Appendix E – Didcot Microsimulation Base Model Development Report (September 2018)

DIDCOT MICROSIMULATION BASE MODEL DEVELOPMENT REPORT

DIDCOT MICROSMULATION MODEL

BASE MODEL SPECIFICATION REPORT

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A. EXECUTIVE SUMMARY

SYSTRA have developed a Traffic Microsimulation model of the Didcot area on behalf of Oxfordshire County Council, South Oxfordshire District Council and Vale of White Horse District Council, to assist in examining planning and infrastructure proposals for the area. The model reflects the state of the road network, and traffic flows/conditions, in 2017.

The geographical coverage of the model is shown in Figure A.1.

Figure A.1 : Study Area

The model has been developed in the Paramics Discovery Software. Paramics Discovery is an industry standard traffic microsimulation product. Microsimulation reflects individual vehicles, and their interactions with each other and the road network, and thus provides an increased level of detail when compared to traditional assignment modelling packages such as SATURN, which is used for the Oxfordshire Strategic Model (OSM). In Paramics Discovery, individual vehicles choose routes from their origin to destination based on their perception of the best route available, and considering traffic congestion within the study area as they would in reality.

The model has been coded using Ordnance Survey mapping to ensure that the road layout is as accurate as possible. Lane markings at junctions have been coded to reflect those on street, and where traffic signals are present these have been coded to reflect the real-world signal timings. Bus services within the study area have been included with stopping patterns and timetables as current in 2017.

As an example of the network coding, Figure A.2 below shows the Milton Interchange, as coded in the model.

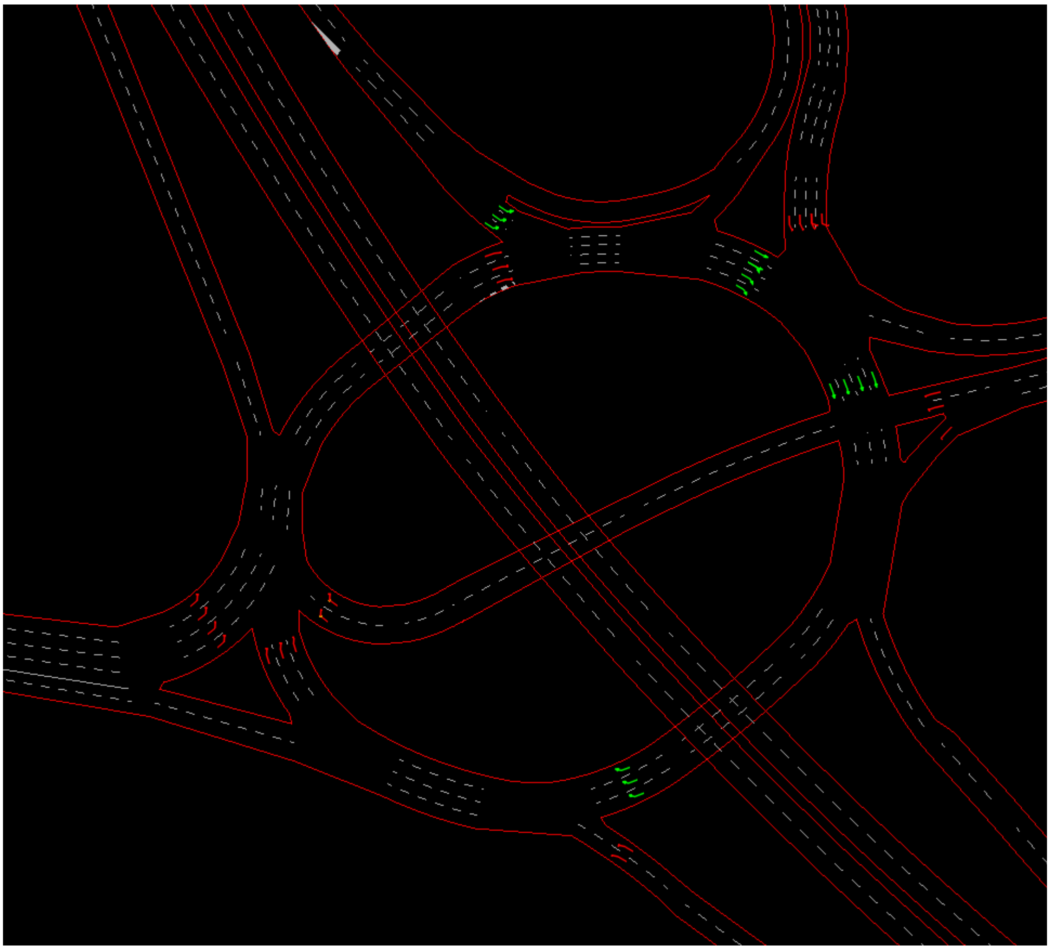

Figure A.2 : Milton Interchange, as coded

The model reflects the following time periods, for a normal, neutral month:

- AM – 07:00-10:00
- Inter Peak – 10:00-16:00
- PM 16:00 - 19:00
- Saturday – 10:00-14:00

Traffic demands for each period of the model have been developed using an extensive set of traffic count data collected late in 2016 and in 2017. This included detailed turning count surveys at the significant junctions within the study area. The traffic demands were informed by data from OSM to ensure that the traffic patterns within the study area were as consistent as possible with those in the strategic model. The build-up and dissipation of traffic within each time period has been reflected through the inclusion of a series of demand release profiles for the key movements into, within, and out of the study area.

The model provides a fixed trip matrix assessment - the input demand matrix, in this case for the base model, does not change in response to network conditions. Whilst the model reflects bus services, no public transport demand, or changes in this in response to network changes, increased demand etc., are considered. In future year scenarios, should the network become congested, all of the assigned demand will attempt to travel; no reduction in demand in response to congestion occurs.

The model has been calibrated to ensure that the traffic behaviour, and thus conditions, across the model reflect those observed in reality as closely as possible. Particular areas/issues which were focussed upon in detail were:

- Milton Park/Milton Interchange congestion
- Culham Crossing congestion
- Clifton Hampden Signals congestion
- A4130/Frank Williams Drive area congestion

The client project team have reviewed the network conditions in detail and are satisfied that the model reflects the general traffic conditions in the area well. It should be noted that the model aims to reflect general traffic conditions, and thus does not reflect very localised/random impacts on traffic conditions caused by issues such as delivery vehicles blocking lanes or accidents.

Comparisons of the modelled and observed turning counts have been undertaken in line with published guidance for model development. DfT's WebTAG guidance provides acceptable thresholds for the comparison of modelled and observed turning movements in the context of calibrating and validating traffic flows within a model. The guidance uses the GEH statistic, which provides a measure to identify satisfactory comparisons, accounting for the fact that large percentage differences can be tolerated on low flows.

The WebTAG guidance states that to ensure the modelled flows match those observed satisfactorily, in excess of 85% of the comparisons made at an hourly level should have a GEH value of less than 5. The model easily achieves this threshold for all modelled hours.

Observed journey time data was also made available for the purposes of model validation. A series of journey time surveys were carried out alongside the turn count surveys. Additionally, GPS journey time data from DfTs Trafficmaster dataset was also made available for the study area. WebTAG guidance suggest that modelled journey times should be within the greater of 60 seconds or 15% of the observed for more than 85% of comparisons made. The model achieves this threshold for each modelled hour, for comparisons made over both directions for 9 keys routes through the study area, and so provides a robust reflection of observed journey times.

Based on the results of the turn count and journey time comparisons, and the sign off of the modelled traffic conditions by the client team, the model can be considered as a robust platform for future work streams examining various development and infrastructure scenarios as part of the client team's planning programme.

INTRODUCTION

1.1 Overview

South Oxfordshire District Council (SODC) and Vale of White Horse District Council (VoWHDC), through the Five Councils Partnership, issued a Study Brief in February 2017 with the following key requirement:

- Development of a Paramics Discovery Microsimulation base model of the Didcot area, and future year scenario models reflecting the Council's future land allocations

This is split into two distinct phases:

- Phase 1: Base Year Model Development
- Phase 2: Future Year Model development and scenario testing

The study is jointly funded and managed by Oxfordshire County Council (OCC) as local highway authority, and SODC and VoWHDC as local planning authorities.

1.2 Methodology

The Didcot Microsimulation model was developed to include both the strategic routes through the town and the main conurbations within the Didcot area.

The inception period in agreement with OCC, SODC and VoWHDC, set the scene for the project and led into the data collation and checking tasks. These tasks were key to developing a robust simulation of the study area network.

Following receipt of the traffic data from OCC, the data collation period was finalised and the network development tasks undertaken using relevant digital overlay information supplied by SODC & VoWHDC. The demand trip matrices were then developed using OSM (Oxfordshire Strategic Model) trip patterns.

The key tasks involved in the development of the base model are detailed within this local model development report.

1.3 Purpose of Report

SYSTRA LTD (SYSTRA) was commissioned by SODC & VoWHDC in April 2017 to undertake the model development and testing. Confirmation of the extended model scope was received in June 2017.

Phase 1 of the study involves the development, calibration and validation of a Paramics Discovery 2016 Base Microsimulation model covering Didcot Town Centre and surrounding areas. Phase 2 of the study involves the future year development and application of the base model to test policy and infrastructure throughout Didcot and the surrounding areas.

This Report details Phase 1 of the study.

2. DATA

2.1 Study Area

Originally, the brief detailed the coverage of the model to be Didcot town centre, but during the inception period it was agreed that the area be expanded to better future proof the model and ensure that the model can be used to support future applications.

The study area is shown in Figure 2.1 below.

Figure 2.1 : Study Area

The model area extends from the A417 East of East Hendred in the west, through to A4130 Hadden Hill in the East. The network includes the A34 (Chilton Through to Milton Interchange), and up to A4074 Golden Balls Roundabout in the North.

2.2 Traffic Surveys

A series of traffic surveys were undertaken in November/December 2016, covering the original model area. These included:

- 44 MCC Junction Turn Count
- 12 Queue Length
- 4 Journey Time Routes
- Oxfordshire County Council (OCC) ATC sites

- 30 'Local' ATC sites

A further series of surveys were undertaken in July 2017 to provide data for the extended study area. These include:

- 22 MCC Junction Turn Count (10 Weekday only)
- 4 Queue Length (Weekday Only)
- 5 ATC sites
- 5 journey time routes

In addition, data was provided for the Highways England ATC counters along the A34 mainline within the study area.

During the July 2017 Surveys an incident occurred in the PM peak near Clifton Hampden which caused the A415 Abingdon Road to be closed for a short period of time. After analysing the survey video and consultation with the client group, supplementary information was supplied for 9 junctions north of Didcot.

In addition to these survey locations, a further 3 MCC Junction Turn Count (Weekday Only) surveys were supplied at Sutton Courtney/Culham.

All surveys have been undertaken by video – and SYSTRA received the majority for analysis. In-car Journey time video footage was not available, apart from the re-surveys.

All survey data was collated and checked in advance of use in the development of the model.

2.3 Signalised Junctions

Timing information has been provided by OCC for most signalised locations. The supplied signal timing information was coded into the model by using the above timing information where possible, and the survey videos were used to infill any missing information.

Subsequently OCC provided a LINSIG model of the Culham Bridge area. Timings were extracted from this LINSIG model and used as a starting point in the Didcot Microsimulation Model.

2.4 OSM Strategic Model Information

The development of the Paramics base and future year demand matrices relies heavily on output for the study area from the wide area OSM (Oxfordshire Strategic Model). This determined the 'core' trip patterns and create a 'prior matrix' to be used as a starting point for the Paramics model.

2.5 Car Parks

Car Park usage information and has been supplied by SODC and VoWHDC and was used in the following locations:

- Edinburgh Drive
- High street (former industrial site)
- Broadway East
- Broadway West

This data was from 2014 and was the most up to date information available at time of model development.

3. NETWORK DEVELOPMENT

The Didcot Microsimulation model has been developed in Paramics Discovery V19.

Digitised OS mapping information detailing the road network layout was supplied by SODC and VoWHDC for use in the study. The base network configuration was defined using this information, supported by a site visit undertaken by SYSTRA during Autumn 2017 and images from Google Street View etc.

3.1 Modelled Periods

The Base model was developed to represent average or "typical" weekday and Saturday traffic conditions. Distinct time periods were coded within the model to ensure that the key travel patterns and network features (signal timings, bus dwell times, etc.) are robustly reflected in the model. The modelled time periods are as follows:

Weekday:

- AM Peak – 0700-1000
- Inter Peak – 1000-1600
- PM Peak – 1600-1900

Saturday:

- Peak – 1000-1400

3.2 Model Parameters

The network coding and adoption of various model parameters follows best practice in line with SYSTRA's *Microsimulation Consultancy Good Practice Guide.* This includes adopting standard coding practices in terms of visibility and gap acceptance.

3.2.1 Visibility

A review of all junction approach visibilities was undertaken using Google Street view in the first instance. Where visibility was deemed to be "good", a 30m visibility length was set for the approach link (or the approach link length used, if this is shorter). If review of the junction shows poor visibility (such as many minor residential arms where, for example, parking occurs on either side of the junction on the mainline), the default visibility of 0m was coded.

3.2.2 Gap Acceptance

At each junction and roundabout in the model, gap acceptance was assessed for links which vehicles must 'look through' to the next link to judge suitable gaps in opposing traffic. Common locations for this requirement are on roundabouts which have short splitter islands or junctions with a short right turn lane flare (vehicles in the side arm would benefit from "looking through" the short flare link). Default 'look through' settings will remain at all other junctions.

Gap acceptance can also be adjusted by changing the default 'gap acceptance modifiers' which set the 'size' of a buffer zone vehicles must allow for when giving way to opposing traffic. The unit for this parameter is seconds and the default settings by movement type are:

- Lane Merge = 4s (e.g. left turn into the same lane as oncoming traffic in the same direction as turning to)
- Lane Cross = 4s (e.g. left turn into different lane from oncoming traffic in the same direction as turning to)
- Path Cross = 3s (e.g. right turn across opposing traffic in the opposite direction as turning to)

Some turning movements will involve multiple movement types. For example a right turn from a side arm at a one lane T-junction involves a path cross and a lane merge.

Locations in which these parameters have been changed to reflect localised behaviour are shown in Table 3.1 below

Table 3.1 : Gap Acceptance Modifiers

Location	Road Name	Direction	Link	Lane Merge	Lane Cross	Path Cross
Mendip Heights Roundabout - B4493	B4493	W/B	517:523	0	0	3
Abingdon Road/Hadden Hill Roundabout	Abingdon Road	S/B	397:400	0	0	3
Abingdon Road/Hadden Hill Roundabout	Abingdon Road	E/B	395:399	0	0	3
Park Drive/Milton Park Innovation Centre Roundabout	Innovation Centre	N/B	891:893	0	0	3
Park Drive/Western Avenue Roundabout	Milton Park	N/B	900:903	0	0	3
Park Drive/High Street Junction	High Street	S/B	909:874	0	0	0
Park Drive/Western Avenue Roundabout	Park Drive	W/B	872:902	0	0	3
Park Drive/Jubilee Avenue	Jubilee Avenue	N/B	2396:871	0	0	3
Milton Road/A4130/Basil Hill Road Roundabout	A4130	N/B	528:534	0	0	3
A4074/Oxford Road/A415 Roundabout	A415	E/B	1937:1968	1	1	3
A4074/Oxford Road/A415 Roundabout	Oxford Road	N/B	1941:1967	1	1	3
A4074/B4015/Oxford Road Rondabout	A4074	N/B	2263:2279	1	1	3
A4074/B4015/Oxford Road Rondabout	Oxford Road	E/B	2277:2280	0	0	3
Broadway/Hitchcock Way Roundabout	Broadway	E/B	147:391	1	1	3
B4016/Sires Hill/Lady Grove Junction	B4016	E/B	1777:515	2	2	3
Sires Hill Junction	Sires Hill (S)	N/B	1791:1790	2	2	1
Broadway/Hitchcock Way Roundabout	Hichtcock Way	S/B	141:392	3	3	3
Abingdon Road/Newbury Road Roundabout	Newbury Road	N/B	1605:1613	3	3	3
Park Drive/High Street Junction	Park Drive	W/B	906:874	3.5	3.5	2.5
Mendip Heights Roundabout - B4493	A4130	E/B	521:525	1	1	3
Milton Road/A4130/Basil Hill Road Roundabout	Milton Road	E/B	530:535	1	1	3
Culham Science Centre	Exit	S/B	2079:2009	2	2	1
Broadway/Hitchcock Way Roundabout	Broadway	W/B	218:254	2	2	3
B4016/Sires Hill/Lady Grove Junction	Lady Grove	N/B	514:515	5	5	4

3.2.3 Link Characteristics

Links in Paramics Discovery are coded as either Highway or Urban. Highway links have been adopted on the A34 to enable mainline sections to achieve correct lane usage and an appropriate distribution of speeds. In addition to the A34, some rural single track roads were coded as highway to better reflect the distribution of speeds. All other links in the model are coded as Urban.

Major and Minor links are used in Paramics to influence vehicle route choice. All strategic links in the study area (A and B roads and main thoroughfares) were coded as Major links. All other roads (such as side roads or residential roads within towns) have been coded as Minor. The Major and Minor links are shown in Figure 3.1 below.

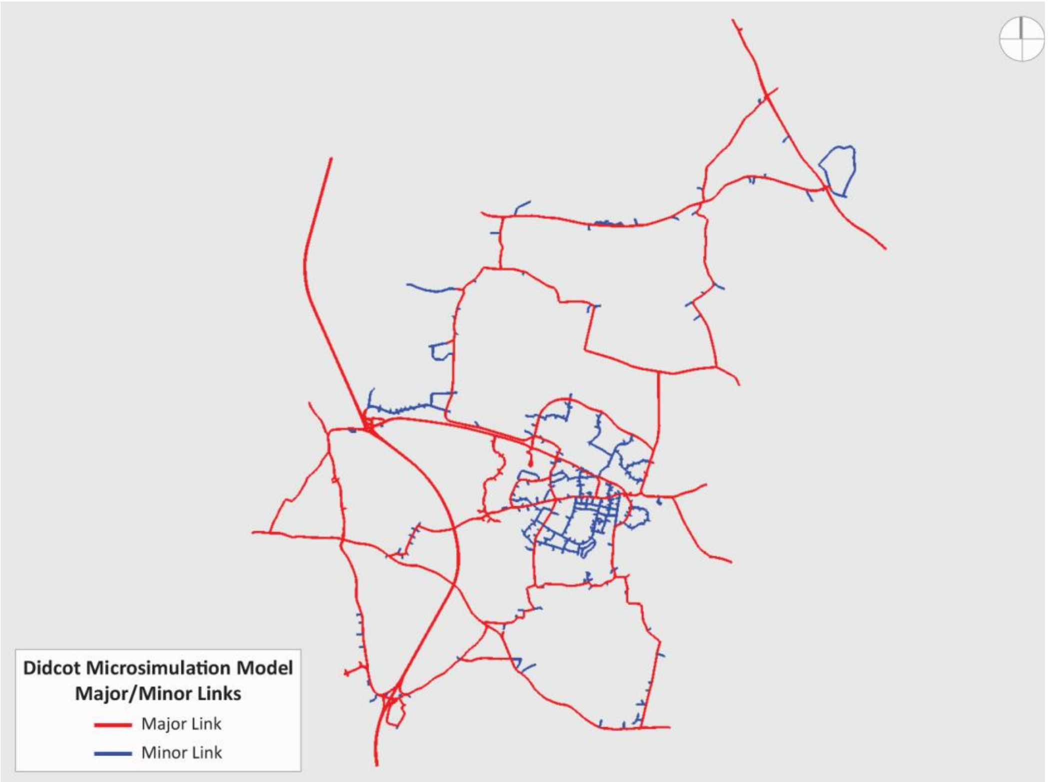

Figure 3.1 : Major/Minor Hierarchy

The signposted speed limits were used in all areas of the model and obtained by reviewing the journey time route video footage (if available) and Google Streetview. Exceptions are as follows, based on observations of driver behaviour:

- Culham crossing was reduced to 20mph over bridge and 15mph at narrow sections.
- B4016 Church Street corner (number 26) was reduced to 5mph due to the sharp narrow corner

Initial journey time calibration results showed that, in general, the modelled journey times were faster than those observed, even on sections of the network with relatively few "obstructions" (parked vehicles, cyclists etc.) which are not reflected in the model directly. To account for this, all category link speeds in the model were reduced by 15% from the signed limit, to result in a better match between the modelled and observed journey times. Speed distributions in Paramics discovery allow traffic to travel in excess of the speed limit; this reduction simply moves the spread of desired speeds in the model to a mid point closer to the speed limit, based on the initial comparisons of journey times from the model with those observed.

3.2.4 Headway Factors

Headway factors affect the travelling headway of vehicles on a link and by default is set to 1.

The headway factor in the following locations in the Didcot model has been reduced to 0.6 to reflect locations where vehicles merge and diverge, in line with best practice:

- A34 – Links 1358:1359, 1445:1446, 1446:1447, 1447:1456, 1466:1467, 1479:1480, 1488:1489 (hazard signposts start)
- A4130/Milton Gate Junction – Link 940:947
- Hadden Hill/Abingdon Road Roundabout – Links 395:399, 399:400
- Park Drive/Milton Park Innovation Centre Roundabout – Links 891:893, 893:894
- Park Drive/Western Avenue Roundabout – Links 900:903, 903:904
- Park Drive/High Street Junction – Links 906:874, 874:906, 874:915, 874:909, 909:874

Further to the above merging locations, a headway factor of 0.4 was applied to links 876:928 and 928:927, to reflect throughput at the narrow on Park Drive nort of Milton Interchange.

The following location has been reduced to 0.0s to reflect observed throughput:

- Hadden Hill/Abingdon Road Roundabout – Links 397:400, 400:396

The following location has been reduced to 0.2s to reflect observed throughput:

- Mendip Heights Roundabout – Links 517:523, 523:524

The following location has been increased to 1.2s to reflect observed throughput:

- A4130 W/B between Mendip Heights Roundabout and Sir Frank Williams Avenue – Links 525:521, 847:836, 836:837, 2382:800, 521:847, 837:2382

The following locations have been increased to 1.5s:

- Tollgate Road S/B approaching narrow bridge – Links 2042:2041, 2040:2042, 2086:2085, 2085:2082, 2041:2086
- Tollgate Road N/B approaching narrow bridge – Links 2088:2096, 2096:2097, 2098:2088, 2099:2098, 2100:2099, 2101:2100

The reason that the default headway factor of 1 was increased to 1.5 for these locations was that after viewing video footage driver behaviour was less aggressive and the gap between vehicles on average was observed to be higher than usual.

The following locations have been increased to 2s:

- A34 – Links 1463:1464, 1464:1465, 1465:1466

The A34 links mentioned above immediately precede a merge link. The headway factor was increased to improve vehicle behaviour at the merge.

The eastbound links between nodes 2018 and 2000 on Abingdon Road approaching the Clifton Hampden signals have been coded with a headway factor of 3 to reflect the slow moving queues occurring at this location in the PM period.

3.2.5 Hazard Signpost distance

All hazard signpost distances have been left as default (750m on highway links, 250m on urban links), except at the following locations. Adjustments have been made at these locations to ensure that traffic begins to get into lane for upcoming network features at an appropriate distance away:

- A34 Carriageway at Milton Interchange
  - Node 2359: 95m
  - Node 2367: 500m
  - Node 1467: 140m
  - Node 928: 160m
  - Node 1466: 400m
  - Node 1479: 400m
  - Node 1474: 1600m
  - Node 3149: 1600m
- A34 Carriageway at Chilton Interchange
  - Node 1736: 400m
  - Node 1742: 420m
  - Node 1360: 1000m
  - Node 1340: 1000m

3.3 Vehicle Types

The following vehicle types are reflected in the model:

- Car
- Light Goods (LGV)
- Rigid Heavy Goods (OGV1)
- Articulated Heavy Goods (OGV2)
- Coach

- Service Buses (fixed route)

Top speed varies by vehicle type and has been altered from defaults specifically for OGV and OGV2 only. The top speeds applied to all vehicle types in the model are as follows:

- Car 100mph
- LGV 80mph
- OGV1 65mph
- OGV2 65mph
- Coach 80mph
- Double deck bus 40mph
- Sprinter bus 40mph

In addition, appropriate speed limits by vehicle type have been set for categories that have a speed limit over 40mph as follows:

- Urban 50 mph, OGV1 and Above – 40mph
- Urban 60 mph, OGV1 and Above – 50mph
- A34 Highway LGV, Coach & Bus 60mph, OGV 56mph

3.4 Public Transport Coding

Buses in Paramics Discovery are coded as a ‘fixed route vehicle type’ and are not included in the vehicle demand matrix.

Bus stop locations were defined using the online NAPTAN dataset and imported directly to the model.

SYSTRA utilised a tool to convert the Traveline routes and timetables dataset from Transxchange format into a format suitable for direct import into Paramics Discovery. These were then checked against online timetables for consistency.

A total of 19 Weekday services are included in the model:

- Thames Travel 114, 32A, 94/94A, 96, 98, X2, X32, X34, X39 & X40
- Whites Coaches 91, 92 & 93
- Blue Bus BB1/BB1A, BB2 and BB4
- Courtney Buses M10

6 Saturday services are included in the model:

- Thames Travel 32A, 98, X2, X32, X39 & X40

SYSTRA utilised bus dwell information supplied by OCC obtained from Real Time Information. Dwell times were supplied for 9 routes, this data was applied to all services at each stop for both weekday and for Saturday where information was available. Where this was not the case, a default dwell time of 10s was applied.

3.5 Signalised Junctions and Pedestrian Crossings

If the signal timing information outlined in Section 2.3 was found not to be fit for purpose, survey videos provided were used to observe a sample of the stage and phase timings at each junction over the course of the day, and average timings derived separately for all peaks based on these observations. Phase intergreens were taken from the signal data provided or from observations of the video footage.

Where pedestrian activity was known to be high, and survey videos available, then the videos were used to derive pedestrian crossing call frequency.

For town centre pedestrian crossings, the pedestrian phase has been coded to be called every 30s, except on Broadway, where the pedestrian phases have been called every 3 minutes, and Foxhall Road (North of Manor Crescent), Hitchcock Way, Broadway (W) and Jubilee Way Roundabout approaches which have been called every 5 minutes.

In rural areas, the pedestrian phase has been coded to be called every 5 minutes on Newbury Road and on the A4130 by Trenchard Avenue, every 3 minutes in East Hagbourne between 0800-0915 and 1500-1600, every 2 minutes in Harwell and every 1 minute 40s in Milton Park.

Where possible, if signalised pedestrian crossings were in range of the survey videos, the number of calls per hour was recorded and used in the model. Where this was not possible, sensible assumptions were made based on location, such as one pedestrian call every five minutes.

3.6 Route Choice Parameters

3.6.1 Generalised Cost Equation

Paramics Discovery uses a generalised cost equation (GCE) to determine the perceived cost of a route between each origin and destination pair.

For this study, the GCE parameters were taken from the OSM SATURN Model. Time and distance factors were obtained from *Table 4-8, Oxfordshire Strategic Model Highway Assignment Report, Oxfordshire County Council, ATKINS, September 2015* and used to derive the time and distance factors below for use in the model:

- Car Time=1 Distance = 0.65
- LGV Time=1 Distance = 1.3
- HGV Time=1 Distance = 3.14

3.6.2 Perturbation

Perturbation varies a vehicle's perception of the lowest cost route through the network. A perturbation value of 5%, in line with good practice, has been applied to all vehicle types.

3.6.3 Dynamic Feedback

Dynamic feedback has been enabled in the model, which allows familiar drivers to account for delays in their routeing considerations. A feedback interval of 2 minutes and feedback factor of 0.5 have been adopted in line with best practice.

3.6.4 Familiarity

Familiarity affects vehicle route choice decisions. Familiar vehicles do not perceive a difference in cost between major and minor routes, while unfamiliar vehicles perceive minor routes to be twice as expensive as major routes. Familiar vehicles are also able to take account of delays in the model when considering which route to take, through the dynamic feedback feature. The following levels of familiarity were used for the Base model based on typical values used in other model developments of this nature:

- Car 60% Familiarity
- LGV 60% Familiarity
- OGV1 5% Familiarity
- OGV2 5% Familiarity
- Coach 5% Familiarity

3.6.5 Cost Factors

During model calibration, some sections of the model have had cost factors applied to make a route more or less expensive to better reflect local routeing patterns. Where the default of 1 has not been used, the following cost factors have been applied by use of a suitable link category cost factor. These link types/routes are as below:

- Urban 30mph Minor – 1.5
- Urban 20mph Minor – 1.5
- Featherbed Lane – 1.5
- Chilton Road – 1.5
- A34 – 0.9

3.6.6 Defined Routes

Defined routes are used in Paramics to remove the impact of perturbation, where alternate routes are available but not observed to be used. A common example of this is at motorway slip roads to stop vehicles leaving the mainline and joining again through interchanges. A significant number of defined routes were coded across the model as required (and visible within the model), for example:

- B4016 Brook St to A415 Abingdon Road north of Culham Bridges to prevent rerouting via Appleford
- A4074 Oxford Rd to Clifton Hampden Staggered Crossroads to prevent rerouting via Golden Balls roundabout.

3.7 Miscellaneous

3.7.1 Milton Park Congestion

Significant congestion is observed to propagate back from Milton Park onto the Milton Interchange roundabout, resulting on queues on all approaches. This congestion is not generated by the "narrow" from two lanes to one on Park Drive to the North of the roundabout, as may be expected, but rather by vehicle behaviour at the High Street/Park Drive junction. The surveys show significant "let out" behaviour at this location, where main line traffic slows down and lets High Street traffic enter and exit. This behaviour has been confirmed by OCC highway officer site observations.

This behaviour has been reflected in the model using a set of traffic signals which operate during the AM peak only, as a proxy for this behaviour. The signal timings were calibrated to ensure that the levels of queuing observed on the A34 slips and A4130 were as consistent as possible with those observed, in both length and duration.

3.7.2 Culham Science Centre Egress

Significant queuing occurs on the A415 eastbound across the Culham Science Centre junction in the PM. To prevent significant queueing back into the site, a set of traffic signals have been added at node 2009 as a proxy for "let out" behaviour at this location. These signals operate between 16:30 and 17:45. This behaviour has been confirmed by OCC highway officer site observations.

3.7.3 Clifton Hampden Signals Right Turn Blocking

Significant congestion is observed in the PM on the eastbound approach to the signals at Clifton Hampden. In part, this is understood to be due to the narrow lanes at the signals, which can result in right turners in lane 2 blocking ahead traffic in lane 1. To reflect this, 5% of cars were set to use lane 1 to turn right. This behaviour has been confirmed by OCC highway officer site observations.

4. TRIP MATRIX DEVELOPMENT

4.1 Background

This section outlines the data sources and methodology employed in the development of the traffic demand matrices for the Didcot Base model.

The trip matrix for all zone to zone movements was developed using a Matrix Estimation (ME) process. This involves developing a prior (starter) matrix, a routeing file and a survey file for each modelled period for use in the Paramics Discovery ME module.

4.2 Data Sources

The ME process relied on the following data sources, each of which is discussed in more detail, as follows:

- Turn count and link flow dataset for the study area
- Prior matrices
- Network Routeing Information

4.3 Interface with OSM model

Consistency between OSM and the Didcot Paramics model was maintained throughout the Paramics model development process in the following ways:

- Zoning System (the Paramics zoning system was based on a disaggregation of the OSM zoning system, discussed below
- Routeing parameters
- Matrix levels (subject to review of OSM when received)

4.4 Zoning System

Zones are used to control the release and destination of vehicles in the network. The network trip matrix is composed of the volume of vehicles travelling from zone to zone.

Zone portals provide additional control over the release and destination of vehicles from zones across multiple access points, effectively producing a sub-zoning system. These have been utilised where relevant to "split" the traffic associated with zones between multiple locations.

The OSM sub area zoning system for the study area was reviewed and cross referenced with 2011 Census Output Areas. A Paramics zoning system was developed by grouping relevant Output Areas within each OSM zone, based on land use, proximity to links for loading onto the network or if an Output Area directly spans a surveyed junction.

"External" zones identified at the cordon points around the study area have been constructed to enable movements to and from areas out with the model to access/egress the network.

OSM zones were split where necessary for example when network 'stubs' that load directly to a surveyed junction are present, or large trip generators that do not have their own zone. This disaggregation of the OSM zones resulted in 124 Paramics Zones in the model, 99 'internal' and 25 'external'.

When it was necessary to have more than one loading point per zone, a total of 225 zone portals were applied to reflect the vehicle loading points onto the network. An example of a location where zone portals were applied is at Milton Park, where 14 access/egress points are adopted to split the Milton Park traffic between the relevant loading points.

4.5 Vehicle Type Matrix Levels

Traffic demand is released by vehicle type by assigning demand to different matrix levels. More than one vehicle type can be assigned to a matrix level, with the proportion of the demand for each vehicle type within the matrix then being defined.

Upon review of the OSM and traffic survey data, three matrix levels were defined as follows:

- Car
- LGV
- OGV1, OGV2 and Coach (referred to from here as HGV)

The vehicle type proportions used in the model were derived from the collated traffic count information:

AM Period

- Matrix Level 1 (100% Car)
- Matrix Level 2 (100% LGV)
- Matrix Level 3 (OGV1 41.7%, OGV2 46.9%, Coach 11.4%)

IP Period

- Matrix Level 1 (100% Car)
- Matrix Level 2 (100% LGV)
- Matrix Level 3 (OGV1 47.56%, OGV2 46.96%, Coach 5.48%)

PM Period

- Matrix Level 1 (100% Car)
- Matrix Level 2 (100% LGV)
- Matrix Level 3 (OGV1 37.4%, OGV2 47.2%, Coach 15.4%)

Saturday Period

- Matrix Level 1 (100% Car)
- Matrix Level 2 (100% LGV)
- Matrix Level 3 (OGV1 34.7%, OGV2 55.95%, Coach 9.35%)

4.6 Prior Matrix Development

4.6.1 OSM to Paramics

A peak hour cordon matrix from OSM was extracted for the study area by vehicle matrix level and time period. The OSM Matrices were disaggregated to the local Paramics zone system by use of appropriate proportions supported by mapping and census (car ownership) data.

The matrices were expanded from peak hour to weekday AM (3hr), IP (6hr) PM (3hr) volumes by adopting expansion factors for each peak hour segment as set out in the OSM model development. The peak hour to peak period expansion factors were as follows:

- AM – 2.5
- IP – 6
- PM – 2.63

Where surveyed junction turn counts define a zone to zone movement, these were inserted directly into the matrix by vehicle matrix and time period.

There is no Saturday OSM model information available, so the estimated weekday IP matrix was used as a starting point for Matrix Estimation (ME).

4.6.2 Refining the Prior Matrix

The link and turn count dataset was used to define origin and destination trip ends for each zone by matrix level and time period, where data coverage allowed. A comparison of surveyed trip ends and prior matrix zone totals was undertaken and if necessary the matrix adjusted accordingly.

4.7 Matrix Estimation

Once the prior matrix was developed as far as possible, it was applied to the Paramics model to generate routeing information for each period. The output of this process consists of a set of ‘PIJA’ files which define the proportion of trips travelling from points A to B that are associated with each link and turn in the model.

The routeing files, survey information (turn count totals by period and matrix level), and prior matrices were applied to the Matrix Estimation (ME) module in Paramics. The main purpose of matrix estimation is to refine estimates of movements which have been synthesised (rather than derived from surveys).

The ME process is iterative; further refinements to the prior were made and new routeing information collected from the model as relevant. The ME process was deemed complete once satisfactory demand files were achieved for each period, based on consideration of the calibration checks. ME was undertaken for each matrix level in the model.

The resultant matrix totals are shown in table AM, IP, PM and Saturday periods respectively:

Table 4.1 : Final Matrix Totals (Vehicles)

Matrix	Vehicle Type	AM Period (07:00-10:00)	IP Period (10:00-16:00)	PM Period (16:00-19:00)	SAT Period (10:00-14:00)
Matrix 1	Cars	45,603	65,571	50,414	55,965
Matrix 2	LGV	6,121	10,451	4,780	4,362
Matrix 3	HGV	2,136	4,040	993	771
Total	All	53,859	80,062	56,187	61,098

Checks were undertaken to ensure that the ME process did not change the overall "shape" of the prior matrix. Figure 4.1 to Figure 4.4 show the percentage of trips within each distance segment, for both pre and Post ME, for each period.

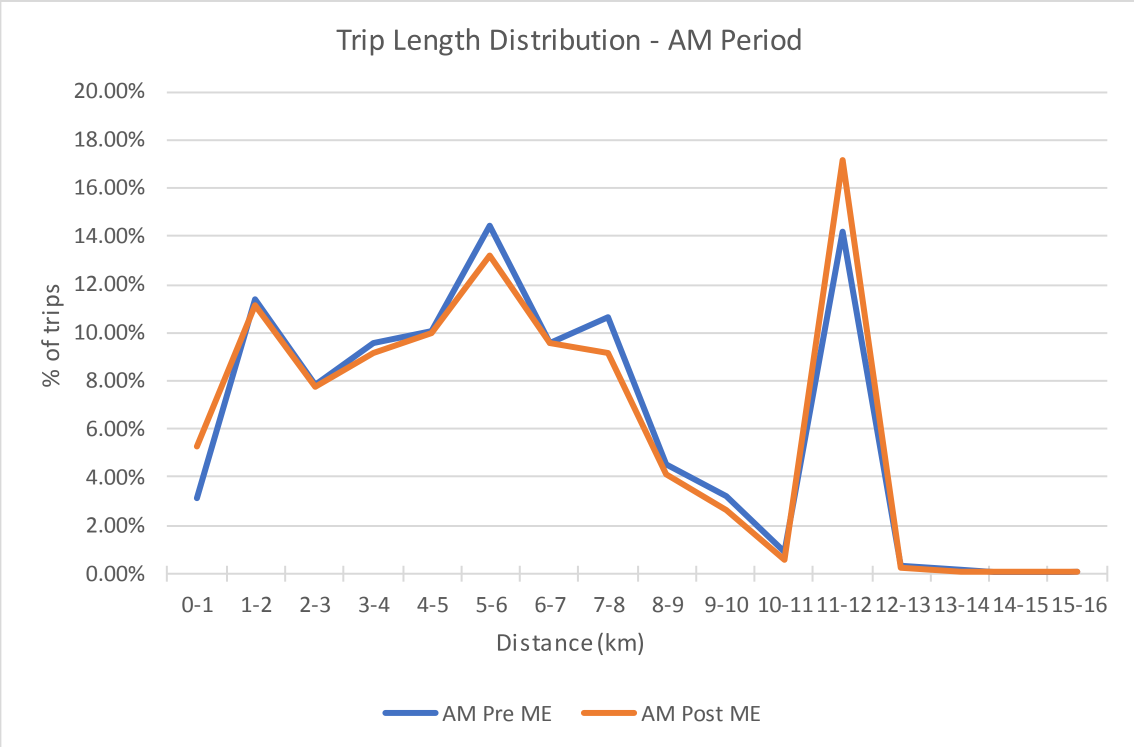

Figure 4.1 : AM Period Trip Length Distribution

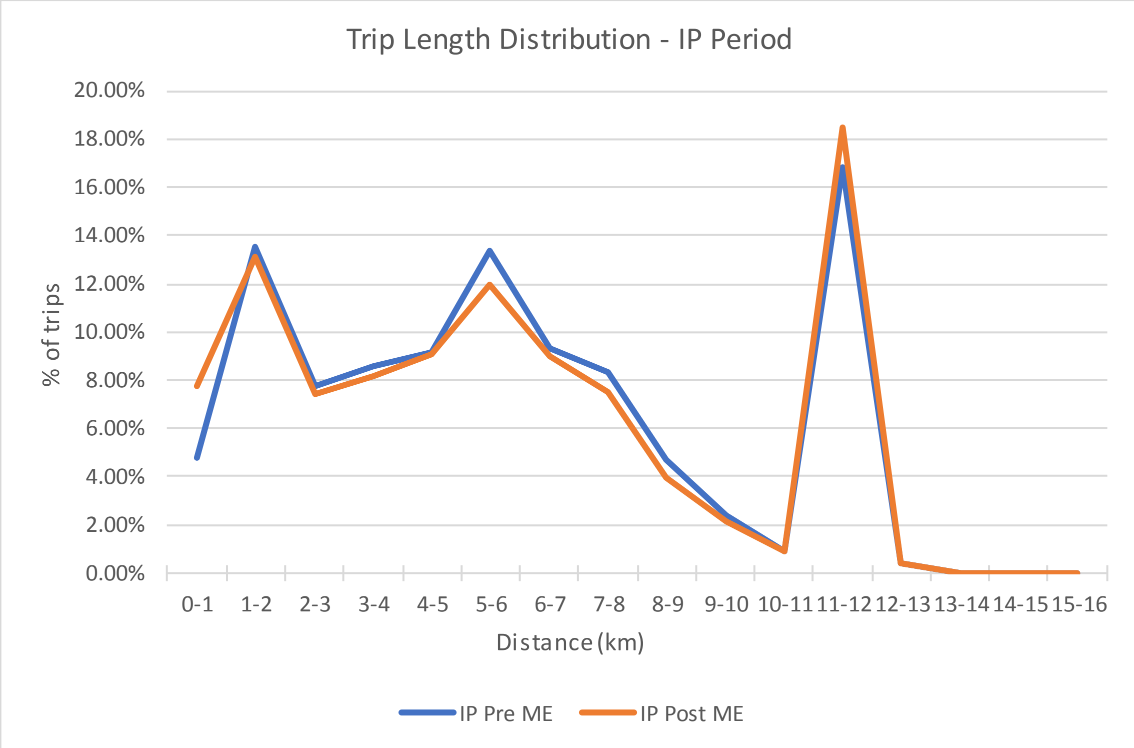

Figure 4.2 : IP Period Trip Length Distribution

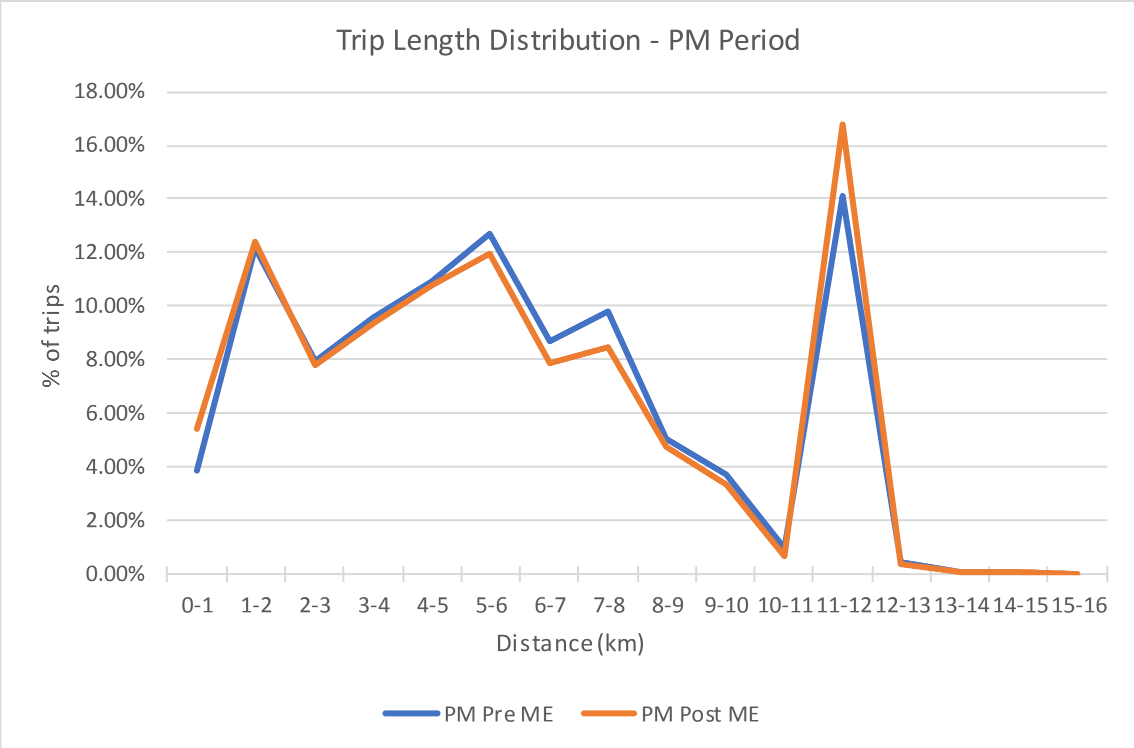

Figure 4.3 : PM Period Trip Length Distribution

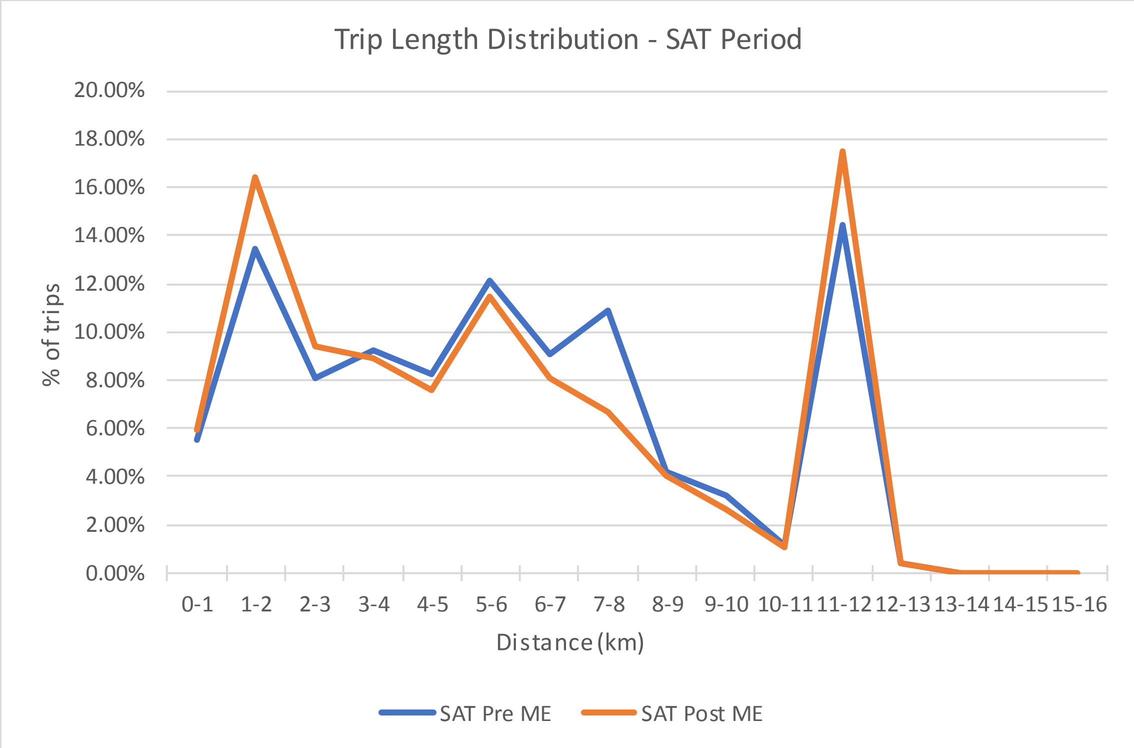

Figure 4.4 : Saturday Period Trip Length Distribution

The graphs above show a good trip length correlation between pre and post matrix estimation.

4.8 Demand Release Profiles

Paramics uses profiles to control the release of traffic onto the network and ensure that the variation in demand throughout each modelled time period is robustly reflected. Profiles can be specified by matrix level for individual zone to zone movements or more generally from one zone to all zones. Each profile specifies the proportion of the total demand for the associated movements to be released in 5 minute intervals.

The observed 15min turn count data and hourly ATC sites were used to develop the model release profiles. Profiles were developed for each modelled period, and assigned to the model based on a level of priority for key junctions throughout the network. Profiles were disaggregated to “lights” and “heavies” to ensure the release of these vehicle types are modelled correctly.

The observed 15min turn count data and a ATC sites were used to develop 145 weekday profiles and 80 Saturday profiles. Due to the low sample size for HGV counts, a ‘general’ HGV profile was calculated and applied to the HGV matrix.

5. MODEL CALIBRATION AND VALIDATION

5.1 Introduction

The calibration process involves checking the network description, demand matrices, and model inputs and parameters to ensure the model achieves a satisfactory representation of traffic flows and conditions in the study area.

The calibration and validation of the model uses the guidelines set out within *WebTAG Unit M3.1* and the *Design Manual for Roads and Bridges (DMRB), Vol. 12 Section 2 Part 1*.

The calibration of the model was undertaken by comparing modelled turn counts to the observed data set. Further to this, queue comparisons were undertaken, however no criteria for queue length comparisons is presented in *WebTAG/DMRB*.

Several journey time routes were coded into the model to reflect the moving observer journey time surveys undertaken. The model records journey times for vehicles completing these routes and this allows an independent data validation between observed and modelled journey times.

WebTAG/DMRB guidelines are summarised in Table 5.1 Below.

Table 5.1 : WebTAG/DMRB criteria

DMRB Criteria and Measurement	Acceptability Guidelines
Assigned Hourly Flows	
1. Individual flows within 15% (for flows 700-2700vph)	>85% Cases
2. Individual flows within 100vph (for flows < 700vph)	>85% Cases
3. Individual flows within 400vph (for flows > 2700vph)	>85% Cases
4. Total screenline flows to be within 5%	All (or nearly all) screenlines
GEH	
5i. GEH Statistic: Individual flows GEH < 5	>85% Cases
5ii. GEH Statistic:Total flows GEH < 4	All (or nearly all) screenlines
Journey Times	
6. Modelled journey times within 15% (or 1 minute, if higher)	>85% Cases

The GEH statistic is used in the calibration of a model to compare the difference between an observed flow and an assigned flow on a link.

The GEH statistic is used in preference to the absolute or relative flow difference as it can cope with a wide range of flows. Where an absolute difference of 100 vehicles per hour can be important in a flow of say 200 vehicles per hour, it is less significant in a flow of several thousand vehicles per hour.

5.2 Turn Count Calibration

The turn count calibration process was carried out in accordance with the criteria specified in WebTAG and DMRB. These guidelines are summarised in Table 5.1.

The GEH statistic is used in the calibration and validation of the model to compare the difference between observed and modelled flows on a link, and is defined as follows:

$$GEH = \sqrt{\frac{(M-C)^2}{(M+C)/2}}$$

Where C = observed traffic flow and M = modelled traffic flow.

The Base Model calibration was undertaken using individual turning flows across the study area, and link counts on the A34 Mainline. The observed versus modelled comparison included between 570 and 633 Weekday and 230 Saturday turn and link count locations for each hour modelled. Table 5.2 shows the summary of GEH comparison by hour, with the percentage of comparisons falling within a GEH of < 7, < 5 and < 3 shown.

Table 5.2 : Criteria 5i - Turn & Link Count Individual Flow Comparison

Period	Time (hh:mm)	Eligible Comparisons	GEH <3 %	GEH <5 %	GEH <7 %
AM	07:00-08:00	632	71%	90%	97%
	08:00-09:00	632	70%	89%	97%
	09:00-10:00	581	75%	90%	96%
IP	10:00-11:00	569	82%	96%	99%
	11:00-12:00	569	85%	96%	99%
	12:00-13:00	569	81%	95%	99%
	13:00-14:00	569	81%	95%	99%
	14:00-15:00	569	79%	93%	98%
	15:00-1600	569	71%	90%	97%
PM	16:00-17:00	633	72%	89%	97%
	17:00-18:00	632	71%	88%	95%
	18:00-19:00	581	72%	90%	98%
SAT	10:00-11:00	230	81%	97%	100%
	11:00-12:00	230	89%	98%	100%
	12:00-13:00	230	88%	97%	99%
	13:00-14:00	230	87%	96%	99%

The Base model results show that in all cases the hourly GEH comparisons meet the criteria for GEH less than 5 in 85% of cases.

Table 5.3 shows the summary of individual flow comparisons by hour, with the percentage of comparisons meeting each specified criteria shown.

Table 5.3 : Criteria 1, 2 & 3 – Assigned Hourly Flow Band Comparison

Period	Time (hh:mm)	Criteria 1 700<> 2700 vph	Flows within 15%	Criteria 2 <700Vph	Flows within 100vph	Criteria 3 >2700 vph	Flows within 400vph
AM	07:00-08:00	14	79%	617	98%	1	100%
	08:00-09:00	18	78%	613	96%	1	100%
	09:00-10:00	8	88%	573	96%	0	-
IP	10:00-11:00	3	100%	566	100%	0	-
	11:00-12:00	6	100%	563	100%	0	-
	12:00-13:00	6	67%	563	99%	0	-
	13:00-14:00	5	100%	564	99%	0	-
	14:00-15:00	6	100%	563	99%	0	-
	15:00-1600	7	100%	562	98%	0	-
PM	16:00-17:00	13	85%	619	97%	1	100%
	17:00-18:00	15	53%	616	97%	1	100%
	18:00-19:00	8	75%	573	99%	0	-
SAT	10:00-11:00	4	100%	226	99%	0	-
	11:00-12:00	4	100%	226	100%	0	-
	12:00-13:00	4	75%	226	100%	0	-
	13:00-14:00	4	100%	226	100%	0	-

The Base model results show that the majority of comparisons are in the less than 700vph category (criteria 2) and fall well within the criteria. It should be noted that with Criteria 1 and 3 the number of comparisons are relatively low compared to the total number of count records, making the comparison harder to achieve.

It should also be borne in mind that the validation guidelines were originally developed for deterministic models, which ensure that a particular solution will always result from a particular set of input data. Microsimulation utilises a different methodology and instead reflects reality where traffic is rarely constant, repeatable and encompasses variability.

With this in mind, the level of calibration achieved and presented within this document for a network the size and scale of Didcot is considered high. To further emphasise the suitability of the results, an XY scatter chart of observed flows versus modelled flows was developed for each modelled period. The XY scatter plot provides a good way of presenting the variation in data in a pictorial format, illustrating the relationship between the observed flows and assigned flows in the model. The correlation coefficient (R) gives some measure of the goodness of model fit, and the slope of the best-fit regression line through the origin indicates the extent to which modelled values are over or under estimated. Acceptability values of R are above 0.95 and the line of best fit should be between 0.9 and 1.1 as stated in DMRB *(Ref. Vol 12, Section 2, Part 1, Chapter 4, §4.4.42)*.

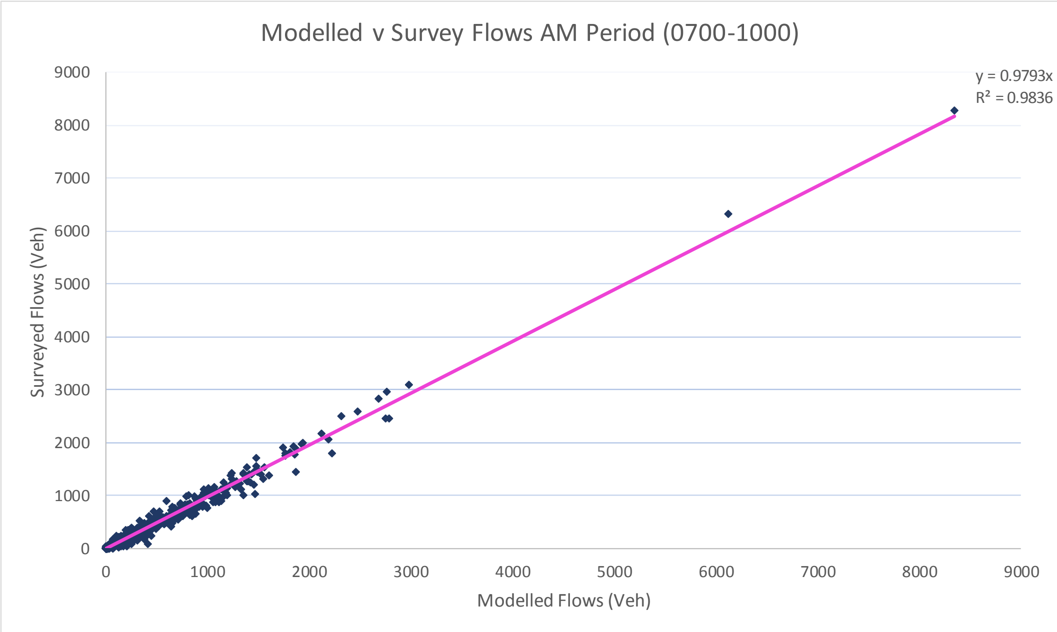

Figure 5.1 : AM Period XY Scatter Plot, Observed v Modelled

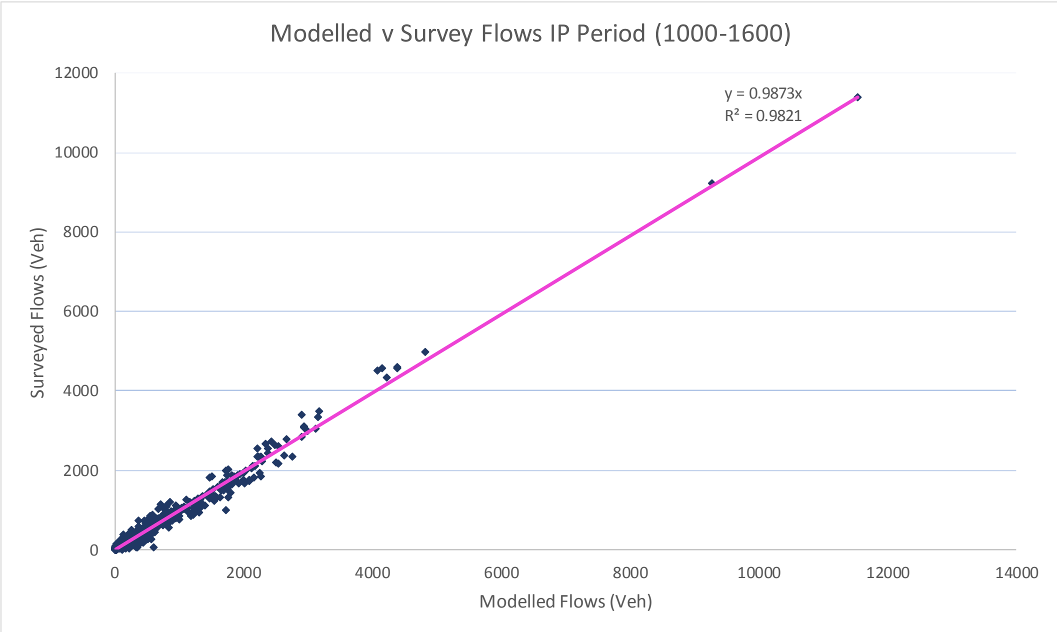

Figure 5.2 : IP Period XY Scatter Plot, Observed v Modelled

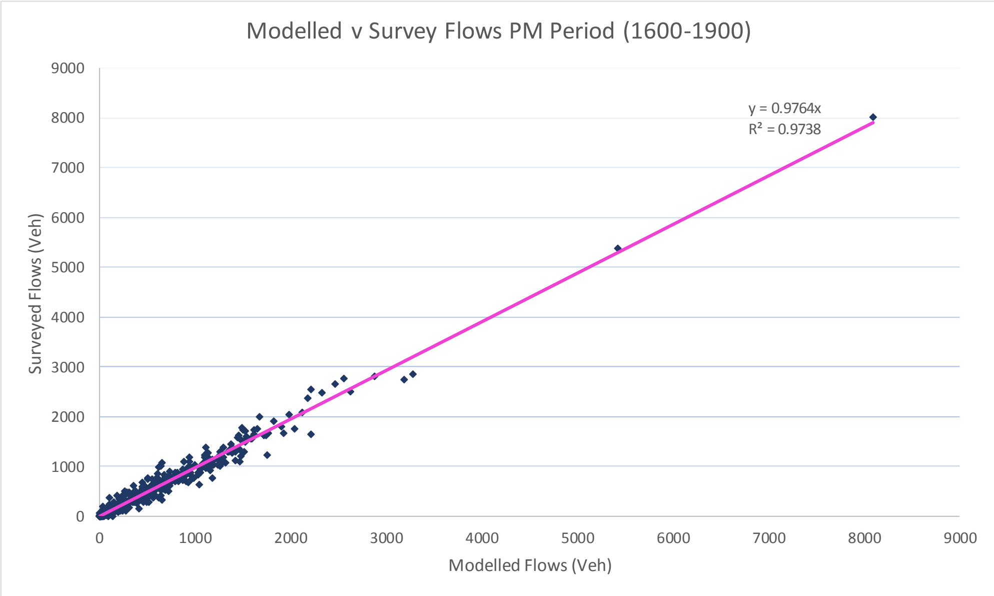

Figure 5.3 : PM Period XY Scatter Plot, Observed v Modelled

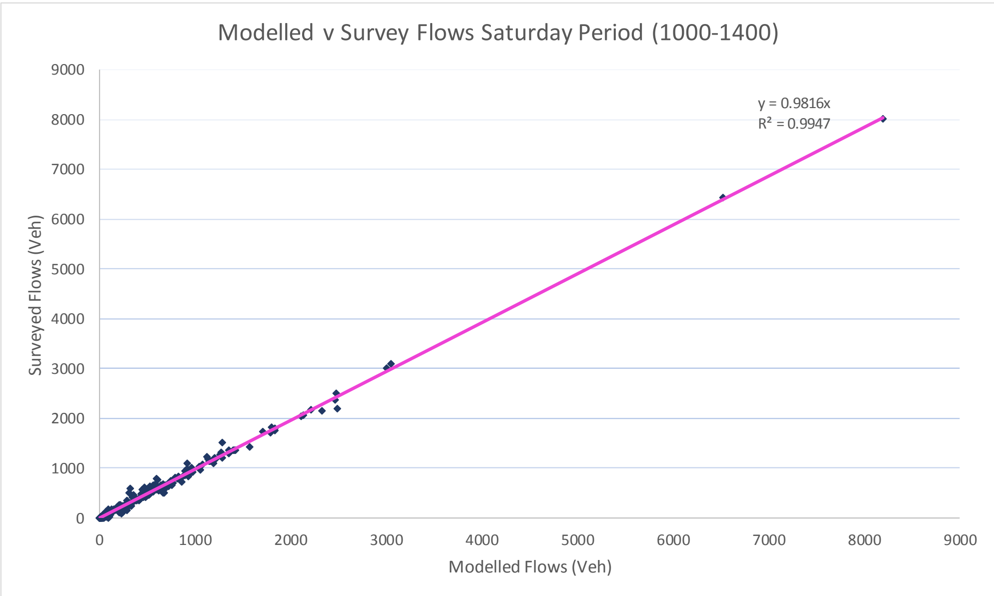

Figure 5.4 : Saturday Period XY Scatter Plot, Observed v Modelled

The XY scatter plot analyses shows all periods to have both an R^2 value and line of best fit value of close to 1.

In an ideal situation, the observed and assigned flows plotted would form a single line and show a positive correlation between each variable, i.e. the line of best fit would be y=x. Given that traffic flows vary on a day to day basis and that the model generally aims to simulate an average day, and the fact that the surveyed data generally reflects a range of days across the study area, this can never realistically be achieved.

The results show that for all modelled periods the line of best fit closely matches the y=x line and is well within the acceptability values of 0.9-1.1. With the exception of a few outliers, the results show a close relationship between observed flows and those assigned within the model.

In addition, Checks were undertaken for each modelled hour and the R value (coefficient of determination) was shown to be above 0.95 in all cases as shown in Table 5.4 below.

Table 5.4 : Weekday and Saturday Hourly R Values

Period	Time (hh:mm)	R Value
AM	07:00-08:00	0.986
	08:00-09:00	0.984
	09:00-10:00	0.981
IP	10:00-11:00	0.990
	11:00-12:00	0.991
	12:00-13:00	0.987
	13:00-14:00	0.988
	14:00-15:00	0.986
	15:00-1600	0.981
PM	16:00-17:00	0.984
	17:00-18:00	0.980
	18:00-19:00	0.984
SAT	10:00-11:00	0.995
	11:00-12:00	0.996
	12:00-13:00	0.996
	13:00-14:00	0.994

5.3 Journey Time Validation

A number of journey time routes were coded into the Didcot Base Model to reflect the surveyed routes. This allowed for comparison between modelled and observed journey times to be made to ensure that the model satisfactorily reflected on-street traffic conditions. The DMRB criteria for journey time validation is summarised in Table 5.1. The criteria states that a modelled journey time must be within 15% or within 1 minute of the observed journey time in more than 85% of cases.

Figure 5.5 details the journey time routes used for model validation, as derived from the journey time surveys.

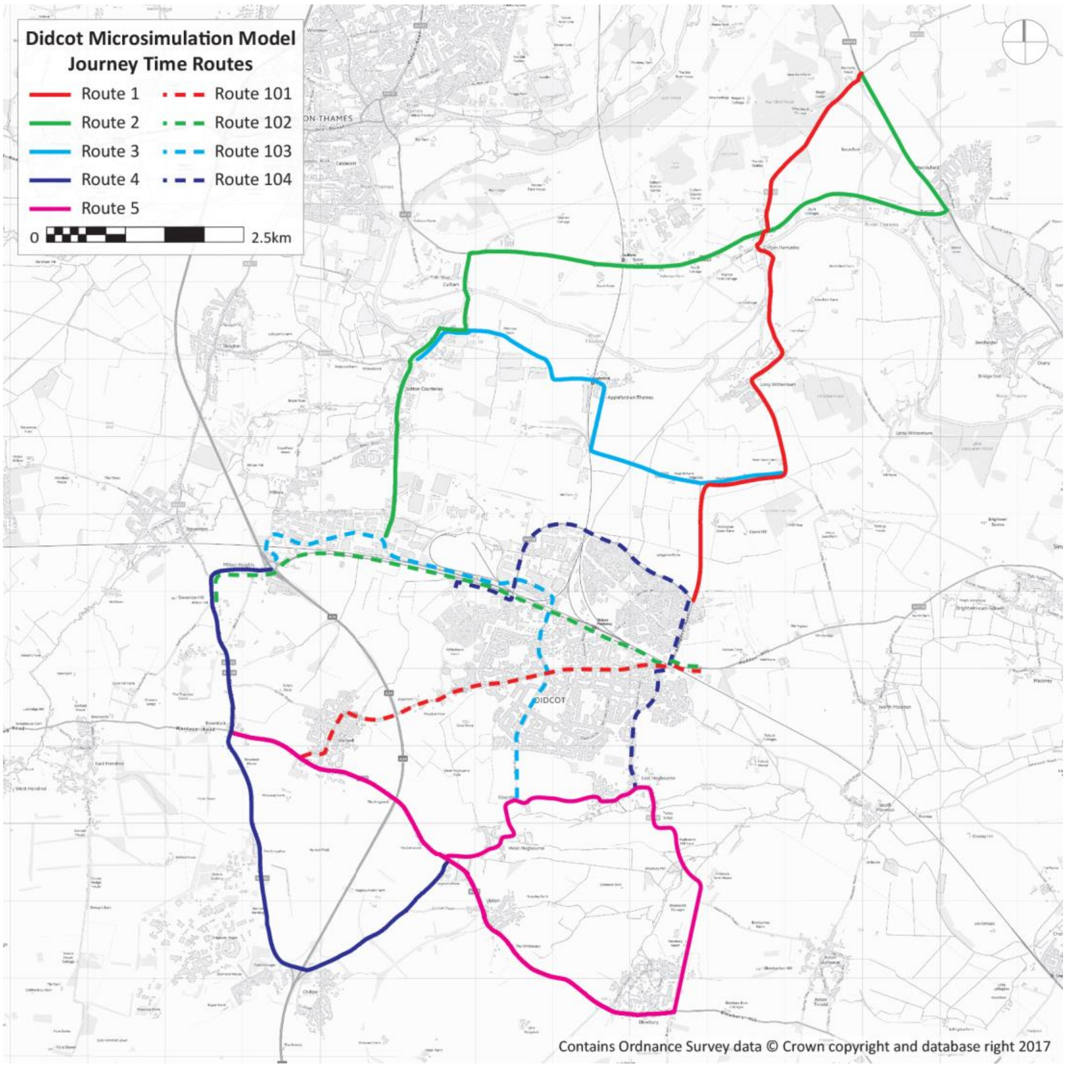

Figure 5.5 : Journey Time Routes

Comparisons between observed and modelled journey times on each of the 9 routes for each peak period are provided below, along with a discussion on a number of routes that do not meet the TAG criteria. Due to the low number of observed journey time runs peak hour comparisons are not presented.

The comparison between observed and modelled journey times on each route for the AM period (07:00-10:00) is shown in Table 5.5.

Table 5.5 : AM Period Average Journey Time Comparison

Route	Direction	Survey Count	Average Observed Time (mm:ss)	Average Modelled Time (mm:ss)	Diff	% Diff	Within DMRB?
101	E/B	7	14:17	11:47	02:30	17%	×
101	W/B	6	11:52	10:29	01:23	12%	✓
102	E/B	5	14:37	14:35	00:02	0%	✓
102	W/B	5	13:56	15:05	01:09	8%	✓
103	N/B	5	14:24	11:52	02:32	18%	×
103	S/B	6	12:22	13:07	00:45	6%	✓
104	N/B	7	11:57	13:54	01:57	16%	×
104	S/B	7	10:22	10:25	00:02	0%	✓
1	N/B	3	13:34	12:49	00:45	6%	✓
1	S/B	4	15:24	14:20	01:04	7%	✓
2	N/B	2	17:38	24:13	06:35	37%	×
2	S/B	2	17:25	21:02	03:37	21%	×
3	E/B	9	07:47	07:37	00:10	2%	✓
3	W/B	7	07:36	08:25	00:50	11%	✓
4	N/B	6	12:19	11:04	01:15	10%	✓
4	S/B	5	10:40	10:23	00:17	3%	✓
5	E/B	3	23:39	15:44	07:55	33%	×
5	W/B	2	21:57	16:17	05:40	26%	×

The comparisons between observed and modelled journey times on each route for the IP period (10:00-16:00) is shown in Figure 5.6.

Table 5.6 : IP Period Average Journey Time Comparison

Route	Direction	Survey Count	Average Observed Time (mm:ss)	Average Modelled Time (mm:ss)	Diff	% Diff	Within DMRB?
101	E/B	7	11:14	08:58	02:16	20%	×
101	W/B	7	10:39	09:13	01:26	14%	✓
102	E/B	6	11:21	09:53	01:29	13%	✓
102	W/B	6	10:58	09:01	01:58	18%	×
103	N/B	8	10:33	08:53	01:41	16%	×
103	S/B	7	09:50	09:11	00:39	7%	✓
104	N/B	7	10:11	08:22	01:49	18%	×
104	S/B	8	09:47	08:01	01:46	18%	×
1	N/B	7	11:08	09:16	01:51	17%	×
1	S/B	8	10:23	08:53	01:31	15%	✓
2	N/B	4	15:49	15:28	00:20	2%	✓
2	S/B	5	17:16	17:02	00:13	1%	✓
3	E/B	5	07:27	05:57	01:29	20%	×
3	W/B	7	07:17	05:59	01:17	18%	×
4	N/B	8	10:10	07:27	02:44	27%	×
4	S/B	8	09:19	07:11	02:07	23%	×
5	E/B	2	22:14	13:38	08:36	39%	×
5	W/B	2	20:57	13:51	07:06	34%	×

The comparisons between observed and modelled journey times on each route for the PM period (16:00-19:00) is shown in Table 5.7.

Table 5.7 : PM Period Average Journey Time Comparison

Route	Direction	Survey Count	Average Observed Time (mm:ss)	Average Modelled Time (mm:ss)	Diff	% Diff	Within DMRB?
101	E/B	6	13:33	11:27	02:05	15%	×
101	W/B	6	13:30	12:45	00:45	6%	✓
102	E/B	5	16:25	16:58	00:33	3%	✓
102	W/B	5	14:13	13:18	00:55	6%	✓
103	N/B	5	12:36	11:15	01:22	11%	✓
103	S/B	4	18:17	12:08	06:09	34%	×
104	N/B	6	12:54	12:16	00:38	5%	✓
104	S/B	7	11:38	10:57	00:42	6%	✓
1	N/B	6	12:43	13:02	00:20	3%	✓
1	S/B	6	14:10	12:25	01:45	12%	✓
2	N/B	4	20:58	22:00	01:02	5%	✓
2	S/B	4	20:16	18:40	01:36	8%	✓
3	E/B	10	06:50	06:44	00:06	1%	✓
3	W/B	10	06:38	06:51	00:13	3%	✓
4	N/B	7	11:32	11:08	00:24	3%	✓
4	S/B	7	09:35	09:12	00:23	4%	✓
5	E/B	3	20:38	15:42	04:56	24%	×
5	W/B	3	23:20	16:05	07:15	31%	×

The comparisons between observed and modelled journey times on each route for the Saturday period (10:00-14:00) is shown in Table 5.8.

Table 5.8 : Saturday Period Average Journey Time Comparison

Route	Direction	Survey Count	Average Observed Time (mm:ss)	Average Modelled Time (mm:ss)	Diff	% Diff	Within DMRB?
101	E/B	8	10:57	10:29	00:27	4%	✓
101	W/B	9	12:34	10:00	02:34	20%	×
102	E/B	9	15:29	10:50	04:39	30%	×
102	W/B	8	11:02	09:42	01:20	12%	✓
103	N/B	10	09:57	09:38	00:18	3%	✓
103	S/B	10	10:09	09:50	00:20	3%	✓
104	N/B	10	09:57	09:19	00:39	6%	✓
104	S/B	11	09:53	09:00	00:53	9%	✓
1	N/B	8	11:41	10:06	01:35	14%	✓
1	S/B	8	11:35	09:53	01:42	15%	✓
2	N/B	6	16:55	17:10	00:15	1%	✓
2	S/B	7	16:49	17:19	00:29	3%	✓
3	E/B	11	07:32	06:38	00:54	12%	✓
3	W/B	11	07:47	06:39	01:09	15%	✓
4	N/B	13	08:56	08:34	00:22	4%	✓
4	S/B	13	08:42	08:25	00:17	3%	✓
5	E/B	6	21:26	15:32	05:54	28%	×
5	W/B	5	21:45	15:53	05:53	27%	×

The above tables show that the DMRB criteria is not met in some cases. In general, where there is a robust number of observations (6+) the model matches the observations well. Where a lower number of observations exists, the comparison is poor.

This is not surprising as the modelled data reflects a full sample of journeys through the period and the limited number of observations reflect sporadic sampling. In addition, on-board journey time videos were not available for many surveys, so checking the robustness of the observed data was not possible.

Further to the initial base model reporting, OCC provided further journey time data for the study area from the DfT, in the form of Trafficmaster GPS journey time data from 2016. This data was captured over the whole year, and therefore does not include the same sampling problems as the surveyed journey time dataset. The GPS data also allows the definition of an hourly, rather than periodic, observed journey time dataset. Further moving observer surveys undertaken by OCC in June 2018 were used to "validate" the GPS data where discrepancies were noted between previous observations of traffic conditions provided by the client team, and the conditions implied by the GPS journey times.

Journey times for the surveyed routes were extracted from this data set, and compared to the modelled journey times, at an hourly level. Tables 5.9-5.13 present the hourly comparisons between modelled and observed for each period (as a percentage difference), and indicate whether the DMRB criteria (modelled within 15% of observed) has been achieved for each route, by hour.

Table 5.9 : AM Period GPS Average Journey Time Comparison

Route	Direction	07:00-08:00	DMRB	08:00-09:00	DMRB	09:00-10:00	DMRB
101	E/B	-2%	1	4%	1	-1%	1
101	W/B	-9%	1	-2%	1	-3%	1
102	E/B	-14%	1	11%	1	12%	1
102	W/B	1%	1	40%	**1**	43%	**1**
103	N/B	-15%	1	-1%	1	4%	1
103	S/B	5%	1	12%	1	10%	1
104	N/B	1%	1	22%	0	7%	1
104	S/B	9%	1	39%	**1**	39%	**1**
1	N/B	-14%	1	3%	1	-5%	1
1	S/B	-7%	1	0%	1	6%	1
2	N/B	12%	1	9%	1	-3%	1
2	S/B	1%	1	-2%	1	11%	1
3	E/B	-8%	1	2%	1	-14%	1
3	W/B	-8%	1	12%	1	-13%	1
4	N/B	-21%	0	-13%	1	-10%	1
4	S/B	-18%	0	-16%	0	-12%	1
5	E/B	-2%	1	-3%	1	-4%	1
5	W/B	1%	1	-2%	1	-4%	1
Percentage Pass			**89%**		**89%**		**100%**

Table 5.10 : IP Period GPS Average Journey Time Comparison 1

Route	Direction	10:00-11:00	DMRB	11:00-12:00	DMRB	12:00-13:00	DMRB
101	E/B	-2%	1	-13%	1	-11%	1
101	W/B	-14%	1	-6%	1	-2%	1
102	E/B	-2%	1	-2%	1	0%	1
102	W/B	-1%	1	-2%	1	-2%	1
103	N/B	-10%	1	-10%	1	-10%	1
103	S/B	-7%	1	-5%	1	-3%	1
104	N/B	-5%	1	-4%	1	-2%	1
104	S/B	-5%	1	-5%	1	-6%	1
1	N/B	-10%	1	-10%	1	-10%	1
1	S/B	-12%	1	-11%	1	-12%	1
2	N/B	0%	1	0%	1	0%	1
2	S/B	2%	1	1%	1	2%	1
3	E/B	-12%	1	-12%	1	-14%	1
3	W/B	-12%	1	-13%	1	-14%	1
4	N/B	-14%	1	-15%	1	-24%	0
4	S/B	-13%	1	-13%	1	-12%	1
5	E/B	-3%	1	-4%	1	-2%	1
5	W/B	-7%	1	-4%	1	-7%	1
Percentage Pass			**100%**		**100%**		**94%**

Table 5.11 : IP Period GPS Average Journey Time Comparison 2

Route	Direction	13:00-14:00	DMRB	14:00-15:00	DMRB	15:00-16:00	DMRB
101	E/B	-2%	1	-11%	1	-17%	0
101	W/B	0%	1	-2%	1	-4%	1
102	E/B	-1%	1	-2%	1	-8%	1
102	W/B	-2%	1	1%	1	-4%	1
103	N/B	-7%	1	-7%	1	-9%	1
103	S/B	-4%	1	-4%	1	-6%	1
104	N/B	-3%	1	-4%	1	-3%	1
104	S/B	-4%	1	-4%	1	-5%	1
1	N/B	-10%	1	-11%	1	-15%	1
1	S/B	-11%	1	-14%	1	-18%	0
2	N/B	1%	1	-1%	1	-6%	1
2	S/B	1%	1	3%	1	10%	1
3	E/B	-13%	1	-15%	1	-15%	1
3	W/B	-12%	1	-11%	1	-12%	1
4	N/B	-18%	0	-15%	1	-16%	0
4	S/B	-8%	1	-12%	1	-10%	1
5	E/B	-4%	1	-3%	1	-4%	1
5	W/B	-1%	1	-4%	1	-2%	1
Percentage Pass			**94%**		**100%**		**83%**

Table 5.12 : PM Period GPS Average Journey Time Comparison

Route	Direction	16:00-17:00	DMRB	17:00-18:00	DMRB	18:00-19:00	DMRB
101	E/B	-2%	1	4%	1	0%	1
101	W/B	0%	1	8%	1	7%	1
102	E/B	12%	1	25%	**1**	10%	1
102	W/B	1%	1	10%	1	-3%	1
103	N/B	-10%	1	-10%	1	-5%	1
103	S/B	1%	1	-11%	1	-4%	1
104	N/B	5%	1	12%	1	3%	1
104	S/B	14%	1	20%	**1**	3%	1
1	N/B	-6%	1	15%	1	-11%	1
1	S/B	-2%	1	-10%	1	-4%	1
2	N/B	4%	1	5%	1	1%	1
2	S/B	-7%	1	0%	1	-3%	1
3	E/B	-12%	1	-22%	0	-16%	0
3	W/B	-11%	1	-13%	1	-14%	1
4	N/B	-9%	1	2%	1	-15%	0
4	S/B	-6%	1	2%	1	-3%	1
5	E/B	-1%	1	0%	1	0%	1
5	W/B	-3%	1	-1%	1	-2%	1
Percentage Pass			**100%**		**94%**		**89%**

Table 5.13 : SAT Period GPS Average Journey Time Comparison

Route	Direction	10:00-11:00	DMRB	11:00-12:00	DMRB	12:00-13:00	DMRB	13:00-14:00	DMRB
101	E/B	-2%	1	-26%	0	-19%	0	-7%	1
101	W/B	-11%	1	-14%	1	-9%	1	-5%	1
102	E/B	-15%	1	-22%	0	-20%	0	-15%	1
102	W/B	-10%	1	-11%	1	-9%	1	-5%	1
103	N/B	-8%	1	0%	1	-3%	1	-2%	1
103	S/B	-8%	1	1%	1	1%	1	5%	1
104	N/B	-3%	1	-4%	1	-1%	1	0%	1
104	S/B	-7%	1	-4%	1	-4%	1	-1%	1
1	N/B	-10%	1	-11%	1	-13%	1	-11%	1
1	S/B	-11%	1	-10%	1	-14%	1	-11%	1
2	N/B	2%	1	3%	1	3%	1	2%	1
2	S/B	2%	1	-1%	1	-4%	1	0%	1
3	E/B	-13%	1	-14%	1	-14%	1	-10%	1
3	W/B	-9%	1	-11%	1	-9%	1	-9%	1
4	N/B	-11%	1	-13%	1	-9%	1	-8%	1
4	S/B	-6%	1	-7%	1	-9%	1	-7%	1
5	E/B	0%	1	0%	1	1%	1	2%	1
5	W/B	0%	1	-1%	1	0%	1	3%	1
Percentage Pass			**100%**		**89%**		**89%**		**100%**

All hours, with the exception of 15:00-16:00, achieve the required threshold of >85% of routes meeting the criteria. The three routes failing to meet the threshold in this hour only just exceed the 15% difference allowed.

Upon examining the GPS data, and comparing to the moving observer and modelled times, it became apparent that the GPS data did not capture the delays witnessed on the A4130 at peak times approaching the Frank Williams Drive signals. Further observations undertaken by the councils in June 2018 supported this observation. As such, for some hours, a number of routes which were failing due to discrepancies between modelled and observed times around Frank Williams drive were assumed to pass. These are noted in bold in the "DMRB" column of the tables above, and are as noted below:

- Route 102 WB, 08:00-09:00 and 09:00-10:00
- Route 102 EB, 17:00-18:00
- Route 104 SB, 08:00-09:00, 09:00-10:00 and 17:00-18:00

6. SUMMARY AND CONCLUSIONS

6.1 Summary

SYSTRA Ltd have been commissioned by South Oxfordshire District Council (SODC) and Vale of White Horse District Council (VoWHDC), through the Five Councils Partnership to develop a microsimulation base model of the Didcot area and future year scenario models reflecting the Council's future land allocations.

The model was developed using Paramics Discovery (V19) software. The simulation runs the AM Period (07:00-10:00), IP period (10:00-16:00), PM Period (16:00-19:00) and Saturday Period (10:00-14:00) independently.

Traffic surveys were undertaken in late 2016/mid 2017 to provide the traffic data information required to develop the model. Turn count, moving observer journey time and queue surveys were supplied.

The model has been calibrated and validated based on WebTAG and DMRB guidance and SYSTRA's Microsimulation Consultancy Good Practice Guide. Video footage from the surveys was also utilised to ensure the general behaviour of traffic in the model reflected the conditions on site.

In addition, a model demonstration and feedback meeting with OCC, SODC and VoWHDC was arranged to effectively 'sign off' the base model as representative of current conditions before proceeding with future year model development.

6.2 Conclusions

The Didcot 2017 Base model meets DMRB turn count flow criteria with 85% of cases meeting a GEH value < 5. Comparisons using the Flow band criteria shows a good result, with criteria 1 (700<>2700 vph within 15%) showing some modelled hours outwith the criteria (although there is a low sample in this case).

Modelled and observed journey time comparisons have shown that where robust observed data is available, the model reflects observed journey times well, and meets the DMRB/WebTAG criteria.

OCC, SODC and VoWHDC have reviewed the model and resulting traffic conditions, and are satisified that the general traffic conditions observed on a daily basis are reflected in the model.

The Base model is considered fit for the purpose of Reference Case development and Future Year testing.

SYSTRA provides advice on transport, to central, regional and local government, agencies, developers, operators and financiers.

A diverse group of results-oriented people, we are part of a strong team of professionals worldwide. Through client business planning, customer research and strategy development we create solutions that work for real people in the real world.

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Appendix F – HIF1 Paramics Modelling Forecasting Note (September 2021)

TECHNICAL NOTE

HIF1 PARAMICS MODELLING

FORECASTING NOTE

SUMMARY TABLE	
Client/Project owner	Oxfordshire County Council
Project	HIF1 Paramics Modelling
Title of Document	Forecasting Note
Type of Document	Technical Note
Date	15/09/2021
Reference number	GB01T19H79/15/09/21/TA
Number of pages	17

1. INTRODUCTION

SYSTRA Ltd (SYSTRA) were commissioned by South Oxfordshire District Council (SODC) and Vale of White Horse District Council (VoWHDC) in partnership with Oxfordshire County Council (OCC) in 2017 to develop a base year (2017) Paramics Discovery traffic microsimulation model covering the wider Didcot area.

The subsequent development of this model is detailed in the report *Didcot Microsimulation Base Model Development Report (SYSTRA, September 2018).*

The model has subsequently been used to support OCC and AECOM in taking the proposed Housing Infrastructure Fund (HIF) schemes through the planning process.

This technical note outlines the development of three future year development scenarios, as defined by OCC and AECOM to satisfy the study requirements using information provided by SODC and VoWHDC, reflecting the development completed to 2020 and the expected LDP build out to 2024 and 2034.

The forecasting was underpinned by cordon demands for the study area from runs of the Oxfordshire Strategic Model (OSM), undertaken by Atkins on behalf of SODC/VoWHDC and as detailed in the spreadsheet report *OSM - Local Plan - Housing and Employment_v55_2031_A40_AER_all_sites_external.xlsm*.

2. EXTERNAL TRAFFIC GROWTH

The increase in traffic between external model zones (i.e. traffic travelling through the study area) was derived directly from OSM.

Cordon demands for the study area for the AM, IP and PM peak hours were provided for:

- OSM base year of 2013
- 2021

- 2031

These were factored up to peak period using peak hour expansion factors defined in the OSM model development report. These are:

- AM – 2.5
- IP – 6
- PM – 2.63

Growth increments were then defined to apply to the 2017 base year demands, as below:

- 2017 to 2020 increase – 3/8 *(2021 OSM – 2013 OSM)
- 2017 to 2024 increase – 4/8 *(2021 OSM – 2013 OSM) + 3/10 (2031 OSM – 2021 OSM)
- 2017 to 2034 increase - 4/8 *(2021 OSM – 2013 OSM) + (2031 OSM -2021 OSM)

The OSM model assumes all LDP development is in place by 2031, and so the 2031 cordon has been assumed to derive the full 2034 external growth for the paramics model.

Tables 1-3 show the 2017 base model demand totals, compared to the equivalent future year totals including the external growth increments, by model period.

	2017 Base	2020 Base + External	2024 Base + External	2034 Base + External
Matrix 1, Car	45699	46155	46290	46407
Matrix 2, LGV	6130	6242	6368	6594
Matrix 3, HGV	2142	2167	2193	2234

Table 1. AM Demands with external growth applied

	2017 Base	2020 Base + External	2024 Base + External	2034 Base + External
Matrix 1, Car	66136	67948	69374	71518
Matrix 2, LGV	10482	10702	10946	11347
Matrix 3, HGV	4051	4071	4098	4144

Table 2. IP Demands with external growth applied

	2017 Base	2020 Base + External	2024 Base + External	2034 Base + External
Matrix 1, Car	50646	51201	51521	52315
Matrix 2, LGV	4796	4834	4904	5056
Matrix 3, HGV	997	999	1009	1028

Table 3. PM Demands with external growth applied

3. DEVELOPMENT RELATED TRAFFIC – TRIP GENERATION

OCC defined the updated levels of residential and commercial development to be reflected in each of the scenarios, using the most up to date information available, provided by the Local Planning Authorities (SODC and VoWHDC).

Table 4 details the residential developments and the number of additional units to those present in the base year (2017) to be reflected in each scenario, for developments with completions post 2017 only.

		Units additonal to base year by scenario		
Site Name	**Model Zone**	**2020**	**2024**	**2034**
Ladygrove East - Land off A4130, Hadden Hill, Didcot	125	0	107	642
Long Reach, Didcot Road	128	0	19	19
Land Adjacent to the Village Hall	129	0	70	74
Land at Didcot Road, Great Western Park	130	514	514	514
Land off fieldside track	131	0	36	36
Land to the south of Blenheim Hill Harwell	137	60	60	60
Land at Barnett Road Steventon OX13 6AJ	139	65	65	65
Land south of Appleford Road, Phase 1	140	85	101	101
Land south of Appleford Road, Phase 2	140	0	91	91
Land at Abingdon Road Steventon	143	15	15	15
Land to south of Hadden Hill Didcot	144	74	74	74
Land to the West of Great Western Park (Valley Park)	145	0	384	4254
Land at Reading Road Harwell	146	3	16	16
Land at former Didcot A	147	0	0	120
Land at former Didcot A	147	0	0	280
Didcot Gateway South	148	0	100	300
Land North of Grove Road Harwell	149	191	207	207
Land off Hanney Road Steventon OX13 6AS	150	44	44	44
Land to the north east of Didcot	151	27	548	1880
Land north of Appleford Road	152	0	43	93
Land off Drayton Road, Milton	153	18	18	18
Land to north of Manor Close	154	18	18	18
Land to the South of A4130 Didcot	155	31	166	166
Milton Heights (Allocation - Site 9)	156	56	186	458
Land at Milton Hill, Milton Heights	157	32	53	53
East of Sutton Courtenay (Allocation - Site 5)	158	0	0	200
Chailey House Bessels Way	159	22	22	22
Land adjacent Culham Science centre	160	0	0	1850
Great Western Park	161	818	1155	1155
Orchard Centre Phase 2	162	0	0	300
North West Valley Park (Allocation - Site 8)	163	0	0	800
Vauxhall Baracks	164	0	0	300
Land at Berinsfeld	165	0	0	1600
Total		2073	4112	15825

Table 4. Residential developments by scenario

Tables 5, 6 and 7 detail the additional commercial development floorspace, in Sqm, included in each scenario, where the types of development are:

- B1 – Business Park
- B2 – Industrial Unit
- B8 – Storage
- B8 – Data Centre
- A1 – Shops and Retail
- C1 – Hotel

					2020			
Site Name	**Model Zone**	**B1**	**B2**	**B8 (Storage)**	**B8 (Data)**	**A1**	**C1**	**Total**
Southmead Industrial Estate	167	656	0	0	0	0	0	656
Culham Science Centre	168	0	0	0	0	0	0	0
Land West of CSC Inc No.1 Site	169	0	0	0	0	0	0	0
Berinsfield Regeneration	170	0	0	0	0	0	0	0
Milton Park	171	11472	0	0	0	0	10563	22035
Harwell Campus	172	11723	0	0	0	0	0	11723
Other Premises Adjacent to Didcot Power Station - Diagio	174	0	0	0	0	0	0	0
Didcot A	175	0	0	22483	0	0	0	22483
Milton Hill Business and Technology Park	176	0	0	0	0	0	0	0
D-Tech- EZ 2	177	0	0	0	0	0	0	0
Milton Interchange Site- EZ2	178	0	0	0	0	0	0	0
Orchard Centre Expansion	NA	0	0	0	0	11155	0	11155
Total		23851	0	22483	0	11155	10563	68052

Table 5. 2020 Commercial Development

					2024			
Site Name	**Model Zone**	**B1**	**B2**	**B8 (Storage)**	**B8 (Data)**	**A1**	**C1**	**Total**
Southmead Industrial Estate	167	656	0	0	0	0	0	656
Culham Science Centre	168	13632	0	0	0	0	0	13632
Land West of CSC Inc No.1 Site	169	4851	255	0	0	0	0	5106
Berinsfield Regeneration	170	0	0	0	0	0	0	0
Milton Park	171	31411	0	0	0	0	10563	41974
Harwell Campus	172	75427	6993	0	0	0	0	82420
Other Premises Adjacent to Didcot Power Station - Diagio	174	0	0	28907	68750	0	0	97657
Didcot A	175	2502	5505	27988	0	1351	0	37346
Milton Hill Business and Technology Park	176	0	0	0	0	0	0	0
D-Tech- EZ 2	177	0	1000	0	22000	0	0	23000
Milton Interchange Site- EZ2	178	0	0	0	0	0	0	0
Orchard Centre Expansion	NA	0	0	0	0	11155	0	11155
Total		128479	13753	56895	90750	12506	10563	312946

Table 6. 2024 Commercial Development

Site Name	Model Zone	B1	B2	2034 B8 (Storage)	B8 (Data)	A1	C1	Total
Southmead Industrial Estate	167	9076	0	0	0	0	0	9076
Culham Science Centre	168	56079	0	0	0	0	0	56079
Land West of CSC Inc No.1 Site	169	4851	255	0	0	0	0	5106
Berinsfield Regeneration	170	9671	10768	11350	0	0	0	31789
Milton Park	171	76889	0	0	0	0	10563	87451
Harwell Campus	172	103434	35000	0	0	0	0	138434
Other Premises Adjacent to Didcot Power Station - Diagio	174	0	0	28907	68750	0	0	97657
Didcot A	175	25000	55000	77483	0	13500	0	170983
Milton Hill Business and Technology Park	176	0	0	11338	0	0	0	11338
D-Tech- EZ 2	177	0	5000	0	110000	0	0	115000
Milton Interchange Site- EZ2	178	9380	0	0	0	2704	1294	13378
Orchard Centre Expansion	NA	0	0	0	0	11155	0	11155
Total		294379	106023	129078	178750	27359	11857	747446

Table 7. 2034 Commercial Development

The tables show the area for the Orchard Centre Expansion to be “NA”. This was an imminent development, and so was included in all scenarios as per the transport assessment (TA) for the proposed expansion. The centre is reflected as an individual zone in the base model, reflecting the site’s current level of development. The TA was used to derive a simple growth factor of 12% to apply to all trips to and from the centre in all periods in the base demands, to calculate the future year trips to and from the development.

For the majority of other developments, trip rates by development type were derived using TRICS and applied to generate the total volume of trips to and from each development in each period. Tables 8-11 show the TRICS trip rates by development and vehicle type, where relevant.

The trip rate for the B8 Data Centre was taken from the Transport Statement for the D-Tech Site which includes a trip rate for a Data Centre. See *Transport Statement – Didcot Technology Park (D-Tech) – Proposed Data Centre, Glanville, June 2020.*

Development Type	Arrivals 07:00	08:00	09:00	Departures 07:00	08:00	09:00
Private Housing	0.096	0.152	0.154	0.372	0.419	0.180
Private Flats	0.038	0.085	0.092	0.077	0.208	0.154
B1 Business Park Cars	0.180	0.503	0.306	0.019	0.060	0.090
B1 Business Park LGV	0.025	0.055	0.036	0.011	0.049	0.047
B1 Business Park OGV	0.006	0.016	0.014	0.002	0.013	0.016
B2 Industrial Unit Cars	0.050	0.038	0.013	0.000	0.000	0.025
B2 Industrial Unit LGV	0.013	0.013	0.025	0.000	0.013	0.013
B2 Industrial Unit OGV	0.075	0.100	0.113	0.063	0.075	0.125
C1 Hotel Car	0.161	0.299	0.393	0.253	0.314	0.214
C1 Hotel LGV	0.018	0.020	0.051	0.031	0.018	0.038
C1 Hotel OGV	0.005	0.013	0.005	0.003	0.013	0.008
A1 Shops & Retail Car	0.044	0.112	0.605	0.006	0.019	0.387
A1 Shops & Retail LGV	0.012	0.012	0.050	0.012	0.000	0.056
A1 Shops & Retail OGV	0.006	0.012	0.000	0.000	0.019	0.006
B8 Distribution Centre Car	0.048	0.090	0.065	0.015	0.042	0.053
B8 Distribution Centre LGV	0.007	0.019	0.041	0.004	0.067	0.033
B8 Distribution Centre OGV	0.004	0.020	0.004	0.004	0.012	0.008
B8 Data Centre Car	0.008	0.017	0.014	0.000	0.002	0.002

Table 8. AM trip rates

Development Type	Arrivals 10:00	11:00	12:00	13:00	14:00	15:00
Private Housing	0.125	0.155	0.148	0.171	0.146	0.258
Private Flats	0.162	0.138	0.208	0.192	0.146	0.092
B1 Business Park Cars	0.101	0.090	0.161	0.166	0.101	0.069
B1 Business Park LGV	0.057	0.063	0.047	0.033	0.046	0.027
B1 Business Park OGV	0.009	0.006	0.017	0.005	0.003	0.017
B2 Industrial Unit Cars	0.013	0.013	0.025	0.000	0.013	0.000
B2 Industrial Unit LGV	0.063	0.025	0.025	0.000	0.013	0.025
B2 Industrial Unit OGV	0.013	0.088	0.200	0.113	0.038	0.063
C1 Hotel Car	0.273	0.094	0.242	0.232	0.181	0.225
C1 Hotel LGV	0.018	0.018	0.008	0.010	0.008	0.010
C1 Hotel OGV	0.000	0.000	0.008	0.005	0.003	0.000
A1 Shops & Retail Car	0.829	0.954	1.216	1.110	1.104	0.792
A1 Shops & Retail LGV	0.037	0.056	0.050	0.056	0.050	0.075
A1 Shops & Retail OGV	0.006	0.006	0.006	0.006	0.000	0.006
B8 Distribution Centre Car	0.025	0.082	0.036	0.090	0.070	0.000
B8 Distribution Centre LGV	0.081	0.000	0.073	0.000	0.035	0.113
B8 Distribution Centre OGV	0.004	0.000	0.004	0.004	0.012	0.004
B8 Data Centre Car	0.008	0.006	0.009	0.007	0.009	0.009

Table 9. IP trip rates – Arrivals

Development Type	Departures					
	10:00	11:00	12:00	13:00	14:00	15:00
Private Housing	0.162	0.162	0.158	0.169	0.189	0.179
Private Flats	0.192	0.131	0.154	0.192	0.146	0.123
B1 Business Park Cars	0.060	0.088	0.188	0.132	0.126	0.129
B1 Business Park LGV	0.063	0.057	0.036	0.047	0.043	0.024
B1 Business Park OGV	0.014	0.006	0.011	0.009	0.003	0.016
B2 Industrial Unit Cars	0.013	0.000	0.013	0.000	0.000	0.000
B2 Industrial Unit LGV	0.038	0.025	0.000	0.025	0.013	0.025
B2 Industrial Unit OGV	0.013	0.088	0.225	0.088	0.038	0.063
C1 Hotel Car	0.191	0.194	0.174	0.191	0.207	0.253
C1 Hotel LGV	0.015	0.013	0.008	0.015	0.005	0.015
C1 Hotel OGV	0.000	0.000	0.005	0.003	0.005	0.000
A1 Shops & Retail Car	0.705	0.885	1.073	1.172	1.203	0.817
A1 Shops & Retail LGV	0.031	0.050	0.044	0.056	0.062	0.069
A1 Shops & Retail OGV	0.006	0.000	0.006	0.000	0.000	0.000
B8 Distribution Centre Car	0.052	0.054	0.067	0.099	0.079	0.051
B8 Distribution Centre LGV	0.030	0.012	0.042	0.007	0.030	0.051
B8 Distribution Centre OGV	0.004	0.004	0.004	0.000	0.012	0.008
B8 Data Centre Car	0.010	0.008	0.013	0.012	0.014	0.012

Table 10. IP trip rates – Departures

Development Type	Arrivals			Departures		
	16:00	17:00	18:00	16:00	17:00	18:00
Private Housing	0.273	0.362	0.344	0.165	0.167	0.174
Private Flats	0.154	0.192	0.100	0.115	0.077	0.038
B1 Business Park Cars	0.054	0.054	0.015	0.342	0.374	0.192
B1 Business Park LGV	0.028	0.013	0.006	0.036	0.022	0.006
B1 Business Park OGV	0.005	0.005	0.002	0.009	0.005	0.006
B2 Industrial Unit Cars	0.013	0.000	0.000	0.050	0.075	0.038
B2 Industrial Unit LGV	0.000	0.000	0.000	0.025	0.000	0.000
B2 Industrial Unit OGV	0.025	0.000	0.013	0.050	0.000	0.000
C1 Hotel Car	0.209	0.196	0.260	0.299	0.250	0.242
C1 Hotel LGV	0.018	0.023	0.018	0.015	0.015	0.018
C1 Hotel OGV	0.003	0.000	0.000	0.003	0.003	0.000
A1 Shops & Retail Car	0.705	0.854	0.680	0.823	0.798	0.761
A1 Shops & Retail LGV	0.118	0.025	0.100	0.094	0.044	0.094
A1 Shops & Retail OGV	0.037	0.006	0.000	0.056	0.000	0.006
B8 Distribution Centre Car	0.045	0.055	0.043	0.052	0.031	0.094
B8 Distribution Centre LGV	0.045	0.027	0.000	0.065	0.063	0.000
B8 Distribution Centre OGV	0.004	0.012	0.004	0.004	0.012	0.004
B8 Data Centre Car	0.002	0.002	0.001	0.025	0.022	0.020

Table 11. PM trip rates

In addition to being used to derive trip totals for each site, the trip rates were also used to calculate demand release profiles by development type for use in the model with the new development zones.

Each new development in the model is reflected by a new zone.

The number of units/floorspace was combined with the trip rates to derive the number of vehicle trips associated with each development, by scenario. Residential sites generate only car trips, commercial sites may have associated car, LGV and HGV trips.

Tables 12-14 show the residential trips, by development, period, and by scenario.

		AM		IP		PM	
Site Name	**Model Zone**	**Inbound**	**Outbound**	**Inbound**	**Outbound**	**Inbound**	**Outbound**
Ladygrove East - Land off A4130, Hadden Hill, Didcot	125	0	0	0	0	0	0
Long Reach, Didcot Road	128	0	0	0	0	0	0
Land Adjacent to the Village Hall	129	0	0	0	0	0	0
Land at Didcot Road, Great Western Park	130	207	499	516	524	503	260
Land off fieldside track	131	0	0	0	0	0	0
Land to the south of Blenheim Hill Harwell	137	23	55	60	61	56	29
Land at Barnett Road Steventon OX13 6AJ	139	26	63	65	66	64	33
Land south of Appleford Road, Phase 1	140	33	78	85	86	79	41
Land south of Appleford Road, Phase 2	140	0	0	0	0	0	0
Land at Abingdon Road Steventon	143	6	15	15	15	15	8
Land to south of Hadden Hill Didcot	144	28	67	74	75	68	35
Land to the West of Great Western Park (Valley Park)	145	0	0	0	0	0	0
Land at Reading Road Harwell	146	1	3	3	3	3	2
Land at former Didcot A	147	0	0	0	0	0	0
Didcot Gateway South	148	0	0	0	0	0	0
Land North of Grove Road Harwell	149	0	0	0	0	0	0
Land off Hanney Road Steventon OX13 6AS	150	77	185	192	195	187	97
Land to the north east of Didcot	151	18	43	44	45	43	22
Land north of Appleford Road	152	11	26	27	28	26	14
Land off Drayton Road, Milton	153	7	17	18	18	18	9
Land to north of Manor Close	154	7	17	18	18	18	9
Land to the South of A4130 Didcot	155	12	30	31	32	30	16
Milton Heights (Allocation - Site 9)	156	23	54	56	57	55	28
Land at Milton Hill, Milton Heights	157	13	31	32	33	31	16
East of Sutton Courtenay (Allocation - Site 5)	158	0	0	0	0	0	0
Chailey House Bessels Way	159	9	21	22	22	22	11
Land adjacent Culham Science centre	160	0	0	0	0	0	0
Great Western Park	161	329	794	820	834	801	414
Orchard Centre Phase 2	162	0	0	0	0	0	0
North West Valley Park (Allocation - Site 8)	163	0	0	0	0	0	0
Vauxhall Baracks	164	0	0	0	0	0	0
Land at Berinsfeld	165	0	0	0	0	0	0
Total		829	2001	2078	2111	2017	1043

Table 12. 2020 residential trips

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Ladygrove East - Land off A4130, Hadden Hill, Didcot	125	43	104	107	109	105	54
Long Reach, Didcot Road	128	8	18	19	19	19	10
Land Adjacent to the Village Hall	129	14	35	36	37	35	18
Land at Didcot Road, Great Western Park	130	207	499	516	524	503	260
Land off fieldside track	131	17	42	43	44	42	22
Land to the south of Blenheim Hill Harwell	137	23	55	60	61	56	29
Land at Barnett Road Steventon OX13 6AJ	139	26	63	65	66	64	33
Land south of Appleford Road, Phase 1	140	39	93	101	102	94	48
Land south of Appleford Road, Phase 2	140	35	84	91	92	85	44
Land at Abingdon Road Steventon	143	6	15	15	15	15	8
Land to south of Hadden Hill Didcot	144	28	67	74	75	68	35
Land to the West of Great Western Park (Valley Park)	145	154	373	385	391	376	194
Land at Reading Road Harwell	146	6	16	16	16	16	8
Land at former Didcot A	147	0	0	0	0	0	0
Didcot Gateway South	148	28	68	70	71	69	35
Land North of Grove Road Harwell	149	40	97	100	102	98	51
Land off Hanney Road Steventon OX13 6AS	150	83	201	208	211	203	105
Land to the north east of Didcot	151	18	43	44	45	43	22
Land north of Appleford Road	152	220	532	550	558	536	277
Land off Drayton Road, Milton	153	7	17	18	18	18	9
Land to north of Manor Close	154	7	17	18	18	18	9
Land to the South of A4130 Didcot	155	67	161	166	169	163	84
Milton Heights (Allocation - Site 9)	156	75	181	187	190	182	94
Land at Milton Hill, Milton Heights	157	21	51	53	54	52	27
East of Sutton Courtenay (Allocation - Site 5)	158	0	0	0	0	0	0
Chailey House Bessels Way	159	9	21	22	22	22	11
Land adjacent Culham Science centre	160	0	0	0	0	0	0
Great Western Park	161	464	1122	1158	1177	1131	584
Orchard Centre Phase 2	162	0	0	0	0	0	0
North West Valley Park (Allocation - Site 8)	163	0	0	0	0	0	0
Vauxhall Baracks	164	0	0	0	0	0	0
Land at Berinsfeld	165	0	0	0	0	0	0
Total		1647	3975	4122	4187	4008	2072

Table 13. 2024 residential trips

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Ladygrove East - Land off A4130, Hadden Hill, Didcot	125	258	623	644	654	629	325
Long Reach, Didcot Road	128	8	18	19	19	19	10
Land Adjacent to the Village Hall	129	14	35	36	37	35	18
Land at Didcot Road, Great Western Park	130	207	499	516	524	503	260
Land off fieldside track	131	37	90	93	95	91	47
Land to the south of Blenheim Hill Harwell	137	23	55	60	61	56	29
Land at Barnett Road Steventon OX13 6AJ	139	26	63	65	66	64	33
Land south of Appleford Road, Phase 1	140	39	93	101	102	94	48
Land south of Appleford Road, Phase 2	140	35	84	91	92	85	44
Land at Abingdon Road Steventon	143	6	15	15	15	15	8
Land to south of Hadden Hill Didcot	144	28	67	74	75	68	35
Land to the West of Great Western Park (Valley Park)	145	1710	4131	4267	4335	4165	2153
Land at Reading Road Harwell	146	6	16	16	16	16	8
Land at former Didcot A	147	161	388	401	408	392	202
Didcot Gateway South	148	30	72	74	75	72	37
Land North of Grove Road Harwell	149	121	291	301	306	294	152
Land off Hanney Road Steventon OX13 6AS	150	83	201	208	211	203	105
Land to the north east of Didcot	151	18	43	44	45	43	22
Land north of Appleford Road	152	756	1825	1886	1916	1841	951
Land off Drayton Road, Milton	153	7	17	18	18	18	9
Land to north of Manor Close	154	7	17	18	18	18	9
Land to the South of A4130 Didcot	155	67	161	166	169	163	84
Milton Heights (Allocation - Site 9)	156	184	445	459	467	448	232
Land at Milton Hill, Milton Heights	157	21	51	53	54	52	27
East of Sutton Courtenay (Allocation - Site 5)	158	80	194	201	204	196	101
Chailey House Bessels Way	159	9	21	22	22	22	11
Land adjacent Culham Science centre	160	744	1796	1856	1885	1811	936
Great Western Park	161	464	1122	1158	1177	1131	584
Orchard Centre Phase 2	162	121	291	301	306	294	152
North West Valley Park (Allocation - Site 8)	163	322	777	802	815	783	405
Vauxhall Baracks	164	121	291	301	306	294	152
Land at Berinsfeld	165	643	1554	1605	1630	1566	810
Total		6355	15349	15870	16123	15475	7998

Table 14. 2034 residential trips

Tables 15-23 show, by scenario and vehicle type, the commercial trips by period.

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	6	1	5	5	1	6
Culham Science Centre	168	0	0	0	0	0	0
Land West of CSC Inc No.1 Site	169	0	0	0	0	0	0
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	204	102	211	211	84	188
Harwell Campus	172	116	20	81	85	14	106
Other Premises Adjacent to Didcot Power Station - D	174	0	0	0	0	0	0
Didcot A	175	46	25	68	90	32	40
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	0	0	0	0	0	0
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		372	148	364	391	132	340

Table 15. Commercial Development Trips, 2020, Car

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	1	1	2	2	0	0
Culham Science Centre	168	0	0	0	0	0	0
Land West of CSC Inc No.1 Site	169	0	0	0	0	0	0
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	23	21	39	38	12	12
Harwell Campus	172	14	13	32	32	6	8
Other Premises Adjacent to Didcot Power Station - D	174	0	0	0	0	0	0
Didcot A	175	15	23	68	39	16	29
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	0	0	0	0	0	0
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		52	58	141	111	34	49

Table 16. Commercial Development Trips, 2020, LGV

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	0	0	0	0	0	0
Culham Science Centre	168	0	0	0	0	0	0
Land West of CSC Inc No.1 Site	169	0	0	0	0	0	0
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	7	6	8	8	2	3
Harwell Campus	172	4	4	7	7	1	2
Other Premises Adjacent to Didcot Power Station - D	174	0	0	0	0	0	0
Didcot A	175	6	5	6	7	4	4
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	0	0	0	0	0	0
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		17	15	22	23	8	10

Table 17. Commercial Development Trips, 2020, HGV

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	6	1	5	5	1	6
Culham Science Centre	168	135	23	94	99	17	124
Land West of CSC Inc No.1 Site	169	48	8	34	35	6	44
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	401	136	348	355	109	369
Harwell Campus	172	753	129	523	547	94	696
Other Premises Adjacent to Didcot Power Station - D	174	85	35	121	164	45	97
Didcot A	175	97	42	187	211	74	113
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	10	1	11	15	1	16
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		1536	375	1322	1431	346	1466

Table 18. Commercial Development Trips, 2024, Car

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	1	1	2	2	0	0
Culham Science Centre	168	16	15	37	37	6	9
Land West of CSC Inc No.1 Site	169	6	5	14	13	2	3
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	46	43	93	92	21	25
Harwell Campus	172	91	83	216	212	35	50
Other Premises Adjacent to Didcot Power Station - D	174	19	30	87	50	21	37
Didcot A	175	25	34	104	66	25	42
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	1	0	2	1	0	0
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		205	210	555	474	111	167

Table 19. Commercial Development Trips, 2024, LGV

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	0	0	0	0	0	0
Culham Science Centre	168	5	4	8	8	2	3
Land West of CSC Inc No.1 Site	169	2	2	4	4	1	1
Berinsfield Regerneration	170	0	0	0	0	0	0
Milton Park	171	14	12	20	20	4	7
Harwell Campus	172	47	42	79	81	12	19
Other Premises Adjacent to Didcot Power Station - D	174	8	7	8	9	6	6
Didcot A	175	25	22	38	39	9	10
Milton Hill Business and Technology Park	176	0	0	0	0	0	0
D-Tech- EZ 2	177	3	3	5	5	0	1
Milton Interchange Site- EZ2	178	0	0	0	0	0	0
Total		104	93	162	166	33	45

Table 20. Commercial Development Trips, 2024, HGV

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	90	15	62	66	11	82
Culham Science Centre	168	555	95	386	405	69	509
Land West of CSC Inc No.1 Site	169	48	8	34	35	6	44
Berinsfield Regerneration	170	130	32	108	118	30	125
Milton Park	171	851	212	661	684	165	782
Harwell Campus	172	1058	184	734	757	132	996
Other Premises Adjacent to Didcot Power Station - D	174	85	35	121	164	45	97
Didcot A	175	563	197	1253	1297	451	775
Milton Hill Business and Technology Park	176	23	12	34	46	16	20
D-Tech- EZ 2	177	48	6	56	77	6	82
Milton Interchange Site- EZ2	178	124	37	243	242	81	160
Total		3575	833	3691	3890	1011	3674

Table 21. Commercial Development Trips, 2034, Car

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	11	10	25	25	4	6
Culham Science Centre	168	65	60	153	151	26	36
Land West of CSC Inc No.1 Site	169	6	5	14	13	2	3
Berinsfield Regernеration	170	24	25	77	59	13	23
Milton Park	171	99	91	218	215	42	54
Harwell Campus	172	138	120	335	323	49	75
Other Premises Adjacent to Didcot Power Station - D	174	19	30	87	50	21	37
Didcot A	175	119	131	429	312	100	160
Milton Hill Business and Technology Park	176	8	12	34	20	8	15
D-Tech- EZ 2	177	3	1	8	6	0	1
Milton Interchange Site- EZ2	178	14	13	35	35	12	13
Total		505	498	1415	1209	278	423

Table 22. Commercial Development Trips, 2034, LGV

Site Name	Model Zone	AM Inbound	AM Outbound	IP Inbound	IP Outbound	PM Inbound	PM Outbound
Southmead Industrial Estate	167	3	3	5	5	1	2
Culham Science Centre	168	20	17	32	33	7	11
Land West of CSC Inc No.1 Site	169	2	2	4	4	1	1
Berinsfield Regernеration	170	38	34	64	65	8	10
Milton Park	171	30	26	46	47	10	16
Harwell Campus	172	138	124	239	241	26	38
Other Premises Adjacent to Didcot Power Station - D	174	8	7	8	9	6	6
Didcot A	175	192	174	323	324	45	56
Milton Hill Business and Technology Park	176	3	3	3	4	2	2
D-Tech- EZ 2	177	14	13	26	26	2	3
Milton Interchange Site- EZ2	178	4	4	6	6	2	4
Total		453	408	757	764	109	148

Table 23. Commercial Development Trips, 2034, HGV

4. DEVELOPMENT RELATED TRAFFIC – TRIP DISTRIBUTIONS

Trip distributions for the new developments, both commercial and residential, were derived from the OSM 2031 cordon matrices.

The OSM zone associated with each development was defined, in consultation with the councils, to provide a distribution for each site at OSM zone level, by period.

Trips were then split between the Paramics model zones (including the new development zones) using the relative proportion of each zone’s origin and destination trip end total compared to the total for the zones associated with the OSM zone.

5. DEVELOPMENT RELATED TRAFFIC – DOUBLE COUNTING ADJUSTMENT

The simple addition of commercial and residential trips results in a double counting, where trips between new residential and commercial zones can be accounted for (for example) as both an outbound residential trip and inbound commercial trip.

To adjust for this double counting, the residential and commercial demand matrices were combined, and then the total number of inbound and outbound trips for each zone (development) compared with the trip ends for that development. In many cases the trip ends in this combined matrix exceeded those defined by the trip generation process, and so the relevant rows/columns were factored accordingly such that the trip ends matched the trip generation for each development. This process in effect removes the double counting of trips included in both the residential and commercial trip distributions.

Tables 24-26 show the impact of this adjustment on the car development demands. No adjustment is required for LGV and HGV trips as these are only associated with commercial developments, and therefore there is no scope to double count these trips.

	Scenario		
	2020	2024	2034
Residential Cars	2830	5622	21704
Employment Cars	519	1911	4407
Final Car total	3204	7062	24485
Double Count Removed	145	471	1626

Table 24. AM development matrices double count adjustment

	Scenario		
	2020	2024	2034
Residential Cars	4188	8310	31993
Employment Cars	755	2752	7581
Final Car total	4728	10247	36597
Double Count Removed	215	815	2978

Table 25. IP development matrices double count adjustment

	Scenario		
	2020	2024	2034
Residential Cars	3060	6080	23473
Employment Cars	472	1812	4685
Final Car total	3384	7365	26310
Double Count Removed	148	527	1848

Table 26. PM development matrices double count adjustment

6. FORECAST MATRIX TOTALS

Tables 27-29 show the resulting matrix totals for the Scenario matrices, by period and matrix level.

Matrix	Scenario 2020	2024	2034
Car Base + Ext Growth	46,155	46,290	46,407
LGV Base + Ext Growth	6,242	6,368	6,594
HGV Base + Ext Growth	2,167	2,193	2,234
Development Car	3,204	7,062	24,485
Development LGV	110	415	1,003
Development HGV	33	197	861
Total	57,910	62,524	81,583

Table 27. AM matrix totals

Matrix	Scenario 2020	2024	2034
Car Base + Ext Growth	67,948	69,374	71,518
LGV Base + Ext Growth	10,702	10,946	11,347
HGV Base + Ext Growth	4,071	4,098	4,144
Development Car	4,728	10,247	36,597
Development LGV	251	1,029	2,624
Development HGV	44	328	1,521
Total	87,744	96,023	127,750

Table 28. IP matrix totals

Matrix	Scenario 2020	2024	2034
Car Base + Ext Growth	51,201	51,521	52,315
LGV Base + Ext Growth	4,834	4,904	5,056
HGV Base + Ext Growth	999	1,009	1,028
Development Car	3,384	7,365	26,310
Development LGV	83	278	701
Development HGV	18	78	257
Total	60,519	65,154	85,668

Table 29. PM matrix totals

Initial model runs exhibited significant congestion in 2034 with the full development demand in place. As agreed with OCC, for the 2034 scenario the model assumes 100% demand for existing trips, and 80% of demand for the development matrices. The demand reduction is considered reasonable for a number of reasons to enable a more realistic future scenario:

- The model uses a generic trip rate across all development in the area. A demand reduction is required to align the trip generation with trip rates recently accepted by OCC TDC for planning applications sites in Didcot. This accounts for approximately half of the demand reduction.

- It is assumed that the Garden Town principles will continue to be enacted in this area over the next 14 years, increasing the usage of sustainable modes. Modal shift from these developments later in the plan period (over a decade away) is more likely as they are coming alongside significantly improved pedestrian / cycle / public transport provisions. The Paramics model is not multi-modal so cannot automatically account for improved NMU infrastructure, therefore a demand reduction is used as a proxy.
- The largest new sites follow good spatial strategies and are in more sustainable locations near public transport hubs and / or are located nearer the growing employment areas which will have significantly improved NMU routes.

As such, the final model demands reduce the development Car, LGV and HGV matrices to 80% of that shown in tables 27-29.

Tables 30-32 present the final demands.

	Scenario		
Matrix	**2020**	**2024**	**2034**
Car Base + Ext Growth	46,155	46,290	46,407
LGV Base + Ext Growth	6,242	6,368	6,594
HGV Base + Ext Growth	2,167	2,193	2,234
Development Car	3,204	7,062	19,588
Development LGV	110	415	802
Development HGV	33	197	689
Total	57,910	62,524	76,314

Table 30. AM final demand totals

	Scenario		
Matrix	**2020**	**2024**	**2034**
Car Base + Ext Growth	67,948	69,374	71,518
LGV Base + Ext Growth	10,702	10,946	11,347
HGV Base + Ext Growth	4,071	4,098	4,144
Development Car	4,728	10,247	29,277
Development LGV	251	1,029	2,099
Development HGV	44	328	1,217
Total	87,744	96,023	119,602

Table 31. IP Final demand totals

Matrix	Scenario 2020	2024	2034
Car Base + Ext Growth	51,201	51,521	52,315
LGV Base + Ext Growth	4,834	4,904	5,056
HGV Base + Ext Growth	999	1,009	1,028
Development Car	3,384	7,365	21,048
Development LGV	83	278	561
Development HGV	18	78	206
Total	60,519	65,154	80,214

Table 32. PM final demand totals

Appendix G – HIF1 Paramics Modelling Future Year Infrastructure Note (September 2021)

TECHNICAL NOTE

HIF1 PARAMICS MODELLING

FUTURE YEAR INFRASTRUCTURE NOTE

SUMMARY TABLE	
Client/Project owner	Oxfordshire County Council
Project	HIF1 Paramics Modelling
Title of Document	Future Year Infrastructure Note
Type of Document	Technical Note
Date	21/09/2021
Reference number	GB01T19H79/21/09/2021
Number of pages	53

1. INTRODUCTION

1.1.1 SYSTRA Ltd (SYSTRA) were commissioned by South Oxfordshire District Council (SODC) and Vale of White Horse District Council (VoWHDC) in partnership with Oxfordshire County Council (OCC) in 2017 to develop a base year (2017) Paramics Discovery traffic microsimulation model covering the wider Didcot area.

1.1.2 The subsequent development of this model is detailed in the report Didcot Microsimulation Base Model Development Report (SYSTRA, September 2018).

1.1.3 The model has subsequently been used to support OCC and AECOM in taking the proposed Housing Infrastructure Fund (HIF) schemes through the planning process.

1.1.4 Five model networks for various HIF related scenarios were developed to satisfy the study requirements, defined by OCC and AECOM, as below:

- 2020 "Base"
- 2024 with HIF infrastructure
- 2024 without HIF infrastructure
- 2034 with HIF infrastructure
- 2034 without HIF infrastructure

1.1.5 Images of the full networks are shown in Appendix A.

1.1.6 Full details of the traffic demand forecasting can be found in *Didcot Garden Town Paramics Model, Future Year Forecasting Note (September 2021)*.

2. INFRASTRUCTURE CHANGES

2.1 2020 Base

2.1.1 The and 2020 Base model network was created from the 2017 Base network, with the addition of the following infrastructure schemes:

- Harwell Link Road – as per as built drawing
- A4185 Newbury Road/Thompson Avenue signals – as per drawing:
  - 60552579-HARWELL-SHE-SIG-01

2.1.2 Alterations were made to coded model speed limits at the following locations to reflect changes made since 2017:

- Chilton Interchange
- Chilton Road
- B4493 Didcot Road at Harwell Link Road
- Great Western Park
- A417 at East Hendred
- Milton Road
- A4130
- A415 at Culham

2.1.3 Images of the speed limits by link are shown in Appendix B.

2.1.4 The speed limits between 2024 with HIF to 2034 with HIF, and between 2024 without HIF to 2034 without HIF do not change. However, additional schemes are included in the 2034 networks, as described below.

2.1.5 Additional network detail was included at the following locations:

- Milton Hill – Between Trenchard Avenue and A4130 Abingdon Road
- Clifton Hampden High Street – Between High Street and A415 Abingdon Road
- Harwell Campus – internal site detail

2.2 2024 with HIF infrastructure and 2024 without HIF infrastructure

2.2.1 The 2024 with HIF infrastructure and 2024 without HIF infrastructure models include the following infrastructure schemes in addition to those included in the 2020 Base:

- Power Station/Manor Bridge Roundabout improvements, a developer promoted scheme (see Figure 1) – as per drawings:
  - P17190_701_P3
  - P17190_702_P2
- Featherbed Lane Improvements which includes realignment of Featherbed Lane, a roundabout at the junction with the A417 and a signalised junction with the A4130. (see Figure 2) – as per drawings:
  - FBLN-ATK-HGN-ZZ-DR-D-0002-C1
  - FBLN-ATK-HGN-ZZ-DR-D-0003- C1
  - FBLN-ATK-HGN-ZZ-DR-D-0004- C1
  - FBLN-ATK-HGN-ZZ-DR-D-0005- CA
  - FBLN-ATK-HGN-ZZ-DR-D-0006-C3
  - FBLN-ATK-HGN-ZZ-DR-D-0007- C3
  - FBLN-ATK-HGN-ZZ-DR-D-0008- C3
- NPR3 (see Figure 3) – as per drawings:
  - Didcot Perimeter Road Phase 3 – General Arrangement Plan

    - Didcot Perimeter Road Phase 3 – A4130/B4016 North Roundabout
    - DIDNPR3-ATK-HML-ZZ-DR-D
- Eastbound widening of A4130 between Steventon Lights and Milton Interchange and signalised junction at Trenchard Avenue (see Figure 4) – junction as per drawing and widening on instruction from OCC
    - IBH0582/2010
- Park Drive/High Street junction alteration which includes making High Street left in only at Park Drive with no access from High Street to Park Drive. There is a replacement link road between High Street and Western Avenue located approximately 100m to the north of Park Drive (see Figure 5) – as per instruction from OCC
- Signalised one way shuttle working on the B4016, of approximately 150m, over the bridge adjacent to Appleford Rail Station (see Figure 6)
- Various development access, discussed in detail in Section 3.

Figure 1. Power Station/Manor Bridge Roundabout Improvements

Figure 2. Featherbed Lane Improvements

Figure 3. NPR3

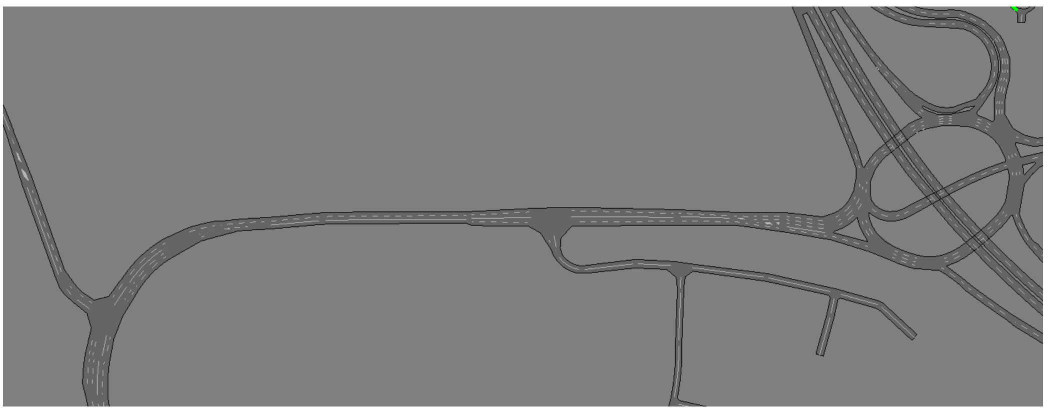

Figure 4. Eastbound A4130 Widening between Steventon Lights and Milton Interchange

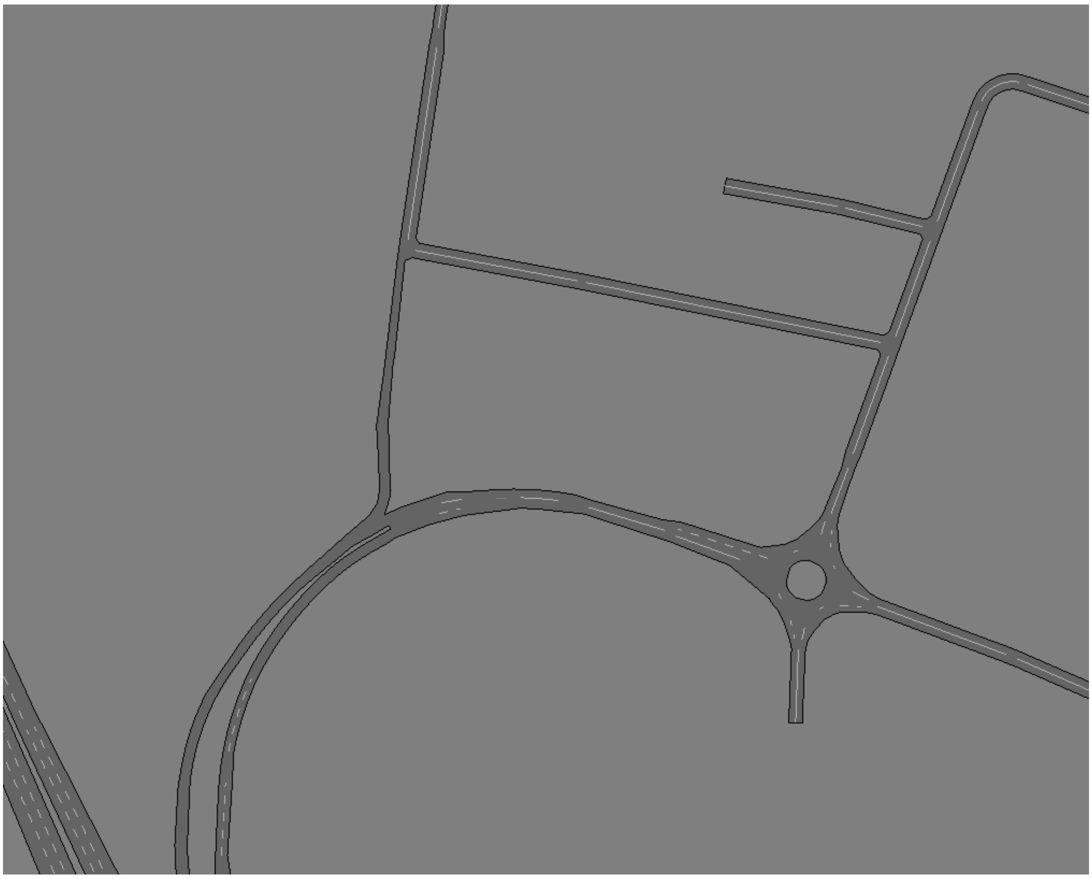

Figure 5. Park Drive/High Street junction alteration

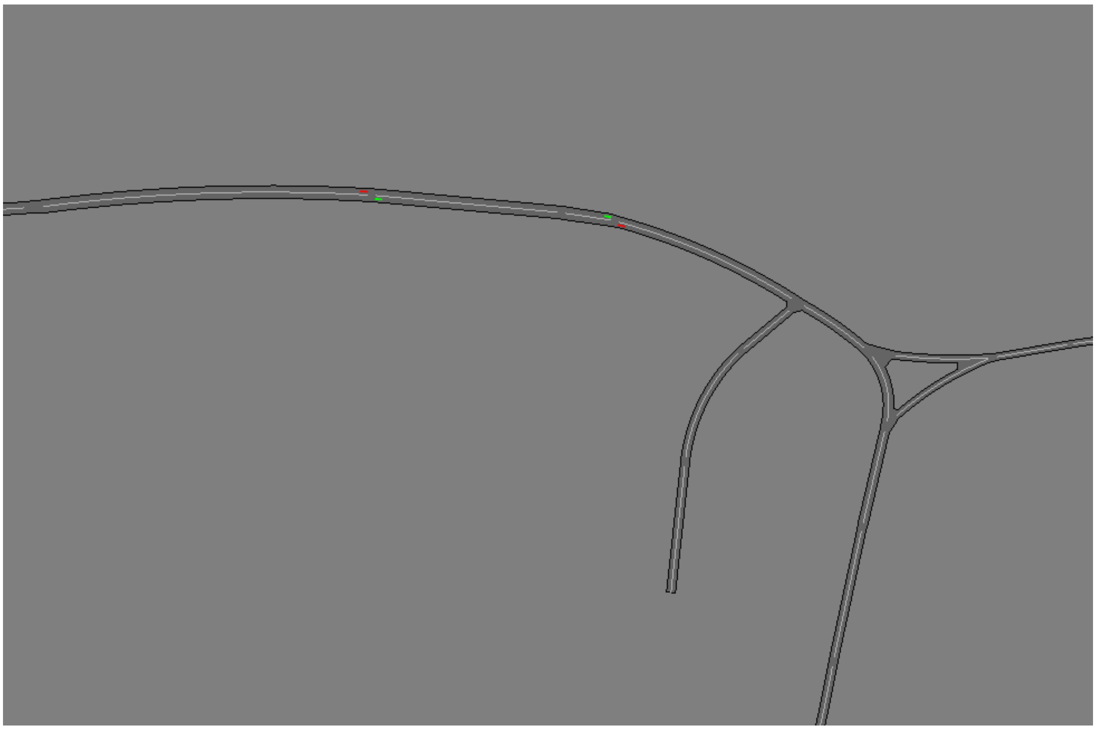

Figure 6. Appleford Shuttle Signals

2.3 2034 with HIF infrastructure and 2034 without HIF infrastructure

2.3.1 The 2034 with HIF infrastructure and 2034 without HIF infrastructure include the following infrastructure schemes in addition to those included in the 2020 Base and the 2024 with and without HIF models:

- Valley Park Spine Road (see Figure 7) – as per drawings:
  - 8106-0039-33 Illustrative Masterplan
  - 8106-0044-18 Illustrative Access & Movement Plan
  - 10219 - HL - 16A A4130 Western Access Junction
  - 10219 - HL - 61E B4493 Southern Site Access
  - Link between Valley Park and Great Western Park has been removed
- Milton Interchange improvements, including a dedicated left turn slip from A4130 west to A34 Northbound on slip and some widening of the circulating carriageway, this is a developer promoted scheme (see Figure 8) – as per drawings:
  - 10219-HL-80-B A34 Milton Hill Interchange Additional improvements
- Rowstock Bypass (see Figure 9) – as per instruction from OCC
- Chilton Interchange Signals, the signalisation of the A34 northbound offslip and the A4185 roundabout (Figure 10) – as per instruction from OCC
- Goldenballs Improvements, note no scheme was explicitly included here but simply the delay at the junction removed in the model so that it does not affect assessment of the HIF schemes (see Figure 11) – as per instruction from OCC
- Milton Road/Park Drive/Sutton Courtenay Road junction alteration, the roundabout is removed and replaced with a priority junction with the Milton Road-Park Drive movement having priority (see Figure 12) – as per instruction from OCC.
- Various development access, discussed in detail in Section 3.

Figure 7. Valley Park Spine Road

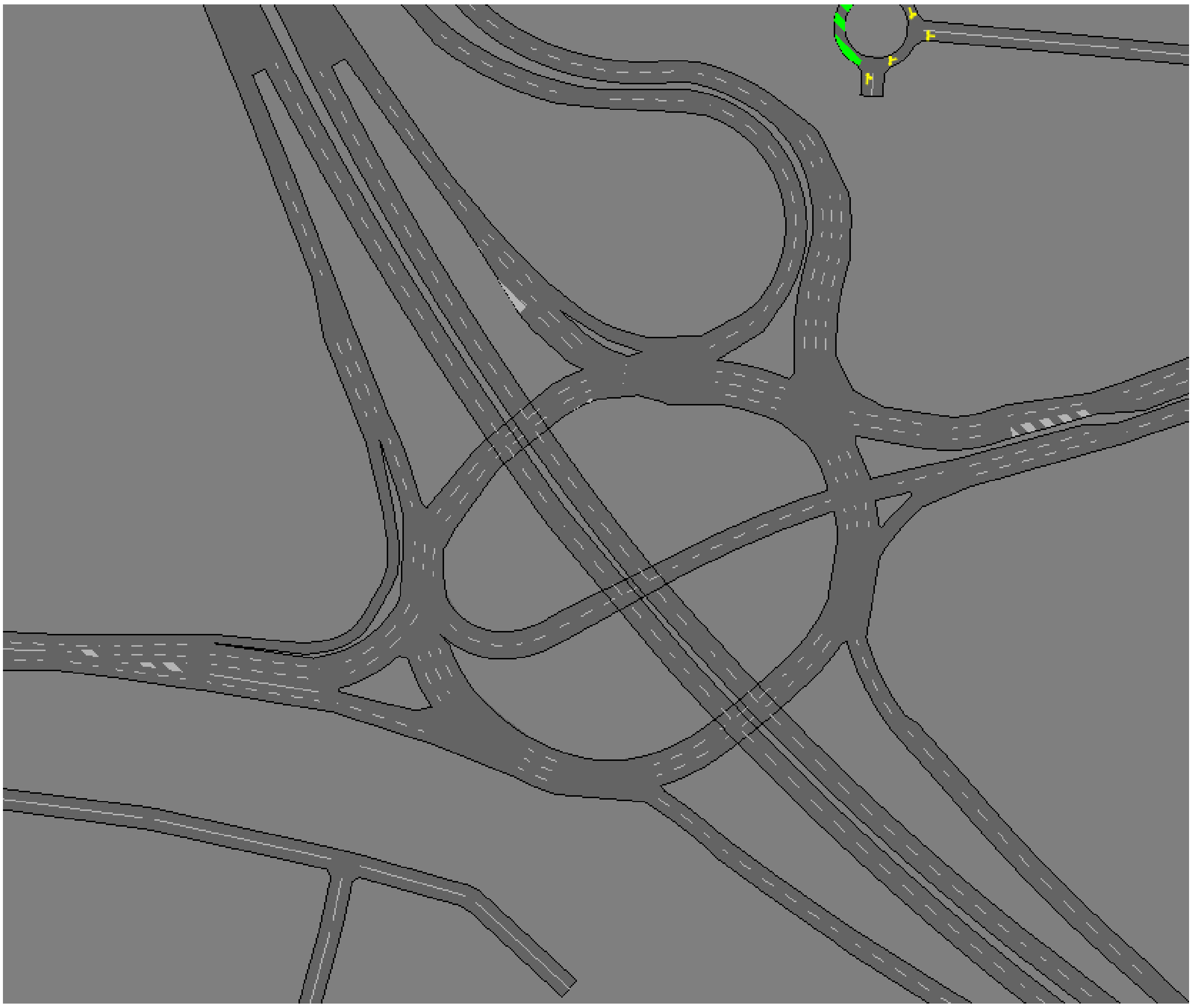

Figure 8. Milton Interchange Improvements

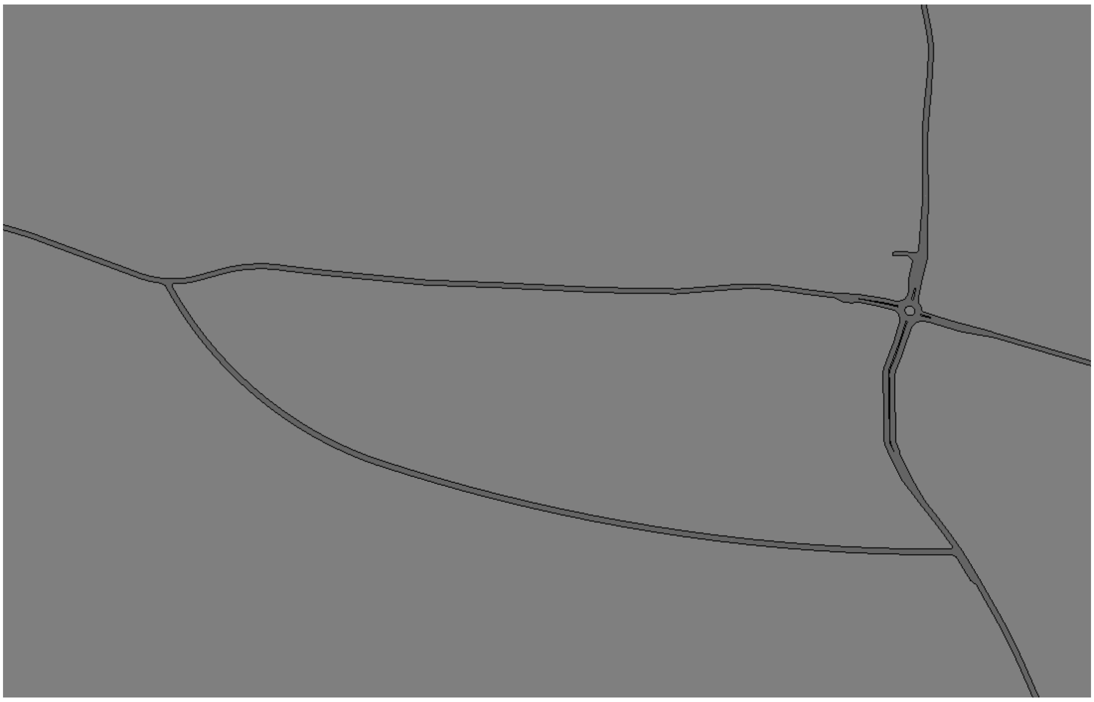

Figure 9. Rowstock Bypass

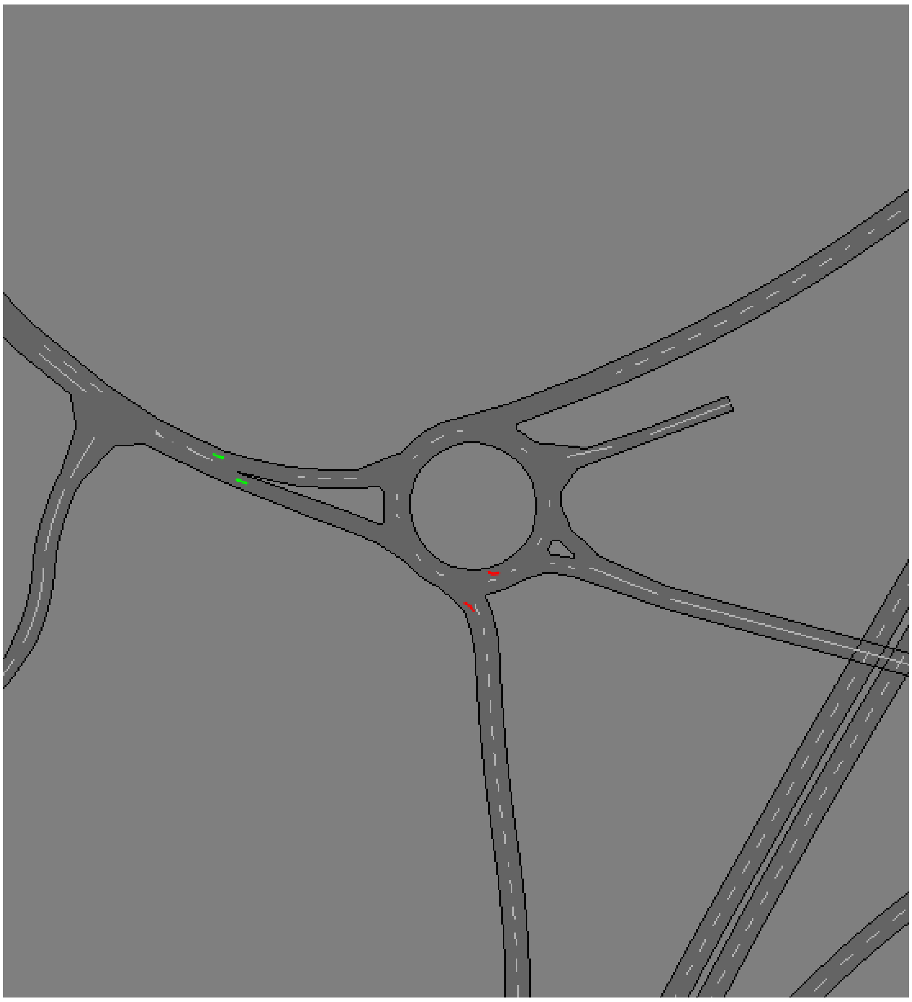

Figure 10. Chilton Interchange Signals

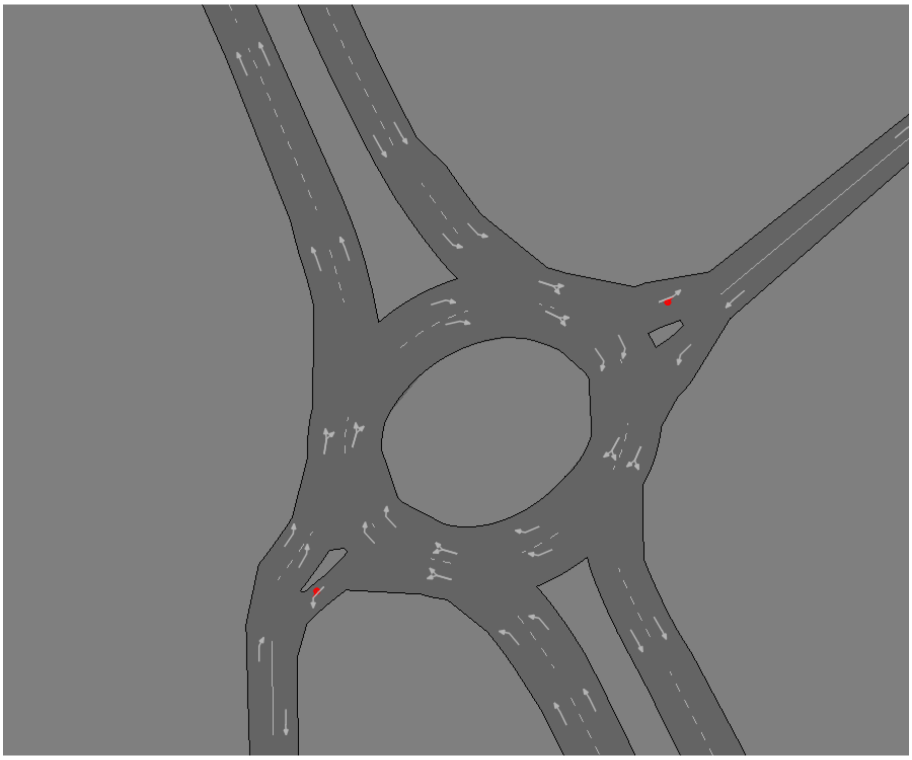

Figure 11. Goldenballs Improvements

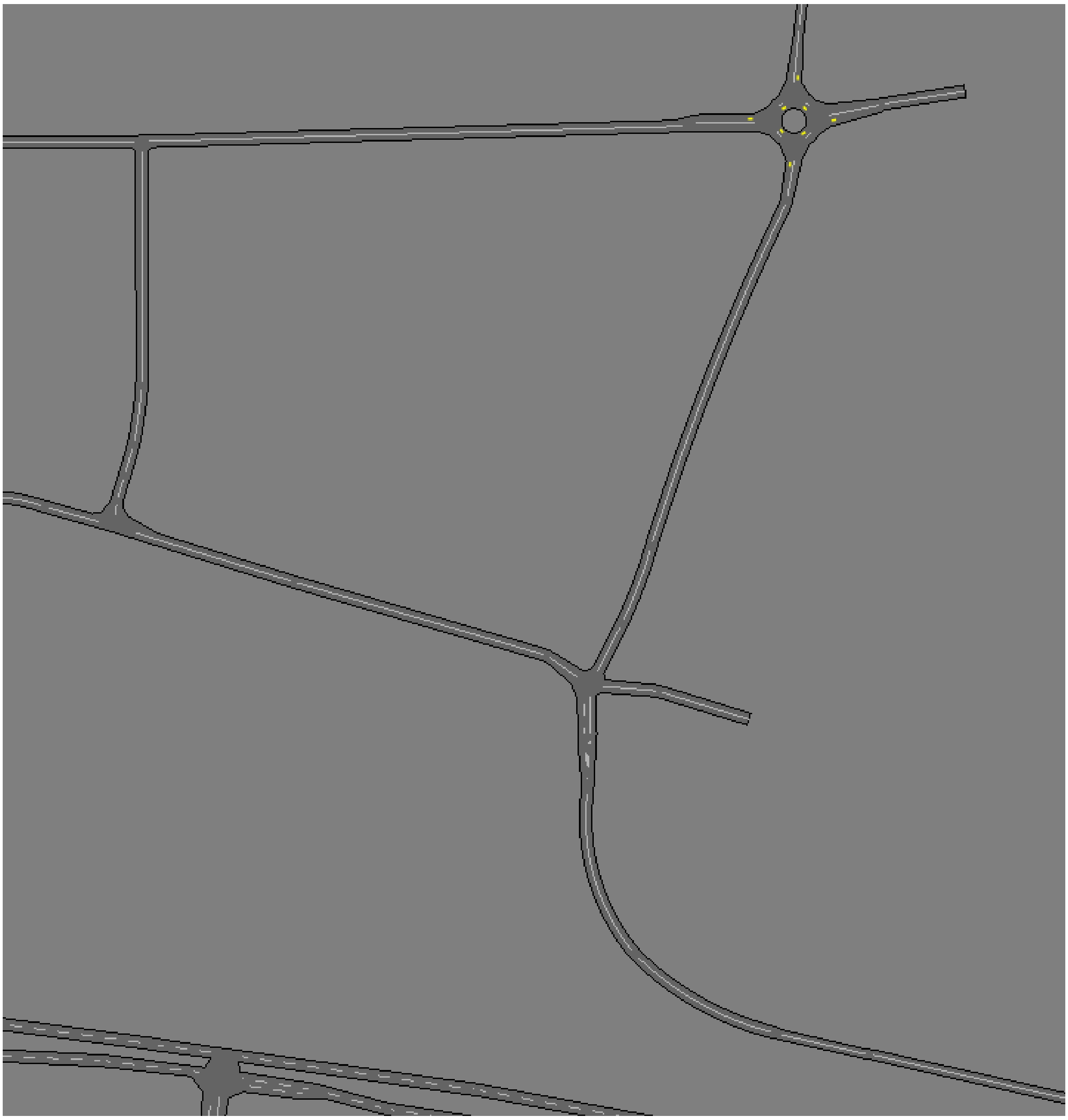

Figure 12. Milton Road/Park Drive/Sutton Courtenay Road junction alteration

2.4 Housing Infrastructure Fund (HIF) schemes

2.4.1 The Housing Infrastructure Fund (HIF) schemes which are included in 2024 with HIF infrastructure and 2034 with HIF infrastructure are as follows:

- A4130 Widening as per drawing:
  - WID_PD-ACM-HKF-SW_ZZ_ZZ_ZZ-M2-CH-1101
- Didcot Science Bridge – as per drawing:
  - DSB_PD-ACM-HKF-SW_ZZ_ZZ_ZZ-M2-CH-1102
- Didcot to Culham River Crossing – as per drawing provided by OCC
- Clifton Hampden Bypass – as per drawing:
  - CHB_PD-ACM-HML-SW_ZZ_ZZ_ZZ-M2-CH-1001

3. DEVELOPMENT ACCESS ARRANGEMENTS

The residential developments that have been included in the future year modelling are shown in Table 1.

Table 1. Residential Developments

Paramics Zone	Development
125	Ladygrove East - Land off A4130, Hadden Hill, Didcot
128	Long Reach, Didcot Road, Harwell, DIDCOT, OX11 6DW
129	Land Adjacent to the Village Hall Main Road East Hagbourne
130	Land at Didcot Road, Great Western Park
131	Land off fieldside track, Long Wittenham, OX14 4PZ
137	Land to the south of Blenheim Hill Harwell Oxon OX11 0DS
139	Land at Barnett Road Steventon OX13 6AJ
140	Land south of Appleford Road, Sutton Courtenay (Major Ameys Site) Phase 1
143	Land at Abingdon Road Steventon
144	Land to south of Hadden Hill Didcot
145	Land to the West of Great Western Park (Valley Park) Didcot
146	Land at Reading Road Harwell OX11 0LW
147	Land at former Didcot A Power Station Purchas Road Didcot
148	Didcot Gateway South
149	Land North of Grove Road Harwell (Allocation - Site 10)
150	Land off Hanney Road Steventon OX13 6AS
151	Land to the north east of Didcot
152	Land north of Appleford Road
153	Land off Drayton Road, Milton, OX14 4EU
154	Land to north of Manor Close Chilton DIDCOT OX11 0SS
155	Land to the South of A4130 Didcot
156	Milton Heights (Allocation - Site 9)
157	Land at Milton Hill, Milton Heights, Milton, ABINGDON, OX14 4DR
158	East of Sutton Courtenay (Allocation - Site 5)
159	Chailey House Bessels Way Blewbury Didcot OX11 9NJ
160	Land adjacent Culham Science centre
161	Great Western Park
162	Orchard Centre Phase 2
163	North West Valley Park (Allocation - Site 8)
164	Vauxhall Baracks
165	Land at Berinsfeld

The employment developments that have been included in the future year modelling are shown in Table 2.

Table 2. Employment Developments

Paramics Zone	Development
167	Southmead Industrial Estate
168	Culham Science Centre
169	Land West of CSC Inc No.1 Site
170	Berinsfield Regerneration
171	Milton Park
172	Harwell Campus
174	Other Premises Adjacent to Didcot Power Station - Diageo
175	Didcot A
176	Milton Hill Business and Technology Park
177	D-Tech- EZ 2
178	Milton Interchange Site- EZ2

The access arrangements for each of these developments are described below. The majority of the developments have the same access arrangements across all of the models, in some locations the access arrangements differ if HIF infrastructure is in place, these are noted below.

Where a development includes a spine road which forms a route through the site it is assumed that this cannot be used as a through route for general traffic and is only for development access unless otherwise stated.

3.1 Residential Developments

3.1.1 Zone 125 – Ladygrove East

Development trips access the model network on an internal development spine road which links NPR3 with the A4130 Hadden Hill. The junctions at either end of the spine road are roundabouts. See Figure 13.

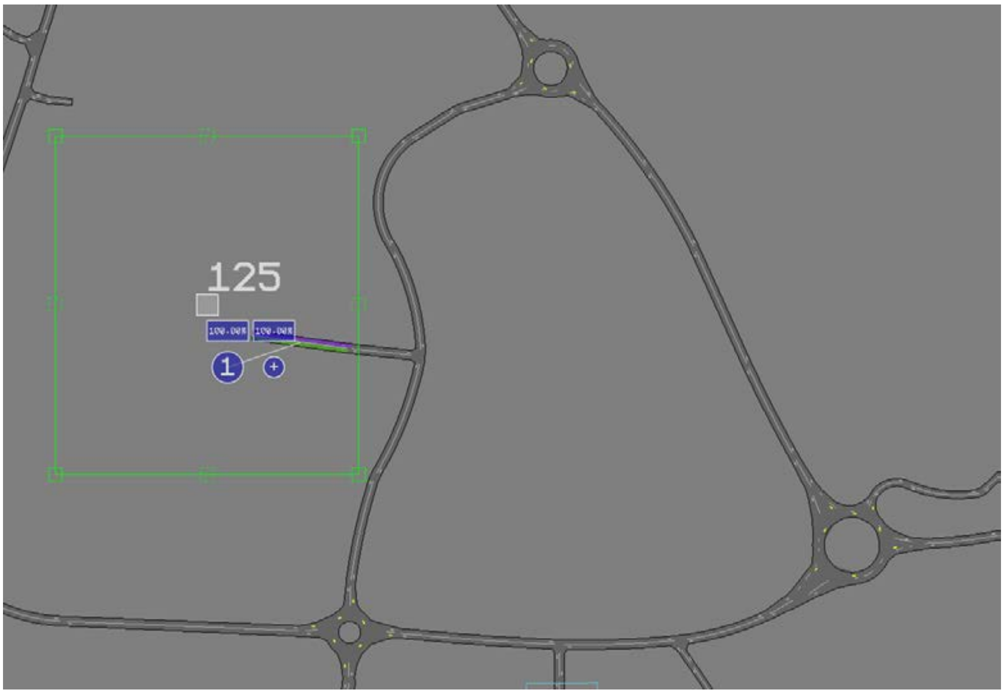

Figure 13. Ladygrove East Accesses

3.1.2 Zone 128 – Long Reach

Development trips access the model network at a simple T-junction on Didcot Road B4493 approximately 180m west of Keats Drive. See Figure 14.

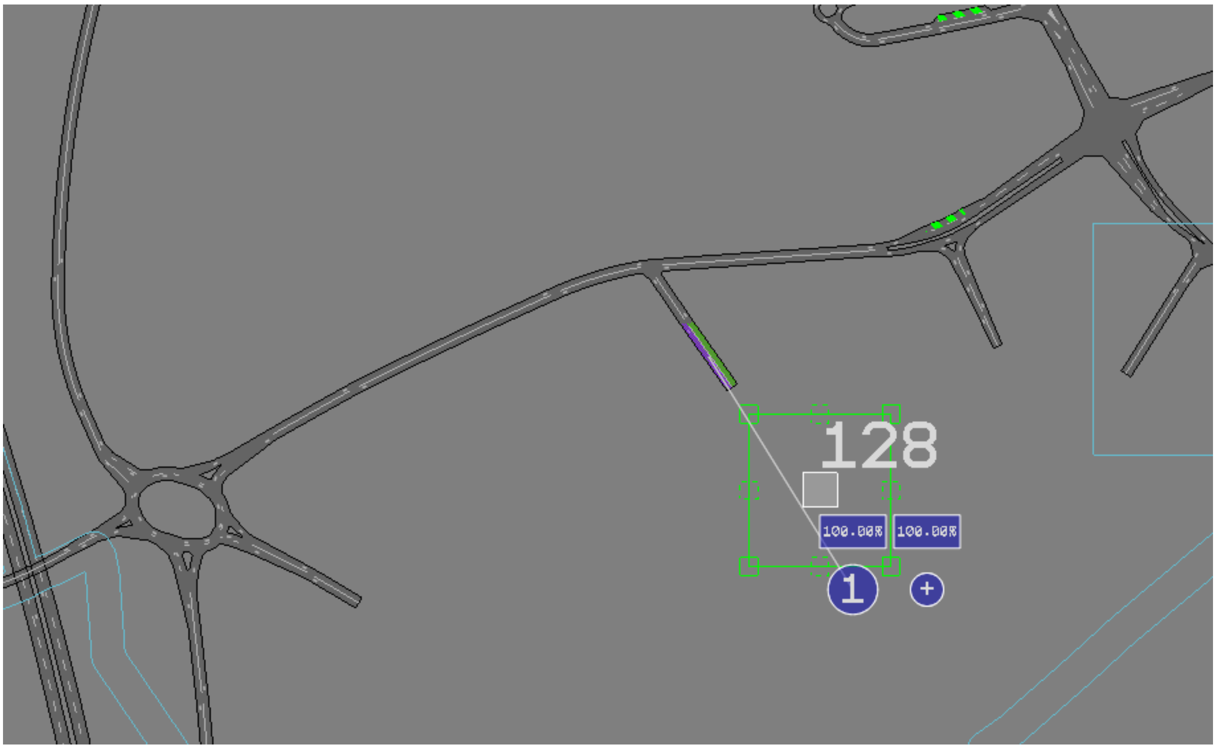

Figure 14. Long Reach Access

3.1.3 Zone 129 - Land Adjacent to the Village Hall

Development trips access the model network at a simple T-junction on Main Road approximately 160m west of Harwood Road. See Figure 15.

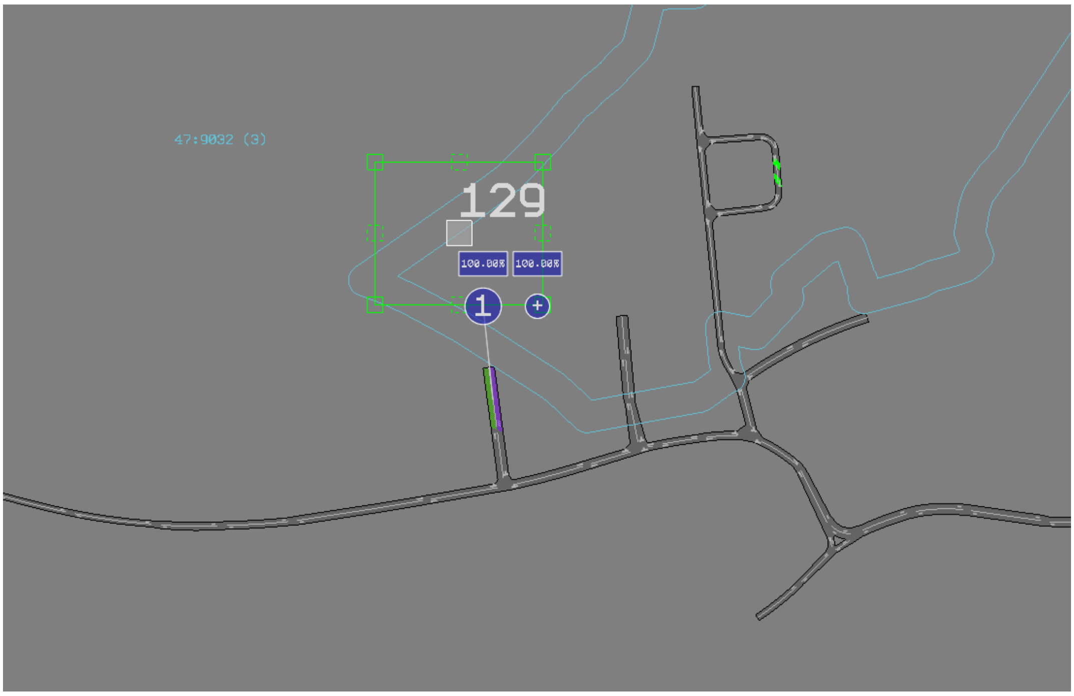

Figure 15. Land Adjacent to the Village Hall

3.1.4 Zone 130 – Land at Didcot Road, Great Western Park

Development trips access the model network at 7 locations with the trips being split on a percentage basis. This zone is associated with the trips within the VoWHDC boundary (see Zone 161 for SODC). The percentages and locations are shown in Figure 16.

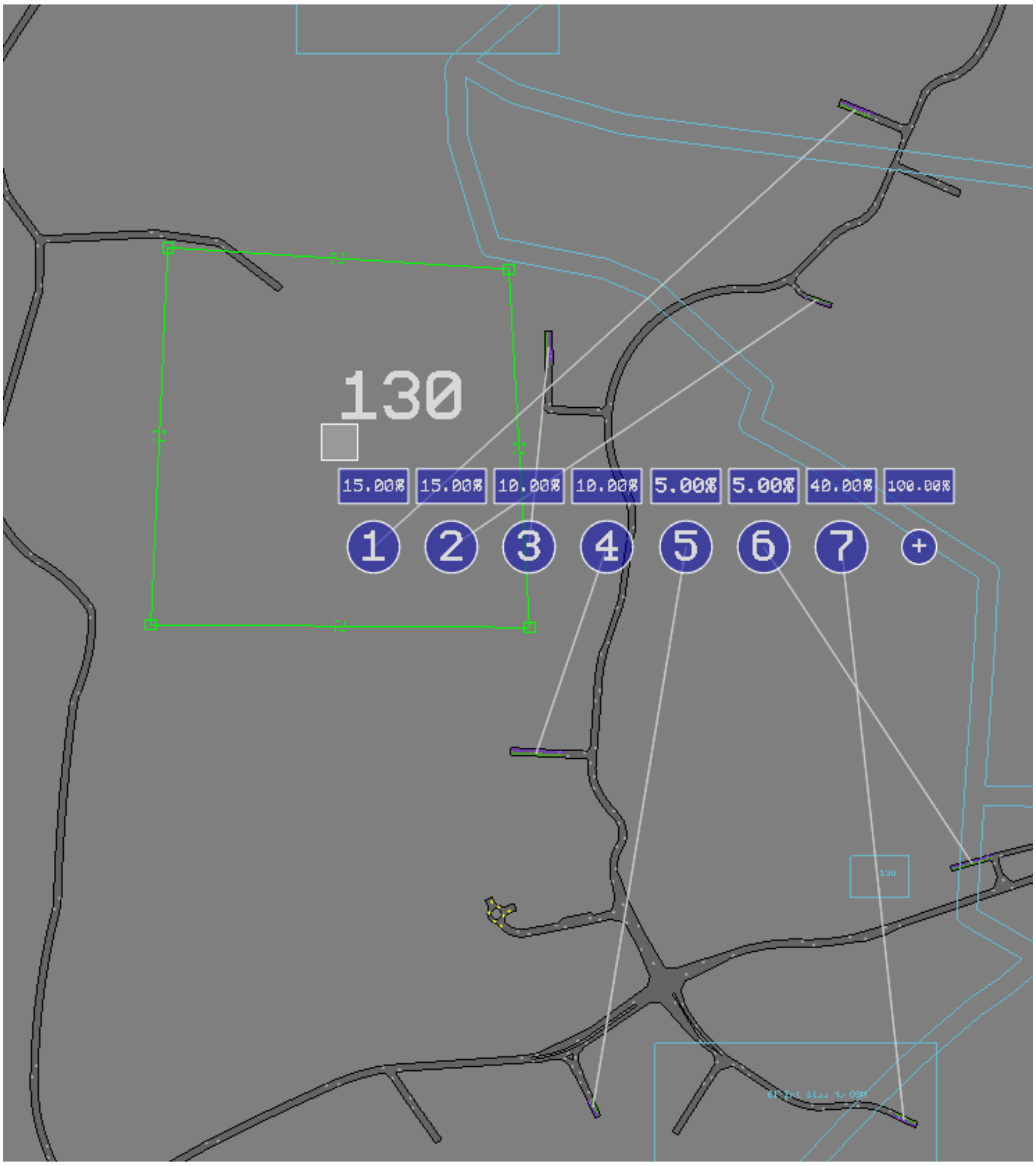

Figure 16. Land at Didcot Road, Great Western Park Accesses

3.1.5 Zone 131 - Land off Fieldside Track

Development trips access the model network at a simple T-junction on Didcot Road in Long Wittenham approximately 30m south of High Street. See Figure 17.

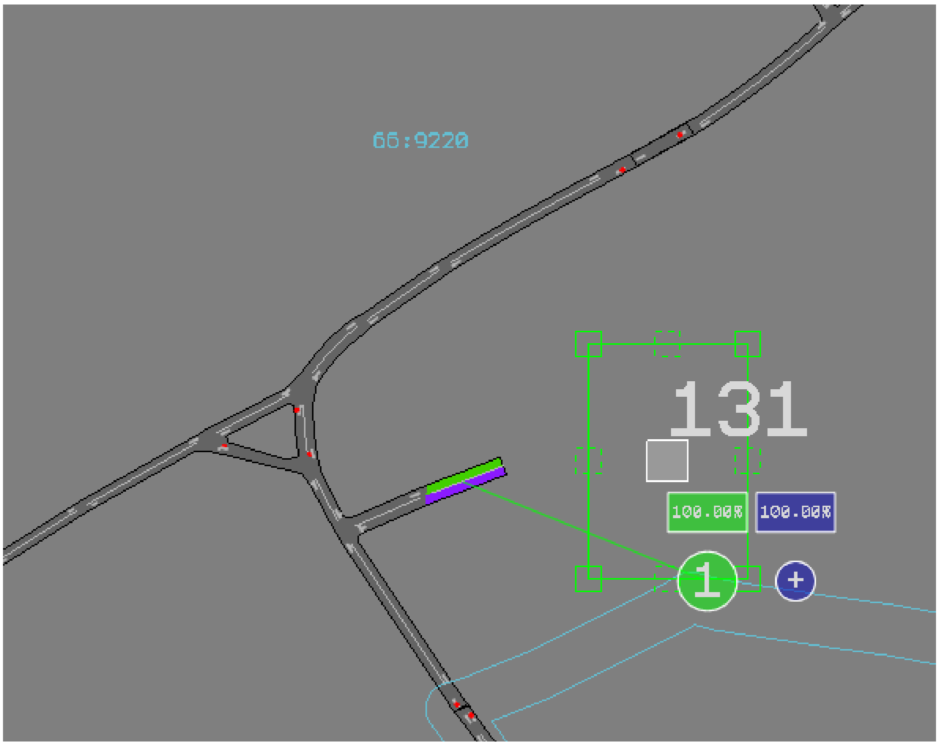

Figure 17. Land off Fieldside Track

3.1.6 Zone 137 – Land to the south of Blenheim Hill

Development trips access the model network at a simple T-junction on B4493 approximately 450m west of Harwell Link Road. See Figure 18.

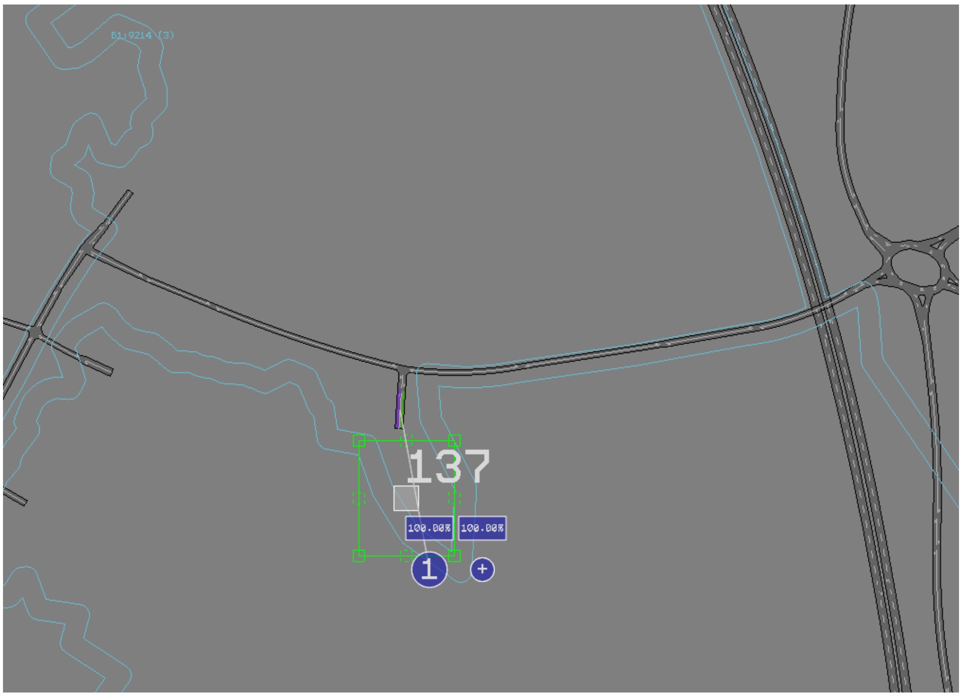

Figure 18. Land to the South of Blenheim Hill

3.1.7 Zone 139 – Land at Barnett Road

This development is located outside the coverage of the model and so trips access the model using the existing High Street, Steventon model links. See Figure 19.

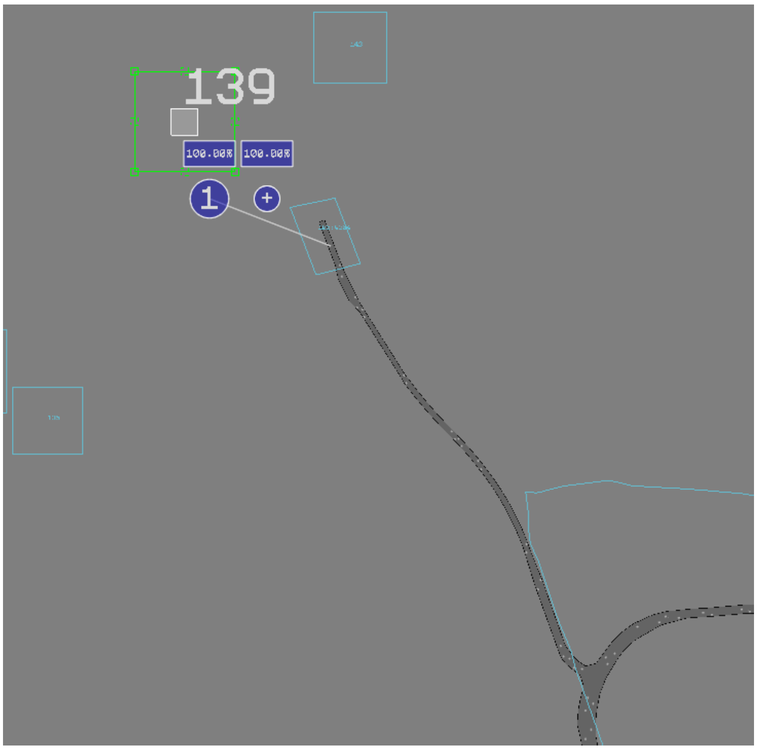

Figure 19. Land at Barnett Road

3.1.8 Zone 140 – Land south of Appleford Road

Development trips access the model network at two simple T-junctions on Appleford Road, east of Abingdon Road. The site is linked internally so vehicles can choose the most appropriate development access to use based on their origin/destination. This is shown in Figure 20.

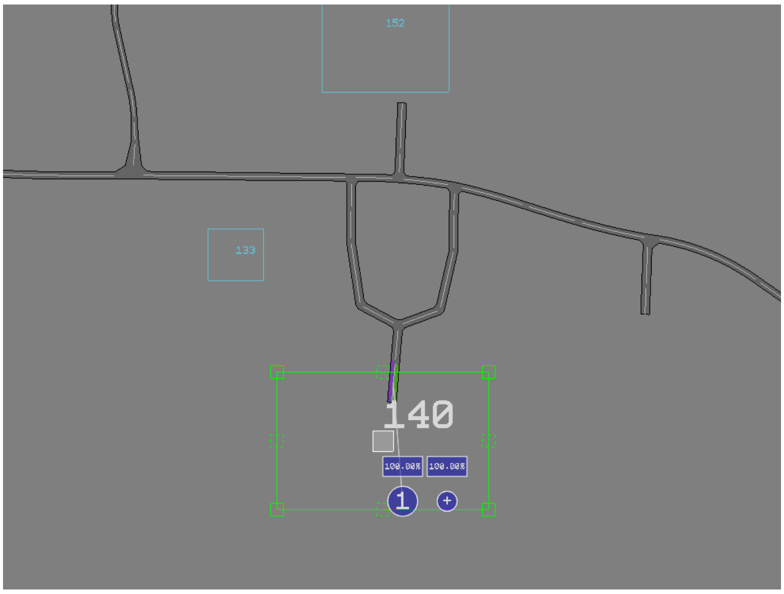

Figure 20. Land south of Appleford Road

3.1.9 Zone 143 – Land at Abingdon Road

This development is located outside the coverage of the model and so trips access the model using the existing High Street, Steventon model links. See Figure 21.

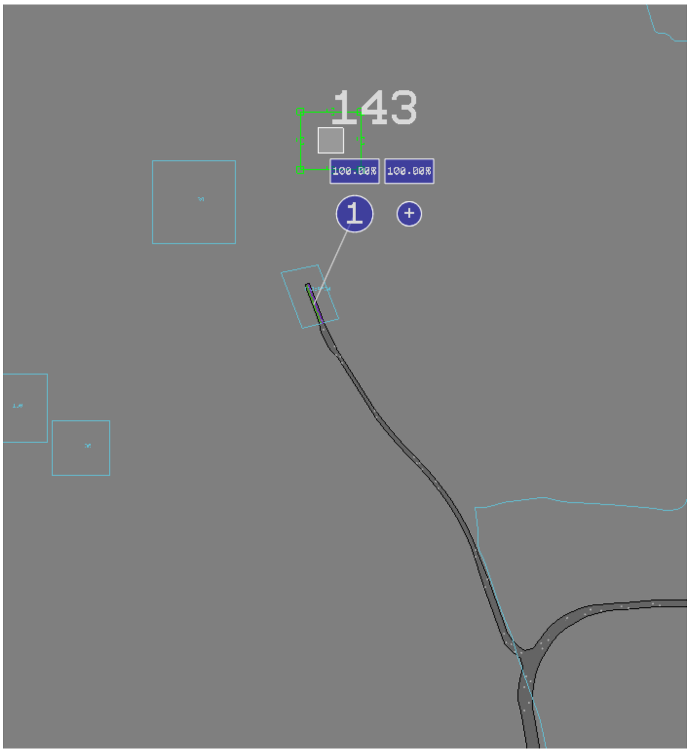

Figure 21. Land at Abingdon Road

3.1.10 Zone 144 – Land to the south of Hadden Hill

Development trips access the model network at a simple T-junction on A4130 Hadden Hill approximately 150m east of Tesco Roundabout. See Figure 22.

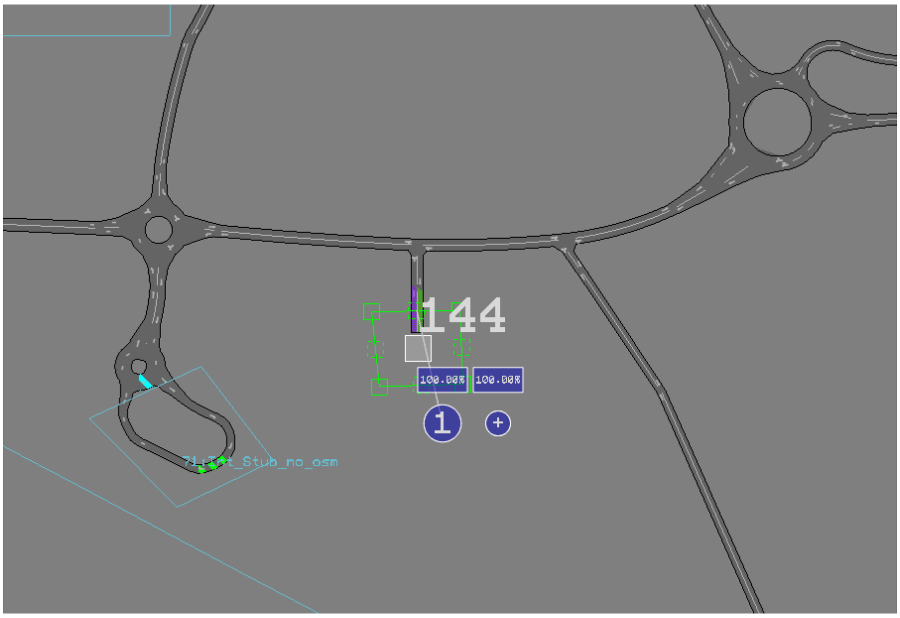

Figure 22. Land to the South of Hadden Hill

3.1.11 Zone 145 – Land to the West of Great Western Park

Development trips access the model network at 4 locations with the trips being split evenly between each access. The three northern accesses are simple T-junctions off Valley Park Spine Road and the southern access is on to the Harwell Link Road Roundabout. The percentages and locations are shown in Figure 23.

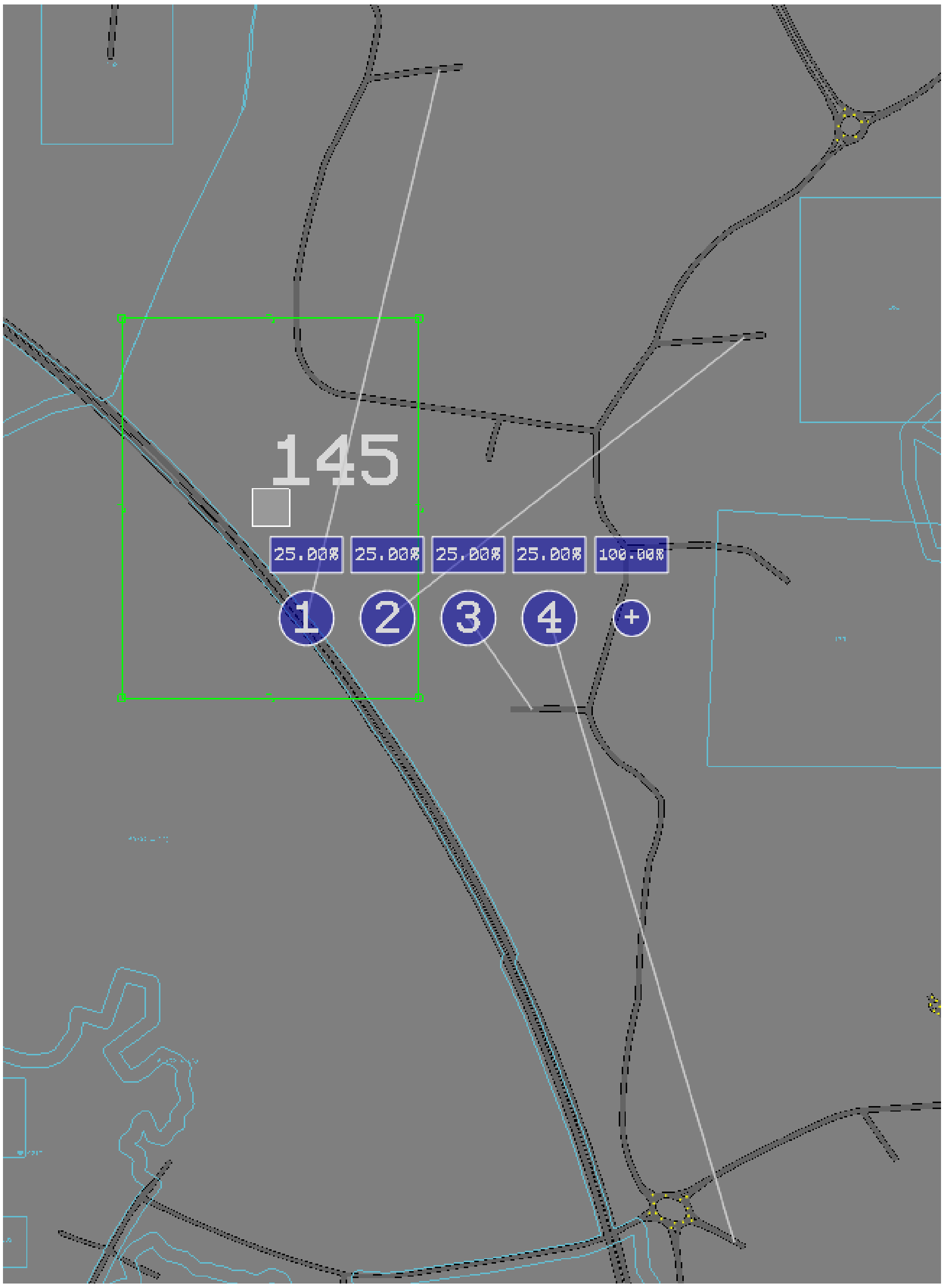

Figure 23. Land to the West of Great Western Park Accesses

3.1.12 Zone 146 - Land at Reading Road

Development trips access the model network at a simple T-junction on A417 Reading Road, approximately 140m east of Wantage Road. See Figure 24.

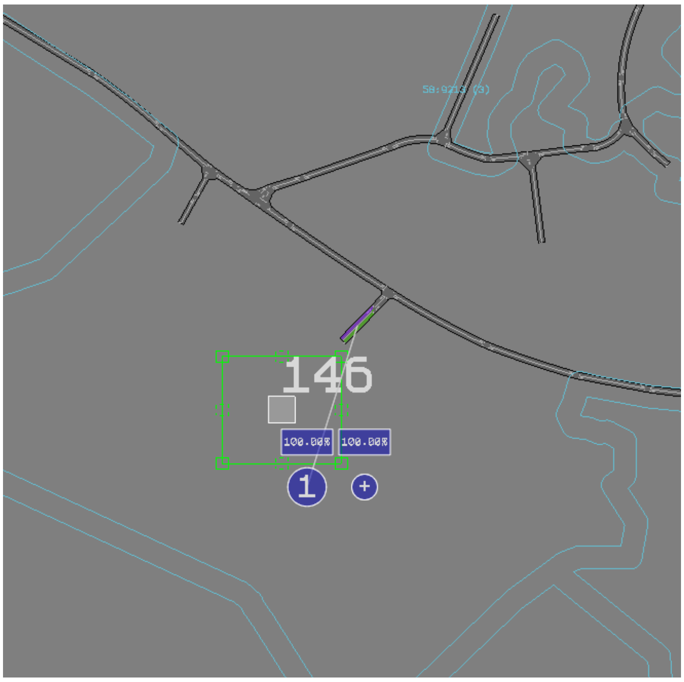

Figure 24. Land at Reading Road

3.1.13 Zone 147 – Land at Didcot A Power Station

In the models with HIF infrastructure in place, development trips access the model network on an internal development spine road which links the Science Bridge HIF scheme and the Power Station Roundabout. The access on to the Science Bridge scheme is a simple T-junction. Vehicles are allowed to use the modelled link between the Science Bridge scheme and the Power Station Roundabout as a through route. The layout is shown in Figure 25.

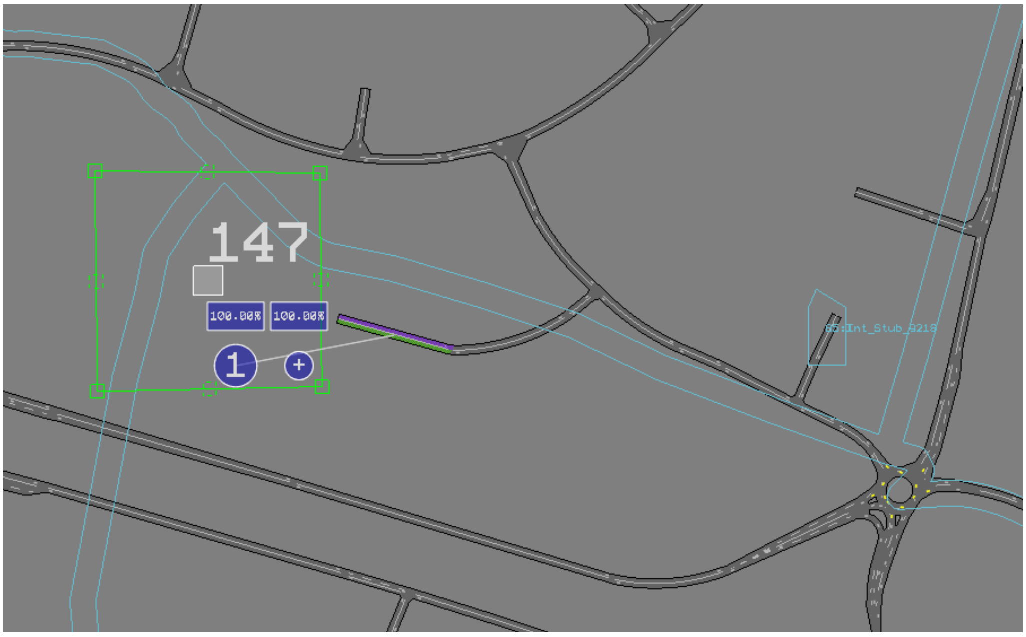

Figure 25. Land at Didcot A Power Station Accesses with HIF

In the models without HIF infrastructure in place, development trips access the model network on an internal development spine road which links Milton Road and the Power Station Roundabout. Vehicles are barred from using the access link as a through route. The layout is shown in Figure 26.

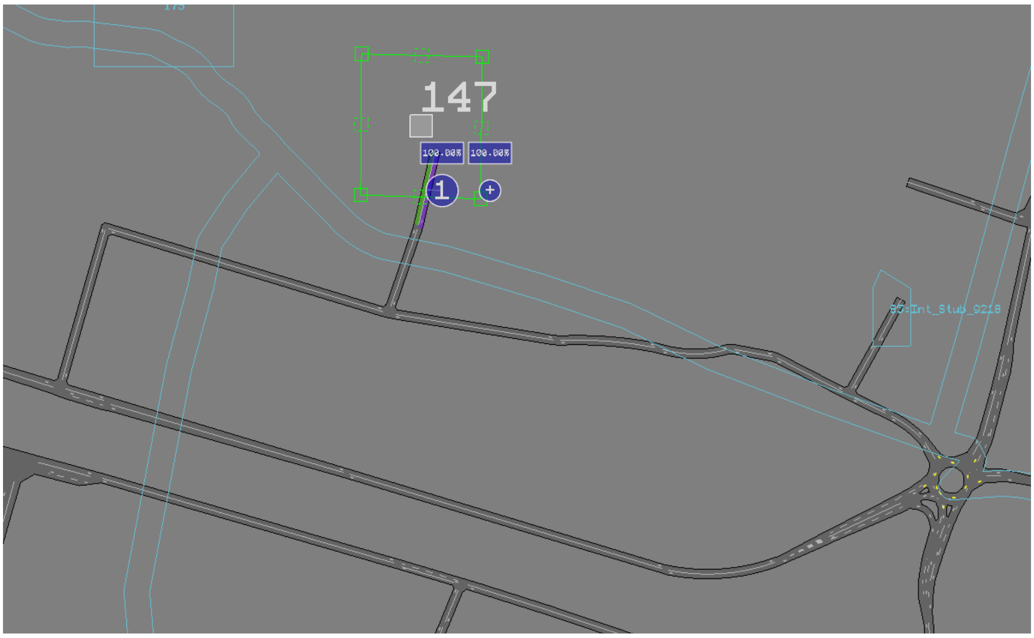

Figure 26. Land at Didcot A Power Station Accesses without HIF

3.1.14 Zone 148 – Didcot Gateway South

The development trips access the model network on a road through the development which joins Haydon Road with Lydalls Road. The junctions between the spine road and Haydon Road and Lydalls Road are both simple T-junctions. This is shown in Figure 27.

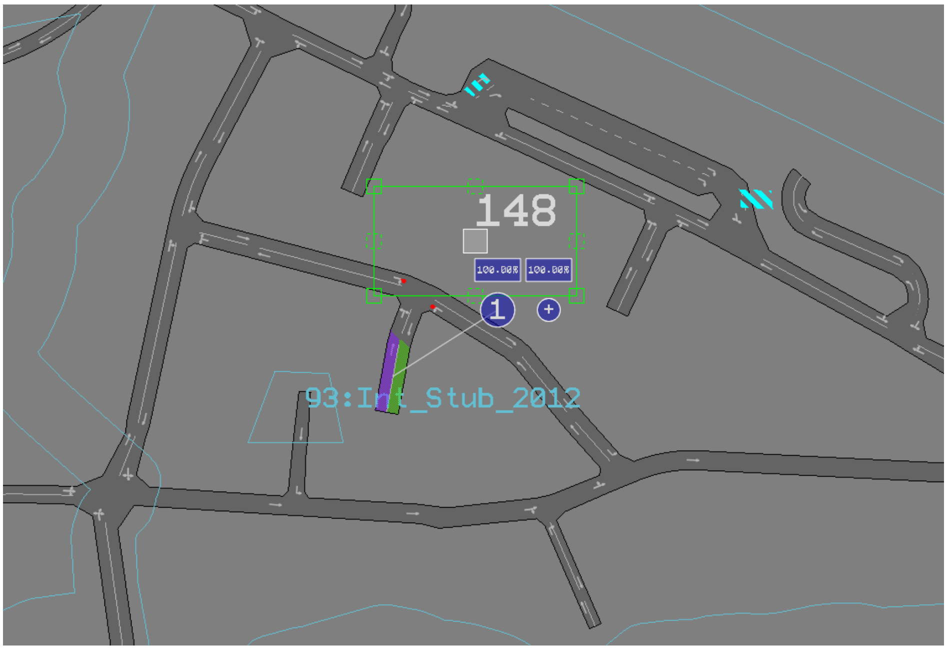

Figure 27. Didcot Gateway South Accesses

3.1.15 Zone 149 – Land North of Grove Road, Harwell

This development is located just outside the coverage of the model and so trips access the model using the existing Grove Road/B4493 junction. See Figure 28.

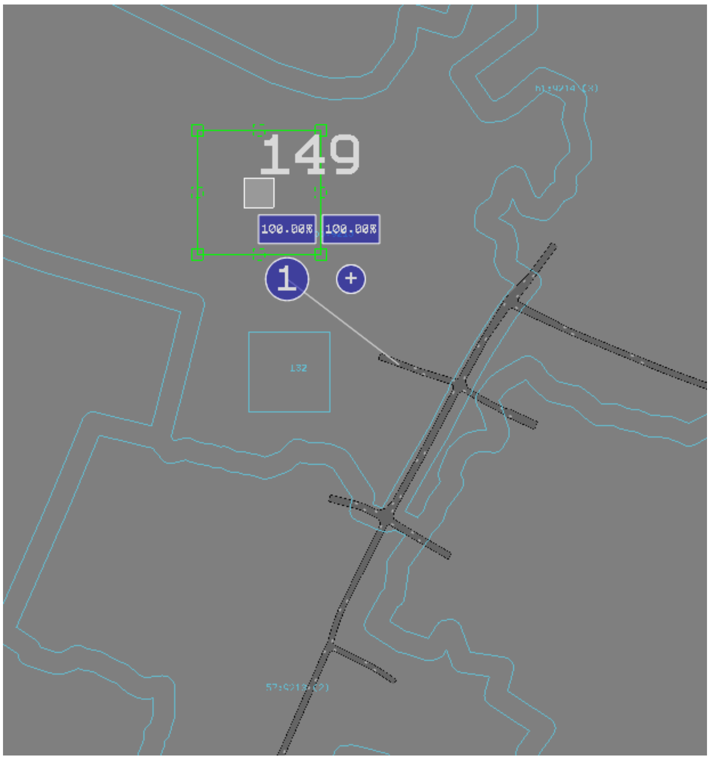

Figure 28. Land North of Grove Road, Harwell

3.1.16 Zone 150 – Land of Hanney Road, Steventon

This development is located outside the coverage of the model and so trips access the model using the existing High Street, Steventon model links. See Figure 29.

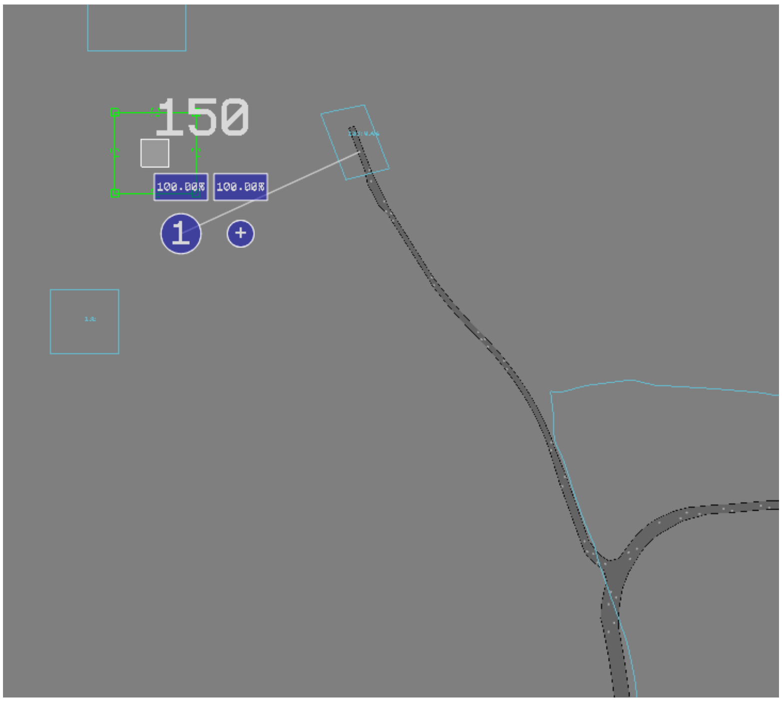

Figure 29. Land of Hanney Road, Steventon

3.1.17 Zone 151 – Land to the north east of Didcot

The development trips access the network split evenly between two locations that form part of an internal development network. The development network joins with the main network at four locations, two priority junctions with B4016 Lady Grove and at the Mersey Way and Avon Way roundabouts on the A4130 as shown in Figure 30.

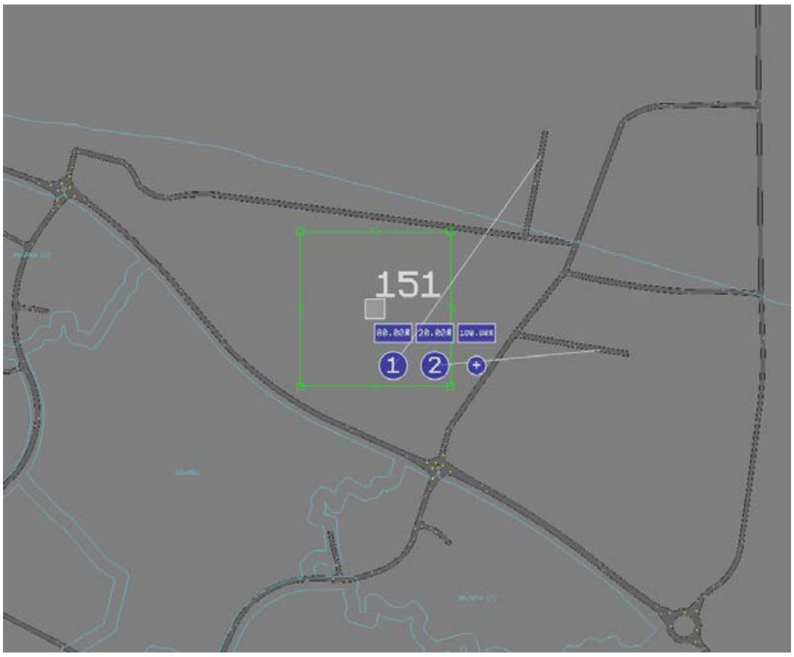

Figure 30. Land to the north east of Didcot Accesses

3.1.18 Zone 152 – Land north of Appleford Road

This development trips access the network using a simple T-junction with the B4016 Appleford Road which is located approximately 200m east of Abingdon Road. See Figure 31.

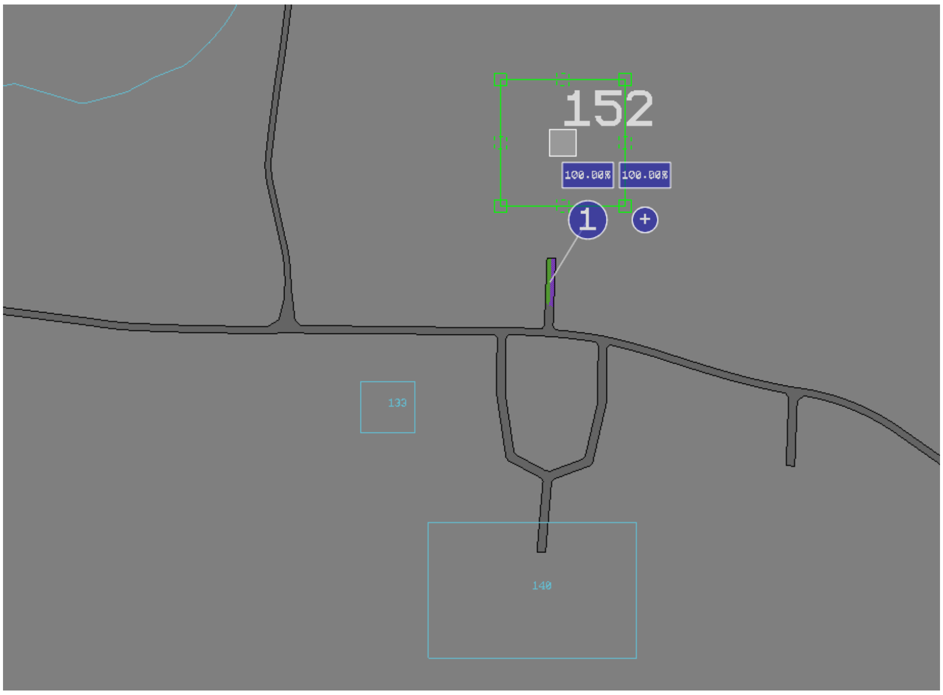

Figure 31. Land north of Appleford Road

3.1.19 Zone 153 – Land off Drayton Road, Milton

This development is located outside the coverage of the model and so trips access the model using the existing High Street at Milton, and Milton Road at Sutton Courtenay. Trips are split evenly between those access points onto the network. This is shown in Figure 32.

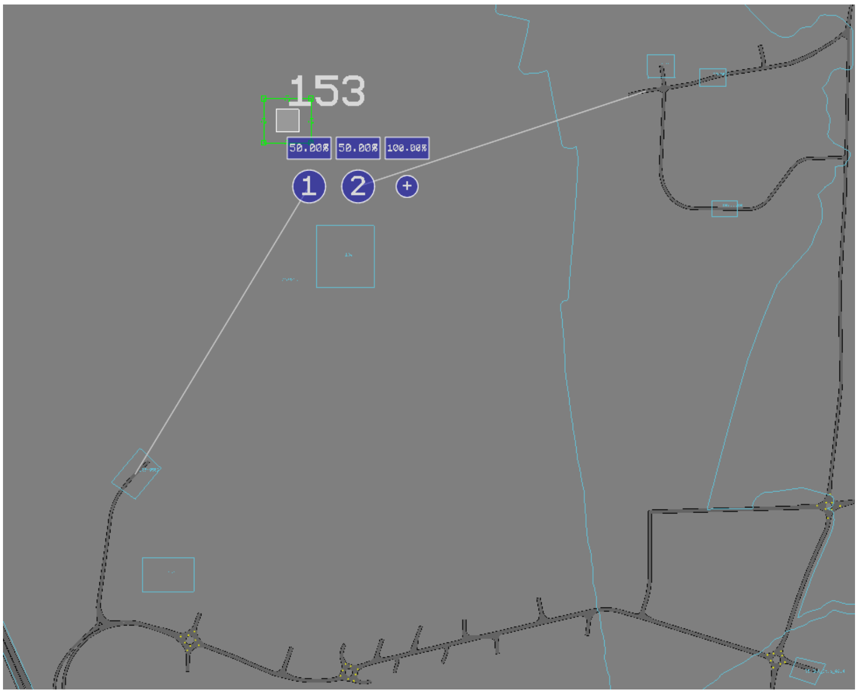

Figure 32. Land off Drayton Road, Milton Accesses

3.1.20 Zone 154 – Land to the north of Manor Close, Chilton

The development trips access the network using the existing Manor Close junction. See Figure 33.

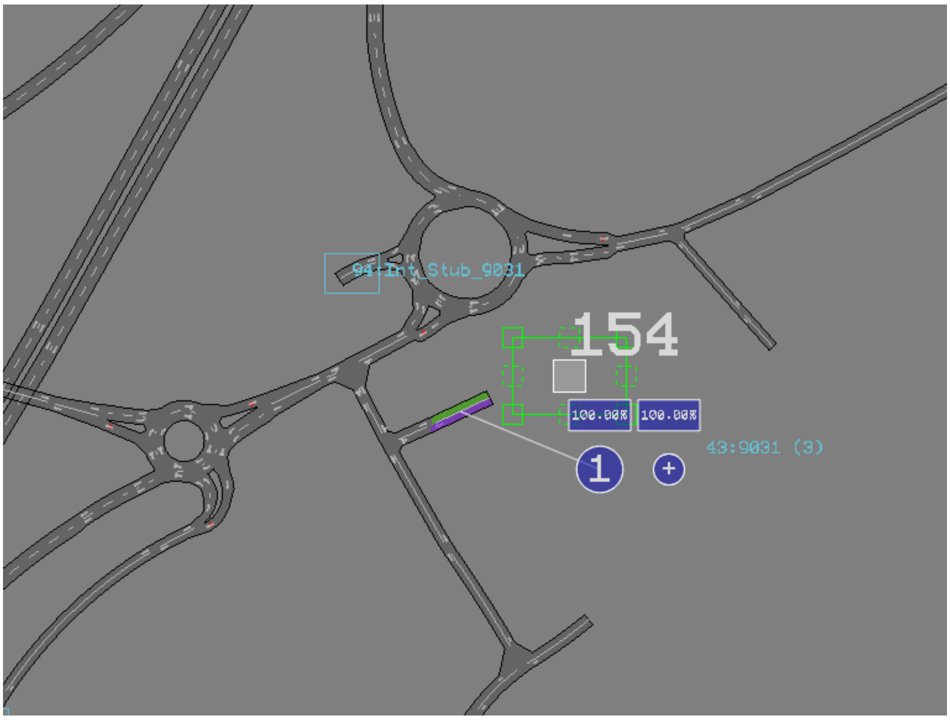

Figure 33. Land to the north of Manor Close, Chilton

3.1.21 Zone 155 – Land to the South of A4130 Didcot

Development trips access the model network at a simple T-junction on A4130, approximately 350m east of Sir Frank Williams Avenue. See Figure 34.

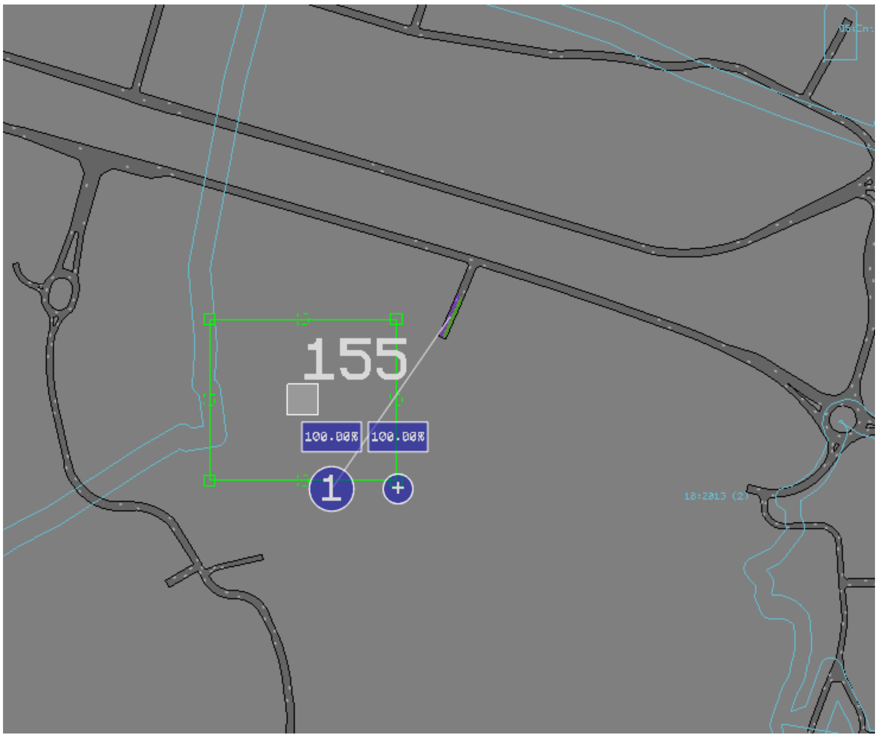

Figure 34. Land to the South of A4130 Didcot

3.1.22 Zone 156 – Milton Heights

Development trips access the model network at a simple T-junction on Milton Hill, approximately 375m south of Trenchard Avenue. See Figure 35.

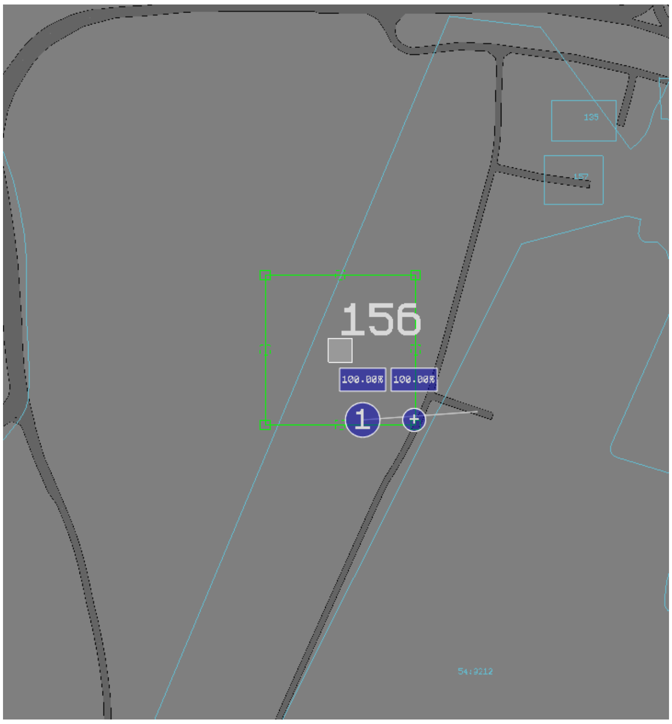

Figure 35. Milton Heights

3.1.23 Zone 157 – Land at Milton Hill, Milton Heights

Development trips access the model network at a simple T-junction on Milton Hill, approximately 120m south of Trenchard Avenue. See Figure 36.

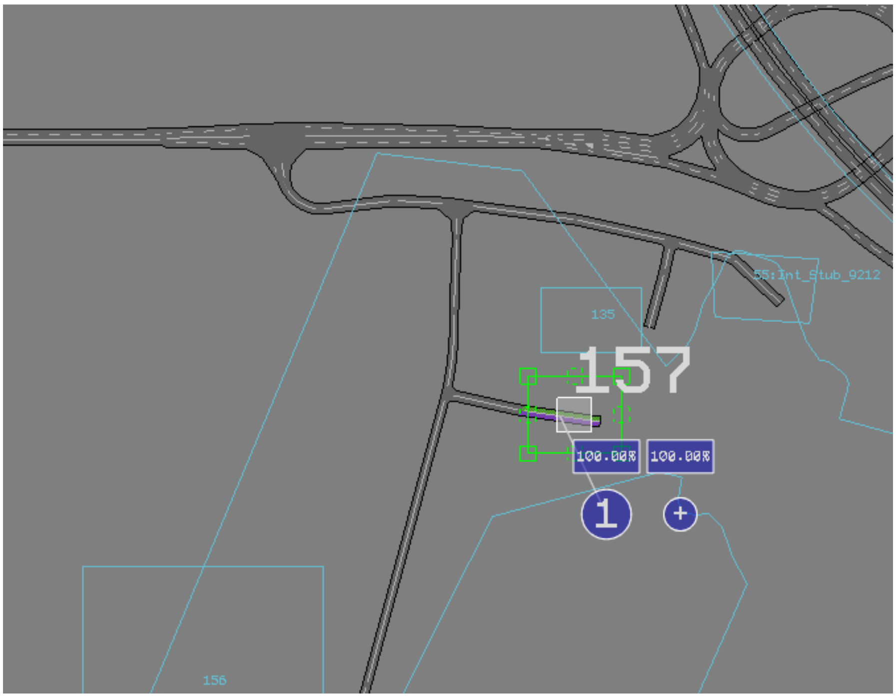

Figure 36. Land at Milton Hill, Milton Heights

3.1.24 Zone 158 – East of Sutton Courtenay

Development trips access the model on Frilsham Street at the existing junction with High Street. This is shown in Figure 37.

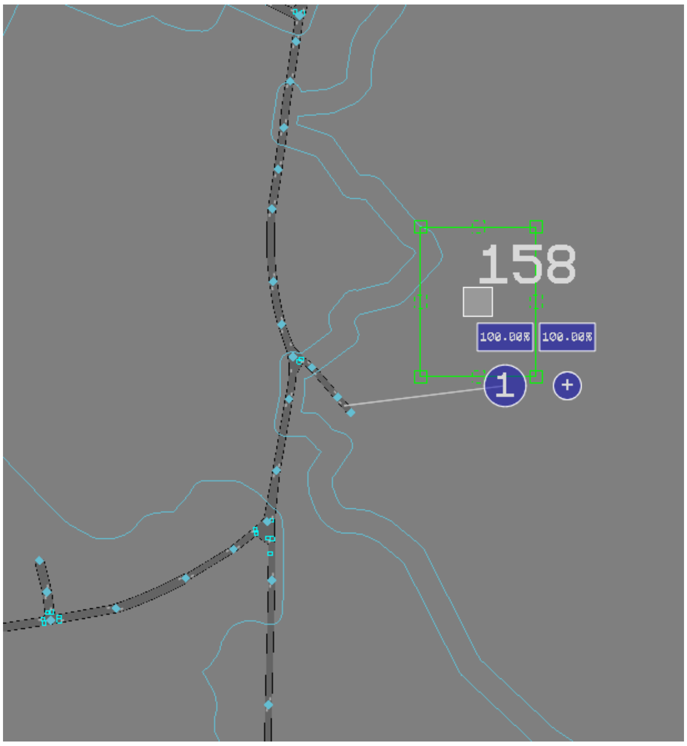

Figure 37. East of Sutton Courtney Access

3.1.25 Zone 159 – Chailey House, Bessels Way

Development trips access the model network at a simple T-junction on Bessels Way, approximately 275m north of Bessels Lea Road. See Figure 38.

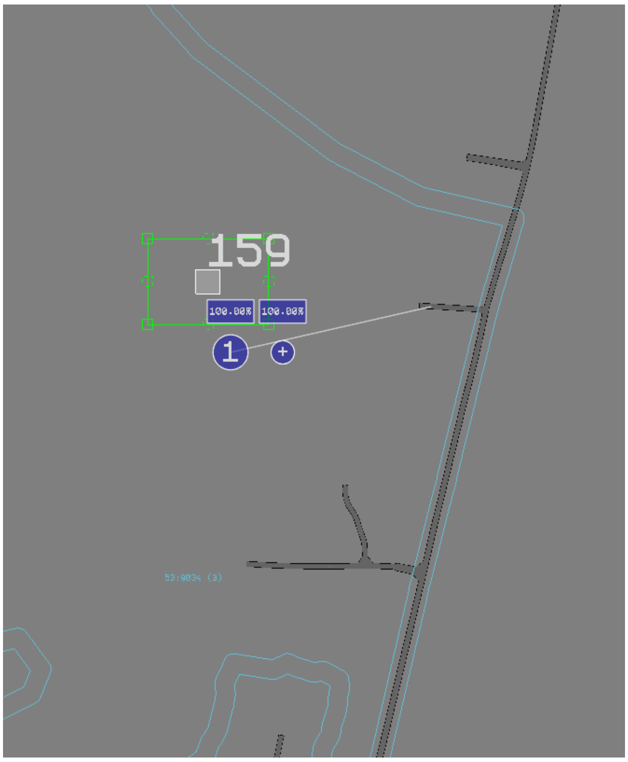

Figure 38. Chailey House, Bessels Way Access

3.1.26 Zone 160 – Land adjacent to Culham Science Centre

In the models with HIF infrastructure in place, the development trips access the network split between two main locations. 86% of the traffic access west of the railway line, and can access the network using either a ghost island right turn T-junction approximately 300m east of Thame Lane, the northern arm of the roundabout at the north end of the new Didcot to Culham River Crossing or a priority junction with Station Road approximately 70m north of the A415 (from where they can choose to use a single lane dualled junction with the A415 or travel along Station Road to access the new roundabout at Culham Science Centre). The 86% is split to use two access onto the internal road network of the site. The remaining 14% of traffic accesses east of the railway line using the north western arm of the new Culham Science Centre roundabout. This is shown in Figure 39.

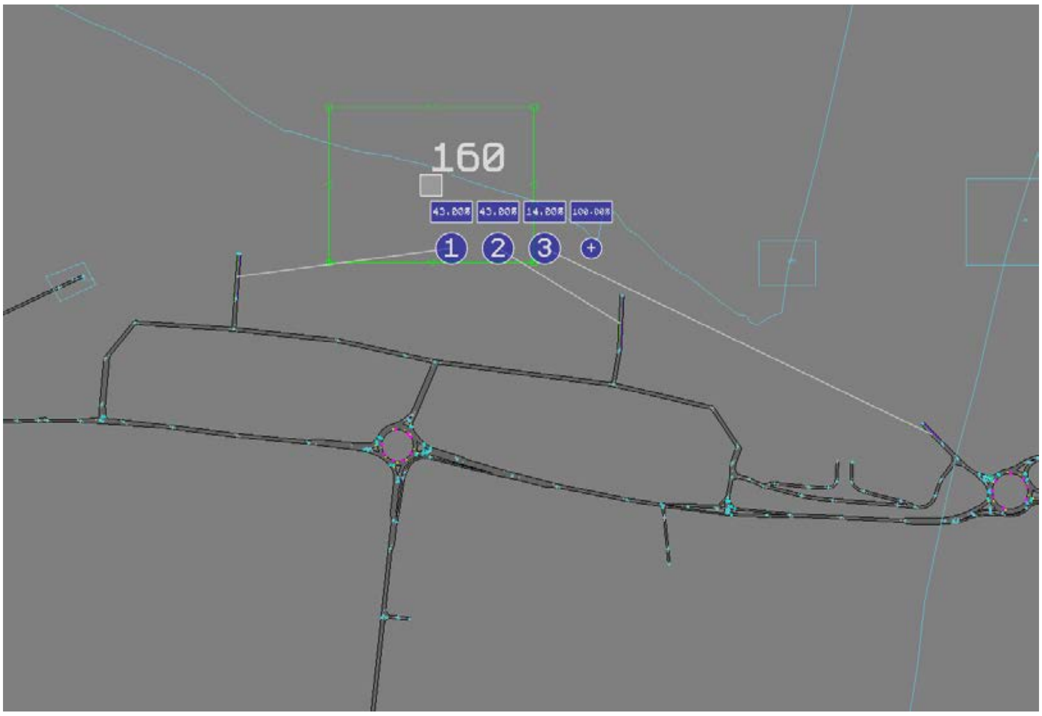

Figure 39. Land adjacent to Culham Science Centre Accesses with HIF

3.1.27 In the models without HIF infrastructure, the access arrangements are similar. The development trips access the network split between two main locations. 86% of the traffic access west of the railway line, and can access the network using either a ghost island right turn T-junction approximately 300m east of Thame Lane, at a roundabout approximately 600m further east, a priority junction with Station Road approximately 70m north of the A415 (from where they can choose to use a single lane dualled junction with the A415 or travel along Station Road to access the existing junction between Station Road and A415 east of the railway). The 86% is split to use two access onto the internal road network of the site. The remaining 14% of traffic accesses east of the railway line, using a new stub onto the eastern Culham Station access road. This is shown in Figure 40.

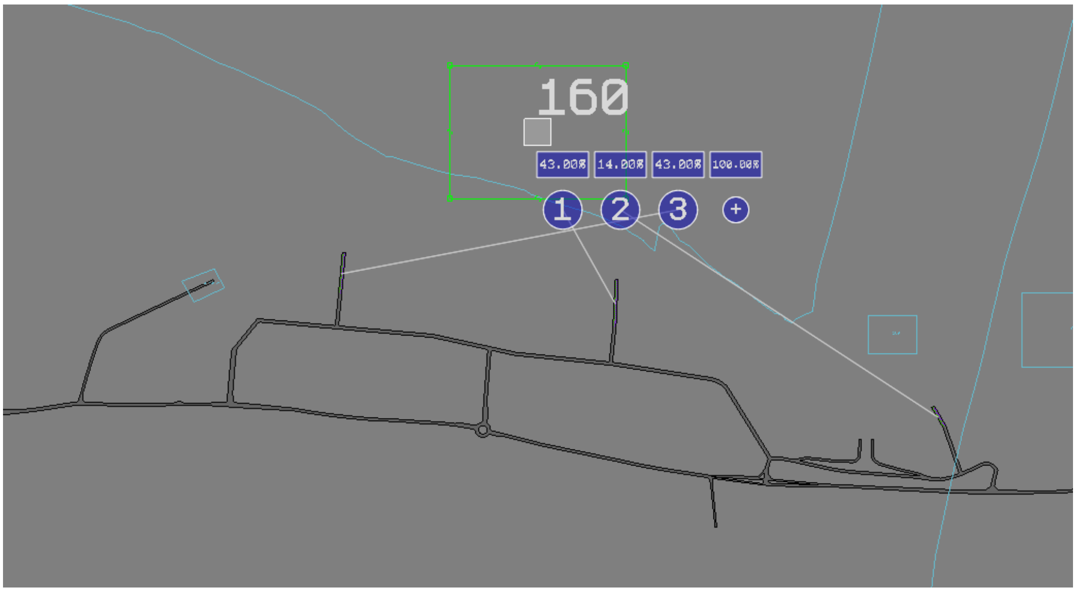

Figure 40. **Land adjacent to Culham Science Centre Accesses without HIF**

3.1.28 Zone 161 – Great Western Park

Development trips access the model network at 7 locations with the trips being split on a percentage basis. This zone is associated with the trips within the SODC boundary (see Zone 130 for VoWHDC). The percentages and locations are shown in Figure 41.

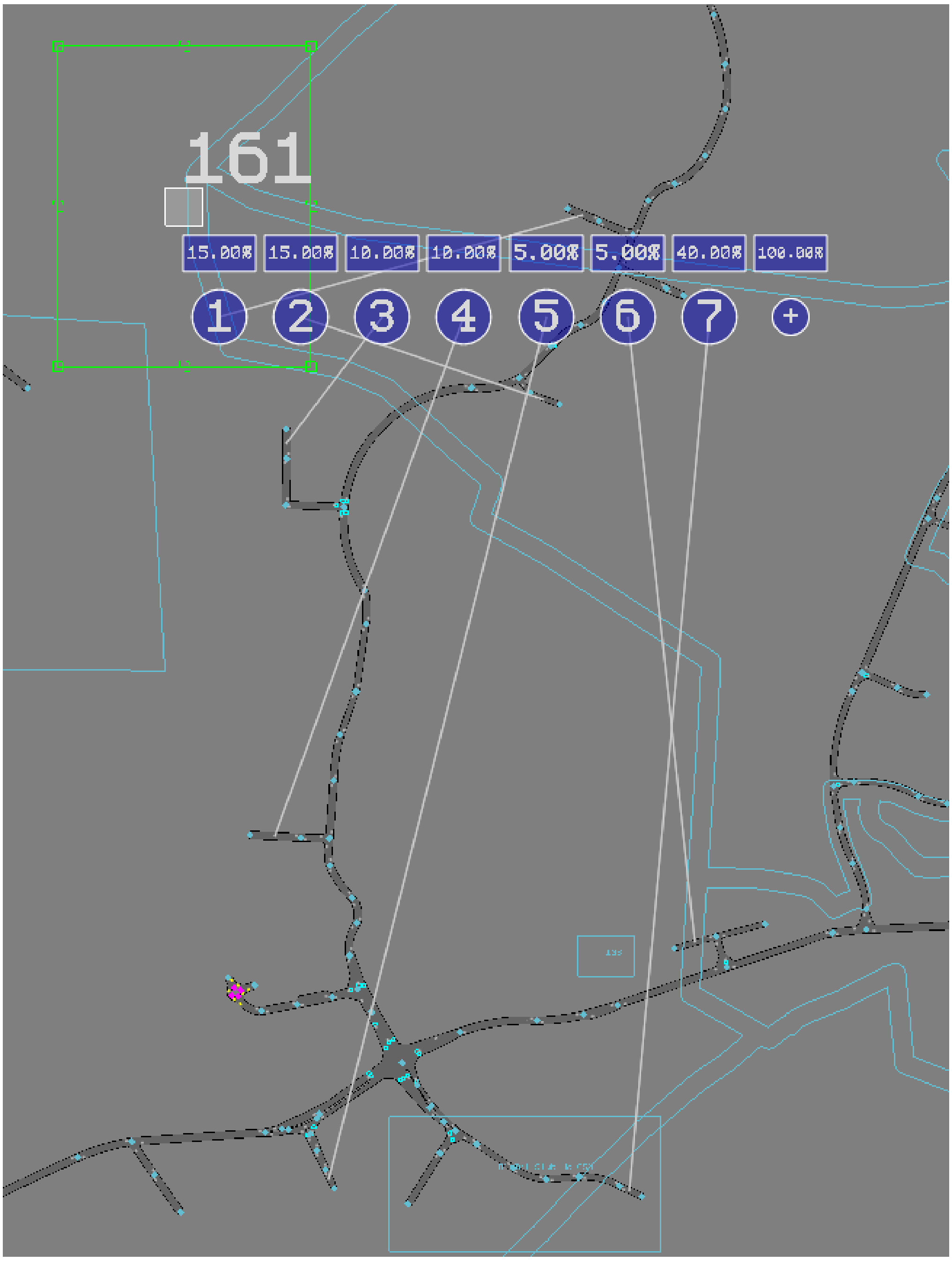

Figure 41. Great Western Park Accesses

3.1.29 Zone 162 – Orchard Centre Phase 2

The development trips access the network at the four arm junction between Broadway and Hagbourne Road using the northern arm of the junction. This is shown Figure 42.

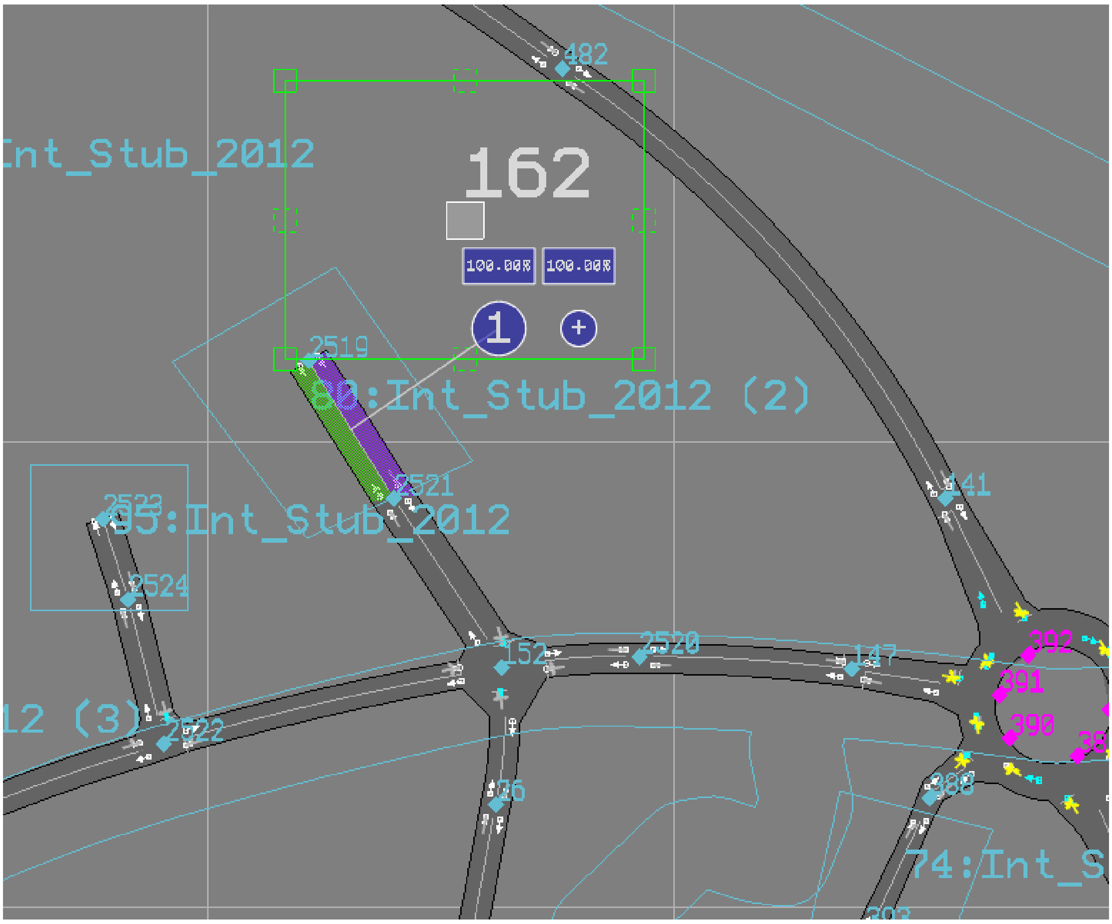

Figure 42. Orchard Centre Phase 2 Access

3.1.30 Zone 163 – North West Valley Park

In the models with HIF infrastructure in place, the development trips access on to an internal development spine road linking the south east arm of the roundabout on the A4130 to a simple T-Junction with Valley Park Spine Road. Vehicles are barred from using the access road as a through route. See Figure 43.

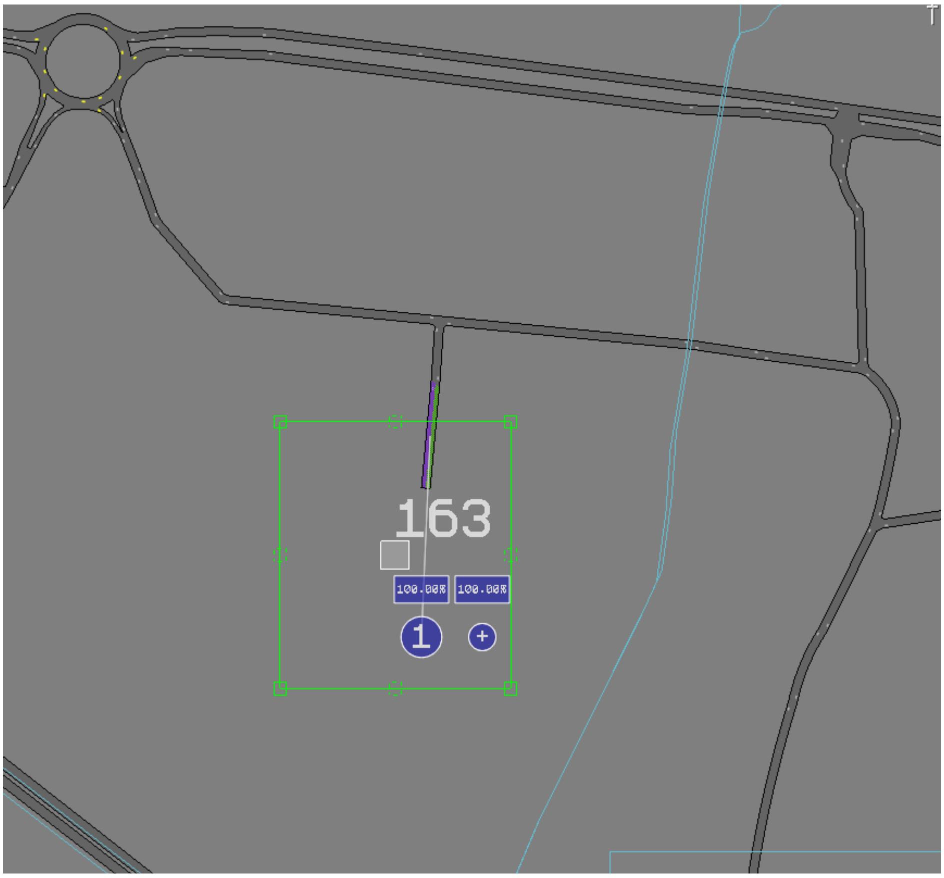

Figure 43. North West Valley Park Accesses with HIF

In the models without HIF infrastructure in place, the development trips access on to an internal development spine road linking the south arm of a roundabout on the A4130 to a simple T-Junction with Valley Park Spine Road. Vehicles are barred from using the access road as a through route. See Figure 44.

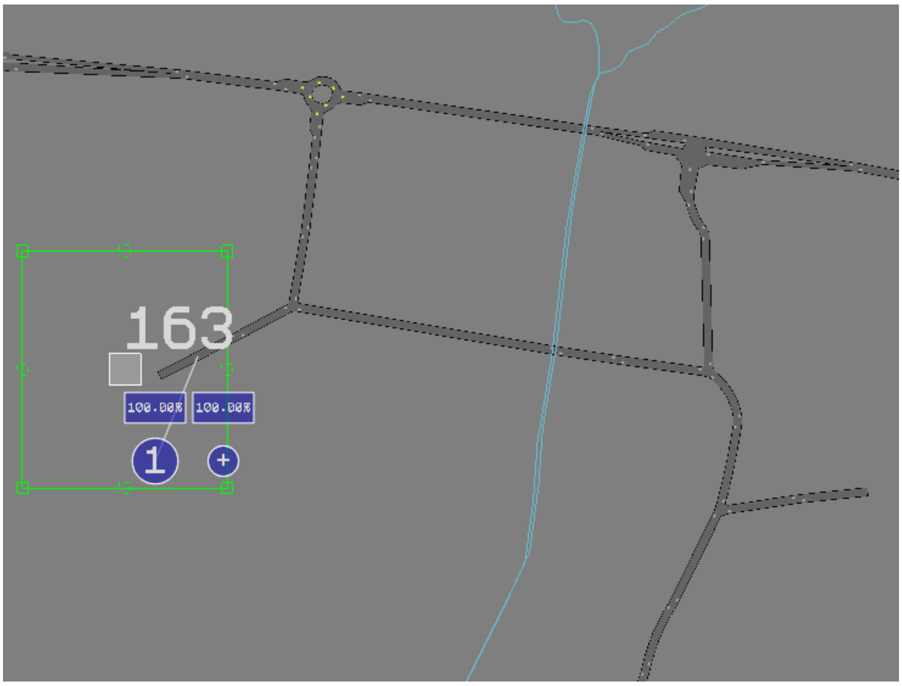

Figure 44. North West Valley Park Accesses without HIF

3.1.31 Zone 164 – Vauxhall Barracks

The development trips access onto the network at three existing junctions - Vauxhall Way at B4493 Foxhall Road, Wortham Road at The Oval and North Road at The Oval. The internal development roads are included to allow development traffic to choose the most appropriate access as shown in Figure 45.

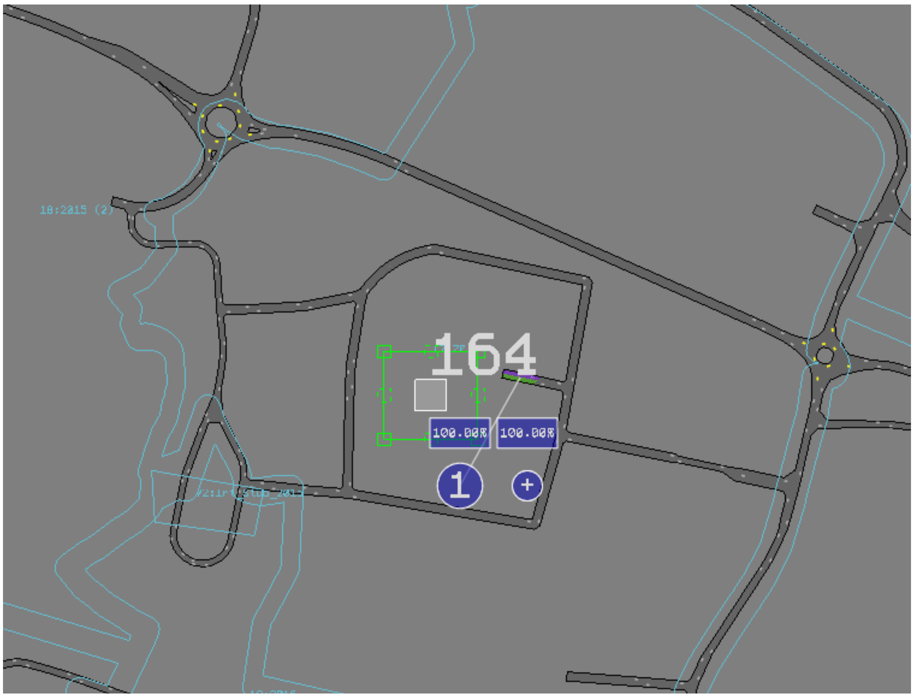

Figure 45. Vauxhall Barracks Accesses

3.1.32 Zone 165 – Land at Berinsfield

Development trips access the network on simple T-junctions at Burcot Lane and Fane Drive. There is also an additional access, a T-Junction connecting Fane Drive to A4074, north of Berinsfield Roundabout, at this junction the right turn from the A4074 to Fane Drive is banned. The access arrangements are shown in Figure 46.

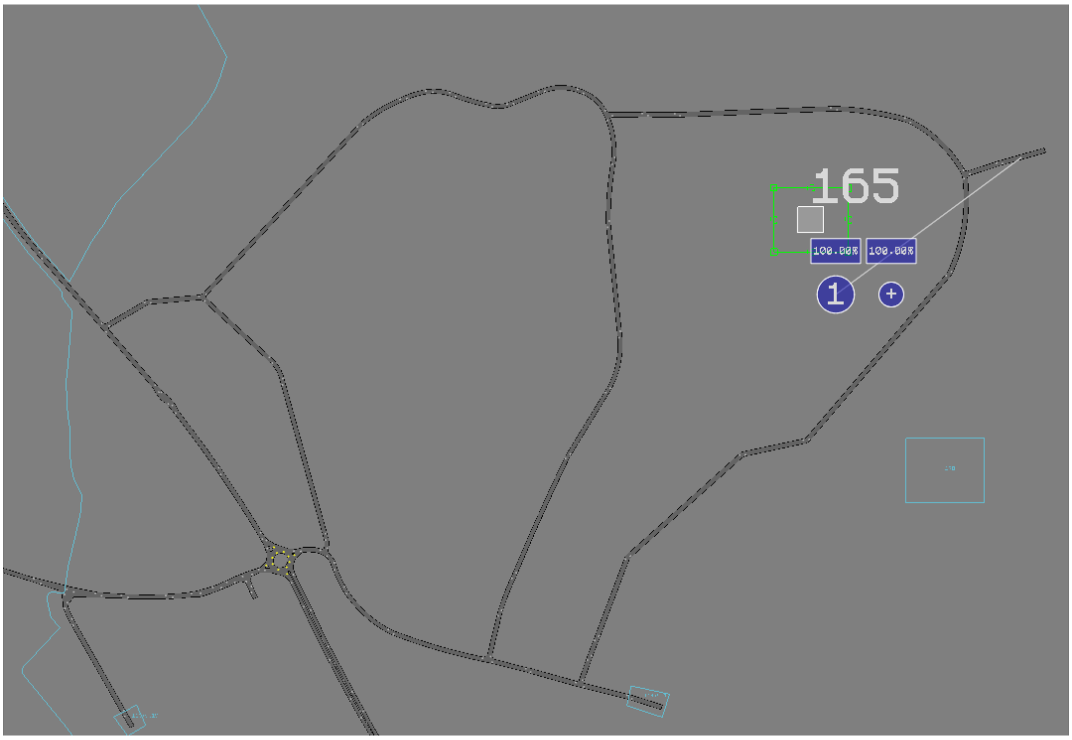

Figure 46. Land at Berinsfield Accesses

3.2 Employment

3.2.1 Zone 167 – Southmead Industrial Estate

Development trips access the network at a simple T-junction on Hawksworth, approximately 100m west of Collett. See Figure 47.

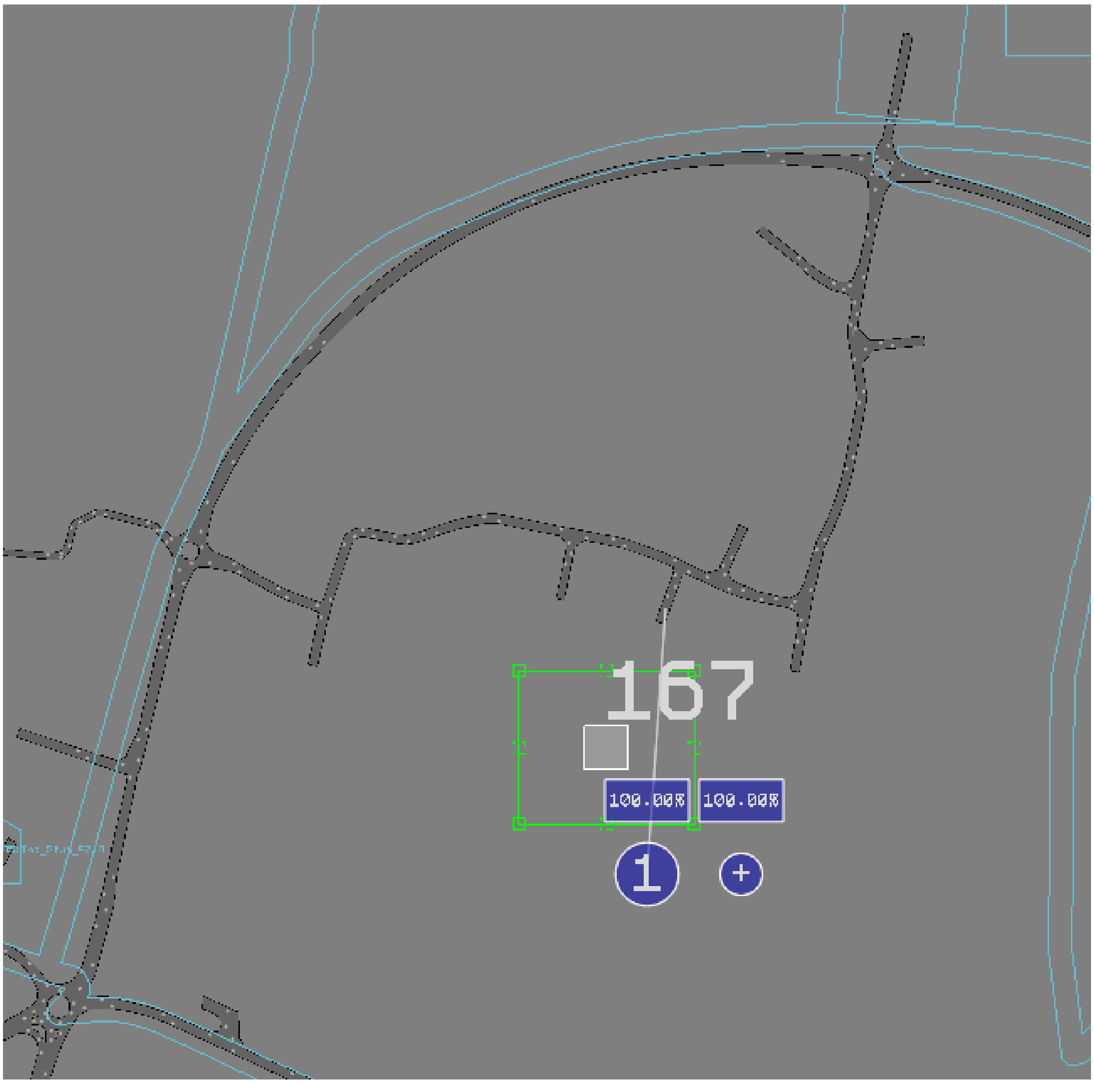

Figure 47. Southmead Industrial Estate

3.2.2 Zone 168 – Culham Science Centre

With the HIF infrastructure in place, development trips access the network on to an internal development spine road which links the north east arm of the Clifton Hampden Bypass/A415 Roundabout with a left out only access on to Clifton Hampden Bypass. Vehicles will chose the most appropriate access to use based on their destination zone. See Figure 48.

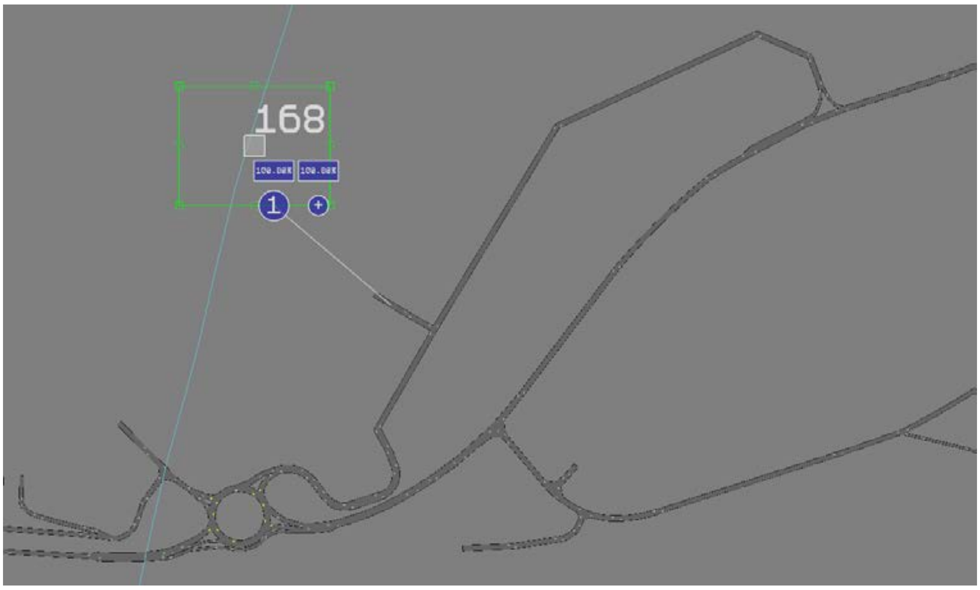

Figure 48. Culham Science Centre Accesses with HIF

Without the HIF infrastructure in place, development trips access the network at a T-Junction with a right turn lane as shown in Figure 49.

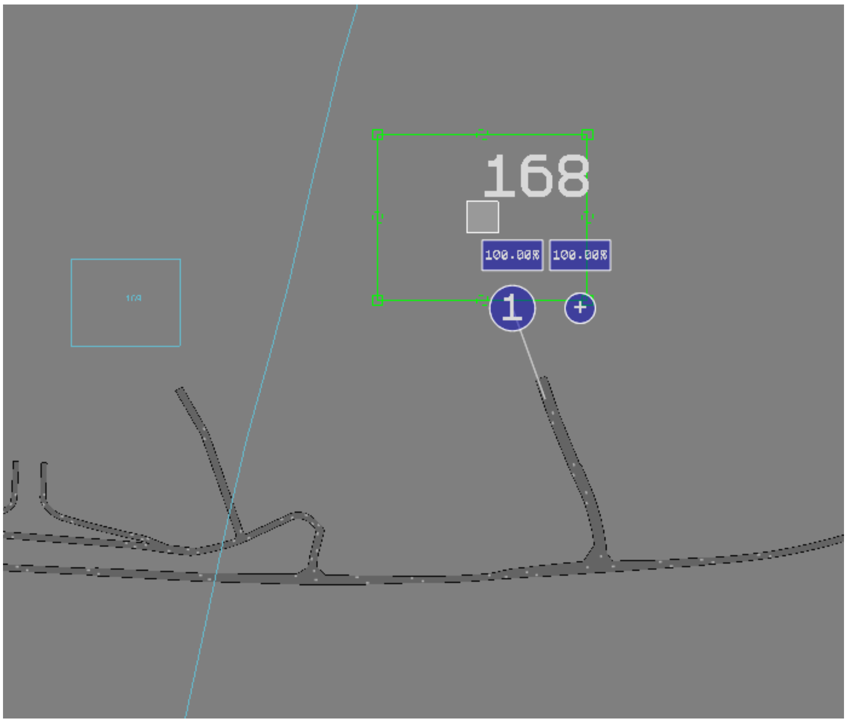

Figure 49. Culham Science Centre Accesses without HIF

3.2.3 Zone 169 – Land West of CSC

With HIF infrastructure in place, the development trips access the network split with 55% of the trips accessing west of the railway line on to an internal spine road and 45% accessing east of the railway on to the north west arm of the Clifton Hampden Bypass/A415 Roundabout as shown in Figure 50.

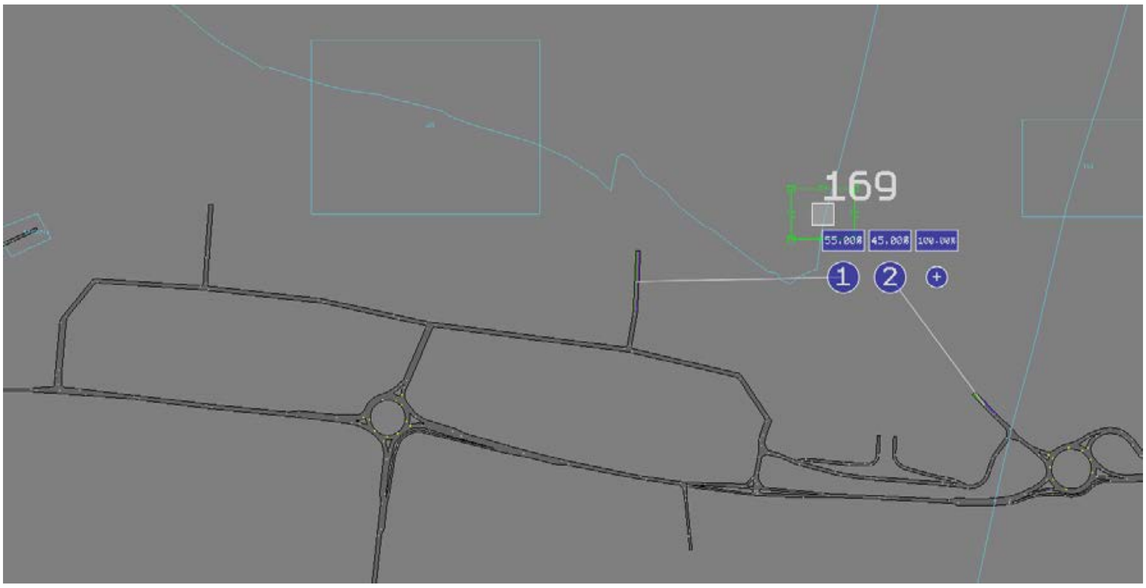

Figure 50. Land west of CSC Accesses with HIF

Without HIF infrastructure in place, the development trips access the network split with 55% of the trips accessing west of the railway line on to an internal spine road and 45% accessing east of the railway on to Station Road as shown in Figure 51.

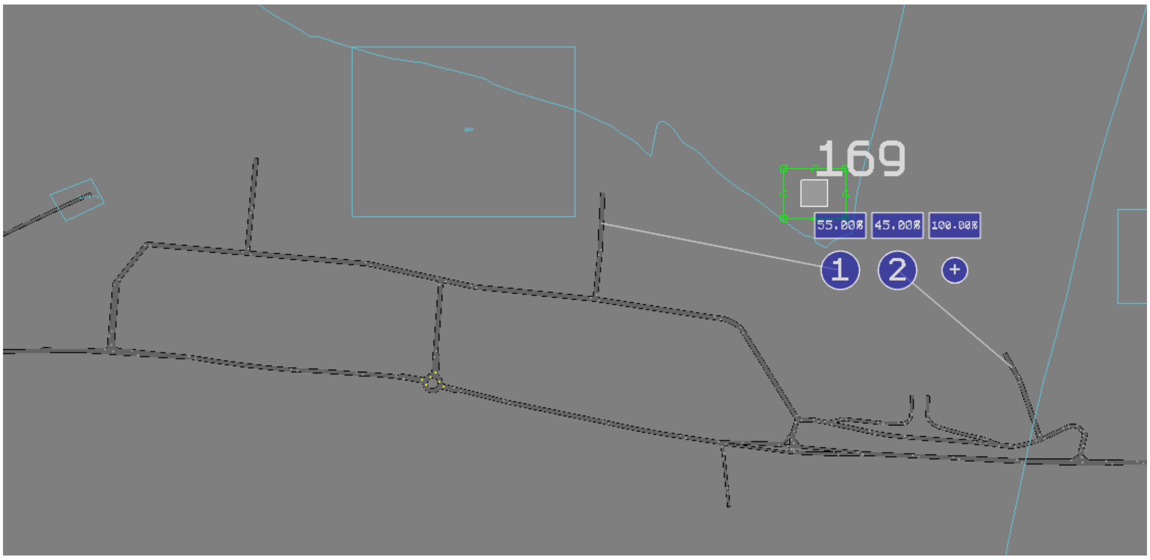

Figure 51. Land west of CSC Accesses without HIF

3.2.4 Zone 170 – Berinsfield Regeneration

Development trips access the network on simple T-junctions at Burcot Lane and Fane Drive. There is also an additional access, a T-Junction connecting Fane Drive to A4074, north of Berinsfield Roundabout, at this junction the right turn from the A4074 to Fane Drive is banned. The access arrangements are shown in Figure 52.

Figure 52. Berinsfield Regeneration Accesses

3.2.5 Zone 171 – Milton Park

Development trips access the network split between 34% on to Jubilee Avenue, 33% on Innovation Drive and 34% on to Brook Drive as shown in Figure 53.

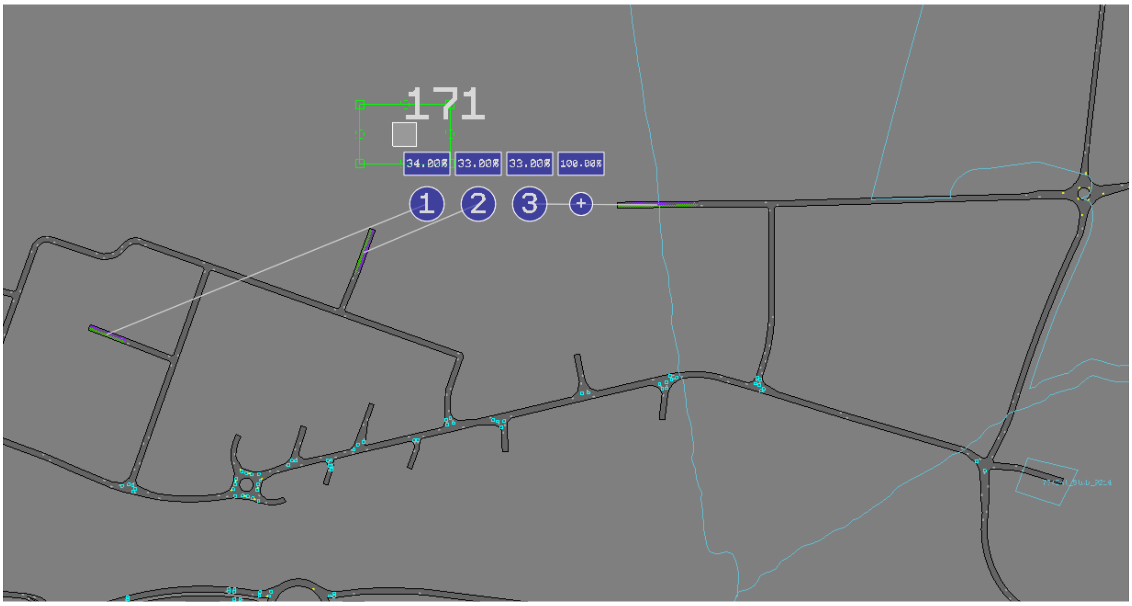

Figure 53. Milton Park Accesses

3.2.6 Zone 172 – Harwell Campus

Development trips access the network split between 20% on Eighth Street, 30% on Rutherford Avenue and 50% on Fermi Avenue, vehicles will choose the most appropriate route through the internal Harwell Campus network to access their destination. Note the junction between the A4185 and Thomson Avenue is signalised. See Figure 54.

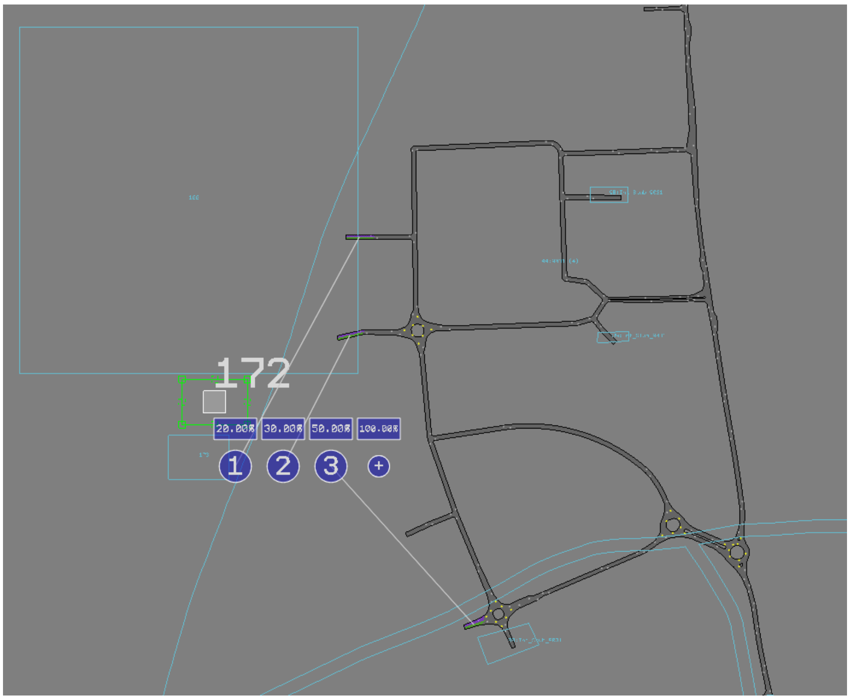

Figure 54. Harwell Campus Accesses

3.2.7 Zone 174 – Other Premises Adjacent to Didcot Power Station – Diageo

Development trips access the network using the existing ASDA access arm of the roundabout at Sutton Courtenay Road/Brook Drive. See Figure 55.

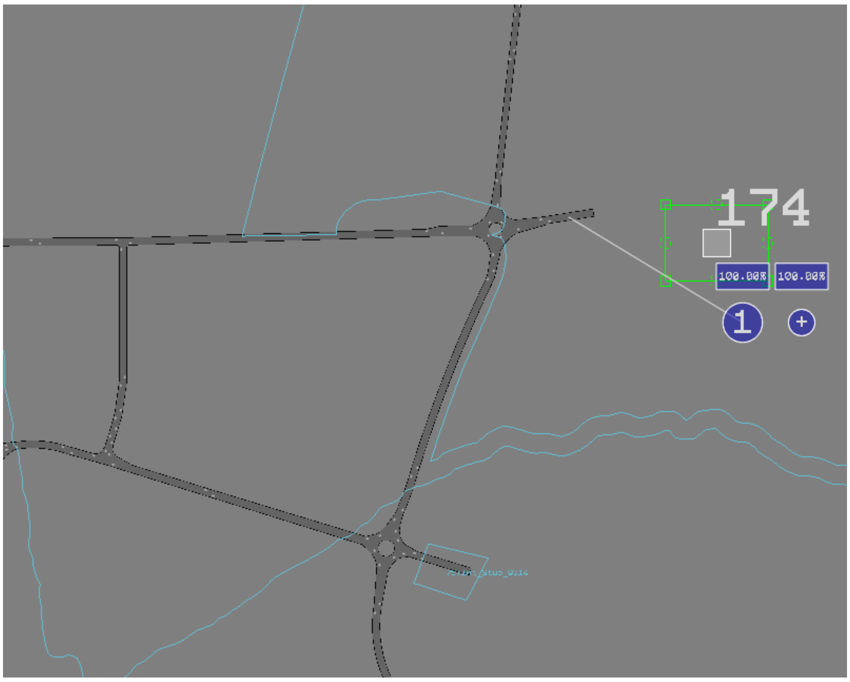

Figure 55. Other Premises Adjacent to Didcot Power Station - Diageo

3.2.8 Zone 175 – Didcot A

With the HIF infrastructure in place, the development trips access the network split evenly between 4 accesses. Three simple T-Junction accesses on to Science Bridge and one access on to an internal development spine road which links Milton Road and the Power Station Roundabout. The development spine road links on to the Science Bridge scheme at a T-junction with a ghost island right turn from Milton Road and can be used as a through route by traffic, as shown in Figure 56.

Figure 56. Didcot A Accesses with HIF

Without HIF infrastructure in place, the development trips access the network on an internal development spine road which links Milton Road and the Power Station Roundabout, vehicles are barred from using this spine road as a through route. See Figure 57.

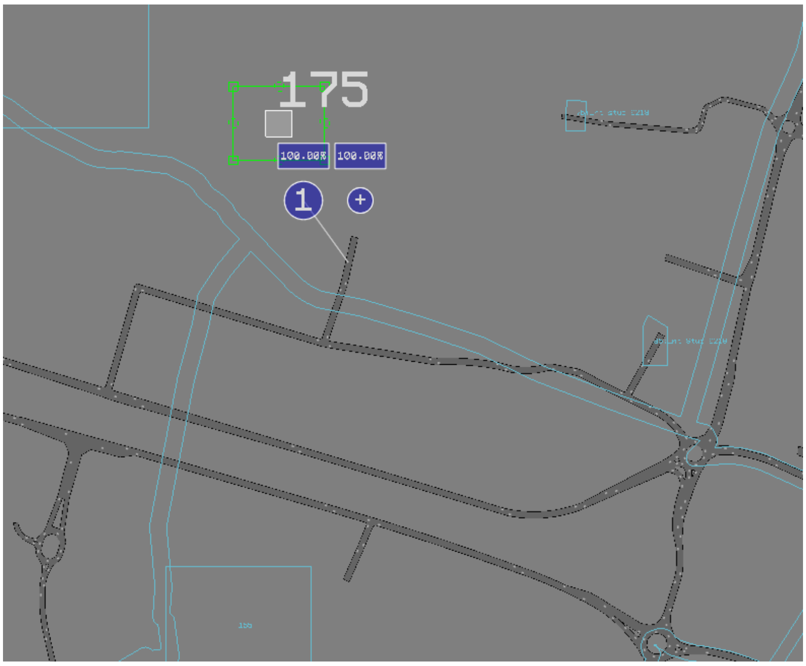

Figure 57. Didcot A Accesses without HIF

3.2.9 Zone 176 – Milton Hill Business and Technology Park

Development trips access the network using the existing Milton Hill Business and Technology Park access on A4130 Abingdon Road. See Figure 58.

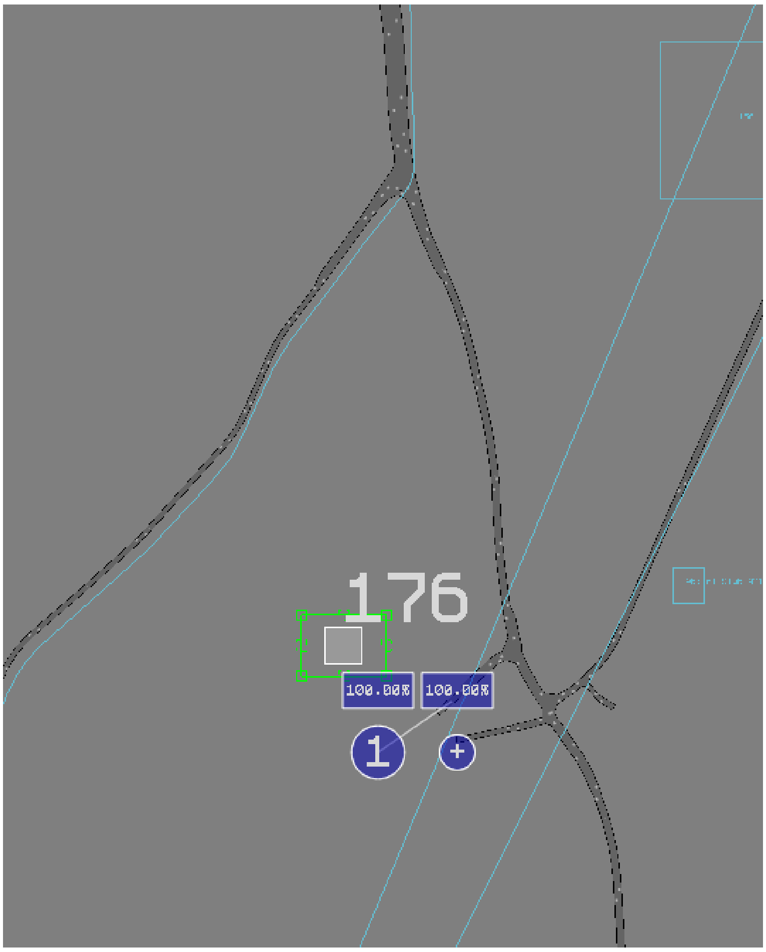

Figure 58. Milton Hill Business and Technology Park Access

3.2.10 Zone 177 – D-Tech- EZ2

With the HIF infrastructure in place, development trips access the network split between two simple T-junctions on to the New Didcot to Culham River Crossing, north of the A4130 Collett roundabout. 40% of the vehicles access from the west and 60% access from the east. This is shown in Figure 59.

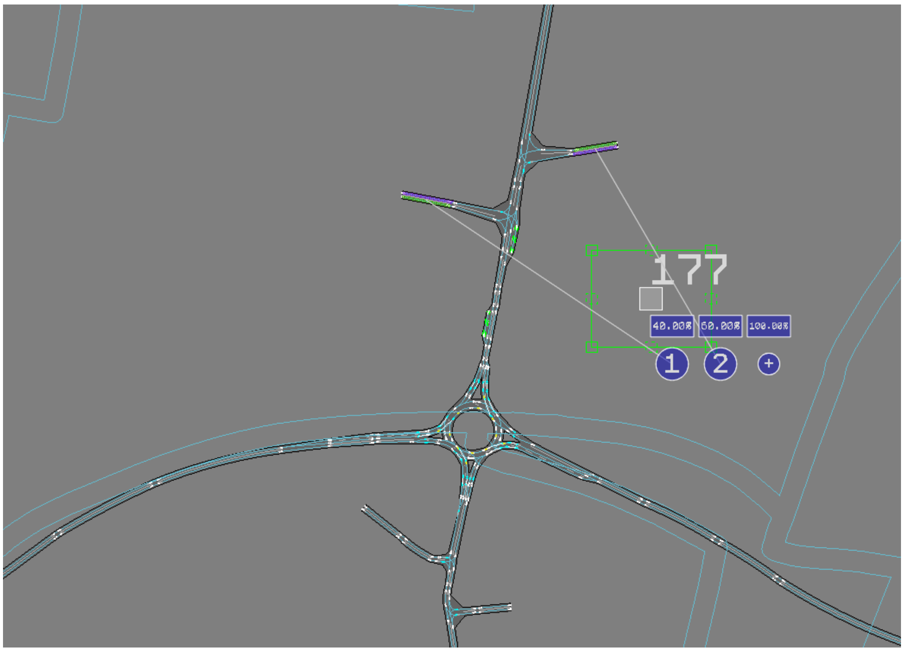

Figure 59. D-Tech-EZ2 Accesses with HIF

Without the HIF infrastructure in place, development trips access using the existing north arm of the A4130 Collett Roundabout. See Figure 60.

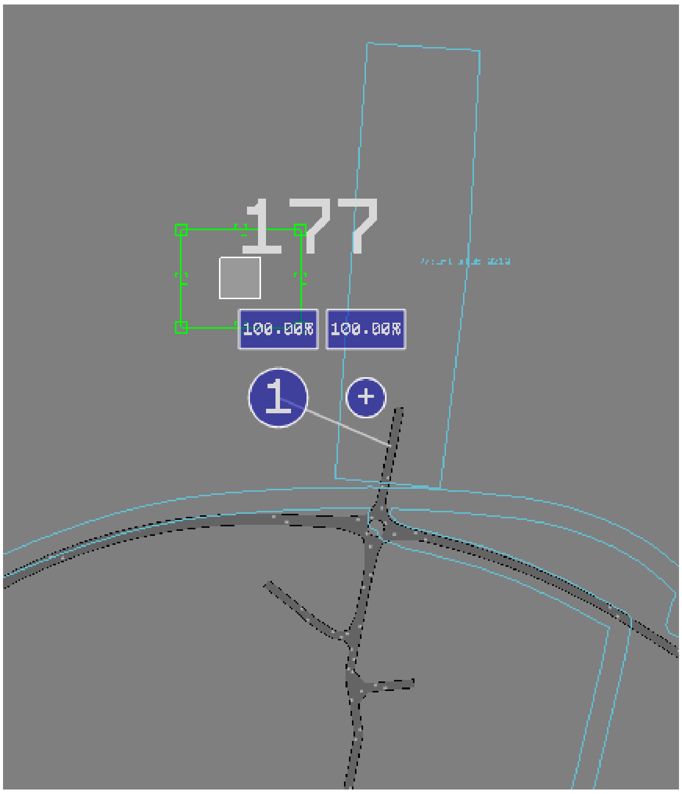

Figure 60. D-Tech-EZ2 Accesses without HIF

3.2.11 Zone 178 – Milton Interchange Site- EZ2

With the HIF infrastructure in place, the development trips access on to an internal development spine road at two locations linking the existing services access on to the A4130 with the new A4130/North West Valley Park Roundabout as shown in Figure 61. The development spine road can be used by traffic as a through route.

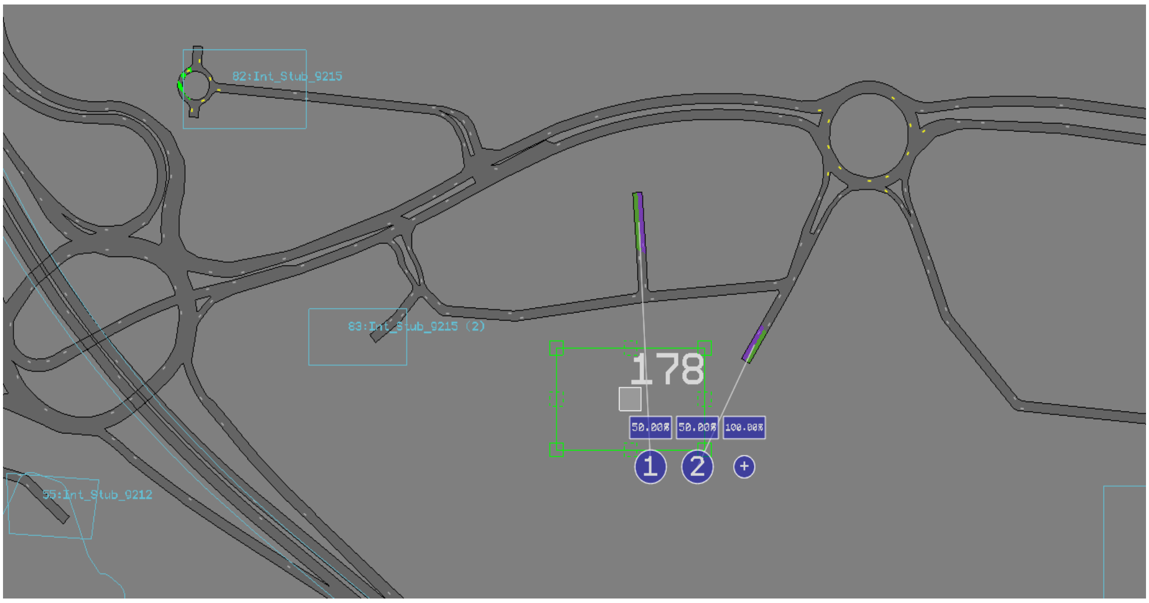

Figure 61. Milton Interchange Site-EZ2 Accesses with HIF

Without the HIF infrastructure in place, the development trips access on to an internal spine road which links the existing services access on to the A4130 with a new signalised junction on to the A4130 as shown in Figure 62. Vehicles are barred from using the development spine road as a through route.

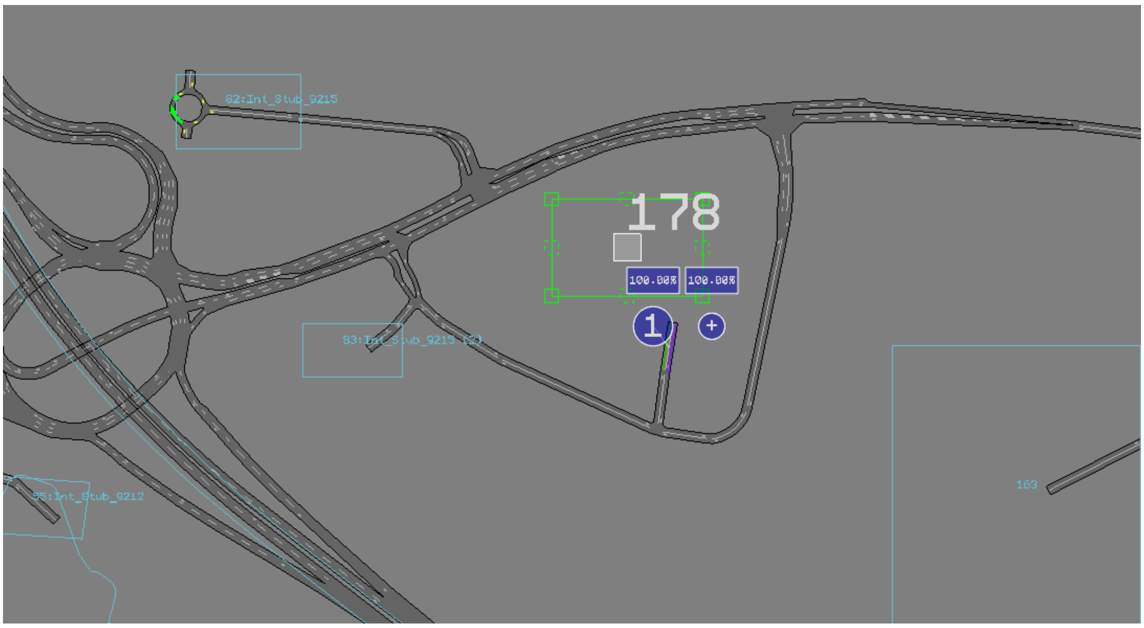

Figure 62. Milton Interchange Site-EZ2 Accesses without HIF

4. APPENDIX A

Figure 63. 2020 Base Network

Figure 64. 2024 without HIF Network

Figure 65. 2024 with HIF Network

Figure 66. 2034 without HIF Network

Figure 67. 2034 with HIF Network

5. APPENDIX B

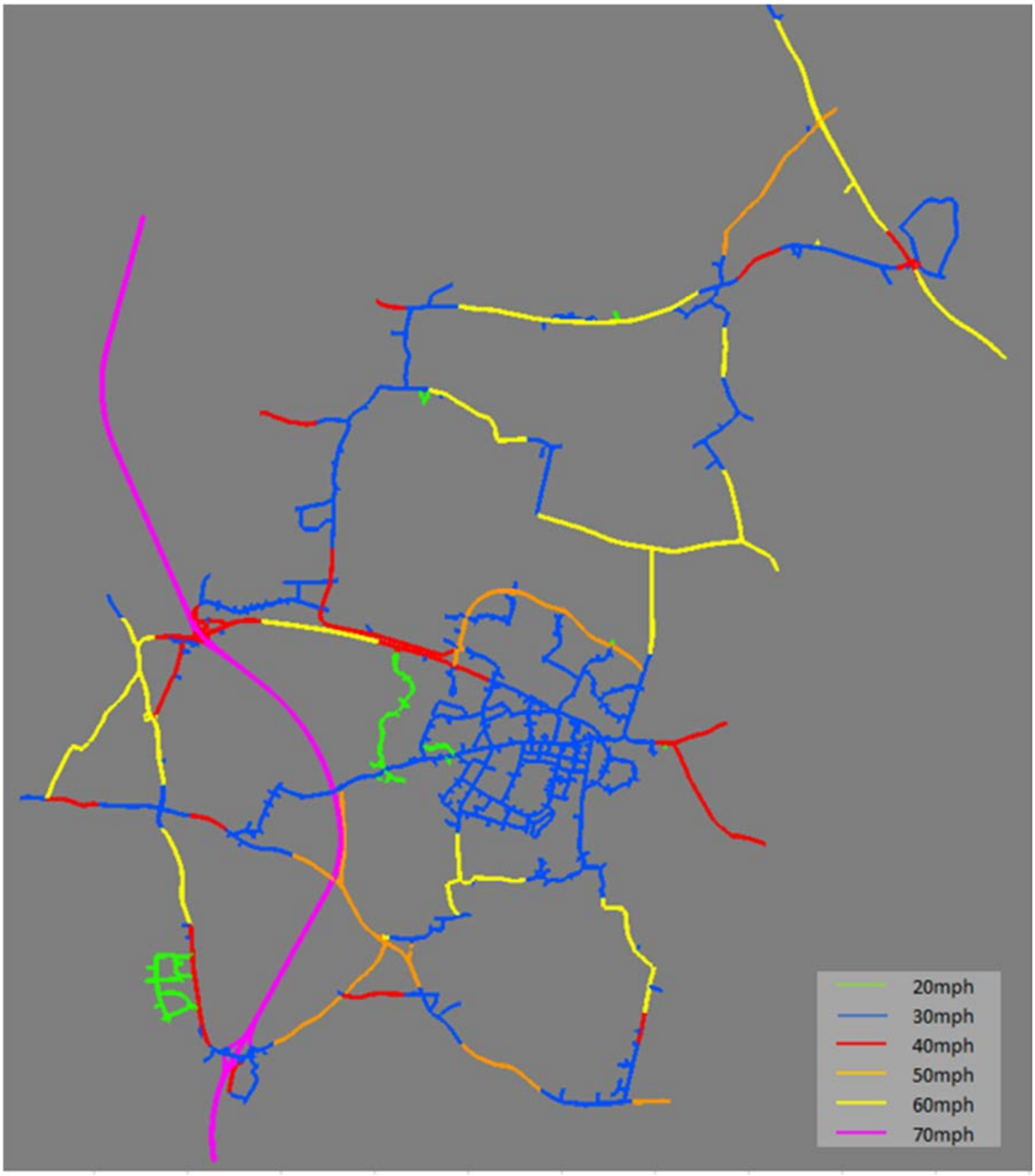

Figure 68. 2020 Speed Limits

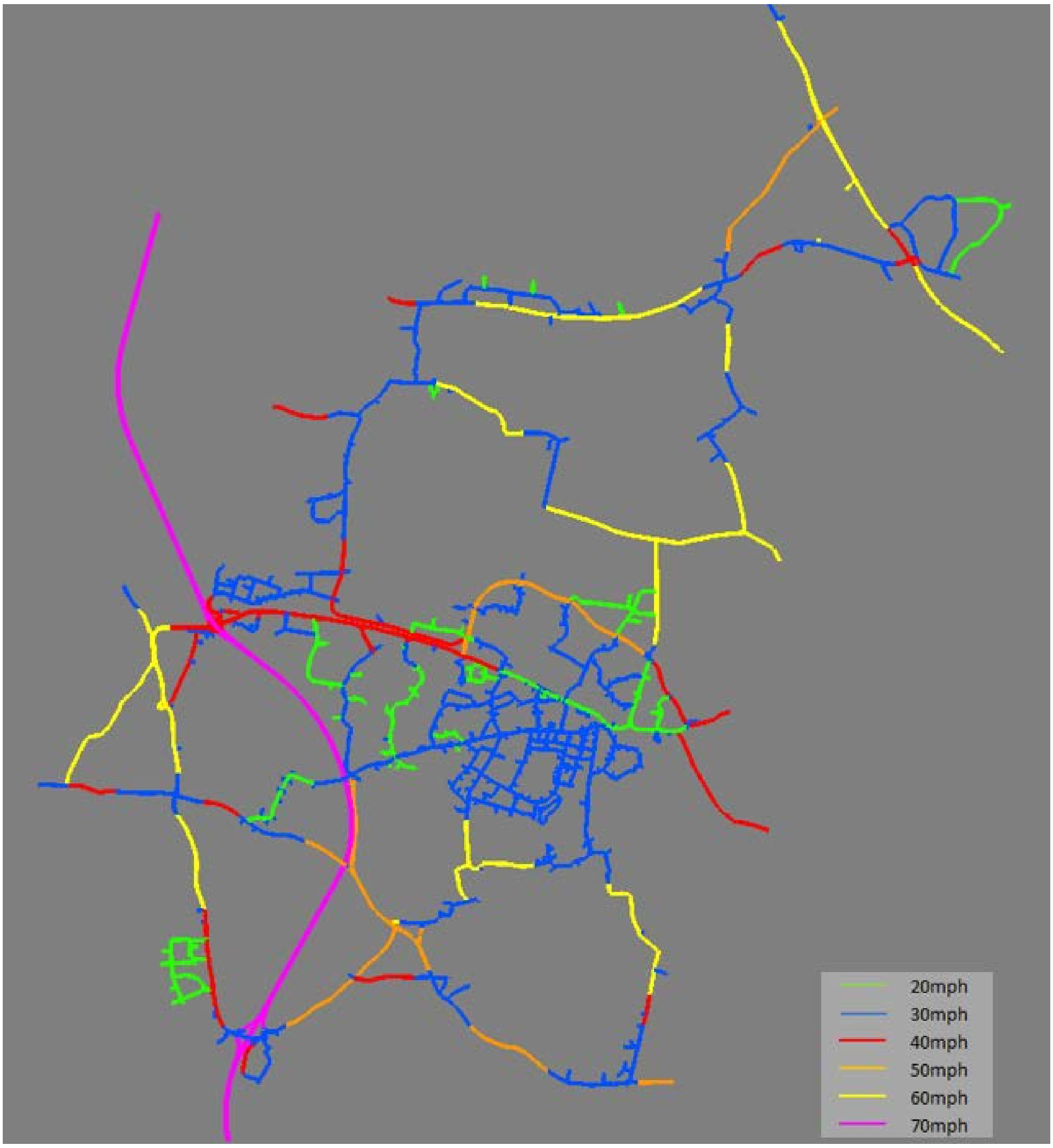

Figure 69. 2024 without HIF Speed Limits

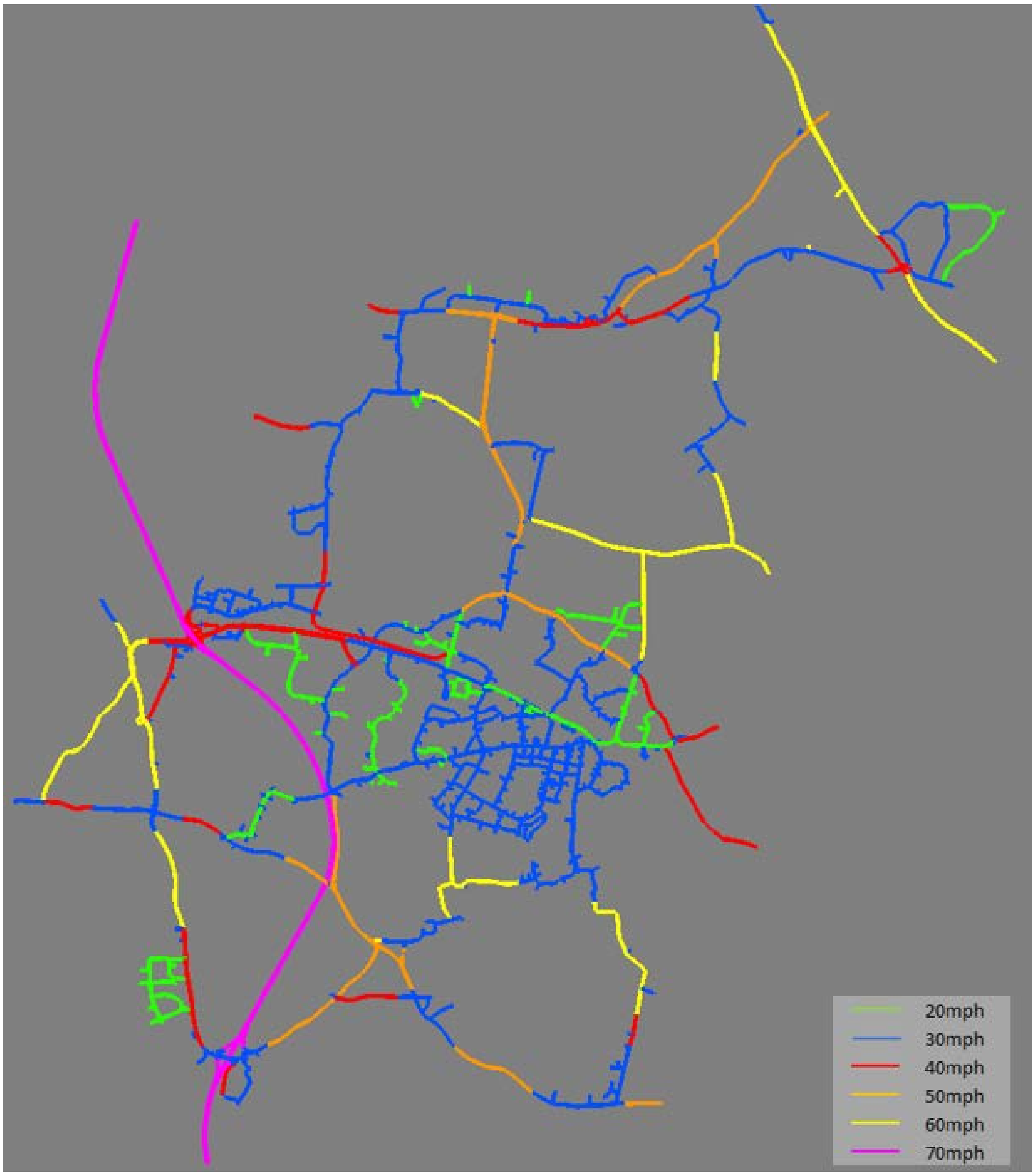

Figure 70. 2024 with HIF Speed Limits

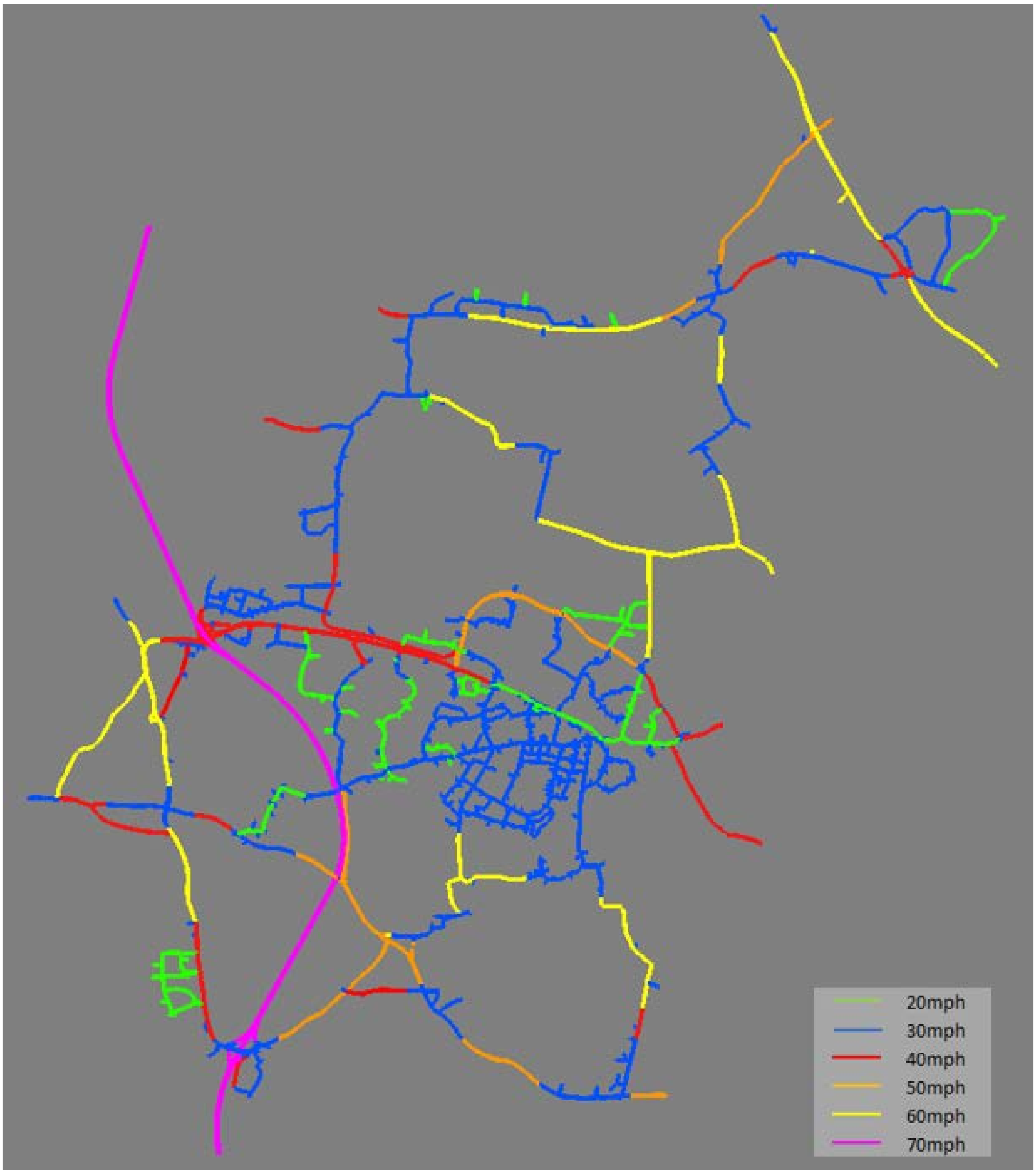

Figure 71. 2034 without HIF Speed Limits

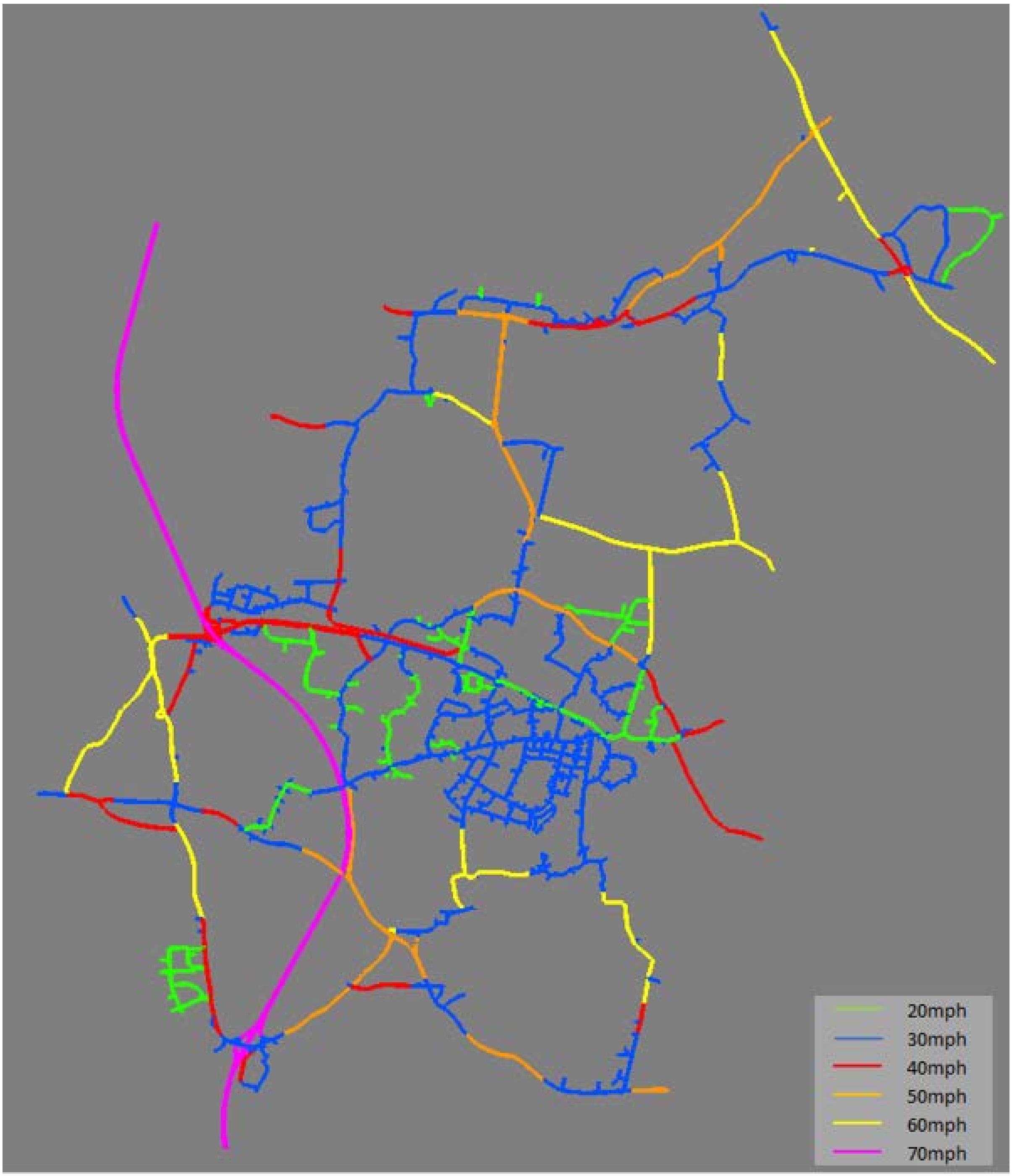

Figure 72. 2034 with HIF Speed Limits

Appendix H – On-Site Junction Capacity Assessment Outputs

SCH1

Generated on 10/09/2021 15:28:21 using Junctions 9 (9.5.0.6896)

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

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Filename: WID-01-Backhill Roundabout-P02-v1.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\99 Submitted\20210910
Report generation date: 10/09/2021 15:27:41

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024with									
A - A4130 (E)	3.8	7.35	0.79	A	25 % [A - A4130 (E)]	1.8	4.38	0.64	A	57 % [A - A4130 (E)]
B - NW Valley Park	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
C - Mays/Miscombe/Services	0.1	6.67	0.09	A		0.1	5.50	0.11	A	
D - A4130 (W)	1.2	3.57	0.52	A		1.6	4.24	0.61	A	
	2034with									
A - A4130 (E)	2.8	6.09	0.73	A	35 % [A - A4130 (E)]	2.0	4.92	0.67	A	3 % [D - A4130 (W)]
B - NW Valley Park	0.1	6.69	0.13	A		0.2	5.96	0.14	A	
C - Mays/Miscombe/Services	0.1	5.95	0.05	A		0.3	6.59	0.24	A	
D - A4130 (W)	2.6	5.73	0.71	A		13.6	24.27	0.94	C	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. 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	WID_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0001 P02
Location	Backhill Roundabout
Site number	01
Date	11/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
01	Backhill Roundabout	Standard Roundabout		A, B, C, D	5.89	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	25	A - A4130 (E)

Arms

Arms

Arm	Name	Description
A	A4130 (E)	
B	NW Valley Park	
C	Mays/Miscombe/Services	
D	A4130 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - A4130 (E)	6.74	9.22	10.0	29.9	80.2	43.3	
B - NW Valley Park	3.77	5.00	3.5	28.6	80.2	34.9	
C - Mays/Miscombe/Services	3.86	5.00	2.9	30.9	80.2	16.1	
D - A4130 (W)	6.75	9.13	6.7	36.2	80.2	38.9	

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
B - NW Valley Park	4.00	9.00		Distance	7.83	5.59				
C - Mays/Miscombe/Services	2.57	6.26	✓	Distance			4.00	2.86	4.00	2.86

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)
A - A4130 (E)	13.00	3.00	2.90	1.00	6.00	11.20	7.00
D - A4130 (W)	16.00	3.00	2.90	1.00	6.00	11.20	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A4130 (E)	0.566	2388
B - NW Valley Park	0.415	1315
C - Mays/Miscombe/Services	0.444	1409
D - A4130 (W)	0.567	2362

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	2024with	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 - A4130 (E)		ONE HOUR	✓	1684	100.000
B - NW Valley Park		ONE HOUR	✓	0	100.000
C - Mays/Miscombe/Services		ONE HOUR	✓	49	100.000
D - A4130 (W)		ONE HOUR	✓	1076	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130 (E)	[ONEHOUR]	20.00
B - NW Valley Park	[ONEHOUR]	20.00
C - Mays/Miscombe/Services	[ONEHOUR]	20.00
D - A4130 (W)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	34	1650
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	44	0	0	5
	D - A4130 (W)	1076	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	1	4
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	2	0	0	0
	D - A4130 (W)	7	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)
A - A4130 (E)	0.79	7.35	3.8	A	1684	1684
B - NW Valley Park	0.00	0.00	0.0	A	0	0
C - Mays/Miscombe/Services	0.09	6.67	0.1	A	49	49
D - A4130 (W)	0.52	3.57	1.2	A	1076	1076

Main Results for each time segment

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
A - A4130 (E)	1514	378	0	17.98	2335	0.648	1511	1006	1.2	1.9	4.528	A
B - NW Valley Park	0	0	1511	17.98	688	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	44	11	1481	17.98	752	0.059	44	31	0.0	0.1	5.175	A
D - A4130 (W)	967	242	39	17.98	2275	0.425	966	1485	0.6	0.8	2.942	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
A - A4130 (E)	1854	464	0	22.02	2349	0.789	1847	1231	1.9	3.8	7.346	A
B - NW Valley Park	0	0	1847	22.02	549	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	54	13	1809	22.02	606	0.089	54	37	0.1	0.1	6.631	A
D - A4130 (W)	1185	296	48	22.02	2262	0.524	1183	1815	0.8	1.2	3.565	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
A - A4130 (E)	1854	464	0	22.02	2367	0.783	1854	1233	3.8	3.8	7.289	A
B - NW Valley Park	0	0	1854	22.02	546	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	54	13	1817	22.02	603	0.089	54	37	0.1	0.1	6.673	A
D - A4130 (W)	1185	296	48	22.02	2266	0.523	1185	1822	1.2	1.2	3.561	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
A - A4130 (E)	1514	378	0	17.98	2356	0.643	1521	1008	3.8	1.9	4.524	A
B - NW Valley Park	0	0	1521	17.98	684	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	44	11	1491	17.98	748	0.059	44	31	0.1	0.1	5.210	A
D - A4130 (W)	967	242	40	17.98	2280	0.424	969	1495	1.2	0.8	2.941	A

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
01	Backhill Roundabout	Standard Roundabout		A, B, C, D	4.34	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	57	A - A4130 (E)

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
D2	2024with	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 - A4130 (E)		ONE HOUR	✓	1340	100.000
B - NW Valley Park		ONE HOUR	✓	0	100.000
C - Mays/Miscombe/Services		ONE HOUR	✓	73	100.000
D - A4130 (W)		ONE HOUR	✓	1259	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130 (E)	[ONEHOUR]	20.00
B - NW Valley Park	[ONEHOUR]	20.00
C - Mays/Miscombe/Services	[ONEHOUR]	20.00
D - A4130 (W)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	4	1336
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	65	0	0	8
	D - A4130 (W)	1251	0	0	8

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	0	3
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	3	0	0	1
	D - A4130 (W)	3	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)
A - A4130 (E)	0.64	4.38	1.8	A	1340	1340
B - NW Valley Park	0.00	0.00	0.0	A	0	0
C - Mays/Miscombe/Services	0.11	5.50	0.1	A	73	73
D - A4130 (W)	0.61	4.24	1.6	A	1259	1259

Main Results for each time segment

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
A - A4130 (E)	1205	301	7	17.98	2321	0.519	1203	1182	0.8	1.1	3.314	A
B - NW Valley Park	0	0	1211	17.98	813	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	66	16	1207	17.98	873	0.075	66	4	0.1	0.1	4.579	A
D - A4130 (W)	1132	283	58	17.98	2267	0.499	1131	1214	0.7	1.0	3.258	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
A - A4130 (E)	1475	369	9	22.02	2317	0.637	1473	1446	1.1	1.8	4.378	A
B - NW Valley Park	0	0	1481	22.02	701	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	80	20	1477	22.02	754	0.107	80	4	0.1	0.1	5.492	A
D - A4130 (W)	1386	347	71	22.02	2256	0.614	1384	1486	1.0	1.6	4.238	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
A - A4130 (E)	1475	369	9	22.02	2324	0.635	1475	1449	1.8	1.8	4.370	A
B - NW Valley Park	0	0	1484	22.02	700	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	80	20	1480	22.02	752	0.107	80	4	0.1	0.1	5.504	A
D - A4130 (W)	1386	347	72	22.02	2262	0.613	1386	1489	1.6	1.6	4.233	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
A - A4130 (E)	1205	301	7	17.98	2330	0.517	1207	1186	1.8	1.1	3.313	A
B - NW Valley Park	0	0	1215	17.98	811	0.000	0	0	0.0	0.0	0.000	A
C - Mays/Miscombe/Services	66	16	1211	17.98	872	0.075	66	4	0.1	0.1	4.593	A
D - A4130 (W)	1132	283	59	17.98	2275	0.498	1134	1218	1.6	1.0	3.256	A

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
01	Backhill Roundabout	Standard Roundabout		A, B, C, D	5.93	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	35	A - A4130 (E)

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	2034with	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 - A4130 (E)		ONE HOUR	✓	1525	100.000
B - NW Valley Park		ONE HOUR	✓	73	100.000
C - Mays/Miscombe/Services		ONE HOUR	✓	28	100.000
D - A4130 (W)		ONE HOUR	✓	1475	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130 (E)	[ONEHOUR]	20.00
B - NW Valley Park	[ONEHOUR]	20.00
C - Mays/Miscombe/Services	[ONEHOUR]	20.00
D - A4130 (W)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	13	74	1438
	B - NW Valley Park	14	0	0	59
	C - Mays/Miscombe/Services	23	0	0	5
	D - A4130 (W)	1414	47	12	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	2	7
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	7	0	0	0
	D - A4130 (W)	7	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)
A - A4130 (E)	0.73	6.09	2.8	A	1525	1525
B - NW Valley Park	0.13	6.69	0.1	A	73	73
C - Mays/Miscombe/Services	0.05	5.95	0.1	A	28	28
D - A4130 (W)	0.71	5.73	2.6	A	1475	1475

Main Results for each time segment

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
A - A4130 (E)	1371	343	55	17.98	2301	0.596	1369	1303	1.1	1.6	4.111	A
B - NW Valley Park	66	16	1370	17.98	747	0.088	66	54	0.1	0.1	5.282	A
C - Mays/Miscombe/Services	25	6	1358	17.98	806	0.031	25	77	0.0	0.0	4.869	A
D - A4130 (W)	1326	331	33	17.98	2287	0.580	1324	1350	1.0	1.5	3.983	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
A - A4130 (E)	1679	420	67	22.02	2300	0.730	1674	1593	1.6	2.8	6.087	A
B - NW Valley Park	80	20	1675	22.02	620	0.130	80	66	0.1	0.1	6.663	A
C - Mays/Miscombe/Services	31	8	1661	22.02	672	0.046	31	94	0.0	0.1	5.932	A
D - A4130 (W)	1624	406	41	22.02	2286	0.710	1620	1651	1.5	2.6	5.726	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
A - A4130 (E)	1679	420	67	22.02	2312	0.726	1679	1598	2.8	2.8	6.064	A
B - NW Valley Park	80	20	1680	22.02	618	0.130	80	66	0.1	0.1	6.691	A
C - Mays/Miscombe/Services	31	8	1666	22.02	670	0.046	31	95	0.1	0.1	5.952	A
D - A4130 (W)	1624	406	41	22.02	2297	0.707	1624	1656	2.6	2.6	5.706	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
A - A4130 (E)	1371	343	55	17.98	2315	0.592	1376	1309	2.8	1.6	4.110	A
B - NW Valley Park	66	16	1377	17.98	744	0.088	66	54	0.1	0.1	5.308	A
C - Mays/Miscombe/Services	25	6	1365	17.98	803	0.031	25	78	0.1	0.0	4.889	A
D - A4130 (W)	1326	331	33	17.98	2300	0.577	1330	1357	2.6	1.5	3.981	A

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
01	Backhill Roundabout	Standard Roundabout		A, B, C, D	15.61	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	D - A4130 (W)

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
D6	2034with	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 - A4130 (E)		ONE HOUR	✓	1360	100.000
B - NW Valley Park		ONE HOUR	✓	88	100.000
C - Mays/Miscombe/Services		ONE HOUR	✓	159	100.000
D - A4130 (W)		ONE HOUR	✓	1944	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130 (E)	[ONEHOUR]	20.00
B - NW Valley Park	[ONEHOUR]	20.00
C - Mays/Miscombe/Services	[ONEHOUR]	20.00
D - A4130 (W)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	31	33	1296
	B - NW Valley Park	18	0	0	70
	C - Mays/Miscombe/Services	126	0	0	33
	D - A4130 (W)	1795	132	10	7

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A4130 (E)	B - NW Valley Park	C - Mays/Miscombe/Services	D - A4130 (W)
From	A - A4130 (E)	0	0	1	2
	B - NW Valley Park	0	0	0	0
	C - Mays/Miscombe/Services	2	0	0	0
	D - A4130 (W)	2	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)
A - A4130 (E)	0.67	4.92	2.0	A	1360	1360
B - NW Valley Park	0.14	5.96	0.2	A	88	88
C - Mays/Miscombe/Services	0.24	6.59	0.3	A	159	159
D - A4130 (W)	0.94	24.27	13.6	C	1944	1944

Main Results for each time segment

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
A - A4130 (E)	1223	306	133	17.98	2253	0.543	1221	1737	0.8	1.2	3.551	A
B - NW Valley Park	79	20	1209	17.98	814	0.097	79	146	0.1	0.1	4.898	A
C - Mays/Miscombe/Services	143	36	1249	17.98	855	0.167	143	39	0.1	0.2	5.134	A
D - A4130 (W)	1748	437	129	17.98	2257	0.774	1742	1262	1.9	3.4	7.034	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
A - A4130 (E)	1497	374	161	22.02	2237	0.669	1494	2103	1.2	2.0	4.916	A
B - NW Valley Park	97	24	1478	22.02	702	0.138	97	177	0.1	0.2	5.946	A
C - Mays/Miscombe/Services	175	44	1528	22.02	731	0.239	175	47	0.2	0.3	6.566	A
D - A4130 (W)	2140	535	158	22.02	2273	0.942	2106	1544	3.4	11.9	18.989	C

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
A - A4130 (E)	1497	374	164	22.02	2244	0.667	1497	2129	2.0	2.0	4.911	A
B - NW Valley Park	97	24	1482	22.02	701	0.138	97	179	0.2	0.2	5.962	A
C - Mays/Miscombe/Services	175	44	1531	22.02	729	0.240	175	47	0.3	0.3	6.594	A
D - A4130 (W)	2140	535	159	22.02	2273	0.942	2134	1548	11.9	13.6	24.274	C

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
A - A4130 (E)	1223	306	137	17.98	2261	0.541	1226	1781	2.0	1.2	3.554	A
B - NW Valley Park	79	20	1214	17.98	812	0.097	79	149	0.2	0.1	4.917	A
C - Mays/Miscombe/Services	143	36	1254	17.98	853	0.168	143	39	0.3	0.2	5.159	A
D - A4130 (W)	1748	437	130	17.98	2289	0.764	1788	1268	13.6	3.4	7.890	A

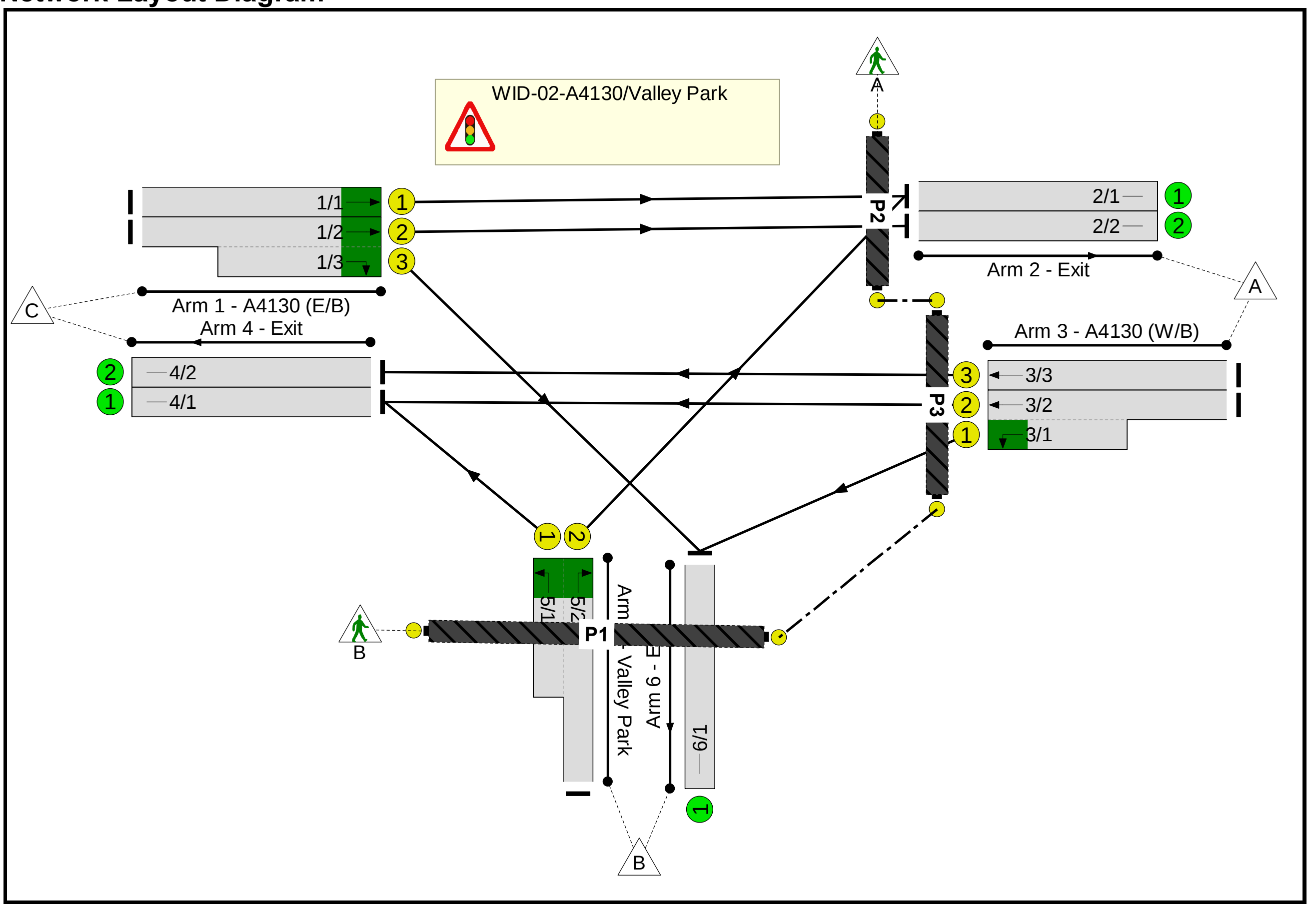
SCH2

Full Input Data And Results
Full Input Data And Results

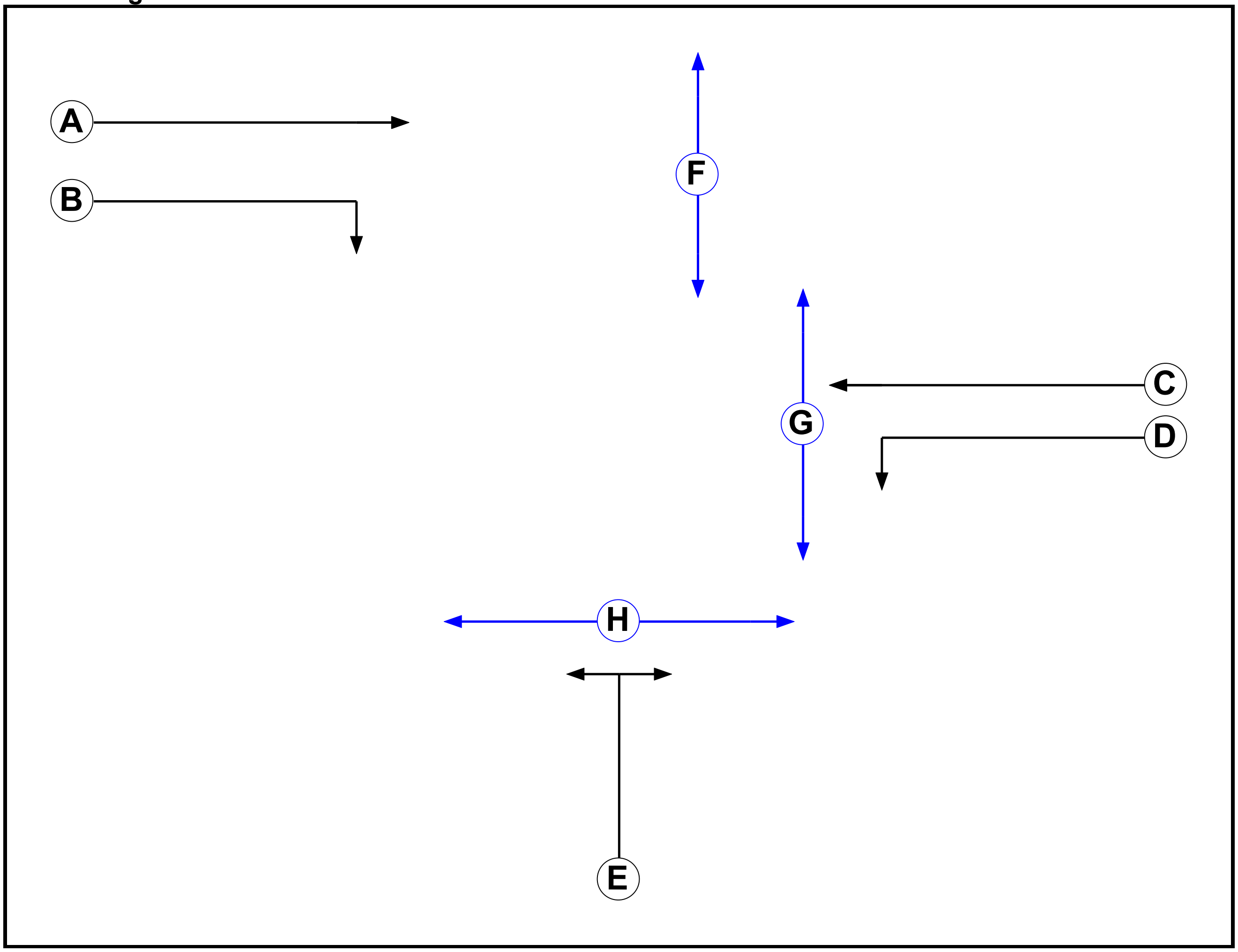
User and Project Details

Project:	**DIDCOT GARDEN TOWN HIF 1 SCHEMES PRELIMINARY DESIGN**
Title:	**WID**
Location:	
File name:	WID-02-A4130-Valley_Park-P02-v3 3 Stage DD.lsg3x
Author:	Sergio Perez
Company:	
Address:	
Notes:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Traffic		-9999	7
E	Traffic		-9999	7
F	Pedestrian		-9999	6
G	Pedestrian		-9999	6
H	Pedestrian		-9999	6

Full Input Data And Results

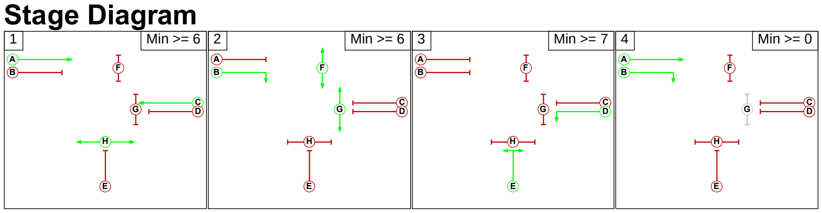
Phase Intergreens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	-	-	7	11	-	-
	B	-		7	7	6	-	-	12
	C	-	7		-	9	-	7	-
	D	-	6	-		-	-	6	9
	E	5	5	5	-		11	-	5
	F	11	-	-	-	11		-	-
	G	-	-	15	15	-	-		-
	H	-	22	-	22	22	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	A	Losing	13	13
1	2	C	Losing	17	17
1	4	C	Losing	17	17
2	3	B	Losing	6	6
3	1	D	Losing	11	11

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1		24	22	24
	2	15		15	11
	3	20	11		6
	4	12	11	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: WID-02-A4130/Valley Park
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: WID-02-A4130/Valley Park												
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 (A4130 (E/B))	U	A	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 2 Ahead	Inf
1/2 (A4130 (E/B))	U	A	2	3	60.0	Geom	-	3.35	0.00	N	Arm 2 Ahead	Inf
1/3 (A4130 (E/B))	U	B	2	3	8.2	Geom	-	3.42	0.00	Y	Arm 6 Right	9.27
2/1 (Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (A4130 (W/B))	U	D	2	3	7.0	Geom	-	3.00	0.00	Y	Arm 6 Left	7.97
3/2 (A4130 (W/B))	U	C	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 4 Ahead	Inf
3/3 (A4130 (W/B))	U	C	2	3	60.0	Geom	-	3.35	0.00	Y	Arm 4 Ahead	Inf
4/1 (Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2 (Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (Valley Park)	U	E	2	3	7.0	Geom	-	3.60	0.00	Y	Arm 4 Left	12.33
5/2 (Valley Park)	U	E	2	3	60.0	Geom	-	3.63	0.00	N	Arm 2 Right	11.06
6/1 (Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: '2034with AM'	08:00	09:00	01:00	
4: '2034with PM'	17:00	18:00	01:00	
5: '2024with AM'	08:00	09:00	01:00	
6: '2024with PM'	17:00	18:00	01:00	

Scenario 3: '2034with AM' (FG3: '2034with AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	44	1436	1480
	B	90	0	130	220
	C	1387	51	0	1438
	Tot.	1477	95	1566	3138

Traffic Lane Flows

Lane	Scenario 3: 2034with AM
Junction: WID-02-A4130/Valley Park	
1/1	669
1/2 (with short)	769(In) 718(Out)
1/3 (short)	51
2/1	759
2/2	718
3/1 (short)	44
3/2 (with short)	747(In) 703(Out)
3/3	733
4/1	833
4/2	733
5/1 (short)	130
5/2 (with short)	220(In) 90(Out)
6/1	95

Lane Saturation Flows

Junction: WID-02-A4130/Valley Park								
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 (A4130 (E/B))	3.40	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1955	1955
1/2 (A4130 (E/B))	3.35	0.00	N	Arm 2 Ahead	Inf	100.0 %	2090	2090
1/3 (A4130 (E/B))	3.42	0.00	Y	Arm 6 Right	9.27	100.0 %	1684	1684
2/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A4130 (W/B))	3.00	0.00	Y	Arm 6 Left	7.97	100.0 %	1612	1612
3/2 (A4130 (W/B))	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
3/3 (A4130 (W/B))	3.35	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1950	1950
4/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Valley Park)	3.60	0.00	Y	Arm 4 Left	12.33	100.0 %	1761	1761
5/2 (Valley Park)	3.63	0.00	N	Arm 2 Right	11.06	100.0 %	1865	1865
6/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2034with PM' (FG4: '2034with PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	113	1284	1397
	B	81	0	73	154
	C	1782	153	0	1935
	Tot.	1863	266	1357	3486

Traffic Lane Flows

Lane	Scenario 4: 2034with PM
Junction: WID-02-A4130/Valley Park	
1/1	894
1/2 (with short)	1041(In) 888(Out)
1/3 (short)	153
2/1	975
2/2	888
3/1 (short)	113
3/2 (with short)	723(In) 610(Out)
3/3	674
4/1	683
4/2	674
5/1 (short)	73
5/2 (with short)	154(In) 81(Out)
6/1	266

Lane Saturation Flows

Junction: WID-02-A4130/Valley Park								
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 (A4130 (E/B))	3.40	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1955	1955
1/2 (A4130 (E/B))	3.35	0.00	N	Arm 2 Ahead	Inf	100.0 %	2090	2090
1/3 (A4130 (E/B))	3.42	0.00	Y	Arm 6 Right	9.27	100.0 %	1684	1684
2/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A4130 (W/B))	3.00	0.00	Y	Arm 6 Left	7.97	100.0 %	1612	1612
3/2 (A4130 (W/B))	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
3/3 (A4130 (W/B))	3.35	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1950	1950
4/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Valley Park)	3.60	0.00	Y	Arm 4 Left	12.33	100.0 %	1761	1761
5/2 (Valley Park)	3.63	0.00	N	Arm 2 Right	11.06	100.0 %	1865	1865
6/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2024with AM' (FG5: '2024with AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	7	1672	1679
	B	14	0	27	41
	C	1118	7	0	1125
	Tot.	1132	14	1699	2845

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2024with AM
Junction: WID-02-A4130/Valley Park	
1/1	527
1/2 (with short)	598(In) 591(Out)
1/3 (short)	7
2/1	541
2/2	591
3/1 (short)	7
3/2 (with short)	840(In) 833(Out)
3/3	839
4/1	860
4/2	839
5/1 (short)	27
5/2 (with short)	41(In) 14(Out)
6/1	14

Lane Saturation Flows

Junction: WID-02-A4130/Valley Park								
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 (A4130 (E/B))	3.40	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1955	1955
1/2 (A4130 (E/B))	3.35	0.00	N	Arm 2 Ahead	Inf	100.0 %	2090	2090
1/3 (A4130 (E/B))	3.42	0.00	Y	Arm 6 Right	9.27	100.0 %	1684	1684
2/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A4130 (W/B))	3.00	0.00	Y	Arm 6 Left	7.97	100.0 %	1612	1612
3/2 (A4130 (W/B))	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
3/3 (A4130 (W/B))	3.35	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1950	1950
4/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Valley Park)	3.60	0.00	Y	Arm 4 Left	12.33	100.0 %	1761	1761
5/2 (Valley Park)	3.63	0.00	N	Arm 2 Right	11.06	100.0 %	1865	1865
6/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2024with PM' (FG6: '2024with PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	14	1332	1346
	B	8	0	9	17
	C	1299	18	0	1317
	Tot.	1307	32	1341	2680

Traffic Lane Flows

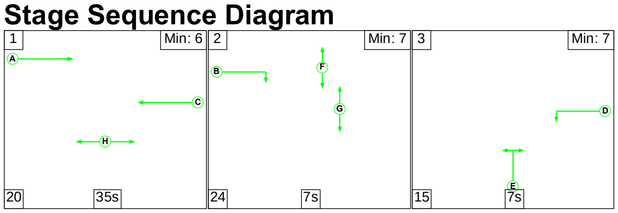
Lane	Scenario 6: 2024with PM
Junction: WID-02-A4130/Valley Park	
1/1	618
1/2 (with short)	699(In) 681(Out)
1/3 (short)	18
2/1	626
2/2	681
3/1 (short)	14
3/2 (with short)	675(In) 661(Out)
3/3	671
4/1	670
4/2	671
5/1 (short)	9
5/2 (with short)	17(In) 8(Out)
6/1	32

Lane Saturation Flows

Junction: WID-02-A4130/Valley Park								
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 (A4130 (E/B))	3.40	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1955	1955
1/2 (A4130 (E/B))	3.35	0.00	N	Arm 2 Ahead	Inf	100.0 %	2090	2090
1/3 (A4130 (E/B))	3.42	0.00	Y	Arm 6 Right	9.27	100.0 %	1684	1684
2/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A4130 (W/B))	3.00	0.00	Y	Arm 6 Left	7.97	100.0 %	1612	1612
3/2 (A4130 (W/B))	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
3/3 (A4130 (W/B))	3.35	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1950	1950
4/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Valley Park)	3.60	0.00	Y	Arm 4 Left	12.33	100.0 %	1761	1761
5/2 (Valley Park)	3.63	0.00	N	Arm 2 Right	11.06	100.0 %	1865	1865
6/1 (Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2034with AM' (FG3: '2034with AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

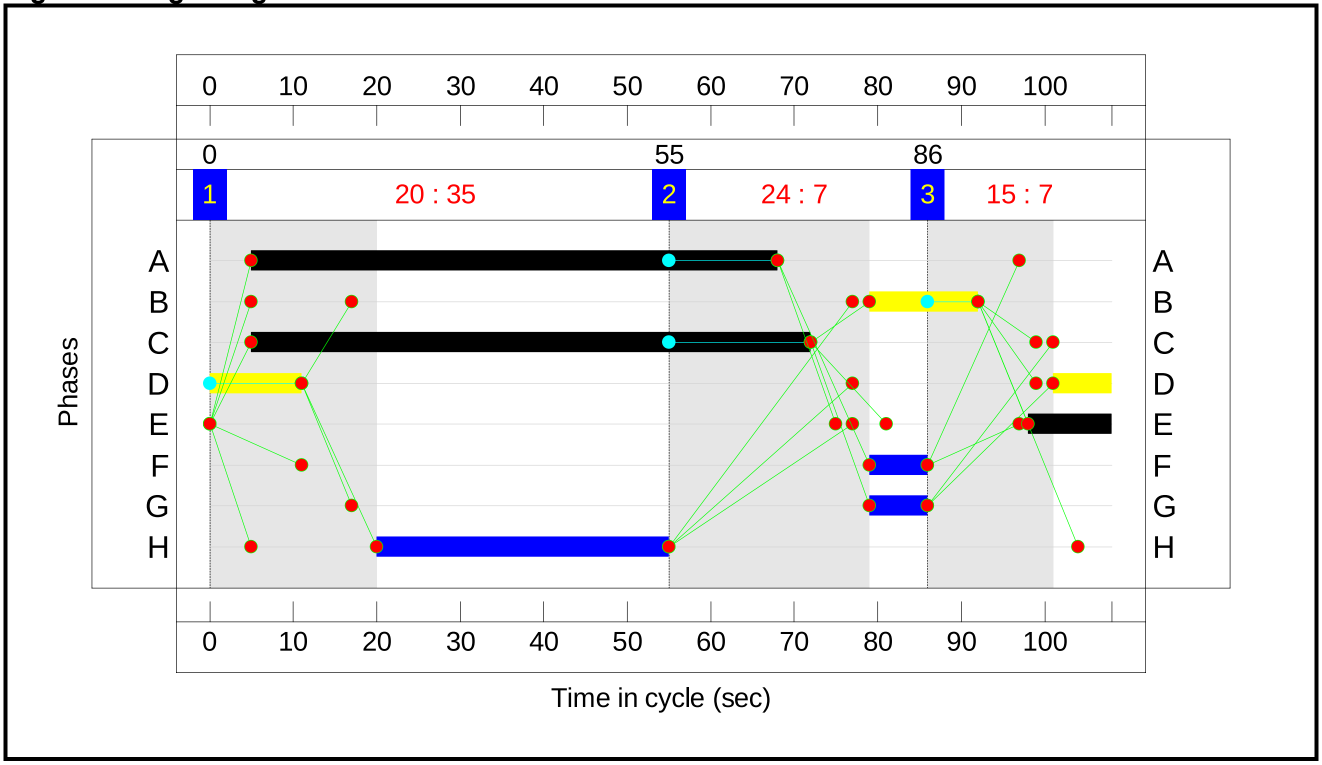


Stage Timings

Stage	**1**	**2**	**3**
Duration	35	7	7
Change Point	0	55	86

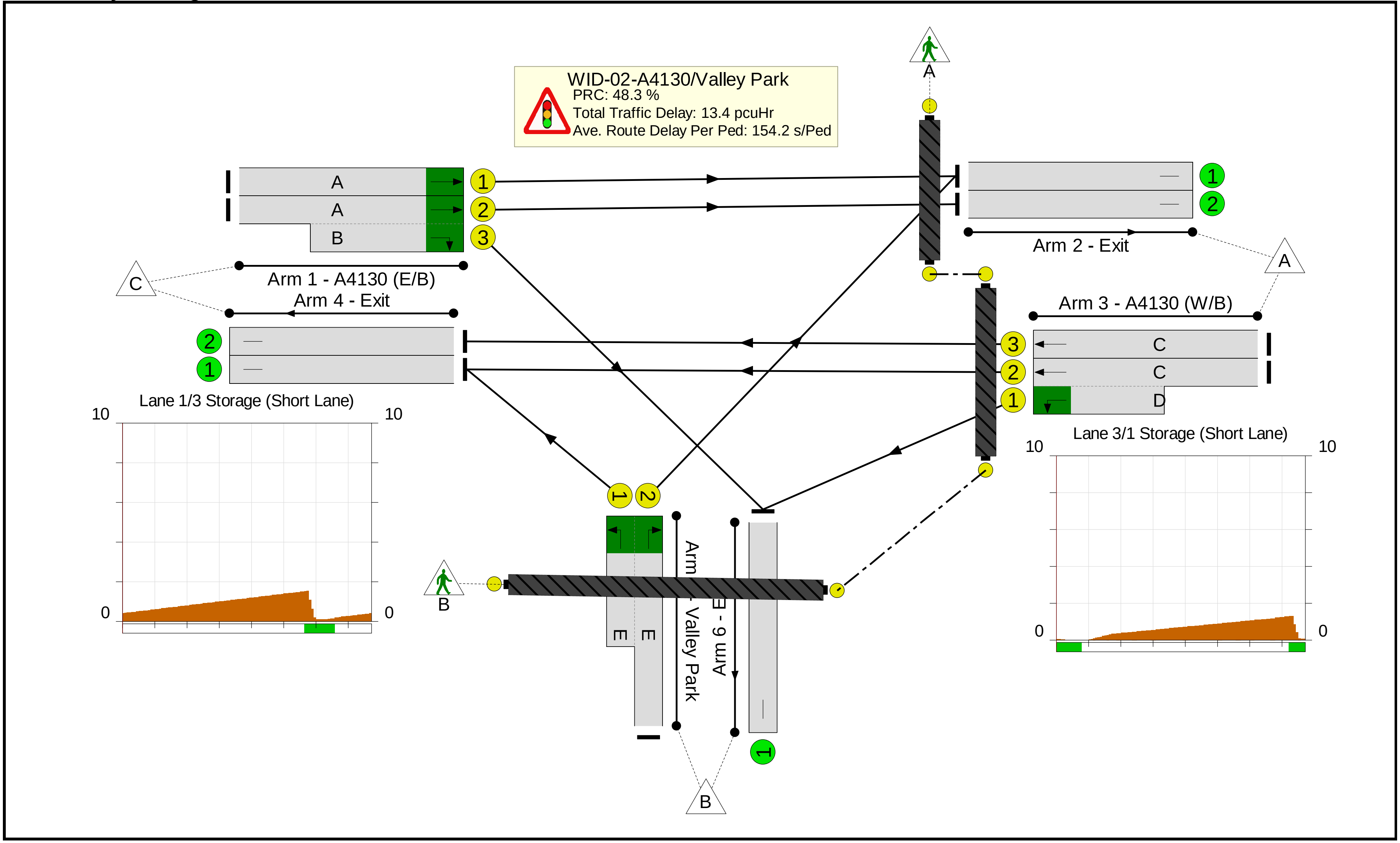
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: WID	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.7%**
WID-02-A4130/Valley Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.7%**
1/1	A4130 (E/B) Ahead	U	N/A	N/A	A		1	63	-	669	1955	1466	45.6%
1/2+1/3	A4130 (E/B) Ahead Right	U	N/A	N/A	A B		1	63:13	-	769	2090:1684	1565	49.1%
2/1	Exit	U	N/A	N/A	-		-	-	-	759	Inf	Inf	0.0%
2/2	Exit	U	N/A	N/A	-		-	-	-	718	Inf	Inf	0.0%
3/2+3/1	A4130 (W/B) Ahead Left	U	N/A	N/A	C D		1	67:18	-	747	1955:1612	1231	60.7%
3/3	A4130 (W/B) Ahead	U	N/A	N/A	C		1	67	-	733	1950	1228	59.7%
4/1	Exit	U	N/A	N/A	-		-	-	-	833	Inf	Inf	0.0%
4/2	Exit	U	N/A	N/A	-		-	-	-	733	Inf	Inf	0.0%
5/2+5/1	Valley Park Right Left	U	N/A	N/A	E		1	10	-	220	1865:1761	428	51.4%
6/1	Exit	U	N/A	N/A	-		-	-	-	95	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	H		1	35	-	2	-	23333	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	7	-	2	-	4667	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	G		1	7	-	2	-	4667	0.0%

Full Input Data And Results

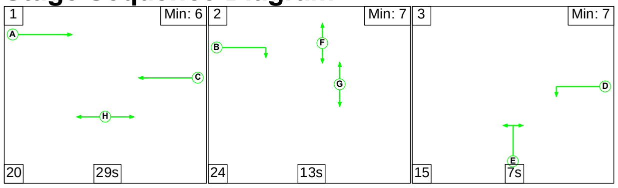
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: WID	**-**	**-**	**0**	**0**	**0**	**10.5**	**2.9**	**0.0**	**13.4**	**-**	**-**	**-**	**-**
WID-02-A4130/Valley Park	**-**	**-**	**0**	**0**	**0**	**10.5**	**2.9**	**0.0**	**13.4**	**-**	**-**	**-**	**-**
1/1	669	669	-	-	-	1.0	0.4	-	1.4	7.4	7.6	0.4	8.0
1/2+1/3	769	769	-	-	-	1.7	0.5	-	2.2	10.2	8.2	0.5	8.7
2/1	759	759	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	718	718	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	747	747	-	-	-	2.8	0.8	-	3.6	17.4	12.8	0.8	13.6
3/3	733	733	-	-	-	2.4	0.7	-	3.2	15.5	13.0	0.7	13.8
4/1	833	833	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	733	733	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2+5/1	220	220	-	-	-	2.6	0.5	-	3.1	50.5	3.6	0.5	4.1
6/1	95	95	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	2	2	-	-	-	-	-	-	0.0	24.7	-	-	0.1
Ped Link: P2	2	2	-	-	-	-	-	-	0.0	70.0	-	-	0.1
Ped Link: P3	2	2	-	-	-	-	-	-	0.0	59.5	-	-	0.1

C1 - WID-02-A4130/Valley Park
PRC for Signalled Lanes (%): 48.3
PRC Over All Lanes (%): 48.3
Total Delay for Signalled Lanes (pcuHr): 13.40
Total Delay Over All Lanes(pcuHr): 13.40
Cycle Time (s): 108

Full Input Data And Results

Scenario 4: '2034with PM' (FG4: '2034with PM', Plan 1: 'Network Control Plan 1')

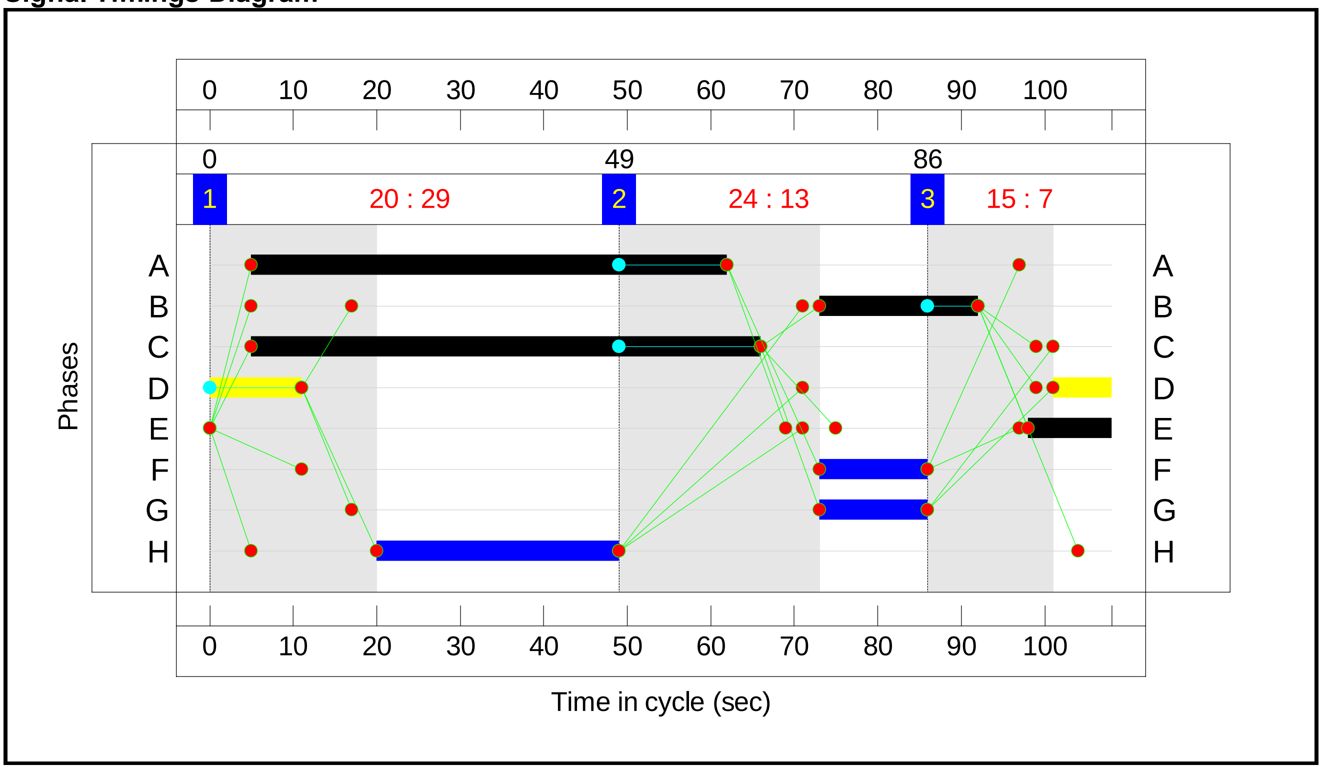
Stage Sequence Diagram



Stage Timings

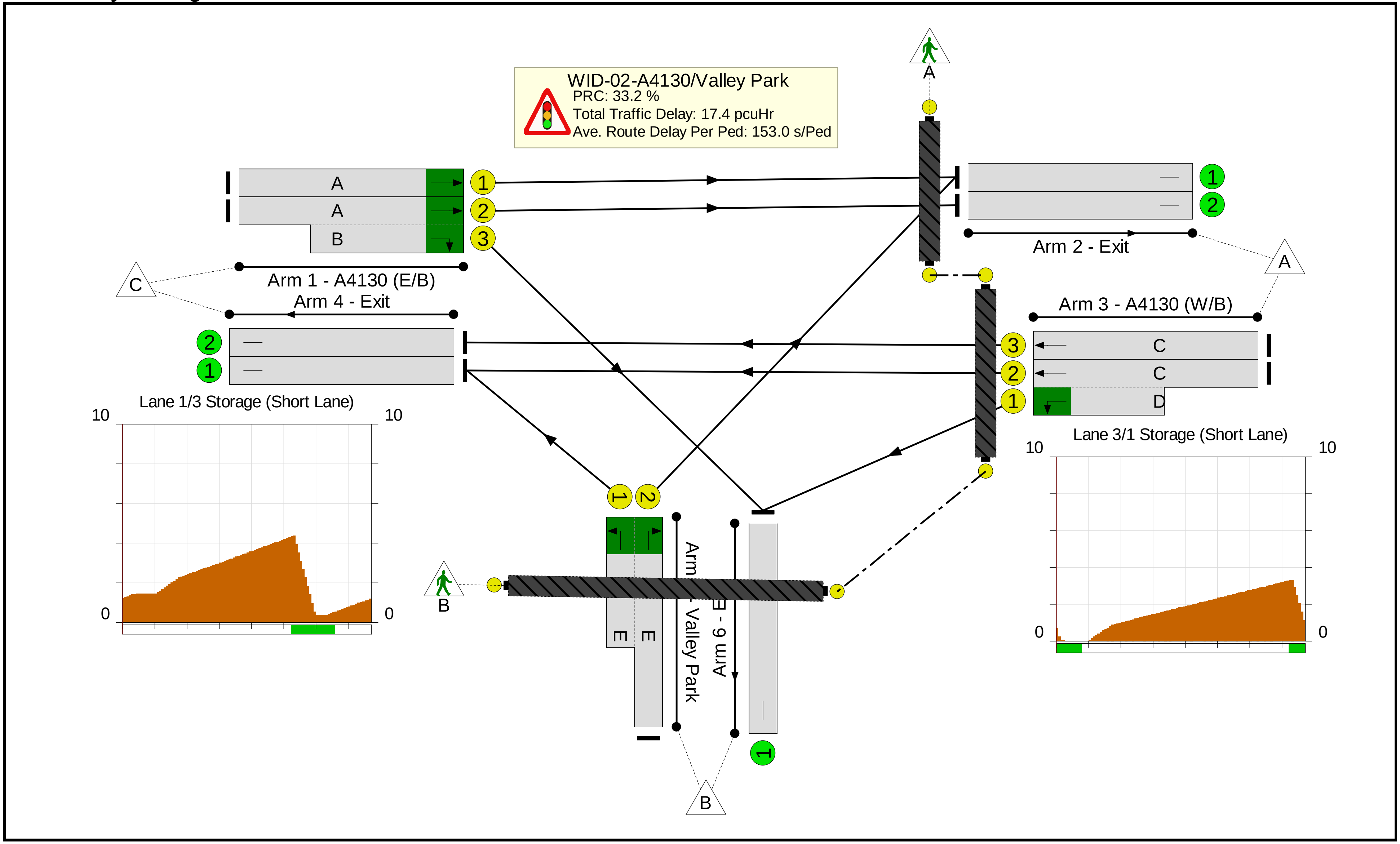
Stage	1	2	3
Duration	29	13	7
Change Point	0	49	86

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: WID	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.5%**
WID-02-A4130/Valley Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.5%**
1/1	A4130 (E/B) Ahead	U	N/A	N/A	A		1	57	-	894	1955	1448	61.7%
1/2+1/3	A4130 (E/B) Ahead Right	U	N/A	N/A	A B		1	57:19	-	1041	2090:1684	1541	67.5%
2/1	Exit	U	N/A	N/A	-		-	-	-	975	Inf	Inf	0.0%
2/2	Exit	U	N/A	N/A	-		-	-	-	888	Inf	Inf	0.0%
3/2+3/1	A4130 (W/B) Ahead Left	U	N/A	N/A	C D		1	61:18	-	723	1955:1612	1135	63.7%
3/3	A4130 (W/B) Ahead	U	N/A	N/A	C		1	61	-	674	1950	1119	60.2%
4/1	Exit	U	N/A	N/A	-		-	-	-	683	Inf	Inf	0.0%
4/2	Exit	U	N/A	N/A	-		-	-	-	674	Inf	Inf	0.0%
5/2+5/1	Valley Park Right Left	U	N/A	N/A	E		1	10	-	154	1865:1761	477	32.3%
6/1	Exit	U	N/A	N/A	-		-	-	-	266	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	H		1	29	-	2	-	19333	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	13	-	2	-	8667	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	G		1	13	-	2	-	8667	0.0%

Full Input Data And Results

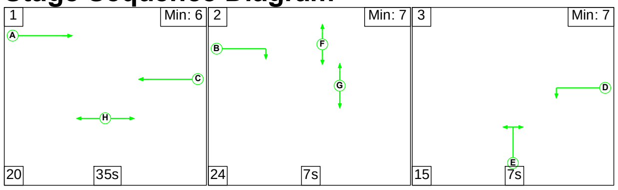
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: WID	**-**	**-**	**0**	**0**	**0**	**13.7**	**3.7**	**0.0**	**17.4**	**-**	**-**	**-**	**-**
WID-02-A4130/Valley Park	**-**	**-**	**0**	**0**	**0**	**13.7**	**3.7**	**0.0**	**17.4**	**-**	**-**	**-**	**-**
1/1	894	894	-	-	-	1.7	0.8	-	2.5	9.9	12.7	0.8	13.5
1/2+1/3	1041	1041	-	-	-	3.5	1.0	-	4.5	15.7	13.3	1.0	14.4
2/1	975	975	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	888	888	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	723	723	-	-	-	3.9	0.9	-	4.8	24.0	12.6	0.9	13.5
3/3	674	674	-	-	-	2.8	0.8	-	3.6	19.0	13.1	0.8	13.9
4/1	683	683	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	674	674	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2+5/1	154	154	-	-	-	1.8	0.2	-	2.0	46.5	2.2	0.2	2.4
6/1	266	266	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	2	2	-	-	-	-	-	-	0.0	29.8	-	-	0.1
Ped Link: P2	2	2	-	-	-	-	-	-	0.0	66.9	-	-	0.1
Ped Link: P3	2	2	-	-	-	-	-	-	0.0	56.3	-	-	0.1

C1 - WID-02-A4130/Valley Park
PRC for Signalled Lanes (%): 33.2
PRC Over All Lanes (%): 33.2
Total Delay for Signalled Lanes (pcuHr): 17.37
Total Delay Over All Lanes(pcuHr): 17.37
Cycle Time (s): 108

Full Input Data And Results

Scenario 5: '2024with AM' (FG5: '2024with AM', Plan 1: 'Network Control Plan 1')

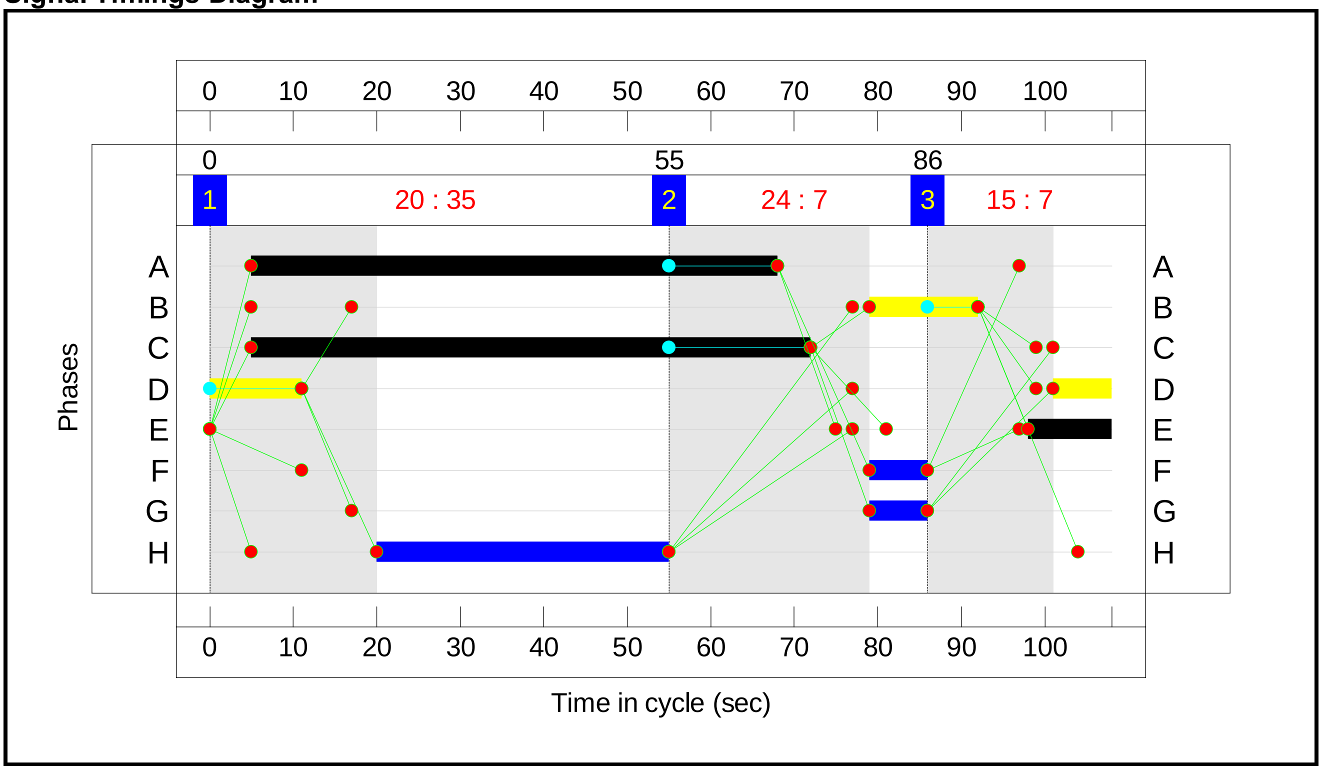
Stage Sequence Diagram



Stage Timings

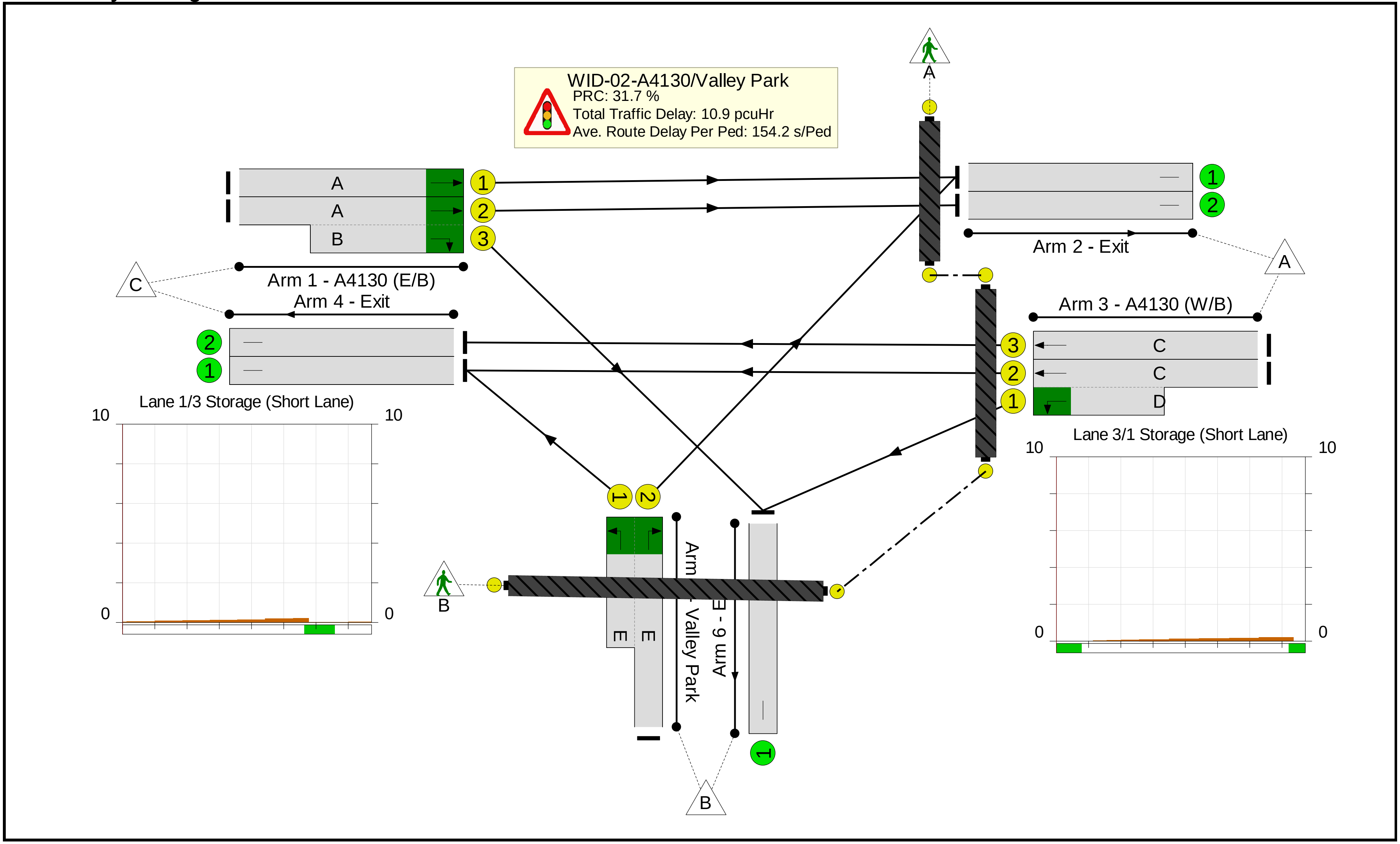
Stage	1	2	3
Duration	35	7	7
Change Point	0	55	86

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: WID	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.3%**
WID-02-A4130/Valley Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.3%**
1/1	A4130 (E/B) Ahead	U	N/A	N/A	A		1	63	-	527	1955	1466	35.9%
1/2+1/3	A4130 (E/B) Ahead Right	U	N/A	N/A	A B		1	63:13	-	598	2090:1684	1566	38.2%
2/1	Exit	U	N/A	N/A	-		-	-	-	541	Inf	Inf	0.0%
2/2	Exit	U	N/A	N/A	-		-	-	-	591	Inf	Inf	0.0%
3/2+3/1	A4130 (W/B) Ahead Left	U	N/A	N/A	C D		1	67:18	-	840	1955:1612	1229	68.3%
3/3	A4130 (W/B) Ahead	U	N/A	N/A	C		1	67	-	839	1950	1228	68.3%
4/1	Exit	U	N/A	N/A	-		-	-	-	860	Inf	Inf	0.0%
4/2	Exit	U	N/A	N/A	-		-	-	-	839	Inf	Inf	0.0%
5/2+5/1	Valley Park Right Left	U	N/A	N/A	E		1	10	-	41	1865:1761	388	10.6%
6/1	Exit	U	N/A	N/A	-		-	-	-	14	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	H		1	35	-	2	-	23333	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	7	-	2	-	4667	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	G		1	7	-	2	-	4667	0.0%

Full Input Data And Results

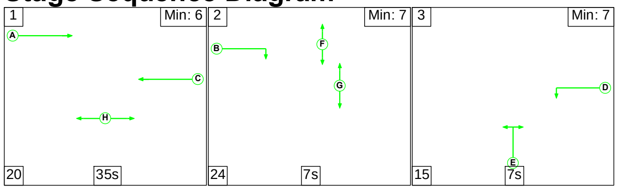
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: WID	**-**	**-**	**0**	**0**	**0**	**8.1**	**2.8**	**0.0**	**10.9**	**-**	**-**	**-**	**-**
WID-02-A4130/Valley Park	**-**	**-**	**0**	**0**	**0**	**8.1**	**2.8**	**0.0**	**10.9**	**-**	**-**	**-**	**-**
1/1	527	527	-	-	-	0.7	0.3	-	1.0	6.5	5.3	0.3	5.6
1/2+1/3	598	598	-	-	-	0.9	0.3	-	1.2	7.1	6.1	0.3	6.4
2/1	541	541	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	591	591	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	840	840	-	-	-	3.1	1.1	-	4.2	17.9	16.3	1.1	17.3
3/3	839	839	-	-	-	3.0	1.1	-	4.1	17.6	16.3	1.1	17.4
4/1	860	860	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	839	839	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2+5/1	41	41	-	-	-	0.5	0.1	-	0.5	45.0	0.7	0.1	0.8
6/1	14	14	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	2	2	-	-	-	-	-	-	0.0	24.7	-	-	0.1
Ped Link: P2	2	2	-	-	-	-	-	-	0.0	70.0	-	-	0.1
Ped Link: P3	2	2	-	-	-	-	-	-	0.0	59.5	-	-	0.1

C1 - WID-02-A4130/Valley Park
PRC for Signalled Lanes (%): 31.7
PRC Over All Lanes (%): 31.7
Total Delay for Signalled Lanes (pcuHr): 10.92
Total Delay Over All Lanes(pcuHr): 10.92
Cycle Time (s): 108

Full Input Data And Results

Scenario 6: '2024with PM' (FG6: '2024with PM', Plan 1: 'Network Control Plan 1')

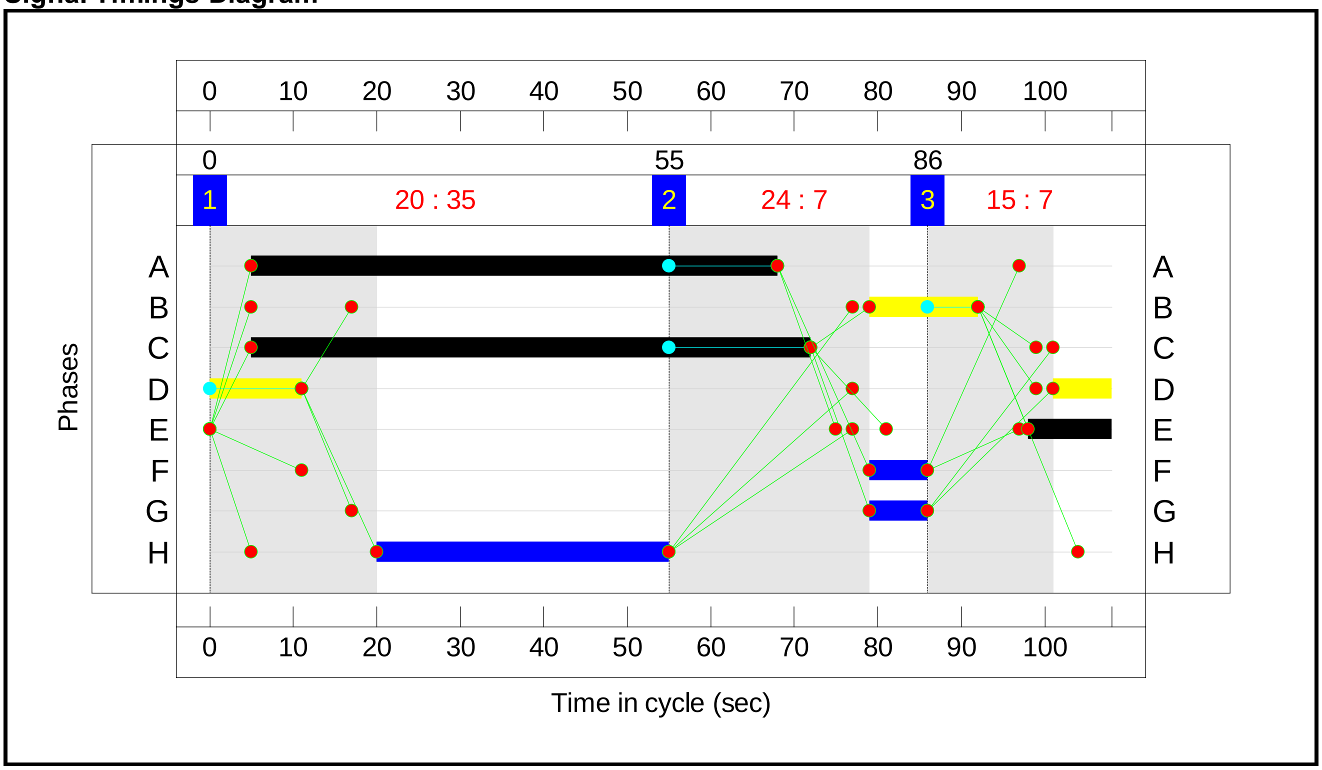
Stage Sequence Diagram



Stage Timings

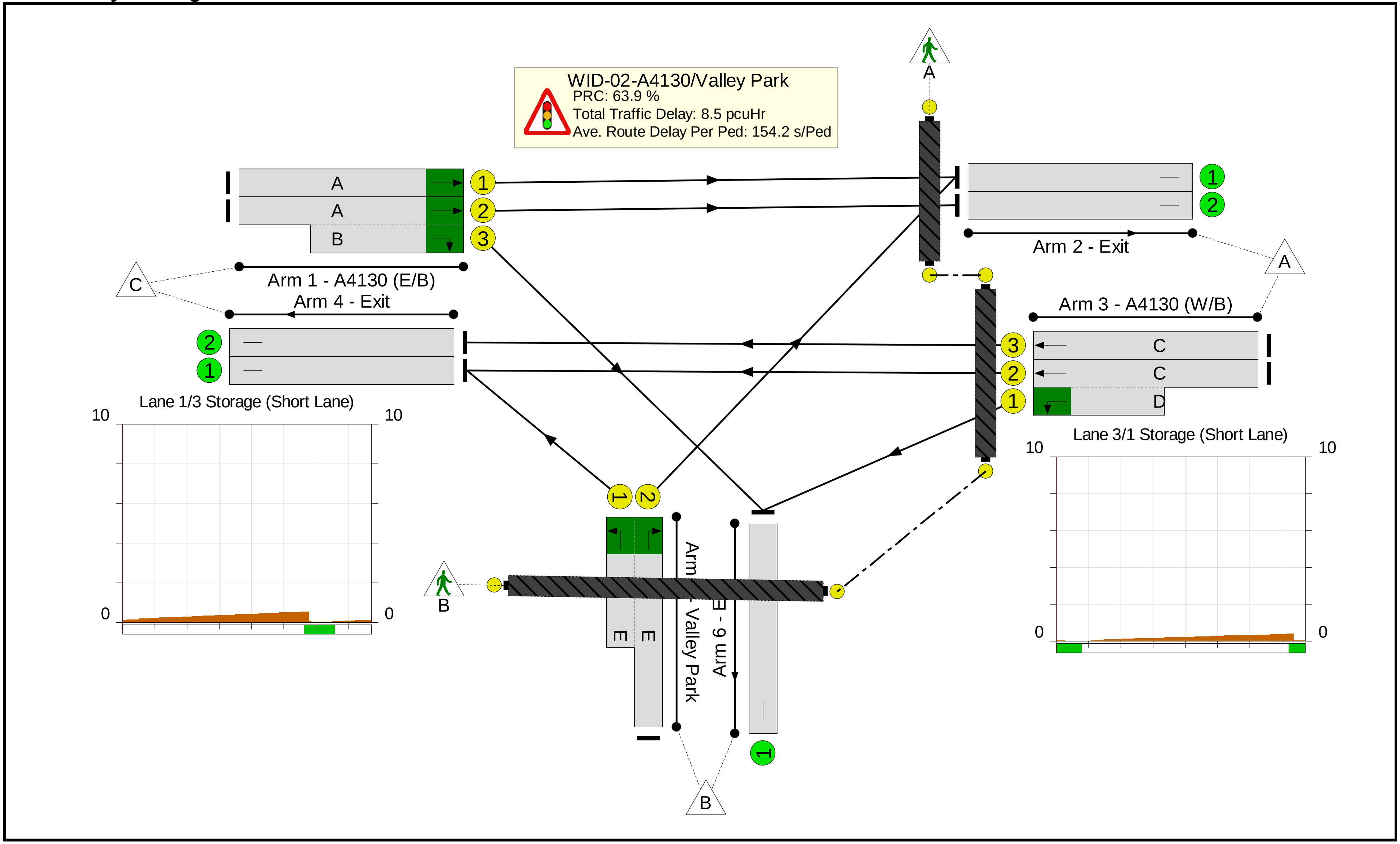
Stage	1	2	3
Duration	35	7	7
Change Point	0	55	86

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: WID	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.9%**
WID-02-A4130/Valley Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.9%**
1/1	A4130 (E/B) Ahead	U	N/A	N/A	A		1	63	-	618	1955	1466	42.1%
1/2+1/3	A4130 (E/B) Ahead Right	U	N/A	N/A	A B		1	63:13	-	699	2090:1684	1565	44.7%
2/1	Exit	U	N/A	N/A	-		-	-	-	626	Inf	Inf	0.0%
2/2	Exit	U	N/A	N/A	-		-	-	-	681	Inf	Inf	0.0%
3/2+3/1	A4130 (W/B) Ahead Left	U	N/A	N/A	C D		1	67:18	-	675	1955:1612	1230	54.9%
3/3	A4130 (W/B) Ahead	U	N/A	N/A	C		1	67	-	671	1950	1228	54.7%
4/1	Exit	U	N/A	N/A	-		-	-	-	670	Inf	Inf	0.0%
4/2	Exit	U	N/A	N/A	-		-	-	-	671	Inf	Inf	0.0%
5/2+5/1	Valley Park Right Left	U	N/A	N/A	E		1	10	-	17	1865:1761	474	3.6%
6/1	Exit	U	N/A	N/A	-		-	-	-	32	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	H		1	35	-	2	-	23333	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	7	-	2	-	4667	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	G		1	7	-	2	-	4667	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: WID	**-**	**-**	**0**	**0**	**0**	**6.5**	**2.0**	**0.0**	**8.5**	**-**	**-**	**-**	**-**
WID-02-A4130/Valley Park	**-**	**-**	**0**	**0**	**0**	**6.5**	**2.0**	**0.0**	**8.5**	**-**	**-**	**-**	**-**
1/1	618	618	-	-	-	0.8	0.4	-	1.2	7.1	6.7	0.4	7.1
1/2+1/3	699	699	-	-	-	1.2	0.4	-	1.6	8.2	7.6	0.4	8.0
2/1	626	626	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	681	681	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	675	675	-	-	-	2.2	0.6	-	2.8	15.1	11.1	0.6	11.7
3/3	671	671	-	-	-	2.1	0.6	-	2.7	14.5	11.2	0.6	11.8
4/1	670	670	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	671	671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2+5/1	17	17	-	-	-	0.2	0.0	-	0.2	43.5	0.2	0.0	0.2
6/1	32	32	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	2	2	-	-	-	-	-	-	0.0	24.7	-	-	0.1
Ped Link: P2	2	2	-	-	-	-	-	-	0.0	70.0	-	-	0.1
Ped Link: P3	2	2	-	-	-	-	-	-	0.0	59.5	-	-	0.1

C1 - WID-02-A4130/Valley Park PRC for Signalled Lanes (%): 63.9 Total Delay for Signalled Lanes (pcuHr): 8.54 Cycle Time (s): 108
PRC Over All Lanes (%): 63.9 Total Delay Over All Lanes(pcuHr): 8.54

SCH3

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: AWAITING DESIGN- WID-03-Northern Roundabout-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\A4130_WID\Models\ARCADY
Report generation date: 10/09/2021 15:55:33

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024with									
A - A4130	13.8	42.61	0.95	E	-2 % [A - A4130]	3.7	13.56	0.79	B	13 % [A - A4130]
B - Science Bridge Link	4.2	20.85	0.81	C		1.6	9.39	0.62	A	
C - A4130	1.5	4.33	0.58	A		2.2	5.53	0.68	A	
	2034with									
A - A4130	1.8	9.38	0.64	A	-1 % [B - Science Bridge Link]	3.3	16.41	0.77	C	0 % [C - A4130]
B - Science Bridge Link	11.3	38.22	0.93	E		5.1	18.85	0.84	C	
C - A4130	3.6	8.10	0.78	A		18.9	35.61	0.97	E	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

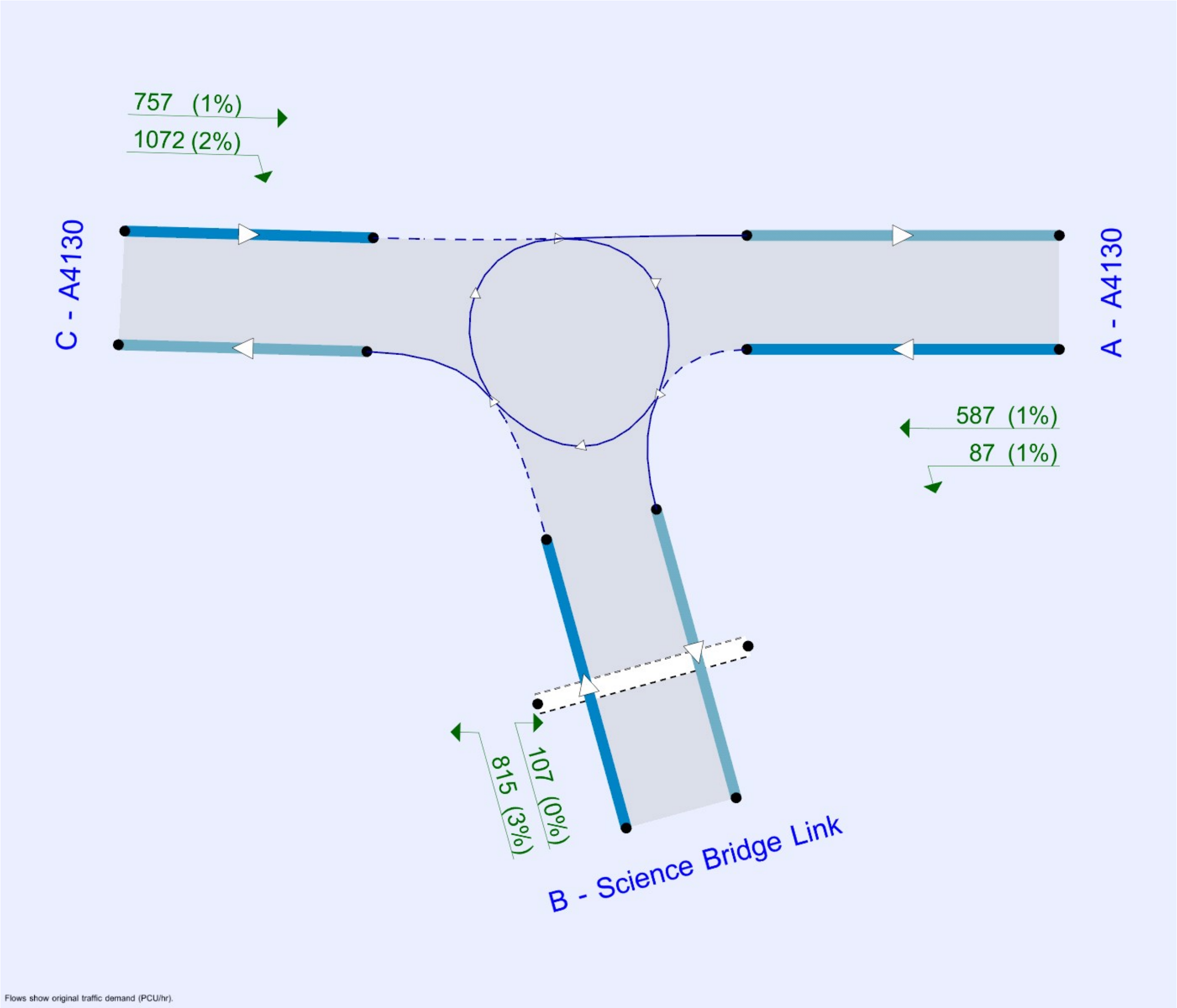
File summary

File Description

Title	WID_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0003 P02
Location	Northern Roundabout
Site number	03
Date	12/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
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)	Results for central hour only	Run automatically
D1	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
03	Northern Roundabout	Standard Roundabout		A, B, C	22.82	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-2	A - A4130

Arms

Arms

Arm	Name	Description
A	A4130	
B	Science Bridge Link	
C	A4130	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - A4130	3.88	7.03	17.2	19.9	50.0	52.7	
B - Science Bridge Link	4.30	7.10	7.1	33.9	50.0	52.6	
C - A4130	6.85	8.17	7.2	24.9	50.0	52.7	

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)
B - Science Bridge Link	7.00	3.00	2.90	1.00	6.00	7.17	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A4130	0.574	1637
B - Science Bridge Link	0.569	1580
C - A4130	0.677	2166

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	2024with	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 - A4130		ONE HOUR	✓	1127	100.000
B - Science Bridge Link		ONE HOUR	✓	685	100.000
C - A4130		ONE HOUR	✓	1133	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130		
B - Science Bridge Link	[ONEHOUR]	20.00
C - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	92	1035
	B - Science Bridge Link	39	0	646
	C - A4130	606	527	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	1	3
	B - Science Bridge Link	8	0	8
	C - A4130	6	8	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)
A - A4130	0.95	42.61	13.8	E	1127	1127
B - Science Bridge Link	0.81	20.85	4.2	C	685	685
C - A4130	0.58	4.33	1.5	A	1133	1133

Main Results for each time segment

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
A - A4130	1013	253	473		1365	0.742	1008	579	1.5	2.8	10.206	B
B - Science Bridge Link	616	154	926	17.98	1039	0.593	613	556	0.9	1.5	9.087	A
C - A4130	1019	255	35		2142	0.475	1018	1504	0.7	1.0	3.418	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
A - A4130	1241	310	579		1305	0.951	1206	709	2.8	11.4	30.533	D
B - Science Bridge Link	754	189	1108	22.02	949	0.794	745	678	1.5	3.8	18.270	C
C - A4130	1247	312	42		2137	0.584	1245	1811	1.0	1.5	4.302	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
A - A4130	1241	310	580		1304	0.952	1231	710	11.4	13.8	42.610	E
B - Science Bridge Link	754	189	1131	22.02	936	0.805	753	681	3.8	4.2	20.847	C
C - A4130	1247	312	43		2137	0.584	1247	1841	1.5	1.5	4.326	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
A - A4130	1013	253	475		1365	0.743	1056	582	13.8	3.1	13.526	B
B - Science Bridge Link	616	154	970	17.98	1028	0.599	626	561	4.2	1.7	9.898	A
C - A4130	1019	255	36		2142	0.476	1021	1560	1.5	1.0	3.437	A

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
03	Northern Roundabout	Standard Roundabout		A, B, C	8.95	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	13	A - A4130

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
D2	2024with	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 - A4130		ONE HOUR	✓	919	100.000
B - Science Bridge Link		ONE HOUR	✓	580	100.000
C - A4130		ONE HOUR	✓	1307	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130		
B - Science Bridge Link	[ONEHOUR]	20.00
C - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	74	845
	B - Science Bridge Link	81	1	498
	C - A4130	740	567	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	0	1
	B - Science Bridge Link	0	0	6
	C - A4130	1	4	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)
A - A4130	0.79	13.56	3.7	B	919	919
B - Science Bridge Link	0.62	9.39	1.6	A	580	580
C - A4130	0.68	5.53	2.2	A	1307	1307

Main Results for each time segment

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
A - A4130	826	207	510		1344	0.615	824	737	1.0	1.6	6.947	A
B - Science Bridge Link	521	130	757	17.98	1123	0.464	520	576	0.6	0.9	6.260	A
C - A4130	1175	294	74		2116	0.555	1173	1204	0.9	1.3	3.899	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
A - A4130	1012	253	624		1279	0.791	1004	901	1.6	3.6	12.843	B
B - Science Bridge Link	639	160	923	22.02	1038	0.615	636	705	0.9	1.6	9.338	A
C - A4130	1439	360	90		2105	0.684	1435	1469	1.3	2.2	5.467	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
A - A4130	1012	253	625		1278	0.792	1011	904	3.6	3.7	13.557	B
B - Science Bridge Link	639	160	930	22.02	1042	0.613	639	707	1.6	1.6	9.385	A
C - A4130	1439	360	90		2105	0.684	1439	1478	2.2	2.2	5.526	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
A - A4130	826	207	512		1343	0.615	834	741	3.7	1.6	7.256	A
B - Science Bridge Link	521	130	767	17.98	1127	0.463	524	579	1.6	0.9	6.312	A
C - A4130	1175	294	74		2116	0.555	1179	1217	2.2	1.3	3.944	A

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
03	Northern Roundabout	Standard Roundabout		A, B, C	18.18	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	B - Science Bridge Link

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	2034with	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 - A4130		ONE HOUR	✓	653	100.000
B - Science Bridge Link		ONE HOUR	✓	1030	100.000
C - A4130		ONE HOUR	✓	1478	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130		
B - Science Bridge Link	[ONEHOUR]	20.00
C - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	75	578
	B - Science Bridge Link	85	7	938
	C - A4130	673	805	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	3	6
	B - Science Bridge Link	5	1	8
	C - A4130	5	7	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)
A - A4130	0.64	9.38	1.8	A	653	653
B - Science Bridge Link	0.93	38.22	11.3	E	1030	1030
C - A4130	0.78	8.10	3.6	A	1478	1478

Main Results for each time segment

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
A - A4130	587	147	729		1219	0.482	586	680	0.6	1.0	5.995	A
B - Science Bridge Link	926	231	518	17.98	1278	0.725	921	796	1.5	2.7	10.731	B
C - A4130	1329	332	82		2110	0.630	1326	1357	1.2	1.8	4.854	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
A - A4130	719	180	890		1126	0.638	716	829	1.0	1.8	9.188	A
B - Science Bridge Link	1134	284	633	22.02	1219	0.930	1106	972	2.7	9.6	29.008	D
C - A4130	1627	407	99		2099	0.775	1620	1641	1.8	3.5	7.859	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
A - A4130	719	180	894		1124	0.640	719	834	1.8	1.8	9.381	A
B - Science Bridge Link	1134	284	636	22.02	1218	0.931	1128	976	9.6	11.3	38.219	E
C - A4130	1627	407	101		2098	0.776	1627	1663	3.5	3.6	8.096	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
A - A4130	587	147	734		1216	0.483	590	687	1.8	1.0	6.116	A
B - Science Bridge Link	926	231	523	17.98	1283	0.722	959	802	11.3	2.9	13.131	B
C - A4130	1329	332	86		2108	0.630	1336	1396	3.6	1.8	4.990	A

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
03	Northern Roundabout	Standard Roundabout		A, B, C	27.31	D

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	0	C - A4130

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
D6	2034with	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 - A4130		ONE HOUR	✓	674	100.000
B - Science Bridge Link		ONE HOUR	✓	927	100.000
C - A4130		ONE HOUR	✓	1829	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A4130		
B - Science Bridge Link	[ONEHOUR]	20.00
C - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	87	587
	B - Science Bridge Link	107	5	815
	C - A4130	757	1072	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130	B - Science Bridge Link	C - A4130
From	A - A4130	0	1	1
	B - Science Bridge Link	0	0	3
	C - A4130	1	2	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)
A - A4130	0.77	16.41	3.3	C	674	674
B - Science Bridge Link	0.84	18.85	5.1	C	927	927
C - A4130	0.97	35.61	18.9	E	1829	1829

Main Results for each time segment

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
A - A4130	606	151	964		1084	0.559	604	774	0.8	1.3	7.549	A
B - Science Bridge Link	833	208	526	17.98	1264	0.659	830	1042	1.2	1.9	8.458	A
C - A4130	1644	411	100		2098	0.784	1638	1256	1.9	3.5	7.828	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
A - A4130	742	186	1158		972	0.763	735	930	1.3	3.0	14.885	B
B - Science Bridge Link	1021	255	640	22.02	1216	0.840	1009	1253	1.9	4.8	17.003	C
C - A4130	2014	503	122		2084	0.967	1966	1527	3.5	15.4	24.734	C

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
A - A4130	742	186	1178		961	0.772	741	945	3.0	3.3	16.406	C
B - Science Bridge Link	1021	255	646	22.02	1213	0.842	1019	1273	4.8	5.1	18.851	C
C - A4130	2014	503	123		2083	0.967	2000	1542	15.4	18.9	35.614	E

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
A - A4130	606	151	1004		1061	0.571	613	803	3.3	1.4	8.257	A
B - Science Bridge Link	833	208	534	17.98	1276	0.653	846	1083	5.1	2.0	8.829	A
C - A4130	1644	411	102		2097	0.784	1704	1278	18.9	3.9	10.658	B

SCH4

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: AWAITING DESIGN- WID-04-Science Bridge Roundabout-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\A4130_WID\Models\ARCADY
Report generation date: 10/09/2021 16:02:33

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024with									
A - Science Bridge	0.6	3.38	0.37	A	147 % [C - Science Bridge Link]	0.6	3.18	0.35	A	141 % [C - Science Bridge Link]
B - Valley Park Spine Road	0.1	3.16	0.07	A		0.0	2.92	0.03	A	
C - Science Bridge Link	0.7	3.49	0.38	A		0.7	3.45	0.39	A	
	2034with									
A - Science Bridge	1.5	5.56	0.57	A	15 % [B - Valley Park Spine Road]	3.0	9.37	0.75	A	12 % [C - Science Bridge Link]
B - Valley Park Spine Road	3.2	12.49	0.77	B		1.6	7.58	0.61	A	
C - Science Bridge Link	1.9	7.25	0.65	A		4.6	13.66	0.83	B	

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. 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	WID_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0003 P02
Location	Science Bridge Roundabout
Site number	04
Date	12/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
04	Science Bridge Roundabout	Standard Roundabout		A, B, C	3.42	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	147	C - Science Bridge Link

Arms

Arms

Arm	Name	Description
A	Science Bridge	
B	Valley Park Spine Road	
C	Science Bridge Link	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Science Bridge	4.80	7.31	12.1	19.9	50.0	39.0	
B - Valley Park Spine Road	3.35	7.03	14.8	34.9	50.0	36.1	
C - Science Bridge Link	4.16	7.06	13.8	35.1	50.0	35.0	

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
B - Valley Park Spine Road	5.00	10.00	✓	Distance	4.90	3.50	3.80	2.71

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - Science Bridge	0.628	1852
B - Valley Park Spine Road	0.596	1636
C - Science Bridge Link	0.627	1793

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	2024with	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 - Science Bridge		ONE HOUR	✓	622	100.000
B - Valley Park Spine Road		ONE HOUR	✓	82	100.000
C - Science Bridge Link		ONE HOUR	✓	618	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Science Bridge		
B - Valley Park Spine Road	[ONEHOUR]	20.00
C - Science Bridge Link		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	5	617
	B - Valley Park Spine Road	17	0	65
	C - Science Bridge Link	594	22	2

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	0	8
	B - Valley Park Spine Road	0	0	0
	C - Science Bridge Link	7	0	50

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)
A - Science Bridge	0.37	3.38	0.6	A	622	622
B - Valley Park Spine Road	0.07	3.16	0.1	A	82	82
C - Science Bridge Link	0.38	3.49	0.7	A	618	618

Main Results for each time segment

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
A - Science Bridge	559	140	22		1838	0.304	559	549	0.4	0.5	3.037	A
B - Valley Park Spine Road	74	18	556	17.98	1304	0.057	74	24	0.0	0.1	2.924	A
C - Science Bridge Link	556	139	15		1783	0.312	555	614	0.4	0.5	3.132	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
A - Science Bridge	685	171	26		1835	0.373	684	672	0.5	0.6	3.374	A
B - Valley Park Spine Road	90	23	681	22.02	1230	0.073	90	30	0.1	0.1	3.158	A
C - Science Bridge Link	680	170	19		1781	0.382	680	752	0.5	0.7	3.491	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
A - Science Bridge	685	171	26		1835	0.373	685	673	0.6	0.6	3.377	A
B - Valley Park Spine Road	90	23	682	22.02	1229	0.073	90	30	0.1	0.1	3.159	A
C - Science Bridge Link	680	170	19		1781	0.382	680	753	0.7	0.7	3.493	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
A - Science Bridge	559	140	22		1838	0.304	560	550	0.6	0.5	3.040	A
B - Valley Park Spine Road	74	18	557	17.98	1304	0.057	74	24	0.1	0.1	2.929	A
C - Science Bridge Link	556	139	15		1783	0.312	556	616	0.7	0.5	3.135	A

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
04	Science Bridge Roundabout	Standard Roundabout		A, B, C	3.31	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	141	C - Science Bridge Link

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
D2	2024with	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 - Science Bridge		ONE HOUR	✓	570	100.000
B - Valley Park Spine Road		ONE HOUR	✓	32	100.000
C - Science Bridge Link		ONE HOUR	✓	641	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Science Bridge		
B - Valley Park Spine Road	[ONEHOUR]	20.00
C - Science Bridge Link		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	12	558
	B - Valley Park Spine Road	8	0	24
	C - Science Bridge Link	588	53	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	0	5
	B - Valley Park Spine Road	0	0	0
	C - Science Bridge Link	4	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)
A - Science Bridge	0.35	3.18	0.6	A	570	570
B - Valley Park Spine Road	0.03	2.92	0.0	A	32	32
C - Science Bridge Link	0.39	3.45	0.7	A	641	641

Main Results for each time segment

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
A - Science Bridge	512	128	48		1822	0.281	512	535	0.3	0.4	2.883	A
B - Valley Park Spine Road	29	7	501	17.98	1337	0.022	29	58	0.0	0.0	2.751	A
C - Science Bridge Link	576	144	7		1788	0.322	576	523	0.4	0.5	3.078	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
A - Science Bridge	628	157	58		1815	0.346	627	656	0.4	0.6	3.176	A
B - Valley Park Spine Road	35	9	614	22.02	1270	0.028	35	71	0.0	0.0	2.915	A
C - Science Bridge Link	706	176	9		1787	0.395	705	640	0.5	0.7	3.447	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
A - Science Bridge	628	157	58		1815	0.346	628	656	0.6	0.6	3.179	A
B - Valley Park Spine Road	35	9	614	22.02	1269	0.028	35	72	0.0	0.0	2.916	A
C - Science Bridge Link	706	176	9		1787	0.395	706	641	0.7	0.7	3.449	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
A - Science Bridge	512	128	48		1822	0.281	513	536	0.6	0.4	2.888	A
B - Valley Park Spine Road	29	7	502	17.98	1336	0.022	29	59	0.0	0.0	2.752	A
C - Science Bridge Link	576	144	7		1788	0.322	577	524	0.7	0.5	3.084	A

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
04	Science Bridge Roundabout	Standard Roundabout		A, B, C	8.43	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	15	B - Valley Park Spine 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	2034with	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 - Science Bridge		ONE HOUR	✓	864	100.000
B - Valley Park Spine Road		ONE HOUR	✓	869	100.000
C - Science Bridge Link		ONE HOUR	✓	886	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Science Bridge		
B - Valley Park Spine Road	[ONEHOUR]	20.00
C - Science Bridge Link		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	277	587
	B - Valley Park Spine Road	417	1	451
	C - Science Bridge Link	616	268	2

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	3	14
	B - Valley Park Spine Road	4	0	0
	C - Science Bridge Link	9	1	42

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)
A - Science Bridge	0.57	5.56	1.5	A	864	864
B - Valley Park Spine Road	0.77	12.49	3.2	B	869	869
C - Science Bridge Link	0.65	7.25	1.9	A	886	886

Main Results for each time segment

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
A - Science Bridge	777	194	243		1699	0.457	776	927	0.7	0.9	4.294	A
B - Valley Park Spine Road	781	195	529	17.98	1320	0.592	779	490	0.9	1.4	6.747	A
C - Science Bridge Link	796	199	375		1558	0.511	795	933	0.8	1.1	5.019	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
A - Science Bridge	951	238	297		1665	0.571	949	1132	0.9	1.4	5.527	A
B - Valley Park Spine Road	957	239	647	22.02	1250	0.765	950	599	1.4	3.2	11.961	B
C - Science Bridge Link	976	244	457		1506	0.648	972	1140	1.1	1.9	7.137	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
A - Science Bridge	951	238	298		1664	0.572	951	1137	1.4	1.5	5.565	A
B - Valley Park Spine Road	957	239	648	22.02	1249	0.766	956	601	3.2	3.2	12.491	B
C - Science Bridge Link	976	244	460		1504	0.649	975	1145	1.9	1.9	7.249	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
A - Science Bridge	777	194	245		1698	0.457	779	934	1.5	0.9	4.328	A
B - Valley Park Spine Road	781	195	531	17.98	1319	0.592	788	493	3.2	1.5	6.995	A
C - Science Bridge Link	796	199	379		1555	0.512	800	940	1.9	1.1	5.098	A

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
04	Science Bridge Roundabout	Standard Roundabout		A, B, C	10.66	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	C - Science Bridge Link

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
D6	2034with	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 - Science Bridge		ONE HOUR	✓	1056	100.000
B - Valley Park Spine Road		ONE HOUR	✓	676	100.000
C - Science Bridge Link		ONE HOUR	✓	1149	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Science Bridge		
B - Valley Park Spine Road	[ONEHOUR]	20.00
C - Science Bridge Link		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	425	631
	B - Valley Park Spine Road	379	0	297
	C - Science Bridge Link	721	428	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Science Bridge	B - Valley Park Spine Road	C - Science Bridge Link
From	A - Science Bridge	0	2	3
	B - Valley Park Spine Road	1	0	0
	C - Science Bridge Link	3	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)
A - Science Bridge	0.75	9.37	3.0	A	1056	1056
B - Valley Park Spine Road	0.61	7.58	1.6	A	676	676
C - Science Bridge Link	0.83	13.66	4.6	B	1149	1149

Main Results for each time segment

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
A - Science Bridge	949	237	384		1611	0.589	947	986	0.9	1.5	5.551	A
B - Valley Park Spine Road	608	152	566	17.98	1298	0.468	607	765	0.6	0.9	5.225	A
C - Science Bridge Link	1033	258	340		1579	0.654	1030	833	1.2	1.9	6.639	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
A - Science Bridge	1163	291	467		1558	0.746	1157	1203	1.5	2.9	9.077	A
B - Valley Park Spine Road	744	186	691	22.02	1224	0.608	742	933	0.9	1.5	7.472	A
C - Science Bridge Link	1265	316	416		1532	0.826	1255	1017	1.9	4.5	12.773	B

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
A - Science Bridge	1163	291	471		1556	0.747	1162	1211	2.9	3.0	9.373	A
B - Valley Park Spine Road	744	186	695	22.02	1222	0.609	744	939	1.5	1.6	7.579	A
C - Science Bridge Link	1265	316	417		1531	0.826	1264	1022	4.5	4.6	13.659	B

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
A - Science Bridge	949	237	389		1607	0.591	955	997	3.0	1.5	5.714	A
B - Valley Park Spine Road	608	152	571	17.98	1295	0.469	610	773	1.6	0.9	5.302	A
C - Science Bridge Link	1033	258	342		1578	0.655	1044	839	4.6	2.0	6.995	A

SCH5

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: DSB-37-Science BridgeNew-Purchas Road-P03-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\DSB\Models\PICADY
Report generation date: 10/09/2021 16:18:21

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	0.1	8.22	0.04	A	0.1	6.96	0.05	A
Stream B-A	0.4	14.95	0.27	B	0.2	12.19	0.19	B
Stream C-A	1.2	7.33	0.39	A	1.2	6.79	0.37	A
Stream C-B	0.1	7.94	0.41	A	0.1	7.17	0.39	A
	2034with							
Stream B-C	0.4	17.13	0.29	C	0.4	26.95	0.30	D
Stream B-A	2.5	87.51	0.73	F	2.7	163.27	0.79	F
Stream C-A	4.0	14.24	0.69	B	5.6	16.29	0.76	C
Stream C-B	0.6	17.09	0.68	C	0.5	17.56	0.72	C

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

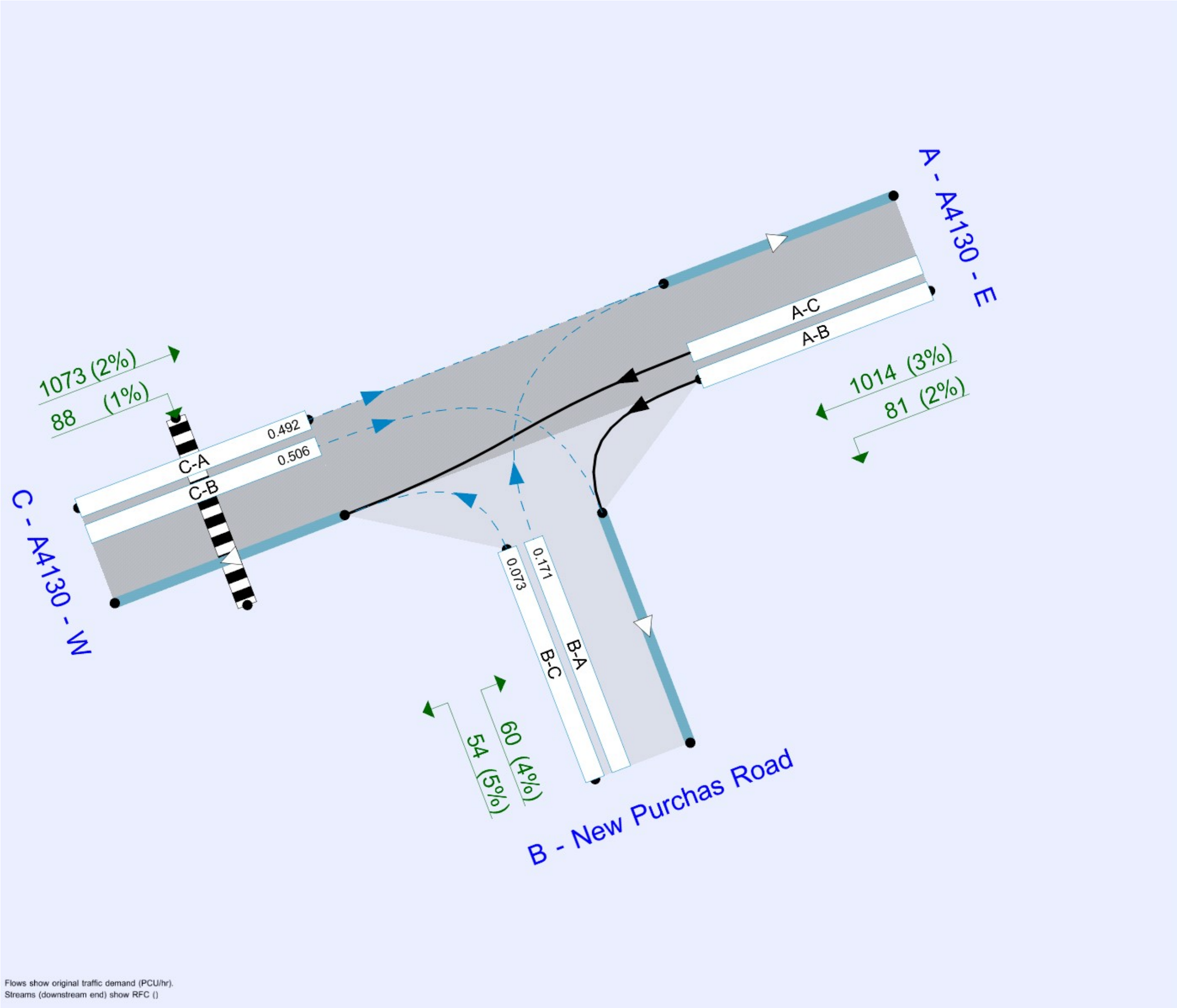
File summary

File Description

Title	DSB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0002 P03
Location	Science Bridge/New Purchas Road
Site number	37
Date	10/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
37	Science Bridge/New Purchas Road	T-Junction	Two-way		4.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A4130 - E		Major
B	New Purchas Road		Minor
C	A4130 - W		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 - A4130 - W	7.77			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	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 - New Purchas Road	One lane plus flare	10.00	7.63	5.78	4.75	4.21	✓	3.00	19	250

Zebra Crossings

Arm	Space between crossing and junction entry (Right / All) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
C - A4130 - W	5.00	5.00		Distance	7.29	5.21

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
37	B-A	705	0.118	0.299	0.188	0.428
37	B-C	735	0.104	0.263	-	-
37	C-B	626	0.224	0.224	-	-

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)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	712	100.000
B - New Purchas Road		✓	104	100.000
C - A4130 - W		✓	619	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	
B - New Purchas Road	
C - A4130 - W	20.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	96	616
	B - New Purchas Road	84	0	20
	C - A4130 - W	565	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	4	8
	B - New Purchas Road	5	0	11
	C - A4130 - W	7	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	8.22	0.1	A
B-A	0.27	14.95	0.4	B
C-A	0.39	7.33	1.2	A
C-B	0.41	7.94	0.1	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15		585	0.026	15	0.0	7.006	A
B-A	63		460	0.138	63	0.2	9.505	A
C-A	425	15.06	1653	0.257	423	0.7	5.962	A
C-B	41	15.06	143	0.283	40	0.1	6.175	A
A-B	72				72			
A-C	464				464			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18		554	0.032	18	0.0	7.457	A
B-A	76		412	0.184	75	0.2	11.232	B
C-A	508	17.98	1636	0.310	507	0.9	6.476	A
C-B	49	17.98	144	0.338	48	0.1	6.828	A
A-B	86				86			
A-C	554				554			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22		508	0.043	22	0.0	8.217	A
B-A	92		346	0.268	92	0.4	14.865	B
C-A	622	22.02	1611	0.386	621	1.2	7.313	A
C-B	59	22.02	144	0.413	59	0.1	7.909	A
A-B	106				106			
A-C	678				678			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22		508	0.043	22	0.1	8.225	A
B-A	92		345	0.268	92	0.4	14.946	B
C-A	622	22.02	1611	0.386	622	1.2	7.333	A
C-B	59	22.02	144	0.413	59	0.1	7.936	A
A-B	106				106			
A-C	678				678			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18		553	0.033	18	0.0	7.466	A
B-A	76		411	0.184	76	0.2	11.303	B
C-A	508	17.98	1636	0.310	509	0.9	6.502	A
C-B	49	17.98	144	0.338	49	0.1	6.863	A
A-B	86				86			
A-C	554				554			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15		585	0.026	15	0.0	7.018	A
B-A	63		459	0.138	64	0.2	9.569	A
C-A	425	15.06	1653	0.257	426	0.7	5.996	A
C-B	41	15.06	144	0.283	41	0.1	6.216	A
A-B	72				72			
A-C	464				464			

2024with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
37	Science Bridge/New Purchas Road	T-Junction	Two-way		3.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	596	100.000
B - New Purchas Road		✓	89	100.000
C - A4130 - W		✓	615	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	
B - New Purchas Road	
C - A4130 - W	20.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	38	558
	B - New Purchas Road	64	0	25
	C - A4130 - W	574	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	3	5
	B - New Purchas Road	1	0	2
	C - A4130 - W	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	6.96	0.1	A
B-A	0.19	12.19	0.2	B
C-A	0.37	6.79	1.2	A
C-B	0.39	7.17	0.1	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19		621	0.030	19	0.0	6.093	A
B-A	48		471	0.102	48	0.1	8.579	A
C-A	432	15.06	1717	0.252	430	0.7	5.617	A
C-B	31	15.06	114	0.270	31	0.1	5.768	A
A-B	29				29			
A-C	420				420			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22		594	0.038	22	0.0	6.424	A
B-A	58		428	0.134	57	0.2	9.804	A
C-A	516	17.98	1705	0.303	515	0.8	6.063	A
C-B	37	17.98	115	0.322	37	0.1	6.298	A
A-B	34				34			
A-C	502				502			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28		555	0.050	27	0.1	6.956	A
B-A	70		369	0.191	70	0.2	12.149	B
C-A	632	22.02	1687	0.375	631	1.2	6.775	A
C-B	45	22.02	115	0.393	45	0.1	7.146	A
A-B	42				42			
A-C	614				614			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28		555	0.050	28	0.1	6.959	A
B-A	70		369	0.191	70	0.2	12.185	B
C-A	632	22.02	1687	0.375	632	1.2	6.791	A
C-B	45	22.02	115	0.392	45	0.1	7.168	A
A-B	42				42			
A-C	614				614			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22		594	0.038	23	0.0	6.429	A
B-A	58		428	0.135	58	0.2	9.840	A
C-A	516	17.98	1704	0.303	517	0.9	6.083	A
C-B	37	17.98	115	0.321	37	0.1	6.323	A
A-B	34				34			
A-C	502				502			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19		621	0.030	19	0.0	6.100	A
B-A	48		470	0.102	48	0.1	8.616	A
C-A	432	15.06	1717	0.252	433	0.7	5.645	A
C-B	31	15.06	114	0.270	31	0.1	5.801	A
A-B	29				29			
A-C	420				420			

2034with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
37	Science Bridge/New Purchas Road	T-Junction	Two-way		11.68	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)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	949	100.000
B - New Purchas Road		✓	187	100.000
C - A4130 - W		✓	1034	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	
B - New Purchas Road	
C - A4130 - W	20.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	107	842
	B - New Purchas Road	101	0	86
	C - A4130 - W	922	112	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	9	9
	B - New Purchas Road	9	0	9
	C - A4130 - W	6	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.29	17.13	0.4	C
B-A	0.73	87.51	2.5	F
C-A	0.69	14.24	4.0	B
C-B	0.68	17.09	0.6	C
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65		577	0.112	64	0.1	7.638	A
B-A	76		311	0.244	75	0.3	16.478	C
C-A	694	15.06	1560	0.445	688	1.5	8.203	A
C-B	84	15.06	177	0.476	83	0.2	9.408	A
A-B	81				81			
A-C	634				634			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77		520	0.149	77	0.2	8.859	A
B-A	91		245	0.371	90	0.6	25.112	D
C-A	829	17.98	1526	0.543	826	2.2	9.951	A
C-B	101	17.98	179	0.562	100	0.3	11.781	B
A-B	96				96			
A-C	757				757			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95		355	0.267	94	0.4	15.001	C
B-A	111		154	0.724	105	2.2	73.114	F
C-A	1015	22.02	1470	0.690	1008	3.9	13.880	B
C-B	123	22.02	183	0.675	122	0.6	16.685	C
A-B	118				118			
A-C	927				927			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95		323	0.293	94	0.4	17.132	C
B-A	111		153	0.728	110	2.5	87.514	F
C-A	1015	22.02	1469	0.691	1015	4.0	14.239	B
C-B	123	22.02	183	0.674	123	0.6	17.091	C
A-B	118				118			
A-C	927				927			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77		509	0.152	78	0.2	9.136	A
B-A	91		244	0.371	98	0.7	27.980	D
C-A	829	17.98	1525	0.544	836	2.3	10.222	B
C-B	101	17.98	180	0.560	102	0.3	12.139	B
A-B	96				96			
A-C	757				757			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65		574	0.113	65	0.1	7.707	A
B-A	76		310	0.245	77	0.4	16.941	C
C-A	694	15.06	1559	0.445	697	1.6	8.373	A
C-B	84	15.06	178	0.474	85	0.2	9.649	A
A-B	81				81			
A-C	634				634			

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
37	Science Bridge/New Purchas Road	T-Junction	Two-way		12.77	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	1095	100.000
B - New Purchas Road		✓	114	100.000
C - A4130 - W		✓	1161	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	
B - New Purchas Road	
C - A4130 - W	20.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	81	1014
	B - New Purchas Road	60	0	54
	C - A4130 - W	1073	88	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - New Purchas Road	C - A4130 - W
From	A - A4130 - E	0	2	3
	B - New Purchas Road	4	0	5
	C - A4130 - W	2	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.30	26.95	0.4	D
B-A	0.79	163.27	2.7	F
C-A	0.76	16.29	5.6	C
C-B	0.72	17.56	0.5	C
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41		559	0.073	40	0.1	7.286	A
B-A	45		264	0.171	44	0.2	16.982	C
C-A	808	15.06	1641	0.492	801	1.8	8.133	A
C-B	66	15.06	131	0.506	66	0.2	8.932	A
A-B	61				61			
A-C	763				763			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49		499	0.097	48	0.1	8.390	A
B-A	54		189	0.286	53	0.4	27.478	D
C-A	965	17.98	1609	0.600	961	2.7	10.243	B
C-B	79	17.98	132	0.598	79	0.2	11.446	B
A-B	73				73			
A-C	912				912			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59		284	0.210	59	0.3	16.759	C
B-A	66		86	0.773	59	2.2	120.975	F
C-A	1181	22.02	1554	0.760	1170	5.5	15.585	C
C-B	97	22.02	135	0.719	96	0.5	16.969	C
A-B	89				89			
A-C	1116				1116			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59		198	0.300	59	0.4	26.951	D
B-A	66		84	0.786	64	2.7	163.269	F
C-A	1181	22.02	1553	0.761	1181	5.6	16.286	C
C-B	97	22.02	135	0.718	97	0.5	17.556	C
A-B	89				89			
A-C	1116				1116			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49		483	0.100	50	0.1	8.745	A
B-A	54		188	0.287	63	0.4	31.765	D
C-A	965	17.98	1608	0.600	976	2.9	10.691	B
C-B	79	17.98	133	0.597	80	0.3	11.914	B
A-B	73				73			
A-C	912				912			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41		556	0.073	41	0.1	7.338	A
B-A	45		262	0.172	46	0.2	17.376	C
C-A	808	15.06	1640	0.493	812	1.9	8.349	A
C-B	66	15.06	131	0.505	67	0.2	9.191	A
A-B	61				61			
A-C	763				763			

SCH6

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: DSB-05-Science_Bridge-A4130-P03-v1.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\DSB\Models\PICADY
Report generation date: 10/09/2021 16:13:23

»2024with, AM
»2024with, PM
»2034with, AM
»2034with, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	3.3	330.51	1.01	F	4.8	868.82	1.37	F
Stream B-A	12.2	150.38	1.01	F	71.4	569.70	1.37	F
Stream C-AB	0.2	11.84	0.16	B	0.1	10.50	0.07	B
Stream A-BC	1.7	5.30	0.62	A	1.2	4.30	0.53	A
	2034with							
Stream B-C	21.1	1523.16	1.99	F	27.8	1414.18	1.95	F
Stream B-A	64.5	1431.38	1.96	F	48.3	1375.07	1.92	F
Stream C-AB	0.4	14.91	0.25	B	0.2	12.03	0.15	B
Stream A-BC	3.2	8.35	0.75	A	2.2	6.32	0.69	A

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

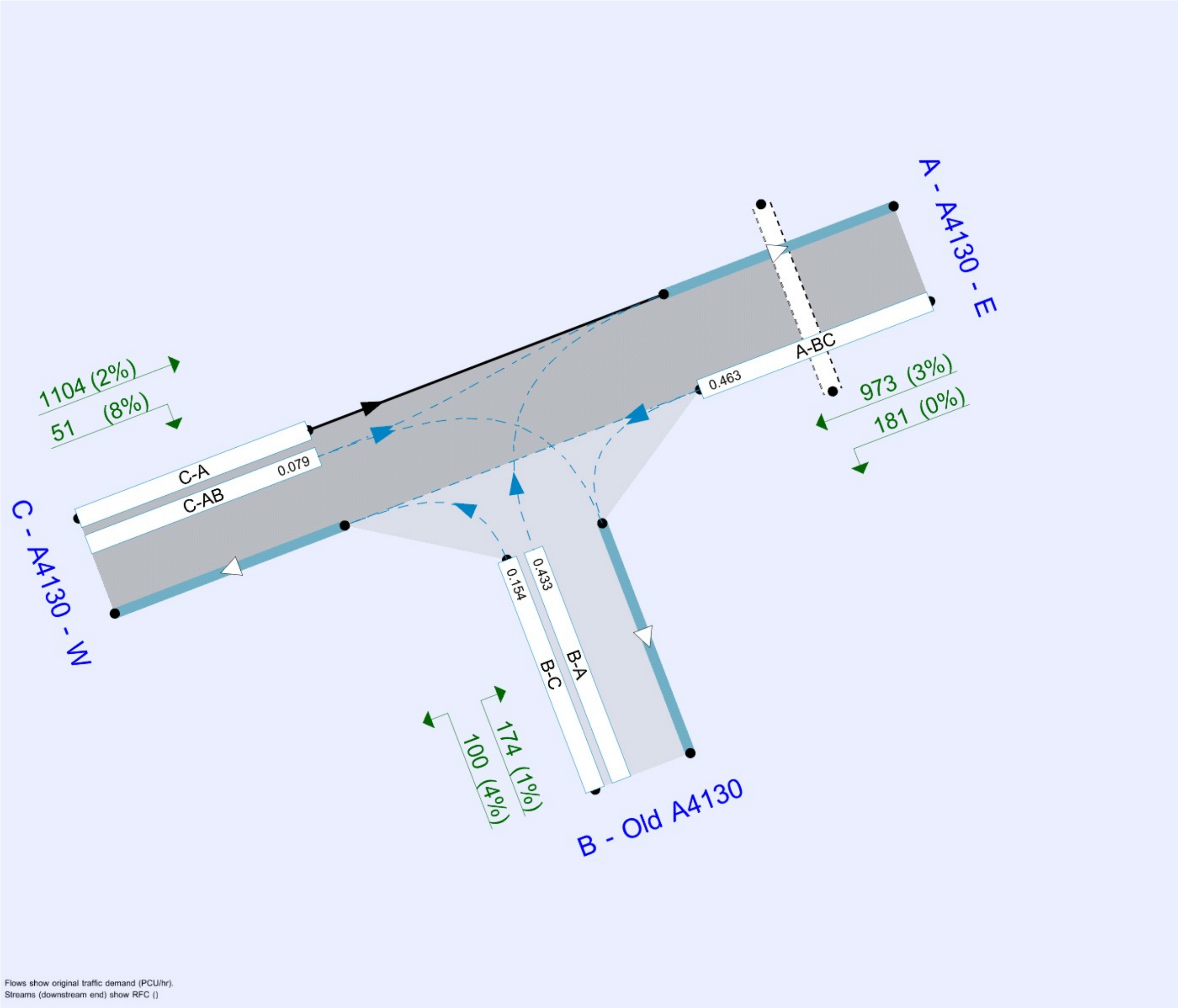
File summary

File Description

Title	DSB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0003 P03
Location	Science Bridge/A4130
Site number	05
Date	10/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
05	Science Bridge/A4130	T-Junction	Two-way		29.03	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A4130 - E		Major
B	Old A4130		Minor
C	A4130 - W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A4130 - W	7.53		✓	3.35	92.0	✓	8.00

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	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 - Old A4130	One lane plus flare	10.00	5.80	4.33	4.33	4.33	✓	1.00	130	250

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)
A - A4130 - E	4.00	3.00	2.90	1.00	6.00	15.65	7.00

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
05	B-A	754	0.128	0.324	0.204	0.463
05	B-C	773	0.111	0.280	-	-
05	C-B	706	0.255	0.255	-	-

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)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	1037	100.000
B - Old A4130		✓	300	100.000
C - A4130 - W		✓	623	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	20.00
B - Old A4130	
C - A4130 - W	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	345	692
	B - Old A4130	269	0	31
	C - A4130 - W	563	60	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	1	7
	B - Old A4130	2	0	24
	C - A4130 - W	5	14	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.01	330.51	3.3	F
B-A	1.01	150.38	12.2	F
C-AB	0.16	11.84	0.2	B
C-A				
A-BC	0.62	5.30	1.7	A

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23		476	0.049	23	0.1	9.856	A
B-A	203		444	0.456	199	0.8	14.828	B
C-AB	45		506	0.089	45	0.1	8.880	A
C-A	424				424			
A-BC	781	15.06	1876	0.416	778	0.7	3.431	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28		347	0.080	28	0.1	13.973	B
B-A	242		382	0.633	239	1.6	25.049	D
C-AB	54		467	0.115	54	0.1	9.928	A
C-A	506				506			
A-BC	932	17.98	1867	0.499	931	1.0	4.032	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34		34	1.008	24	2.7	316.900	F
B-A	296		297	0.999	269	8.4	92.178	F
C-AB	66		413	0.160	66	0.2	11.811	B
C-A	620				620			
A-BC	1142	22.02	1854	0.616	1139	1.7	5.266	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34		40	0.847	32	3.3	330.506	F
B-A	296		295	1.005	281	12.2	150.376	F
C-AB	66		413	0.160	66	0.2	11.841	B
C-A	620				620			
A-BC	1142	22.02	1854	0.616	1142	1.7	5.301	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28		259	0.107	40	0.2	21.494	C
B-A	242		379	0.639	283	2.0	50.013	F
C-AB	54		466	0.116	54	0.2	9.971	A
C-A	506				506			
A-BC	932	17.98	1867	0.499	935	1.1	4.064	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23		466	0.050	24	0.1	10.107	B
B-A	203		442	0.458	207	0.9	15.876	C
C-AB	45		505	0.089	45	0.1	8.922	A
C-A	424				424			
A-BC	781	15.06	1876	0.416	782	0.8	3.455	A

2024with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
05	Science Bridge/A4130	T-Junction	Two-way		135.02	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	901	100.000
B - Old A4130		✓	456	100.000
C - A4130 - W		✓	649	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	20.00
B - Old A4130	
C - A4130 - W	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	337	564
	B - Old A4130	433	0	23
	C - A4130 - W	619	30	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	0	5
	B - Old A4130	0	0	19
	C - A4130 - W	3	22	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.37	868.82	4.8	F
B-A	1.37	569.70	71.4	F
C-AB	0.07	10.50	0.1	B
C-A				
A-BC	0.53	4.30	1.2	A

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17		352	0.049	17	0.1	12.800	B
B-A	326		478	0.683	318	2.0	21.613	C
C-AB	23		533	0.042	22	0.1	8.604	A
C-A	466				466			
A-BC	678	15.06	1876	0.362	676	0.6	3.087	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21		92	0.224	20	0.3	58.273	F
B-A	389		423	0.921	372	6.4	57.022	F
C-AB	27		498	0.054	27	0.1	9.313	A
C-A	556				556			
A-BC	810	17.98	1867	0.434	809	0.8	3.508	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25		18	1.371	14	3.2	600.208	F
B-A	477		349	1.367	346	39.1	259.222	F
C-AB	33		452	0.073	33	0.1	10.484	B
C-A	682				682			
A-BC	992	22.02	1854	0.535	990	1.2	4.286	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25		21	1.214	19	4.8	868.822	F
B-A	477		348	1.369	348	71.4	548.949	F
C-AB	33		451	0.073	33	0.1	10.498	B
C-A	682				682			
A-BC	992	22.02	1854	0.535	992	1.2	4.302	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21		25	0.829	21	4.8	814.501	F
B-A	389		421	0.924	416	64.8	569.699	F
C-AB	27		498	0.054	27	0.1	9.331	A
C-A	556				556			
A-BC	810	17.98	1867	0.434	812	0.8	3.520	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17		30	0.582	24	3.1	642.837	F
B-A	326		474	0.687	467	29.5	367.656	F
C-AB	23		532	0.042	23	0.1	8.626	A
C-A	466				466			
A-BC	678	15.06	1876	0.362	679	0.6	3.101	A

2034with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
05	Science Bridge/A4130	T-Junction	Two-way		174.73	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	1267	100.000
B - Old A4130		✓	299	100.000
C - A4130 - W		✓	989	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	20.00
B - Old A4130	
C - A4130 - W	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	357	910
	B - Old A4130	226	0	73
	C - A4130 - W	911	78	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	1	9
	B - Old A4130	2	0	9
	C - A4130 - W	5	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.99	1523.16	21.1	F
B-A	1.96	1431.38	64.5	F
C-AB	0.25	14.91	0.4	B
C-A				
A-BC	0.75	8.35	3.2	A

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55		429	0.128	54	0.2	10.456	B
B-A	170		325	0.524	166	1.1	22.582	C
C-AB	59		462	0.127	58	0.2	9.605	A
C-A	686				686			
A-BC	954	15.06	1876	0.508	949	1.1	4.124	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66		181	0.362	64	0.6	33.001	D
B-A	203		239	0.851	192	3.8	67.391	F
C-AB	70		414	0.169	70	0.2	11.293	B
C-A	819				819			
A-BC	1139	17.98	1867	0.610	1137	1.6	5.244	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80		40	1.986	38	11.3	644.958	F
B-A	249		129	1.925	128	34.1	576.425	F
C-AB	86		348	0.247	85	0.3	14.772	B
C-A	1003				1003			
A-BC	1395	22.02	1854	0.753	1389	3.1	8.158	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80		41	1.939	41	21.1	1523.164	F
B-A	249		127	1.955	127	64.5	1431.378	F
C-AB	86		347	0.248	86	0.4	14.913	B
C-A	1003				1003			
A-BC	1395	22.02	1854	0.753	1395	3.2	8.354	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66		76	0.868	72	19.5	988.737	F
B-A	203		233	0.873	229	58.0	948.734	F
C-AB	70		412	0.170	71	0.2	11.413	B
C-A	819				819			
A-BC	1139	17.98	1867	0.610	1145	1.7	5.362	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55		101	0.542	96	9.2	555.590	F
B-A	170		307	0.554	302	25.1	502.588	F
C-AB	59		461	0.128	59	0.2	9.689	A
C-A	686				686			
A-BC	954	15.06	1876	0.508	956	1.1	4.184	A

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
05	Science Bridge/A4130	T-Junction	Two-way		150.44	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A4130 - E		✓	1154	100.000
B - Old A4130		✓	274	100.000
C - A4130 - W		✓	1155	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - A4130 - E	20.00
B - Old A4130	
C - A4130 - W	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	181	973
	B - Old A4130	174	0	100
	C - A4130 - W	1104	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A4130 - E	B - Old A4130	C - A4130 - W
From	A - A4130 - E	0	0	3
	B - Old A4130	1	0	4
	C - A4130 - W	2	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.95	1414.18	27.8	F
B-A	1.92	1375.07	48.3	F
C-AB	0.15	12.03	0.2	B
C-A				
A-BC	0.69	6.32	2.2	A

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75		489	0.154	75	0.2	9.026	A
B-A	131		302	0.433	128	0.7	20.534	C
C-AB	38		484	0.079	38	0.1	8.711	A
C-A	831				831			
A-BC	869	15.06	1876	0.463	865	0.9	3.640	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	90		293	0.307	89	0.4	18.241	C
B-A	156		214	0.732	150	2.3	53.038	F
C-AB	46		440	0.104	46	0.1	9.856	A
C-A	992				992			
A-BC	1037	17.98	1867	0.556	1036	1.3	4.434	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110		56	1.950	53	14.6	567.241	F
B-A	192		101	1.893	99	25.3	550.065	F
C-AB	56		380	0.148	56	0.2	11.983	B
C-A	1216				1216			
A-BC	1271	22.02	1854	0.685	1267	2.2	6.248	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110		57	1.916	57	27.8	1414.184	F
B-A	192		100	1.919	100	48.3	1375.067	F
C-AB	56		379	0.148	56	0.2	12.034	B
C-A	1216				1216			
A-BC	1271	22.02	1854	0.685	1270	2.2	6.324	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	90		117	0.770	112	22.2	714.193	F
B-A	156		203	0.772	198	37.8	699.335	F
C-AB	46		439	0.105	46	0.1	9.910	A
C-A	992				992			
A-BC	1037	17.98	1867	0.556	1041	1.3	4.489	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75		158	0.476	151	3.2	325.766	F
B-A	131		272	0.482	265	4.3	300.212	F
C-AB	38		483	0.080	39	0.1	8.757	A
C-A	831				831			
A-BC	869	15.06	1876	0.463	870	0.9	3.675	A

SCH7

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: RIVX-06-A4130_New Culham Crossing_Collett-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\RIV X\Models\ARCADY
Report generation date: 10/09/2021 16:31:56

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity
	2024with									
A - New Culham Crossing	0.5	0.06	0.33	A	47 % [B - A4130]	1.5	0.10	0.59	A	36 % [A - New Culham Crossing]
B - A4130	1.9	0.09	0.65	A		0.8	0.06	0.44	A	
C - Collett	0.2	0.09	0.16	A		0.2	0.07	0.13	A	
D - A4130	0.9	0.06	0.47	A		1.4	0.07	0.58	A	
	2034with									
A - New Culham Crossing	2.4	0.13	0.69	A	19 % [B - A4130]	2.8	0.16	0.74	A	13 % [D - A4130]
B - A4130	3.2	0.14	0.77	A		2.1	0.10	0.68	A	
C - Collett	0.5	0.15	0.32	A		0.7	0.13	0.40	A	
D - A4130	2.5	0.12	0.71	A		4.3	0.19	0.81	B	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

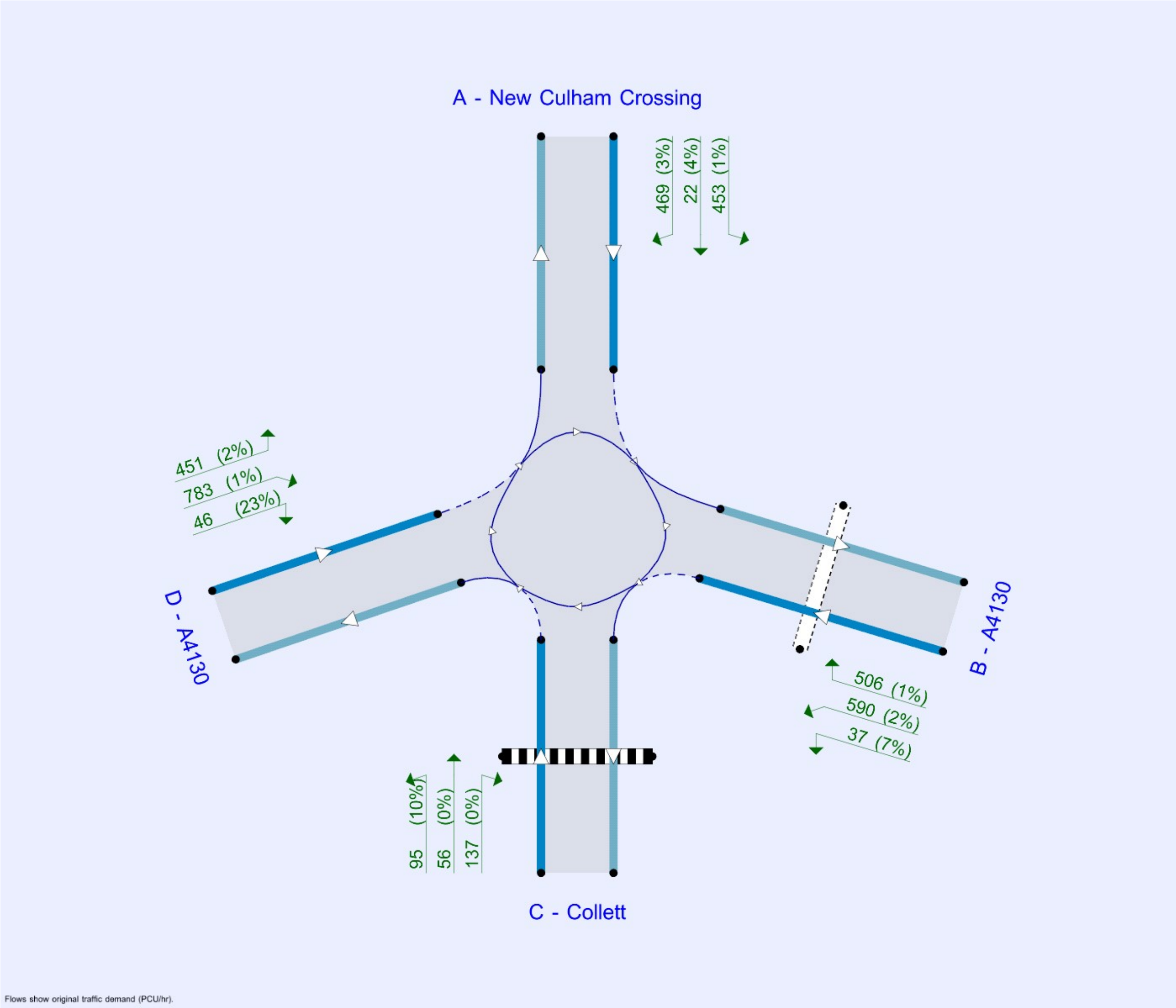
File summary

File Description

Title	RIV_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0001 P02
Location	A4130/New Culham Crossing/Collett
Site number	06
Date	21/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
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	mph	PCU	PCU	perHour	min	-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 (min)	Queue threshold (PCU)
5.75			✓	Delay	0.85	0.60	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	B - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
06	A4130/New Culham Crossing/Collett	Standard Roundabout		A, B, C, D	0.08	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	47	B - A4130

Arms

Arms

Arm	Name	Description
A	New Culham Crossing	
B	A4130	
C	Collett	
D	A4130	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - New Culham Crossing	3.73	8.14	31.9	30.0	58.7	30.5	
B - A4130	3.65	8.13	87.9	28.0	58.7	21.4	
C - Collett	3.81	8.02	17.1	25.0	58.7	51.0	
D - A4130	3.65	8.12	86.8	25.0	58.7	36.5	

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
C - Collett	7.50	9.00		Distance	11.50	8.21

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)
B - A4130	8.00	3.00	2.90	1.00	6.00	26.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - New Culham Crossing	0.636	2087
B - A4130	0.694	2373
C - Collett	0.556	1750
D - A4130	0.656	2240

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	2024with	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 - New Culham Crossing		ONE HOUR	✓	527	100.000
B - A4130		ONE HOUR	✓	1084	100.000
C - Collett		ONE HOUR	✓	142	100.000
D - A4130		ONE HOUR	✓	834	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing		
B - A4130	[ONEHOUR]	20.00
C - Collett	[ONEHOUR]	20.00
D - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	231	26	270
	B - A4130	344	0	48	692
	C - Collett	18	49	0	75
	D - A4130	380	336	118	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	4	10	13
	B - A4130	3	0	1	1
	C - Collett	9	16	0	24
	D - A4130	4	1	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.33	0.06	0.5	A	527	527
B - A4130	0.65	0.09	1.9	A	1084	1084
C - Collett	0.16	0.09	0.2	A	142	142
D - A4130	0.47	0.06	0.9	A	834	834

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	474	118	452		1799	0.263	473	666	0.3	0.4	0.049	A
B - A4130	974	244	372	17.98	1852	0.526	973	553	0.8	1.1	0.069	A
C - Collett	128	32	1173	17.98	1098	0.116	127	172	0.1	0.2	0.074	A
D - A4130	750	187	369		1998	0.375	749	931	0.5	0.6	0.050	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 (min)	Unsignalised level of service
A - New Culham Crossing	580	145	553		1735	0.334	580	815	0.4	0.5	0.056	A
B - A4130	1194	298	455	22.02	1840	0.649	1191	677	1.1	1.8	0.093	A
C - Collett	156	39	1435	22.02	952	0.164	156	211	0.2	0.2	0.090	A
D - A4130	918	230	451		1944	0.472	917	1139	0.6	0.9	0.060	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 (min)	Unsignalised level of service
A - New Culham Crossing	580	145	554		1735	0.335	580	817	0.5	0.5	0.056	A
B - A4130	1194	298	456	22.02	1840	0.649	1193	678	1.8	1.9	0.094	A
C - Collett	156	39	1438	22.02	950	0.165	156	211	0.2	0.2	0.090	A
D - A4130	918	230	452		1943	0.473	918	1142	0.9	0.9	0.061	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 (min)	Unsignalised level of service
A - New Culham Crossing	474	118	453		1799	0.263	474	669	0.5	0.4	0.049	A
B - A4130	974	244	373	17.98	1852	0.526	977	555	1.9	1.1	0.070	A
C - Collett	128	32	1177	17.98	1095	0.117	128	173	0.2	0.2	0.074	A
D - A4130	750	187	371		1997	0.375	751	935	0.9	0.6	0.050	A

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	B - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
06	A4130/New Culham Crossing/Collett	Standard Roundabout		A, B, C, D	0.08	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	36	A - New Culham Crossing

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
D2	2024with	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 - New Culham Crossing		ONE HOUR	✓	814	100.000
B - A4130		ONE HOUR	✓	733	100.000
C - Collett		ONE HOUR	✓	129	100.000
D - A4130		ONE HOUR	✓	1053	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing		
B - A4130	[ONEHOUR]	20.00
C - Collett	[ONEHOUR]	20.00
D - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	387	22	405
	B - A4130	275	0	33	425
	C - Collett	18	40	0	71
	D - A4130	269	735	49	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	1	2	2
	B - A4130	2	0	5	2
	C - Collett	1	2	0	17
	D - A4130	2	1	24	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.59	0.10	1.5	A	814	814
B - A4130	0.44	0.06	0.8	A	733	733
C - Collett	0.13	0.07	0.2	A	129	129
D - A4130	0.58	0.07	1.4	A	1053	1053

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	732	183	740		1616	0.453	731	505	0.6	0.8	0.069	A
B - A4130	659	165	427	17.98	1852	0.356	658	1043	0.4	0.6	0.051	A
C - Collett	116	29	992	17.98	1198	0.097	116	93	0.1	0.1	0.061	A
D - A4130	947	237	299		2044	0.463	946	809	0.6	0.9	0.056	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 (min)	Unsignalised level of service
A - New Culham Crossing	896	224	906		1511	0.593	894	618	0.8	1.5	0.098	A
B - A4130	807	202	523	22.02	1841	0.438	806	1277	0.6	0.8	0.059	A
C - Collett	142	36	1215	22.02	1074	0.132	142	114	0.1	0.2	0.070	A
D - A4130	1159	290	366		2000	0.580	1157	990	0.9	1.4	0.073	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 (min)	Unsignalised level of service
A - New Culham Crossing	896	224	907		1510	0.594	896	619	1.5	1.5	0.099	A
B - A4130	807	202	524	22.02	1841	0.438	807	1279	0.8	0.8	0.059	A
C - Collett	142	36	1217	22.02	1073	0.132	142	115	0.2	0.2	0.071	A
D - A4130	1159	290	367		1999	0.580	1159	992	1.4	1.4	0.073	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 (min)	Unsignalised level of service
A - New Culham Crossing	732	183	742		1615	0.453	734	506	1.5	0.8	0.069	A
B - A4130	659	165	429	17.98	1852	0.356	660	1047	0.8	0.6	0.051	A
C - Collett	116	29	995	17.98	1196	0.097	116	94	0.2	0.1	0.061	A
D - A4130	947	237	300		2043	0.463	949	812	1.4	0.9	0.056	A

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	B - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
06	A4130/New Culham Crossing/Collett	Standard Roundabout		A, B, C, D	0.13	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	19	B - A4130

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	2034with	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 - New Culham Crossing		ONE HOUR	✓	1036	100.000
B - A4130		ONE HOUR	✓	1261	100.000
C - Collett		ONE HOUR	✓	199	100.000
D - A4130		ONE HOUR	✓	1130	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing		
B - A4130	[ONEHOUR]	20.00
C - Collett	[ONEHOUR]	20.00
D - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	442	40	554
	B - A4130	554	0	65	642
	C - Collett	53	64	0	82
	D - A4130	561	457	112	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	2	7	11
	B - A4130	2	0	1	1
	C - Collett	4	11	0	24
	D - A4130	6	1	15	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.69	0.13	2.4	A	1036	1036
B - A4130	0.77	0.14	3.2	A	1261	1261
C - Collett	0.32	0.15	0.5	A	199	199
D - A4130	0.71	0.12	2.5	A	1130	1130

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	931	233	568		1725	0.540	930	1048	0.8	1.2	0.080	A
B - A4130	1134	283	634	17.98	1852	0.612	1131	864	1.0	1.6	0.084	A
C - Collett	179	45	1570	17.98	877	0.204	179	195	0.2	0.3	0.098	A
D - A4130	1016	254	602		1845	0.551	1014	1147	0.8	1.3	0.075	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 (min)	Unsignalised level of service
A - New Culham Crossing	1141	285	694		1645	0.693	1136	1280	1.2	2.4	0.125	A
B - A4130	1388	347	774	22.02	1811	0.766	1382	1056	1.6	3.2	0.140	A
C - Collett	219	55	1918	22.02	683	0.321	218	238	0.3	0.5	0.147	A
D - A4130	1244	311	735		1758	0.708	1239	1401	1.3	2.5	0.120	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 (min)	Unsignalised level of service
A - New Culham Crossing	1141	285	697		1644	0.694	1141	1286	2.4	2.4	0.127	A
B - A4130	1388	347	777	22.02	1825	0.761	1388	1060	3.2	3.2	0.139	A
C - Collett	219	55	1927	22.02	678	0.323	219	239	0.5	0.5	0.149	A
D - A4130	1244	311	739		1755	0.709	1244	1407	2.5	2.5	0.123	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 (min)	Unsignalised level of service
A - New Culham Crossing	931	233	572		1723	0.541	936	1055	2.4	1.3	0.082	A
B - A4130	1134	283	638	17.98	1852	0.612	1140	870	3.2	1.6	0.086	A
C - Collett	179	45	1582	17.98	870	0.206	180	196	0.5	0.3	0.099	A
D - A4130	1016	254	607		1842	0.551	1021	1155	2.5	1.3	0.077	A

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	B - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A4130 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
06	A4130/New Culham Crossing/Collett	Standard Roundabout		A, B, C, D	0.15	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	13	D - A4130

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
D6	2034with	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 - New Culham Crossing		ONE HOUR	✓	944	100.000
B - A4130		ONE HOUR	✓	1133	100.000
C - Collett		ONE HOUR	✓	288	100.000
D - A4130		ONE HOUR	✓	1280	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing		
B - A4130	[ONEHOUR]	20.00
C - Collett	[ONEHOUR]	20.00
D - A4130		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	453	22	469
	B - A4130	506	0	37	590
	C - Collett	56	137	0	95
	D - A4130	451	783	46	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Culham Crossing	B - A4130	C - Collett	D - A4130
From	A - New Culham Crossing	0	1	4	3
	B - A4130	1	0	7	2
	C - Collett	0	0	0	10
	D - A4130	2	1	23	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.74	0.16	2.8	A	944	944
B - A4130	0.68	0.10	2.1	A	1133	1133
C - Collett	0.40	0.13	0.7	A	288	288
D - A4130	0.81	0.19	4.3	B	1280	1280

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	849	212	866		1536	0.553	847	909	0.8	1.2	0.089	A
B - A4130	1019	255	482	17.98	1852	0.550	1017	1232	0.9	1.2	0.073	A
C - Collett	259	65	1405	17.98	969	0.267	258	94	0.3	0.4	0.087	A
D - A4130	1151	288	627		1828	0.629	1148	1036	1.0	1.7	0.090	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 (min)	Unsignalised level of service
A - New Culham Crossing	1039	260	1057		1415	0.735	1033	1110	1.2	2.7	0.158	A
B - A4130	1247	312	588	22.02	1840	0.678	1244	1502	1.2	2.1	0.102	A
C - Collett	317	79	1717	22.02	795	0.399	316	115	0.4	0.7	0.129	A
D - A4130	1409	352	767		1737	0.812	1400	1265	1.7	4.1	0.177	B

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 (min)	Unsignalised level of service
A - New Culham Crossing	1039	260	1063		1411	0.737	1039	1115	2.7	2.8	0.164	A
B - A4130	1247	312	591	22.02	1840	0.678	1247	1511	2.1	2.1	0.103	A
C - Collett	317	79	1723	22.02	792	0.401	317	116	0.7	0.7	0.130	A
D - A4130	1409	352	770		1735	0.812	1409	1270	4.1	4.3	0.187	B

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 (min)	Unsignalised level of service
A - New Culham Crossing	849	212	875		1530	0.555	855	916	2.8	1.3	0.091	A
B - A4130	1019	255	486	17.98	1852	0.550	1022	1244	2.1	1.3	0.074	A
C - Collett	259	65	1413	17.98	964	0.269	260	95	0.7	0.4	0.088	A
D - A4130	1151	288	631		1826	0.630	1161	1043	4.3	1.8	0.093	A

SCH8

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: RIVX-08-New_Culham Crossing_Development-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\RIV X\Models\PICADY
Report generation date: 10/09/2021 16:56:58

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	0.0	9.53	0.03	A	0.0	6.60	0.03	A
Stream B-A	0.5	19.63	0.24	C	0.1	14.49	0.08	B
Stream C-AB	0.1	8.27	0.04	A	0.0	6.79	0.02	A
	2034with							
Stream B-C	0.1	27.94	0.08	D	0.0	9.05	0.05	A
Stream B-A	3.4	158.73	0.75	F	0.3	34.07	0.21	D
Stream C-AB	0.1	10.55	0.06	B	0.0	8.25	0.02	A

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

File summary

File Description

Title	RIV_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0003 P02
Location	New Culham Crossing/Development
Site number	08
Date	21/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
08	New Culham Crossing/Development	T-Junction	Two-way		1.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	New Culham Crossing S		Major
B	FCC/Hanson Access Road		Minor
C	New Culham Crossing N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - New Culham Crossing N	7.20		✓	3.72	250.0	✓	9.00

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	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 - FCC/Hanson Access Road	One lane plus flare	10.00	9.05	5.23	4.67	4.67	✓	3.00	56	250

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
08	B-A	710	0.123	0.310	0.195	0.443
08	B-C	725	0.105	0.266	-	-
08	C-B	838	0.308	0.308	-	-

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)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing S		✓	738	100.000
B - FCC/Hanson Access Road		✓	93	100.000
C - New Culham Crossing N		✓	473	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	69	669
	B - FCC/Hanson Access Road	78	0	15
	C - New Culham Crossing N	449	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	41	1
	B - FCC/Hanson Access Road	52	0	25
	C - New Culham Crossing N	4	29	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	9.53	0.0	A
B-A	0.24	19.63	0.5	C
C-AB	0.04	8.27	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	567	0.020	11	0.0	8.091	A
B-A	59	474	0.124	58	0.2	13.131	B
C-AB	18	667	0.027	18	0.0	7.154	A
C-A	338			338			
A-B	52			52			
A-C	504			504			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	535	0.025	13	0.0	8.628	A
B-A	70	428	0.164	70	0.3	15.266	C
C-AB	22	634	0.034	22	0.0	7.586	A
C-A	404			404			
A-B	62			62			
A-C	601			601			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	489	0.034	16	0.0	9.524	A
B-A	86	364	0.236	85	0.5	19.548	C
C-AB	26	588	0.045	26	0.1	8.271	A
C-A	494			494			
A-B	76			76			
A-C	737			737			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	489	0.034	17	0.0	9.532	A
B-A	86	365	0.236	86	0.5	19.632	C
C-AB	26	588	0.045	26	0.1	8.272	A
C-A	494			494			
A-B	76			76			
A-C	737			737			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	534	0.025	14	0.0	8.638	A
B-A	70	428	0.164	71	0.3	15.346	C
C-AB	22	634	0.034	22	0.0	7.588	A
C-A	404			404			
A-B	62			62			
A-C	601			601			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	567	0.020	11	0.0	8.102	A
B-A	59	474	0.124	59	0.2	13.203	B
C-AB	18	667	0.027	18	0.0	7.158	A
C-A	338			338			
A-B	52			52			
A-C	504			504			

2024with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
08	New Culham Crossing/Development	T-Junction	Two-way		0.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing S		✓	567	100.000
B - FCC/Hanson Access Road		✓	41	100.000
C - New Culham Crossing N		✓	770	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	22	545
	B - FCC/Hanson Access Road	25	0	16
	C - New Culham Crossing N	761	9	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	28	1
	B - FCC/Hanson Access Road	23	0	5
	C - New Culham Crossing N	1	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	6.60	0.0	A
B-A	0.08	14.49	0.1	B
C-AB	0.02	6.79	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	651	0.019	12	0.0	5.913	A
B-A	19	439	0.043	19	0.1	10.526	B
C-AB	7	706	0.010	7	0.0	6.174	A
C-A	573			573			
A-B	17			17			
A-C	410			410			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	626	0.023	14	0.0	6.181	A
B-A	22	395	0.057	22	0.1	11.895	B
C-AB	8	681	0.012	8	0.0	6.419	A
C-A	684			684			
A-B	20			20			
A-C	490			490			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	590	0.030	18	0.0	6.598	A
B-A	28	333	0.083	27	0.1	14.486	B
C-AB	10	646	0.015	10	0.0	6.794	A
C-A	838			838			
A-B	24			24			
A-C	600			600			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	590	0.030	18	0.0	6.600	A
B-A	28	333	0.083	28	0.1	14.494	B
C-AB	10	646	0.015	10	0.0	6.794	A
C-A	838			838			
A-B	24			24			
A-C	600			600			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	625	0.023	14	0.0	6.185	A
B-A	22	395	0.057	23	0.1	11.904	B
C-AB	8	681	0.012	8	0.0	6.420	A
C-A	684			684			
A-B	20			20			
A-C	490			490			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	651	0.019	12	0.0	5.920	A
B-A	19	439	0.043	19	0.1	10.538	B
C-AB	7	706	0.010	7	0.0	6.176	A
C-A	573			573			
A-B	17			17			
A-C	410			410			

2034with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
08	New Culham Crossing/Development	T-Junction	Two-way		5.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing S		✓	1150	100.000
B - FCC/Hanson Access Road		✓	91	100.000
C - New Culham Crossing N		✓	989	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	73	1077
	B - FCC/Hanson Access Road	78	0	13
	C - New Culham Crossing N	963	26	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	34	2
	B - FCC/Hanson Access Road	49	0	20
	C - New Culham Crossing N	4	23	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	27.94	0.1	D
B-A	0.75	158.73	3.4	F
C-AB	0.06	10.55	0.1	B
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	476	0.021	10	0.0	9.262	A
B-A	59	304	0.193	57	0.3	21.670	C
C-AB	20	571	0.034	19	0.0	8.019	A
C-A	725			725			
A-B	55			55			
A-C	811			811			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	419	0.028	12	0.0	10.612	B
B-A	70	224	0.313	69	0.6	34.324	D
C-AB	23	520	0.045	23	0.1	8.919	A
C-A	866			866			
A-B	66			66			
A-C	968			968			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	224	0.064	14	0.1	20.534	C
B-A	86	114	0.753	77	2.9	125.379	F
C-AB	29	448	0.064	29	0.1	10.548	B
C-A	1060			1060			
A-B	80			80			
A-C	1186			1186			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	169	0.085	14	0.1	27.944	D
B-A	86	114	0.752	84	3.4	158.729	F
C-AB	29	448	0.064	29	0.1	10.552	B
C-A	1060			1060			
A-B	80			80			
A-C	1186			1186			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	409	0.029	12	0.0	10.903	B
B-A	70	225	0.312	81	0.7	39.605	E
C-AB	23	520	0.045	23	0.1	8.926	A
C-A	866			866			
A-B	66			66			
A-C	968			968			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	474	0.021	10	0.0	9.303	A
B-A	59	304	0.193	60	0.4	22.133	C
C-AB	20	571	0.034	20	0.0	8.027	A
C-A	725			725			
A-B	55			55			
A-C	811			811			

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
08	New Culham Crossing/Development	T-Junction	Two-way		0.65	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)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing S		✓	1017	100.000
B - FCC/Hanson Access Road		✓	49	100.000
C - New Culham Crossing N		✓	906	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	25	992
	B - FCC/Hanson Access Road	31	0	18
	C - New Culham Crossing N	898	8	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing S	B - FCC/Hanson Access Road	C - New Culham Crossing N
From	A - New Culham Crossing S	0	22	1
	B - FCC/Hanson Access Road	22	0	4
	C - New Culham Crossing N	1	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	9.05	0.0	A
B-A	0.21	34.07	0.3	D
C-AB	0.02	8.25	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	548	0.025	13	0.0	7.002	A
B-A	23	324	0.072	23	0.1	14.574	B
C-AB	6	602	0.010	6	0.0	6.702	A
C-A	676			676			
A-B	19			19			
A-C	747			747			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	502	0.032	16	0.0	7.703	A
B-A	28	256	0.109	28	0.1	19.185	C
C-AB	7	556	0.013	7	0.0	7.274	A
C-A	807			807			
A-B	22			22			
A-C	892			892			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	434	0.046	20	0.0	9.030	A
B-A	34	163	0.210	33	0.3	33.808	D
C-AB	9	493	0.018	9	0.0	8.248	A
C-A	989			989			
A-B	28			28			
A-C	1092			1092			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	433	0.046	20	0.0	9.052	A
B-A	34	163	0.210	34	0.3	34.071	D
C-AB	9	493	0.018	9	0.0	8.248	A
C-A	989			989			
A-B	28			28			
A-C	1092			1092			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	501	0.032	16	0.0	7.725	A
B-A	28	257	0.109	29	0.2	19.296	C
C-AB	7	556	0.013	7	0.0	7.277	A
C-A	807			807			
A-B	22			22			
A-C	892			892			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	547	0.025	14	0.0	7.014	A
B-A	23	324	0.072	24	0.1	14.615	B
C-AB	6	602	0.010	6	0.0	6.705	A
C-A	676			676			
A-B	19			19			
A-C	747			747			

SCH9

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: RIVX-09-New_Culham Crossing_B4016-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\RIV X\Models\PICADY
Report generation date: 10/09/2021 17:01:40

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	0.0	6.37	0.01	A	0.0	8.43	0.02	A
Stream B-A	0.2	11.27	0.20	B	0.7	18.90	0.41	C
Stream C-AB	0.0	6.05	0.04	A	0.0	7.06	0.02	A
	2034with							
Stream B-C	1.3	684.13	1.00	F	1.3	384.02	0.99	F
Stream B-A	6.8	210.66	0.98	F	5.4	169.04	0.92	F
Stream C-AB	0.1	9.20	0.06	A	0.1	10.16	0.06	B

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

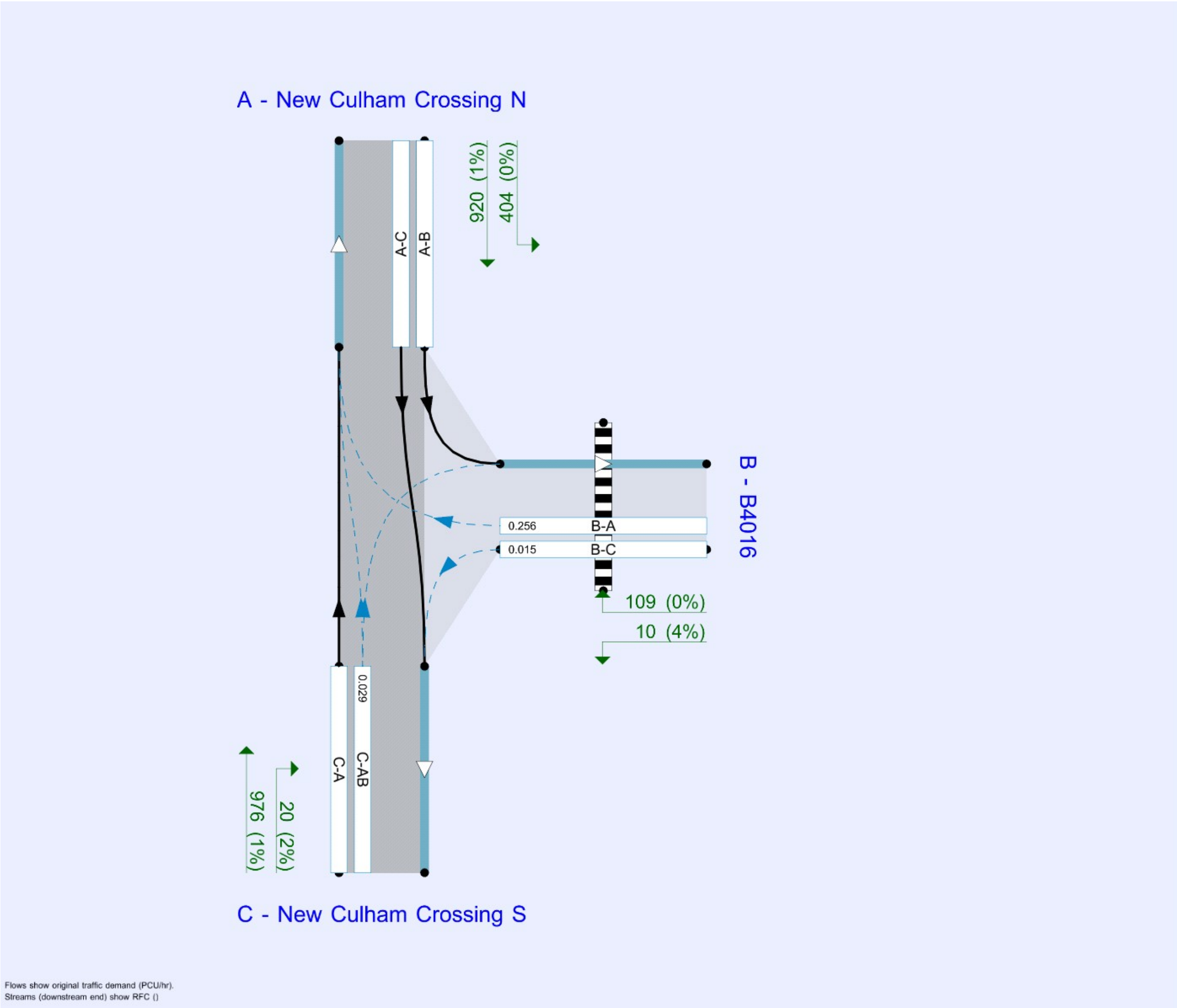
File summary

File Description

Title	RIV_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0006 P02
Location	New Culham Crossing/B4016
Site number	09
Date	22/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
09	New Culham Crossing/B4016	T-Junction	Two-way		0.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	New Culham Crossing N		Major
B	B4016		Minor
C	New Culham Crossing S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - New Culham Crossing S	7.34		✓	3.65	230.0	✓	10.00

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	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 - B4016	One lane plus flare	10.00	10.00	5.67	3.83	3.69	✓	2.00	250	140

Zebra Crossings

Arm	Space between crossing and junction entry (Left) (PCU)	Space between crossing and junction entry (Right / All) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
B - B4016	3.00	2.00	4.00		Distance	10.00	7.14

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
09	B-A	731	0.125	0.317	0.199	0.453
09	B-C	752	0.109	0.274	-	-
09	C-B	819	0.299	0.299	-	-

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)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing N		✓	556	100.000
B - B4016		✓	76	100.000
C - New Culham Crossing S		✓	682	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - New Culham Crossing N	
B - B4016	20.00
C - New Culham Crossing S	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	87	469
	B - B4016	73	0	3
	C - New Culham Crossing S	661	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	0	5
	B - B4016	0	0	0
	C - New Culham Crossing S	2	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.01	6.37	0.0	A
B-A	0.20	11.27	0.2	B
C-AB	0.04	6.05	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	2	15.06	630	0.004	2	0.0	5.734	A
B-A	55	15.06	504	0.109	54	0.1	7.992	A
C-AB	16		694	0.023	16	0.0	5.469	A
C-A	498				498			
A-B	65				65			
A-C	353				353			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	3	17.98	605	0.004	3	0.0	5.978	A
B-A	66	17.98	460	0.143	65	0.2	9.109	A
C-AB	19		669	0.028	19	0.0	5.699	A
C-A	594				594			
A-B	78				78			
A-C	422				422			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	3	22.02	568	0.006	3	0.0	6.370	A
B-A	80	22.02	400	0.201	80	0.2	11.251	B
C-AB	23		636	0.036	23	0.0	6.050	A
C-A	728				728			
A-B	96				96			
A-C	516				516			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	3	22.02	568	0.006	3	0.0	6.372	A
B-A	80	22.02	400	0.201	80	0.2	11.273	B
C-AB	23		636	0.036	23	0.0	6.050	A
C-A	728				728			
A-B	96				96			
A-C	516				516			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	3	17.98	605	0.004	3	0.0	5.980	A
B-A	66	17.98	460	0.143	66	0.2	9.132	A
C-AB	19		669	0.028	19	0.0	5.699	A
C-A	594				594			
A-B	78				78			
A-C	422				422			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	2	15.06	630	0.004	2	0.0	5.738	A
B-A	55	15.06	504	0.109	55	0.1	8.017	A
C-AB	16		694	0.023	16	0.0	5.469	A
C-A	498				498			
A-B	65				65			
A-C	353				353			

2024with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
09	New Culham Crossing/B4016	T-Junction	Two-way		1.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing N		✓	891	100.000
B - B4016		✓	127	100.000
C - New Culham Crossing S		✓	560	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - New Culham Crossing N	
B - B4016	20.00
C - New Culham Crossing S	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	128	763
	B - B4016	119	0	8
	C - New Culham Crossing S	550	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	0	1
	B - B4016	0	0	1
	C - New Culham Crossing S	1	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	8.43	0.0	A
B-A	0.41	18.90	0.7	C
C-AB	0.02	7.06	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	15.06	554	0.011	6	0.0	6.636	A
B-A	90	15.06	451	0.199	89	0.2	9.911	A
C-AB	8		618	0.012	7	0.0	5.951	A
C-A	414				414			
A-B	96				96			
A-C	574				574			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	17.98	511	0.014	7	0.0	7.219	A
B-A	107	17.98	396	0.270	107	0.4	12.394	B
C-AB	9		579	0.016	9	0.0	6.372	A
C-A	494				494			
A-B	115				115			
A-C	686				686			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	22.02	441	0.020	9	0.0	8.410	A
B-A	131	22.02	321	0.408	130	0.7	18.677	C
C-AB	11		526	0.021	11	0.0	7.063	A
C-A	606				606			
A-B	141				141			
A-C	840				840			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	22.02	440	0.020	9	0.0	8.428	A
B-A	131	22.02	321	0.408	131	0.7	18.900	C
C-AB	11		526	0.021	11	0.0	7.063	A
C-A	606				606			
A-B	141				141			
A-C	840				840			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	17.98	510	0.014	7	0.0	7.230	A
B-A	107	17.98	396	0.270	108	0.4	12.539	B
C-AB	9		579	0.016	9	0.0	6.373	A
C-A	494				494			
A-B	115				115			
A-C	686				686			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	15.06	553	0.011	6	0.0	6.643	A
B-A	90	15.06	451	0.199	90	0.3	9.994	A
C-AB	8		618	0.012	8	0.0	5.952	A
C-A	414				414			
A-B	96				96			
A-C	574				574			

2034with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
09	New Culham Crossing/B4016	T-Junction	Two-way		11.76	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)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing N		✓	1141	100.000
B - B4016		✓	114	100.000
C - New Culham Crossing S		✓	1089	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - New Culham Crossing N	
B - B4016	20.00
C - New Culham Crossing S	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	159	982
	B - B4016	107	0	7
	C - New Culham Crossing S	1063	26	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	0	5
	B - B4016	0	0	0
	C - New Culham Crossing S	2	6	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.00	684.13	1.3	F
B-A	0.98	210.66	6.8	F
C-AB	0.06	9.20	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	15.06	499	0.011	5	0.0	7.285	A
B-A	81	15.06	313	0.257	79	0.3	15.300	C
C-AB	20		562	0.035	19	0.0	7.029	A
C-A	800				800			
A-B	120				120			
A-C	739				739			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	17.98	429	0.015	6	0.0	8.519	A
B-A	96	17.98	232	0.414	95	0.7	25.979	D
C-AB	23		512	0.046	23	0.1	7.802	A
C-A	956				956			
A-B	143				143			
A-C	883				883			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	22.02	8	0.997	4	1.0	684.126	F
B-A	118	22.02	120	0.982	101	4.8	139.131	F
C-AB	29		443	0.065	29	0.1	9.194	A
C-A	1170				1170			
A-B	175				175			
A-C	1081				1081			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	22.02	10	0.758	7	1.3	449.761	F
B-A	118	22.02	120	0.982	110	6.8	210.663	F
C-AB	29		443	0.065	29	0.1	9.198	A
C-A	1170				1170			
A-B	175				175			
A-C	1081				1081			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	17.98	396	0.016	11	0.0	9.473	A
B-A	96	17.98	232	0.415	120	0.7	38.491	E
C-AB	23		512	0.046	23	0.1	7.808	A
C-A	956				956			
A-B	143				143			
A-C	883				883			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	15.06	498	0.011	5	0.0	7.309	A
B-A	81	15.06	313	0.257	82	0.4	15.688	C
C-AB	20		562	0.035	20	0.0	7.036	A
C-A	800				800			
A-B	120				120			
A-C	739				739			

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
09	New Culham Crossing/B4016	T-Junction	Two-way		9.21	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)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - New Culham Crossing N		✓	1324	100.000
B - B4016		✓	119	100.000
C - New Culham Crossing S		✓	996	100.000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - New Culham Crossing N	
B - B4016	20.00
C - New Culham Crossing S	

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	404	920
	B - B4016	109	0	10
	C - New Culham Crossing S	976	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing N	B - B4016	C - New Culham Crossing S
From	A - New Culham Crossing N	0	0	1
	B - B4016	0	0	4
	C - New Culham Crossing S	1	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.99	384.02	1.3	F
B-A	0.92	169.04	5.4	F
C-AB	0.06	10.16	0.1	B
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	15.06	493	0.015	7	0.0	7.705	A
B-A	82	15.06	320	0.256	81	0.3	14.971	B
C-AB	15		521	0.029	15	0.0	7.254	A
C-A	735				735			
A-B	304				304			
A-C	693				693			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	17.98	422	0.021	9	0.0	9.043	A
B-A	98	17.98	240	0.408	97	0.7	24.876	C
C-AB	18		463	0.039	18	0.0	8.245	A
C-A	877				877			
A-B	363				363			
A-C	827				827			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	22.02	75	0.147	10	0.2	57.331	F
B-A	120	22.02	130	0.924	106	4.1	117.711	F
C-AB	22		383	0.057	22	0.1	10.160	B
C-A	1075				1075			
A-B	445				445			
A-C	1013				1013			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	22.02	11	0.990	6	1.3	384.016	F
B-A	120	22.02	130	0.924	115	5.4	169.039	F
C-AB	22		383	0.057	22	0.1	10.164	B
C-A	1075				1075			
A-B	445				445			
A-C	1013				1013			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	17.98	399	0.023	14	0.0	9.823	A
B-A	98	17.98	240	0.408	117	0.7	33.088	D
C-AB	18		463	0.039	18	0.0	8.250	A
C-A	877				877			
A-B	363				363			
A-C	827				827			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	15.06	491	0.015	8	0.0	7.733	A
B-A	82	15.06	320	0.256	84	0.4	15.332	C
C-AB	15		521	0.029	15	0.0	7.258	A
C-A	735				735			
A-B	304				304			
A-C	693				693			

SCH10

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: RIVX-10-New Culham Crossing_B4016 Appleford Road-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\RIV X\Models\ARCADY
Report generation date: 10/09/2021 17:09:15

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity
	2024with									
A - New Culham Crossing	0.5	0.05	0.32	A	84 % [C - B4016 Appleford Road]	1.3	0.08	0.56	A	70 % [A - New Culham Crossing]
B - B4016 Appleford Road	0.7	0.05	0.42	A		0.6	0.05	0.39	A	
C - B4016 Appleford Road	0.7	0.07	0.41	A		0.3	0.05	0.25	A	
	2034with									
A - New Culham Crossing	2.2	0.11	0.69	A	35 % [B - B4016 Appleford Road]	9.1	0.35	0.91	C	5 % [A - New Culham Crossing]
B - B4016 Appleford Road	2.2	0.10	0.69	A		2.1	0.11	0.67	A	
C - B4016 Appleford Road	0.8	0.08	0.42	A		0.6	0.07	0.37	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

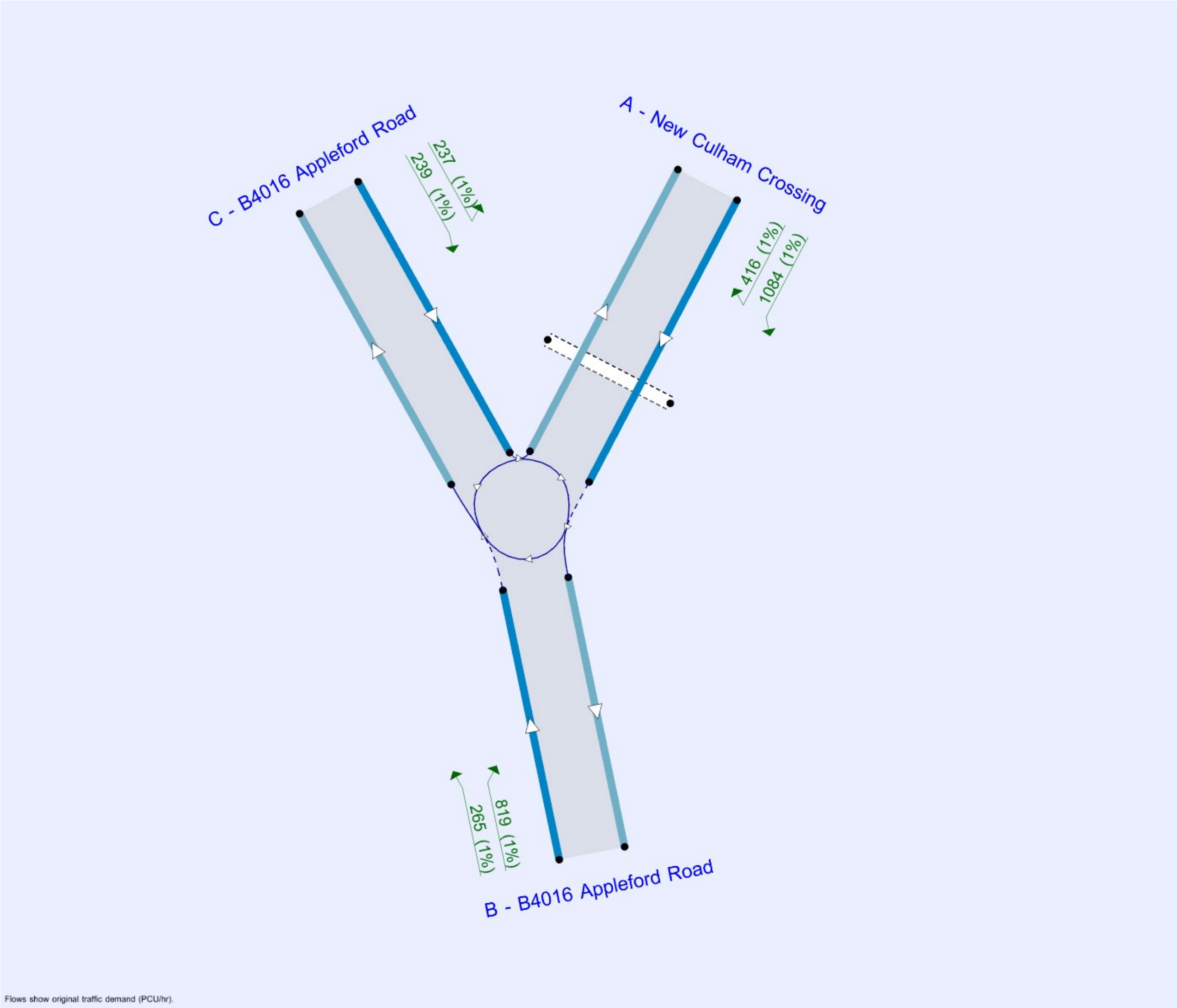
File summary

File Description

Title	RIV_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0006 P02
Location	New Culham Crossing/B4016 Appleford Road
Site number	10
Date	21/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
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	mph	PCU	PCU	perHour	min	-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 (min)	Queue threshold (PCU)
5.75			✓	Delay	0.85	0.60	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
10	New Culham Crossing/B4016 Appleford Road	Standard Roundabout		A, B, C	0.06	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	84	C - B4016 Appleford Road

Arms

Arms

Arm	Name	Description
A	New Culham Crossing	
B	B4016 Appleford Road	
C	B4016 Appleford Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - New Culham Crossing	3.48	7.99	36.5	26.0	66.4	36.6	
B - B4016 Appleford Road	3.47	7.87	28.7	30.0	66.4	20.8	
C - B4016 Appleford Road	3.52	8.02	29.0	26.0	66.4	42.2	

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)
A - New Culham Crossing	7.40	3.00	2.90	1.00	6.00	28.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - New Culham Crossing	0.570	2010
B - B4016 Appleford Road	0.590	2040
C - B4016 Appleford Road	0.550	1916

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	2024with	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 - New Culham Crossing		ONE HOUR	✓	527	100.000
B - B4016 Appleford Road		ONE HOUR	✓	733	100.000
C - B4016 Appleford Road		ONE HOUR	✓	583	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing	[ONEHOUR]	20.00
B - B4016 Appleford Road		
C - B4016 Appleford Road		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	340	187
	B - B4016 Appleford Road	578	0	155
	C - B4016 Appleford Road	368	215	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	3	3
	B - B4016 Appleford Road	1	0	3
	C - B4016 Appleford Road	1	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.32	0.05	0.5	A	527	527
B - B4016 Appleford Road	0.42	0.05	0.7	A	733	733
C - B4016 Appleford Road	0.41	0.07	0.7	A	583	583

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	474	118	193	17.98	1828	0.259	473	850	0.3	0.4	0.046	A
B - B4016 Appleford Road	659	165	168		1941	0.340	658	499	0.4	0.5	0.047	A
C - B4016 Appleford Road	524	131	519		1631	0.321	524	307	0.4	0.5	0.056	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 (min)	Unsignalised level of service
A - New Culham Crossing	580	145	236	22.02	1816	0.320	580	1040	0.4	0.5	0.050	A
B - B4016 Appleford Road	807	202	206		1919	0.421	806	610	0.5	0.7	0.055	A
C - B4016 Appleford Road	642	160	636		1566	0.410	641	376	0.5	0.7	0.067	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 (min)	Unsignalised level of service
A - New Culham Crossing	580	145	237	22.02	1817	0.319	580	1042	0.5	0.5	0.050	A
B - B4016 Appleford Road	807	202	206		1918	0.421	807	611	0.7	0.7	0.055	A
C - B4016 Appleford Road	642	160	636		1566	0.410	642	377	0.7	0.7	0.067	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 (min)	Unsignalised level of service
A - New Culham Crossing	474	118	194	17.98	1828	0.259	474	852	0.5	0.4	0.046	A
B - B4016 Appleford Road	659	165	168		1941	0.340	660	500	0.7	0.5	0.048	A
C - B4016 Appleford Road	524	131	520		1630	0.322	525	308	0.7	0.5	0.056	A

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
10	New Culham Crossing/B4016 Appleford Road	Standard Roundabout		A, B, C	0.06	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	70	A - New Culham Crossing

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
D2	2024with	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 - New Culham Crossing		ONE HOUR	✓	928	100.000
B - B4016 Appleford Road		ONE HOUR	✓	668	100.000
C - B4016 Appleford Road		ONE HOUR	✓	370	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing	[ONEHOUR]	20.00
B - B4016 Appleford Road		
C - B4016 Appleford Road		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	711	217
	B - B4016 Appleford Road	447	0	221
	C - B4016 Appleford Road	189	181	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	1	1
	B - B4016 Appleford Road	1	0	2
	C - B4016 Appleford Road	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.56	0.08	1.3	A	928	928
B - B4016 Appleford Road	0.39	0.05	0.6	A	668	668
C - B4016 Appleford Road	0.25	0.05	0.3	A	370	370

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	834	209	163	17.98	1828	0.456	833	571	0.6	0.8	0.061	A
B - B4016 Appleford Road	601	150	195		1925	0.312	600	801	0.4	0.5	0.046	A
C - B4016 Appleford Road	333	83	402		1695	0.196	332	393	0.2	0.2	0.045	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 (min)	Unsignalised level of service
A - New Culham Crossing	1022	255	199	22.02	1817	0.562	1020	700	0.8	1.3	0.076	A
B - B4016 Appleford Road	735	184	239		1899	0.387	735	981	0.5	0.6	0.052	A
C - B4016 Appleford Road	407	102	492		1646	0.248	407	482	0.2	0.3	0.049	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 (min)	Unsignalised level of service
A - New Culham Crossing	1022	255	199	22.02	1817	0.562	1022	700	1.3	1.3	0.076	A
B - B4016 Appleford Road	735	184	239		1899	0.387	735	982	0.6	0.6	0.052	A
C - B4016 Appleford Road	407	102	492		1645	0.248	407	482	0.3	0.3	0.049	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 (min)	Unsignalised level of service
A - New Culham Crossing	834	209	163	17.98	1828	0.456	836	572	1.3	0.9	0.061	A
B - B4016 Appleford Road	601	150	195		1925	0.312	601	803	0.6	0.5	0.046	A
C - B4016 Appleford Road	333	83	402		1695	0.196	333	394	0.3	0.2	0.045	A

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
10	New Culham Crossing/B4016 Appleford Road	Standard Roundabout		A, B, C	0.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	35	B - B4016 Appleford 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	2034with	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 - New Culham Crossing		ONE HOUR	✓	1124	100.000
B - B4016 Appleford Road		ONE HOUR	✓	1168	100.000
C - B4016 Appleford Road		ONE HOUR	✓	524	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing	[ONEHOUR]	20.00
B - B4016 Appleford Road		
C - B4016 Appleford Road		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	865	259
	B - B4016 Appleford Road	904	0	264
	C - B4016 Appleford Road	249	275	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	3	2
	B - B4016 Appleford Road	2	0	2
	C - B4016 Appleford Road	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.69	0.11	2.2	A	1124	1124
B - B4016 Appleford Road	0.69	0.10	2.2	A	1168	1168
C - B4016 Appleford Road	0.42	0.08	0.8	A	524	524

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	1010	253	247	17.98	1828	0.553	1009	1035	0.9	1.3	0.075	A
B - B4016 Appleford Road	1050	263	232		1903	0.552	1048	1023	0.9	1.2	0.072	A
C - B4016 Appleford Road	471	118	811		1470	0.321	471	469	0.4	0.5	0.063	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 (min)	Unsignalised level of service
A - New Culham Crossing	1238	309	302	22.02	1802	0.687	1234	1266	1.3	2.2	0.108	A
B - B4016 Appleford Road	1286	321	284		1872	0.687	1282	1252	1.2	2.2	0.103	A
C - B4016 Appleford Road	577	144	992		1370	0.421	576	574	0.5	0.8	0.079	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 (min)	Unsignalised level of service
A - New Culham Crossing	1238	309	303	22.02	1811	0.683	1238	1269	2.2	2.2	0.108	A
B - B4016 Appleford Road	1286	321	285		1872	0.687	1286	1255	2.2	2.2	0.104	A
C - B4016 Appleford Road	577	144	995		1369	0.422	577	576	0.8	0.8	0.079	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 (min)	Unsignalised level of service
A - New Culham Crossing	1010	253	248	17.98	1828	0.553	1014	1040	2.2	1.3	0.076	A
B - B4016 Appleford Road	1050	263	234		1902	0.552	1054	1028	2.2	1.3	0.072	A
C - B4016 Appleford Road	471	118	816		1468	0.321	472	472	0.8	0.5	0.063	A

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
10	New Culham Crossing/B4016 Appleford Road	Standard Roundabout		A, B, C	0.22	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	5	A - New Culham Crossing

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
D6	2034with	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 - New Culham Crossing		ONE HOUR	✓	1500	100.000
B - B4016 Appleford Road		ONE HOUR	✓	1084	100.000
C - B4016 Appleford Road		ONE HOUR	✓	476	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Culham Crossing	[ONEHOUR]	20.00
B - B4016 Appleford Road		
C - B4016 Appleford Road		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	1084	416
	B - B4016 Appleford Road	819	0	265
	C - B4016 Appleford Road	237	239	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - New Culham Crossing	B - B4016 Appleford Road	C - B4016 Appleford Road
From	A - New Culham Crossing	0	1	1
	B - B4016 Appleford Road	1	0	1
	C - B4016 Appleford Road	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Culham Crossing	0.91	0.35	9.1	C	1500	1500
B - B4016 Appleford Road	0.67	0.11	2.1	A	1084	1084
C - B4016 Appleford Road	0.37	0.07	0.6	A	476	476

Main Results for each time segment

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 (min)	Unsignalised level of service
A - New Culham Crossing	1348	337	215	17.98	1827	0.738	1344	948	1.6	2.8	0.124	A
B - B4016 Appleford Road	974	244	373		1820	0.535	973	1186	0.8	1.2	0.071	A
C - B4016 Appleford Road	428	107	735		1512	0.283	428	611	0.3	0.4	0.056	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 (min)	Unsignalised level of service
A - New Culham Crossing	1652	413	263	22.02	1815	0.910	1629	1160	2.8	8.4	0.296	C
B - B4016 Appleford Road	1194	298	452		1773	0.673	1190	1440	1.2	2.0	0.103	A
C - B4016 Appleford Road	524	131	899		1422	0.369	523	743	0.4	0.6	0.067	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 (min)	Unsignalised level of service
A - New Culham Crossing	1652	413	263	22.02	1815	0.910	1649	1163	8.4	9.1	0.350	C
B - B4016 Appleford Road	1194	298	457		1770	0.674	1193	1454	2.0	2.1	0.105	A
C - B4016 Appleford Road	524	131	902		1420	0.369	524	749	0.6	0.6	0.068	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 (min)	Unsignalised level of service
A - New Culham Crossing	1348	337	215	17.98	1827	0.738	1373	952	9.1	2.9	0.140	A
B - B4016 Appleford Road	974	244	381		1815	0.537	978	1208	2.1	1.2	0.073	A
C - B4016 Appleford Road	428	107	739		1510	0.283	429	620	0.6	0.4	0.056	A

SCH11

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: RIVX-11-Northern Crossing Roundabout-P02-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\RIV X\Models\ARCADY
Report generation date: 10/09/2021 17:26:36

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (min)	RFC	LOS	Network Residual Capacity
	2024with									
A - New Access Road	0.0	0.00	0.00	A	87 % [C - New Culham Crossing]	0.0	0.03	0.01	A	138 % [C - New Culham Crossing]
B - A415 Abingdon Road	0.3	0.04	0.22	A		0.5	0.05	0.35	A	
C - New Culham Crossing	0.9	0.05	0.48	A		0.5	0.04	0.33	A	
D - A415 Abingdon Road	0.5	0.04	0.33	A		0.3	0.03	0.20	A	
	2034with									
A - New Access Road	0.0	0.05	0.03	A	37 % [D - A415 Abingdon Road]	0.1	0.04	0.06	A	47 % [C - New Culham Crossing]
B - A415 Abingdon Road	0.5	0.05	0.33	A		1.1	0.07	0.52	A	
C - New Culham Crossing	1.6	0.07	0.61	A		1.4	0.07	0.59	A	
D - A415 Abingdon Road	1.6	0.07	0.61	A		0.6	0.04	0.39	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

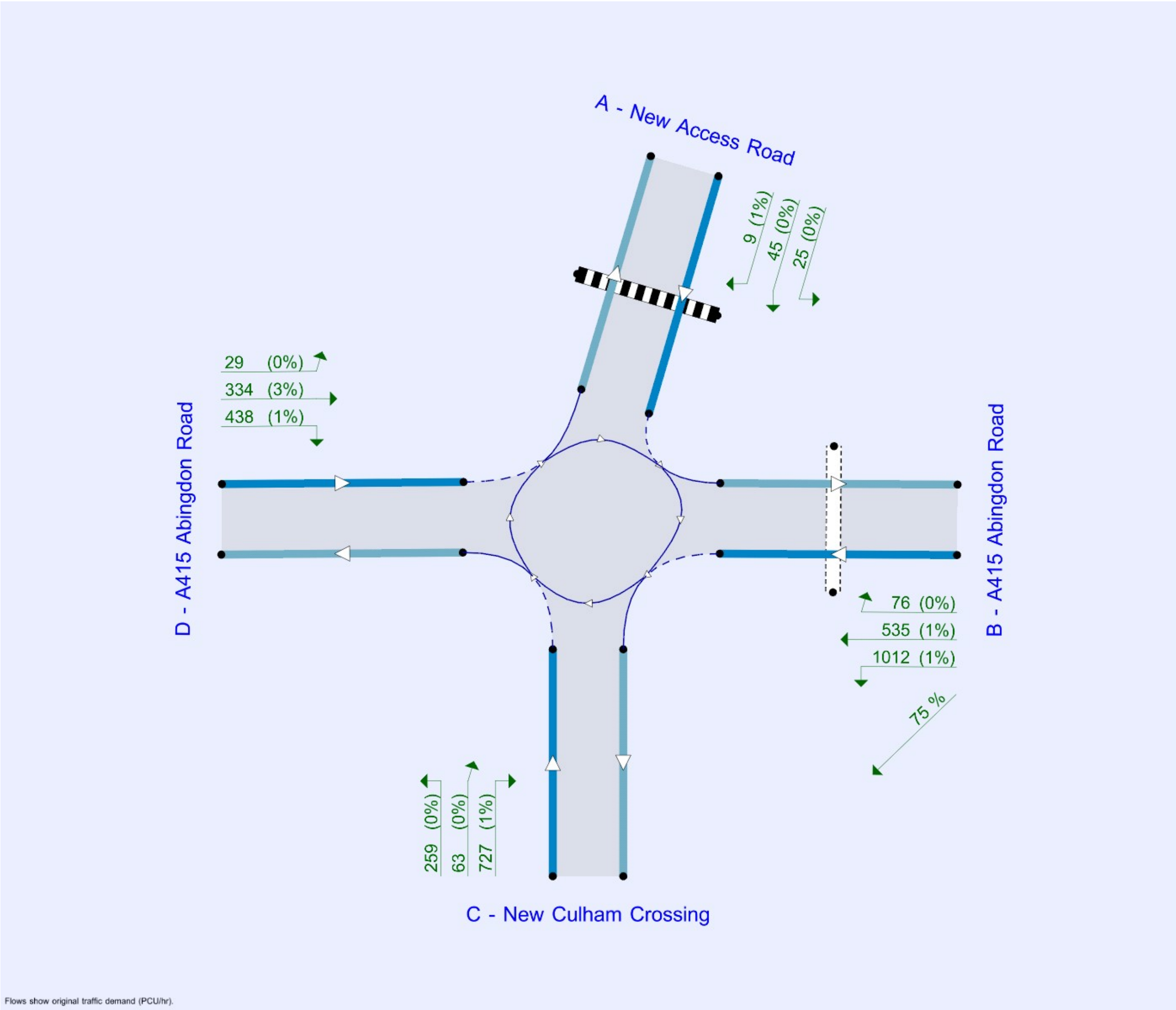
File summary

File Description

Title	RIV_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0008 P02
Location	Northern Crossing Roundbout
Site number	11
Date	21/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
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	mph	PCU	PCU	perHour	min	-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 (min)	Queue threshold (PCU)
5.75			✓	Delay	0.85	0.60	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	B - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	C - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
11	New Culham Crossing/A415 Abingdon Road	Standard Roundabout		A, B, C, D	0.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	87	C - New Culham Crossing

Arms

Arms

Arm	Name	Description
A	New Access Road	
B	A415 Abingdon Road	
C	New Culham Crossing	
D	A415 Abingdon Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - New Access Road	7.30	10.57	7.0	40.1	80.1	42.9	
B - A415 Abingdon Road	3.65	8.37	268.0	42.8	80.1	27.9	
C - New Culham Crossing	3.65	8.22	97.5	36.4	80.1	30.4	
D - A415 Abingdon Road	3.65	10.56	113.9	54.9	80.1	36.5	

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A - New Access Road		
B - A415 Abingdon Road	✓	75
C - New Culham Crossing		
D - A415 Abingdon Road		

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
A - New Access Road	7.70	9.00		Distance	14.97	10.69

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)
B - A415 Abingdon Road	9.60	3.00	2.90	1.00	6.00	27.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - New Access Road	0.593	2555
B - A415 Abingdon Road	0.603	2542
C - New Culham Crossing	0.573	2358
D - A415 Abingdon Road	0.648	2884

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	2024with	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 - New Access Road		ONE HOUR	✓	2	100.000
B - A415 Abingdon Road		ONE HOUR	✓	613	100.000
C - New Culham Crossing		ONE HOUR	✓	949	100.000
D - A415 Abingdon Road		ONE HOUR	✓	700	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Access Road	[ONEHOUR]	20.00
B - A415 Abingdon Road	[ONEHOUR]	20.00
C - New Culham Crossing		
D - A415 Abingdon Road		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	1	1
	B - A415 Abingdon Road	0	0	332	281
	C - New Culham Crossing	7	786	0	156
	D - A415 Abingdon Road	4	497	199	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	8	33
	B - A415 Abingdon Road	0	0	2	2
	C - New Culham Crossing	0	1	0	2
	D - A415 Abingdon Road	13	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Access Road	0.00	0.00	0.0	A	0	0
B - A415 Abingdon Road	0.22	0.04	0.3	A	613	364
C - New Culham Crossing	0.48	0.05	0.9	A	949	949
D - A415 Abingdon Road	0.33	0.04	0.5	A	700	700

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	0	0	0	0	0	1331	17.98	1765	0.000	0	10	0.0	
B - A415 Abingdon Road	551	327	82	224	0	179	17.98	1852	0.177	327	1153	0.2	
C - New Culham Crossing	853	853	213	0	224	252		2213	0.386	852	253	0.5	
D - A415 Abingdon Road	629	629	157	0	0	712		2422	0.260	629	393	0.3	

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	0	0	0	0	0	1630	22.02	1588	0.000	0	12	0.0	
B - A415 Abingdon Road	675	401	100	274	0	219	22.02	1841	0.218	401	1411	0.2	
C - New Culham Crossing	1045	1045	261	0	274	309		2180	0.479	1044	310	0.6	
D - A415 Abingdon Road	771	771	193	0	0	872		2319	0.332	770	481	0.4	

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	0	0	0	0	0	1632	22.02	1587	0.000	0	12	0.0	
B - A415 Abingdon Road	675	401	100	274	0	219	22.02	1841	0.218	401	1413	0.3	
C - New Culham Crossing	1045	1045	261	0	274	309		2180	0.479	1045	310	0.9	
D - A415 Abingdon Road	771	771	193	0	0	873		2318	0.332	771	481	0.5	

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	0	0	0	0	0	1334	17.98	1764	0.000	0	10	0.0	
B - A415 Abingdon Road	551	327	82	224	0	179	17.98	1852	0.177	327	1155	0.3	
C - New Culham Crossing	853	853	213	0	224	253		2213	0.386	854	254	0.9	
D - A415 Abingdon Road	629	629	157	0	0	714		2421	0.260	630	393	0.5	

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	B - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	C - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
11	New Culham Crossing/A415 Abingdon Road	Standard Roundabout		A, B, C, D	0.04	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	138	C - New Culham Crossing

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
D2	2024with	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 - New Access Road		ONE HOUR	✓	9	100.000
B - A415 Abingdon Road		ONE HOUR	✓	1104	100.000
C - New Culham Crossing		ONE HOUR	✓	639	100.000
D - A415 Abingdon Road		ONE HOUR	✓	463	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Access Road	[ONEHOUR]	20.00
B - A415 Abingdon Road	[ONEHOUR]	20.00
C - New Culham Crossing		
D - A415 Abingdon Road		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	7	2
	B - A415 Abingdon Road	0	0	700	404
	C - New Culham Crossing	2	454	0	183
	D - A415 Abingdon Road	0	246	217	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	0	0
	B - A415 Abingdon Road	0	0	1	1
	C - New Culham Crossing	0	1	0	1
	D - A415 Abingdon Road	100	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Access Road	0.01	0.03	0.0	A	9	9
B - A415 Abingdon Road	0.35	0.05	0.5	A	1104	579
C - New Culham Crossing	0.33	0.04	0.5	A	639	639
D - A415 Abingdon Road	0.20	0.03	0.3	A	463	463

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	8	8	2	0	0	824	17.98	2066	0.004	8	2	0.0	
B - A415 Abingdon Road	992	521	130	472	0	203	17.98	1852	0.281	520	629	0.3	
C - New Culham Crossing	574	574	144	0	472	365		2149	0.267	574	359	0.3	
D - A415 Abingdon Road	416	416	104	0	0	410		2618	0.159	416	529	0.2	

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	10	10	2	0	0	1009	22.02	1957	0.005	10	2	0.0	
B - A415 Abingdon Road	1216	637	159	578	0	249	22.02	1842	0.346	637	770	0.4	
C - New Culham Crossing	704	704	176	0	578	447		2102	0.335	703	439	0.4	
D - A415 Abingdon Road	510	510	127	0	0	502		2559	0.199	510	648	0.2	

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	10	10	2	0	0	1010	22.02	1956	0.005	10	2	0.0	
B - A415 Abingdon Road	1216	637	159	578	0	249	22.02	1842	0.346	637	771	0.5	
C - New Culham Crossing	704	704	176	0	578	447		2101	0.335	704	439	0.5	
D - A415 Abingdon Road	510	510	127	0	0	502		2558	0.199	510	648	0.3	

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	8	8	2	0	0	825	17.98	2066	0.004	8	2	0.0	
B - A415 Abingdon Road	992	521	130	472	0	203	17.98	1852	0.281	521	630	0.5	
C - New Culham Crossing	574	574	144	0	472	365		2148	0.267	575	359	0.5	
D - A415 Abingdon Road	416	416	104	0	0	410		2618	0.159	416	530	0.3	

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	B - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	C - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
11	New Culham Crossing/A415 Abingdon Road	Standard Roundabout		A, B, C, D	0.07	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	37	D - A415 Abingdon 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	2034with	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 - New Access Road		ONE HOUR	✓	30	100.000
B - A415 Abingdon Road		ONE HOUR	✓	1067	100.000
C - New Culham Crossing		ONE HOUR	✓	1178	100.000
D - A415 Abingdon Road		ONE HOUR	✓	1198	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Access Road	[ONEHOUR]	20.00
B - A415 Abingdon Road	[ONEHOUR]	20.00
C - New Culham Crossing		
D - A415 Abingdon Road		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	19	9	2
	B - A415 Abingdon Road	27	0	691	349
	C - New Culham Crossing	43	960	0	175
	D - A415 Abingdon Road	18	755	425	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	0	0
	B - A415 Abingdon Road	0	0	2	3
	C - New Culham Crossing	0	2	0	5
	D - A415 Abingdon Road	3	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Access Road	0.03	0.05	0.0	A	30	30
B - A415 Abingdon Road	0.33	0.05	0.5	A	1067	549
C - New Culham Crossing	0.61	0.07	1.6	A	1178	1178
D - A415 Abingdon Road	0.61	0.07	1.6	A	1198	1198

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	27	27	7	0	0	1922	17.98	1415	0.019	27	79	0.0	
B - A415 Abingdon Road	959	493	123	466	0	392	17.98	1852	0.266	493	1557	0.3	
C - New Culham Crossing	1059	1059	265	0	466	340		2163	0.490	1058	545	0.7	
D - A415 Abingdon Road	1077	1077	269	0	0	925		2284	0.471	1076	472	0.6	

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	33	33	8	0	0	2351	22.02	1160	0.028	33	97	0.0	
B - A415 Abingdon Road	1175	604	151	571	0	479	22.02	1842	0.328	604	1905	0.4	
C - New Culham Crossing	1297	1297	324	0	571	416		2119	0.612	1295	667	1.0	
D - A415 Abingdon Road	1319	1319	330	0	0	1132		2150	0.613	1316	578	0.9	

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	33	33	8	0	0	2356	22.02	1158	0.029	33	97	0.0	
B - A415 Abingdon Road	1175	604	151	571	0	480	22.02	1842	0.328	604	1909	0.5	
C - New Culham Crossing	1297	1297	324	0	571	416		2119	0.612	1297	668	1.6	
D - A415 Abingdon Road	1319	1319	330	0	0	1134		2149	0.614	1319	579	1.6	

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	27	27	7	0	0	1929	17.98	1411	0.019	27	79	0.0	
B - A415 Abingdon Road	959	493	123	466	0	393	17.98	1852	0.266	494	1563	0.5	
C - New Culham Crossing	1059	1059	265	0	466	340		2163	0.490	1061	547	1.6	
D - A415 Abingdon Road	1077	1077	269	0	0	928		2282	0.472	1080	474	1.6	

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	B - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	C - New Culham Crossing - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A415 Abingdon Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
11	New Culham Crossing/A415 Abingdon Road	Standard Roundabout		A, B, C, D	0.06	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	47	C - New Culham Crossing

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
D6	2034with	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 - New Access Road		ONE HOUR	✓	79	100.000
B - A415 Abingdon Road		ONE HOUR	✓	1623	100.000
C - New Culham Crossing		ONE HOUR	✓	1049	100.000
D - A415 Abingdon Road		ONE HOUR	✓	801	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - New Access Road	[ONEHOUR]	20.00
B - A415 Abingdon Road	[ONEHOUR]	20.00
C - New Culham Crossing		
D - A415 Abingdon Road		

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	25	45	9
	B - A415 Abingdon Road	76	0	1012	535
	C - New Culham Crossing	63	727	0	259
	D - A415 Abingdon Road	29	334	438	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A - New Access Road	B - A415 Abingdon Road	C - New Culham Crossing	D - A415 Abingdon Road
From	A - New Access Road	0	0	0	1
	B - A415 Abingdon Road	0	0	1	1
	C - New Culham Crossing	0	1	0	0
	D - A415 Abingdon Road	0	3	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - New Access Road	0.06	0.04	0.1	A	79	79
B - A415 Abingdon Road	0.52	0.07	1.1	A	1623	864
C - New Culham Crossing	0.59	0.07	1.4	A	1049	1049
D - A415 Abingdon Road	0.39	0.04	0.6	A	801	801

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	71	71	18	0	0	1346	17.98	1756	0.040	71	151	0.0	
B - A415 Abingdon Road	1459	777	194	682	0	442	17.98	1852	0.419	776	975	0.5	
C - New Culham Crossing	943	943	236	0	682	557		2038	0.463	942	661	0.6	
D - A415 Abingdon Road	720	720	180	0	0	778		2380	0.303	720	721	0.3	

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	87	87	22	0	0	1648	22.02	1577	0.055	87	185	0.0	
B - A415 Abingdon Road	1787	951	238	836	0	541	22.02	1841	0.517	950	1194	0.7	
C - New Culham Crossing	1155	1155	289	0	836	682		1967	0.587	1153	809	0.9	
D - A415 Abingdon Road	882	882	220	0	0	952		2267	0.389	881	883	0.4	

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	87	87	22	0	0	1650	22.02	1576	0.055	87	185	0.1	
B - A415 Abingdon Road	1787	951	238	836	0	542	22.02	1841	0.517	951	1196	1.1	
C - New Culham Crossing	1155	1155	289	0	836	683		1966	0.587	1155	810	1.4	
D - A415 Abingdon Road	882	882	220	0	0	953		2266	0.389	882	884	0.6	

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	E qu (P
A - New Access Road	71	71	18	0	0	1350	17.98	1754	0.040	71	151	0.1	
B - A415 Abingdon Road	1459	777	194	682	0	443	17.98	1852	0.419	778	978	1.1	
C - New Culham Crossing	943	943	236	0	682	558		2038	0.463	945	663	1.4	
D - A415 Abingdon Road	720	720	180	0	0	780		2378	0.303	721	723	0.6	

SCH12

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024with									
A - CSC Access	0.1	2.72	0.05	A	40 % [C - Clifton Hampdon Bypass]	0.4	3.14	0.28	A	130 % [A - CSC Access]
B - Clifton Hapmdon Bypass	0.3	2.91	0.21	A		0.1	2.87	0.12	A	
C - Clifton Hampdon Bypass	2.1	5.29	0.67	A		0.5	2.52	0.35	A	
D - CSV Access	0.1	5.69	0.04	A		0.1	3.38	0.07	A	
	2034with									
A - CSC Access	0.1	3.74	0.11	A	2 % [C - Clifton Hampdon Bypass]	0.6	4.35	0.38	A	65 % [C - Clifton Hampdon Bypass]
B - Clifton Hapmdon Bypass	0.5	3.59	0.34	A		0.3	3.48	0.25	A	
C - Clifton Hampdon Bypass	13.0	25.67	0.94	D		1.4	3.92	0.58	A	
D - CSV Access	1.0	12.79	0.50	B		0.2	4.44	0.15	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

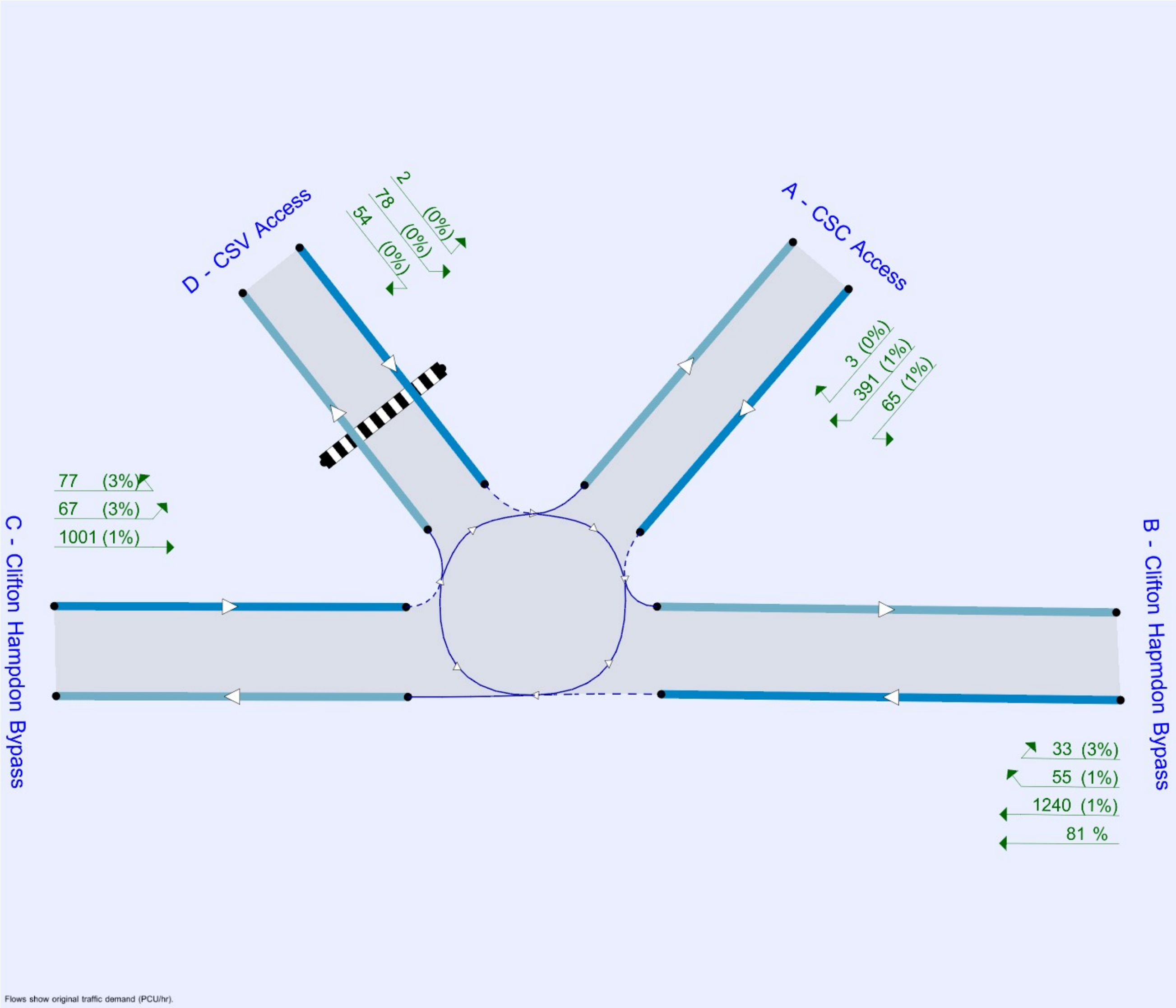
File summary

File Description

Title	CHB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0001 P03
Location	Culham Science Centre Roundabout
Site number	14
Date	11/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
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)	Results for central hour only	Run automatically
D1	2024with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2034with	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2034with	PM	ONE HOUR	16:45	18:15	15	✓	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - Clifton Hampdon Bypass - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2024with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
14	Culham Science Centre Roundabout	Standard Roundabout		A, B, C, D	4.39	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	40	C - Clifton Hampdon Bypass

Arms

Arms

Arm	Name	Description
A	CSC Access	
B	Clifton Hapmdon Bypass	
C	Clifton Hampdon Bypass	
D	CSV Access	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - CSC Access	5.48	7.31	10.4	25.0	85.6	41.5	
B - Clifton Hapmdon Bypass	3.50	7.37	12.7	28.7	85.6	39.4	
C - Clifton Hampdon Bypass	3.45	7.72	170.0	27.1	85.6	33.4	
D - CSV Access	3.52	7.04	9.4	19.1	85.6	46.1	

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A - CSC Access		
B - Clifton Hapmdon Bypass	✓	81
C - Clifton Hampdon Bypass		
D - CSV Access		

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
D - CSV Access	9.00	6.30		Distance	7.53	5.38

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - CSC Access	0.492	1955
B - Clifton Hapmdon Bypass	0.447	1624
C - Clifton Hampdon Bypass	0.540	2245
D - CSV Access	0.415	1460

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	2024with	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 - CSC Access		ONE HOUR	✓	61	100.000
B - Clifton Hapmdon Bypass		ONE HOUR	✓	756	100.000
C - Clifton Hampdon Bypass		ONE HOUR	✓	1300	100.000
D - CSV Access		ONE HOUR	✓	30	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - CSC Access		
B - Clifton Hapmdon Bypass		
C - Clifton Hampdon Bypass		
D - CSV Access	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	18	42	1
	B - Clifton Hapmdon Bypass	190	0	549	17
	C - Clifton Hampdon Bypass	367	898	0	35
	D - CSV Access	0	22	8	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	6	4	0
	B - Clifton Hapmdon Bypass	1	0	2	5
	C - Clifton Hampdon Bypass	0	2	0	5
	D - CSV Access	0	21	20	0

Generated on 10/09/2021 17:48:23 using Junctions 9 (9.5.0.6896)

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)
A - CSC Access	0.05	2.72	0.1	A	61	61
B - Clifton Hapmdon Bypass	0.21	2.91	0.3	A	756	311
C - Clifton Hampdon Bypass	0.67	5.29	2.1	A	1300	1300
D - CSV Access	0.04	5.69	0.1	A	30	30

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	55	55	14	0	0	833		1545	0.035	55	500	0.0
B - Clifton Hapmdon Bypass	680	280	70	400	0	46		1603	0.175	280	842	0.2
C - Clifton Hampdon Bypass	1169	1169	292	0	400	187		2144	0.545	1167	139	0.8
D - CSV Access	27	27	7	0	0	1306	17.98	919	0.029	27	48	0.0

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	67	67	17	0	0	1019		1454	0.046	67	612	0.0
B - Clifton Hapmdon Bypass	832	343	86	490	0	56		1599	0.214	343	1030	0.2
C - Clifton Hampdon Bypass	1431	1431	358	0	490	229		2121	0.675	1428	170	1.2
D - CSV Access	33	33	8	0	0	1598	22.02	798	0.041	33	58	0.0

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	67	67	17	0	0	1022		1452	0.046	67	613	0.1
B - Clifton Hapmdon Bypass	832	343	86	490	0	56		1599	0.214	343	1033	0.3
C - Clifton Hampdon Bypass	1431	1431	358	0	490	229		2121	0.675	1431	170	2.1
D - CSV Access	33	33	8	0	0	1602	22.02	796	0.041	33	58	0.1

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	55	55	14	0	0	837		1543	0.036	55	502	0.1
B - Clifton Hapmdon Bypass	680	280	70	400	0	46		1603	0.175	280	846	0.3
C - Clifton Hampdon Bypass	1169	1169	292	0	400	187		2144	0.545	1172	139	2.1
D - CSV Access	27	27	7	0	0	1312	17.98	917	0.029	27	48	0.1

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - Clifton Hampdon Bypass - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2024with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
14	Culham Science Centre Roundabout	Standard Roundabout		A, B, C, D	2.81	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	130	A - CSC Access

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
D2	2024with	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 - CSC Access		ONE HOUR	✓	395	100.000
B - Clifton Hapmdon Bypass		ONE HOUR	✓	728	100.000
C - Clifton Hampdon Bypass		ONE HOUR	✓	707	100.000
D - CSV Access		ONE HOUR	✓	71	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - CSC Access		
B - Clifton Hapmdon Bypass		
C - Clifton Hampdon Bypass		
D - CSV Access	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	69	321	5
	B - Clifton Hapmdon Bypass	17	0	696	15
	C - Clifton Hampdon Bypass	40	622	0	45
	D - CSV Access	0	45	25	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	0	0	0
	B - Clifton Hapmdon Bypass	0	0	1	4
	C - Clifton Hampdon Bypass	1	1	0	3
	D - CSV Access	0	1	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)
A - CSC Access	0.28	3.14	0.4	A	395	395
B - Clifton Hapmdon Bypass	0.12	2.87	0.1	A	728	164
C - Clifton Hampdon Bypass	0.35	2.52	0.5	A	707	707
D - CSV Access	0.07	3.38	0.1	A	71	71

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	355	355	89	0	0	623		1649	0.215	355	51	0.2
B - Clifton Hapmdon Bypass	654	148	37	507	0	316		1483	0.100	148	661	0.1
C - Clifton Hampdon Bypass	636	636	159	0	507	34		2227	0.285	635	430	0.3
D - CSV Access	64	64	16	0	0	610	17.98	1207	0.053	64	59	0.0

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	435	435	109	0	0	762		1580	0.275	434	63	0.3
B - Clifton Hapmdon Bypass	802	181	45	621	0	387		1451	0.125	181	810	0.1
C - Clifton Hampdon Bypass	778	778	195	0	621	42		2222	0.350	778	526	0.4
D - CSV Access	78	78	20	0	0	747	22.02	1151	0.068	78	73	0.1

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	435	435	109	0	0	763		1580	0.275	435	63	0.4
B - Clifton Hapmdon Bypass	802	181	45	621	0	388		1451	0.125	181	810	0.1
C - Clifton Hampdon Bypass	778	778	195	0	621	42		2222	0.350	778	527	0.5
D - CSV Access	78	78	20	0	0	748	22.02	1150	0.068	78	73	0.1

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	355	355	89	0	0	624		1648	0.215	356	51	0.4
B - Clifton Hapmdon Bypass	654	148	37	507	0	317		1482	0.100	148	662	0.1
C - Clifton Hampdon Bypass	636	636	159	0	507	34		2227	0.285	636	430	0.5
D - CSV Access	64	64	16	0	0	611	17.98	1207	0.053	64	59	0.1

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - Clifton Hampdon Bypass - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2034with, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
14	Culham Science Centre Roundabout	Standard Roundabout		A, B, C, D	15.90	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	2	C - Clifton Hampdon Bypass

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	2034with	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 - CSC Access		ONE HOUR	✓	119	100.000
B - Clifton Hapmdon Bypass		ONE HOUR	✓	1213	100.000
C - Clifton Hampdon Bypass		ONE HOUR	✓	1758	100.000
D - CSV Access		ONE HOUR	✓	255	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - CSC Access		
B - Clifton Hapmdon Bypass		
C - Clifton Hampdon Bypass		
D - CSV Access	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	31	84	4
	B - Clifton Hapmdon Bypass	249	0	909	55
	C - Clifton Hampdon Bypass	468	1246	0	44
	D - CSV Access	20	152	80	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	9	6	0
	B - Clifton Hapmdon Bypass	1	0	2	1
	C - Clifton Hampdon Bypass	1	2	0	3
	D - CSV Access	0	2	2	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)
A - CSC Access	0.11	3.74	0.1	A	119	119
B - Clifton Hapmdon Bypass	0.34	3.59	0.5	A	1213	477
C - Clifton Hampdon Bypass	0.94	25.67	13.0	D	1758	1758
D - CSV Access	0.50	12.79	1.0	B	255	255

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	107	107	27	0	0	1327		1302	0.082	107	661	0.1
B - Clifton Hapmdon Bypass	1090	429	107	662	0	153		1555	0.276	428	1280	0.3
C - Clifton Hampdon Bypass	1580	1580	395	0	662	279		2094	0.755	1575	302	1.7
D - CSV Access	229	229	57	0	0	1759	17.98	731	0.314	229	95	0.3

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	131	131	33	0	0	1605		1166	0.112	131	802	0.1
B - Clifton Hapmdon Bypass	1336	525	131	811	0	188		1540	0.341	524	1548	0.4
C - Clifton Hampdon Bypass	1936	1936	484	0	811	342		2060	0.939	1902	370	3.0
D - CSV Access	281	281	70	0	0	2128	22.02	578	0.486	279	116	0.5

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	131	131	33	0	0	1626		1155	0.113	131	810	0.1
B - Clifton Hapmdon Bypass	1336	525	131	811	0	188		1540	0.341	525	1569	0.5
C - Clifton Hampdon Bypass	1936	1936	484	0	811	342		2060	0.940	1929	371	11.4
D - CSV Access	281	281	70	0	0	2155	22.02	567	0.495	281	117	0.9

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	107	107	27	0	0	1361		1286	0.083	107	673	0.1
B - Clifton Hapmdon Bypass	1090	429	107	662	0	154		1555	0.276	429	1313	0.5
C - Clifton Hampdon Bypass	1580	1580	395	0	662	280		2094	0.755	1619	304	13.0
D - CSV Access	229	229	57	0	0	1803	17.98	713	0.322	231	96	1.0

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - Clifton Hampdon Bypass - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2034with, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
14	Culham Science Centre Roundabout	Standard Roundabout		A, B, C, D	3.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	65	C - Clifton Hampdon Bypass

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
D6	2034with	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 - CSC Access		ONE HOUR	✓	459	100.000
B - Clifton Hapmdon Bypass		ONE HOUR	✓	1328	100.000
C - Clifton Hampdon Bypass		ONE HOUR	✓	1146	100.000
D - CSV Access		ONE HOUR	✓	134	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - CSC Access		
B - Clifton Hapmdon Bypass		
C - Clifton Hampdon Bypass		
D - CSV Access	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	65	391	3
	B - Clifton Hapmdon Bypass	33	0	1240	55
	C - Clifton Hampdon Bypass	67	1001	1	77
	D - CSV Access	2	78	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - CSC Access	B - Clifton Hapmdon Bypass	C - Clifton Hampdon Bypass	D - CSV Access
From	A - CSC Access	0	1	1	0
	B - Clifton Hapmdon Bypass	3	0	1	1
	C - Clifton Hampdon Bypass	3	1	0	3
	D - CSV Access	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)
A - CSC Access	0.38	4.35	0.6	A	459	459
B - Clifton Hapmdon Bypass	0.25	3.48	0.3	A	1328	324
C - Clifton Hampdon Bypass	0.58	3.92	1.4	A	1146	1146
D - CSV Access	0.15	4.44	0.2	A	134	134

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	413	413	103	0	0	1018		1454	0.284	412	92	0.3
B - Clifton Hapmdon Bypass	1194	291	73	903	0	403		1444	0.202	291	1027	0.2
C - Clifton Hampdon Bypass	1030	1030	258	0	903	82		2201	0.468	1029	612	0.6
D - CSV Access	120	120	30	0	0	990	17.98	1050	0.115	120	121	0.1

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	505	505	126	0	0	1247		1342	0.377	505	112	0.4
B - Clifton Hapmdon Bypass	1462	356	89	1106	0	494		1403	0.254	356	1258	0.3
C - Clifton Hampdon Bypass	1262	1262	315	0	1106	100		2191	0.576	1260	749	0.9
D - CSV Access	148	148	37	0	0	1212	22.02	958	0.154	147	148	0.1

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	505	505	126	0	0	1249		1341	0.377	505	112	0.6
B - Clifton Hapmdon Bypass	1462	356	89	1106	0	494		1403	0.254	356	1260	0.3
C - Clifton Hampdon Bypass	1262	1262	315	0	1106	100		2191	0.576	1262	750	1.4
D - CSV Access	148	148	37	0	0	1213	22.02	957	0.154	148	149	0.2

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)
A - CSC Access	413	413	103	0	0	1021		1453	0.284	413	92	0.6
B - Clifton Hapmdon Bypass	1194	291	73	903	0	404		1443	0.202	291	1030	0.3
C - Clifton Hampdon Bypass	1030	1030	258	0	903	82		2201	0.468	1032	614	1.4
D - CSV Access	120	120	30	0	0	992	17.98	1049	0.115	121	122	0.2

SCH13

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: CHB-15-Clifton_Hampden_Bypass-A415-P03-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\CHB\Models\PICADY
Report generation date: 13/09/2021 09:34:58

»2024with, AM
»2024with, PM
»2034with, AM
»2034with, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	0.4	7.93	0.29	A	0.2	7.04	0.19	A
Stream B-A	0.0	14.92	0.04	B	0.0	13.43	0.01	B
Stream C-B	0.3	7.40	0.22	A	0.5	8.55	0.32	A
	2034with							
Stream B-C	58.6	1598.71	9999999999.00	F	19.4	344.41	1.28	F
Stream B-A	29.8	1625.45	9999999999.00	F	4.7	453.92	1.16	F
Stream C-B	0.3	9.89	0.20	A	0.4	11.39	0.26	B

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

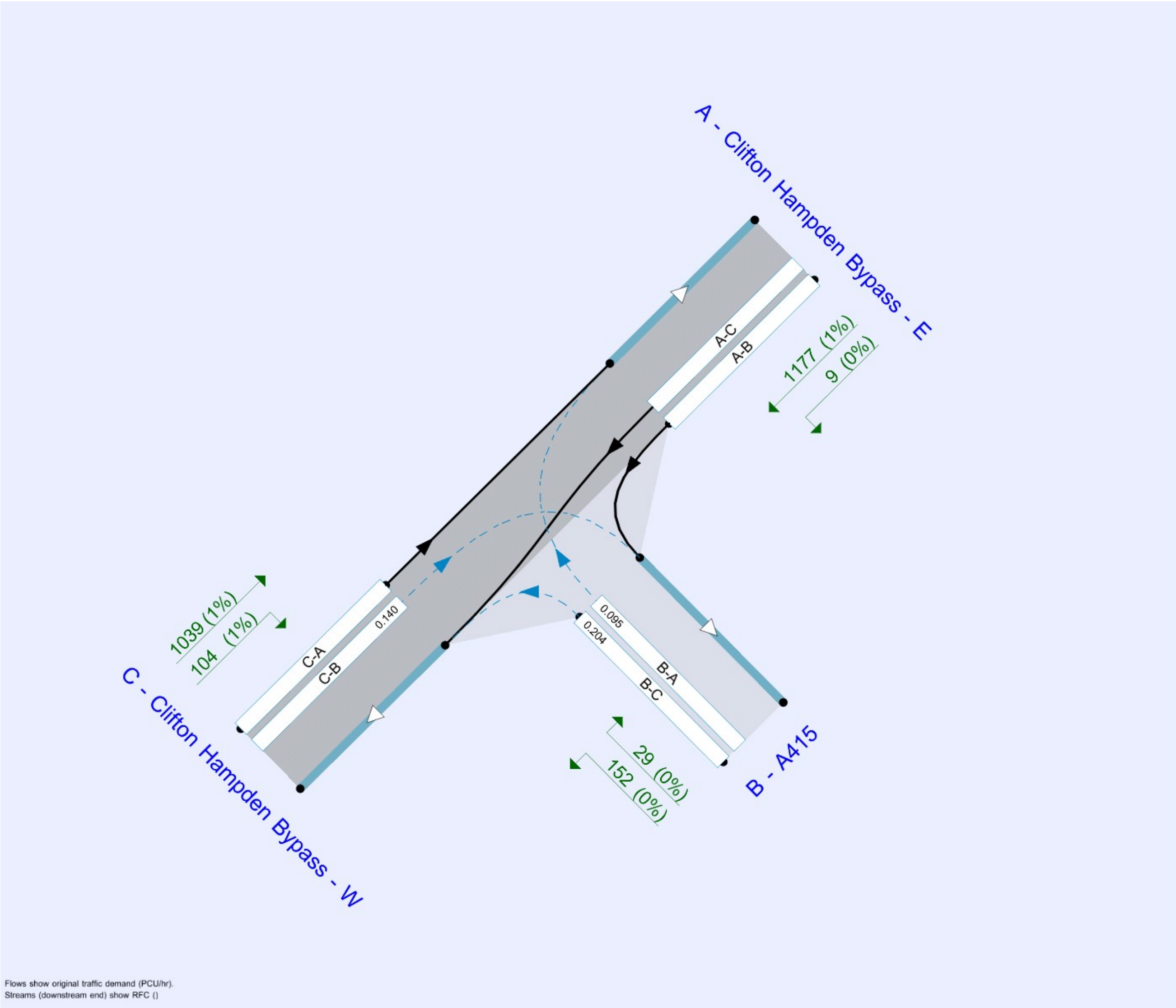
File summary

File Description

Title	CHB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0002 P03
Location	Clifton Hampden Bypass/A415
Site number	15
Date	10/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
15	Clifton Hampden Bypass/A415	T-Junction	Two-way		1.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Clifton Hampden Bypass - E		Major
B	A415		Minor
C	Clifton Hampden Bypass - W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Clifton Hampden Bypass - W	7.10		✓	3.70	250.0		-

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

Minor Arm Geometry

Arm	Minor arm type	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 - A415	One lane plus flare	10.00	10.00	10.00	6.36	4.11	✓	3.00	122	158

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
15	B-A	664	0.115	0.291	0.183	0.416
15	B-C	855	0.125	0.316	-	-
15	C-B	836	0.308	0.308	-	-

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)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	589	100.000
B - A415		✓	178	100.000
C - Clifton Hampden Bypass - W		✓	940	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	589
	B - A415	10	0	168
	C - Clifton Hampden Bypass - W	813	127	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	2
	B - A415	0	0	1
	C - Clifton Hampden Bypass - W	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.29	7.93	0.4	A
B-A	0.04	14.92	0.0	B
C-A				
C-B	0.22	7.40	0.3	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	712	0.178	126	0.2	6.192	A
B-A	8	383	0.020	7	0.0	9.583	A
C-A	612			612			
C-B	96	699	0.137	95	0.2	6.069	A
A-B	0			0			
A-C	443			443			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	684	0.221	151	0.3	6.821	A
B-A	9	328	0.027	9	0.0	11.277	B
C-A	731			731			
C-B	114	673	0.170	114	0.2	6.570	A
A-B	0			0			
A-C	529			529			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	644	0.287	184	0.4	7.912	A
B-A	11	252	0.044	11	0.0	14.906	B
C-A	895			895			
C-B	140	636	0.220	140	0.3	7.390	A
A-B	0			0			
A-C	649			649			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	644	0.287	185	0.4	7.928	A
B-A	11	252	0.044	11	0.0	14.921	B
C-A	895			895			
C-B	140	636	0.220	140	0.3	7.398	A
A-B	0			0			
A-C	649			649			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	683	0.221	151	0.3	6.839	A
B-A	9	328	0.027	9	0.0	11.293	B
C-A	731			731			
C-B	114	673	0.170	114	0.2	6.580	A
A-B	0			0			
A-C	529			529			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	712	0.178	127	0.2	6.216	A
B-A	8	383	0.020	8	0.0	9.597	A
C-A	612			612			
C-B	96	699	0.137	96	0.2	6.088	A
A-B	0			0			
A-C	443			443			

2024with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
15	Clifton Hampden Bypass/A415	T-Junction	Two-way		1.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	616	100.000
B - A415		✓	115	100.000
C - Clifton Hampden Bypass - W		✓	733	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	1	615
	B - A415	3	0	112
	C - Clifton Hampden Bypass - W	550	183	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	1
	B - A415	0	0	1
	C - Clifton Hampden Bypass - W	1	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.19	7.04	0.2	A
B-A	0.01	13.43	0.0	B
C-A				
C-B	0.32	8.55	0.5	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	84	708	0.119	84	0.1	5.818	A
B-A	2	396	0.006	2	0.0	9.142	A
C-A	414			414			
C-B	138	693	0.199	137	0.2	6.524	A
A-B	0.75			0.75			
A-C	463			463			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	101	679	0.148	101	0.2	6.279	A
B-A	3	344	0.008	3	0.0	10.560	B
C-A	494			494			
C-B	165	665	0.247	164	0.3	7.251	A
A-B	0.90			0.90			
A-C	553			553			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	123	640	0.193	123	0.2	7.036	A
B-A	3	271	0.012	3	0.0	13.422	B
C-A	606			606			
C-B	201	627	0.321	201	0.5	8.522	A
A-B	1			1			
A-C	677			677			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	123	640	0.193	123	0.2	7.041	A
B-A	3	271	0.012	3	0.0	13.434	B
C-A	606			606			
C-B	201	627	0.321	201	0.5	8.546	A
A-B	1			1			
A-C	677			677			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	101	679	0.148	101	0.2	6.287	A
B-A	3	343	0.008	3	0.0	10.572	B
C-A	494			494			
C-B	165	665	0.247	165	0.3	7.276	A
A-B	0.90			0.90			
A-C	553			553			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	84	708	0.119	84	0.1	5.830	A
B-A	2	395	0.006	2	0.0	9.157	A
C-A	414			414			
C-B	138	693	0.199	138	0.3	6.555	A
A-B	0.75			0.75			
A-C	463			463			

2034with, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
15	Clifton Hampden Bypass/A415	T-Junction	Two-way		95.19	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	1107	100.000
B - A415		✓	159	100.000
C - Clifton Hampden Bypass - W		✓	1428	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	1107
	B - A415	53	0	106
	C - Clifton Hampden Bypass - W	1344	84	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	2
	B - A415	0	0	1
	C - Clifton Hampden Bypass - W	2	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	9999999999.00	1598.71	58.6	F
B-A	9999999999.00	1625.45	29.8	F
C-A				
C-B	0.20	9.89	0.3	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	557	0.143	79	0.2	7.620	A
B-A	40	213	0.187	39	0.2	20.540	C
C-A	1012			1012			
C-B	63	579	0.109	63	0.1	7.037	A
A-B	0			0			
A-C	833			833			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95	479	0.199	95	0.2	9.497	A
B-A	48	124	0.386	46	0.6	45.742	E
C-A	1208			1208			
C-B	76	529	0.143	75	0.2	8.006	A
A-B	0			0			
A-C	995			995			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	117	0	9999999999.000	0	29.4	1598.706	F
B-A	58	0	9999999999.000	0	15.2	1625.454	F
C-A	1480			1480			
C-B	92	460	0.201	92	0.3	9.871	A
A-B	0			0			
A-C	1219			1219			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	117	0	9999999999.000	0	58.6	-2875.463	?
B-A	58	0	9999999999.000	0	29.8	-3204.163	?
C-A	1480			1480			
C-B	92	460	0.201	92	0.3	9.889	A
A-B	0			0			
A-C	1219			1219			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95	229	0.415	226	26.0	802.450	F
B-A	48	116	0.411	112	13.6	794.640	F
C-A	1208			1208			
C-B	76	529	0.143	76	0.2	8.027	A
A-B	0			0			
A-C	995			995			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	515	0.155	183	0.2	15.463	C
B-A	40	212	0.188	93	0.2	46.428	E
C-A	1012			1012			
C-B	63	579	0.109	63	0.1	7.053	A
A-B	0			0			
A-C	833			833			

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
15	Clifton Hampden Bypass/A415	T-Junction	Two-way		26.57	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	1186	100.000
B - A415		✓	181	100.000
C - Clifton Hampden Bypass - W		✓	1143	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	9	1177
	B - A415	29	0	152
	C - Clifton Hampden Bypass - W	1039	104	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - A415	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	1
	B - A415	0	0	0
	C - Clifton Hampden Bypass - W	1	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.28	344.41	19.4	F
B-A	1.16	453.92	4.7	F
C-A				
C-B	0.26	11.39	0.4	B
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	114	561	0.204	113	0.3	8.055	A
B-A	22	229	0.095	21	0.1	17.271	C
C-A	782			782			
C-B	78	561	0.140	78	0.2	7.507	A
A-B	7			7			
A-C	886			886			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	137	497	0.275	136	0.4	10.016	B
B-A	26	145	0.180	26	0.2	30.109	D
C-A	934			934			
C-B	93	507	0.184	93	0.2	8.764	A
A-B	8			8			
A-C	1058			1058			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	167	142	1.176	130	9.7	180.974	F
B-A	32	28	1.155	21	2.9	381.651	F
C-A	1144			1144			
C-B	115	433	0.264	114	0.4	11.351	B
A-B	10			10			
A-C	1296			1296			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	167	130	1.284	128	19.4	344.413	F
B-A	32	28	1.158	25	4.7	453.923	F
C-A	1144			1144			
C-B	115	433	0.264	114	0.4	11.387	B
A-B	10			10			
A-C	1296			1296			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	137	479	0.285	213	0.4	18.213	C
B-A	26	143	0.182	44	0.2	42.287	E
C-A	934			934			
C-B	93	507	0.184	94	0.2	8.796	A
A-B	8			8			
A-C	1058			1058			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	114	561	0.204	115	0.3	8.122	A
B-A	22	229	0.095	22	0.1	17.453	C
C-A	782			782			
C-B	78	561	0.140	79	0.2	7.533	A
A-B	7			7			
A-C	886			886			

SCH14

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: CHB-16-Clifton_Hampden_Bypass-B4015-P03-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\CHB\Models\PICADY
Report generation date: 13/09/2021 09:25:54

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024with							
Stream B-C	0.0	9.22	0.05	A	0.1	7.86	0.06	A
Stream B-A	1.2	30.43	0.56	D	0.3	16.99	0.26	C
Stream C-AB	0.1	7.25	0.05	A	0.1	7.81	0.05	A
	2034with							
Stream B-C	18.3	1309.76	9999999999.00	F	15.5	1761.60	9999999999.00	F
Stream B-A	48.7	1849.07	9999999999.00	F	28.6	1758.41	9999999999.00	F
Stream C-AB	0.1	10.60	0.07	B	0.5	18.25	0.33	C

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

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

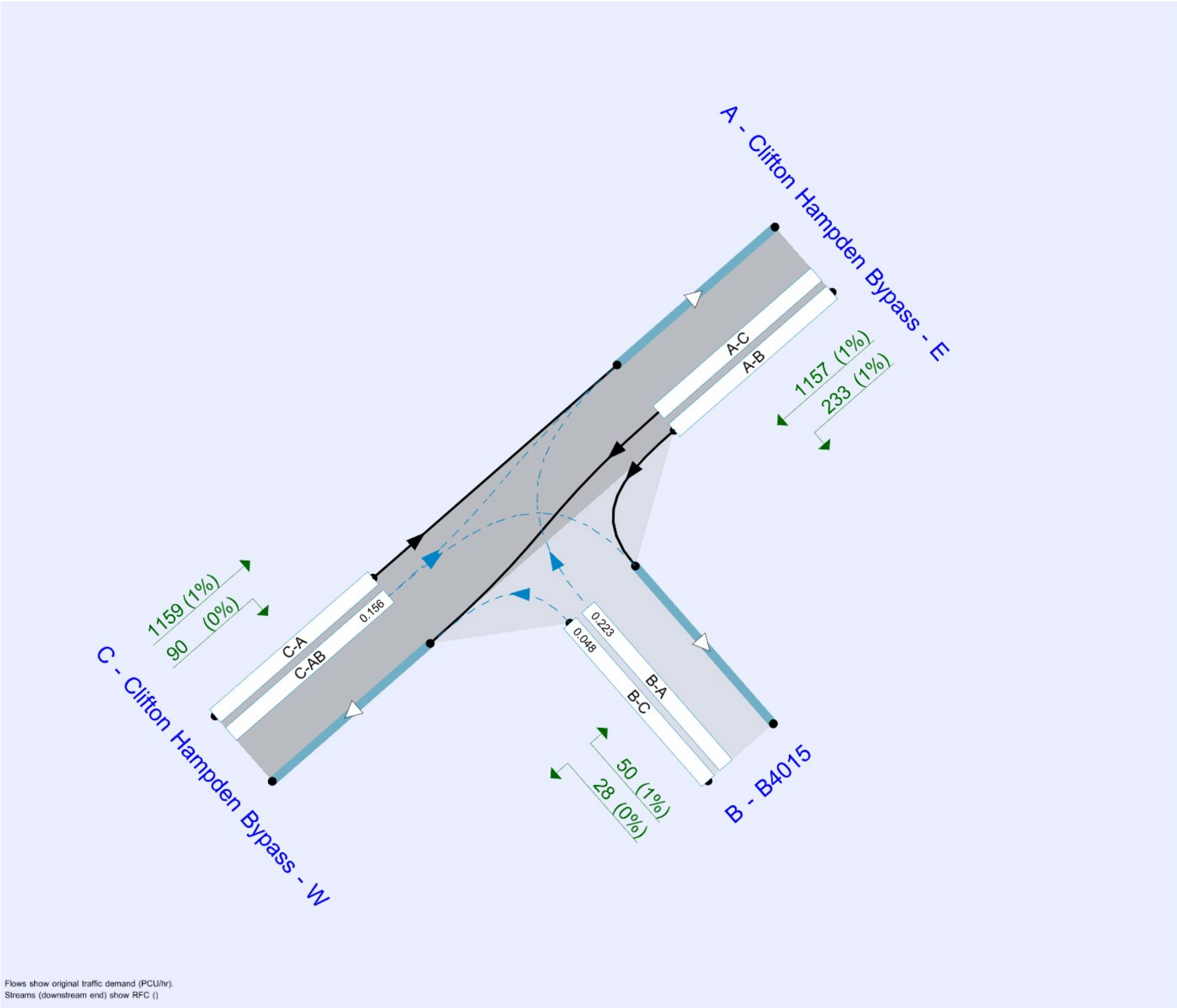
File summary

File Description

Title	CHB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0004 P03
Location	Clifton Hampden Bypass/B4015
Site number	16
Date	10/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NA\Sergio.PerezBurgos
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	AM	ONE HOUR	07:45	09:15	15
D2	2024with	PM	ONE HOUR	16:45	18:15	15
D5	2034with	AM	ONE HOUR	07:45	09:15	15
D6	2034with	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Clifton Hampden Bypass - W - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
16	Clifton Hampden Bypass/B4015	T-Junction	Two-way		2.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Clifton Hampden Bypass - E		Major
B	B4015		Minor
C	Clifton Hampden Bypass - W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Clifton Hampden Bypass - W	5.98		✓	3.00	168.0	✓	7.00

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	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 - B4015	One lane plus flare	10.00	10.00	7.85	4.78	3.70	✓	2.00	43	108

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
16	B-A	632	0.115	0.291	0.183	0.416
16	B-C	716	0.110	0.278	-	-
16	C-B	730	0.283	0.283	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	608	100.000
B - B4015		✓	151	100.000
C - Clifton Hampden Bypass - W		✓	855	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	39	569
	B - B4015	134	0	17
	C - Clifton Hampden Bypass - W	829	26	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	2	2
	B - B4015	0	0	1
	C - Clifton Hampden Bypass - W	2	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	9.22	0.0	A
B-A	0.56	30.43	1.2	D
C-AB	0.05	7.25	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	552	0.023	13	0.0	6.742	A
B-A	101	381	0.265	99	0.4	12.717	B
C-AB	20	600	0.033	19	0.0	6.383	A
C-A	624			624			
A-B	29			29			
A-C	428			428			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	509	0.030	15	0.0	7.362	A
B-A	120	333	0.362	120	0.6	16.849	C
C-AB	23	575	0.041	23	0.0	6.720	A
C-A	745			745			
A-B	35			35			
A-C	512			512			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	417	0.045	19	0.0	9.117	A
B-A	148	265	0.556	145	1.2	29.346	D
C-AB	29	540	0.053	29	0.1	7.246	A
C-A	913			913			
A-B	43			43			
A-C	626			626			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	413	0.045	19	0.0	9.215	A
B-A	148	265	0.556	147	1.2	30.427	D
C-AB	29	540	0.053	29	0.1	7.246	A
C-A	913			913			
A-B	43			43			
A-C	626			626			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	506	0.030	15	0.0	7.406	A
B-A	120	333	0.362	123	0.6	17.372	C
C-AB	23	575	0.041	23	0.0	6.724	A
C-A	745			745			
A-B	35			35			
A-C	512			512			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	551	0.023	13	0.0	6.759	A
B-A	101	381	0.265	102	0.4	12.926	B
C-AB	20	600	0.033	20	0.0	6.389	A
C-A	624			624			
A-B	29			29			
A-C	428			428			

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Clifton Hampden Bypass - W - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
16	Clifton Hampden Bypass/B4015	T-Junction	Two-way		1.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	763	100.000
B - B4015		✓	95	100.000
C - Clifton Hampden Bypass - W		✓	639	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	172	591
	B - B4015	67	0	28
	C - Clifton Hampden Bypass - W	615	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	0	1
	B - B4015	0	0	0
	C - Clifton Hampden Bypass - W	1	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	7.86	0.1	A
B-A	0.26	16.99	0.3	C
C-AB	0.05	7.81	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	571	0.037	21	0.0	6.537	A
B-A	50	395	0.128	50	0.1	10.412	B
C-AB	18	567	0.032	18	0.0	6.618	A
C-A	463			463			
A-B	129			129			
A-C	445			445			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	538	0.047	25	0.0	7.017	A
B-A	60	349	0.173	60	0.2	12.441	B
C-AB	22	536	0.040	22	0.0	7.072	A
C-A	553			553			
A-B	155			155			
A-C	531			531			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	489	0.063	31	0.1	7.852	A
B-A	74	286	0.258	73	0.3	16.912	C
C-AB	26	492	0.054	26	0.1	7.808	A
C-A	677			677			
A-B	189			189			
A-C	651			651			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	489	0.063	31	0.1	7.860	A
B-A	74	286	0.258	74	0.3	16.993	C
C-AB	26	492	0.054	26	0.1	7.809	A
C-A	677			677			
A-B	189			189			
A-C	651			651			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	538	0.047	25	0.0	7.025	A
B-A	60	349	0.173	61	0.2	12.508	B
C-AB	22	536	0.040	22	0.0	7.077	A
C-A	553			553			
A-B	155			155			
A-C	531			531			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	571	0.037	21	0.0	6.546	A
B-A	50	395	0.128	51	0.1	10.460	B
C-AB	18	567	0.032	18	0.0	6.622	A
C-A	463			463			
A-B	129			129			
A-C	445			445			

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Clifton Hampden Bypass - W - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
16	Clifton Hampden Bypass/B4015	T-Junction	Two-way		75.12	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	1116	100.000
B - B4015		✓	118	100.000
C - Clifton Hampden Bypass - W		✓	1437	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	45	1071
	B - B4015	85	0	33
	C - Clifton Hampden Bypass - W	1414	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	2	2
	B - B4015	1	0	1
	C - Clifton Hampden Bypass - W	2	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	9999999999.00	1309.76	18.3	F
B-A	9999999999.00	1849.07	48.7	F
C-AB	0.07	10.60	0.1	B
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	451	0.055	25	0.1	8.535	A
B-A	64	191	0.334	62	0.5	27.623	D
C-AB	17	492	0.035	17	0.0	7.959	A
C-A	1065			1065			
A-B	34			34			
A-C	806			806			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	268	0.111	29	0.1	15.252	C
B-A	76	106	0.724	71	1.9	92.787	F
C-AB	21	446	0.046	21	0.1	8.889	A
C-A	1271			1271			
A-B	40			40			
A-C	963			963			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0	9999999999.000	0	9.2	33.532	D
B-A	94	0	9999999999.000	0	25.3	1849.072	F
C-AB	25	382	0.066	25	0.1	10.593	B
C-A	1557			1557			
A-B	50			50			
A-C	1179			1179			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0	9999999999.000	0	18.3	-382.873	?
B-A	94	0	9999999999.000	0	48.7	-427.631	?
C-AB	25	382	0.066	25	0.1	10.597	B
C-A	1557			1557			
A-B	50			50			
A-C	1179			1179			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	40	0.742	38	16.2	1309.761	F
B-A	76	105	0.725	103	42.0	1280.611	F
C-AB	21	446	0.046	21	0.1	8.896	A
C-A	1271			1271			
A-B	40			40			
A-C	963			963			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	74	0.338	69	5.1	584.338	F
B-A	64	190	0.337	186	11.6	532.252	F
C-AB	17	492	0.035	17	0.0	7.967	A
C-A	1065			1065			
A-B	34			34			
A-C	806			806			

2034with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Clifton Hampden Bypass - W - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
16	Clifton Hampden Bypass/B4015	T-Junction	Two-way		51.12	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2034with	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	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Clifton Hampden Bypass - E		✓	1390	100.000
B - B4015		✓	78	100.000
C - Clifton Hampden Bypass - W		✓	1249	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	233	1157
	B - B4015	50	0	28
	C - Clifton Hampden Bypass - W	1159	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hampden Bypass - E	B - B4015	C - Clifton Hampden Bypass - W
From	A - Clifton Hampden Bypass - E	0	1	1
	B - B4015	1	0	0
	C - Clifton Hampden Bypass - W	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	9999999999.00	1761.60	15.5	F
B-A	9999999999.00	1758.41	28.6	F
C-AB	0.33	18.25	0.5	C
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	441	0.048	21	0.0	8.568	A
B-A	38	169	0.223	37	0.3	27.223	D
C-AB	68	434	0.156	67	0.2	9.843	A
C-A	873			873			
A-B	175			175			
A-C	871			871			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	320	0.079	25	0.1	12.189	B
B-A	45	80	0.565	42	1.1	90.136	F
C-AB	81	376	0.215	81	0.3	12.216	B
C-A	1042			1042			
A-B	209			209			
A-C	1040			1040			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	0	9999999999.000	0	7.8	1761.602	F
B-A	55	0	9999999999.000	0	14.8	1758.410	F
C-AB	99	297	0.334	98	0.5	18.101	C
C-A	1276			1276			
A-B	257			257			
A-C	1274			1274			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	0	9999999999.000	0	15.5	-1177.346	?
B-A	55	0	9999999999.000	0	28.6	-1441.960	?
C-AB	99	297	0.334	99	0.5	18.253	C
C-A	1276			1276			
A-B	257			257			
A-C	1274			1274			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	43	0.583	41	11.6	946.505	F
B-A	45	79	0.569	76	20.8	1029.889	F
C-AB	81	376	0.215	82	0.3	12.319	B
C-A	1042			1042			
A-B	209			209			
A-C	1040			1040			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	304	0.069	67	0.1	18.546	C
B-A	38	168	0.224	119	0.3	173.686	F
C-AB	68	434	0.156	68	0.2	9.903	A
C-A	873			873			
A-B	175			175			
A-C	871			871			

SCH15

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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Filename: CHB-46-Clifton_Hampden_Bypass-CSC Secondary Access-P03-v0.j9
Path: L:\Legacy\UKCRD1FP001\UKCRD1FP001-V1TI\Projects\Traffic - OCC Culham RC\Modelling\CHB\Models\PICADY
Report generation date: 13/09/2021 09:47:03

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2024with									
Stream B-AC	0.0	6.51	0.05	A	144 % [Stream B-AC]	0.2	6.11	0.13	A	171 % [Stream B-AC]
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
	2034with									
Stream B-AC	0.1	10.63	0.10	B	45 % [Stream B-AC]	0.8	12.92	0.44	B	30 % [Stream B-AC]
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. 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	CHB_PD-ACM-HGA-SW_ZZ_ZZ_ZZ-DR-CH-0004 P03
Location	Clifton Hampden Bypass/CSC Secondary Access
Site number	46
Date	26/05/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Richard.Rolph
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	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	2024with	AM	ONE HOUR	07:45	09:15	15	✓
D2	2024with	PM	ONE HOUR	16:45	18:15	15	✓
D3	2034with	AM	ONE HOUR	07:45	09:15	15	✓
D4	2034with	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2024with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	B - Culham Science Centre Secondary Access - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
46	Clifton Hampden Bypass/CSC Secondary Access	T-Junction	Two-way		0.11	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	144	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Clifton Hapmden Bypass - W		Major
B	Culham Science Centre Secondary Access		Minor
C	Clifton Hampden Bypass - E		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 - Clifton Hampden Bypass - E	7.30			0.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Culham Science Centre Secondary Access	One lane	4.33	45	236

Zebra Crossings

Arm	Space between crossing and junction entry (Left) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
B - Culham Science Centre Secondary Access	7.80	7.80		Distance	7.57	5.41

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
46	B-A	690	0.119	0.300	0.189	0.428
46	B-C	875	0.127	0.320	-	-
46	C-B	574	0.210	0.210	-	-

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	2024with	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 - Clifton Hapmden Bypass - W		ONE HOUR	✓	822	100.000
B - Culham Science Centre Secondary Access		ONE HOUR	✓	25	100.000
C - Clifton Hampden Bypass - E		ONE HOUR	✓	588	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Clifton Hapmden Bypass - W		
B - Culham Science Centre Secondary Access	[ONEHOUR]	0.00
C - Clifton Hampden Bypass - E		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	822
	B - Culham Science Centre Secondary Access	0	0	25
	C - Clifton Hampden Bypass - E	588	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	2
	B - Culham Science Centre Secondary Access	0	0	1
	C - Clifton Hampden Bypass - E	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	6.51	0.0	A	23	34
C-A					540	809
C-B	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					754	1131

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	0.00	677	0.028	19	0.0	0.0	5.520	A
C-A	443	111				443				
C-B	0	0		444	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	619	155				619				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	0.00	639	0.035	22	0.0	0.0	5.897	A
C-A	529	132				529				
C-B	0	0		419	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	739	185				739				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	0.00	586	0.047	27	0.0	0.0	6.512	A
C-A	647	162				647				
C-B	0	0		384	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	905	226				905				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	0.00	586	0.047	28	0.0	0.0	6.512	A
C-A	647	162				647				
C-B	0	0		384	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	905	226				905				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	0.00	639	0.035	23	0.0	0.0	5.898	A
C-A	529	132				529				
C-B	0	0		419	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	739	185				739				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	0.00	677	0.028	19	0.0	0.0	5.521	A
C-A	443	111				443				
C-B	0	0		444	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	619	155				619				

2024with, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	B - Culham Science Centre Secondary Access - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
46	Clifton Hampden Bypass/CSC Secondary Access	T-Junction	Two-way		0.40	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	171	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	2024with	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 - Clifton Hapmden Bypass - W		ONE HOUR	✓	554	100.000
B - Culham Science Centre Secondary Access		ONE HOUR	✓	83	100.000
C - Clifton Hampden Bypass - E		ONE HOUR	✓	616	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Clifton Hapmden Bypass - W		
B - Culham Science Centre Secondary Access	[ONEHOUR]	0.00
C - Clifton Hampden Bypass - E		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	554
	B - Culham Science Centre Secondary Access	0	0	83
	C - Clifton Hampden Bypass - E	616	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	1
	B - Culham Science Centre Secondary Access	0	0	0
	C - Clifton Hampden Bypass - E	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	6.11	0.2	A	76	114
C-A					565	848
C-B	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					508	763

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	16	0.00	742	0.084	62	0.0	0.1	5.293	A
C-A	464	116				464				
C-B	0	0		486	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	417	104				417				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	19	0.00	716	0.104	75	0.1	0.1	5.612	A
C-A	554	138				554				
C-B	0	0		469	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	498	125				498				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	91	23	0.00	680	0.134	91	0.1	0.2	6.110	A
C-A	678	170				678				
C-B	0	0		446	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	610	152				610				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	91	23	0.00	680	0.134	91	0.2	0.2	6.113	A
C-A	678	170				678				
C-B	0	0		446	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	610	152				610				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	19	0.00	716	0.104	75	0.2	0.1	5.617	A
C-A	554	138				554				
C-B	0	0		469	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	498	125				498				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	16	0.00	742	0.084	63	0.1	0.1	5.299	A
C-A	464	116				464				
C-B	0	0		486	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	417	104				417				

2034with, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	B - Culham Science Centre Secondary Access - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
46	Clifton Hampden Bypass/CSC Secondary Access	T-Junction	Two-way		0.15	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	45	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	2034with	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 - Clifton Hapmden Bypass - W		ONE HOUR	✓	1401	100.000
B - Culham Science Centre Secondary Access		ONE HOUR	✓	36	100.000
C - Clifton Hampden Bypass - E		ONE HOUR	✓	1106	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Clifton Hapmden Bypass - W		
B - Culham Science Centre Secondary Access	[ONEHOUR]	0.00
C - Clifton Hampden Bypass - E		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	1401
	B - Culham Science Centre Secondary Access	0	0	36
	C - Clifton Hampden Bypass - E	1106	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	2
	B - Culham Science Centre Secondary Access	0	0	1
	C - Clifton Hampden Bypass - E	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	10.63	0.1	B	33	50
C-A					1015	1522
C-B	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					1286	1928

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	0.00	538	0.050	27	0.0	0.1	7.112	A
C-A	833	208				833				
C-B	0	0		353	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1055	264				1055				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	0.00	472	0.069	32	0.1	0.1	8.262	A
C-A	994	249				994				
C-B	0	0		310	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1259	315				1259				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	10	0.00	382	0.104	39	0.1	0.1	10.615	B
C-A	1218	304				1218				
C-B	0	0		250	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1543	386				1543				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	10	0.00	382	0.104	40	0.1	0.1	10.626	B
C-A	1218	304				1218				
C-B	0	0		250	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1543	386				1543				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	0.00	472	0.069	33	0.1	0.1	8.269	A
C-A	994	249				994				
C-B	0	0		310	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1259	315				1259				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	7	0.00	538	0.050	27	0.1	0.1	7.120	A
C-A	833	208				833				
C-B	0	0		353	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1055	264				1055				

2034with, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
46	Clifton Hampden Bypass/CSC Secondary Access	T-Junction	Two-way		1.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	30	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
D4	2034with	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 - Clifton Hapmden Bypass - W		ONE HOUR	✓	1069	100.000
B - Culham Science Centre Secondary Access		ONE HOUR	✓	200	100.000
C - Clifton Hampden Bypass - E		ONE HOUR	✓	1184	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Clifton Hapmden Bypass - W		
B - Culham Science Centre Secondary Access	[ONEHOUR]	20.00
C - Clifton Hampden Bypass - E		

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Clifton Hapmden Bypass - W	**B - Culham Science Centre Secondary Access**	**C - Clifton Hampden Bypass - E**
From	**A - Clifton Hapmden Bypass - W**	0	0	1069
	B - Culham Science Centre Secondary Access	0	0	200
	C - Clifton Hampden Bypass - E	1184	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Clifton Hapmden Bypass - W	B - Culham Science Centre Secondary Access	C - Clifton Hampden Bypass - E
From	A - Clifton Hapmden Bypass - W	0	0	1
	B - Culham Science Centre Secondary Access	0	0	0
	C - Clifton Hampden Bypass - E	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.44	12.92	0.8	B	184	275
C-A					1086	1630
C-B	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					981	1471

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	151	38	15.06	618	0.244	149	0.0	0.3	7.663	A
C-A	891	223				891				
C-B	0	0		405	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	805	201				805				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	180	45	17.98	568	0.317	179	0.3	0.5	9.250	A
C-A	1064	266				1064				
C-B	0	0		372	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	961	240				961				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	220	55	22.02	499	0.442	219	0.5	0.8	12.807	B
C-A	1304	326				1304				
C-B	0	0		327	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1177	294				1177				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	220	55	22.02	499	0.442	220	0.8	0.8	12.918	B
C-A	1304	326				1304				
C-B	0	0		327	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	1177	294				1177				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	180	45	17.98	568	0.317	181	0.8	0.5	9.337	A
C-A	1064	266				1064				
C-B	0	0		372	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	961	240				961				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	151	38	15.06	618	0.244	151	0.5	0.3	7.724	A
C-A	891	223				891				
C-B	0	0		405	0.000	0	0.0	0.0	0.000	A
A-B	0	0				0				
A-C	805	201				805				