	39	40	2	78	81	3	117	121	5
All	2030	2118	2204	86	38	39	2	75	78	3	113	118	5
All	2031	2095	2181	85	39	41	2	79	82	3	118	123	5
All	2032	2079	2164	85	41	43	2	82	85	3	123	128	5
All	2033	2065	2149	84	42	44	2	85	88	3	127	132	5
All	2034	2049	2132	84	44	45	2	87	91	4	131	136	5
All	2035	2038	2121	83	45	47	2	89	93	4	134	140	5
All	2036	2028	2111	83	46	48	2	91	95	4	137	143	6
All	2037	2015	2098	83	47	48	2	93	97	4	140	145	6
All	2038	2003	2085	82	47	49	2	94	98	4	142	147	6

All	2039	1991	2073	82	48	50	2	95	99	4	143	149	6
All	2040	1976	2057	81	48	50	2	96	100	4	144	150	6
All	2041	1962	2043	81	48	50	2	97	101	4	145	151	6
All	2042	1950	2030	80	49	51	2	97	101	4	146	152	6
All	2043	1935	2015	80	49	51	2	97	101	4	146	152	6
All	2044	1924	2004	79	49	51	2	97	101	4	146	152	6
All	2045	1915	1994	79	49	51	2	97	101	4	146	152	6
All	2046	1902	1981	79	49	51	2	97	101	4	146	152	6
All	2047	1894	1972	78	48	50	2	97	101	4	145	151	6
All	2048	1886	1964	78	48	50	2	97	101	4	145	151	6
All	2049	1875	1953	78	48	50	2	96	100	4	144	150	6
All	2050	1867	1944	77	48	50	2	96	100	4	144	150	6
All	2051	1867	1944	77	48	50	2	96	100	4	145	151	6
All	2052	1867	1944	77	47	49	2	97	101	4	146	152	6
All	2053	1867	1944	77	47	49	2	97	101	4	147	153	6
All	2054	1867	1944	77	47	48	2	97	101	4	147	153	6
All	2055	1867	1944	77	46	48	2	97	101	4	148	154	6
All	2056	1867	1944	77	45	47	2	97	101	4	148	154	6
All	2057	1867	1944	77	45	47	2	96	100	4	148	154	6
All	2058	1867	1944	77	44	46	2	96	100	4	148	154	6
All	2059	1867	1944	77	43	45	2	96	99	4	148	154	6
All	2060	1867	1944	77	43	44	2	95	99	4	147	153	6
All	2061	1867	1944	77	42	43	2	94	98	4	146	152	6
All	2062	1867	1944	77	41	42	2	93	97	4	145	151	6
All	2063	1867	1944	77	40	41	2	91	95	4	143	149	6
All	2064	1867	1944	77	39	40	2	90	94	4	141	147	6
All	2065	1867	1944	77	38	39	2	88	92	4	139	145	6
All	2066	1867	1944	77	37	38	2	87	91	4	137	143	6
All	2067	1867	1944	77	35	37	1	85	89	4	135	141	6

All	2068	1867	1944	77	34	36	1	84	87	3	133	138	6
All	2069	1867	1944	77	33	34	1	82	85	3	130	136	5
All	2070	1867	1944	77	32	33	1	80	83	3	128	133	5
All	2071	1867	1944	77	31	32	1	78	81	3	125	130	5
All	2072	1867	1944	77	30	31	1	76	79	3	123	128	5
All	2073	1867	1944	77	29	30	1	74	77	3	120	125	5
All	2074	1867	1944	77	27	29	1	72	75	3	117	122	5
All	2075	1867	1944	77	26	27	1	70	73	3	114	119	5
All	2076	1867	1944	77	25	26	1	68	71	3	111	116	5
All	2077	1867	1944	77	24	25	1	66	69	3	109	113	5
All	2078	1867	1944	77	23	24	1	64	67	3	106	110	4
All	2079	1867	1944	77	22	23	1	62	65	3	103	107	4
All	2080	1867	1944	77	21	22	1	60	63	3	100	104	4
All	2081	1867	1944	77	20	21	1	59	61	2	97	101	4
All	2082	1867	1944	77	19	20	1	57	59	2	94	98	4
Car	Total	51774	53495	1721	1059	1094	35	2291	2367	76	3522	3639	117
LGV Personal	Total	2709	2808	99	55	58	2	120	124	4	184	191	7
LGV Freight	Total	19866	20594	728	407	422	15	879	911	32	1351	1401	50
OGV1	Total	21439	22580	1141	439	462	23	954	1005	51	1469	1547	78
OGV2	Total	21045	22164	1119	431	453	23	936	986	50	1442	1519	77
All	Total	116832	121641	4809	2391	2489	98	5180	5393	213	7969	8297	328

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	10	10	0	0	0	0	0	0	0	0	0	0
Car	2037	13	14	0	0	0	0	1	1	0	1	1	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	1	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	4	4	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	10	11	0	0	0	0	0	0	0	0	0
All	2024	13	14	0	0	0	0	0	0	0	0	0
All	2025	16	16	1	0	0	0	0	0	0	1	1	0
All	2026	18	18	1	0	0	0	0	0	0	1	1	0
All	2027	19	20	1	0	0	0	1	1	0	1	1	0
All	2028	20	20	1	0	0	0	1	1	0	1	1	0
All	2029	20	21	1	0	0	0	1	1	0	1	1	0
All	2030	19	20	1	0	0	0	1	1	0	1	1	0
All	2031	20	20	1	0	0	0	1	1	0	1	1	0
All	2032	20	20	1	0	0	0	1	1	0	1	1	0
All	2033	20	20	1	0	0	0	1	1	0	1	1	0
All	2034	19	20	1	0	1	0	1	1	0	1	1	0
All	2035	19	19	1	0	1	0	1	1	0	1	1	0
All	2036	18	19	1	0	1	0	1	1	0	1	1	0
All	2037	18	18	1	0	0	0	1	1	0	1	1	0
All	2038	17	17	1	0	0	0	1	1	0	1	1	0
All	2039	16	17	1	0	0	0	1	1	0	1	1	0
All	2040	15	16	1	0	0	0	1	1	0	1	1	0
All	2041	15	16	1	0	0	0	1	1	0	1	1	0
All	2042	15	16	1	0	0	0	1	1	0	1	1	0
All	2043	15	16	1	0	0	0	1	1	0	1	1	0
All	2044	15	15	1	0	0	0	1	1	0	1	1	0
All	2045	14	15	0	0	0	0	1	1	0	1	1	0

All	2046	14	14	0	0	0	0	1	1	0	1	1	0
All	2047	13	14	0	0	0	0	1	1	0	1	1	0
All	2048	12	13	0	0	0	0	1	1	0	1	1	0
All	2049	12	12	0	0	0	0	1	1	0	1	1	0
All	2050	11	11	0	0	0	0	1	1	0	1	1	0
All	2051	11	11	0	0	0	0	1	1	0	1	1	0
All	2052	11	11	0	0	0	0	1	1	0	1	1	0
All	2053	11	11	0	0	0	0	1	1	0	1	1	0
All	2054	11	11	0	0	0	0	1	1	0	1	1	0
All	2055	11	11	0	0	0	0	1	1	0	1	1	0
All	2056	11	11	0	0	0	0	1	1	0	1	1	0
All	2057	11	11	0	0	0	0	1	1	0	1	1	0
All	2058	11	11	0	0	0	0	1	1	0	1	1	0
All	2059	11	11	0	0	0	0	1	1	0	1	1	0
All	2060	11	11	0	0	0	0	1	1	0	1	1	0
All	2061	11	11	0	0	0	0	1	1	0	1	1	0
All	2062	11	11	0	0	0	0	1	1	0	1	1	0
All	2063	11	11	0	0	0	0	1	1	0	1	1	0
All	2064	11	11	0	0	0	0	1	1	0	1	1	0
All	2065	11	11	0	0	0	0	1	1	0	1	1	0
All	2066	11	11	0	0	0	0	1	1	0	1	1	0
All	2067	11	11	0	0	0	0	0	1	0	1	1	0
All	2068	11	11	0	0	0	0	0	1	0	1	1	0
All	2069	11	11	0	0	0	0	0	0	0	1	1	0
All	2070	11	11	0	0	0	0	0	0	0	1	1	0
All	2071	11	11	0	0	0	0	0	0	0	1	1	0
All	2072	11	11	0	0	0	0	0	0	0	1	1	0
All	2073	11	11	0	0	0	0	0	0	0	1	1	0
All	2074	11	11	0	0	0	0	0	0	0	1	1	0

All	2075	11	11	0	0	0	0	0	0	0	1	1	0
All	2076	11	11	0	0	0	0	0	0	0	1	1	0
All	2077	11	11	0	0	0	0	0	0	0	1	1	0
All	2078	11	11	0	0	0	0	0	0	0	1	1	0
All	2079	11	11	0	0	0	0	0	0	0	1	1	0
All	2080	11	11	0	0	0	0	0	0	0	1	1	0
All	2081	11	11	0	0	0	0	0	0	0	1	1	0
All	2082	11	11	0	0	0	0	0	0	0	1	1	0
Car	Total	594	613	20	14	14	0	25	26	1	38	39	1
LGV Personal	Total	25	26	1	1	1	0	1	1	0	2	2	0
LGV Freight	Total	183	190	7	4	5	0	8	8	0	12	13	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	802	829	27	19	19	1	34	35	1	52	54	2

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	650	650	0	13	13	0	26	26	0	40	40	0
AM peak	2037	564	564	0	13	13	0	26	26	0	39	39	0
PM peak	2023	553	553	0	11	11	0	23	23	0	34	34	0
PM peak	2037	460	460	0	11	11	0	21	21	0	32	32	0
Inter-peak	2023	1002	1002	0	20	20	0	41	41	0	61	61	0
Inter-peak	2037	898	898	0	21	21	0	41	41	0	62	62	0
Off-peak	2023	105	197	92	2	4	2	4	8	4	6	12	6
Off-peak	2037	94	176	83	2	4	2	4	8	4	6	12	6
AM peak	Total	32557	32557	0	666	666	0	1443	1443	0	2220	2220	0
PM peak	Total	26525	26525	0	543	543	0	1175	1175	0	1807	1807	0
Inter-peak	Total	52283	52283	0	1070	1070	0	2319	2319	0	3569	3569	0

Off-peak	Total	5467	10276	4809	112	210	98	243	456	213	373	701	328

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	3	3	0	0	0	0	0	0	0	0	0	0
AM peak	2037	5	5	0	0	0	0	0	0	0	0	0	0
PM peak	2023	3	3	0	0	0	0	0	0	0	0	0	0
PM peak	2037	5	5	0	0	0	0	0	0	0	0	0	0
Inter-peak	2023	4	4	0	0	0	0	0	0	0	0	0	0
Inter-peak	2037	7	7	0	0	0	0	0	0	0	0	0	0
Off-peak	2023	0	1	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	1	1	1	0	0	0	0	0	0	0	0	0
AM peak	Total	242	242	0	6	6	0	10	10	0	16	16	0
PM peak	Total	231	231	0	5	5	0	10	10	0	15	15	0
Inter-peak	Total	297	297	0	7	7	0	13	13	0	19	19	0
Off-peak	Total	31	58	27	1	1	1	1	2	1	2	4	2

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	-109	0	-28	-5	0	16
Road	2024	-107	0	-27	-5	0	16
Road	2025	-105	0	-27	-4	0	15
Road	2026	-103	0	-26	-4	0	15
Road	2027	-101	0	-25	-4	0	14
Road	2028	-100	0	-25	-4	0	14
Road	2029	-98	0	-24	-4	0	13
Road	2030	-97	0	-24	-4	0	13
Road	2031	-96	0	-23	-4	0	12
Road	2032	-94	0	-22	-4	0	12
Road	2033	-93	0	-21	-3	0	12
Road	2034	-92	0	-21	-3	0	11
Road	2035	-91	0	-20	-3	0	11
Road	2036	-89	0	-19	-3	0	11
Road	2037	-88	0	-19	-3	0	10
Road	2038	-87	0	-18	-3	0	10
Road	2039	-86	0	-17	-3	0	10
Road	2040	-84	0	-17	-3	0	9
Road	2041	-83	0	-16	-3	0	9
Road	2042	-82	0	-16	-3	0	9
Road	2043	-81	0	-15	-2	0	8
Road	2044	-79	0	-15	-2	0	8
Road	2045	-78	0	-14	-2	0	8
Road	2046	-77	0	-14	-2	0	8
Road	2047	-76	0	-13	-2	0	7
Road	2048	-75	0	-13	-2	0	7
Road	2049	-73	0	-13	-2	0	7
Road	2050	-73	0	-12	-2	0	7
Road	2051	-72	0	-12	-2	0	7
Road	2052	-71	0	-12	-2	0	7
Road	2053	-70	0	-11	-2	0	6
Road	2054	-70	0	-11	-2	0	6
Road	2055	-69	0	-11	-2	0	6
Road	2056	-68	0	-10	-2	0	6
Road	2057	-68	0	-10	-2	0	6
Road	2058	-67	0	-10	-2	0	6
Road	2059	-66	0	-10	-1	0	6
Road	2060	-66	0	-9	-1	0	6
Road	2061	-65	0	-9	-1	0	5

Road	2062	-64	0	-9	-1	0	5
Road	2063	-64	0	-9	-1	0	5
Road	2064	-63	0	-9	-1	0	5
Road	2065	-63	0	-8	-1	0	5
Road	2066	-62	0	-8	-1	0	5
Road	2067	-61	0	-8	-1	0	5
Road	2068	-61	0	-8	-1	0	5
Road	2069	-60	0	-8	-1	0	5
Road	2070	-60	0	-7	-1	0	4
Road	2071	-59	0	-7	-1	0	4
Road	2072	-58	0	-7	-1	0	4
Road	2073	-58	0	-7	-1	0	4
Road	2074	-57	0	-7	-1	0	4
Road	2075	-57	0	-7	-1	0	4
Road	2076	-56	0	-6	-1	0	4
Road	2077	-56	0	-6	-1	0	4
Road	2078	-55	0	-6	-1	0	4
Road	2079	-54	0	-6	-1	0	4
Road	2080	-54	0	-6	-1	0	4
Road	2081	-53	0	-6	-1	0	3
Road	2082	-53	0	-5	-1	0	3
Road	Total	-4476	0	-809	-126	0	459

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	-75	0	-12	-1	0	7
Car	2037	-61	0	-7	-0	0	4
LGV Personal	2023	-1	0	-1	0	0	0
LGV Personal	2037	-1	0	-0	0	0	0
LGV Freight	2023	-20	0	-5	-1	0	3
LGV Freight	2037	-16	0	-3	-0	0	2
OGV1	2023	-8	0	-5	-1	0	3
OGV1	2037	-6	0	-4	-1	0	2
OGV2	2023	-5	0	-5	-2	0	3
OGV2	2037	-4	0	-4	-1	0	2
All	2023	-109	0	-28	-5	0	16
All	2037	-88	0	-19	-3	0	10
Car	Total	-3079	0	-316	-20	0	175
LGV Personal	Total	-51	0	-17	0	0	9
LGV Freight	Total	-819	0	-126	-18	0	69
OGV1	Total	-324	0	-177	-40	0	103

OGV2	Total	-203	0	-173	-49	0	101
All	Total	-4476	0	-809	-126	0	459

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	-109	0	-28	-5	0	16
All	2037	-88	0	-19	-3	0	10
All	Total	-4476	0	-809	-126	0	459

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	-38	0	-16	-5	0	9
Business	2037	-31	0	-11	-3	0	6
Commuting	2023	-24	0	-3	0	0	2
Commuting	2037	-20	0	-2	0	0	1
Other	2023	-47	0	-9	0	0	5
Other	2037	-38	0	-5	0	0	3
Business	Total	-1547	0	-489	-126	0	281
Commuting	Total	-998	0	-91	0	0	50
Other	Total	-1931	0	-229	0	0	127

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	-28	0	0	-1	0	0
AM peak	2037	-23	0	0	-1	0	0
PM peak	2023	-29	0	0	-1	0	0
PM peak	2037	-23	0	0	-0	0	0
Inter-peak	2023	-43	0	0	-2	0	0
Inter-peak	2037	-35	0	0	-2	0	0
Off-peak	2023	-10	0	-28	-1	0	16
Off-peak	2037	-8	0	-19	-0	0	10
AM peak	Total	-1146	0	0	-28	0	0
PM peak	Total	-1172	0	0	-19	0	0
Inter-peak	Total	-1764	0	0	-66	0	0
Off-peak	Total	-395	0	-809	-14	0	459

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-1	0	0	0
Car	Business	2037	0	0	-1	0	0	0
Car	Business	Total	0	0	-51	1	0	0
Car	Commuting	2023	0	0	-3	0	0	0
Car	Commuting	2037	0	0	-4	0	0	0
Car	Commuting	Total	0	0	-209	6	0	0
Car	Other	2023	0	0	-14	0	0	0
Car	Other	2037	0	0	-14	0	0	0
Car	Other	Total	0	0	-852	13	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	0	0
LGV Personal	Other	2037	0	0	-0	0	0	0
LGV Personal	Other	Total	0	0	-23	0	0	0
LGV Freight	Business	2023	0	0	-2	0	0	0
LGV Freight	Business	2037	0	0	-2	0	0	0
LGV Freight	Business	Total	0	0	-139	3	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-1	0	0	0
OGV1	Business	2037	0	0	-1	0	0	0
OGV1	Business	Total	0	0	-46	1	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-0	0	0	0
OGV2	Business	2037	0	0	-0	0	0	0
OGV2	Business	Total	0	0	-29	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0

OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-5	0	0	0
Car	Business	2037	0	0	-4	0	0	0
Car	Business	Total	0	0	-206	5	0	0
Car	Commuting	2023	0	0	-25	1	0	0
Car	Commuting	2037	0	0	-20	1	0	0
Car	Commuting	Total	0	0	-1028	30	0	0
Car	Other	2023	0	0	-46	1	0	0
Car	Other	2037	0	0	-38	1	0	0
Car	Other	Total	0	0	-1910	30	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-1	0	0	0
LGV Personal	Other	2037	0	0	-1	0	0	0
LGV Personal	Other	Total	0	0	-52	1	0	0
LGV Freight	Business	2023	0	0	-20	0	0	0
LGV Freight	Business	2037	0	0	-16	0	0	0
LGV Freight	Business	Total	0	0	-837	18	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-8	0	0	0
OGV1	Business	2037	0	0	-6	0	0	0
OGV1	Business	Total	0	0	-329	5	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-5	0	0	0
OGV2	Business	2037	0	0	-4	0	0	0
OGV2	Business	Total	0	0	-206	3	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-6	0	0	0
Car	Business	2037	0	0	-5	0	0	0
Car	Business	Total	0	0	-240	5	0	0
Car	Commuting	2023	0	0	-28	1	0	0
Car	Commuting	2037	0	0	-22	1	0	0
Car	Commuting	Total	0	0	-1119	30	0	0
Car	Other	2023	0	0	-54	1	0	0
Car	Other	2037	0	0	-43	1	0	0
Car	Other	Total	0	0	-2122	30	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-2	0	0	0
LGV Personal	Other	2037	0	0	-1	0	0	0
LGV Personal	Other	Total	0	0	-69	1	0	0
LGV Freight	Business	2023	0	0	-26	0	0	0
LGV Freight	Business	2037	0	0	-20	0	0	0
LGV Freight	Business	Total	0	0	-981	18	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-15	0	0	0
OGV1	Business	2037	0	0	-12	0	0	0

OGV1	Business	Total	0	0	-546	6	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-12	0	0	0
OGV2	Business	2037	0	0	-9	0	0	0
OGV2	Business	Total	0	0	-429	4	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-1	0	0	0	0	0	0
Car	Business	2037	0	-1	0	0	0	0	0	0
Car	Business	Total	0	-50	0	0	0	0	0	0
Car	Commuting	2023	0	-3	0	0	0	0	0	0
Car	Commuting	2037	0	-3	0	0	0	0	0	0
Car	Commuting	Total	0	-203	0	0	0	0	0	0
Car	Other	2023	0	-14	0	0	0	0	0	0
Car	Other	2037	0	-14	0	0	0	0	0	0
Car	Other	Total	0	-839	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-0	0	0	0	0	0	0
LGV Personal	Other	2037	0	-0	0	0	0	0	0	0
LGV Personal	Other	Total	0	-23	0	0	0	0	0	0
LGV Freight	Business	2023	0	-2	0	0	0	0	0	0
LGV Freight	Business	2037	0	-2	0	0	0	0	0	0
LGV Freight	Business	Total	0	-136	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-1	0	0	0	0	0
OGV1	Business	2037	0	-1	0	0	0	0	0
OGV1	Business	Total	0	-46	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-0	0	0	0	0	0
OGV2	Business	2037	0	-0	0	0	0	0	0
OGV2	Business	Total	0	-29	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-5	0	0	0	0	0	0
Car	Business	2037	0	-4	0	0	0	0	0	0
Car	Business	Total	0	-201	0	0	0	0	0	0
Car	Commuting	2023	0	-24	0	0	0	0	0	0
Car	Commuting	2037	0	-20	0	0	0	0	0	0
Car	Commuting	Total	0	-998	0	0	0	0	0	0

Car	Other	2023	0	-46	0	0	0	0	0
Car	Other	2037	0	-37	0	0	0	0	0
Car	Other	Total	0	-1880	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-1	0	0	0	0	0
LGV Personal	Other	2037	0	-1	0	0	0	0	0
LGV Personal	Other	Total	0	-51	0	0	0	0	0
LGV Freight	Business	2023	0	-20	0	0	0	0	0
LGV Freight	Business	2037	0	-16	0	0	0	0	0
LGV Freight	Business	Total	0	-819	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-8	0	0	0	0	0
OGV1	Business	2037	0	-6	0	0	0	0	0
OGV1	Business	Total	0	-324	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-5	0	0	0	0	0
OGV2	Business	2037	0	-4	0	0	0	0	0
OGV2	Business	Total	0	-203	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-6	0	0	0	0	0	0
Car	Business	2037	0	-5	0	0	0	0	0	0
Car	Business	Total	0	-235	0	0	0	0	0	0
Car	Commuting	2023	0	-28	0	0	0	0	0	0
Car	Commuting	2037	0	-22	0	0	0	0	0	0
Car	Commuting	Total	0	-1089	0	0	0	0	0	0
Car	Other	2023	0	-54	0	0	0	0	0	0
Car	Other	2037	0	-42	0	0	0	0	0	0
Car	Other	Total	0	-2092	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-2	0	0	0	0	0	0

LGV Personal	Other	2037	0	-1	0	0	0	0	0
LGV Personal	Other	Total	0	-68	0	0	0	0	0
LGV Freight	Business	2023	0	-25	0	0	0	0	0
LGV Freight	Business	2037	0	-20	0	0	0	0	0
LGV Freight	Business	Total	0	-963	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-15	0	0	0	0	0
OGV1	Business	2037	0	-11	0	0	0	0	0
OGV1	Business	Total	0	-541	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-12	0	0	0	0	0
OGV2	Business	2037	0	-9	0	0	0	0	0
OGV2	Business	Total	0	-425	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	-11.50%	-13.60%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	-998	-998
Vehicle operating costs	-91	-91
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	-1089	-1089

Consumer - Other user benefits	All Modes	Road
Travel Time	-1931	-1931
Vehicle operating costs	-229	-229
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	-2159	-2159

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	-1547	-201	-1346		
Vehicle operating costs	-616	-33	-582		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	-2163	-235	-1928		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	-2163	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	-5411

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	353	353
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	353	353

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	1999	1999
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	1999	1999

Central Government Funding: Non-Transport

Indirect Tax Revenues	-459	-459

TOTALS

Broad Transport Budget	2352	2352
Wider Public Finances	-459	-459

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-213
Economic Efficiency: Consumer Users (Commuting)	-1089
Economic Efficiency: Consumer Users (Other)	-2159
Economic Efficiency: Business Users and Providers	-2163
Wider Public Finances (Indirect Taxation Revenues)	459
Present Value of Benefits (PVB)	-5165
Broad Transport Budget	2352

Present Value of Costs (PVC)	2352

OVERALL IMPACTS

Net Present Value (NPV)	-7517
Benefit to Cost Ratio (BCR)	-2.196

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 2_Deerdale_2+2_Costs.txt
- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\2_Deerdale_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix O – Mickledale Lane TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:19:32

ERRORS AND WARNINGS

917 Warnings found

Warning (126 serious): Ratio of DM to DS travel time lower than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
3	2	4	OGV1	Business	All	2023	0.001	0.012	0.119	0.584	0.584
3	2	4	Car	Commuting	All	2037	0.001	0.012	0.119	1.678	1.678
3	2	4	OGV1	Business	All	2037	0.001	0.012	0.119	0.584	0.584
3	2	4	Car	Business	All	2023	0.001	0.012	0.119	0.251	0.251
3	2	4	LGV Personal	Other	All	2023	0.001	0.012	0.119	0.141	0.141
3	2	4	OGV2	Business	All	2023	0.001	0.012	0.119	0.410	0.410
3	2	4	OGV2	Business	All	2037	0.001	0.012	0.119	0.410	0.410
3	2	4	LGV Personal	Other	All	2037	0.001	0.012	0.119	0.141	0.141
3	2	4	Car	Business	All	2037	0.001	0.012	0.119	0.251	0.251
3	2	4	Car	Other	All	2023	0.001	0.012	0.119	3.906	3.906
3	2	4	Car	Commuting	All	2023	0.001	0.012	0.119	1.678	1.678
3	2	4	Car	Other	All	2037	0.001	0.012	0.119	3.906	3.906
3	2	4	LGV Freight	Business	All	2023	0.001	0.012	0.119	1.031	1.031
3	2	4	LGV Freight	Business	All	2037	0.001	0.012	0.119	1.031	1.031
2	3	4	Car	Other	All	2023	0.001	0.010	0.139	4.394	4.394
2	3	4	Car	Other	All	2037	0.001	0.010	0.139	4.394	4.394
2	3	4	LGV Freight	Business	All	2037	0.001	0.010	0.139	1.159	1.159
2	3	4	LGV Personal	Other	All	2023	0.001	0.010	0.139	0.158	0.158
2	3	4	Car	Commuting	All	2023	0.001	0.010	0.139	1.888	1.888
2	3	4	LGV Freight	Business	All	2023	0.001	0.010	0.139	1.159	1.159

Displayed 20 warnings of a total of 245 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
2	3	4	Car	Business	All	2037	2.000	0.001	1503.759	0.283
2	3	4	LGV Freight	Business	All	2037	2.000	0.001	1503.759	1.159
2	3	4	OGV1	Business	All	2037	2.000	0.001	1503.759	0.657
2	3	4	Car	Commuting	All	2023	2.000	0.001	1503.759	1.888
2	3	4	OGV2	Business	All	2037	2.000	0.001	1503.759	0.462
2	3	4	Car	Commuting	All	2037	2.000	0.001	1503.759	1.888
2	3	4	OGV2	Business	All	2023	2.000	0.001	1503.759	0.462
2	3	4	Car	Other	All	2037	2.000	0.001	1503.759	4.394
2	3	4	LGV Personal	Other	All	2037	2.000	0.001	1503.759	0.158
2	3	4	LGV Freight	Business	All	2023	2.000	0.001	1503.759	1.159

2	3	4	LGV Personal	Other	All	2023	2.000	0.001	1503.759	0.158
2	3	4	Car	Other	All	2023	2.000	0.001	1503.759	4.394
2	3	4	OGV1	Business	All	2023	2.000	0.001	1503.759	0.657
2	3	4	Car	Business	All	2023	2.000	0.001	1503.759	0.283
3	2	4	Car	Other	All	2023	2.000	0.001	1388.889	3.906
3	2	4	Car	Commuting	All	2023	2.000	0.001	1388.889	1.678
3	1	4	Car	Other	All	2023	2.000	0.001	1388.889	28.806
3	1	4	OGV1	Business	All	2023	2.000	0.001	1388.889	4.307
3	2	4	OGV2	Business	All	2023	2.000	0.001	1388.889	0.410
3	1	4	LGV Personal	Other	All	2023	2.000	0.001	1388.889	1.037

Displayed 20 warnings of a total of 308 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
3	1	4	LGV Personal	Other	All	2023	2.000	0.002	1030.928	1.037
3	1	4	OGV2	Business	All	2037	2.000	0.002	1030.928	3.129
3	1	4	Car	Commuting	All	2037	2.000	0.002	1030.928	12.795
3	1	4	Car	Other	All	2037	2.000	0.002	1030.928	29.782
3	1	4	Car	Other	All	2023	2.000	0.002	1030.928	28.806
3	1	4	LGV Personal	Other	All	2037	2.000	0.002	1030.928	1.072
3	1	4	Car	Commuting	All	2023	2.000	0.002	1030.928	12.375
3	1	4	OGV2	Business	All	2023	2.000	0.002	1030.928	3.027
3	1	4	Car	Business	All	2037	2.000	0.002	1030.928	1.917
3	1	4	Car	Business	All	2023	2.000	0.002	1030.928	1.854
3	1	4	LGV Freight	Business	All	2037	2.000	0.002	1030.928	7.859
3	1	4	OGV1	Business	All	2023	2.000	0.002	1030.928	4.307
3	1	4	LGV Freight	Business	All	2023	2.000	0.002	1030.928	7.601
3	1	4	OGV1	Business	All	2037	2.000	0.002	1030.928	4.453
3	1	3	LGV Personal	Other	All	2023	2.000	0.002	865.801	10.577
3	1	3	LGV Freight	Business	All	2037	2.000	0.002	865.801	80.003
3	1	3	Car	Business	All	2023	2.000	0.002	865.801	31.569
3	1	3	OGV1	Business	All	2037	2.000	0.002	865.801	45.333
3	1	3	Car	Commuting	All	2023	2.000	0.002	865.801	49.539
3	1	3	OGV2	Business	All	2023	2.000	0.002	865.801	30.883

Displayed 20 warnings of a total of 336 of this type.

Serious Warning: Possible introduction of new mode one of DM and DS time is zero, but not both, for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time
1	2	4	Car	Business	All	2023	0.000	0.004
1	3	4	Car	Business	All	2023	0.000	0.004
1	2	4	Car	Business	All	2037	0.000	0.004
1	3	4	Car	Business	All	2037	0.000	0.004
1	2	4	Car	Commuting	All	2023	0.000	0.004

1	3	4	Car	Commuting	All	2023	0.000	0.004
1	2	4	Car	Commuting	All	2037	0.000	0.004
1	3	4	Car	Commuting	All	2037	0.000	0.004
1	2	4	Car	Other	All	2023	0.000	0.004
1	3	4	Car	Other	All	2023	0.000	0.004
1	2	4	Car	Other	All	2037	0.000	0.004
1	3	4	Car	Other	All	2037	0.000	0.004
1	2	4	LGV Personal	Other	All	2023	0.000	0.004
1	3	4	LGV Personal	Other	All	2023	0.000	0.004
1	2	4	LGV Personal	Other	All	2037	0.000	0.004
1	3	4	LGV Personal	Other	All	2037	0.000	0.004
1	2	4	LGV Freight	Business	All	2023	0.000	0.004
1	3	4	LGV Freight	Business	All	2023	0.000	0.004
1	2	4	LGV Freight	Business	All	2037	0.000	0.004
1	3	4	LGV Freight	Business	All	2037	0.000	0.004

Displayed 20 warnings of a total of 28 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-3_Mickledale_2+2
DM scheme	DM
DS scheme	DS
Economic parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
Scheme parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 3_Mickledale_2+2_Costs.txt
First year of scheme costs	2019
First Appraisal Year	2023
Last Appraisal Year	2082
Modelled years	2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	72	0	0	102	0	0	0	0
Road	2022	31	102	2380	26	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	0	0
Road	2021	0	119	119
Road	2022	0	1680	1680
Road	2023	0	0	0
Road	2024	0	0	0
Road	Total	0	1799	1799

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1374	1374
Car	2023	PM peak	1430	1430
Car	2023	Inter-peak	1687	1687
Car	2023	Off-peak	330	330
Car	2023	All	4822	4822
Car	2037	AM peak	1422	1422
Car	2037	PM peak	1460	1460
Car	2037	Inter-peak	1741	1741
Car	2037	Off-peak	339	339

Car	2037	All	4962	4962
LGV Personal	2023	AM peak	30	30
LGV Personal	2023	PM peak	28	28
LGV Personal	2023	Inter-peak	41	41
LGV Personal	2023	Off-peak	8	8
LGV Personal	2023	All	107	107
LGV Personal	2037	AM peak	31	31
LGV Personal	2037	PM peak	29	29
LGV Personal	2037	Inter-peak	42	42
LGV Personal	2037	Off-peak	8	8
LGV Personal	2037	All	110	110
LGV Freight	2023	AM peak	219	219
LGV Freight	2023	PM peak	209	209
LGV Freight	2023	Inter-peak	298	298
LGV Freight	2023	Off-peak	58	58
LGV Freight	2023	All	784	784
LGV Freight	2037	AM peak	227	227
LGV Freight	2037	PM peak	213	213
LGV Freight	2037	Inter-peak	307	307
LGV Freight	2037	Off-peak	60	60
LGV Freight	2037	All	807	807
OGV1	2023	AM peak	62	62
OGV1	2023	PM peak	37	37
OGV1	2023	Inter-peak	169	169
OGV1	2023	Off-peak	33	33
OGV1	2023	All	301	301
OGV1	2037	AM peak	64	64
OGV1	2037	PM peak	37	37
OGV1	2037	Inter-peak	174	174
OGV1	2037	Off-peak	34	34
OGV1	2037	All	310	310
OGV2	2023	AM peak	52	52
OGV2	2023	PM peak	31	31
OGV2	2023	Inter-peak	119	119
OGV2	2023	Off-peak	23	23
OGV2	2023	All	225	225
OGV2	2037	AM peak	53	53
OGV2	2037	PM peak	32	32
OGV2	2037	Inter-peak	122	122
OGV2	2037	Off-peak	24	24
OGV2	2037	All	232	232
All	2023	AM peak	1737	1737
All	2023	PM peak	1736	1736

All	2023	Inter-peak	2314	2314
All	2023	Off-peak	452	452
All	2023	All	6239	6239
All	2037	AM peak	1798	1798
All	2037	PM peak	1771	1771
All	2037	Inter-peak	2387	2387
All	2037	Off-peak	465	465
All	2037	All	6421	6421

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	108	0	760	467	239	0	788	473
Road	2037	90	0	495	297	195	0	514	301

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

		Do minimum			Do something		
Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	269	265	40	277	273	41
Car	2037	224	200	199	231	206	205
LGV Personal	2023	0	25	0	0	26	0
LGV Personal	2037	0	21	8	0	22	8
LGV Freight	2023	2	182	3	2	188	3
LGV Freight	2037	1	153	58	1	158	60
OGV1	2023	0	147	0	0	154	0
OGV1	2037	0	151	0	0	159	0
OGV2	2023	0	172	0	0	180	0
OGV2	2037	0	177	0	0	186	0
All	2023	271	790	43	279	821	45
All	2037	225	702	264	232	731	273
Car	Total	12923	11449	14420	13324	11805	14868
LGV Personal	Total	7	1164	699	7	1203	723
LGV Freight	Total	53	8535	5126	55	8823	5300
OGV1	Total	0	9044	0	0	9504	0
OGV2	Total	0	10606	0	0	11111	0
All	Total	12983	40798	20245	13386	42447	20891

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	1197	1234	37	24	25	1	49	50	2	73	75	2
Car	2037	947	976	29	22	23	1	44	45	1	66	68	2
LGV Personal	2023	60	62	2	1	1	0	2	3	0	4	4	0
LGV Personal	2037	51	52	2	1	1	0	2	2	0	4	4	0
LGV Freight	2023	443	458	15	9	9	0	18	19	1	27	28	1
LGV Freight	2037	372	385	13	9	9	0	17	18	1	26	27	1
OGV1	2023	355	374	18	7	8	0	14	15	1	22	23	1
OGV1	2037	366	385	19	8	9	0	17	18	1	25	27	1
OGV2	2023	417	437	20	8	9	0	17	18	1	25	27	1
OGV2	2037	429	450	20	10	10	0	20	21	1	30	31	1
All	2023	2473	2565	92	50	52	2	101	105	4	151	157	6
All	2024	2440	2531	91	49	51	2	98	101	4	146	152	5
All	2025	2403	2493	90	47	49	2	94	98	4	141	147	5
All	2026	2374	2463	89	46	47	2	91	95	3	137	142	5
All	2027	2347	2435	88	44	46	2	89	92	3	133	138	5
All	2028	2318	2406	87	43	45	2	86	89	3	129	134	5
All	2029	2295	2381	87	42	43	2	83	86	3	125	130	5
All	2030	2272	2358	86	40	42	2	81	84	3	121	126	5
All	2031	2249	2334	85	42	44	2	85	88	3	127	132	5
All	2032	2232	2317	85	44	46	2	88	91	3	132	137	5
All	2033	2217	2301	84	45	47	2	91	94	3	136	142	5
All	2034	2200	2284	84	47	49	2	94	97	4	140	146	5
All	2035	2189	2272	83	48	50	2	96	100	4	144	150	5
All	2036	2179	2262	83	49	51	2	98	102	4	147	153	6
All	2037	2165	2248	83	50	52	2	100	104	4	150	156	6
All	2038	2152	2235	82	51	53	2	101	105	4	152	158	6

All	2039	2140	2222	82	51	53	2	103	107	4	154	160	6
All	2040	2124	2205	82	52	54	2	103	107	4	155	161	6
All	2041	2110	2191	81	52	54	2	104	108	4	156	162	6
All	2042	2097	2177	81	52	54	2	104	108	4	157	163	6
All	2043	2081	2161	80	52	54	2	105	109	4	157	163	6
All	2044	2070	2150	80	52	54	2	105	109	4	157	163	6
All	2045	2060	2139	79	52	54	2	105	109	4	157	163	6
All	2046	2046	2125	79	52	54	2	104	108	4	157	163	6
All	2047	2038	2116	79	52	54	2	104	108	4	156	162	6
All	2048	2030	2108	78	52	54	2	104	108	4	156	162	6
All	2049	2018	2096	78	52	54	2	103	107	4	155	161	6
All	2050	2009	2087	78	52	54	2	103	107	4	155	161	6
All	2051	2009	2087	78	51	53	2	104	108	4	156	162	6
All	2052	2009	2087	78	51	53	2	104	108	4	157	163	6
All	2053	2009	2087	78	51	53	2	104	108	4	158	164	6
All	2054	2009	2087	78	50	52	2	104	108	4	159	165	6
All	2055	2009	2087	78	50	51	2	104	108	4	159	165	6
All	2056	2009	2087	78	49	51	2	104	108	4	159	166	6
All	2057	2009	2087	78	48	50	2	104	108	4	159	166	6
All	2058	2009	2087	78	48	49	2	103	107	4	159	165	6
All	2059	2009	2087	78	47	49	2	103	107	4	159	165	6
All	2060	2009	2087	78	46	48	2	102	106	4	158	164	6
All	2061	2009	2087	78	45	47	2	101	105	4	157	163	6
All	2062	2009	2087	78	44	46	2	100	104	4	156	162	6
All	2063	2009	2087	78	43	44	2	98	102	4	154	160	6
All	2064	2009	2087	78	42	43	2	97	101	4	152	158	6
All	2065	2009	2087	78	40	42	2	95	99	4	150	156	6
All	2066	2009	2087	78	39	41	2	94	97	4	148	154	6
All	2067	2009	2087	78	38	40	1	92	95	4	145	151	6

All	2068	2009	2087	78	37	38	1	90	93	3	143	149	6
All	2069	2009	2087	78	36	37	1	88	91	3	140	146	5
All	2070	2009	2087	78	34	36	1	86	89	3	138	143	5
All	2071	2009	2087	78	33	34	1	84	87	3	135	140	5
All	2072	2009	2087	78	32	33	1	82	85	3	132	137	5
All	2073	2009	2087	78	31	32	1	80	83	3	129	134	5
All	2074	2009	2087	78	30	31	1	78	81	3	126	131	5
All	2075	2009	2087	78	28	30	1	76	79	3	123	128	5
All	2076	2009	2087	78	27	28	1	74	76	3	120	125	5
All	2077	2009	2087	78	26	27	1	71	74	3	117	121	5
All	2078	2009	2087	78	25	26	1	69	72	3	114	118	4
All	2079	2009	2087	78	24	25	1	67	70	3	111	115	4
All	2080	2009	2087	78	23	24	1	65	67	3	107	111	4
All	2081	2009	2087	78	22	23	1	63	65	2	104	108	4
All	2082	2009	2087	78	21	22	1	61	63	2	101	105	4
Car	Total	54471	56162	1692	1114	1149	35	2410	2485	75	3706	3821	115
LGV Personal	Total	2832	2928	96	58	60	2	125	130	4	193	199	7
LGV Freight	Total	20766	21468	702	425	440	14	919	950	31	1412	1460	48
OGV1	Total	21889	23002	1113	448	471	23	974	1023	50	1500	1576	76
OGV2	Total	25668	26892	1224	525	550	25	1142	1196	54	1759	1843	84
All	Total	125626	130453	4827	2571	2669	99	5570	5784	214	8570	8899	330

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	10	10	0	0	0	0	0	0	0	0	0	0
Car	2037	14	14	0	0	0	0	1	1	0	1	1	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	1	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	4	4	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	11	11	0	0	0	0	0	0	0	0	0
All	2024	14	14	0	0	0	0	0	0	0	0	0
All	2025	16	17	1	0	0	0	0	0	0	1	1	0
All	2026	18	19	1	0	0	0	0	0	0	1	1	0
All	2027	20	21	1	0	0	0	1	1	0	1	1	0
All	2028	21	21	1	0	0	0	1	1	0	1	1	0
All	2029	21	22	1	0	0	0	1	1	0	1	1	0
All	2030	20	21	1	0	0	0	1	1	0	1	1	0
All	2031	21	21	1	0	0	0	1	1	0	1	1	0
All	2032	21	21	1	0	1	0	1	1	0	1	1	0
All	2033	20	21	1	1	1	0	1	1	0	1	1	0
All	2034	20	21	1	1	1	0	1	1	0	1	1	0
All	2035	20	20	1	1	1	0	1	1	0	1	1	0
All	2036	19	20	1	1	1	0	1	1	0	1	1	0
All	2037	18	19	1	1	1	0	1	1	0	1	1	0
All	2038	18	18	1	0	1	0	1	1	0	1	1	0
All	2039	17	17	1	0	0	0	1	1	0	1	1	0
All	2040	16	17	1	0	0	0	1	1	0	1	1	0
All	2041	16	17	1	0	0	0	1	1	0	1	1	0
All	2042	16	17	1	0	0	0	1	1	0	1	1	0
All	2043	16	16	1	0	0	0	1	1	0	1	1	0
All	2044	15	16	0	0	0	0	1	1	0	1	1	0
All	2045	15	15	0	0	0	0	1	1	0	1	1	0

All	2046	14	15	0	0	0	0	1	1	0	1	1	0
All	2047	14	14	0	0	0	0	1	1	0	1	1	0
All	2048	13	13	0	0	0	0	1	1	0	1	1	0
All	2049	12	13	0	0	0	0	1	1	0	1	1	0
All	2050	11	12	0	0	0	0	1	1	0	1	1	0
All	2051	11	12	0	0	0	0	1	1	0	1	1	0
All	2052	11	12	0	0	0	0	1	1	0	1	1	0
All	2053	11	12	0	0	0	0	1	1	0	1	1	0
All	2054	11	12	0	0	0	0	1	1	0	1	1	0
All	2055	11	12	0	0	0	0	1	1	0	1	1	0
All	2056	11	12	0	0	0	0	1	1	0	1	1	0
All	2057	11	12	0	0	0	0	1	1	0	1	1	0
All	2058	11	12	0	0	0	0	1	1	0	1	1	0
All	2059	11	12	0	0	0	0	1	1	0	1	1	0
All	2060	11	12	0	0	0	0	1	1	0	1	1	0
All	2061	11	12	0	0	0	0	1	1	0	1	1	0
All	2062	11	12	0	0	0	0	1	1	0	1	1	0
All	2063	11	12	0	0	0	0	1	1	0	1	1	0
All	2064	11	12	0	0	0	0	1	1	0	1	1	0
All	2065	11	12	0	0	0	0	1	1	0	1	1	0
All	2066	11	12	0	0	0	0	1	1	0	1	1	0
All	2067	11	12	0	0	0	0	1	1	0	1	1	0
All	2068	11	12	0	0	0	0	1	1	0	1	1	0
All	2069	11	12	0	0	0	0	1	1	0	1	1	0
All	2070	11	12	0	0	0	0	0	1	0	1	1	0
All	2071	11	12	0	0	0	0	0	0	0	1	1	0
All	2072	11	12	0	0	0	0	0	0	0	1	1	0
All	2073	11	12	0	0	0	0	0	0	0	1	1	0
All	2074	11	12	0	0	0	0	0	0	0	1	1	0

All	2075	11	12	0	0	0	0	0	0	0	1	1	0
All	2076	11	12	0	0	0	0	0	0	0	1	1	0
All	2077	11	12	0	0	0	0	0	0	0	1	1	0
All	2078	11	12	0	0	0	0	0	0	0	1	1	0
All	2079	11	12	0	0	0	0	0	0	0	1	1	0
All	2080	11	12	0	0	0	0	0	0	0	1	1	0
All	2081	11	12	0	0	0	0	0	0	0	1	1	0
All	2082	11	12	0	0	0	0	0	0	0	1	1	0
Car	Total	625	644	19	14	15	0	26	27	1	40	41	1
LGV Personal	Total	26	27	1	1	1	0	1	1	0	2	2	0
LGV Freight	Total	191	198	6	5	5	0	8	9	0	13	13	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	842	869	27	20	20	1	36	37	1	55	57	2

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	675	675	0	14	14	0	28	28	0	41	41	0
AM peak	2037	587	587	0	14	14	0	27	27	0	41	41	0
PM peak	2023	615	615	0	13	13	0	25	25	0	38	38	0
PM peak	2037	515	515	0	12	12	0	24	24	0	36	36	0
Inter-peak	2023	1066	1066	0	22	22	0	43	43	0	65	65	0
Inter-peak	2037	959	959	0	22	22	0	44	44	0	66	66	0
Off-peak	2023	117	209	92	2	4	2	5	9	4	7	13	6
Off-peak	2037	105	187	83	2	4	2	5	9	4	7	13	6
AM peak	Total	33944	33944	0	695	695	0	1505	1505	0	2315	2315	0
PM peak	Total	29698	29698	0	608	608	0	1315	1315	0	2023	2023	0
Inter-peak	Total	55889	55889	0	1144	1144	0	2480	2480	0	3815	3815	0

Off-peak	Total	6095	10922	4827	125	223	99	270	485	214	416	746	330

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	3	3	0	0	0	0	0	0	0	0	0	0
AM peak	2037	5	5	0	0	0	0	0	0	0	0	0	0
PM peak	2023	3	3	0	0	0	0	0	0	0	0	0	0
PM peak	2037	5	5	0	0	0	0	0	0	0	0	0	0
Inter-peak	2023	4	4	0	0	0	0	0	0	0	0	0	0
Inter-peak	2037	7	7	0	0	0	0	0	0	0	0	0	0
Off-peak	2023	0	1	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	1	1	1	0	0	0	0	0	0	0	0	0
AM peak	Total	248	248	0	6	6	0	10	10	0	16	16	0
PM peak	Total	251	251	0	6	6	0	11	11	0	16	16	0
Inter-peak	Total	310	310	0	7	7	0	13	13	0	20	20	0
Off-peak	Total	34	61	27	1	1	1	1	3	1	2	4	2

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	-130	0	-28	-6	0	16
Road	2024	-128	0	-27	-6	0	16
Road	2025	-125	0	-27	-5	0	15
Road	2026	-123	0	-26	-5	0	15
Road	2027	-121	0	-25	-5	0	14
Road	2028	-119	0	-25	-5	0	14
Road	2029	-118	0	-24	-5	0	13
Road	2030	-116	0	-24	-5	0	13
Road	2031	-114	0	-23	-5	0	12
Road	2032	-113	0	-22	-4	0	12
Road	2033	-111	0	-21	-4	0	12
Road	2034	-110	0	-21	-4	0	11
Road	2035	-108	0	-20	-4	0	11
Road	2036	-107	0	-19	-4	0	11
Road	2037	-105	0	-19	-4	0	10
Road	2038	-104	0	-18	-4	0	10
Road	2039	-102	0	-18	-3	0	10
Road	2040	-101	0	-17	-3	0	9
Road	2041	-99	0	-16	-3	0	9
Road	2042	-98	0	-16	-3	0	9
Road	2043	-96	0	-15	-3	0	8
Road	2044	-95	0	-15	-3	0	8
Road	2045	-93	0	-14	-3	0	8
Road	2046	-92	0	-14	-3	0	8
Road	2047	-90	0	-13	-3	0	8
Road	2048	-89	0	-13	-3	0	7
Road	2049	-88	0	-13	-2	0	7
Road	2050	-87	0	-12	-2	0	7
Road	2051	-86	0	-12	-2	0	7
Road	2052	-85	0	-12	-2	0	7
Road	2053	-84	0	-11	-2	0	6
Road	2054	-83	0	-11	-2	0	6
Road	2055	-82	0	-11	-2	0	6
Road	2056	-82	0	-11	-2	0	6
Road	2057	-81	0	-10	-2	0	6
Road	2058	-80	0	-10	-2	0	6
Road	2059	-79	0	-10	-2	0	6
Road	2060	-78	0	-10	-2	0	6
Road	2061	-78	0	-9	-2	0	5

Road	2062	-77	0	-9	-2	0	5
Road	2063	-76	0	-9	-2	0	5
Road	2064	-75	0	-9	-2	0	5
Road	2065	-75	0	-8	-2	0	5
Road	2066	-74	0	-8	-1	0	5
Road	2067	-73	0	-8	-1	0	5
Road	2068	-72	0	-8	-1	0	5
Road	2069	-72	0	-8	-1	0	5
Road	2070	-71	0	-7	-1	0	4
Road	2071	-70	0	-7	-1	0	4
Road	2072	-70	0	-7	-1	0	4
Road	2073	-69	0	-7	-1	0	4
Road	2074	-68	0	-7	-1	0	4
Road	2075	-68	0	-7	-1	0	4
Road	2076	-67	0	-6	-1	0	4
Road	2077	-66	0	-6	-1	0	4
Road	2078	-66	0	-6	-1	0	4
Road	2079	-65	0	-6	-1	0	4
Road	2080	-64	0	-6	-1	0	4
Road	2081	-64	0	-6	-1	0	4
Road	2082	-63	0	-6	-1	0	3
Road	Total	-5343	0	-810	-157	0	460

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	-89	0	-12	-1	0	7
Car	2037	-72	0	-7	-1	0	4
LGV Personal	2023	-1	0	-1	0	0	0
LGV Personal	2037	-1	0	-0	0	0	0
LGV Freight	2023	-24	0	-4	-1	0	3
LGV Freight	2037	-19	0	-3	-0	0	2
OGV1	2023	-9	0	-5	-2	0	3
OGV1	2037	-7	0	-4	-1	0	2
OGV2	2023	-7	0	-6	-2	0	3
OGV2	2037	-5	0	-4	-2	0	2
All	2023	-130	0	-28	-6	0	16
All	2037	-105	0	-19	-4	0	10
Car	Total	-3666	0	-311	-23	0	172
LGV Personal	Total	-60	0	-17	0	0	9
LGV Freight	Total	-968	0	-121	-21	0	67
OGV1	Total	-372	0	-172	-46	0	101

OGV2	Total	-277	0	-189	-66	0	111
All	Total	-5343	0	-810	-157	0	460

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	-130	0	-28	-6	0	16
All	2037	-105	0	-19	-4	0	10
All	Total	-5343	0	-810	-157	0	460

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	-45	0	-16	-6	0	9
Business	2037	-37	0	-12	-4	0	6
Commuting	2023	-29	0	-3	0	0	2
Commuting	2037	-24	0	-2	0	0	1
Other	2023	-56	0	-9	0	0	5
Other	2037	-45	0	-5	0	0	3
Business	Total	-1857	0	-496	-157	0	286
Commuting	Total	-1200	0	-89	0	0	50
Other	Total	-2287	0	-224	0	0	125

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	-34	0	0	-1	0	0
AM peak	2037	-27	0	0	-1	0	0
PM peak	2023	-35	0	0	-1	0	0
PM peak	2037	-28	0	0	-1	0	0
Inter-peak	2023	-50	0	0	-3	0	0
Inter-peak	2037	-40	0	0	-2	0	0
Off-peak	2023	-12	0	-28	-1	0	16
Off-peak	2037	-9	0	-19	-0	0	10
AM peak	Total	-1394	0	0	-35	0	0
PM peak	Total	-1431	0	0	-25	0	0
Inter-peak	Total	-2041	0	0	-80	0	0
Off-peak	Total	-477	0	-810	-17	0	460

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-1	0	0	0
Car	Business	2037	0	0	-1	0	0	0
Car	Business	Total	0	0	-61	2	0	0
Car	Commuting	2023	0	0	-4	0	0	0
Car	Commuting	2037	0	0	-4	0	0	0
Car	Commuting	Total	0	0	-256	11	0	0
Car	Other	2023	0	0	-17	1	0	0
Car	Other	2037	0	0	-17	1	0	0
Car	Other	Total	0	0	-1027	34	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	0	0
LGV Personal	Other	2037	0	0	-0	0	0	0
LGV Personal	Other	Total	0	0	-28	1	0	0
LGV Freight	Business	2023	0	0	-3	0	0	0
LGV Freight	Business	2037	0	0	-3	0	0	0
LGV Freight	Business	Total	0	0	-166	5	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-1	0	0	0
OGV1	Business	2037	0	0	-1	0	0	0
OGV1	Business	Total	0	0	-53	1	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-1	0	0	0
OGV2	Business	2037	0	0	-1	0	0	0
OGV2	Business	Total	0	0	-40	1	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0

OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-6	0	0	0
Car	Business	2037	0	0	-5	0	0	0
Car	Business	Total	0	0	-247	7	0	0
Car	Commuting	2023	0	0	-30	1	0	0
Car	Commuting	2037	0	0	-25	1	0	0
Car	Commuting	Total	0	0	-1256	56	0	0
Car	Other	2023	0	0	-56	2	0	0
Car	Other	2037	0	0	-45	2	0	0
Car	Other	Total	0	0	-2302	75	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-2	0	0	0
LGV Personal	Other	2037	0	0	-1	0	0	0
LGV Personal	Other	Total	0	0	-62	2	0	0
LGV Freight	Business	2023	0	0	-24	1	0	0
LGV Freight	Business	2037	0	0	-20	1	0	0
LGV Freight	Business	Total	0	0	-1000	32	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-9	0	0	0
OGV1	Business	2037	0	0	-7	0	0	0
OGV1	Business	Total	0	0	-378	6	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-7	0	0	0
OGV2	Business	2037	0	0	-6	0	0	0
OGV2	Business	Total	0	0	-282	5	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-7	0	0	0
Car	Business	2037	0	0	-6	0	0	0
Car	Business	Total	0	0	-284	8	0	0
Car	Commuting	2023	0	0	-34	1	0	0
Car	Commuting	2037	0	0	-27	1	0	0
Car	Commuting	Total	0	0	-1345	56	0	0
Car	Other	2023	0	0	-64	2	0	0
Car	Other	2037	0	0	-50	2	0	0
Car	Other	Total	0	0	-2510	75	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-2	0	0	0
LGV Personal	Other	2037	0	0	-2	0	0	0
LGV Personal	Other	Total	0	0	-78	2	0	0
LGV Freight	Business	2023	0	0	-30	1	0	0
LGV Freight	Business	2037	0	0	-23	1	0	0
LGV Freight	Business	Total	0	0	-1143	33	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-16	0	0	0
OGV1	Business	2037	0	0	-13	0	0	0

OGV1	Business	Total	0	0	-597	6	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-15	0	0	0
OGV2	Business	2037	0	0	-12	0	0	0
OGV2	Business	Total	0	0	-539	6	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-1	0	0	0	0	0	0
Car	Business	2037	0	-1	0	0	0	0	0	0
Car	Business	Total	0	-59	0	0	0	0	0	0
Car	Commuting	2023	0	-4	0	0	0	0	0	0
Car	Commuting	2037	0	-4	0	0	0	0	0	0
Car	Commuting	Total	0	-244	0	0	0	0	0	0
Car	Other	2023	0	-16	0	0	0	0	0	0
Car	Other	2037	0	-17	0	0	0	0	0	0
Car	Other	Total	0	-993	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-0	0	0	0	0	0	0
LGV Personal	Other	2037	0	-0	0	0	0	0	0	0
LGV Personal	Other	Total	0	-27	0	0	0	0	0	0
LGV Freight	Business	2023	0	-3	0	0	0	0	0	0
LGV Freight	Business	2037	0	-3	0	0	0	0	0	0
LGV Freight	Business	Total	0	-161	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-1	0	0	0	0	0
OGV1	Business	2037	0	-1	0	0	0	0	0
OGV1	Business	Total	0	-53	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-1	0	0	0	0	0
OGV2	Business	2037	0	-1	0	0	0	0	0
OGV2	Business	Total	0	-39	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-6	0	0	0	0	0	0
Car	Business	2037	0	-5	0	0	0	0	0	0
Car	Business	Total	0	-239	0	0	0	0	0	0
Car	Commuting	2023	0	-29	0	0	0	0	0	0
Car	Commuting	2037	0	-24	0	0	0	0	0	0
Car	Commuting	Total	0	-1200	0	0	0	0	0	0

Car	Other	2023	0	-54	0	0	0	0	0
Car	Other	2037	0	-44	0	0	0	0	0
Car	Other	Total	0	-2227	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-1	0	0	0	0	0
LGV Personal	Other	2037	0	-1	0	0	0	0	0
LGV Personal	Other	Total	0	-60	0	0	0	0	0
LGV Freight	Business	2023	0	-24	0	0	0	0	0
LGV Freight	Business	2037	0	-19	0	0	0	0	0
LGV Freight	Business	Total	0	-968	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-9	0	0	0	0	0
OGV1	Business	2037	0	-7	0	0	0	0	0
OGV1	Business	Total	0	-372	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-7	0	0	0	0	0
OGV2	Business	2037	0	-5	0	0	0	0	0
OGV2	Business	Total	0	-277	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-7	0	0	0	0	0	0
Car	Business	2037	0	-6	0	0	0	0	0	0
Car	Business	Total	0	-276	0	0	0	0	0	0
Car	Commuting	2023	0	-33	0	0	0	0	0	0
Car	Commuting	2037	0	-26	0	0	0	0	0	0
Car	Commuting	Total	0	-1289	0	0	0	0	0	0
Car	Other	2023	0	-62	0	0	0	0	0	0
Car	Other	2037	0	-49	0	0	0	0	0	0
Car	Other	Total	0	-2435	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-2	0	0	0	0	0	0

LGV Personal	Other	2037	0	-2	0	0	0	0	0
LGV Personal	Other	Total	0	-76	0	0	0	0	0
LGV Freight	Business	2023	0	-29	0	0	0	0	0
LGV Freight	Business	2037	0	-22	0	0	0	0	0
LGV Freight	Business	Total	0	-1111	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-16	0	0	0	0	0
OGV1	Business	2037	0	-12	0	0	0	0	0
OGV1	Business	Total	0	-591	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-15	0	0	0	0	0
OGV2	Business	2037	0	-11	0	0	0	0	0
OGV2	Business	Total	0	-533	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	-12.28%	-14.47%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	-1200	-1200
Vehicle operating costs	-89	-89
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	-1289	-1289

Consumer - Other user benefits	All Modes	Road
Travel Time	-2287	-2287
Vehicle operating costs	-224	-224
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	-2511	-2511

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	-1857	-239	-1617		
Vehicle operating costs	-654	-37	-617		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	-2510	-276	-2234		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	-2510	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	-6310

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	270	270
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	270	270

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	1530	1530
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	1530	1530

Central Government Funding: Non-Transport

Indirect Tax Revenues	-460	-460

TOTALS

Broad Transport Budget	1799	1799
Wider Public Finances	-460	-460

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-214
Economic Efficiency: Consumer Users (Commuting)	-1289
Economic Efficiency: Consumer Users (Other)	-2511
Economic Efficiency: Business Users and Providers	-2510
Wider Public Finances (Indirect Taxation Revenues)	460
Present Value of Benefits (PVB)	-6064
Broad Transport Budget	1799

Present Value of Costs (PVC) 1799

OVERALL IMPACTS

Net Present Value (NPV) -7863

Benefit to Cost Ratio (BCR) -3.371

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 3_Mickledale_2+2_Costs.txt

- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt

- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\3_Mickledale_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix P – White Post TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:20:17

ERRORS AND WARNINGS

1568 Warnings found

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
3	1	4	OGV1	Business	All	2023	2.000	0.001	2777.778	3.489
3	1	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	7.841
3	2	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.312
3	3	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.125
3	2	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.700
3	3	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.280
3	4	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.700
3	4	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.312
3	1	4	Car	Business	All	2023	2.000	0.001	2777.778	1.789
3	2	4	Car	Business	All	2023	2.000	0.001	2777.778	0.160
3	3	4	Car	Business	All	2023	2.000	0.001	2777.778	0.064
3	4	4	Car	Business	All	2023	2.000	0.001	2777.778	0.160
3	1	4	OGV2	Business	All	2023	2.000	0.001	2777.778	2.083
3	2	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.186
3	3	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.074
3	4	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.186
3	1	4	Car	Commuting	All	2023	2.000	0.001	2777.778	11.939
3	2	4	Car	Commuting	All	2023	2.000	0.001	2777.778	1.066
3	3	4	Car	Commuting	All	2023	2.000	0.001	2777.778	0.426
3	4	4	Car	Commuting	All	2023	2.000	0.001	2777.778	1.066

Displayed 20 warnings of a total of 784 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
3	1	4	OGV1	Business	All	2023	2.000	0.001	2777.778	3.489
3	1	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	7.841
3	2	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.312
3	3	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.125
3	2	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.700
3	3	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.280
3	4	4	LGV Freight	Business	All	2023	2.000	0.001	2777.778	0.700
3	4	4	OGV1	Business	All	2023	2.000	0.001	2777.778	0.312
3	1	4	Car	Business	All	2023	2.000	0.001	2777.778	1.789
3	2	4	Car	Business	All	2023	2.000	0.001	2777.778	0.160

3	3	4	Car	Business	All	2023	2.000	0.001	2777.778	0.064
3	4	4	Car	Business	All	2023	2.000	0.001	2777.778	0.160
3	1	4	OGV2	Business	All	2023	2.000	0.001	2777.778	2.083
3	2	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.186
3	3	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.074
3	4	4	OGV2	Business	All	2023	2.000	0.001	2777.778	0.186
3	1	4	Car	Commuting	All	2023	2.000	0.001	2777.778	11.939
3	2	4	Car	Commuting	All	2023	2.000	0.001	2777.778	1.066
3	3	4	Car	Commuting	All	2023	2.000	0.001	2777.778	0.426
3	4	4	Car	Commuting	All	2023	2.000	0.001	2777.778	1.066

Displayed 20 warnings of a total of 784 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-4_White Post
DM scheme	DM
DS scheme	DS
Economic parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
Scheme parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 4_White Post_Costs.txt
First year of scheme costs	2019
First Appraisal Year	2023
Last Appraisal Year	2082
Modelled years	2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0

Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	5	15	82	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	0	0
Road	2021	0	0	0
Road	2022	0	68	68
Road	2023	0	0	0
Road	2024	0	0	0
Road	2025	0	0	0
Road	2026	0	0	0
Road	Total	0	68	68

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1649	1649
Car	2023	PM peak	1696	1696
Car	2023	Inter-peak	1910	1910
Car	2023	Off-peak	377	377
Car	2023	All	5632	5632
Car	2037	AM peak	1711	1711
Car	2037	PM peak	1736	1736
Car	2037	Inter-peak	1973	1973

Car	2037	Off-peak	386	386
Car	2037	All	5806	5806
LGV Personal	2023	AM peak	36	36
LGV Personal	2023	PM peak	30	30
LGV Personal	2023	Inter-peak	49	49
LGV Personal	2023	Off-peak	10	10
LGV Personal	2023	All	124	124
LGV Personal	2037	AM peak	37	37
LGV Personal	2037	PM peak	31	31
LGV Personal	2037	Inter-peak	51	51
LGV Personal	2037	Off-peak	10	10
LGV Personal	2037	All	128	128
LGV Freight	2023	AM peak	261	261
LGV Freight	2023	PM peak	219	219
LGV Freight	2023	Inter-peak	361	361
LGV Freight	2023	Off-peak	71	71
LGV Freight	2023	All	912	912
LGV Freight	2037	AM peak	271	271
LGV Freight	2037	PM peak	224	224
LGV Freight	2037	Inter-peak	373	373
LGV Freight	2037	Off-peak	73	73
LGV Freight	2037	All	940	940
OGV1	2023	AM peak	77	77
OGV1	2023	PM peak	41	41
OGV1	2023	Inter-peak	160	160
OGV1	2023	Off-peak	32	32
OGV1	2023	All	310	310
OGV1	2037	AM peak	80	80
OGV1	2037	PM peak	42	42
OGV1	2037	Inter-peak	166	166
OGV1	2037	Off-peak	32	32
OGV1	2037	All	320	320
OGV2	2023	AM peak	53	53
OGV2	2023	PM peak	15	15
OGV2	2023	Inter-peak	96	96
OGV2	2023	Off-peak	19	19
OGV2	2023	All	183	183
OGV2	2037	AM peak	55	55
OGV2	2037	PM peak	16	16
OGV2	2037	Inter-peak	99	99
OGV2	2037	Off-peak	19	19
OGV2	2037	All	189	189
All	2023	AM peak	2076	2076

All	2023	PM peak	2001	2001
All	2023	Inter-peak	2576	2576
All	2023	Off-peak	509	509
All	2023	All	7161	7161
All	2037	AM peak	2153	2153
All	2037	PM peak	2048	2048
All	2037	Inter-peak	2661	2661
All	2037	Off-peak	521	521
All	2037	All	7383	7383

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	159	0	869	525	159	0	869	525
Road	2037	154	0	562	335	154	0	562	335

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

		Do minimum			Do something		
Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	327	322	49	327	322	49
Car	2037	273	244	242	273	244	242
LGV Personal	2023	0	30	0	0	30	0
LGV Personal	2037	0	25	10	0	25	10
LGV Freight	2023	2	221	4	2	221	4
LGV Freight	2037	1	186	70	1	186	70
OGV1	2023	0	161	0	0	161	0
OGV1	2037	0	166	0	0	166	0
OGV2	2023	0	149	0	0	149	0
OGV2	2037	0	154	0	0	154	0
All	2023	330	883	53	330	883	53
All	2037	274	775	322	274	775	322
Car	Total	15755	13958	17584	15755	13958	17584
LGV Personal	Total	9	1417	851	9	1417	851
LGV Freight	Total	64	10390	6242	64	10390	6242
OGV1	Total	0	9947	0	0	9947	0
OGV2	Total	0	9187	0	0	9187	0
All	Total	15828	44898	24677	15828	44898	24677

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	1457	1457	0	30	30	0	59	59	0	89	89	0
Car	2037	1155	1155	0	27	27	0	53	53	0	80	80	0
LGV Personal	2023	73	73	0	1	1	0	3	3	0	4	4	0
LGV Personal	2037	62	62	0	1	1	0	3	3	0	4	4	0
LGV Freight	2023	539	539	0	11	11	0	22	22	0	33	33	0
LGV Freight	2037	453	453	0	10	10	0	21	21	0	31	31	0
OGV1	2023	390	390	0	8	8	0	16	16	0	24	24	0
OGV1	2037	403	403	0	9	9	0	19	19	0	28	28	0
OGV2	2023	360	360	0	7	7	0	15	15	0	22	22	0
OGV2	2037	372	372	0	9	9	0	17	17	0	26	26	0
All	2023	2819	2819	0	57	57	0	115	115	0	172	172	0
All	2024	2779	2779	0	56	56	0	111	111	0	167	167	0
All	2025	2734	2734	0	54	54	0	107	107	0	161	161	0
All	2026	2699	2699	0	52	52	0	104	104	0	156	156	0
All	2027	2666	2666	0	50	50	0	101	101	0	151	151	0
All	2028	2631	2631	0	49	49	0	97	97	0	146	146	0
All	2029	2602	2602	0	47	47	0	94	94	0	142	142	0
All	2030	2575	2575	0	46	46	0	92	92	0	137	137	0
All	2031	2546	2546	0	48	48	0	96	96	0	144	144	0
All	2032	2526	2526	0	50	50	0	99	99	0	149	149	0
All	2033	2508	2508	0	51	51	0	103	103	0	154	154	0
All	2034	2487	2487	0	53	53	0	106	106	0	159	159	0
All	2035	2473	2473	0	54	54	0	109	109	0	163	163	0
All	2036	2461	2461	0	55	55	0	111	111	0	166	166	0
All	2037	2445	2445	0	56	56	0	113	113	0	169	169	0
All	2038	2429	2429	0	57	57	0	114	114	0	172	172	0

All	2039	2414	2414	0	58	58	0	116	116	0	174	174	0
All	2040	2394	2394	0	58	58	0	116	116	0	175	175	0
All	2041	2377	2377	0	59	59	0	117	117	0	176	176	0
All	2042	2361	2361	0	59	59	0	118	118	0	176	176	0
All	2043	2342	2342	0	59	59	0	118	118	0	176	176	0
All	2044	2328	2328	0	59	59	0	118	118	0	177	177	0
All	2045	2316	2316	0	59	59	0	118	118	0	177	177	0
All	2046	2300	2300	0	59	59	0	117	117	0	176	176	0
All	2047	2289	2289	0	59	59	0	117	117	0	176	176	0
All	2048	2279	2279	0	58	58	0	117	117	0	175	175	0
All	2049	2265	2265	0	58	58	0	116	116	0	174	174	0
All	2050	2254	2254	0	58	58	0	116	116	0	174	174	0
All	2051	2254	2254	0	58	58	0	116	116	0	175	175	0
All	2052	2254	2254	0	57	57	0	117	117	0	176	176	0
All	2053	2254	2254	0	57	57	0	117	117	0	177	177	0
All	2054	2254	2254	0	56	56	0	117	117	0	178	178	0
All	2055	2254	2254	0	56	56	0	117	117	0	178	178	0
All	2056	2254	2254	0	55	55	0	117	117	0	179	179	0
All	2057	2254	2254	0	54	54	0	116	116	0	179	179	0
All	2058	2254	2254	0	53	53	0	116	116	0	179	179	0
All	2059	2254	2254	0	52	52	0	115	115	0	178	178	0
All	2060	2254	2254	0	52	52	0	115	115	0	178	178	0
All	2061	2254	2254	0	50	50	0	113	113	0	176	176	0
All	2062	2254	2254	0	49	49	0	112	112	0	175	175	0
All	2063	2254	2254	0	48	48	0	110	110	0	173	173	0
All	2064	2254	2254	0	47	47	0	109	109	0	171	171	0
All	2065	2254	2254	0	45	45	0	107	107	0	168	168	0
All	2066	2254	2254	0	44	44	0	105	105	0	166	166	0
All	2067	2254	2254	0	43	43	0	103	103	0	163	163	0

All	2068	2254	2254	0	41	41	0	101	101	0	160	160	0
All	2069	2254	2254	0	40	40	0	99	99	0	157	157	0
All	2070	2254	2254	0	39	39	0	96	96	0	154	154	0
All	2071	2254	2254	0	37	37	0	94	94	0	151	151	0
All	2072	2254	2254	0	36	36	0	92	92	0	148	148	0
All	2073	2254	2254	0	35	35	0	90	90	0	145	145	0
All	2074	2254	2254	0	33	33	0	87	87	0	141	141	0
All	2075	2254	2254	0	32	32	0	85	85	0	138	138	0
All	2076	2254	2254	0	31	31	0	83	83	0	135	135	0
All	2077	2254	2254	0	29	29	0	80	80	0	131	131	0
All	2078	2254	2254	0	28	28	0	78	78	0	128	128	0
All	2079	2254	2254	0	27	27	0	75	75	0	124	124	0
All	2080	2254	2254	0	26	26	0	73	73	0	120	120	0
All	2081	2254	2254	0	24	24	0	71	71	0	117	117	0
All	2082	2254	2254	0	23	23	0	69	69	0	114	114	0
Car	Total	66406	66406	0	1358	1358	0	2938	2938	0	4518	4518	0
LGV Personal	Total	3447	3447	0	71	71	0	153	153	0	234	234	0
LGV Freight	Total	25279	25279	0	518	518	0	1119	1119	0	1719	1719	0
OGV1	Total	24074	24074	0	493	493	0	1071	1071	0	1650	1650	0
OGV2	Total	22236	22236	0	455	455	0	989	989	0	1524	1524	0
All	Total	141442	141442	0	2894	2894	0	6270	6270	0	9645	9645	0

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	12	12	0	0	0	0	0	0	0	0	0	0
Car	2037	17	17	0	0	0	0	1	1	0	1	1	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	1	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	5	5	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	13	13	0	0	0	0	0	0	0	0	0
All	2024	17	17	0	0	0	0	0	0	0	0	0
All	2025	20	20	0	0	0	0	0	0	1	1	0
All	2026	22	22	0	0	0	0	1	1	0	1	1	0
All	2027	24	24	0	0	0	0	1	1	0	1	1	0
All	2028	25	25	0	0	0	0	1	1	0	1	1	0
All	2029	25	25	0	0	0	0	1	1	0	1	1	0
All	2030	25	25	0	1	1	0	1	1	0	1	1	0
All	2031	25	25	0	1	1	0	1	1	0	1	1	0
All	2032	25	25	0	1	1	0	1	1	0	1	1	0
All	2033	25	25	0	1	1	0	1	1	0	2	2	0
All	2034	25	25	0	1	1	0	1	1	0	2	2	0
All	2035	24	24	0	1	1	0	1	1	0	2	2	0
All	2036	23	23	0	1	1	0	1	1	0	2	2	0
All	2037	22	22	0	1	1	0	1	1	0	2	2	0
All	2038	22	22	0	1	1	0	1	1	0	2	2	0
All	2039	21	21	0	1	1	0	1	1	0	1	1	0
All	2040	20	20	0	1	1	0	1	1	0	1	1	0
All	2041	20	20	0	1	1	0	1	1	0	1	1	0
All	2042	20	20	0	1	1	0	1	1	0	1	1	0
All	2043	19	19	0	1	1	0	1	1	0	1	1	0
All	2044	19	19	0	1	1	0	1	1	0	1	1	0
All	2045	18	18	0	1	1	0	1	1	0	1	1	0

All	2046	18	18	0	1	1	0	1	1	0	1	1	0
All	2047	17	17	0	1	1	0	1	1	0	1	1	0
All	2048	16	16	0	0	0	0	1	1	0	1	1	0
All	2049	15	15	0	0	0	0	1	1	0	1	1	0
All	2050	14	14	0	0	0	0	1	1	0	1	1	0
All	2051	14	14	0	0	0	0	1	1	0	1	1	0
All	2052	14	14	0	0	0	0	1	1	0	1	1	0
All	2053	14	14	0	0	0	0	1	1	0	1	1	0
All	2054	14	14	0	0	0	0	1	1	0	1	1	0
All	2055	14	14	0	0	0	0	1	1	0	1	1	0
All	2056	14	14	0	0	0	0	1	1	0	1	1	0
All	2057	14	14	0	0	0	0	1	1	0	1	1	0
All	2058	14	14	0	0	0	0	1	1	0	1	1	0
All	2059	14	14	0	0	0	0	1	1	0	1	1	0
All	2060	14	14	0	0	0	0	1	1	0	1	1	0
All	2061	14	14	0	0	0	0	1	1	0	1	1	0
All	2062	14	14	0	0	0	0	1	1	0	1	1	0
All	2063	14	14	0	0	0	0	1	1	0	1	1	0
All	2064	14	14	0	0	0	0	1	1	0	1	1	0
All	2065	14	14	0	0	0	0	1	1	0	1	1	0
All	2066	14	14	0	0	0	0	1	1	0	1	1	0
All	2067	14	14	0	0	0	0	1	1	0	1	1	0
All	2068	14	14	0	0	0	0	1	1	0	1	1	0
All	2069	14	14	0	0	0	0	1	1	0	1	1	0
All	2070	14	14	0	0	0	0	1	1	0	1	1	0
All	2071	14	14	0	0	0	0	1	1	0	1	1	0
All	2072	14	14	0	0	0	0	1	1	0	1	1	0
All	2073	14	14	0	0	0	0	1	1	0	1	1	0
All	2074	14	14	0	0	0	0	1	1	0	1	1	0

All	2075	14	14	0	0	0	0	1	1	0	1	1	0
All	2076	14	14	0	0	0	0	1	1	0	1	1	0
All	2077	14	14	0	0	0	0	0	0	0	1	1	0
All	2078	14	14	0	0	0	0	0	0	0	1	1	0
All	2079	14	14	0	0	0	0	0	0	0	1	1	0
All	2080	14	14	0	0	0	0	0	0	0	1	1	0
All	2081	14	14	0	0	0	0	0	0	0	1	1	0
All	2082	14	14	0	0	0	0	0	0	0	1	1	0
Car	Total	761	761	0	18	18	0	32	32	0	49	49	0
LGV Personal	Total	32	32	0	1	1	0	1	1	0	2	2	0
LGV Freight	Total	233	233	0	6	6	0	10	10	0	16	16	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	1026	1026	0	24	24	0	44	44	0	67	67	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	803	803	0	16	16	0	33	33	0	49	49	0
AM peak	2037	697	697	0	16	16	0	32	32	0	48	48	0
PM peak	2023	668	668	0	14	14	0	27	27	0	41	41	0
PM peak	2037	552	552	0	13	13	0	25	25	0	38	38	0
Inter-peak	2023	1126	1126	0	23	23	0	46	46	0	69	69	0
Inter-peak	2037	1000	1000	0	23	23	0	46	46	0	69	69	0
Off-peak	2023	222	222	0	5	5	0	9	9	0	14	14	0
Off-peak	2037	196	196	0	5	5	0	9	9	0	14	14	0
AM peak	Total	40248	40248	0	824	824	0	1784	1784	0	2745	2745	0
PM peak	Total	31764	31764	0	650	650	0	1406	1406	0	2163	2163	0
Inter-peak	Total	58051	58051	0	1188	1188	0	2575	2575	0	3961	3961	0

Off-peak	Total	11379	11379	0	233	233	0	505	505	0	776	776	0

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	4	4	0	0	0	0	0	0	0	0	0	0
AM peak	2037	7	7	0	0	0	0	0	0	0	0	0	0
PM peak	2023	4	4	0	0	0	0	0	0	0	0	0	0
PM peak	2037	6	6	0	0	0	0	0	0	0	0	0	0
Inter-peak	2023	5	5	0	0	0	0	0	0	0	0	0	0
Inter-peak	2037	8	8	0	0	0	0	0	0	0	1	1	0
Off-peak	2023	1	1	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	2	2	0	0	0	0	0	0	0	0	0	0
AM peak	Total	300	300	0	7	7	0	13	13	0	20	20	0
PM peak	Total	291	291	0	7	7	0	12	12	0	19	19	0
Inter-peak	Total	363	363	0	9	9	0	15	15	0	24	24	0
Off-peak	Total	71	71	0	2	2	0	3	3	0	5	5	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0
Road	2027	0	0	0	0	0	0
Road	2028	0	0	0	0	0	0
Road	2029	0	0	0	0	0	0
Road	2030	0	0	0	0	0	0
Road	2031	0	0	0	0	0	0
Road	2032	0	0	0	0	0	0
Road	2033	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0

Road	2062	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0
Road	Total	0	0	0	0	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	0	0	0	0	0	0
Car	2037	0	0	0	0	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
Car	Total	0	0	0	0	0	0
LGV Personal	Total	0	0	0	0	0	0
LGV Freight	Total	0	0	0	0	0	0
OGV1	Total	0	0	0	0	0	0

OGV2	Total	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	0	0	0	0	0	0
Business	2037	0	0	0	0	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	0	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	0	0	0	0	0	0
Business	Total	0	0	0	0	0	0
Commuting	Total	0	0	0	0	0	0
Other	Total	0	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	0	0	0	0	0	0
AM peak	2037	0	0	0	0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	0	0	0	0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	0	0	0	0	0	0
PM peak	Total	0	0	0	0	0	0
Inter-peak	Total	0	0	0	0	0	0
Off-peak	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0

OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0

OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	0	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	0	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0	0	0

Car	Other	2023	0	0	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	0	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0

LGV Personal	Other	2037	0	0	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	0.00%	0.00%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	0	0

Consumer - Other user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	0	0

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	0	0	0		
Vehicle operating costs	0	0	0		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	0	0	0		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	0	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	0

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	10	10
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	10	10

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	58	58
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	58	58

Central Government Funding: Non-Transport

Indirect Tax Revenues	0	0

TOTALS

Broad Transport Budget	68	68
Wider Public Finances	0	0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	0
Economic Efficiency: Consumer Users (Commuting)	0
Economic Efficiency: Consumer Users (Other)	0
Economic Efficiency: Business Users and Providers	0
Wider Public Finances (Indirect Taxation Revenues)	0
Present Value of Benefits (PVB)	0
Broad Transport Budget	68

Present Value of Costs (PVC)	68

OVERALL IMPACTS

Net Present Value (NPV)	-68
Benefit to Cost Ratio (BCR)	0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 4_White Post_Costs.txt
- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\4_White Post_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix Q – Warren Hill TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:21:56

ERRORS AND WARNINGS

644 Warnings found

Warning (42 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
1	1	2	Car	Commuting	All	2037	0.022	0.001	21.535	0.275	0.275
1	1	2	OGV2	Business	All	2037	0.022	0.001	21.535	0.013	0.013
1	1	2	LGV Personal	Other	All	2037	0.022	0.001	21.535	0.015	0.015
1	1	2	Car	Business	All	2037	0.022	0.001	21.535	0.043	0.043
1	1	2	LGV Freight	Business	All	2037	0.022	0.001	21.535	0.112	0.112
1	1	2	Car	Other	All	2037	0.022	0.001	21.535	0.526	0.526
1	1	2	OGV1	Business	All	2037	0.022	0.001	21.535	0.015	0.015
1	1	2	LGV Personal	Other	All	2023	0.014	0.001	13.888	0.015	0.015
1	1	2	Car	Other	All	2023	0.014	0.001	13.888	0.526	0.526
1	1	2	OGV1	Business	All	2023	0.014	0.001	13.888	0.015	0.015
1	1	2	LGV Freight	Business	All	2023	0.014	0.001	13.888	0.112	0.112
1	1	2	Car	Commuting	All	2023	0.014	0.001	13.888	0.275	0.275
1	1	2	OGV2	Business	All	2023	0.014	0.001	13.888	0.013	0.013
1	1	2	Car	Business	All	2023	0.014	0.001	13.888	0.043	0.043
1	1	1	LGV Freight	Business	All	2037	0.007	0.002	4.044	0.432	0.432
1	1	1	LGV Personal	Other	All	2037	0.007	0.002	4.044	0.059	0.059
1	1	1	Car	Commuting	All	2037	0.007	0.002	4.044	0.895	0.895
1	1	1	OGV2	Business	All	2037	0.007	0.002	4.044	0.067	0.067
1	1	1	Car	Other	All	2037	0.007	0.002	4.044	1.280	1.280
1	1	1	OGV1	Business	All	2037	0.007	0.002	4.044	0.104	0.104

Displayed 20 warnings of a total of 42 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
1	1	4	OGV2	Business	All	2023	2.000	0.002	1324.503	0.000
2	1	4	OGV2	Business	All	2023	2.000	0.002	1324.503	0.969
2	2	4	OGV2	Business	All	2023	2.000	0.002	1324.503	0.000
1	1	4	Car	Commuting	All	2023	2.000	0.002	1324.503	0.000
1	1	4	LGV Freight	Business	All	2023	2.000	0.002	1324.503	0.000
2	1	4	LGV Freight	Business	All	2023	2.000	0.002	1324.503	4.289
2	1	4	Car	Commuting	All	2023	2.000	0.002	1324.503	5.588
2	2	4	Car	Commuting	All	2023	2.000	0.002	1324.503	0.000
1	1	4	Car	Other	All	2023	2.000	0.002	1324.503	0.000
1	1	4	Car	Business	All	2023	2.000	0.002	1324.503	0.000

2	1	4	Car	Business	All	2023	2.000	0.002	1324.503	0.837
2	2	4	Car	Business	All	2023	2.000	0.002	1324.503	0.000
1	1	4	OGV1	Business	All	2023	2.000	0.002	1324.503	0.000
2	1	4	OGV1	Business	All	2023	2.000	0.002	1324.503	1.725
2	2	4	OGV1	Business	All	2023	2.000	0.002	1324.503	0.000
2	2	4	LGV Freight	Business	All	2023	2.000	0.002	1324.503	0.000
2	1	4	Car	Other	All	2023	2.000	0.002	1324.503	13.007
2	2	4	Car	Other	All	2023	2.000	0.002	1324.503	0.000
1	1	4	LGV Personal	Other	All	2023	2.000	0.002	1324.503	0.000
2	1	4	LGV Personal	Other	All	2023	2.000	0.002	1324.503	0.585

Displayed 20 warnings of a total of 147 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
1	1	4	LGV Freight	Business	All	2023	2.000	0.001	3448.276	0.000
1	2	4	LGV Freight	Business	All	2023	2.000	0.001	3448.276	4.130
1	3	4	LGV Freight	Business	All	2023	2.000	0.001	3448.276	4.924
1	1	4	OGV1	Business	All	2023	2.000	0.001	3448.276	0.000
3	1	4	LGV Freight	Business	All	2023	2.000	0.001	3448.276	5.242
1	2	4	OGV1	Business	All	2023	2.000	0.001	3448.276	1.661
1	3	4	OGV1	Business	All	2023	2.000	0.001	3448.276	1.981
3	1	4	OGV1	Business	All	2023	2.000	0.001	3448.276	2.109
1	1	4	Car	Commuting	All	2023	2.000	0.001	3448.276	0.000
1	1	4	OGV2	Business	All	2023	2.000	0.001	3448.276	0.000
1	2	4	OGV2	Business	All	2023	2.000	0.001	3448.276	0.933
1	2	4	Car	Commuting	All	2023	2.000	0.001	3448.276	5.381
1	1	4	Car	Business	All	2023	2.000	0.001	3448.276	0.000
1	2	4	Car	Business	All	2023	2.000	0.001	3448.276	0.806
1	3	4	Car	Business	All	2023	2.000	0.001	3448.276	0.961
3	1	4	Car	Business	All	2023	2.000	0.001	3448.276	1.023
1	3	4	Car	Commuting	All	2023	2.000	0.001	3448.276	6.416
1	3	4	OGV2	Business	All	2023	2.000	0.001	3448.276	1.113
3	1	4	OGV2	Business	All	2023	2.000	0.001	3448.276	1.185
3	1	4	Car	Commuting	All	2023	2.000	0.001	3448.276	6.830

Displayed 20 warnings of a total of 224 of this type.

Serious Warning: Possible introduction of new mode one of DM and DS time is zero, but not both, for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time
1	2	1	Car	Business	All	2023	0.000	0.002
1	3	1	Car	Business	All	2023	0.000	0.002
2	1	1	Car	Business	All	2023	0.006	0.000
3	1	1	Car	Business	All	2023	0.000	0.001
1	2	1	Car	Business	All	2037	0.000	0.002

1	3	1	Car	Business	All	2037	0.000	0.002
2	1	1	Car	Business	All	2037	0.007	0.000
3	1	1	Car	Business	All	2037	0.000	0.001
1	2	1	Car	Commuting	All	2023	0.000	0.002
1	3	1	Car	Commuting	All	2023	0.000	0.002
2	1	1	Car	Commuting	All	2023	0.006	0.000
3	1	1	Car	Commuting	All	2023	0.000	0.001
1	2	1	Car	Commuting	All	2037	0.000	0.002
1	3	1	Car	Commuting	All	2037	0.000	0.002
2	1	1	Car	Commuting	All	2037	0.007	0.000
3	1	1	Car	Commuting	All	2037	0.000	0.001
1	2	1	Car	Other	All	2023	0.000	0.002
1	3	1	Car	Other	All	2023	0.000	0.002
2	1	1	Car	Other	All	2023	0.006	0.000
3	1	1	Car	Other	All	2023	0.000	0.001

Displayed 20 warnings of a total of 231 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-5_Warren Hill_V2
DM scheme	DM
DS scheme	DS
Economic parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
Scheme parameter file	K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 5_Warren Hill_V2_Costs.txt
First year of scheme costs	2019
First Appraisal Year	2023
Last Appraisal Year	2082
Modelled years	2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	102	0	0	51	0	0	0	0
Road	2023	26	128	3380	0	0	0	0	0
Road	2024	0	0	223	0	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	0	0
Road	2021	0	0	0
Road	2022	0	102	102
Road	2023	0	2260	2260
Road	2024	0	138	138
Road	2025	0	0	0
Road	Total	0	2499	2499

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1383	1383
Car	2023	PM peak	1350	1350
Car	2023	Inter-peak	1344	1344
Car	2023	Off-peak	265	265
Car	2023	All	4342	4342
Car	2037	AM peak	1442	1442

Car	2037	PM peak	1394	1394
Car	2037	Inter-peak	1407	1407
Car	2037	Off-peak	276	276
Car	2037	All	4519	4519
LGV Personal	2023	AM peak	35	35
LGV Personal	2023	PM peak	25	25
LGV Personal	2023	Inter-peak	40	40
LGV Personal	2023	Off-peak	8	8
LGV Personal	2023	All	108	108
LGV Personal	2037	AM peak	36	36
LGV Personal	2037	PM peak	25	25
LGV Personal	2037	Inter-peak	42	42
LGV Personal	2037	Off-peak	8	8
LGV Personal	2037	All	112	112
LGV Freight	2023	AM peak	255	255
LGV Freight	2023	PM peak	180	180
LGV Freight	2023	Inter-peak	297	297
LGV Freight	2023	Off-peak	58	58
LGV Freight	2023	All	790	790
LGV Freight	2037	AM peak	266	266
LGV Freight	2037	PM peak	186	186
LGV Freight	2037	Inter-peak	310	310
LGV Freight	2037	Off-peak	61	61
LGV Freight	2037	All	824	824
OGV1	2023	AM peak	62	62
OGV1	2023	PM peak	24	24
OGV1	2023	Inter-peak	119	119
OGV1	2023	Off-peak	24	24
OGV1	2023	All	228	228
OGV1	2037	AM peak	64	64
OGV1	2037	PM peak	24	24
OGV1	2037	Inter-peak	125	125
OGV1	2037	Off-peak	25	25
OGV1	2037	All	238	238
OGV2	2023	AM peak	40	40
OGV2	2023	PM peak	21	21
OGV2	2023	Inter-peak	67	67
OGV2	2023	Off-peak	13	13
OGV2	2023	All	141	141
OGV2	2037	AM peak	41	41
OGV2	2037	PM peak	22	22
OGV2	2037	Inter-peak	70	70
OGV2	2037	Off-peak	14	14

OGV2	2037	All	147	147
All	2023	AM peak	1775	1775
All	2023	PM peak	1599	1599
All	2023	Inter-peak	1867	1867
All	2023	Off-peak	368	368
All	2023	All	5609	5609
All	2037	AM peak	1851	1851
All	2037	PM peak	1651	1651
All	2037	Inter-peak	1955	1955
All	2037	Off-peak	384	384
All	2037	All	5840	5840

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	66	0	155	413	34	0	526	412
Road	2037	81	0	101	266	29	0	340	265

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

		Do minimum			Do something		
Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	58	57	9	194	191	29
Car	2037	48	42	45	162	144	144
LGV Personal	2023	0	6	0	0	20	0
LGV Personal	2037	0	5	2	0	17	6
LGV Freight	2023	0	43	1	1	147	2
LGV Freight	2037	0	36	14	1	124	47
OGV1	2023	0	27	0	0	92	0
OGV1	2037	0	29	0	0	94	0
OGV2	2023	0	26	0	0	88	0
OGV2	2037	0	28	0	0	91	0
All	2023	58	158	9	196	538	32
All	2037	48	140	61	162	471	197
Car	Total	2782	2436	3234	9329	8265	10410
LGV Personal	Total	2	271	175	6	946	568
LGV Freight	Total	13	1990	1281	43	6940	4169
OGV1	Total	0	1716	0	0	5647	0
OGV2	Total	0	1663	0	0	5450	0
All	Total	2796	8077	4690	9378	27248	15148

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	256	864	608	5	18	12	10	35	25	16	53	37
Car	2037	203	684	481	5	16	11	9	32	22	14	47	33
LGV Personal	2023	14	49	35	0	1	1	1	2	1	1	3	2
LGV Personal	2037	12	41	29	0	1	1	1	2	1	1	3	2
LGV Freight	2023	105	360	255	2	7	5	4	15	10	6	22	16
LGV Freight	2037	87	303	216	2	7	5	4	14	10	6	21	15
OGV1	2023	64	221	157	1	5	3	3	9	6	4	14	10
OGV1	2037	70	229	159	2	5	4	3	11	7	5	16	11
OGV2	2023	62	214	152	1	4	3	3	9	6	4	13	9
OGV2	2037	68	221	153	2	5	4	3	10	7	5	15	11
All	2023	502	1708	1206	10	35	25	20	70	49	31	104	74
All	2024	495	1683	1188	10	34	24	20	67	48	30	101	71
All	2025	488	1656	1168	10	32	23	19	65	46	29	97	69
All	2026	482	1634	1153	9	31	22	19	63	44	28	94	67
All	2027	476	1614	1138	9	30	21	18	61	43	27	91	64
All	2028	470	1593	1123	9	29	21	17	59	42	26	88	62
All	2029	465	1575	1110	8	29	20	17	57	40	25	86	60
All	2030	460	1558	1098	8	28	20	16	55	39	25	83	59
All	2031	455	1541	1085	9	29	20	17	58	41	26	87	61
All	2032	452	1528	1076	9	30	21	18	60	42	27	90	64
All	2033	449	1516	1067	9	31	22	18	62	44	28	93	66
All	2034	445	1504	1058	9	32	23	19	64	45	28	96	68
All	2035	443	1495	1052	10	33	23	19	66	46	29	98	69
All	2036	441	1487	1046	10	34	24	20	67	47	30	101	71
All	2037	439	1477	1038	10	34	24	20	68	48	30	102	72
All	2038	436	1467	1031	10	35	24	21	69	49	31	104	73

All	2039	433	1458	1025	10	35	25	21	70	49	31	105	74
All	2040	429	1446	1016	10	35	25	21	70	49	31	106	74
All	2041	426	1435	1009	11	35	25	21	71	50	32	106	75
All	2042	424	1425	1002	11	35	25	21	71	50	32	106	75
All	2043	420	1413	993	11	35	25	21	71	50	32	106	75
All	2044	418	1405	988	11	36	25	21	71	50	32	107	75
All	2045	415	1397	982	11	36	25	21	71	50	32	107	75
All	2046	412	1387	975	11	35	25	21	71	50	32	106	75
All	2047	410	1381	970	10	35	25	21	71	50	31	106	74
All	2048	409	1374	966	10	35	25	21	70	49	31	106	74
All	2049	406	1366	960	10	35	25	21	70	49	31	105	74
All	2050	404	1359	955	10	35	25	21	70	49	31	105	74
All	2051	404	1359	955	10	35	24	21	70	49	31	106	74
All	2052	404	1359	955	10	34	24	21	70	49	32	106	75
All	2053	404	1359	955	10	34	24	21	71	50	32	107	75
All	2054	404	1359	955	10	34	24	21	71	50	32	107	75
All	2055	404	1359	955	10	34	24	21	71	50	32	108	76
All	2056	404	1359	955	10	33	23	21	70	49	32	108	76
All	2057	404	1359	955	10	33	23	21	70	49	32	108	76
All	2058	404	1359	955	10	32	23	21	70	49	32	108	76
All	2059	404	1359	955	9	32	22	21	70	49	32	107	75
All	2060	404	1359	955	9	31	22	21	69	49	32	107	75
All	2061	404	1359	955	9	30	21	20	68	48	32	106	75
All	2062	404	1359	955	9	30	21	20	67	47	31	105	74
All	2063	404	1359	955	9	29	20	20	67	47	31	104	73
All	2064	404	1359	955	8	28	20	19	66	46	31	103	72
All	2065	404	1359	955	8	27	19	19	64	45	30	101	71
All	2066	404	1359	955	8	27	19	19	63	44	30	100	70
All	2067	404	1359	955	8	26	18	18	62	44	29	98	69

All	2068	404	1359	955	7	25	18	18	61	43	29	97	68
All	2069	404	1359	955	7	24	17	18	59	42	28	95	67
All	2070	404	1359	955	7	23	16	17	58	41	28	93	65
All	2071	404	1359	955	7	22	16	17	57	40	27	91	64
All	2072	404	1359	955	6	22	15	16	55	39	27	89	63
All	2073	404	1359	955	6	21	15	16	54	38	26	87	61
All	2074	404	1359	955	6	20	14	16	53	37	25	85	60
All	2075	404	1359	955	6	19	14	15	51	36	25	83	59
All	2076	404	1359	955	5	18	13	15	50	35	24	81	57
All	2077	404	1359	955	5	18	12	14	48	34	24	79	56
All	2078	404	1359	955	5	17	12	14	47	33	23	77	54
All	2079	404	1359	955	5	16	11	14	45	32	22	75	53
All	2080	404	1359	955	5	15	11	13	44	31	22	73	51
All	2081	404	1359	955	4	15	10	13	43	30	21	71	50
All	2082	404	1359	955	4	14	10	12	41	29	20	69	48
Car	Total	11657	39321	27664	238	804	566	516	1740	1224	793	2675	1882
LGV Personal	Total	660	2303	1642	14	47	34	29	102	73	45	157	112
LGV Freight	Total	4843	16885	12042	99	346	247	214	747	533	329	1148	819
OGV1	Total	4154	13667	9513	85	280	195	185	608	423	285	937	652
OGV2	Total	4025	13192	9166	82	270	188	179	587	408	276	904	628
All	Total	25339	85367	60028	519	1747	1228	1123	3784	2660	1728	5821	4093

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	2	7	5	0	0	0	0	0	0	0	0	0
Car	2037	3	10	7	0	0	0	0	0	0	0	1	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	0	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	1	3	2	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	2	8	6	0	0	0	0	0	0	0	0
All	2024	3	10	7	0	0	0	0	0	0	0	0
All	2025	4	12	8	0	0	0	0	0	0	0	0
All	2026	4	14	9	0	0	0	0	0	0	1	0
All	2027	4	15	10	0	0	0	0	0	0	1	0
All	2028	5	15	11	0	0	0	0	0	0	1	0
All	2029	5	15	11	0	0	0	0	1	0	1	1
All	2030	5	15	10	0	0	0	0	1	0	1	1
All	2031	5	15	11	0	0	0	0	1	0	1	1
All	2032	5	15	11	0	0	0	0	1	0	1	1
All	2033	5	15	11	0	0	0	0	1	0	1	1
All	2034	5	15	10	0	0	0	0	1	0	1	1
All	2035	5	15	10	0	0	0	0	1	0	1	1
All	2036	4	14	10	0	0	0	0	1	0	1	1
All	2037	4	14	9	0	0	0	0	1	0	1	1
All	2038	4	13	9	0	0	0	0	1	0	1	1
All	2039	4	13	9	0	0	0	0	1	0	1	1
All	2040	4	12	8	0	0	0	0	1	0	1	1
All	2041	4	12	8	0	0	0	0	1	0	1	1
All	2042	4	12	8	0	0	0	0	1	0	1	1
All	2043	4	12	8	0	0	0	0	1	0	1	1
All	2044	4	12	8	0	0	0	0	1	0	1	1
All	2045	3	11	8	0	0	0	0	1	0	1	1

All	2046	3	11	7	0	0	0	0	1	0	0	1	1
All	2047	3	10	7	0	0	0	0	1	0	0	1	1
All	2048	3	10	7	0	0	0	0	1	0	0	1	1
All	2049	3	9	6	0	0	0	0	0	0	0	1	0
All	2050	3	9	6	0	0	0	0	0	0	0	1	0
All	2051	3	9	6	0	0	0	0	0	0	0	1	0
All	2052	3	9	6	0	0	0	0	0	0	0	1	0
All	2053	3	9	6	0	0	0	0	0	0	0	1	0
All	2054	3	9	6	0	0	0	0	0	0	0	1	0
All	2055	3	9	6	0	0	0	0	0	0	0	1	0
All	2056	3	9	6	0	0	0	0	0	0	0	1	0
All	2057	3	9	6	0	0	0	0	0	0	0	1	0
All	2058	3	9	6	0	0	0	0	0	0	0	1	0
All	2059	3	9	6	0	0	0	0	0	0	0	1	0
All	2060	3	9	6	0	0	0	0	0	0	0	1	0
All	2061	3	9	6	0	0	0	0	0	0	0	1	0
All	2062	3	9	6	0	0	0	0	0	0	0	1	0
All	2063	3	9	6	0	0	0	0	0	0	0	1	0
All	2064	3	9	6	0	0	0	0	0	0	0	1	0
All	2065	3	9	6	0	0	0	0	0	0	0	1	0
All	2066	3	9	6	0	0	0	0	0	0	0	1	0
All	2067	3	9	6	0	0	0	0	0	0	0	1	0
All	2068	3	9	6	0	0	0	0	0	0	0	1	0
All	2069	3	9	6	0	0	0	0	0	0	0	1	0
All	2070	3	9	6	0	0	0	0	0	0	0	1	0
All	2071	3	9	6	0	0	0	0	0	0	0	1	0
All	2072	3	9	6	0	0	0	0	0	0	0	1	0
All	2073	3	9	6	0	0	0	0	0	0	0	1	0
All	2074	3	9	6	0	0	0	0	0	0	0	1	0

All	2075	3	9	6	0	0	0	0	0	0	0	1	0
All	2076	3	9	6	0	0	0	0	0	0	0	1	0
All	2077	3	9	6	0	0	0	0	0	0	0	1	0
All	2078	3	9	6	0	0	0	0	0	0	0	0	0
All	2079	3	9	6	0	0	0	0	0	0	0	0	0
All	2080	3	9	6	0	0	0	0	0	0	0	0	0
All	2081	3	9	6	0	0	0	0	0	0	0	0	0
All	2082	3	9	6	0	0	0	0	0	0	0	0	0
Car	Total	139	451	312	3	10	7	6	19	13	9	29	20
LGV Personal	Total	6	21	15	0	1	0	0	1	1	0	1	1
LGV Freight	Total	48	155	108	1	4	3	2	7	5	3	11	7
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	193	628	434	5	15	10	8	27	18	13	41	28

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	134	550	416	3	11	8	5	22	17	8	34	25
AM peak	2037	121	473	351	3	11	8	6	22	16	8	33	24
PM peak	2023	139	401	262	3	8	5	6	16	11	9	25	16
PM peak	2037	103	331	229	2	8	5	5	15	11	7	23	16
Inter-peak	2023	192	633	441	4	13	9	8	26	18	12	39	27
Inter-peak	2037	179	563	384	4	13	9	8	26	18	12	39	27
Off-peak	2023	37	125	87	1	3	2	2	5	4	2	8	5
Off-peak	2037	36	111	75	1	3	2	2	5	3	2	8	5
AM peak	Total	6956	27262	20305	142	558	415	309	1208	900	475	1858	1384
PM peak	Total	6023	19073	13050	123	390	267	266	845	578	409	1299	890
Inter-peak	Total	10310	32617	22307	211	667	456	458	1447	989	704	2226	1521

Off-peak	Total	2049	6415	4365	42	131	89	91	284	193	140	438	298

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	1	3	2	0	0	0	0	0	0	0	0	0
AM peak	2037	1	5	3	0	0	0	0	0	0	0	0	0
PM peak	2023	1	2	2	0	0	0	0	0	0	0	0	0
PM peak	2037	1	4	2	0	0	0	0	0	0	0	0	0
Inter-peak	2023	1	3	2	0	0	0	0	0	0	0	0	0
Inter-peak	2037	1	4	3	0	0	0	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	0	1	1	0	0	0	0	0	0	0	0	0
AM peak	Total	53	210	156	1	5	4	2	9	7	3	14	10
PM peak	Total	62	173	110	1	4	3	3	7	5	4	11	7
Inter-peak	Total	65	205	140	2	5	3	3	9	6	4	13	9
Off-peak	Total	13	40	27	0	1	1	1	2	1	1	3	2

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	32	0	-371	1	0	216
Road	2024	33	0	-360	1	0	207
Road	2025	35	0	-350	1	0	199
Road	2026	37	0	-340	1	0	191
Road	2027	38	0	-330	1	0	184
Road	2028	40	0	-320	1	0	177
Road	2029	41	0	-313	1	0	171
Road	2030	43	0	-304	1	0	165
Road	2031	44	0	-293	1	0	159
Road	2032	45	0	-283	1	0	153
Road	2033	47	0	-273	1	0	148
Road	2034	48	0	-264	1	0	143
Road	2035	49	0	-255	1	0	139
Road	2036	51	0	-247	1	0	135
Road	2037	52	0	-239	1	0	130
Road	2038	51	0	-231	1	0	126
Road	2039	50	0	-223	1	0	122
Road	2040	49	0	-215	1	0	118
Road	2041	49	0	-208	1	0	114
Road	2042	48	0	-200	1	0	110
Road	2043	47	0	-193	1	0	106
Road	2044	46	0	-187	1	0	103
Road	2045	46	0	-181	1	0	100
Road	2046	45	0	-175	1	0	96
Road	2047	44	0	-169	1	0	93
Road	2048	44	0	-163	1	0	90
Road	2049	43	0	-158	1	0	87
Road	2050	43	0	-153	1	0	85
Road	2051	42	0	-150	1	0	83
Road	2052	42	0	-146	1	0	81
Road	2053	41	0	-142	1	0	80
Road	2054	41	0	-139	1	0	78
Road	2055	40	0	-135	1	0	76
Road	2056	40	0	-132	1	0	75
Road	2057	40	0	-129	1	0	73
Road	2058	39	0	-125	0	0	72
Road	2059	39	0	-122	0	0	70
Road	2060	38	0	-119	0	0	68
Road	2061	38	0	-116	0	0	67

Road	2062	38	0	-113	0	0	66
Road	2063	37	0	-111	0	0	64
Road	2064	37	0	-108	0	0	63
Road	2065	37	0	-105	0	0	61
Road	2066	36	0	-103	0	0	60
Road	2067	36	0	-100	0	0	59
Road	2068	36	0	-98	0	0	58
Road	2069	35	0	-95	0	0	56
Road	2070	35	0	-93	0	0	55
Road	2071	35	0	-91	0	0	54
Road	2072	34	0	-88	0	0	53
Road	2073	34	0	-86	0	0	52
Road	2074	34	0	-84	0	0	51
Road	2075	33	0	-82	0	0	49
Road	2076	33	0	-80	0	0	48
Road	2077	33	0	-78	0	0	47
Road	2078	32	0	-76	0	0	46
Road	2079	32	0	-74	0	0	45
Road	2080	32	0	-72	0	0	44
Road	2081	31	0	-71	0	0	43
Road	2082	31	0	-69	0	0	42
Road	Total	2399	0	-10329	35	0	5811

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	25	0	-194	0	0	113
Car	2037	40	0	-117	0	0	63
LGV Personal	2023	0	0	-10	0	0	6
LGV Personal	2037	1	0	-7	0	0	4
LGV Freight	2023	5	0	-76	0	0	44
LGV Freight	2037	9	0	-49	0	0	26
OGV1	2023	1	0	-46	0	0	27
OGV1	2037	1	0	-34	0	0	19
OGV2	2023	1	0	-45	0	0	26
OGV2	2037	1	0	-33	0	0	19
All	2023	32	0	-371	1	0	216
All	2037	52	0	-239	1	0	130
Car	Total	1866	0	-5073	9	0	2821
LGV Personal	Total	25	0	-283	0	0	156
LGV Freight	Total	404	0	-2076	8	0	1139
OGV1	Total	57	0	-1475	7	0	863

OGV2	Total	48	0	-1421	11	0	832
All	Total	2399	0	-10329	35	0	5811

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	32	0	-371	1	0	216
All	2037	52	0	-239	1	0	130
All	Total	2399	0	-10329	35	0	5811

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	8	0	-179	1	0	104
Business	2037	13	0	-123	1	0	68
Commuting	2023	10	0	-54	0	0	32
Commuting	2037	16	0	-33	0	0	18
Other	2023	14	0	-138	0	0	81
Other	2037	23	0	-83	0	0	45
Business	Total	607	0	-5294	35	0	3013
Commuting	Total	745	0	-1419	0	0	789
Other	Total	1047	0	-3616	0	0	2009

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	-1	0	-128	-0	0	75
AM peak	2037	3	0	-81	0	0	44
PM peak	2023	32	0	-81	1	0	47
PM peak	2037	48	0	-53	1	0	29
Inter-peak	2023	0	0	-135	0	0	78
Inter-peak	2037	1	0	-87	0	0	48
Off-peak	2023	-0	0	-27	-0	0	16
Off-peak	2037	-0	0	-17	-0	0	9
AM peak	Total	116	0	-3516	2	0	1973
PM peak	Total	2244	0	-2284	32	0	1280
Inter-peak	Total	47	0	-3787	1	0	2139
Off-peak	Total	-9	0	-742	-0	0	419

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	0	0	0
Car	Business	2037	0	0	-0	1	0	0
Car	Business	Total	0	0	-17	42	0	0
Car	Commuting	2023	0	0	-1	3	0	0
Car	Commuting	2037	0	0	-1	4	0	0
Car	Commuting	Total	0	0	-79	234	0	0
Car	Other	2023	0	0	-4	8	0	0
Car	Other	2037	0	0	-4	13	0	0
Car	Other	Total	0	0	-254	721	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	0	0
LGV Personal	Other	2037	0	0	-0	0	0	0
LGV Personal	Other	Total	0	0	-8	20	0	0
LGV Freight	Business	2023	0	0	-1	1	0	0
LGV Freight	Business	2037	0	0	-1	2	0	0
LGV Freight	Business	Total	0	0	-49	118	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-0	0	0	0
OGV1	Business	2037	0	0	-0	0	0	0
OGV1	Business	Total	0	0	-11	19	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-0	0	0	0
OGV2	Business	2037	0	0	-0	0	0	0
OGV2	Business	Total	0	0	-7	14	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0

OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-2	3	0	0
Car	Business	2037	0	0	-1	3	0	0
Car	Business	Total	0	0	-67	166	0	0
Car	Commuting	2023	0	0	-9	19	0	0
Car	Commuting	2037	0	0	-8	24	0	0
Car	Commuting	Total	0	0	-385	1130	0	0
Car	Other	2023	0	0	-13	27	0	0
Car	Other	2037	0	0	-11	33	0	0
Car	Other	Total	0	0	-567	1589	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	1	0	0
LGV Personal	Other	2037	0	0	-0	1	0	0
LGV Personal	Other	Total	0	0	-18	43	0	0
LGV Freight	Business	2023	0	0	-7	12	0	0
LGV Freight	Business	2037	0	0	-6	15	0	0
LGV Freight	Business	Total	0	0	-293	697	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-2	2	0	0
OGV1	Business	2037	0	0	-2	3	0	0
OGV1	Business	Total	0	0	-77	134	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-1	2	0	0
OGV2	Business	2037	0	0	-1	2	0	0
OGV2	Business	Total	0	0	-49	97	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-19	8	0	0
Car	Business	2037	0	0	-12	7	0	0
Car	Business	Total	0	0	-529	316	0	0
Car	Commuting	2023	0	0	-85	41	0	0
Car	Commuting	2037	0	0	-54	37	0	0
Car	Commuting	Total	0	0	-2381	1707	0	0
Car	Other	2023	0	0	-195	81	0	0
Car	Other	2037	0	0	-121	66	0	0
Car	Other	Total	0	0	-5328	3017	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-15	5	0	0
LGV Personal	Other	2037	0	0	-10	4	0	0
LGV Personal	Other	Total	0	0	-416	158	0	0
LGV Freight	Business	2023	0	0	-114	44	0	0
LGV Freight	Business	2037	0	0	-74	34	0	0
LGV Freight	Business	Total	0	0	-3215	1551	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-68	22	0	0
OGV1	Business	2037	0	0	-51	18	0	0

OGV1	Business	Total	0	0	-2199	788	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-65	21	0	0
OGV2	Business	2037	0	0	-48	17	0	0
OGV2	Business	Total	0	0	-2100	737	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	0	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0	0	0
Car	Business	Total	0	25	0	0	0	0	0	0
Car	Commuting	2023	0	1	0	0	0	0	0	0
Car	Commuting	2037	0	3	0	0	0	0	0	0
Car	Commuting	Total	0	156	0	0	0	0	0	0
Car	Other	2023	0	4	0	0	0	0	0	0
Car	Other	2037	0	8	0	0	0	0	0	0
Car	Other	Total	0	468	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0	0	0
LGV Personal	Other	Total	0	11	0	0	0	0	0	0
LGV Freight	Business	2023	0	1	0	0	0	0	0	0
LGV Freight	Business	2037	0	1	0	0	0	0	0	0
LGV Freight	Business	Total	0	69	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	8	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	7	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	1	0	0	0	0	0	0
Car	Business	2037	0	2	0	0	0	0	0	0
Car	Business	Total	0	99	0	0	0	0	0	0
Car	Commuting	2023	0	10	0	0	0	0	0	0
Car	Commuting	2037	0	16	0	0	0	0	0	0
Car	Commuting	Total	0	745	0	0	0	0	0	0

Car	Other	2023	0	14	0	0	0	0	0
Car	Other	2037	0	22	0	0	0	0	0
Car	Other	Total	0	1022	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	1	0	0	0	0	0
LGV Personal	Other	Total	0	25	0	0	0	0	0
LGV Freight	Business	2023	0	5	0	0	0	0	0
LGV Freight	Business	2037	0	9	0	0	0	0	0
LGV Freight	Business	Total	0	404	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	1	0	0	0	0	0
OGV1	Business	2037	0	1	0	0	0	0	0
OGV1	Business	Total	0	57	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	1	0	0	0	0	0
OGV2	Business	2037	0	1	0	0	0	0	0
OGV2	Business	Total	0	48	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	-11	0	0	0	0	0	0
Car	Business	2037	0	-5	0	0	0	0	0	0
Car	Business	Total	0	-213	0	0	0	0	0	0
Car	Commuting	2023	0	-44	0	0	0	0	0	0
Car	Commuting	2037	0	-17	0	0	0	0	0	0
Car	Commuting	Total	0	-674	0	0	0	0	0	0
Car	Other	2023	0	-114	0	0	0	0	0	0
Car	Other	2037	0	-55	0	0	0	0	0	0
Car	Other	Total	0	-2311	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	-10	0	0	0	0	0	0

LGV Personal	Other	2037	0	-6	0	0	0	0	0
LGV Personal	Other	Total	0	-258	0	0	0	0	0
LGV Freight	Business	2023	0	-70	0	0	0	0	0
LGV Freight	Business	2037	0	-40	0	0	0	0	0
LGV Freight	Business	Total	0	-1664	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	-46	0	0	0	0	0
OGV1	Business	2037	0	-33	0	0	0	0	0
OGV1	Business	Total	0	-1412	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	-44	0	0	0	0	0
OGV2	Business	2037	0	-31	0	0	0	0	0
OGV2	Business	Total	0	-1362	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	-53.54%	-41.53%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	745	745
Vehicle operating costs	-1419	-1419
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	-674	-674

Consumer - Other user benefits	All Modes	Road
Travel Time	1047	1047
Vehicle operating costs	-3616	-3616
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	-2569	-2569

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	607	99	508		
Vehicle operating costs	-5259	-312	-4947		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	-4651	-213	-4438		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	-4651	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	-7894

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	375	375
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	375	375

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	2124	2124
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	2124	2124

Central Government Funding: Non-Transport

Indirect Tax Revenues	-5811	-5811

TOTALS

Broad Transport Budget	2499	2499
Wider Public Finances	-5811	-5811

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-2660
Economic Efficiency: Consumer Users (Commuting)	-674
Economic Efficiency: Consumer Users (Other)	-2569
Economic Efficiency: Business Users and Providers	-4651
Wider Public Finances (Indirect Taxation Revenues)	5811
Present Value of Benefits (PVB)	-4743
Broad Transport Budget	2499

Present Value of Costs (PVC) 2499

OVERALL IMPACTS

Net Present Value (NPV) -7242

Benefit to Cost Ratio (BCR) -1.898

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 5_Warren Hill_V2_Costs.txt

- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt

- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\5_Warren Hill_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix R – Lowdham TUBA Output Data

Transport User Benefit Appraisal TUBA (64-BIT) 1.9.12(1xB)

Program run on Wed Mar 27, 2019 at 10:22:30

ERRORS AND WARNINGS

2212 Warnings found

Warning (217 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
4	1	2	LGV Personal	Other	All	2037	0.090	0.002	40.466	4.248	4.248
4	2	2	LGV Personal	Other	All	2037	0.090	0.002	40.466	4.704	4.704
4	3	2	LGV Personal	Other	All	2037	0.090	0.002	40.466	3.837	3.837
4	1	2	Car	Business	All	2037	0.090	0.002	40.466	12.485	12.485
4	2	2	Car	Business	All	2037	0.090	0.002	40.466	13.824	13.824
4	3	2	Car	Business	All	2037	0.090	0.002	40.466	11.275	11.275
4	1	2	LGV Freight	Business	All	2037	0.090	0.002	40.466	31.154	31.154
4	2	2	LGV Freight	Business	All	2037	0.090	0.002	40.466	34.496	34.496
4	3	2	LGV Freight	Business	All	2037	0.090	0.002	40.466	28.136	28.136
4	1	2	Car	Commuting	All	2037	0.090	0.002	40.466	79.518	79.518
4	2	2	Car	Commuting	All	2037	0.090	0.002	40.466	88.048	88.048
4	3	2	Car	Commuting	All	2037	0.090	0.002	40.466	71.814	71.814
4	1	2	OGV1	Business	All	2037	0.090	0.002	40.466	5.346	5.346
4	2	2	OGV1	Business	All	2037	0.090	0.002	40.466	5.920	5.920
4	3	2	OGV1	Business	All	2037	0.090	0.002	40.466	4.829	4.829
4	1	2	Car	Other	All	2037	0.090	0.002	40.466	152.089	152.089
4	2	2	Car	Other	All	2037	0.090	0.002	40.466	168.403	168.403
4	3	2	Car	Other	All	2037	0.090	0.002	40.466	137.354	137.354
4	1	2	OGV2	Business	All	2037	0.090	0.002	40.466	4.133	4.133
4	2	2	OGV2	Business	All	2037	0.090	0.002	40.466	4.576	4.576

Displayed 20 warnings of a total of 476 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Speed	DM_trips
1	1	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.000
1	2	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.573
1	3	4	OGV1	Business	All	2023	2.000	0.000	4081.633	2.521
1	4	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.745
1	1	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.000
1	2	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.302
1	3	4	OGV2	Business	All	2023	2.000	0.000	4081.633	1.329
1	4	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.393
1	1	4	Car	Business	All	2023	2.000	0.000	4081.633	0.000
1	2	4	Car	Business	All	2023	2.000	0.000	4081.633	0.335

1	3	4	Car	Business	All	2023	2.000	0.000	4081.633	1.472
1	4	4	Car	Business	All	2023	2.000	0.000	4081.633	0.435
1	1	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	0.000
1	2	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.199
1	3	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	5.277
1	4	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.559
1	1	4	Car	Commuting	All	2023	2.000	0.000	4081.633	0.000
1	2	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.232
1	3	4	Car	Commuting	All	2023	2.000	0.000	4081.633	9.821
1	4	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.902

Displayed 20 warnings of a total of 840 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Speed	DS_trips
3	1	4	OGV1	Business	All	2023	2.000	0.000	4444.444	2.750
3	2	4	OGV1	Business	All	2023	2.000	0.000	4444.444	0.630
3	3	4	OGV1	Business	All	2023	2.000	0.000	4444.444	0.000
3	4	4	OGV1	Business	All	2023	2.000	0.000	4444.444	1.375
3	1	4	Car	Business	All	2023	2.000	0.000	4444.444	1.606
3	2	4	Car	Business	All	2023	2.000	0.000	4444.444	0.368
3	3	4	Car	Business	All	2023	2.000	0.000	4444.444	0.000
3	4	4	Car	Business	All	2023	2.000	0.000	4444.444	0.803
3	1	4	OGV2	Business	All	2023	2.000	0.000	4444.444	1.450
3	2	4	OGV2	Business	All	2023	2.000	0.000	4444.444	0.332
3	3	4	OGV2	Business	All	2023	2.000	0.000	4444.444	0.000
3	4	4	OGV2	Business	All	2023	2.000	0.000	4444.444	0.725
3	1	4	Car	Commuting	All	2023	2.000	0.000	4444.444	10.714
3	2	4	Car	Commuting	All	2023	2.000	0.000	4444.444	2.455
3	3	4	Car	Commuting	All	2023	2.000	0.000	4444.444	0.000
3	4	4	Car	Commuting	All	2023	2.000	0.000	4444.444	5.357
3	1	4	LGV Freight	Business	All	2023	2.000	0.000	4444.444	5.757
3	2	4	LGV Freight	Business	All	2023	2.000	0.000	4444.444	1.319
3	3	4	LGV Freight	Business	All	2023	2.000	0.000	4444.444	0.000
3	4	4	LGV Freight	Business	All	2023	2.000	0.000	4444.444	2.879

Displayed 20 warnings of a total of 896 of this type.

TUBA ECONOMICS FILE DIFFERENCES

STANDARD ECONOMICS FILE USED

INPUT_SUMMARY

Run name	TUBA-6_Lowdham
DM scheme	DM
DS scheme	DS

Economic parameter file K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt

Scheme parameter file K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 6_Lowdham_Costs.txt

First year of scheme costs 2019

First Appraisal Year 2023

Last Appraisal Year 2082

Modelled years 2023 2037

Time period	Total hours
AM peak	780
PM peak	780
Inter-peak	1560
Off-peak	3120
Total	6240

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Do minimum scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	0	0	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev._Cont
Road	2019	0	0	0	0	0	0	0	0
Road	2020	0	0	0	0	0	0	0	0
Road	2021	0	0	0	0	0	0	0	0
Road	2022	0	0	0	0	0	0	0	0
Road	2023	102	0	0	102	0	0	0	0
Road	2024	16	118	4121	64	0	0	0	0
Road	2025	0	0	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2019	0	0	0
Road	2020	0	0	0
Road	2021	0	0	0
Road	2022	0	0	0
Road	2023	0	131	131
Road	2024	0	2668	2668
Road	2025	0	0	0
Road	2026	0	0	0
Road	Total	0	2799	2799

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	2353	2353
Car	2023	PM peak	2445	2445
Car	2023	Inter-peak	3003	3003
Car	2023	Off-peak	588	588
Car	2023	All	8389	8389
Car	2037	AM peak	2453	2453
Car	2037	PM peak	2517	2517
Car	2037	Inter-peak	3133	3133
Car	2037	Off-peak	615	615
Car	2037	All	8717	8717
LGV Personal	2023	AM peak	43	43
LGV Personal	2023	PM peak	43	43
LGV Personal	2023	Inter-peak	63	63
LGV Personal	2023	Off-peak	12	12
LGV Personal	2023	All	161	161
LGV Personal	2037	AM peak	45	45
LGV Personal	2037	PM peak	44	44
LGV Personal	2037	Inter-peak	66	66
LGV Personal	2037	Off-peak	13	13
LGV Personal	2037	All	167	167
LGV Freight	2023	AM peak	313	313
LGV Freight	2023	PM peak	312	312
LGV Freight	2023	Inter-peak	464	464
LGV Freight	2023	Off-peak	91	91
LGV Freight	2023	All	1180	1180
LGV Freight	2037	AM peak	327	327
LGV Freight	2037	PM peak	321	321

LGV Freight	2037	Inter-peak	484	484
LGV Freight	2037	Off-peak	95	95
LGV Freight	2037	All	1227	1227
OGV1	2023	AM peak	86	86
OGV1	2023	PM peak	54	54
OGV1	2023	Inter-peak	222	222
OGV1	2023	Off-peak	43	43
OGV1	2023	All	404	404
OGV1	2037	AM peak	89	89
OGV1	2037	PM peak	55	55
OGV1	2037	Inter-peak	231	231
OGV1	2037	Off-peak	45	45
OGV1	2037	All	421	421
OGV2	2023	AM peak	54	54
OGV2	2023	PM peak	41	41
OGV2	2023	Inter-peak	117	117
OGV2	2023	Off-peak	23	23
OGV2	2023	All	235	235
OGV2	2037	AM peak	56	56
OGV2	2037	PM peak	43	43
OGV2	2037	Inter-peak	122	122
OGV2	2037	Off-peak	24	24
OGV2	2037	All	244	244
All	2023	AM peak	2848	2848
All	2023	PM peak	2895	2895
All	2023	Inter-peak	3869	3869
All	2023	Off-peak	758	758
All	2023	All	10370	10370
All	2037	AM peak	2969	2969
All	2037	PM peak	2979	2979
All	2037	Inter-peak	4036	4036
All	2037	Off-peak	792	792
All	2037	All	10777	10777

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	443	0	1207	751	91	0	1215	742
Road	2037	567	0	794	487	78	0	789	477

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

	Do minimum	Do something

Submode	Year	Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	485	478	72	487	480	72
Car	2037	415	370	364	410	366	364
LGV Personal	2023	0	38	1	0	39	1
LGV Personal	2037	0	33	13	0	33	13
LGV Freight	2023	3	278	5	3	286	5
LGV Freight	2037	1	239	92	1	243	92
OGV1	2023	0	210	0	0	210	0
OGV1	2037	0	221	0	0	219	0
OGV2	2023	0	192	0	0	191	0
OGV2	2037	0	202	0	0	199	0
All	2023	488	1196	78	491	1205	78
All	2037	417	1066	468	411	1060	468
Car	Total	23868	21131	26392	23629	20932	26392
LGV Personal	Total	11	1815	1111	11	1847	1111
LGV Freight	Total	84	13311	8143	84	13541	8143
OGV1	Total	0	13174	0	0	13072	0
OGV2	Total	0	12070	0	0	11858	0
All	Total	23964	61501	35645	23724	61250	35645

CO2_EMISSIONS_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	2161	2170	9	44	44	0	88	88	0	132	133	1
Car	2037	1755	1734	-21	40	40	-0	81	80	-1	121	120	-1
LGV Personal	2023	93	95	3	2	2	0	4	4	0	6	6	0
LGV Personal	2037	79	81	1	2	2	0	4	4	0	5	6	0
LGV Freight	2023	679	697	18	14	14	0	28	28	1	41	43	1
LGV Freight	2037	583	591	9	13	14	0	27	27	0	40	41	1
OGV1	2023	509	509	0	10	10	0	21	21	0	31	31	0
OGV1	2037	535	530	-5	12	12	-0	25	24	-0	37	37	-0
OGV2	2023	465	462	-3	9	9	-0	19	19	-0	28	28	-0
OGV2	2037	490	481	-9	11	11	-0	23	22	-0	34	33	-1
All	2023	3906	3933	27	80	80	1	159	160	1	239	240	2
All	2024	3853	3876	23	77	78	0	154	155	1	231	233	1
All	2025	3795	3813	18	74	75	0	149	150	1	223	225	1
All	2026	3750	3764	14	72	72	0	144	145	1	217	217	1
All	2027	3709	3719	10	70	70	0	140	140	0	210	211	1
All	2028	3663	3669	6	68	68	0	136	136	0	203	204	0
All	2029	3627	3630	2	66	66	0	132	132	0	198	198	0
All	2030	3594	3593	-1	64	64	-0	128	128	-0	192	192	-0
All	2031	3558	3553	-5	67	67	-0	134	134	-0	201	200	-0
All	2032	3533	3524	-8	70	69	-0	139	139	-0	209	208	-0
All	2033	3512	3500	-12	72	72	-0	144	144	-0	216	215	-1
All	2034	3487	3472	-15	74	74	-0	148	148	-1	222	222	-1
All	2035	3473	3454	-19	76	76	-0	152	152	-1	229	227	-1
All	2036	3460	3438	-22	78	77	-0	156	155	-1	234	232	-1
All	2037	3442	3417	-25	79	79	-1	159	158	-1	238	237	-2
All	2038	3419	3394	-25	81	80	-1	161	160	-1	242	240	-2

All	2039	3397	3372	-25	81	81	-1	163	162	-1	244	242	-2
All	2040	3368	3344	-25	82	81	-1	164	163	-1	246	244	-2
All	2041	3344	3319	-25	82	82	-1	165	164	-1	247	245	-2
All	2042	3321	3296	-25	83	82	-1	165	164	-1	248	246	-2
All	2043	3293	3269	-24	83	82	-1	165	164	-1	248	246	-2
All	2044	3274	3250	-24	83	82	-1	166	164	-1	248	246	-2
All	2045	3257	3232	-24	83	82	-1	166	164	-1	248	246	-2
All	2046	3233	3209	-24	82	82	-1	165	164	-1	247	246	-2
All	2047	3218	3194	-24	82	82	-1	165	163	-1	247	245	-2
All	2048	3205	3180	-24	82	81	-1	164	163	-1	246	244	-2
All	2049	3185	3160	-24	81	81	-1	163	162	-1	244	243	-2
All	2050	3170	3145	-24	81	81	-1	163	162	-1	244	242	-2
All	2051	3170	3145	-24	81	80	-1	164	162	-1	246	244	-2
All	2052	3170	3145	-24	80	80	-1	164	163	-1	248	246	-2
All	2053	3170	3145	-24	80	79	-1	164	163	-1	249	247	-2
All	2054	3170	3145	-24	79	78	-1	165	163	-1	250	248	-2
All	2055	3170	3145	-24	78	78	-1	165	163	-1	251	249	-2
All	2056	3170	3145	-24	77	77	-1	164	163	-1	251	249	-2
All	2057	3170	3145	-24	76	76	-1	164	163	-1	251	249	-2
All	2058	3170	3145	-24	75	74	-1	163	162	-1	251	249	-2
All	2059	3170	3145	-24	74	73	-1	162	161	-1	251	249	-2
All	2060	3170	3145	-24	73	72	-1	161	160	-1	250	248	-2
All	2061	3170	3145	-24	71	70	-1	159	158	-1	248	246	-2
All	2062	3170	3145	-24	69	69	-1	157	156	-1	245	244	-2
All	2063	3170	3145	-24	67	67	-1	155	154	-1	243	241	-2
All	2064	3170	3145	-24	66	65	-1	153	152	-1	240	238	-2
All	2065	3170	3145	-24	64	63	-0	150	149	-1	237	235	-2
All	2066	3170	3145	-24	62	62	-0	148	146	-1	233	231	-2
All	2067	3170	3145	-24	60	60	-0	145	144	-1	229	228	-2

All	2068	3170	3145	-24	58	58	-0	142	141	-1	226	224	-2
All	2069	3170	3145	-24	56	56	-0	139	138	-1	221	220	-2
All	2070	3170	3145	-24	54	54	-0	136	135	-1	217	215	-2
All	2071	3170	3145	-24	52	52	-0	133	131	-1	213	211	-2
All	2072	3170	3145	-24	50	50	-0	129	128	-1	208	207	-2
All	2073	3170	3145	-24	49	48	-0	126	125	-1	204	202	-2
All	2074	3170	3145	-24	47	46	-0	123	122	-1	199	197	-2
All	2075	3170	3145	-24	45	44	-0	120	119	-1	194	193	-1
All	2076	3170	3145	-24	43	43	-0	116	115	-1	189	188	-1
All	2077	3170	3145	-24	41	41	-0	113	112	-1	184	183	-1
All	2078	3170	3145	-24	39	39	-0	109	108	-1	179	178	-1
All	2079	3170	3145	-24	38	37	-0	106	105	-1	174	173	-1
All	2080	3170	3145	-24	36	36	-0	102	102	-1	169	168	-1
All	2081	3170	3145	-24	34	34	-0	99	99	-1	165	163	-1
All	2082	3170	3145	-24	33	33	-0	96	96	-1	160	159	-1
Car	Total	100569	99591	-978	2058	2037	-20	4452	4407	-45	6846	6777	-69
LGV Personal	Total	4417	4493	76	90	92	2	196	199	3	301	306	5
LGV Freight	Total	32391	32946	555	663	675	11	1434	1458	24	2204	2241	37
OGV1	Total	31884	31638	-246	652	647	-5	1419	1408	-11	2186	2168	-17
OGV2	Total	29212	28700	-511	598	587	-11	1300	1277	-23	2003	1967	-36
All	Total	198473	197369	-1104	4062	4039	-23	8800	8749	-51	13538	13459	-79

CO2_EMISSIONS_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	18	18	0	0	0	0	0	0	0	0	0	0
Car	2037	25	25	0	1	1	0	1	1	0	2	2	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0

LGV Freight	2023	1	1	0	0	0	0	0	0	0	0	0
LGV Freight	2037	6	6	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0
All	2023	20	20	0	0	0	0	0	0	0	0	0
All	2024	25	25	0	0	0	0	0	0	0	1	1	0
All	2025	29	29	0	0	0	0	1	1	0	1	1	0
All	2026	33	33	0	0	0	0	1	1	0	1	1	0
All	2027	35	35	0	1	1	0	1	1	0	2	2	0
All	2028	37	37	0	1	1	0	1	1	0	2	2	0
All	2029	37	37	0	1	1	0	1	1	0	2	2	0
All	2030	36	36	0	1	1	0	1	1	0	2	2	0
All	2031	37	37	0	1	1	0	1	1	0	2	2	0
All	2032	37	37	0	1	1	0	1	1	0	2	2	0
All	2033	36	36	0	1	1	0	1	1	0	2	2	0
All	2034	36	36	0	1	1	0	2	2	0	2	2	0
All	2035	35	35	0	1	1	0	2	2	0	2	2	0
All	2036	34	34	0	1	1	0	2	2	0	2	2	0
All	2037	33	33	0	1	1	0	2	2	0	2	2	0
All	2038	31	31	0	1	1	0	1	1	0	2	2	0
All	2039	30	30	0	1	1	0	1	1	0	2	2	0
All	2040	29	29	0	1	1	0	1	1	0	2	2	0
All	2041	29	29	0	1	1	0	1	1	0	2	2	0
All	2042	28	28	0	1	1	0	1	1	0	2	2	0
All	2043	28	28	0	1	1	0	1	1	0	2	2	0
All	2044	27	27	0	1	1	0	1	1	0	2	2	0
All	2045	26	26	0	1	1	0	1	1	0	2	2	0

All	2046	25	25	0	1	1	0	1	1	0	2	2	0
All	2047	24	24	0	1	1	0	1	1	0	2	2	0
All	2048	23	23	0	1	1	0	1	1	0	2	2	0
All	2049	22	22	0	1	1	0	1	1	0	2	2	0
All	2050	20	20	0	1	1	0	1	1	0	2	2	0
All	2051	20	20	0	1	1	0	1	1	0	2	2	0
All	2052	20	20	0	1	1	0	1	1	0	2	2	0
All	2053	20	20	0	1	1	0	1	1	0	2	2	0
All	2054	20	20	0	1	1	0	1	1	0	2	2	0
All	2055	20	20	0	1	1	0	1	1	0	2	2	0
All	2056	20	20	0	1	1	0	1	1	0	2	2	0
All	2057	20	20	0	1	1	0	1	1	0	2	2	0
All	2058	20	20	0	1	1	0	1	1	0	2	2	0
All	2059	20	20	0	1	1	0	1	1	0	2	2	0
All	2060	20	20	0	1	1	0	1	1	0	2	2	0
All	2061	20	20	0	1	1	0	1	1	0	2	2	0
All	2062	20	20	0	1	1	0	1	1	0	2	2	0
All	2063	20	20	0	1	1	0	1	1	0	2	2	0
All	2064	20	20	0	0	0	0	1	1	0	2	2	0
All	2065	20	20	0	0	0	0	1	1	0	2	2	0
All	2066	20	20	0	0	0	0	1	1	0	1	1	0
All	2067	20	20	0	0	0	0	1	1	0	1	1	0
All	2068	20	20	0	0	0	0	1	1	0	1	1	0
All	2069	20	20	0	0	0	0	1	1	0	1	1	0
All	2070	20	20	0	0	0	0	1	1	0	1	1	0
All	2071	20	20	0	0	0	0	1	1	0	1	1	0
All	2072	20	20	0	0	0	0	1	1	0	1	1	0
All	2073	20	20	0	0	0	0	1	1	0	1	1	0
All	2074	20	20	0	0	0	0	1	1	0	1	1	0

All	2075	20	20	0	0	0	0	1	1	0	1	1	0
All	2076	20	20	0	0	0	0	1	1	0	1	1	0
All	2077	20	20	0	0	0	0	1	1	0	1	1	0
All	2078	20	20	0	0	0	0	1	1	0	1	1	0
All	2079	20	20	0	0	0	0	1	1	0	1	1	0
All	2080	20	20	0	0	0	0	1	1	0	1	1	0
All	2081	20	20	0	0	0	0	1	1	0	1	1	0
All	2082	20	20	0	0	0	0	1	1	0	1	1	0
Car	Total	1142	1142	0	26	26	0	48	48	0	73	73	0
LGV Personal	Total	41	41	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	303	303	0	7	7	0	13	13	0	21	21	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	1487	1487	0	35	35	0	63	63	0	97	97	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	1032	1032	0	21	21	0	42	42	0	63	63	0
AM peak	2037	889	889	0	21	21	0	41	41	0	62	62	0
PM peak	2023	964	991	27	20	20	1	39	40	1	59	61	2
PM peak	2037	855	830	-25	20	19	-1	39	38	-1	59	57	-2
Inter-peak	2023	1597	1597	0	33	33	0	65	65	0	98	98	0
Inter-peak	2037	1419	1419	0	33	33	0	65	65	0	98	98	0
Off-peak	2023	313	313	0	6	6	0	13	13	0	19	19	0
Off-peak	2037	279	279	0	6	6	0	13	13	0	19	19	0
AM peak	Total	51245	51245	0	1049	1049	0	2271	2271	0	3494	3494	0
PM peak	Total	48872	47769	-1104	1000	977	-23	2167	2116	-51	3333	3254	-79
Inter-peak	Total	82216	82216	0	1682	1682	0	3646	3646	0	5610	5610	0

Off-peak	Total	16140	16140	0	330	330	0	716	716	0	1101	1101	0

NOTE: The cost of any EU Allowances (EUAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the EU Emissions Trading System)

will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal,

the cost of the relevant EUAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the

Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

		Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
Submode	Year	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	6	6	0	0	0	0	0	0	0	0	0	0
AM peak	2037	9	9	0	0	0	0	0	0	0	1	1	0
PM peak	2023	6	6	0	0	0	0	0	0	0	0	0	0
PM peak	2037	9	9	0	0	0	0	0	0	0	1	1	0
Inter-peak	2023	7	7	0	0	0	0	0	0	0	0	0	0
Inter-peak	2037	12	12	0	0	0	0	1	1	0	1	1	0
Off-peak	2023	1	1	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	2	2	0	0	0	0	0	0	0	0	0	0
AM peak	Total	413	413	0	10	10	0	17	17	0	27	27	0
PM peak	Total	421	421	0	10	10	0	18	18	0	27	27	0
Inter-peak	Total	546	546	0	13	13	0	23	23	0	36	36	0
Off-peak	Total	107	107	0	3	3	0	5	5	0	7	7	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Road	2023	352	0	-8	9	0	5
Road	2024	364	0	-7	9	0	4
Road	2025	375	0	-5	10	0	3
Road	2026	386	0	-4	10	0	2
Road	2027	396	0	-3	10	0	2
Road	2028	407	0	-2	10	0	1
Road	2029	417	0	-1	10	0	0
Road	2030	428	0	0	10	0	-0
Road	2031	438	0	1	10	0	-1
Road	2032	447	0	2	10	0	-1
Road	2033	456	0	3	10	0	-2
Road	2034	465	0	4	10	0	-2
Road	2035	473	0	4	10	0	-3
Road	2036	481	0	5	10	0	-3
Road	2037	490	0	6	10	0	-3
Road	2038	482	0	5	10	0	-3
Road	2039	475	0	5	9	0	-3
Road	2040	468	0	5	9	0	-3
Road	2041	461	0	5	9	0	-3
Road	2042	454	0	5	8	0	-3
Road	2043	447	0	5	8	0	-3
Road	2044	440	0	4	8	0	-3
Road	2045	434	0	4	8	0	-3
Road	2046	427	0	4	7	0	-3
Road	2047	420	0	4	7	0	-2
Road	2048	414	0	4	7	0	-2
Road	2049	407	0	4	7	0	-2
Road	2050	403	0	4	6	0	-2
Road	2051	399	0	4	6	0	-2
Road	2052	395	0	4	6	0	-2
Road	2053	391	0	3	6	0	-2
Road	2054	387	0	3	6	0	-2
Road	2055	383	0	3	5	0	-2
Road	2056	379	0	3	5	0	-2
Road	2057	375	0	3	5	0	-2
Road	2058	372	0	3	5	0	-2
Road	2059	368	0	3	5	0	-2
Road	2060	364	0	3	5	0	-2
Road	2061	361	0	3	5	0	-2

Road	2062	357	0	3	4	0	-2
Road	2063	354	0	3	4	0	-2
Road	2064	350	0	3	4	0	-2
Road	2065	347	0	3	4	0	-2
Road	2066	344	0	3	4	0	-2
Road	2067	340	0	2	4	0	-2
Road	2068	337	0	2	4	0	-2
Road	2069	334	0	2	4	0	-1
Road	2070	330	0	2	4	0	-1
Road	2071	327	0	2	3	0	-1
Road	2072	324	0	2	3	0	-1
Road	2073	321	0	2	3	0	-1
Road	2074	318	0	2	3	0	-1
Road	2075	315	0	2	3	0	-1
Road	2076	311	0	2	3	0	-1
Road	2077	308	0	2	3	0	-1
Road	2078	305	0	2	3	0	-1
Road	2079	302	0	2	3	0	-1
Road	2080	299	0	2	3	0	-1
Road	2081	296	0	2	3	0	-1
Road	2082	294	0	2	2	0	-1
Road	Total	23097	0	138	378	0	-85

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Car	2023	274	0	-3	2	0	2
Car	2037	381	0	5	2	0	-3
LGV Personal	2023	3	0	-1	0	0	0
LGV Personal	2037	5	0	-0	0	0	0
LGV Freight	2023	56	0	-5	2	0	3
LGV Freight	2037	78	0	-2	2	0	1
OGV1	2023	11	0	-0	2	0	0
OGV1	2037	15	0	1	2	0	-1
OGV2	2023	8	0	1	3	0	-0
OGV2	2037	11	0	2	3	0	-1
All	2023	352	0	-8	9	0	5
All	2037	490	0	6	10	0	-3
Car	Total	17956	0	140	94	0	-85
LGV Personal	Total	228	0	-13	0	0	8
LGV Freight	Total	3679	0	-96	78	0	56
OGV1	Total	718	0	34	86	0	-20

OGV2	Total	516	0	73	120	0	-43
All	Total	23097	0	138	378	0	-85

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
All	2023	352	0	-8	9	0	5
All	2037	490	0	6	10	0	-3
All	Total	23097	0	138	378	0	-85

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
Business	2023	91	0	-5	9	0	3
Business	2037	125	0	1	10	0	-1
Commuting	2023	110	0	-1	0	0	1
Commuting	2037	154	0	2	0	0	-1
Other	2023	152	0	-3	0	0	1
Other	2037	211	0	3	0	0	-2
Business	Total	5907	0	18	378	0	-12
Commuting	Total	7251	0	46	0	0	-28
Other	Total	9938	0	74	0	0	-45

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User Time	User_Charges PT_fares_(pri	Vehicle_Operating_Cost Fuel	Non_fuel	Operator_Rev PT_fares_(pri	Indirect Taxes
AM peak	2023	55	0	0	2	0	0
AM peak	2037	78	0	0	2	0	0
PM peak	2023	282	0	-8	7	0	5
PM peak	2037	397	0	6	7	0	-3
Inter-peak	2023	15	0	0	1	0	0
Inter-peak	2037	14	0	0	1	0	0
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	3686	0	0	73	0	0
PM peak	Total	18690	0	138	284	0	-85
Inter-peak	Total	696	0	0	21	0	0
Off-peak	Total	25	0	0	1	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	1	2	0
Car	Business	2037	0	0	0	1	0	3
Car	Business	Total	0	0	0	84	12	156
Car	Commuting	2023	0	0	0	5	10	0
Car	Commuting	2037	0	0	0	8	0	19
Car	Commuting	Total	0	0	0	447	77	984
Car	Other	2023	0	0	0	13	31	0
Car	Other	2037	0	0	0	22	0	56
Car	Other	Total	0	0	0	1236	233	2954
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	1	0
LGV Personal	Other	2037	0	0	0	1	0	1
LGV Personal	Other	Total	0	0	0	31	5	67
LGV Freight	Business	2023	0	0	0	2	4	0
LGV Freight	Business	2037	0	0	0	3	0	8
LGV Freight	Business	Total	0	0	0	187	32	406
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	1	0
OGV1	Business	2037	0	0	0	1	0	1
OGV1	Business	Total	0	0	0	41	5	58
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	1
OGV2	Business	Total	0	0	0	26	4	45
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0

OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	5	10	0
Car	Business	2037	0	0	0	7	0	14
Car	Business	Total	0	0	0	332	68	594
Car	Commuting	2023	0	0	0	34	76	0
Car	Commuting	2037	0	0	0	45	0	108
Car	Commuting	Total	0	0	0	2152	524	4574
Car	Other	2023	0	0	0	45	104	0
Car	Other	2037	0	0	0	57	0	149
Car	Other	Total	0	0	0	2722	719	6270
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	2	0
LGV Personal	Other	2037	0	0	0	1	0	3
LGV Personal	Other	Total	0	0	0	68	16	143
LGV Freight	Business	2023	0	0	0	18	38	0
LGV Freight	Business	2037	0	0	0	23	0	55
LGV Freight	Business	Total	0	0	0	1106	265	2309
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	5	6	0
OGV1	Business	2037	0	0	0	6	0	9
OGV1	Business	Total	0	0	0	284	45	389
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	3	5	0
OGV2	Business	2037	0	0	0	4	0	7
OGV2	Business	Total	0	0	0	181	34	301
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	11	0
Car	Business	2037	0	0	0	8	0	16
Car	Business	Total	0	0	0	364	77	655
Car	Commuting	2023	0	0	0	34	75	0
Car	Commuting	2037	0	0	0	45	0	110
Car	Commuting	Total	0	0	0	2152	519	4626
Car	Other	2023	0	0	0	45	102	0
Car	Other	2037	0	0	0	57	0	152
Car	Other	Total	0	0	0	2722	708	6369
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	2	0
LGV Personal	Other	2037	0	0	0	1	0	3
LGV Personal	Other	Total	0	0	0	68	11	135
LGV Freight	Business	2023	0	0	0	19	34	0
LGV Freight	Business	2037	0	0	0	24	0	54
LGV Freight	Business	Total	0	0	0	1129	237	2294
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	6	8	0
OGV1	Business	2037	0	0	0	7	0	12

OGV1	Business	Total	0	0	0	318	52	467
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	4	8	0
OGV2	Business	2037	0	0	0	5	0	11
OGV2	Business	Total	0	0	0	223	52	434
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	3	0	0	0	0	0	0
Car	Business	2037	0	4	0	0	0	0	0	0
Car	Business	Total	0	252	0	0	0	0	0	0
Car	Commuting	2023	0	15	0	0	0	0	0	0
Car	Commuting	2037	0	27	0	0	0	0	0	0
Car	Commuting	Total	0	1508	0	0	0	0	0	0
Car	Other	2023	0	44	0	0	0	0	0	0
Car	Other	2037	0	78	0	0	0	0	0	0
Car	Other	Total	0	4422	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	1	0	0	0	0	0	0
LGV Personal	Other	2037	0	2	0	0	0	0	0	0
LGV Personal	Other	Total	0	104	0	0	0	0	0	0
LGV Freight	Business	2023	0	6	0	0	0	0	0	0
LGV Freight	Business	2037	0	11	0	0	0	0	0	0
LGV Freight	Business	Total	0	625	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0

LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	1	0	0	0	0	0
OGV1	Business	2037	0	2	0	0	0	0	0
OGV1	Business	Total	0	103	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	1	0	0	0	0	0
OGV2	Business	2037	0	1	0	0	0	0	0
OGV2	Business	Total	0	74	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	15	0	0	0	0	0	0
Car	Business	2037	0	21	0	0	0	0	0	0
Car	Business	Total	0	994	0	0	0	0	0	0
Car	Commuting	2023	0	110	0	0	0	0	0	0
Car	Commuting	2037	0	154	0	0	0	0	0	0
Car	Commuting	Total	0	7251	0	0	0	0	0	0

Car	Other	2023	0	149	0	0	0	0	0	0
Car	Other	2037	0	206	0	0	0	0	0	0
Car	Other	Total	0	9711	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	3	0	0	0	0	0	0
LGV Personal	Other	2037	0	5	0	0	0	0	0	0
LGV Personal	Other	Total	0	228	0	0	0	0	0	0
LGV Freight	Business	2023	0	56	0	0	0	0	0	0
LGV Freight	Business	2037	0	78	0	0	0	0	0	0
LGV Freight	Business	Total	0	3679	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	11	0	0	0	0	0	0
OGV1	Business	2037	0	15	0	0	0	0	0	0
OGV1	Business	Total	0	718	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	8	0	0	0	0	0
OGV2	Business	2037	0	11	0	0	0	0	0
OGV2	Business	Total	0	516	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

TOTAL BENEFITS BY DISTANCE

Total benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	17	0	0	0	0	0	0
Car	Business	2037	0	24	0	0	0	0	0	0
Car	Business	Total	0	1096	0	0	0	0	0	0
Car	Commuting	2023	0	109	0	0	0	0	0	0
Car	Commuting	2037	0	155	0	0	0	0	0	0
Car	Commuting	Total	0	7297	0	0	0	0	0	0
Car	Other	2023	0	147	0	0	0	0	0	0
Car	Other	2037	0	209	0	0	0	0	0	0
Car	Other	Total	0	9798	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	3	0	0	0	0	0	0

LGV Personal	Other	2037	0	5	0	0	0	0	0
LGV Personal	Other	Total	0	214	0	0	0	0	0
LGV Freight	Business	2023	0	53	0	0	0	0	0
LGV Freight	Business	2037	0	78	0	0	0	0	0
LGV Freight	Business	Total	0	3661	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0
OGV1	Business	2023	0	13	0	0	0	0	0
OGV1	Business	2037	0	18	0	0	0	0	0
OGV1	Business	Total	0	838	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0
OGV2	Business	2023	0	12	0	0	0	0	0
OGV2	Business	2037	0	16	0	0	0	0	0
OGV2	Business	Total	0	710	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

	Modelled Years	
Mode	2023	2037
Road	14.71%	27.33%

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	7251	7251
Vehicle operating costs	46	46
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	7297	7297

Consumer - Other user benefits	All Modes	Road
Travel Time	9938	9938
Vehicle operating costs	74	74
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	10012	10012

Business	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	5907	994	4913		
Vehicle operating costs	396	102	295		
User charges	0	0	0		
During Construction & Maintenance	0	0	0		
Subtotal	6304	1096	5208		

Private Sector Provider Impacts		
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts		
Developer contributions	0	0
NET BUSINESS IMPACT	6304	

TOTAL

Present Value of Transport Economic Efficiency Benefits (TEE)	23613

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	420	420
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	420	420

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	2379	2379
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	2379	2379

Central Government Funding: Non-Transport

Indirect Tax Revenues	85	85

TOTALS

Broad Transport Budget	2799	2799
Wider Public Finances	85	85

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	51
Economic Efficiency: Consumer Users (Commuting)	7297
Economic Efficiency: Consumer Users (Other)	10012
Economic Efficiency: Business Users and Providers	6304
Wider Public Finances (Indirect Taxation Revenues)	-85
Present Value of Benefits (PVB)	23579
Broad Transport Budget	2799

Present Value of Costs (PVC)	2799

OVERALL IMPACTS

Net Present Value (NPV)	20780
Benefit to Cost Ratio (BCR)	8.424

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

- Scheme File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\MasterFile - 6_Lowdham_Costs.txt
- Economic File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\economics_1_9_12.txt
- Output File : K:\60595614_A614 Corridor MRN\06_Models\TUBA\RUN_1\TUBA_Costs INCLUDED\Updated Costs\6_Lowdham_Updated Costs.OUT

Elapsed time : 0hrs 0mins 1sec

Appendix S – COBALT Output Data

04/04/2019 17:08:48

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*************************************************************************
*                                                                       *
*        CCC      OOO     BBBB      AAA            L        TTTTT      *
*       C   C    O   O    B   B    A   A           L          T        *
*       C        O   O    B   B    A   A           L          T        *
*       C        O   O    BBBB     AAAAA    ----   L          T        *
*       C        O   O    B   B    A   A           L          T        *
*       C   C    O   O    B   B    A   A           L          T        *
*        CCC      OOO     BBBB     A   A           LLLLL      T        *
*                                                                       *
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*                                              Version 2013.02          *
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Written by Roger Himlin

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[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs =	14,877.7
Total With-Scheme Accident Costs =	16,111.5
Total Accident Benefits Saved by Scheme =	-1,233.8

Year	W/o-scheme	With-Scheme
2023	377.4	391.7
2024	367.7	383.4
2025	358.8	375.8
2026	350.5	368.9
2027	342.8	362.5
2028	335.7	356.5
2029	328.8	350.8
2030	323.0	345.5
2031	318.2	341.2
2032	313.5	337.0
2033	308.8	332.7
2034	304.1	328.6
2035	299.7	324.6
2036	295.5	320.8
2037	291.5	317.2
2038	286.8	312.6
2039	282.1	308.0
2040	277.9	303.3
2041	273.7	298.8
2042	269.6	294.3
2043	265.5	289.9
2044	261.5	285.5
2045	257.5	281.1
2046	253.5	276.7
2047	249.5	272.4
2048	245.6	268.1
2049	242.9	265.2

2050	240.3	262.3
2051	237.9	259.7
2052	235.6	257.2
2053	233.3	254.7
2054	231.0	252.1
2055	228.6	249.6
2056	226.3	247.0
2057	224.0	244.5
2058	221.8	242.1
2059	219.5	239.7
2060	217.3	237.2
2061	215.2	234.9
2062	213.0	232.6
2063	211.0	230.3
2064	208.9	228.1
2065	206.9	225.9
2066	204.9	223.7
2067	202.9	221.6
2068	201.0	219.4
2069	199.0	217.3
2070	197.1	215.2
2071	195.2	213.1
2072	193.3	211.0
2073	191.4	208.9
2074	189.5	206.9
2075	187.7	204.9
2076	185.8	202.8
2077	184.0	200.9
2078	182.2	198.9
2079	180.4	196.9
2080	178.6	195.0
2081	176.9	193.1
2082	175.1	191.2

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents = 361.2

Total With-Scheme Accidents = 501.5

Total Accidents Saved by Scheme = -140.3

Year	W/o-scheme	With-Scheme
2023	6.1	8.2
2024	6.0	8.2
2025	6.0	8.2
2026	6.0	8.2
2027	6.0	8.2
2028	6.0	8.2
2029	6.0	8.2
2030	6.0	8.2
2031	6.0	8.2
2032	6.0	8.3
2033	6.0	8.3
2034	6.0	8.3
2035	6.0	8.3
2036	6.0	8.4
2037	6.0	8.4
2038	6.0	8.4
2039	6.0	8.4
2040	6.0	8.4
2041	6.0	8.4
2042	6.0	8.4
2043	6.0	8.4
2044	6.0	8.4
2045	6.0	8.4
2046	6.0	8.4
2047	6.0	8.4
2048	6.0	8.4
2049	6.0	8.4
2050	6.0	8.4
2051	6.0	8.4
2052	6.0	8.4
2053	6.0	8.4
2054	6.0	8.4
2055	6.0	8.4
2056	6.0	8.4

2057	6.0	8.4
2058	6.0	8.4
2059	6.0	8.4
2060	6.0	8.4
2061	6.0	8.4
2062	6.0	8.4
2063	6.0	8.4
2064	6.0	8.4
2065	6.0	8.4
2066	6.0	8.4
2067	6.0	8.4
2068	6.0	8.4
2069	6.0	8.4
2070	6.0	8.4
2071	6.0	8.4
2072	6.0	8.4
2073	6.0	8.4
2074	6.0	8.4
2075	6.0	8.4
2076	6.0	8.4
2077	6.0	8.4
2078	6.0	8.4
2079	6.0	8.4
2080	6.0	8.4
2081	6.0	8.4
2082	6.0	8.4

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) =	3.9	
(Serious) =	39.5	
(Slight) =	505.8	
Total With-Scheme Casualties (Fatal) =	1.4	
(Serious) =	31.6	
(Slight) =	678.7	
Total Casualties Saved by Scheme (Fatal) =	2.5	
(Serious) =	7.9	
(Slight) =	-172.9	

Year	-----Without-Scheme-----	------With-Scheme-------

Year	Fatal	Serious	Slight	Fatal	Serious	Slight
2023	0.1	0.7	8.5	0.0	0.5	11.1
2024	0.1	0.7	8.5	0.0	0.5	11.1
2025	0.1	0.7	8.4	0.0	0.5	11.1
2026	0.1	0.7	8.4	0.0	0.5	11.1
2027	0.1	0.7	8.4	0.0	0.5	11.1
2028	0.1	0.7	8.4	0.0	0.5	11.1
2029	0.1	0.7	8.4	0.0	0.5	11.1
2030	0.1	0.7	8.3	0.0	0.5	11.1
2031	0.1	0.7	8.4	0.0	0.5	11.1
2032	0.1	0.7	8.4	0.0	0.5	11.2
2033	0.1	0.7	8.4	0.0	0.5	11.2
2034	0.1	0.7	8.4	0.0	0.5	11.2
2035	0.1	0.7	8.4	0.0	0.5	11.3
2036	0.1	0.7	8.4	0.0	0.5	11.3
2037	0.1	0.7	8.5	0.0	0.5	11.4
2038	0.1	0.7	8.4	0.0	0.5	11.4
2039	0.1	0.7	8.4	0.0	0.5	11.4
2040	0.1	0.7	8.4	0.0	0.5	11.4
2041	0.1	0.7	8.4	0.0	0.5	11.4
2042	0.1	0.7	8.4	0.0	0.5	11.4
2043	0.1	0.7	8.4	0.0	0.5	11.4
2044	0.1	0.7	8.4	0.0	0.5	11.4
2045	0.1	0.7	8.4	0.0	0.5	11.4
2046	0.1	0.7	8.4	0.0	0.5	11.4
2047	0.1	0.7	8.4	0.0	0.5	11.4
2048	0.1	0.7	8.4	0.0	0.5	11.4
2049	0.1	0.7	8.4	0.0	0.5	11.4
2050	0.1	0.7	8.4	0.0	0.5	11.4
2051	0.1	0.7	8.4	0.0	0.5	11.4
2052	0.1	0.7	8.4	0.0	0.5	11.4
2053	0.1	0.7	8.4	0.0	0.5	11.4
2054	0.1	0.7	8.4	0.0	0.5	11.4
2055	0.1	0.7	8.4	0.0	0.5	11.4
2056	0.1	0.7	8.4	0.0	0.5	11.4
2057	0.1	0.7	8.4	0.0	0.5	11.4
2058	0.1	0.7	8.4	0.0	0.5	11.4
2059	0.1	0.7	8.4	0.0	0.5	11.4
2060	0.1	0.7	8.4	0.0	0.5	11.4

2061	0.1	0.7	8.4	0.0	0.5	11.4
2062	0.1	0.7	8.4	0.0	0.5	11.4
2063	0.1	0.7	8.4	0.0	0.5	11.4
2064	0.1	0.7	8.4	0.0	0.5	11.4
2065	0.1	0.7	8.4	0.0	0.5	11.4
2066	0.1	0.7	8.4	0.0	0.5	11.4
2067	0.1	0.7	8.4	0.0	0.5	11.4
2068	0.1	0.7	8.4	0.0	0.5	11.4
2069	0.1	0.7	8.4	0.0	0.5	11.4
2070	0.1	0.7	8.4	0.0	0.5	11.4
2071	0.1	0.7	8.4	0.0	0.5	11.4
2072	0.1	0.7	8.4	0.0	0.5	11.4
2073	0.1	0.7	8.4	0.0	0.5	11.4
2074	0.1	0.7	8.4	0.0	0.5	11.4
2075	0.1	0.7	8.4	0.0	0.5	11.4
2076	0.1	0.7	8.4	0.0	0.5	11.4
2077	0.1	0.7	8.4	0.0	0.5	11.4
2078	0.1	0.7	8.4	0.0	0.5	11.4
2079	0.1	0.7	8.4	0.0	0.5	11.4
2080	0.1	0.7	8.4	0.0	0.5	11.4
2081	0.1	0.7	8.4	0.0	0.5	11.4
2082	0.1	0.7	8.4	0.0	0.5	11.4

[Section 2]   Accident Statistics

[Section 2.1]   Link Accident Statistics

Link Name	Without-Scheme: Number of Accidents				With-Scheme: Number of Accidents				Benefits: Number of Accidents			
	2023	2038	Total	Total Cost	2023	2038	Total	Total Cost	2023	2038	Total	Total Benefit
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2_3	0.3	0.3	15.8	1,174.5	0.0	0.0	0.0	0.0	0.3	0.3	15.8	1,174.5
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3_4	0.3	0.3	15.5	1,147.3	0.0	0.0	0.0	0.0	0.3	0.3	15.5	1,147.3
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.6	0.5	31.3	2,321.8	0.0	0.0	0.0	0.0	0.6	0.5	31.3	2,321.8

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

accidents in year

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2_3 0.3136 0.3078 0.3021 0.2965 0.2910 0.2857 0.2804 0.2782 0.2759 0.2738 0.2716 0.2694 0.2672 0.2651 0.2630
0.2602 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575 0.2575
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5_2 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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3_4 0.3063 0.3007 0.2951 0.2897 0.2843 0.2791 0.2739 0.2717 0.2696 0.2674 0.2653 0.2632 0.2611 0.2590 0.2569
0.2542 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515 0.2515
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WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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2_1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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proportion of fatal accidents in year

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

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2_3 0.02751 0.02694 0.02637 0.02582 0.02527 0.02474 0.02422 0.02397 0.02372 0.02347 0.02322 0.02298 0.02274 0.02250 0.02226
0.02203 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180 0.02180
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3_4 0.02751 0.02694 0.02637 0.02582 0.02527 0.02474 0.02422 0.02397 0.02372 0.02347 0.02322 0.02298 0.02274 0.02250 0.02226
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WITH-SCHEME

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2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
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2_3 0.02751 0.02694 0.02637 0.02582 0.02527 0.02474 0.02422 0.02397 0.02372 0.02347 0.02322 0.02298 0.02274 0.02250 0.02226
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3_4 0.02751 0.02694 0.02637 0.02582 0.02527 0.02474 0.02422 0.02397 0.02372 0.02347 0.02322 0.02298 0.02274 0.02250 0.02226
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proportion of serious accidents in year

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
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2_3 0.12321 0.12062 0.11809 0.11561 0.11318 0.11081 0.10848 0.10734 0.10621 0.10510 0.10399 0.10290 0.10182 0.10075 0.09970
0.09865 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761 0.09761
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3_4 0.12321 0.12062 0.11809 0.11561 0.11318 0.11081 0.10848 0.10734 0.10621 0.10510 0.10399 0.10290 0.10182 0.10075 0.09970
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WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

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2_3 0.12321 0.12062 0.11809 0.11561 0.11318 0.11081 0.10848 0.10734 0.10621 0.10510 0.10399 0.10290 0.10182 0.10075 0.09970
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3_4 0.12321 0.12062 0.11809 0.11561 0.11318 0.11081 0.10848 0.10734 0.10621 0.10510 0.10399 0.10290 0.10182 0.10075 0.09970
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proportion of slight accidents in year

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
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2_3 0.84927 0.85244 0.85554 0.85857 0.86154 0.86445 0.86730 0.86869 0.87007 0.87143 0.87278 0.87412 0.87544 0.87675 0.87804
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WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
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Total costs (including casualty costs)

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_3	34,342.0	32,977.1	31,713.1	30,533.6	29,432.6	28,399.1	27,412.5	26,772.2	26,144.0	25,530.5	24,926.3	24,338.6	23,771.7	23,231.5	22,705.7	
22,138.1	21,580.4	21,257.2	20,938.9	20,625.3	20,314.4	20,004.3	19,697.0	19,392.5	19,089.0	18,788.3	18,582.2	18,381.9	18,199.9	18,021.4	17,844.7	
17,668.0	17,487.9	17,311.3	17,136.5	16,965.2	16,793.9	16,624.3	16,459.7	16,298.3	16,138.5	15,981.8	15,828.2	15,676.0	15,525.4	15,376.1	15,226.8	
15,079.0	14,932.6	14,786.2	14,641.2	14,497.6	14,355.5	14,214.7	14,075.3	13,937.3	13,800.6	13,665.3	13,531.3	13,398.6				
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
3_4	33,547.0	32,213.6	30,978.9	29,826.7	28,751.2	27,741.6	26,777.9	26,152.4	25,538.8	24,939.4	24,349.2	23,775.2	23,221.4	22,693.7	22,180.1	
21,625.6	21,080.8	20,765.1	20,454.1	20,147.8	19,844.1	19,541.2	19,241.0	18,943.6	18,647.0	18,353.4	18,152.0	17,956.4	17,778.6	17,604.2	17,431.6	
17,259.0	17,083.1	16,910.6	16,739.8	16,572.4	16,405.1	16,239.4	16,078.6	15,921.0	15,764.8	15,611.8	15,461.7	15,313.1	15,165.9	15,020.2	14,874.3	
14,729.9	14,586.9	14,443.9	14,302.2	14,162.0	14,023.1	13,885.6	13,749.5	13,614.6	13,481.1	13,348.9	13,218.0	13,088.4				
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	
2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	
2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082					
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

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2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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3_4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Total costs (excluding casualty costs)

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_3 5,973.2 5,731.3 5,507.5 5,298.7 5,103.9 4,921.2 4,746.9 4,634.4 4,524.2 4,416.5 4,310.6 4,207.6 4,108.2 4,013.6 3,921.5
3,822.2 3,724.8 3,669.0 3,614.0 3,559.9 3,506.3 3,452.7 3,399.7 3,347.1 3,294.8 3,242.9 3,207.3 3,172.7 3,141.3 3,110.5 3,080.0
3,049.5 3,018.4 2,987.9 2,957.8 2,928.2 2,898.6 2,869.4 2,840.9 2,813.1 2,785.5 2,758.5 2,731.9 2,705.7 2,679.7 2,653.9 2,628.2
2,602.6 2,577.4 2,552.1 2,527.1 2,502.3 2,477.8 2,453.5 2,429.4 2,405.6 2,382.0 2,358.6 2,335.5 2,312.6

3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_4 5,834.9 5,598.6 5,380.0 5,176.0 4,985.8 4,807.3 4,637.0 4,527.2 4,419.4 4,314.3 4,210.8 4,110.2 4,013.1 3,920.7 3,830.7
3,733.7 3,638.5 3,584.1 3,530.4 3,477.5 3,425.1 3,372.8 3,321.0 3,269.7 3,218.5 3,167.8 3,133.0 3,099.3 3,068.6 3,038.5 3,008.7
2,978.9 2,948.5 2,918.8 2,889.3 2,860.4 2,831.5 2,802.9 2,775.2 2,748.0 2,721.0 2,694.6 2,668.7 2,643.0 2,617.6 2,592.5 2,567.3
2,542.4 2,517.7 2,493.0 2,468.6 2,444.4 2,420.4 2,396.7 2,373.2 2,349.9 2,326.8 2,304.0 2,281.4 2,259.1

4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Insurance costs

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053

2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				
1_2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_3		119.8	114.9	110.5	106.4	102.5	98.8	95.4	93.1	90.9	88.8	86.7	84.6	82.6	80.7	78.9
76.9	75.0	73.8	72.7	71.6	70.6	69.5	68.4	67.4	66.3	65.3	64.5	63.9	63.2	62.6	62.0	
61.4	60.7	60.1	59.5	58.9	58.3	57.7	57.2	56.6	56.1	55.5	55.0	54.5	53.9	53.4	52.9	
52.4	51.9	51.4	50.9	50.4	49.9	49.4	48.9	48.4	47.9	47.5	47.0	46.5				
3_5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
3_4		117.0	112.3	107.9	103.9	100.1	96.6	93.2	91.0	88.8	86.7	84.7	82.7	80.7	78.9	77.1
75.1	73.2	72.1	71.1	70.0	68.9	67.9	66.8	65.8	64.8	63.8	63.1	62.4	61.8	61.2	60.6	
60.0	59.3	58.7	58.1	57.6	57.0	56.4	55.9	55.3	54.8	54.2	53.7	53.2	52.7	52.2	51.7	
51.2	50.7	50.2	49.7	49.2	48.7	48.2	47.8	47.3	46.8	46.4	45.9	45.5				
4_3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6_5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				

1_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Damage costs

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_3	5,514.2	5,293.6	5,089.4	4,898.9	4,721.1	4,554.3	4,395.0	4,291.9	4,190.7	4,091.9	3,994.6	3,900.0	3,808.7	3,721.8	3,637.2
3,545.9	3,456.2	3,404.4	3,353.4	3,303.2	3,253.4	3,203.8	3,154.5	3,105.8	3,057.2	3,009.0	2,976.0	2,943.9	2,914.8	2,886.2	2,857.9
2,829.6	2,800.7	2,772.5	2,744.5	2,717.0	2,689.6	2,662.4	2,636.1	2,610.2	2,584.6	2,559.5	2,534.9	2,510.6	2,486.4	2,462.5	2,438.6
2,415.0	2,391.5	2,368.1	2,344.8	2,321.8	2,299.1	2,276.5	2,254.2	2,232.1	2,210.2	2,188.5	2,167.1	2,145.8			
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_4	5,386.5	5,171.1	4,971.6	4,785.5	4,611.8	4,448.8	4,293.3	4,192.5	4,093.7	3,997.1	3,902.1	3,809.7	3,720.6	3,635.6	3,553.0
3,463.8	3,376.2	3,325.6	3,275.8	3,226.7	3,178.1	3,129.6	3,081.5	3,033.9	2,986.4	2,939.4	2,907.1	2,875.8	2,847.3	2,819.4	2,791.7
2,764.1	2,735.9	2,708.3	2,680.9	2,654.1	2,627.3	2,600.8	2,575.0	2,549.8	2,524.8	2,500.3	2,476.2	2,452.4	2,428.9	2,405.5	2,382.2
2,359.0	2,336.1	2,313.2	2,290.6	2,268.1	2,245.8	2,223.8	2,202.0	2,180.4	2,159.0	2,137.9	2,116.9	2,096.2			
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

WITH-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053

2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				
1_2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2_3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
3_5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
3_4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
4_3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6_5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Police costs

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_3	339.2	322.7	307.5	293.4	280.3	268.1	256.5	249.4	242.6	235.9	229.3	223.0	216.9	211.0	205.4
199.5	193.6	190.7	187.9	185.1	182.3	179.5	176.7	174.0	171.3	168.6	166.7	164.9	163.3	161.7	160.1
158.5	156.9	155.3	153.8	152.2	150.7	149.2	147.7	146.2	144.8	143.4	142.0	140.7	139.3	138.0	136.6
135.3	134.0	132.7	131.4	130.1	128.8	127.6	126.3	125.1	123.8	122.6	121.4	120.2			
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_4	331.4	315.3	300.4	286.6	273.8	261.9	250.6	243.7	236.9	230.4	224.0	217.8	211.8	206.2	200.7
194.8	189.2	186.3	183.5	180.8	178.1	175.3	172.7	170.0	167.3	164.7	162.9	161.1	159.5	158.0	156.4
154.9	153.3	151.7	150.2	148.7	147.2	145.7	144.3	142.9	141.5	140.1	138.7	137.4	136.1	134.8	133.5
132.2	130.9	129.6	128.3	127.1	125.8	124.6	123.4	122.2	121.0	119.8	118.6	117.4			
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

WITH-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

fatal casualties

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0132	0.0129	0.0127	0.0125	0.0122	0.0120	0.0118	0.0117	0.0116	0.0115	0.0114	0.0113	0.0112	0.0111	0.0111
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0129	0.0126	0.0124	0.0122	0.0120	0.0117	0.0115	0.0114	0.0113	0.0112	0.0112	0.0111	0.0110	0.0109	0.0108
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0109	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0107	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108	0.0108
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

WITH-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

serious casualties

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.0724	0.0710	0.0697	0.0684	0.0672	0.0659	0.0647	0.0642	0.0637	0.0632	0.0627	0.0622	0.0617	0.0612	0.0607	0.0601	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594	0.0594
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.0707	0.0694	0.0681	0.0669	0.0656	0.0644	0.0632	0.0627	0.0622	0.0617	0.0612	0.0607	0.0603	0.0598	0.0593	0.0587	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581	0.0581
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													

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WITH-SCHEME

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slight casualties

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.4002	0.3928	0.3856	0.3784	0.3714	0.3646	0.3579	0.3550	0.3522	0.3494	0.3466	0.3438	0.3411	0.3383	0.3356
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.3909	0.3837	0.3766	0.3697	0.3628	0.3561	0.3496	0.3468	0.3440	0.3413	0.3386	0.3359	0.3332	0.3305	0.3279
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.3321	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.3244	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LinkName	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082
1_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2_3	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286	0.3286
3_5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3_4	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210	0.3210
4_3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5_6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
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4_3 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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5_6 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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6_5 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

Fatal costs

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_3	15,092.8	14,495.3	13,941.9	13,425.4	12,943.3	12,490.7	12,058.6	11,777.7	11,502.2	11,233.0	10,968.0	10,710.1	10,461.4	10,224.3	9,993.6
9,744.4	9,499.5	9,357.3	9,217.1	9,079.1	8,942.3	8,805.7	8,670.5	8,536.4	8,402.8	8,270.5	8,179.8	8,091.6	8,011.5	7,932.9	7,855.1
7,777.3	7,698.1	7,620.3	7,543.4	7,467.9	7,392.5	7,317.9	7,245.4	7,174.4	7,104.0	7,035.1	6,967.4	6,900.5	6,834.1	6,768.5	6,702.7
6,637.7	6,573.2	6,508.8	6,444.9	6,381.8	6,319.2	6,257.2	6,195.9	6,135.1	6,074.9	6,015.4	5,956.4	5,898.0			
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_4	14,743.4	14,159.7	13,619.1	13,114.6	12,643.7	12,201.5	11,779.4	11,505.0	11,235.9	10,973.0	10,714.1	10,462.2	10,219.2	9,987.6	9,762.2
9,518.8	9,279.6	9,140.7	9,003.8	8,868.9	8,735.2	8,601.9	8,469.8	8,338.8	8,208.3	8,079.0	7,990.4	7,904.3	7,826.0	7,749.3	7,673.3
7,597.3	7,519.8	7,443.9	7,368.8	7,295.1	7,221.4	7,148.5	7,077.7	7,008.3	6,939.6	6,872.2	6,806.1	6,740.7	6,675.9	6,611.8	6,547.6
6,484.0	6,421.1	6,358.1	6,295.7	6,234.0	6,172.9	6,112.4	6,052.4	5,993.1	5,934.3	5,876.1	5,818.5	5,761.4			
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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3_4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Serious costs

WITHOUT-SCHEME

LinkName	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2_3	9,308.6	8,940.0	8,598.7	8,280.2	7,982.9	7,703.7	7,437.2	7,264.0	7,094.0	6,928.0	6,764.6	6,605.5	6,452.1	6,305.9	6,163.6
6,009.9	5,858.9	5,771.1	5,684.7	5,599.6	5,515.2	5,431.0	5,347.6	5,264.9	5,182.5	5,100.9	5,044.9	4,990.5	4,941.1	4,892.7	4,844.7
4,796.7	4,747.8	4,699.9	4,652.4	4,605.9	4,559.4	4,513.4	4,468.7	4,424.8	4,381.5	4,338.9	4,297.2	4,255.9	4,215.0	4,174.5	4,134.0
4,093.8	4,054.1	4,014.3	3,975.0	3,936.0	3,897.4	3,859.2	3,821.3	3,783.9	3,746.8	3,710.0	3,673.6	3,637.6			
3_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3_4	9,093.1	8,733.1	8,399.7	8,088.5	7,798.1	7,525.4	7,265.0	7,095.8	6,929.8	6,767.7	6,608.0	6,452.6	6,302.7	6,159.9	6,020.9
5,870.8	5,723.3	5,637.5	5,553.1	5,470.0	5,387.5	5,305.3	5,223.8	5,143.0	5,062.5	4,982.8	4,928.1	4,875.0	4,826.7	4,779.4	4,732.5
4,685.7	4,637.9	4,591.1	4,544.7	4,499.3	4,453.8	4,408.9	4,365.2	4,322.4	4,280.0	4,238.5	4,197.7	4,157.4	4,117.4	4,077.8	4,038.3
3,999.1	3,960.2	3,921.4	3,882.9	3,844.9	3,807.2	3,769.8	3,732.9	3,696.3	3,660.0	3,624.1	3,588.6	3,553.4			
4_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

5_6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

6_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

WITH-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2_1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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Slight costs

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
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2_3 3,967.5 3,810.4 3,665.0 3,529.2 3,402.5 3,283.5 3,169.9 3,096.1 3,023.6 2,952.9 2,883.2 2,815.4 2,750.0 2,687.7 2,627.1
2,561.6 2,497.2 2,459.8 2,423.0 2,386.7 2,350.7 2,314.8 2,279.2 2,244.0 2,208.9 2,174.1 2,150.2 2,127.1 2,106.0 2,085.4 2,064.9
2,044.5 2,023.6 2,003.2 1,983.0 1,963.1 1,943.3 1,923.7 1,904.6 1,886.0 1,867.5 1,849.3 1,831.6 1,814.0 1,796.5 1,779.3 1,762.0
1,744.9 1,727.9 1,711.0 1,694.2 1,677.6 1,661.2 1,644.9 1,628.7 1,612.8 1,596.9 1,581.3 1,565.8 1,550.4

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2,502.3 2,439.4 2,402.8 2,366.9 2,331.4 2,296.3 2,261.2 2,226.5 2,192.1 2,157.8 2,123.8 2,100.5 2,077.8 2,057.3 2,037.1 2,017.1
1,997.1 1,976.8 1,956.8 1,937.1 1,917.7 1,898.3 1,879.2 1,860.5 1,842.3 1,824.2 1,806.5 1,789.2 1,772.0 1,754.9 1,738.1 1,721.2
1,704.5 1,687.9 1,671.4 1,655.0 1,638.8 1,622.7 1,606.8 1,591.0 1,575.4 1,560.0 1,544.7 1,529.5 1,514.5

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WITH-SCHEME

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damage only accidents

WITHOUT-SCHEME

LinkName 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
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WITH-SCHEME

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2_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

5_2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3_4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

4_3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5_6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

[Section 2.2] Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*---------- Benefits ----------*			
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	*-- Number of Accidents -*			Total*
Junction Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
1	1.9	1.9	115.6	3,502.3	0.0	0.0	0.0	0.0	1.9	1.9	115.6	3,502.3
2	0.0	0.0	0.0	0.0	2.7	2.7	163.2	5,146.2	-2.7	-2.7	-163.2	-5,146.2
3	0.3	0.3	19.8	1,082.5	0.0	0.0	0.0	0.0	0.3	0.3	19.8	1,082.5
4	0.0	0.0	0.0	0.0	0.7	0.7	40.8	1,483.9	-0.7	-0.7	-40.8	-1,483.9
5	1.3	1.3	79.3	4,341.2	0.0	0.0	0.0	0.0	1.3	1.3	79.3	4,341.2
6	0.0	0.0	0.0	0.0	0.7	0.7	42.1	1,532.3	-0.7	-0.7	-42.1	-1,532.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	1.2	1.3	75.5	2,285.7	-1.2	-1.3	-75.5	-2,285.7
11	1.8	1.9	115.3	3,629.8	0.0	0.0	0.0	0.0	1.8	1.9	115.3	3,629.8
12	0.0	0.0	0.0	0.0	2.9	3.0	179.9	5,663.5	-2.9	-3.0	-179.9	-5,663.5
Total	5.4	5.5	329.9	12,555.9	8.2	8.4	501.5	16,111.5	-2.7	-2.9	-171.6	-3,555.6

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

accidents in year

WITHOUT-SCHEME

```
Junction          2023       2024       2025       2026       2027       2028       2029       2030       2031       2032       2033       2034       2035       2036       2037
2038       2039       2040       2041       2042       2043       2044       2045       2046       2047       2048       2049       2050       2051       2052       2053
2054       2055       2056       2057       2058       2059       2060       2061       2062       2063       2064       2065       2066       2067       2068       2069
2070       2071       2072       2073       2074       2075       2076       2077       2078       2079       2080       2081       2082

1               1.9174     1.9145     1.9117     1.9089     1.9060     1.9032     1.9004     1.8975     1.9023     1.9071     1.9118     1.9166     1.9214     1.9262     1.9310
1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310
1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310
1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310     1.9310

2               0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000

3               0.3342     0.3332     0.3321     0.3311     0.3300     0.3290     0.3280     0.3270     0.3273     0.3275     0.3278     0.3281     0.3284     0.3287     0.3296
0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296
0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296
0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296     0.3296

4               0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000

5               1.3409     1.3367     1.3325     1.3284     1.3242     1.3201     1.3160     1.3119     1.3130     1.3141     1.3153     1.3164     1.3176     1.3187     1.3217
1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217
1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217
1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217     1.3217

6               0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000

7               0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000

10              0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000
```

11	1.8438	1.8482	1.8526	1.8569	1.8613	1.8656	1.8699	1.8743	1.8828	1.8913	1.8999	1.9085	1.9171	1.9257	1.9343	
1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	
1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	
1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343	1.9343				

12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				

1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				

2	2.6876	2.6874	2.6872	2.6871	2.6869	2.6867	2.6865	2.6862	2.6921	2.6979	2.7037	2.7096	2.7154	2.7213	2.7272	
2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	
2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	
2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272	2.7272				

3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				

4	0.6860	0.6841	0.6822	0.6803	0.6785	0.6766	0.6747	0.6729	0.6737	0.6745	0.6754	0.6762	0.6770	0.6779	0.6806	
0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	
0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	
0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806	0.6806				

5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				

6	0.7089	0.7069	0.7050	0.7030	0.7011	0.6992	0.6972	0.6953	0.6962	0.6970	0.6979	0.6987	0.6996	0.7004	0.7026	
0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	
0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	
0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026	0.7026				

7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				

10	1.2166	1.2178	1.2190	1.2202	1.2214	1.2225	1.2237	1.2248	1.2309	1.2369	1.2430	1.2490	1.2551	1.2612	1.2673	
1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	1.2673	

1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673
1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673 1.2673

11 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
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12 2.8769 2.8837 2.8905 2.8973 2.9041 2.9109 2.9176 2.9243 2.9376 2.9510 2.9644 2.9777 2.9912 3.0046 3.0181
3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181
3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181
3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181 3.0181

proportion of fatal accidents in year

WITHOUT-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1 0.00414 0.00412 0.00411 0.00409 0.00407 0.00406 0.00404 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403
0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403 0.00403
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proportion of serious accidents in year

WITHOUT-SCHEME

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WITH-SCHEME

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WITHOUT-SCHEME

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WITH-SCHEME

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Total costs (including casualty costs)

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	86,518.8	84,528.0	82,705.0	81,016.8	79,456.6	78,002.9	76,605.5	75,306.9	74,321.6	73,349.0	72,374.7	71,420.0	70,498.5	69,629.5	68,777.8
67,774.4	66,772.5	65,772.5	64,787.5	63,817.3	62,855.4	61,895.9	60,945.0	60,002.9	59,063.7	58,133.5	57,495.7	56,876.1	56,312.9	55,760.7	55,213.9
54,667.1	54,109.8	53,563.5	53,022.7	52,492.4	51,962.4	51,437.7	50,928.4	50,429.0	49,934.5	49,449.7	48,974.4	48,503.6	48,037.4	47,575.7	47,113.8
46,656.4	46,203.4	45,750.4	45,301.7	44,857.5	44,417.7	43,982.1	43,550.8	43,123.8	42,700.9	42,282.2	41,867.6	41,457.0			
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3	27,217.0	26,546.6	25,931.1	25,359.8	24,830.3	24,335.8	23,860.4	23,417.3	23,073.3	22,734.3	22,395.8	22,064.5	21,744.5	21,441.7	21,187.7
20,878.6	20,569.9	20,261.9	19,958.4	19,659.5	19,363.2	19,067.6	18,774.7	18,484.5	18,195.1	17,908.6	17,712.1	17,521.2	17,347.7	17,177.6	17,009.2
16,840.7	16,669.1	16,500.7	16,334.1	16,170.8	16,007.5	15,845.9	15,689.0	15,535.1	15,382.8	15,233.4	15,087.0	14,942.0	14,798.4	14,656.2	14,513.9
14,373.0	14,233.4	14,093.8	13,955.6	13,818.8	13,683.3	13,549.1	13,416.2	13,284.7	13,154.4	13,025.4	12,897.7	12,771.2			
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5	109,203.0	106,513.0	104,043.0	101,750.4	99,625.7	97,641.2	95,733.7	93,955.5	92,574.9	91,214.4	89,856.2	88,526.6	87,242.3	86,027.1	84,952.8
83,713.4	82,475.9	81,240.7	80,024.1	78,825.6	77,637.5	76,452.4	75,277.9	74,114.2	72,954.1	71,805.2	71,017.4	70,252.1	69,556.4	68,874.3	68,198.9
67,523.6	66,835.2	66,160.4	65,492.4	64,837.4	64,182.8	63,534.7	62,905.5	62,288.7	61,677.9	61,079.1	60,492.0	59,910.6	59,334.7	58,764.4	58,193.9
57,628.9	57,069.4	56,509.8	55,955.7	55,407.0	54,863.7	54,325.7	53,793.0	53,265.5	52,743.2	52,226.0	51,713.9	51,206.8			
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11	86,584.0	84,919.2	83,408.8	82,021.1	80,750.9	79,577.6	78,451.2	77,415.7	76,558.5	75,709.8	74,855.0	74,016.2	73,207.5	72,449.4	71,705.4
70,659.3	69,614.7	68,572.2	67,545.3	66,533.7	65,530.9	64,530.5	63,539.2	62,556.9	61,577.8	60,608.0	59,943.1	59,297.1	58,709.9	58,134.2	57,564.1
56,994.1	56,413.1	55,843.5	55,279.6	54,726.8	54,174.2	53,627.2	53,096.2	52,575.5	52,060.0	51,554.5	51,059.0	50,568.2	50,082.2	49,600.8	49,119.3
48,642.4	48,170.1	47,697.8	47,230.0	46,766.9	46,308.3	45,854.2	45,404.6	44,959.4	44,518.5	44,082.0	43,649.7	43,221.7			

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WITH-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

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2 126,206.6 123,478.6 120,988.1 118,687.8 116,568.5 114,599.2 112,707.1 110,954.9 109,466.0 107,996.8 106,526.1 105,085.4 103,694.4 102,381.7 101,095.2
99,620.3 98,147.7 96,677.8 95,230.0 93,803.9 92,390.0 90,979.6 89,581.9 88,197.1 86,816.6 85,449.4 84,511.9 83,601.1 82,773.2 81,961.6 81,157.9
80,354.2 79,535.0 78,732.0 77,937.0 77,157.6 76,378.6 75,607.4 74,858.6 74,124.6 73,397.7 72,685.1 71,986.5 71,294.6 70,609.3 69,930.7 69,251.7
68,579.4 67,913.6 67,247.6 66,588.2 65,935.2 65,288.7 64,648.5 64,014.5 63,386.8 62,765.3 62,149.8 61,540.4 60,936.9

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4 37,129.0 36,228.2 35,401.5 34,634.5 33,924.1 33,260.9 32,623.3 32,029.4 31,570.2 31,117.5 30,665.2 30,222.3 29,794.6 29,390.1 29,076.1
28,651.9 28,228.4 27,805.6 27,389.2 26,979.1 26,572.4 26,166.8 25,764.8 25,366.5 24,969.4 24,576.2 24,306.6 24,044.6 23,806.5 23,573.1 23,341.9
23,110.8 22,875.2 22,644.2 22,415.6 22,191.4 21,967.3 21,745.5 21,530.2 21,319.1 21,110.0 20,905.1 20,704.1 20,505.1 20,308.1 20,112.9 19,917.6
19,724.2 19,532.7 19,341.2 19,151.5 18,963.7 18,777.8 18,593.6 18,411.3 18,230.8 18,052.0 17,875.0 17,699.7 17,526.2

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6 38,367.9 37,436.9 36,582.5 35,789.7 35,055.5 34,370.0 33,711.1 33,097.2 32,622.5 32,154.6 31,687.0 31,229.3 30,787.2 30,369.1 30,017.2
29,579.2 29,142.0 28,705.6 28,275.7 27,852.2 27,432.4 27,013.6 26,598.6 26,187.5 25,777.6 25,371.6 25,093.3 24,822.8 24,577.0 24,336.0 24,097.4
23,858.7 23,615.5 23,377.1 23,141.0 22,909.6 22,678.3 22,449.3 22,227.0 22,009.1 21,793.2 21,581.7 21,374.2 21,168.8 20,965.3 20,763.8 20,562.2
20,362.6 20,164.9 19,967.1 19,771.3 19,577.5 19,385.5 19,195.4 19,007.2 18,820.8 18,636.2 18,453.5 18,272.6 18,093.4

7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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10 54,897.3 53,767.2 52,737.7 51,788.4 50,915.5 50,105.9 49,327.9 48,609.0 48,088.6 47,573.2 47,053.4 46,543.3 46,051.6 45,591.3 45,139.5
44,480.9 43,823.4 43,167.1 42,520.6 41,883.9 41,252.6 40,622.8 39,998.7 39,380.4 38,764.0 38,153.5 37,735.0 37,328.3 36,958.6 36,596.2 36,237.4
35,878.5 35,512.8 35,154.2 34,799.2 34,451.2 34,103.4 33,759.0 33,424.7 33,097.0 32,772.4 32,454.2 32,142.3 31,833.4 31,527.4 31,224.4 30,921.2
30,621.0 30,323.7 30,026.4 29,731.9 29,440.4 29,151.7 28,865.8 28,582.8 28,302.5 28,025.0 27,750.2 27,478.1 27,208.6

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0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

12	135,094.2	132,496.7	130,140.0	127,974.9	125,993.0	124,162.3	122,404.8	120,789.3	119,451.7	118,127.6	116,793.8	115,485.1	114,223.3	113,040.5	111,879.6
110,247.4	108,617.6	106,991.0	105,388.7	103,810.4	102,245.8	100,684.9	99,138.1	97,605.6	96,077.8	94,564.7	93,527.3	92,519.4	91,603.1	90,704.9	89,815.5
88,926.0	88,019.5	87,130.7	86,251.0	85,388.5	84,526.3	83,672.8	82,844.2	82,031.9	81,227.5	80,438.9	79,665.7	78,900.0	78,141.6	77,390.6	76,639.2
75,895.1	75,158.3	74,421.3	73,691.5	72,968.9	72,253.4	71,544.9	70,843.3	70,148.6	69,460.8	68,779.7	68,105.2	67,437.4			

Total costs (excluding casualty costs)

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			

1	35,395.4	34,579.8	33,832.9	33,141.2	32,502.0	31,906.2	31,333.7	30,801.5	30,398.5	30,000.7	29,602.2	29,211.7	28,834.8	28,479.4	28,131.0
27,720.6	27,310.8	26,901.8	26,498.9	26,102.1	25,708.7	25,316.2	24,927.3	24,541.9	24,157.8	23,777.4	23,516.5	23,263.1	23,032.7	22,806.8	22,583.2
22,359.6	22,131.6	21,908.2	21,686.9	21,470.1	21,253.3	21,038.7	20,830.3	20,626.1	20,423.8	20,225.5	20,031.1	19,838.6	19,647.9	19,459.1	19,270.2
19,083.1	18,897.8	18,712.5	18,529.0	18,347.3	18,167.4	17,989.2	17,812.8	17,638.2	17,465.2	17,294.0	17,124.4	16,956.5			

2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

3	6,345.7	6,188.7	6,044.4	5,910.5	5,786.4	5,670.4	5,559.0	5,455.0	5,374.9	5,295.9	5,217.1	5,139.9	5,065.4	4,994.8	4,935.6
4,863.6	4,791.7	4,720.0	4,649.3	4,579.7	4,510.6	4,441.8	4,373.5	4,305.9	4,238.5	4,171.8	4,126.0	4,081.5	4,041.1	4,001.5	3,962.3
3,923.0	3,883.0	3,843.8	3,805.0	3,767.0	3,728.9	3,691.3	3,654.7	3,618.9	3,583.4	3,548.6	3,514.5	3,480.7	3,447.3	3,414.1	3,381.0
3,348.2	3,315.7	3,283.1	3,250.9	3,219.1	3,187.5	3,156.2	3,125.3	3,094.7	3,064.3	3,034.3	3,004.5	2,975.0			

4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

5	25,461.1	24,830.8	24,251.9	23,714.5	23,216.4	22,751.1	22,303.8	21,886.8	21,565.2	21,248.3	20,931.9	20,622.2	20,323.0	20,039.9	19,789.7
19,500.9	19,212.7	18,924.9	18,641.5	18,362.3	18,085.6	17,809.5	17,535.9	17,264.8	16,994.6	16,726.9	16,543.4	16,365.1	16,203.1	16,044.2	15,886.9
15,729.5	15,569.2	15,412.0	15,256.4	15,103.8	14,951.3	14,800.3	14,653.8	14,510.1	14,367.8	14,228.3	14,091.5	13,956.1	13,822.0	13,689.1	13,556.2
13,424.6	13,294.3	13,163.9	13,034.8	12,907.0	12,780.4	12,655.1	12,531.0	12,408.1	12,286.5	12,166.0	12,046.7	11,928.6			

6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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11 46,749.8 45,850.6 45,034.7 44,285.1 43,599.0 42,965.2 42,356.7 41,797.4 41,334.5 40,876.3 40,414.8 39,961.9 39,525.3 39,116.0 38,714.3
38,149.5 37,585.6 37,022.7 36,468.2 35,922.1 35,380.7 34,840.6 34,305.3 33,775.0 33,246.3 32,722.8 32,363.8 32,015.0 31,697.9 31,387.1 31,079.3
30,771.6 30,457.9 30,150.3 29,845.9 29,547.4 29,249.1 28,953.8 28,667.0 28,385.9 28,107.6 27,834.7 27,567.2 27,302.2 27,039.8 26,779.9 26,519.9
26,262.4 26,007.4 25,752.4 25,499.9 25,249.8 25,002.2 24,757.1 24,514.3 24,273.9 24,035.9 23,800.2 23,566.8 23,335.7

12 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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WITH-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2 68,143.5 66,670.0 65,324.9 64,082.4 62,937.6 61,873.9 60,851.9 59,905.4 59,101.6 58,308.3 57,514.3 56,736.4 55,985.4 55,276.7 54,582.1
53,785.8 52,990.7 52,197.1 51,415.5 50,645.5 49,882.1 49,120.6 48,366.0 47,618.3 46,873.0 46,134.8 45,628.7 45,136.9 44,689.9 44,251.7 43,817.8
43,383.9 42,941.6 42,508.0 42,078.8 41,658.0 41,237.4 40,821.0 40,416.8 40,020.5 39,628.0 39,243.3 38,866.1 38,492.5 38,122.6 37,756.1 37,389.6
37,026.6 36,667.1 36,307.5 35,951.5 35,599.0 35,249.9 34,904.2 34,562.0 34,223.1 33,887.5 33,555.2 33,226.1 32,900.3

3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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4 12,727.2 12,417.8 12,133.8 11,870.4 11,626.3 11,398.5 11,179.4 10,975.4 10,818.0 10,662.9 10,507.9 10,356.1 10,209.6 10,071.0 9,963.4
9,818.0 9,672.9 9,528.0 9,385.3 9,244.8 9,105.4 8,966.4 8,828.7 8,692.2 8,556.2 8,421.4 8,329.0 8,239.3 8,157.7 8,077.7 7,998.5
7,919.3 7,838.5 7,759.4 7,681.0 7,604.2 7,527.4 7,451.4 7,377.7 7,305.3 7,233.7 7,163.4 7,094.6 7,026.4 6,958.9 6,892.0 6,825.1
6,758.8 6,693.2 6,627.6 6,562.6 6,498.2 6,434.5 6,371.4 6,308.9 6,247.1 6,185.8 6,125.1 6,065.1 6,005.6

5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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6 13,151.9 12,832.1 12,538.6 12,266.3 12,014.1 11,778.6 11,552.2 11,341.3 11,178.6 11,018.3 10,858.1 10,701.2 10,549.7 10,406.4 10,285.8
10,135.8 9,985.9 9,836.4 9,689.1 9,544.0 9,400.1 9,256.6 9,114.4 8,973.5 8,833.1 8,694.0 8,598.6 8,505.9 8,421.7 8,339.1 8,257.3
8,175.6 8,092.2 8,010.5 7,929.6 7,850.3 7,771.1 7,692.6 7,616.4 7,541.7 7,467.8 7,395.3 7,324.2 7,253.8 7,184.1 7,115.0 7,046.0
6,977.5 6,909.8 6,842.0 6,775.0 6,708.5 6,642.7 6,577.6 6,513.1 6,449.2 6,386.0 6,323.4 6,261.4 6,200.0

7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	22,458.8	21,995.8	21,573.9	21,184.9	20,827.1	20,495.3	20,176.4	19,881.7	19,668.9	19,458.1	19,245.5	19,036.8	18,835.7	18,647.4	18,462.6	
18,193.3	17,924.3	17,655.9	17,391.5	17,131.0	16,872.8	16,615.2	16,360.0	16,107.1	15,855.0	15,605.3	15,434.1	15,267.8	15,116.6	14,968.3	14,821.6	
14,674.8	14,525.2	14,378.5	14,233.3	14,091.0	13,948.7	13,807.9	13,671.1	13,537.1	13,404.3	13,274.2	13,146.6	13,020.3	12,895.1	12,771.2	12,647.2	
12,524.4	12,402.8	12,281.2	12,160.7	12,041.5	11,923.4	11,806.5	11,690.7	11,576.1	11,462.6	11,350.2	11,238.9	11,128.7				
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
12	72,942.2	71,539.2	70,266.2	69,096.7	68,026.1	67,037.2	66,087.8	65,215.1	64,493.0	63,778.0	63,057.9	62,351.3	61,670.1	61,031.5	60,404.7	
59,523.5	58,643.5	57,765.3	56,900.2	56,048.1	55,203.3	54,360.6	53,525.5	52,698.0	51,873.2	51,056.3	50,496.1	49,951.9	49,457.3	48,972.3	48,492.1	
48,011.9	47,522.4	47,042.6	46,567.6	46,101.9	45,636.4	45,175.6	44,728.3	44,289.7	43,855.4	43,429.6	43,012.2	42,598.7	42,189.3	41,783.8	41,378.1	
40,976.4	40,578.6	40,180.7	39,786.6	39,396.5	39,010.2	38,627.7	38,248.9	37,873.8	37,502.4	37,134.7	36,770.6	36,410.0				

Insurance costs

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				
1	720.9	704.3	689.1	675.0	662.0	649.9	638.2	627.4	619.2	611.1	603.0	595.0	587.3	580.1	573.0	
564.7	556.3	548.0	539.8	531.7	523.7	515.7	507.8	499.9	492.1	484.3	479.0	473.9	469.2	464.6	460.0	
455.4	450.8	446.3	441.7	437.3	432.9	428.5	424.3	420.1	416.0	412.0	408.0	404.1	400.2	396.4	392.5	
388.7	384.9	381.2	377.4	373.7	370.1	366.4	362.8	359.3	355.8	352.3	348.8	345.4				
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
3	127.8	124.7	121.8	119.1	116.6	114.2	112.0	109.9	108.3	106.7	105.1	103.6	102.1	100.6	99.4	
98.0	96.5	95.1	93.7	92.3	90.9	89.5	88.1	86.8	85.4	84.1	83.1	82.2	81.4	80.6	79.8	
79.0	78.2	77.4	76.7	75.9	75.1	74.4	73.6	72.9	72.2	71.5	70.8	70.1	69.5	68.8	68.1	
67.5	66.8	66.2	65.5	64.9	64.2	63.6	63.0	62.4	61.7	61.1	60.5	59.9				
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

5	512.8	500.1	488.5	477.7	467.7	458.4	449.4	441.0	434.5	428.1	421.8	415.5	409.5	403.8	398.7	
392.9	387.1	381.3	375.6	370.0	364.4	358.8	353.3	347.9	342.4	337.0	333.3	329.7	326.5	323.3	320.1	
316.9	313.7	310.5	307.4	304.3	301.3	298.2	295.3	292.4	289.5	286.7	283.9	281.2	278.5	275.8	273.1	
270.5	267.9	265.2	262.6	260.1	257.5	255.0	252.5	250.0	247.6	245.1	242.7	240.3				
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
11	1,377.0	1,350.6	1,326.5	1,304.5	1,284.3	1,265.6	1,247.7	1,231.2	1,217.6	1,204.1	1,190.5	1,177.1	1,164.3	1,152.2	1,140.4	
1,123.8	1,107.1	1,090.6	1,074.2	1,058.1	1,042.2	1,026.3	1,010.5	994.9	979.3	963.9	953.3	943.1	933.7	924.6	915.5	
906.4	897.2	888.1	879.2	870.4	861.6	852.9	844.4	836.2	828.0	819.9	812.0	804.2	796.5	788.8	781.2	
773.6	766.1	758.6	751.1	743.8	736.5	729.3	722.1	715.0	708.0	701.1	694.2	687.4				
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2	2,007.2	1,963.8	1,924.2	1,887.6	1,853.9	1,822.6	1,792.5	1,764.6	1,740.9	1,717.6	1,694.2	1,671.3	1,649.1	1,628.3	1,607.8	
1,584.3	1,560.9	1,537.6	1,514.5	1,491.8	1,469.4	1,446.9	1,424.7	1,402.7	1,380.7	1,359.0	1,344.1	1,329.6	1,316.4	1,303.5	1,290.7	
1,277.9	1,264.9	1,252.1	1,239.5	1,227.1	1,214.7	1,202.4	1,190.5	1,178.9	1,167.3	1,156.0	1,144.9	1,133.9	1,123.0	1,112.2	1,101.4	
1,090.7	1,080.1	1,069.5	1,059.0	1,048.6	1,038.3	1,028.2	1,018.1	1,008.1	998.2	988.4	978.7	969.1				
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
4	258.8	252.5	246.7	241.4	236.4	231.8	227.3	223.2	220.0	216.8	213.7	210.6	207.6	204.8	202.6	
199.6	196.7	193.8	190.8	188.0	185.2	182.3	179.5	176.8	174.0	171.2	169.4	167.5	165.9	164.3	162.6	

161.0	159.4	157.8	156.2	154.6	153.1	151.5	150.0	148.6	147.1	145.7	144.3	142.9	141.5	140.1	138.8	
137.4	136.1	134.8	133.4	132.1	130.8	129.6	128.3	127.0	125.8	124.6	123.3	122.1				
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6	267.4	260.9	254.9	249.4	244.3	239.5	234.9	230.6	227.3	224.1	220.8	217.6	214.5	211.6	209.2	
206.1	203.1	200.0	197.0	194.1	191.2	188.2	185.3	182.5	179.6	176.8	174.9	173.0	171.3	169.6	167.9	
166.2	164.6	162.9	161.2	159.6	158.0	156.4	154.9	153.4	151.9	150.4	148.9	147.5	146.1	144.7	143.3	
141.9	140.5	139.1	137.8	136.4	135.1	133.8	132.4	131.1	129.9	128.6	127.3	126.1				
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	457.4	448.0	439.4	431.5	424.2	417.5	411.0	405.0	400.6	396.3	392.0	387.8	383.7	379.8	376.1	
370.6	365.1	359.6	354.3	348.9	343.7	338.4	333.2	328.1	323.0	317.9	314.4	311.0	307.9	304.9	301.9	
298.9	295.9	292.9	289.9	287.0	284.1	281.3	278.5	275.7	273.0	270.4	267.8	265.2	262.7	260.1	257.6	
255.1	252.6	250.2	247.7	245.3	242.9	240.5	238.1	235.8	233.5	231.2	228.9	226.7				
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
12	2,148.5	2,107.2	2,069.7	2,035.3	2,003.8	1,974.7	1,946.7	1,921.0	1,899.7	1,878.7	1,857.5	1,836.7	1,816.6	1,797.8	1,779.3	
1,753.4	1,727.4	1,701.6	1,676.1	1,651.0	1,626.1	1,601.3	1,576.7	1,552.3	1,528.0	1,503.9	1,487.4	1,471.4	1,456.8	1,442.6	1,428.4	
1,414.3	1,399.8	1,385.7	1,371.7	1,358.0	1,344.3	1,330.7	1,317.5	1,304.6	1,291.8	1,279.3	1,267.0	1,254.8	1,242.8	1,230.8	1,218.9	
1,207.0	1,195.3	1,183.6	1,172.0	1,160.5	1,149.1	1,137.8	1,126.7	1,115.6	1,104.7	1,093.9	1,083.1	1,072.5				

Damage costs

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	33,275.6	32,509.8	31,808.5	31,159.1	30,558.8	29,999.6	29,462.0	28,962.4	28,583.5	28,209.4	27,834.7	27,467.6	27,113.1	26,778.9	26,451.4
26,065.5	25,680.2	25,295.6	24,916.8	24,543.6	24,173.7	23,804.6	23,439.0	23,076.6	22,715.4	22,357.7	22,112.4	21,874.1	21,657.5	21,445.1	21,234.8
21,024.5	20,810.2	20,600.1	20,392.1	20,188.2	19,984.3	19,782.5	19,586.6	19,394.6	19,204.4	19,017.9	18,835.1	18,654.1	18,474.8	18,297.2	18,119.6
17,943.7	17,769.5	17,595.2	17,422.7	17,251.8	17,082.7	16,915.2	16,749.3	16,585.0	16,422.4	16,261.4	16,101.9	15,944.0			
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

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3 5,874.8 5,729.9 5,596.8 5,473.3 5,358.8 5,251.9 5,149.1 5,053.3 4,979.0 4,905.9 4,832.8 4,761.3 4,692.3 4,626.9 4,572.1
4,505.4 4,438.8 4,372.3 4,306.9 4,242.4 4,178.4 4,114.6 4,051.4 3,988.8 3,926.4 3,864.5 3,822.1 3,780.9 3,743.5 3,706.8 3,670.4
3,634.1 3,597.0 3,560.7 3,524.8 3,489.5 3,454.3 3,419.4 3,385.6 3,352.4 3,319.5 3,287.3 3,255.7 3,224.4 3,193.4 3,162.7 3,132.0
3,101.6 3,071.5 3,041.3 3,011.5 2,982.0 2,952.7 2,923.8 2,895.1 2,866.7 2,838.6 2,810.8 2,783.2 2,755.9

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5 23,571.7 22,990.1 22,456.1 21,960.4 21,501.0 21,071.8 20,659.4 20,274.8 19,976.9 19,683.3 19,390.2 19,103.3 18,826.2 18,564.0 18,332.1
18,064.7 17,797.6 17,531.1 17,268.5 17,009.9 16,753.6 16,497.8 16,244.4 15,993.2 15,742.9 15,495.0 15,325.0 15,159.8 15,009.7 14,862.5 14,716.8
14,571.0 14,422.5 14,276.9 14,132.7 13,991.4 13,850.1 13,710.3 13,574.5 13,441.4 13,309.6 13,180.4 13,053.7 12,928.2 12,804.0 12,680.9 12,557.8
12,435.9 12,315.1 12,194.4 12,074.8 11,956.4 11,839.1 11,723.0 11,608.1 11,494.3 11,381.5 11,269.9 11,159.4 11,050.0

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11 43,717.1 42,876.5 42,113.9 41,413.3 40,771.9 40,179.5 39,610.8 39,088.1 38,655.2 38,226.7 37,795.1 37,371.6 36,963.3 36,580.5 36,204.9
35,676.6 35,149.2 34,622.9 34,104.4 33,593.6 33,087.3 32,582.2 32,081.6 31,585.7 31,091.3 30,601.7 30,265.9 29,939.8 29,643.3 29,352.6 29,064.8
28,776.9 28,483.6 28,196.0 27,911.3 27,632.2 27,353.2 27,077.0 26,808.8 26,546.0 26,285.6 26,030.4 25,780.3 25,532.5 25,287.1 25,044.0 24,800.9
24,560.1 24,321.6 24,083.1 23,847.0 23,613.1 23,381.6 23,152.3 22,925.3 22,700.5 22,477.9 22,257.5 22,039.2 21,823.1

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WITH-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

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2	63,722.9	62,345.5	61,088.1	59,926.7	58,856.6	57,862.3	56,907.0	56,022.3	55,270.6	54,528.8	53,786.2	53,058.8	52,356.4	51,693.6	51,044.1	
50,299.4	49,555.8	48,813.7	48,082.7	47,362.6	46,648.7	45,936.6	45,230.9	44,531.7	43,834.7	43,144.3	42,671.0	42,211.1	41,793.1	41,383.3	40,977.5	
40,571.7	40,158.1	39,752.6	39,351.3	38,957.7	38,564.4	38,175.0	37,796.9	37,426.3	37,059.3	36,699.5	36,346.8	35,997.4	35,651.4	35,308.8	34,966.0	
34,626.5	34,290.3	33,954.1	33,621.1	33,291.4	32,965.0	32,641.7	32,321.6	32,004.7	31,690.9	31,380.1	31,072.4	30,767.7				
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
4	11,933.3	11,643.7	11,377.8	11,131.2	10,902.8	10,689.5	10,484.5	10,293.5	10,145.9	10,000.4	9,855.0	9,712.7	9,575.3	9,445.3	9,344.4	
9,208.0	9,071.9	8,936.1	8,802.2	8,670.4	8,539.7	8,409.4	8,280.2	8,152.2	8,024.6	7,898.2	7,811.6	7,727.4	7,650.9	7,575.8	7,501.5	
7,427.3	7,351.5	7,277.3	7,203.8	7,131.8	7,059.8	6,988.5	6,919.3	6,851.4	6,784.3	6,718.4	6,653.8	6,589.9	6,526.5	6,463.8	6,401.0	
6,338.9	6,277.3	6,215.8	6,154.8	6,094.5	6,034.7	5,975.6	5,917.0	5,858.9	5,801.5	5,744.6	5,688.3	5,632.5				
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6	12,331.5	12,032.2	11,757.4	11,502.5	11,266.4	11,045.9	10,834.1	10,636.6	10,484.1	10,333.7	10,183.5	10,036.4	9,894.3	9,759.9	9,646.8	
9,506.1	9,365.5	9,225.3	9,087.1	8,951.0	8,816.1	8,681.5	8,548.2	8,416.0	8,284.3	8,153.8	8,064.4	7,977.5	7,898.5	7,821.0	7,744.3	
7,667.6	7,589.5	7,512.8	7,437.0	7,362.6	7,288.3	7,214.7	7,143.2	7,073.2	7,003.8	6,935.8	6,869.2	6,803.1	6,737.7	6,673.0	6,608.2	
6,544.0	6,480.5	6,417.0	6,354.0	6,291.7	6,230.0	6,168.9	6,108.5	6,048.6	5,989.2	5,930.5	5,872.4	5,814.8				
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	21,113.8	20,679.1	20,283.0	19,917.8	19,582.0	19,270.5	18,971.2	18,694.6	18,494.5	18,296.3	18,096.4	17,900.2	17,711.1	17,534.1	17,360.3	
17,107.0	16,854.1	16,601.7	16,353.1	16,108.2	15,865.4	15,623.2	15,383.2	15,145.4	14,908.3	14,673.5	14,512.6	14,356.2	14,214.0	14,074.6	13,936.6	
13,798.6	13,657.9	13,520.0	13,383.5	13,249.7	13,115.9	12,983.4	12,854.9	12,728.8	12,604.0	12,481.6	12,361.7	12,242.9	12,125.2	12,008.6	11,892.0	
11,776.6	11,662.3	11,547.9	11,434.7	11,322.5	11,211.5	11,101.6	10,992.7	10,884.9	10,778.2	10,672.5	10,567.8	10,464.2				
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
12	68,210.3	66,898.9	65,709.0	64,615.8	63,615.2	62,690.9	61,803.5	60,987.8	60,312.5	59,643.9	58,970.5	58,309.7	57,672.6	57,075.4	56,489.3	
55,665.1	54,842.2	54,020.9	53,211.9	52,415.0	51,625.0	50,836.9	50,055.9	49,282.1	48,510.8	47,746.8	47,222.9	46,714.0	46,251.4	45,797.9	45,348.8	
44,899.7	44,442.0	43,993.3	43,549.1	43,113.6	42,678.3	42,247.3	41,829.0	41,418.8	41,012.6	40,614.5	40,224.1	39,837.5	39,454.6	39,075.4	38,696.0	
38,320.3	37,948.2	37,576.1	37,207.7	36,842.8	36,481.5	36,123.8	35,769.6	35,418.8	35,071.5	34,727.6	34,387.1	34,049.9				

Police costs

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	1,398.9	1,365.7	1,335.3	1,307.2	1,281.1	1,256.8	1,233.4	1,211.7	1,195.8	1,180.2	1,164.5	1,149.1	1,134.3	1,120.3	1,106.6
1,090.5	1,074.4	1,058.3	1,042.4	1,026.8	1,011.3	995.9	980.6	965.4	950.3	935.4	925.1	915.1	906.1	897.2	888.4
879.6	870.6	861.8	853.1	844.6	836.1	827.6	819.4	811.4	803.4	795.6	788.0	780.4	772.9	765.5	758.0
750.7	743.4	736.1	728.9	721.7	714.7	707.7	700.7	693.8	687.0	680.3	673.6	667.0			
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3	343.1	334.1	325.8	318.1	311.0	304.3	297.9	291.9	287.6	283.3	279.1	275.0	271.0	267.2	264.1
260.2	256.4	252.5	248.7	245.0	241.3	237.6	234.0	230.4	226.8	223.2	220.8	218.4	216.2	214.1	212.0
209.9	207.8	205.7	203.6	201.5	199.5	197.5	195.5	193.6	191.7	189.9	188.0	186.2	184.4	182.7	180.9
179.1	177.4	175.7	173.9	172.2	170.5	168.9	167.2	165.6	163.9	162.3	160.7	159.2			
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5	1,376.6	1,340.5	1,307.3	1,276.4	1,247.7	1,220.9	1,195.1	1,171.0	1,153.8	1,136.8	1,119.9	1,103.3	1,087.3	1,072.2	1,058.8
1,043.3	1,027.9	1,012.5	997.4	982.4	967.6	952.8	938.2	923.7	909.2	894.9	885.1	875.6	866.9	858.4	850.0
841.6	833.0	824.6	816.2	808.1	799.9	791.8	784.0	776.3	768.7	761.2	753.9	746.7	739.5	732.4	725.3
718.2	711.3	704.3	697.4	690.6	683.8	677.1	670.4	663.9	657.4	650.9	644.5	638.2			
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11	1,655.7	1,623.5	1,594.3	1,567.4	1,542.8	1,520.0	1,498.2	1,478.1	1,461.7	1,445.5	1,429.2	1,413.2	1,397.8	1,383.3	1,369.1
1,349.1	1,329.2	1,309.3	1,289.7	1,270.3	1,251.2	1,232.1	1,213.2	1,194.4	1,175.7	1,157.2	1,144.5	1,132.2	1,121.0	1,110.0	1,099.1
1,088.2	1,077.1	1,066.2	1,055.5	1,044.9	1,034.4	1,023.9	1,013.8	1,003.8	994.0	984.3	974.9	965.5	956.2	947.0	937.8
928.7	919.7	910.7	901.8	892.9	884.2	875.5	866.9	858.4	850.0	841.7	833.4	825.2			
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	2,413.4	2,360.7	2,312.6	2,268.1	2,227.1	2,189.0	2,152.4	2,118.5	2,090.1	2,062.0	2,033.9	2,006.4	1,979.9	1,954.8	1,930.2
1,902.1	1,874.0	1,845.9	1,818.2	1,791.0	1,764.0	1,737.1	1,710.4	1,684.0	1,657.6	1,631.5	1,613.6	1,596.2	1,580.4	1,564.9	1,549.6
1,534.2	1,518.6	1,503.2	1,488.1	1,473.2	1,458.3	1,443.6	1,429.3	1,415.3	1,401.4	1,387.8	1,374.5	1,361.2	1,348.2	1,335.2	1,322.2
1,309.4	1,296.7	1,284.0	1,271.4	1,258.9	1,246.6	1,234.3	1,222.2	1,210.3	1,198.4	1,186.6	1,175.0	1,163.5			
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4	535.1	521.6	509.3	497.8	487.1	477.2	467.6	458.7	452.1	445.6	439.2	432.8	426.7	420.9	416.4
410.3	404.3	398.2	392.2	386.4	380.5	374.7	369.0	363.3	357.6	352.0	348.1	344.3	340.9	337.6	334.3
331.0	327.6	324.3	321.0	317.8	314.6	311.4	308.3	305.3	302.3	299.4	296.5	293.7	290.8	288.0	285.2
282.5	279.7	277.0	274.3	271.6	268.9	266.3	263.7	261.1	258.5	256.0	253.5	251.0			
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6	553.0	539.1	526.3	514.4	503.4	493.1	483.2	474.0	467.2	460.5	453.8	447.2	440.9	434.9	429.9
423.6	417.3	411.1	404.9	398.9	392.9	386.9	380.9	375.0	369.2	363.4	359.4	355.5	352.0	348.5	345.1
341.7	338.2	334.8	331.4	328.1	324.8	321.5	318.3	315.2	312.1	309.1	306.1	303.2	300.2	297.4	294.5
291.6	288.8	286.0	283.1	280.4	277.6	274.9	272.2	269.5	266.9	264.3	261.7	259.1			
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10	887.6	868.7	851.5	835.6	820.9	807.3	794.2	782.1	773.7	765.4	757.1	748.9	741.0	733.6	726.3
715.7	705.1	694.5	684.1	673.9	663.7	653.6	643.6	633.6	623.7	613.9	607.1	600.6	594.7	588.8	583.0
577.3	571.4	565.6	559.9	554.3	548.7	543.2	537.8	532.5	527.3	522.2	517.2	512.2	507.3	502.4	497.5
492.7	487.9	483.1	478.4	473.7	469.0	464.4	459.9	455.4	450.9	446.5	442.1	437.8			
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
12	2,583.3	2,533.1	2,487.5	2,445.6	2,407.2	2,371.7	2,337.6	2,306.3	2,280.7	2,255.4	2,230.0	2,205.0	2,180.9	2,158.3	2,136.1
2,105.0	2,073.9	2,042.8	2,012.2	1,982.1	1,952.2	1,922.4	1,892.9	1,863.6	1,834.4	1,805.5	1,785.7	1,766.5	1,749.0	1,731.8	1,714.9

1,697.9 1,680.6 1,663.6 1,646.8 1,630.3 1,613.9 1,597.6 1,581.8 1,566.2 1,550.9 1,535.8 1,521.1 1,506.5 1,492.0 1,477.6 1,463.3
1,449.1 1,435.0 1,420.9 1,407.0 1,393.2 1,379.5 1,366.0 1,352.6 1,339.4 1,326.2 1,313.2 1,300.3 1,287.6

fatal casualties

WITHOUT-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
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WITH-SCHEME

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WITH-SCHEME

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6 1.1602 1.1570 1.1538 1.1506 1.1474 1.1442 1.1411 1.1379 1.1393 1.1407 1.1421 1.1435 1.1449 1.1463 1.1499
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Fatal costs

WITHOUT-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1	8,845.3	8,641.9	8,455.7	8,283.3	8,124.0	7,975.5	7,832.8	7,700.2	7,599.5	7,500.0	7,400.4	7,302.8	7,208.6	7,119.7	7,032.6	
6,930.0	6,827.6	6,725.3	6,624.6	6,525.4	6,427.1	6,328.9	6,231.7	6,135.4	6,039.3	5,944.2	5,879.0	5,815.7	5,758.1	5,701.6	5,645.7	
5,589.8	5,532.8	5,476.9	5,421.6	5,367.4	5,313.2	5,259.6	5,207.5	5,156.4	5,105.9	5,056.3	5,007.7	4,959.6	4,911.9	4,864.7	4,817.5	
4,770.7	4,724.4	4,678.0	4,632.2	4,586.7	4,541.8	4,497.2	4,453.1	4,409.5	4,366.2	4,323.4	4,281.0	4,239.0				

2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

3	7,580.0	7,393.6	7,222.5	7,063.6	6,916.4	6,778.9	6,646.8	6,523.6	6,427.7	6,333.3	6,239.0	6,146.7	6,057.5	5,973.2	5,902.4	
5,816.3	5,730.3	5,644.5	5,560.0	5,476.7	5,394.2	5,311.8	5,230.2	5,149.4	5,068.8	4,988.9	4,934.2	4,881.0	4,832.7	4,785.3	4,738.4	
4,691.5	4,643.6	4,596.8	4,550.3	4,504.8	4,459.4	4,414.3	4,370.6	4,327.8	4,285.3	4,243.7	4,202.9	4,162.5	4,122.5	4,082.9	4,043.3	
4,004.0	3,965.1	3,926.2	3,887.7	3,849.6	3,811.9	3,774.5	3,737.5	3,700.8	3,664.5	3,628.6	3,593.0	3,557.8				

4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

5	30,413.5	29,665.5	28,978.6	28,341.2	27,750.4	27,198.7	26,668.4	26,174.0	25,789.4	25,410.4	25,032.0	24,661.6	24,303.9	23,965.3	23,666.0	
23,320.8	22,976.0	22,631.9	22,293.0	21,959.1	21,628.2	21,298.0	20,970.8	20,646.6	20,323.5	20,003.4	19,783.9	19,570.7	19,376.9	19,186.9	18,998.8	
18,810.6	18,618.9	18,430.9	18,244.8	18,062.3	17,879.9	17,699.4	17,524.1	17,352.3	17,182.1	17,015.3	16,851.8	16,689.8	16,529.4	16,370.5	16,211.6	
16,054.2	15,898.3	15,742.4	15,588.1	15,435.2	15,283.8	15,134.0	14,985.6	14,838.6	14,693.1	14,549.0	14,406.4	14,265.1				

6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

11	3,375.7	3,310.8	3,252.0	3,197.9	3,148.4	3,102.7	3,058.8	3,018.4	2,985.0	2,951.9	2,918.6	2,885.9	2,854.4	2,824.8	2,795.8	
2,755.0	2,714.3	2,673.6	2,633.6	2,594.1	2,555.0	2,516.0	2,477.4	2,439.1	2,400.9	2,363.1	2,337.2	2,312.0	2,289.1	2,266.7	2,244.4	
2,222.2	2,199.5	2,177.3	2,155.4	2,133.8	2,112.3	2,090.9	2,070.2	2,049.9	2,029.8	2,010.1	1,990.8	1,971.7	1,952.7	1,933.9	1,915.2	
1,896.6	1,878.2	1,859.7	1,841.5	1,823.4	1,805.6	1,787.9	1,770.3	1,753.0	1,735.8	1,718.8	1,701.9	1,685.2				

12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	

2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	4,920.5	4,814.2	4,717.1	4,627.5	4,544.9	4,468.1	4,394.4	4,326.1	4,268.1	4,210.8	4,153.5	4,097.3	4,043.0	3,991.9	3,941.7
3,884.2	3,826.8	3,769.5	3,713.0	3,657.4	3,602.3	3,547.3	3,492.8	3,438.8	3,385.0	3,331.7	3,295.1	3,259.6	3,227.3	3,195.7	3,164.3
3,133.0	3,101.1	3,069.8	3,038.8	3,008.4	2,978.0	2,947.9	2,918.7	2,890.1	2,861.8	2,834.0	2,806.8	2,779.8	2,753.1	2,726.6	2,700.1
2,673.9	2,647.9	2,622.0	2,596.3	2,570.8	2,545.6	2,520.6	2,495.9	2,471.5	2,447.2	2,423.2	2,399.5	2,375.9			
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4	5,010.7	4,889.3	4,777.8	4,674.4	4,578.7	4,489.3	4,403.3	4,323.3	4,261.3	4,200.2	4,139.1	4,079.4	4,021.6	3,967.0	3,924.7
3,867.4	3,810.2	3,753.2	3,697.0	3,641.6	3,586.7	3,532.0	3,477.7	3,423.9	3,370.3	3,317.3	3,280.9	3,245.5	3,213.4	3,181.9	3,150.7
3,119.5	3,087.7	3,056.5	3,025.6	2,995.4	2,965.1	2,935.2	2,906.1	2,877.6	2,849.4	2,821.7	2,794.6	2,767.8	2,741.2	2,714.8	2,688.4
2,662.3	2,636.5	2,610.6	2,585.0	2,559.7	2,534.6	2,509.7	2,485.1	2,460.8	2,436.6	2,412.7	2,389.1	2,365.7			
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6	5,177.9	5,052.4	4,937.2	4,830.4	4,731.4	4,639.0	4,550.2	4,467.4	4,403.3	4,340.2	4,277.1	4,215.3	4,155.6	4,099.2	4,051.7
3,992.6	3,933.5	3,874.6	3,816.6	3,759.5	3,702.8	3,646.3	3,590.2	3,534.7	3,479.4	3,424.6	3,387.1	3,350.6	3,317.4	3,284.8	3,252.6
3,220.4	3,187.6	3,155.4	3,123.5	3,092.3	3,061.1	3,030.2	3,000.2	2,970.8	2,941.6	2,913.1	2,885.1	2,857.3	2,829.9	2,802.7	2,775.5
2,748.5	2,721.8	2,695.1	2,668.7	2,642.5	2,616.6	2,591.0	2,565.6	2,540.4	2,515.5	2,490.8	2,466.4	2,442.2			
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10	5,612.4	5,497.0	5,391.9	5,295.0	5,205.8	5,123.2	5,043.7	4,970.3	4,917.1	4,864.4	4,811.3	4,759.1	4,708.8	4,661.8	4,615.6
4,548.2	4,481.0	4,413.9	4,347.8	4,282.7	4,218.1	4,153.7	4,089.9	4,026.7	3,963.7	3,901.3	3,858.5	3,816.9	3,779.1	3,742.0	3,705.3
3,668.6	3,631.2	3,594.6	3,558.3	3,522.7	3,487.1	3,451.9	3,417.7	3,384.2	3,351.0	3,318.5	3,286.6	3,255.0	3,223.7	3,192.7	3,161.7
3,131.0	3,100.6	3,070.2	3,040.1	3,010.3	2,980.8	2,951.6	2,922.6	2,894.0	2,865.6	2,837.5	2,809.7	2,782.1			
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
12	5,267.0	5,165.8	5,073.9	4,989.6	4,912.3	4,841.0	4,772.5	4,709.6	4,657.4	4,605.8	4,553.8	4,502.8	4,453.6	4,407.4	4,362.2
4,298.5	4,235.0	4,171.6	4,109.1	4,047.6	3,986.6	3,925.7	3,865.4	3,805.6	3,746.1	3,687.1	3,646.6	3,607.3	3,571.6	3,536.6	3,501.9
3,467.2	3,431.9	3,397.2	3,362.9	3,329.3	3,295.7	3,262.4	3,230.1	3,198.4	3,167.1	3,136.3	3,106.2	3,076.3	3,046.7	3,017.5	2,988.2
2,959.2	2,930.4	2,901.7	2,873.2	2,845.1	2,817.2	2,789.5	2,762.2	2,735.1	2,708.3	2,681.7	2,655.4	2,629.4			

Serious costs

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	16,532.7	16,152.6	15,804.6	15,482.4	15,184.6	14,907.1	14,640.4	14,392.5	14,204.2	14,018.3	13,832.1	13,649.7	13,473.5	13,307.5	13,144.7
12,952.9	12,761.4	12,570.3	12,382.1	12,196.6	12,012.8	11,829.4	11,647.7	11,467.6	11,288.1	11,110.4	10,988.5	10,870.1	10,762.4	10,656.9	10,552.4
10,447.9	10,341.4	10,236.9	10,133.6	10,032.2	9,931.0	9,830.7	9,733.3	9,637.9	9,543.4	9,450.7	9,359.9	9,269.9	9,180.8	9,092.6	9,004.3
8,916.9	8,830.3	8,743.7	8,658.0	8,573.1	8,489.0	8,405.8	8,323.3	8,241.7	8,160.9	8,080.9	8,001.7	7,923.2			
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3	7,898.2	7,704.0	7,525.7	7,360.1	7,206.7	7,063.5	6,925.8	6,797.4	6,697.5	6,599.1	6,500.9	6,404.7	6,311.8	6,223.9	6,150.2
6,060.5	5,970.9	5,881.5	5,793.4	5,706.6	5,620.6	5,534.8	5,449.8	5,365.5	5,281.6	5,198.4	5,141.3	5,085.9	5,035.6	4,986.2	4,937.3
4,888.4	4,838.6	4,789.7	4,741.4	4,693.9	4,646.5	4,599.6	4,554.1	4,509.4	4,465.2	4,421.9	4,379.4	4,337.3	4,295.6	4,254.3	4,213.0
4,172.1	4,131.6	4,091.1	4,050.9	4,011.2	3,971.9	3,932.9	3,894.4	3,856.2	3,818.4	3,780.9	3,743.9	3,707.1			
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5	31,690.2	30,910.7	30,195.1	29,530.9	28,915.3	28,340.4	27,787.8	27,272.7	26,872.0	26,477.1	26,082.8	25,696.9	25,324.1	24,971.3	24,659.5
24,299.7	23,940.5	23,582.0	23,228.8	22,880.9	22,536.1	22,192.0	21,851.1	21,513.3	21,176.6	20,843.1	20,614.4	20,392.3	20,190.3	19,992.3	19,796.3
19,600.3	19,400.4	19,204.6	19,010.6	18,820.5	18,630.5	18,442.4	18,259.8	18,080.7	17,903.4	17,729.6	17,559.2	17,390.4	17,223.3	17,057.7	16,892.1
16,728.1	16,565.7	16,403.3	16,242.4	16,083.1	15,925.4	15,769.3	15,614.6	15,461.5	15,309.9	15,159.8	15,011.1	14,863.9			
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11	12,974.2	12,724.9	12,498.7	12,290.8	12,100.6	11,924.9	11,756.2	11,601.1	11,472.7	11,345.5	11,217.4	11,091.7	10,970.5	10,856.9	10,745.4
10,588.6	10,432.1	10,275.9	10,122.0	9,970.4	9,820.1	9,670.2	9,521.7	9,374.5	9,227.7	9,082.4	8,982.8	8,886.0	8,798.0	8,711.7	8,626.3

8,540.8 8,453.8 8,368.4 8,283.9 8,201.1 8,118.3 8,036.3 7,956.7 7,878.7 7,801.4 7,725.7 7,651.4 7,577.9 7,505.1 7,432.9 7,360.8
7,289.3 7,218.5 7,147.7 7,077.6 7,008.2 6,939.5 6,871.5 6,804.1 6,737.4 6,671.3 6,605.9 6,541.1 6,477.0

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WITH-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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2 18,911.5 18,502.9 18,129.9 17,785.3 17,467.9 17,172.9 16,889.6 16,627.1 16,404.0 16,183.8 15,963.4 15,747.5 15,539.1 15,342.4 15,149.6
14,928.6 14,707.9 14,487.6 14,270.7 14,057.0 13,845.1 13,633.7 13,424.3 13,216.8 13,009.9 12,805.0 12,664.5 12,528.0 12,404.0 12,282.3 12,161.9
12,041.5 11,918.7 11,798.4 11,679.2 11,562.4 11,445.7 11,330.1 11,217.9 11,107.9 10,999.0 10,892.2 10,787.5 10,683.8 10,581.1 10,479.4 10,377.7
10,276.9 10,177.2 10,077.4 9,978.6 9,880.7 9,783.8 9,687.9 9,592.9 9,498.8 9,405.7 9,313.4 9,222.1 9,131.7

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4 8,260.2 8,060.0 7,876.3 7,705.8 7,548.0 7,400.6 7,258.9 7,127.0 7,024.8 6,924.0 6,823.4 6,724.9 6,629.7 6,539.7 6,469.8
6,375.4 6,281.2 6,187.1 6,094.5 6,003.2 5,912.7 5,822.5 5,733.0 5,644.4 5,556.0 5,468.5 5,408.5 5,350.3 5,297.3 5,245.3 5,193.9
5,142.5 5,090.0 5,038.6 4,987.8 4,937.9 4,888.0 4,838.7 4,790.8 4,743.8 4,697.3 4,651.7 4,606.9 4,562.7 4,518.8 4,475.4 4,431.9
4,388.9 4,346.3 4,303.7 4,261.5 4,219.7 4,178.3 4,137.3 4,096.8 4,056.6 4,016.8 3,977.4 3,938.4 3,899.8

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6 8,535.8 8,328.9 8,139.0 7,962.9 7,799.7 7,647.4 7,501.0 7,364.6 7,258.9 7,154.8 7,050.8 6,948.9 6,850.6 6,757.5 6,679.2
6,581.8 6,484.5 6,387.4 6,291.7 6,197.5 6,104.1 6,010.9 5,918.6 5,827.1 5,735.8 5,645.5 5,583.6 5,523.4 5,468.7 5,415.1 5,362.0
5,308.9 5,254.8 5,201.7 5,149.2 5,097.7 5,046.2 4,995.3 4,945.8 4,897.3 4,849.3 4,802.2 4,756.0 4,710.3 4,665.1 4,620.2 4,575.4
4,530.9 4,487.0 4,443.0 4,399.4 4,356.2 4,313.5 4,271.2 4,229.3 4,187.9 4,146.8 4,106.1 4,065.9 4,026.0

7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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10 10,490.2 10,274.5 10,078.0 9,896.8 9,730.2 9,575.7 9,427.2 9,290.1 9,190.6 9,092.1 8,992.8 8,895.3 8,801.3 8,713.3 8,627.0
8,501.1 8,375.4 8,250.0 8,126.5 8,004.8 7,884.1 7,763.8 7,644.5 7,526.3 7,408.5 7,291.8 7,211.8 7,134.1 7,063.5 6,994.2 6,925.6
6,857.0 6,787.1 6,718.6 6,650.8 6,584.3 6,517.8 6,452.0 6,388.1 6,325.4 6,263.4 6,202.6 6,143.0 6,083.9 6,025.5 5,967.5 5,909.6
5,852.2 5,795.4 5,738.6 5,682.3 5,626.6 5,571.4 5,516.8 5,462.7 5,409.1 5,356.1 5,303.6 5,251.6 5,200.1

11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

12	20,243.3	19,854.2	19,501.3	19,177.0	18,880.2	18,606.0	18,342.8	18,100.8	17,900.4	17,702.0	17,502.1	17,306.0	17,116.9	16,939.7	16,765.7	
16,521.1	16,276.9	16,033.1	15,793.0	15,556.5	15,322.0	15,088.1	14,856.3	14,626.7	14,397.7	14,171.0	14,015.5	13,864.5	13,727.2	13,592.6	13,459.3	
13,326.0	13,190.1	13,057.0	12,925.1	12,795.9	12,666.7	12,538.8	12,414.6	12,292.9	12,172.3	12,054.1	11,938.3	11,823.5	11,709.9	11,597.3	11,484.8	
11,373.2	11,262.8	11,152.4	11,043.0	10,934.7	10,827.5	10,721.3	10,616.2	10,512.1	10,409.0	10,307.0	10,205.9	10,105.8				

Slight costs

WITHOUT-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082				

1	25,745.4	25,153.6	24,611.7	24,109.9	23,646.1	23,214.0	22,798.6	22,412.7	22,119.4	21,830.0	21,540.0	21,255.9	20,981.6	20,723.0	20,469.5	
20,170.9	19,872.7	19,575.1	19,281.9	18,993.2	18,706.9	18,421.3	18,138.3	17,857.9	17,578.4	17,301.6	17,111.8	16,927.3	16,759.7	16,595.4	16,432.6	
16,269.9	16,104.0	15,941.4	15,780.5	15,622.7	15,464.9	15,308.8	15,157.2	15,008.6	14,861.4	14,717.1	14,575.6	14,435.5	14,296.8	14,159.4	14,021.9	
13,885.8	13,751.0	13,616.1	13,482.6	13,350.4	13,219.5	13,089.9	12,961.5	12,834.4	12,708.5	12,583.9	12,460.5	12,338.4				

2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

3	5,393.0	5,260.3	5,138.6	5,025.5	4,920.8	4,823.0	4,729.0	4,641.3	4,573.1	4,505.9	4,438.8	4,373.2	4,309.8	4,249.7	4,199.4	
4,138.1	4,077.0	4,015.9	3,955.8	3,896.5	3,837.8	3,779.2	3,721.1	3,663.6	3,606.3	3,549.5	3,510.5	3,472.7	3,438.3	3,404.6	3,371.2	
3,337.8	3,303.8	3,270.4	3,237.4	3,205.0	3,172.7	3,140.7	3,109.5	3,079.1	3,048.9	3,019.3	2,990.2	2,961.5	2,933.0	2,904.8	2,876.6	
2,848.7	2,821.1	2,793.4	2,766.0	2,738.9	2,712.0	2,685.4	2,659.1	2,633.0	2,607.2	2,581.6	2,556.3	2,531.3				

4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

5	21,638.2	21,106.0	20,617.4	20,163.8	19,743.6	19,351.0	18,973.7	18,622.0	18,348.3	18,078.7	17,809.5	17,546.0	17,291.4	17,050.6	16,837.6	
16,592.0	16,346.7	16,101.9	15,860.8	15,623.2	15,387.7	15,152.8	14,920.1	14,689.4	14,459.5	14,231.8	14,075.6	13,923.9	13,786.1	13,650.9	13,517.0	
13,383.2	13,246.7	13,113.0	12,980.6	12,850.8	12,721.0	12,592.6	12,467.9	12,345.6	12,224.5	12,105.9	11,989.5	11,874.3	11,760.1	11,647.1	11,534.0	
11,422.0	11,311.1	11,200.2	11,090.4	10,981.7	10,874.0	10,767.3	10,661.8	10,557.2	10,453.7	10,351.2	10,249.7	10,149.2				

6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
11	23,484.3	23,032.9	22,623.4	22,247.2	21,902.9	21,584.8	21,279.5	20,998.8	20,766.3	20,536.1	20,304.2	20,076.7	19,857.3	19,651.7	19,449.9
19,166.1	18,882.8	18,600.0	18,321.5	18,047.1	17,775.1	17,503.7	17,234.8	16,968.4	16,702.8	16,439.7	16,259.4	16,084.2	15,924.9	15,768.7	15,614.1
15,459.5	15,301.9	15,147.4	14,994.4	14,844.5	14,694.6	14,546.2	14,402.2	14,261.0	14,121.1	13,984.0	13,849.6	13,716.5	13,584.7	13,454.1	13,323.5
13,194.1	13,066.0	12,937.9	12,811.0	12,685.4	12,561.0	12,437.8	12,315.9	12,195.1	12,075.5	11,957.1	11,839.9	11,723.8			
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
2	34,231.1	33,491.5	32,816.3	32,192.6	31,618.1	31,084.2	30,571.2	30,096.2	29,692.3	29,293.8	28,894.9	28,504.1	28,126.8	27,770.7	27,421.8
27,021.7	26,622.3	26,223.6	25,830.9	25,444.0	25,060.5	24,678.0	24,298.8	23,923.2	23,548.8	23,177.9	22,923.6	22,676.6	22,452.0	22,231.8	22,013.8
21,795.8	21,573.7	21,355.8	21,140.2	20,928.8	20,717.5	20,508.3	20,305.2	20,106.1	19,908.9	19,715.6	19,526.1	19,338.5	19,152.6	18,968.5	18,784.3
18,602.0	18,421.4	18,240.7	18,061.9	17,884.7	17,709.4	17,535.7	17,363.8	17,193.5	17,024.9	16,858.0	16,692.7	16,529.0			
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
4	11,130.9	10,861.1	10,613.5	10,383.8	10,171.1	9,972.5	9,781.6	9,603.8	9,466.1	9,330.4	9,194.7	9,061.9	8,933.7	8,812.4	8,718.3
8,591.1	8,464.1	8,337.3	8,212.5	8,089.5	7,967.5	7,845.9	7,725.4	7,606.0	7,486.9	7,369.0	7,288.2	7,209.6	7,138.2	7,068.2	6,998.9
6,929.6	6,859.0	6,789.7	6,721.1	6,653.9	6,586.8	6,520.2	6,455.7	6,392.4	6,329.7	6,268.2	6,208.0	6,148.3	6,089.2	6,030.7	5,972.1
5,914.2	5,856.7	5,799.3	5,742.4	5,686.1	5,630.4	5,575.2	5,520.5	5,466.4	5,412.8	5,359.7	5,307.1	5,255.1			
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
6	11,502.3	11,223.5	10,967.6	10,730.2	10,510.3	10,305.1	10,107.8	9,923.9	9,781.6	9,641.3	9,501.1	9,363.9	9,231.3	9,106.0	9,000.4
8,869.1	8,738.0	8,607.2	8,478.3	8,351.3	8,225.4	8,099.8	7,975.4	7,852.1	7,729.2	7,607.5	7,524.0	7,442.9	7,369.2	7,297.0	7,225.4

7,153.9 7,080.9 7,009.4 6,938.7 6,869.3 6,799.9 6,731.3 6,664.6 6,599.3 6,534.5 6,471.1 6,408.9 6,347.3 6,286.3 6,225.9 6,165.4
6,105.6 6,046.3 5,987.0 5,928.3 5,870.2 5,812.6 5,755.6 5,699.2 5,643.3 5,587.9 5,533.2 5,478.9 5,425.2

7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

10 16,335.8 15,999.9 15,693.9 15,411.7 15,152.3 14,911.7 14,680.5 14,466.9 14,312.0 14,158.6 14,003.9 13,852.1 13,705.8 13,568.8 13,434.3
13,238.3 13,042.6 12,847.3 12,654.9 12,465.4 12,277.5 12,090.1 11,904.3 11,720.3 11,536.9 11,355.2 11,230.6 11,109.6 10,999.5 10,891.7 10,784.9
10,678.1 10,569.2 10,462.5 10,356.9 10,253.3 10,149.8 10,047.3 9,947.8 9,850.2 9,753.7 9,659.0 9,566.1 9,474.2 9,383.1 9,292.9 9,202.7
9,113.4 9,024.9 8,936.4 8,848.8 8,762.0 8,676.1 8,591.0 8,506.7 8,423.3 8,340.7 8,258.9 8,178.0 8,097.8

11 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

12 36,641.7 35,937.5 35,298.6 34,711.6 34,174.4 33,678.1 33,201.7 32,763.8 32,400.9 32,041.8 31,680.0 31,325.0 30,982.8 30,661.9 30,347.0
29,904.3 29,462.2 29,021.0 28,586.4 28,158.3 27,733.9 27,310.5 26,890.9 26,475.2 26,060.8 25,650.4 25,369.0 25,095.6 24,847.1 24,603.4 24,362.2
24,120.9 23,875.0 23,634.0 23,395.3 23,161.4 22,927.5 22,696.0 22,471.3 22,250.9 22,032.7 21,818.8 21,609.1 21,401.4 21,195.7 20,992.0 20,788.2
20,586.3 20,386.5 20,186.6 19,988.6 19,792.6 19,598.5 19,406.3 19,216.1 19,027.6 18,841.0 18,656.3 18,473.3 18,292.2

damage only accidents

WITHOUT-SCHEME

Junction 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037
2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069
2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082

1 15.0 14.9 14.9 14.9 14.9 14.8 14.8 14.8 14.8 14.9 14.9 14.9 15.0 15.0 15.1
15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1
15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1
15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15.1

2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6
2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6
2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6
2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6

4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5	10.5	10.4	10.4	10.4	10.3	10.3	10.3	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.3	
10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	
10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	
10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3				
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
11	32.6	32.7	32.8	32.9	32.9	33.0	33.1	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	
34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	
34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	
34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2				
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

WITH-SCHEME

Junction	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082			
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.5	47.6	47.8	47.9	48.0	48.1	48.2	48.3
48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	
48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	
48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3				
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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4 5.4 5.3 5.3 5.3 5.3 5.3 5.3 5.2 5.3 5.3 5.3 5.3 5.3 5.3 5.3
5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3
5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3
5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3

5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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6 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.4 5.4 5.4 5.4 5.4 5.4 5.5 5.5 5.5 5.5 5.5
5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5
5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5
5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5

7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9 9.9
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11 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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12 50.9 51.0 51.2 51.3 51.4 51.5 51.6 51.8 52.0 52.2 52.5 52.7 52.9 53.2 53.4
53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4
53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4
53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4

[Section 2.3] Combined Link and Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*---------- Benefits ----------*			
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	*-- Number of Accidents -*			Total*
Link Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

	----- Accident Rate ----	
Link Name	* 2023	2038 *
1_2	0.000000	0.000000
2_1	0.000000	0.000000
2_3	1.293033	1.035257
3_5	0.000000	0.000000
5_2	0.000000	0.000000
3_4	1.263099	1.011290
4_3	0.000000	0.000000
5_6	0.000000	0.000000
6_5	0.000000	0.000000

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

	---- Coefficient 'a' ---	
Junction Name	* 2023	2038 *
1	0.003599	0.003500
2	0.011819	0.011634
3	0.085273	0.082913
4	0.100108	0.097339
5	0.334262	0.325014
6	0.100108	0.097339
7	0.000000	0.000000
10	0.005175	0.005032

11	0.003246	0.003196
12	0.005065	0.004986

[Section 3.3] Combined Link and Junction Accident Rates

	----- Accident Rate ----	
Link Name	* 2023	2038 *

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name

A614_A6075_COBALT

Years Subsection

Current Year	2019
Base Year	2017

Without-Scheme

Year 1	2023
Year 2	2037
Year 3	0
Year 4	0
Year 5	0

With-Scheme

Year 1	2023
Year 2	2037
Year 3	0
Year 4	0
Year 5	0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
1_2	4	0.10	50	
2_1	4	0.10	50	
2_3	4	0.10	50	
3_5	4	0.10	50	

5_2	4	0.10	50
3_4	4	0.10	50
4_3	4	0.10	50
5_6	4	0.10	50
6_5	4	0.10	50

Link Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows				
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
1_2	5,737	6,124	6,137	0	0	0	0	0	0	0	0
2_1	5,622	6,087	6,129	0	0	0	0	0	0	0	0
2_3	9,924	11,073	11,478	0	0	0	0	0	0	0	0
3_5	9,459	10,737	11,195	0	0	0	0	0	0	0	0
5_2	9,809	11,037	11,469	0	0	0	0	0	0	0	0
3_4	9,924	11,073	11,478	0	0	0	0	0	0	0	0
4_3	9,459	10,737	11,195	0	0	0	0	0	0	0	0
5_6	3,879	4,700	5,123	0	0	0	0	0	0	0	0
6_5	4,229	5,000	5,397	0	0	0	0	0	0	0	0

Link Local Accident Rate Subsection

Link	Observed	First Observed	Local Severity Split	
Name	Accidents	Accident Year	Ratio	Year
1_2	0,0,0	2015		
2_1	0,0,0	2015		
2_3	0,0,1	2015		
3_5	0,0,0	2015		
5_2	0,0,0	2015		
3_4	0,1,0	2015		
4_3	0,0,0	2015		
5_6	0,0,0	2015		
6_5	0,0,0	2015		

Junction Input Section

Junction Classification Subsection

Junction	Junction	Highest	Highest	Speed Limit	Error/Warning Summary
Name	Geometry	Carriageway	Standard	(mph)	(!=Error, #=Warning)
1	4	Single	Major	60	
2	4	Single	Major	30	

3	1	Single	Major	50
4	3	Single	Major	50
5	1	Single	Major	50
6	3	Single	Major	50
7	4	Single	Major	50
10	4	Single	Major	50
11	4	Dual	Major	40
12	4	Dual	Major	40

Junction Flow Subsection

Base Year Flows

Junction	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name	(Major)	(Minor)	(Major)	(Minor)	(Major)	(Minor)
1	5,508	10,085	8,728	4,110	3,499	0
2	0	0	0	0	0	0
3	9,659	1,355	9,353	0	0	0
4	0	0	0	0	0	0
5	9,666	1,660	10,018	0	0	0
6	0	0	0	0	0	0
7	9,499	2,351	10,551	2,309	0	0
10	0	0	0	0	0	0
11	10,920	4,671	12,984	8,119	0	0
12	0	0	0	0	0	0

Without-Scheme Year Flows

Junction	Year	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name		(Major)	(Minor)	(Major)	(Minor)	(Major)	(Minor)
1	1	5,842	10,693	9,607	4,899	3,664	0
1	2	5,951	10,912	9,891	4,929	3,718	0
2	1	0	0	0	0	0	0
2	2	0	0	0	0	0	0
3	1	10,633	1,547	10,112	0	0	0
3	2	10,946	1,581	10,397	105	0	0
4	1	0	0	0	0	0	0
4	2	0	0	0	0	0	0
5	1	10,514	1,969	11,021	0	0	0
5	2	10,831	2,002	11,335	75	0	0
6	1	0	0	0	0	0	0
6	2	0	0	0	0	0	0

7	1	10,758	2,431	11,713	2,385	0	0
7	2	11,147	2,456	12,119	2,423	0	0
10	1	0	0	0	0	0	0
10	2	0	0	0	0	0	0
11	1	11,759	4,817	13,979	8,538	0	0
11	2	12,164	4,882	14,668	8,845	0	0
12	1	0	0	0	0	0	0
12	2	0	0	0	0	0	0

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	
1	1	0	0	0	0	0	0
1	2	0	0	0	0	0	0
2	1	5,842	10,693	9,607	4,899	3,664	0
2	2	5,951	10,912	9,891	4,929	3,718	0
3	1	0	0	0	0	0	0
3	2	0	0	0	0	0	0
4	1	10,633	1,547	10,112	0	0	0
4	2	10,946	1,581	10,397	105	0	0
5	1	0	0	0	0	0	0
5	2	0	0	0	0	0	0
6	1	10,514	1,969	11,021	0	0	0
6	2	10,831	2,002	11,335	75	0	0
7	1	10,758	2,431	11,713	2,385	0	0
7	2	11,147	2,456	12,119	2,423	0	0
10	1	10,737	5,000	6,124	0	0	0
10	2	11,195	5,397	6,137	0	0	0
11	1	0	0	0	0	0	0
11	2	0	0	0	0	0	0
12	1	11,759	4,817	13,979	8,538	0	0
12	2	12,164	4,882	14,668	8,845	0	0

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year
1	3,2,0	2015		
3	0,1,0	2015		
4	0.105R	2015		

5	1,3,0	2015
6	0.105R	2015
7	0,0,0	2015
11	2,0,3	2015

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Combined Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows				
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5

Combined Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

[Section 5] Input Data - Parameter File

COBALT Parameter File

Version 2,018.10

Cost Base Year

2010

Appraisal Period

60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost

Fatal	1,556,244
Serious	174,878
Slight	13,481

Cost per Accident

Severity	Insurance	Damage to Property		
	Administration	Urban	Rural	Motorway
Fatal	285	7,441	12,621	16,054
Serious	178	3,998	5,753	13,698
Slight	108	2,353	3,814	6,930
Damage	51	2,353	2,515	2,417

	Police Cost		
	Urban	Rural	Motorway
Fatal	16,755	17,205	17,405
Serious	1,850	2,310	2,439
Slight	478	656	547
Damage	478	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	0.61
2011-2012	0.81
2012-2013	1.41
2013-2014	2.27
2014-2015	1.54
2015-2016	1.10
2016-2017	1.17
2017-2018	0.90
2018-2019	0.65
2019-2020	0.71
2020-2021	0.82
2021-2022	0.94
2022-2023	1.15
2023-2024	1.27
2024-2025	1.42
2025-2026	1.54
2026-2027	1.66
2027-2028	1.76
2028-2029	1.80

2029-2030	1.90
2030-2032	1.89
2032-2033	1.87
2033-2034	1.88
2034-2035	1.91
2035-2036	1.97
2036-2037	1.98
2037-2038	1.99
2038-2039	1.97
2039-2042	1.95
2042-2043	1.94
2043-2044	1.92
2044-2045	1.91
2045-2046	1.90
2046-2047	1.88
2047-2049	1.87
2049-2050	1.89
2050-2051	1.98
2051-2053	1.99
2053-2054	1.98
2054-2055	1.95
2055-2057	1.96
2057-2058	1.97
2058-2060	1.96
2060-2061	1.98
2061-2063	1.99
2063-2064	2.00
2064-2068	2.01
2068-2071	2.00
2071-2094	1.99
2094-2110	1.98

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit	Accident Proportions		
	(mph)	Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748
5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841

8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837

14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions

Base Year

2009

Road Type	Speed Limit	Accident Proportions		
	(mph)	Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869

6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779
8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850

12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions

Base Year

2000

Road Type	Speed Limit	Accident Proportions		
	(mph)	Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787
2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766

5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878

18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766
20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766

31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874
38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887

44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903
56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903

57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923

70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903
74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903

83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934
92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933

96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958

7	80	0.082	0.958
8	30	0.206	0.964
8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949

14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956
1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959

6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956
11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956

12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type	Speed Limit	Casualties per P.I.A.		
	(mph)	Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464

3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251
4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183

10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328
13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates

Base Year

2009

Road Type	Speed Limit	Casualties per P.I.A.		
	(mph)	Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176
8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300

8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238

15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors

Base Year

2009

Road Type	Speed Limit	Beta Factor		
	(mph)	Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001

7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998

13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors

Base Year

2009

Road Type	Speed Limit	Beta Factor		
	(mph)	Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002

5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002

12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type
1	50	0.195	0.460	3	S	C
1	60	0.195	0.460	3	S	C
1	70	0.195	0.460	3	S	C
1	80	0.195	0.460	3	S	C
2	20	0.195	0.460	3	S	C

2	30	0.195	0.460	3	S	C
2	40	0.195	0.460	3	S	C
3	50	0.195	0.460	3	D	C
3	60	0.195	0.460	3	D	C
3	70	0.195	0.460	3	D	C
3	80	0.195	0.460	3	D	C
4	20	0.195	0.460	3	D	C
4	30	0.195	0.460	3	D	C
4	40	0.195	0.460	3	D	C
5	50	0.361	0.440	4	S	I
5	60	0.361	0.440	4	S	I
5	70	0.361	0.440	4	S	I
5	80	0.361	0.440	4	S	I
6	20	0.361	0.440	4	S	I
6	30	0.361	0.440	4	S	I
6	40	0.361	0.440	4	S	I
7	50	0.240	0.710	4	D	C
7	60	0.240	0.710	4	D	C
7	70	0.240	0.710	4	D	C
7	80	0.240	0.710	4	D	C
8	20	0.240	0.710	4	D	C
8	30	0.240	0.710	4	D	C
8	40	0.240	0.710	4	D	C
9	50	0.361	0.440	5	S	I
9	60	0.361	0.440	5	S	I
9	70	0.361	0.440	5	S	I
9	80	0.361	0.440	5	S	I
10	20	0.361	0.440	5	S	I
10	30	0.361	0.440	5	S	I
10	40	0.361	0.440	5	S	I
11	50	0.361	0.440	5	D	I
11	60	0.361	0.440	5	D	I
11	70	0.361	0.440	5	D	I
11	80	0.361	0.440	5	D	I
12	20	0.361	0.440	5	D	I
12	30	0.361	0.440	5	D	I
12	40	0.361	0.440	5	D	I
13	50	0.195	0.460	3	S	C
13	60	0.195	0.460	3	S	C

13	70	0.195	0.460	3	S	C
13	80	0.195	0.460	3	S	C
14	20	0.195	0.460	3	S	C
14	30	0.195	0.460	3	S	C
14	40	0.195	0.460	3	S	C
15	50	0.195	0.460	3	D	C
15	60	0.195	0.460	3	D	C
15	70	0.195	0.460	3	D	C
15	80	0.195	0.460	3	D	C
16	20	0.195	0.460	3	D	C
16	30	0.195	0.460	3	D	C
16	40	0.195	0.460	3	D	C
17	50	0.361	0.440	4	S	I
17	60	0.361	0.440	4	S	I
17	70	0.361	0.440	4	S	I
17	80	0.361	0.440	4	S	I
18	20	0.361	0.440	4	S	I
18	30	0.361	0.440	4	S	I
18	40	0.361	0.440	4	S	I
19	50	0.240	0.710	4	D	C
19	60	0.240	0.710	4	D	C
19	70	0.240	0.710	4	D	C
19	80	0.240	0.710	4	D	C
20	20	0.240	0.710	4	D	C
20	30	0.240	0.710	4	D	C
20	40	0.240	0.710	4	D	C
21	50	0.361	0.440	5	S	I
21	60	0.361	0.440	5	S	I
21	70	0.361	0.440	5	S	I
21	80	0.361	0.440	5	S	I
22	20	0.361	0.440	5	S	I
22	30	0.361	0.440	5	S	I
22	40	0.361	0.440	5	S	I
23	50	0.361	0.440	5	D	I
23	60	0.361	0.440	5	D	I
23	70	0.361	0.440	5	D	I
23	80	0.361	0.440	5	D	I
24	20	0.361	0.440	5	D	I
24	30	0.361	0.440	5	D	I

24	40	0.361	0.440	5	D	I
25	50	0.195	0.460	3	S	C
25	60	0.195	0.460	3	S	C
25	70	0.195	0.460	3	S	C
25	80	0.195	0.460	3	S	C
26	20	0.195	0.460	3	S	C
26	30	0.195	0.460	3	S	C
26	40	0.195	0.460	3	S	C
27	50	0.195	0.460	3	D	C
27	60	0.195	0.460	3	D	C
27	70	0.195	0.460	3	D	C
27	80	0.195	0.460	3	D	C
28	20	0.195	0.460	3	D	C
28	30	0.195	0.460	3	D	C
28	40	0.195	0.460	3	D	C
29	50	0.361	0.440	4	S	I
29	60	0.361	0.440	4	S	I
29	70	0.361	0.440	4	S	I
29	80	0.361	0.440	4	S	I
30	20	0.361	0.440	4	S	I
30	30	0.361	0.440	4	S	I
30	40	0.361	0.440	4	S	I
31	50	0.240	0.710	4	D	C
31	60	0.240	0.710	4	D	C
31	70	0.240	0.710	4	D	C
31	80	0.240	0.710	4	D	C
32	20	0.240	0.710	4	D	C
32	30	0.240	0.710	4	D	C
32	40	0.240	0.710	4	D	C
33	50	0.361	0.440	5	S	I
33	60	0.361	0.440	5	S	I
33	70	0.361	0.440	5	S	I
33	80	0.361	0.440	5	S	I
34	20	0.361	0.440	5	S	I
34	30	0.361	0.440	5	S	I
34	40	0.361	0.440	5	S	I
35	50	0.361	0.440	5	D	I
35	60	0.361	0.440	5	D	I
35	70	0.361	0.440	5	D	I

35	80	0.361	0.440	5	D	I
36	20	0.361	0.440	5	D	I
36	30	0.361	0.440	5	D	I
36	40	0.361	0.440	5	D	I
37	50	0.223	0.610	3	S	I
37	60	0.223	0.610	3	S	I
37	70	0.223	0.610	3	S	I
37	80	0.223	0.610	3	S	I
38	20	0.223	0.610	3	S	I
38	30	0.223	0.610	3	S	I
38	40	0.223	0.610	3	S	I
39	50	0.494	0.420	3	D	C
39	60	0.494	0.420	3	D	C
39	70	0.494	0.420	3	D	C
39	80	0.494	0.420	3	D	C
40	20	0.291	0.510	3	D	C
40	30	0.291	0.510	3	D	C
40	40	0.291	0.510	3	D	C
41	50	1.378	0.200	4	S	C
41	60	1.378	0.200	4	S	C
41	70	1.378	0.200	4	S	C
41	80	1.378	0.200	4	S	C
42	20	1.378	0.200	4	S	C
42	30	1.378	0.200	4	S	C
42	40	1.378	0.200	4	S	C
43	50	0.494	0.420	4	D	C
43	60	0.494	0.420	4	D	C
43	70	0.494	0.420	4	D	C
43	80	0.494	0.420	4	D	C
44	20	0.291	0.510	4	D	C
44	30	0.291	0.510	4	D	C
44	40	0.291	0.510	4	D	C
45	50	0.254	0.620	5	S	I
45	60	0.254	0.620	5	S	I
45	70	0.254	0.620	5	S	I
45	80	0.254	0.620	5	S	I
46	20	0.254	0.620	5	S	I
46	30	0.254	0.620	5	S	I
46	40	0.254	0.620	5	S	I

47	50	0.238	0.850	5	D	I
47	60	0.238	0.850	5	D	I
47	70	0.238	0.850	5	D	I
47	80	0.238	0.850	5	D	I
48	20	0.160	0.970	5	D	I
48	30	0.160	0.970	5	D	I
48	40	0.160	0.970	5	D	I
49	50	0.033	0.760	3	S	C
49	60	0.033	0.760	3	S	C
49	70	0.033	0.760	3	S	C
49	80	0.033	0.760	3	S	C
50	20	0.033	0.760	3	S	C
50	30	0.033	0.760	3	S	C
50	40	0.033	0.760	3	S	C
51	50	0.033	0.760	3	D	C
51	60	0.033	0.760	3	D	C
51	70	0.033	0.760	3	D	C
51	80	0.033	0.760	3	D	C
52	20	0.033	0.760	3	D	C
52	30	0.033	0.760	3	D	C
52	40	0.033	0.760	3	D	C
53	50	0.024	0.890	4	S	C
53	60	0.024	0.890	4	S	C
53	70	0.024	0.890	4	S	C
53	80	0.024	0.890	4	S	C
54	20	0.048	0.740	4	S	C
54	30	0.048	0.740	4	S	C
54	40	0.048	0.740	4	S	C
55	50	0.063	0.690	4	D	C
55	60	0.063	0.690	4	D	C
55	70	0.063	0.690	4	D	C
55	80	0.063	0.690	4	D	C
56	20	0.022	0.850	4	D	C
56	30	0.022	0.850	4	D	C
56	40	0.022	0.850	4	D	C
57	50	0.007	1.770	5	S	I
57	60	0.007	1.770	5	S	I
57	70	0.007	1.770	5	S	I
57	80	0.007	1.770	5	S	I

58	20	0.014	1.530	5	S	I
58	30	0.014	1.530	5	S	I
58	40	0.014	1.530	5	S	I
59	50	0.019	1.420	5	D	I
59	60	0.019	1.420	5	D	I
59	70	0.019	1.420	5	D	I
59	80	0.019	1.420	5	D	I
60	20	0.006	1.730	5	D	I
60	30	0.006	1.730	5	D	I
60	40	0.006	1.730	5	D	I
61	50	0.033	0.760	3	S	C
61	60	0.033	0.760	3	S	C
61	70	0.033	0.760	3	S	C
61	80	0.033	0.760	3	S	C
62	20	0.033	0.760	3	S	C
62	30	0.033	0.760	3	S	C
62	40	0.033	0.760	3	S	C
63	50	0.033	0.760	3	D	C
63	60	0.033	0.760	3	D	C
63	70	0.033	0.760	3	D	C
63	80	0.033	0.760	3	D	C
64	20	0.033	0.760	3	D	C
64	30	0.033	0.760	3	D	C
64	40	0.033	0.760	3	D	C
65	50	0.101	0.660	4	S	C
65	60	0.101	0.660	4	S	C
65	70	0.101	0.660	4	S	C
65	80	0.101	0.660	4	S	C
66	20	0.263	0.540	4	S	C
66	30	0.263	0.540	4	S	C
66	40	0.263	0.540	4	S	C
67	50	0.101	0.660	4	D	C
67	60	0.101	0.660	4	D	C
67	70	0.101	0.660	4	D	C
67	80	0.101	0.660	4	D	C
68	20	0.263	0.540	4	D	C
68	30	0.263	0.540	4	D	C
68	40	0.263	0.540	4	D	C
69	50	0.044	1.280	5	S	I

69	60	0.044	1.280	5	S	I
69	70	0.044	1.280	5	S	I
69	80	0.044	1.280	5	S	I
70	20	0.095	1.140	5	S	I
70	30	0.095	1.140	5	S	I
70	40	0.095	1.140	5	S	I
71	50	0.044	1.280	5	D	I
71	60	0.044	1.280	5	D	I
71	70	0.044	1.280	5	D	I
71	80	0.044	1.280	5	D	I
72	20	0.095	1.140	5	D	I
72	30	0.095	1.140	5	D	I
72	40	0.095	1.140	5	D	I
73	50	0.012	1.040	3	S	C
73	60	0.012	1.040	3	S	C
73	70	0.012	1.040	3	S	C
73	80	0.012	1.040	3	S	C
74	20	0.012	1.040	3	S	C
74	30	0.012	1.040	3	S	C
74	40	0.012	1.040	3	S	C
75	50	0.012	1.040	3	D	C
75	60	0.012	1.040	3	D	C
75	70	0.012	1.040	3	D	C
75	80	0.012	1.040	3	D	C
76	20	0.012	1.040	3	D	C
76	30	0.012	1.040	3	D	C
76	40	0.012	1.040	3	D	C
77	50	0.070	0.640	4	S	C
77	60	0.070	0.640	4	S	C
77	70	0.070	0.640	4	S	C
77	80	0.070	0.640	4	S	C
78	20	0.070	0.640	4	S	C
78	30	0.070	0.640	4	S	C
78	40	0.070	0.640	4	S	C
79	50	0.070	0.640	4	D	C
79	60	0.070	0.640	4	D	C
79	70	0.070	0.640	4	D	C
79	80	0.070	0.640	4	D	C
80	20	0.070	0.640	4	D	C

80	30	0.070	0.640	4	D	C
80	40	0.070	0.640	4	D	C
81	50	0.013	1.470	5	S	I
81	60	0.013	1.470	5	S	I
81	70	0.013	1.470	5	S	I
81	80	0.013	1.470	5	S	I
82	20	0.013	1.470	5	S	I
82	30	0.013	1.470	5	S	I
82	40	0.013	1.470	5	S	I
83	50	0.013	1.470	5	D	I
83	60	0.013	1.470	5	D	I
83	70	0.013	1.470	5	D	I
83	80	0.013	1.470	5	D	I
84	20	0.013	1.470	5	D	I
84	30	0.013	1.470	5	D	I
84	40	0.013	1.470	5	D	I
85	50	0.033	0.760	3	S	C
85	60	0.033	0.760	3	S	C
85	70	0.033	0.760	3	S	C
85	80	0.033	0.760	3	S	C
86	20	0.033	0.760	3	S	C
86	30	0.033	0.760	3	S	C
86	40	0.033	0.760	3	S	C
87	50	0.033	0.760	3	D	C
87	60	0.033	0.760	3	D	C
87	70	0.033	0.760	3	D	C
87	80	0.033	0.760	3	D	C
88	20	0.033	0.760	3	D	C
88	30	0.033	0.760	3	D	C
88	40	0.033	0.760	3	D	C
89	50	0.024	0.890	4	S	C
89	60	0.024	0.890	4	S	C
89	70	0.024	0.890	4	S	C
89	80	0.024	0.890	4	S	C
90	20	0.048	0.740	4	S	C
90	30	0.048	0.740	4	S	C
90	40	0.048	0.740	4	S	C
91	50	0.063	0.690	4	D	C
91	60	0.063	0.690	4	D	C

91	70	0.063	0.690	4	D	C
91	80	0.063	0.690	4	D	C
92	20	0.022	0.850	4	D	C
92	30	0.022	0.850	4	D	C
92	40	0.022	0.850	4	D	C
93	50	0.007	1.770	5	S	I
93	60	0.007	1.770	5	S	I
93	70	0.007	1.770	5	S	I
93	80	0.007	1.770	5	S	I
94	20	0.014	1.530	5	S	I
94	30	0.014	1.530	5	S	I
94	40	0.014	1.530	5	S	I
95	50	0.019	1.420	5	D	I
95	60	0.019	1.420	5	D	I
95	70	0.019	1.420	5	D	I
95	80	0.019	1.420	5	D	I
96	20	0.006	1.730	5	D	I
96	30	0.006	1.730	5	D	I
96	40	0.006	1.730	5	D	I

Junction Only Accident Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984
Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates

Base Year

2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144

27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459
34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214

66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258
88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit	Beta Factor		
	(mph)	Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010

Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

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