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Proposed Place of Worship
at Chain Road, Blackley
for World Mission Agency
Winners Chapel International
Transport Assessment

November 2024 (Revision 1)

Quality Management

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1. Introduction

1.1.1 Mosodi Limited have been appointed by Winners Chapel International Manchester to provide highways and transport related planning advice in support of the proposed development at Chain Road, Blackley.

1.1.2 The proposed layout is shown in Appendix A, and comprises of:

- Main chapel building, comprising the following:
 - o Main auditorium;
 - o Offices;
 - o Consulting and Counselling Rooms;
 - o Children's/Teens Church;
 - o Bookshop;
 - o Restaurant and Café; and
 - o Classroom.
- 189 car parking spaces, including 20 EV charging spaces and 12 accessible spaces;
- 10 motorcycle parking spaces;
- 40 cycle storage spaces;
- Mini-bus/coach drop off facility;
- Proposed widened access; and
- Associated landscaping.

1.1.3 Pre-application discussions with Manchester City Council and Transport for Greater Manchester were undertaken in August 2024 regarding the content of this report.

1.1.4 This Transport Assessment (TA) has been prepared in accordance with guidance relating to transport statements prepared and issued by the Department for Communities and Local Government (DCLG), now known as Ministry of Housing, Communities & Local Government.

1.1.5 This report sets out the transport issues relating to the proposed development and identified if any measures are required to accommodate the anticipated transport impacts of the scheme.

1.1.6 It covers a variety of topics which are set out in the following chapters:

- Chapter 2 – describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals including the access strategy. This chapter also includes an assessment of the car trips likely to be generated by the development;
- Chapter 4 – describes the accessibility of the Site by non-car modes including accessibility to local facilities/services;
- Chapter 5 – sets out the trip generation and distribution methodologies applied in the assessment of the highway network;
- Chapter 6 – describes the traffic flow information and provides an

- assessment of the impact of the Site on the local highway network; and
- Chapter 7 – summarises and concludes the report.

2. Existing Site Conditions

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

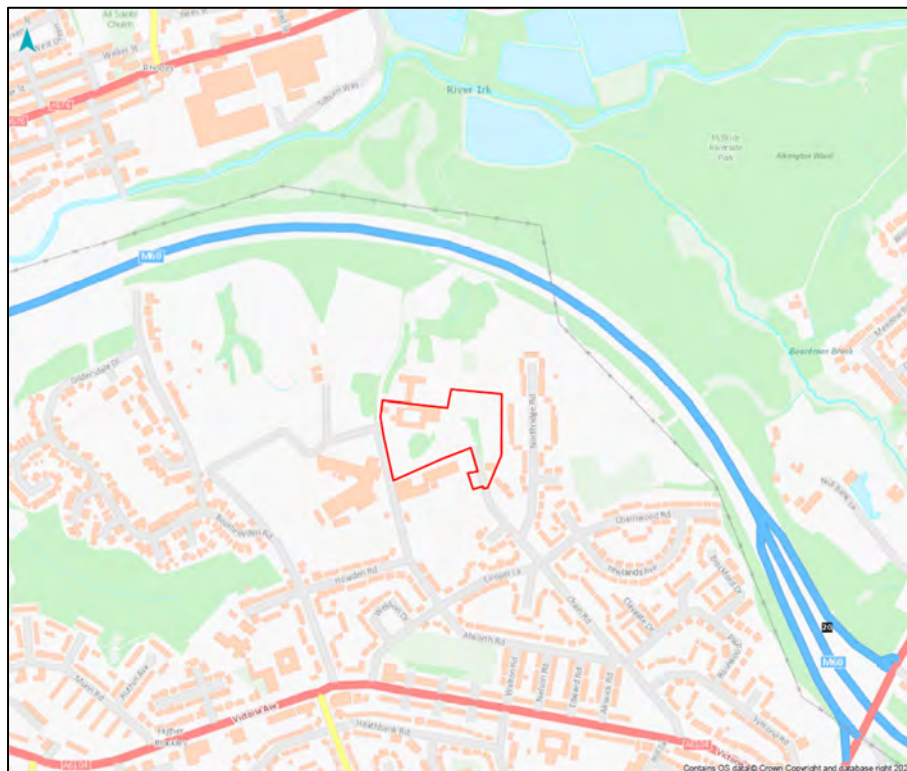
2.1 Existing Site

2.1.1 The development Site is located to the west of Chain Road. It is circa 5.7 acres in size and currently comprises the former Convent of the Good Shepherd and vacant land – which will be demolished to make way for the proposal.

2.1.2 Adjacent to the north of the Site is the St Euphrasia's Care Home and new convent, and to the south is Meade Hill School and to the west is North Ridge High School. The site is bound to the properties accessed from Northbridge Road.

2.1.3 The Site in relation to the strategic and local transport networks is shown on Figure 1. An extract of Figure 1 is shown in Image 2.1.

Image 2.1 Site Location

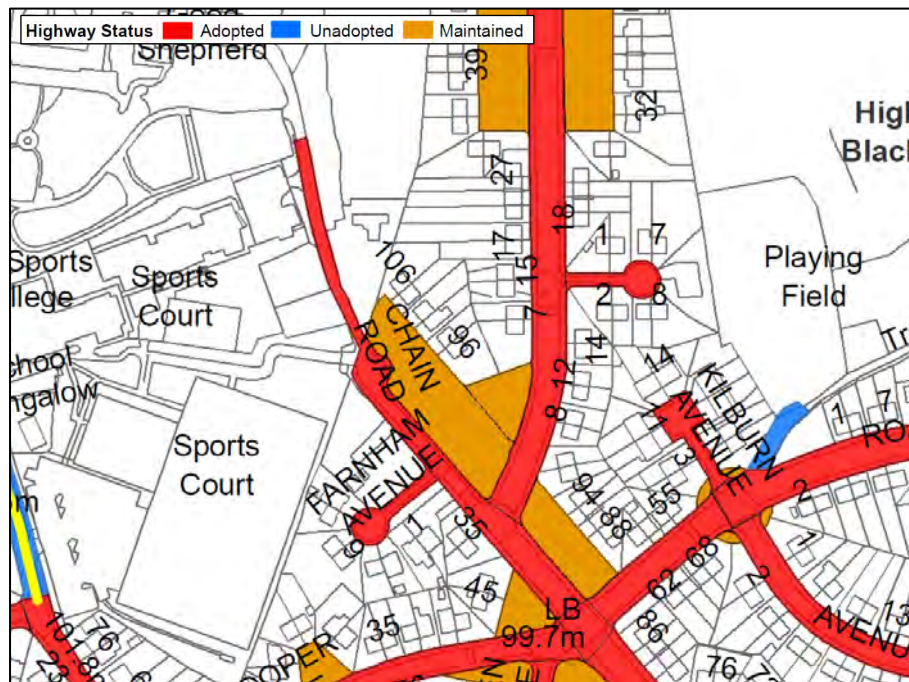


2.2 Existing Local Highway Network

2.2.1 The southern part of Chain Road is a two-lane highway with a carriageway in both directions to a width of circa 9m and has footways along both flanks of the carriageway. As Chain Road routes north to the Site (and within the red line boundary) it narrows to a minimum width of 4.4m and is flanked by hedges on both sides, with no current provision for pedestrians. Chain Road is privately owned north of the access to Meade Hill School. The area adopted is shown in Image 2.2. This road solely provides access to the development Site, Meade Hill School and the St Euphrasia's Care Home.

2.2.2 The adopted extent of Chain Road is subject to a 30mph speed limit.

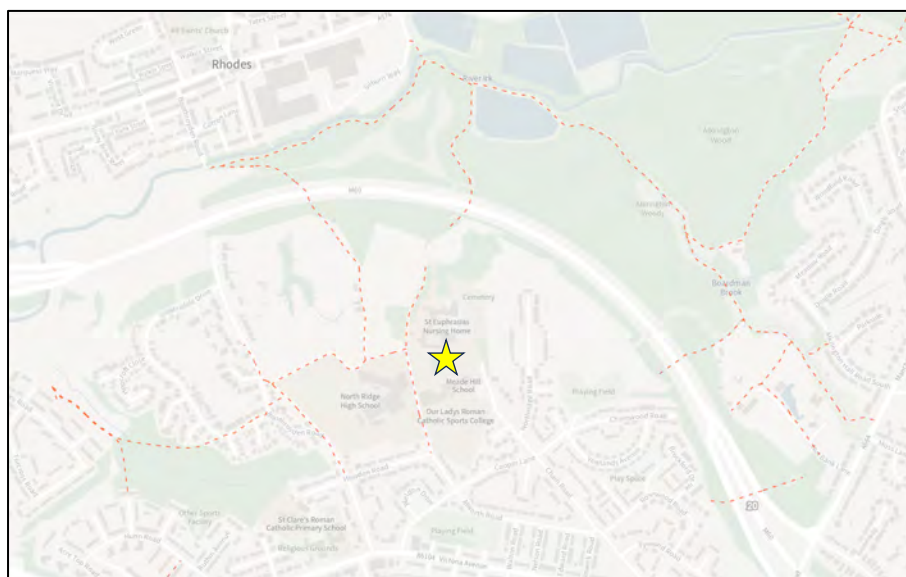
Image 2.2 Adopted Highway Extent



2.3 Public Rights of Way

2.3.1 As is shown in Image 2.3, a number of public rights of way routes provide access from the Site to the north and west, including a number of residential areas. No PROW's route through the Site.

Image 2.3 Public Rights of Way



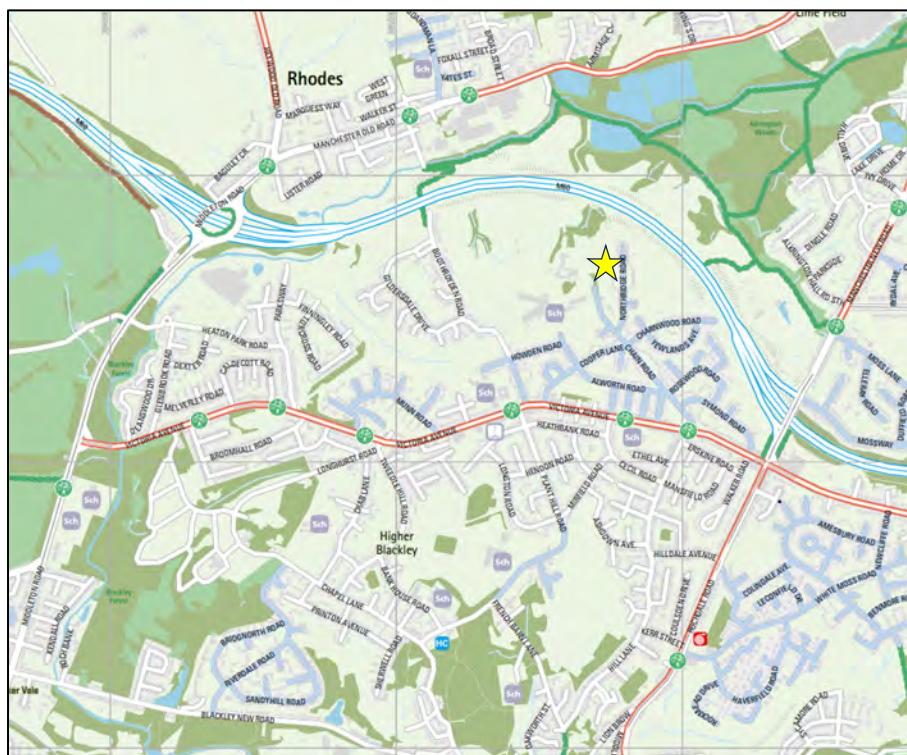
2.4 Cycle Infrastructure

2.4.1 The Site has access to a network of high-quality cycle infrastructure. Transport for Greater Manchester (TfGM) have a cycle network in place across Greater Manchester, as shown in Image 2.4 below.

2.4.2 The green and brown lines show off-road traffic free routes, and the red lines show on-road routes, with cycling facilities.

2.4.3 As is shown, the entirety of Victoria Avenue to the south of the Site has on-road cycle routes along both flanks, with a number of toucan crossings provided along its extent. In addition to this, a network of off-road high quality routes are provided to the north of the Site which are accessible via the underpass to the north of the Site under the M60. The Site is depicted by a yellow star.

Image 2.4 Extract of TfGM Cycle Network



2.5 Existing Bus Services/Facilities

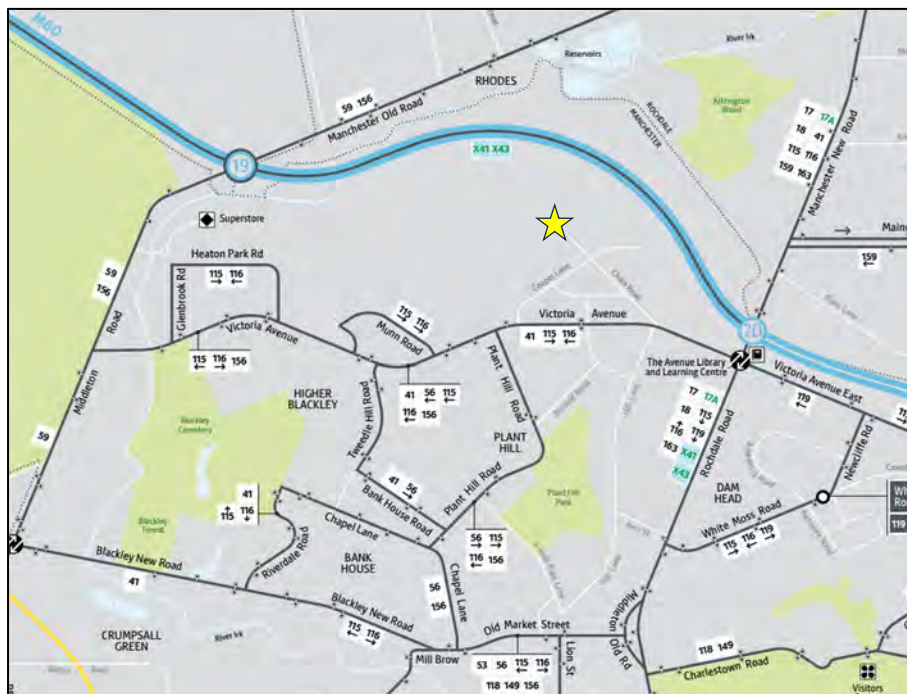
2.5.1 There are a number of services operating within the vicinity of the Site with the nearest bus stop located on Victoria Avenue, approximately 650m from the Site.

2.5.2 A summary of the services available at the nearest stops is provided in Table 2.1.

Table 2.1 Local Bus Services

Location	Distance	Facilities	Regular Destinations	Service Numbers	Approx. Combined Frequency	Sunday /holiday Frequency
Victoria Avenue Eastbound	650m	Seating, Shelter, Timetable Information	Middleton Bus Station	41, 115	2 per hour	1 per hour
Victoria Avenue Westbound	760m	Seating, Shelter, Timetable Information	Sale Tram Stop, Middleton Bus Station, Piccadilly Gardens	41, 116,	2 per hour	1 per hour
Rochdale Road Northbound	900m	Seating, Shelter, Timetable Information	Rochdale Interchange, Bury Interchange, Middleton Bus Station	17, 17A, 18, 116, 163, 715, X41, X43	18 per hour	12 per hour
Rochdale Road Southbound	900m	Seating, Shelter, Timetable Information	Shudehill Interchange, Piccadilly Gardens, Manchester Royal Infirmary, Benmore Road	17, 17A, 18, 115, 119, 163, 715, X41, X43	21 per hour	12 per hour

2.5.3 A plan showing the bus services in close proximity to the Site are shown in Image 2.5. The Site location is depicted by the yellow star.

Image 2.5 Extract of TfGM Bus Network Map


2.5.4 The existing bus services provide regular connections to a number of transport hubs that provide further connections to the rest of the region. Access is also provided directly into Manchester City Centre.

2.5.5 It is concluded that the proposed development benefits from excellent public transport connectivity.

2.6 Existing Rail Services/Facilities

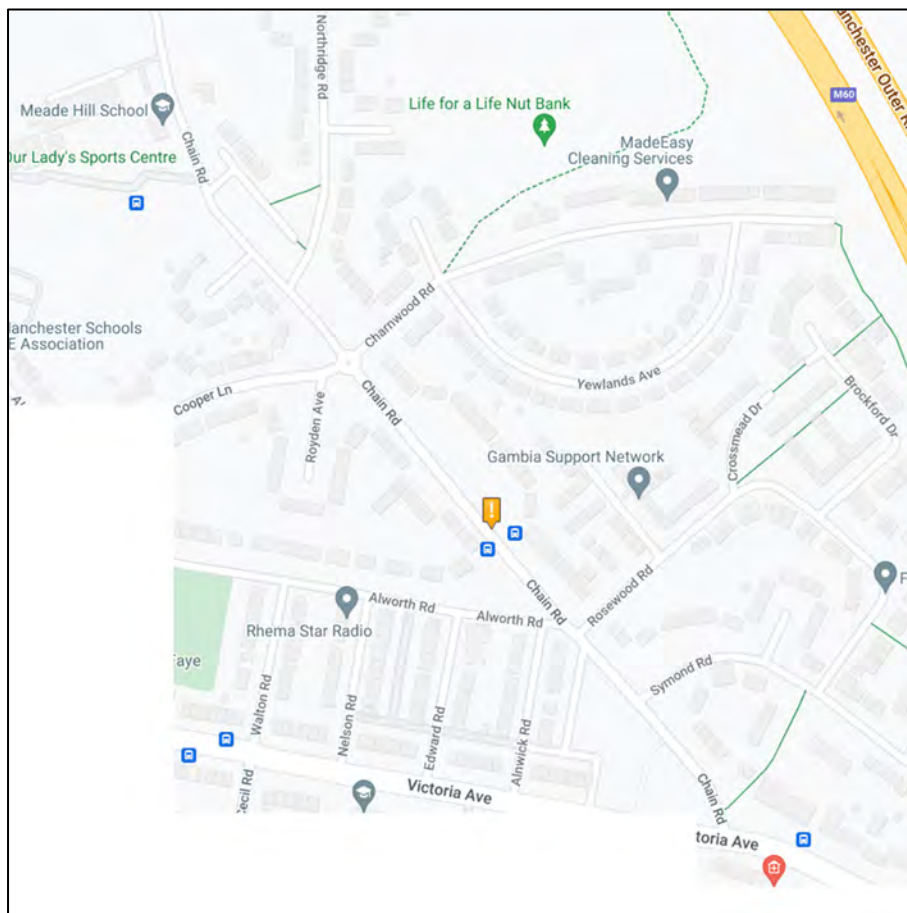
2.6.1 Moston Train Station is approximately 3.5km to the southeast of the Site. The typical frequency is four services per hour to locations including Rochdale, Blackburn and Clitheroe.

2.6.2 Moston Train Station benefits from seating, shelter and 10 cycle storage spaces.

2.7 Accident Data Analysis

2.7.1 The most recently available accident data has been obtained from Crashmap for the 5 year period between January 2018 and December 2022. The study area includes the entirety of Chain Road from the Site to the junction with Victoria Avenue. Image 2.6 shows the study area.

Image 2.6 Accident Data Study Area



2.7.2 As can be seen, a total of 1 slight accident has occurred within the study period. This involved a vehicle and a pedestrian, whereby the vehicle was moving off and collided with the pedestrian.

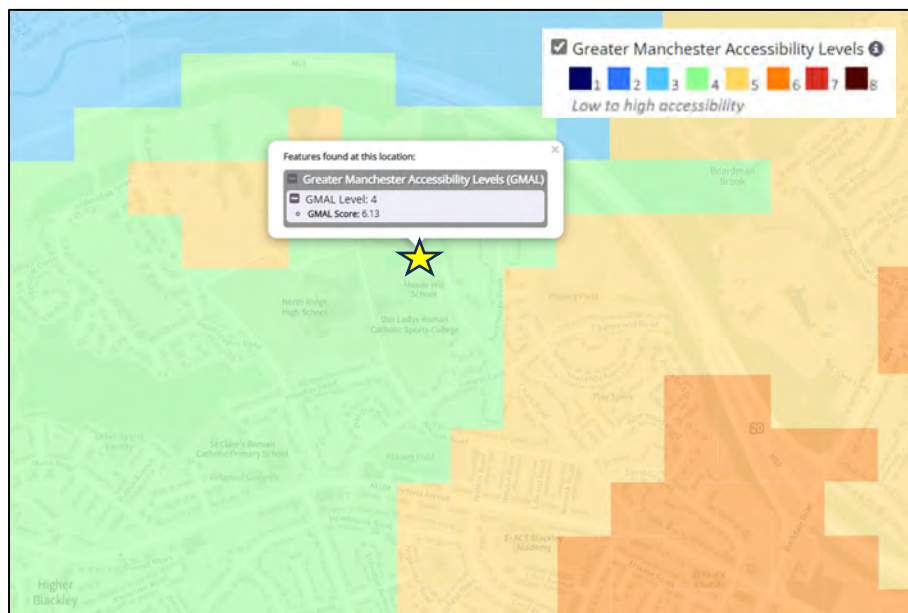
2.7.3 No accidents occurred at the Site access or at any junctions along Chain Road.

2.7.4 Whilst any accident is regrettable, having reviewed the accidents in detail there is no evidence to suggest that any of the accidents can be attributed to problems with the highway or junction layouts based on the information available. It is also considered that retaining the existing access will not impact on highway safety.

2.8 Greater Manchester Accessibility Level Score

2.8.1 As discussed in section 2.4 the Site is located in a sustainable location. Figure 3 shows that the Site is within close proximity to 4 local bus stops. Furthermore, the Site is located in an area that has a Greater Manchester Accessibility Level (GMAL) 4 out of 8 with a score of 6.13, as shown in Image 2.7 (site denoted by yellow star) and therefore demonstrates a reasonable level of accessibility.

Image 2.7 Manchester GMAL Map



2.8.2 The GMAL measure reflects:

- Walking time from the point of interest to the public transport access points;
- The number of services (bus, Metrolink and Rail) available within the catchment area;
- The level of service at the public transport access points - i.e. average waiting time; and
- The operating areas of Local Link (flexible transport) services.

2.9 Existing Traffic Counts

2.9.1 Baseline surveys were undertaken by Intelligent Data Collection. Table 5.1 provides a summary of the surveys.

Table 2.2 Traffic Survey Summary

Survey Type	Survey Location	Dates/Times Undertaken
ATC	Chain Road	Monday 10 th June 2024 – Sunday 17 th June 2020 (24 Hours)
MCC	Charnwood Road/Chain Road/Cooper Lane Roundabout	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)
MCC	Chain Road/A6104 Priority Junction	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)
MCC	A664 Rochdale Road/A6104 Victoria Avenue East Signalised Junction	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)
MCC	Cooper Lane/A6104 Victoria Avenue Priority Junction	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)
MCC	A6104 Victoria Avenue/Plant Hill Road Roundabout	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)
MCC	A576 Middleton Road/A6104 Victoria Avenue Priority Junction	Wednesday 12 th June 2024 (17:00-20:30) Sunday 16 th June 2024 (10:00-15:00)

2.9.2 The above surveys were analysed to produce the peak hours on the existing network which are as follows and shown in Figures 18 and 19:

- Wednesday – 17:00 -18:00; and
- Sunday – 13:30-14:30.

2.9.3 A summary of the total flows over the 6 junctions is shown in Table 2.3 and 2.4.

Table 2.3 Wednesday Traffic Survey Summary

Hour Starting	Total Traffic
17:00	10691
17:15	10142
17:30	9744
17:45	9276
18:00	8689
18:15	8317
18:30	7832
18:45	7298
19:00	6952
19:15	6494
19:30	6151

Table 2.4 Sunday Traffic Survey Summary

Hour Starting	Total Traffic
10:00:00	6784
10:15:00	7033
10:30:00	7342
10:45:00	7537
11:00:00	7808
11:15:00	8193
11:30:00	8381
11:45:00	8701
12:00:00	8854
12:15:00	8884
12:30:00	8988
12:45:00	9080
13:00:00	9138
13:15:00	9273
13:30:00	9286
13:45:00	9172
14:00:00	8908

3. Development Proposals

3.1 Development Proposals

3.1.1 The development proposals, which are shown on the site plan drawing contained in Appendix A, comprise of the following:

- Main chapel building, comprising the following:
 - o Main auditorium;
 - o Offices;
 - o Consulting and Counselling Rooms;
 - o Children's/Teens Church;
 - o Bookshop;
 - o Restaurant and Café; and
 - o Classroom.
- 189 car parking spaces, including 20 EV charging spaces and 12 accessible spaces;
- 10 motorcycle parking spaces;
- 40 cycle storage spaces;
- Mini-bus/coach drop off facility;
- Proposed widened access; and
- Associated landscaping.

3.2 Operational Characteristics of the Site

3.2.1 The following worst case operational characteristics are expected at the Site once the congregation of the church has grown from its current operation (1,050) to 1,500. A separate traffic management report should be read in conjunction with this document. It is envisaged that the traffic management report is conditioned to the application so that the operation of the church does not exceed the worst-case operation as set out below. The operation of the church would not be able to exceed the levels set out within the traffic management report without a further planning application.

3.2.2 The existing congregation is made up of families and families all travel together in groups. This is demonstrated within the travel survey of the existing church where the car occupation is over 4 people per car. The growth in the church from its current congregation will remain with the same characteristics. A total of 700 of the future congregation will be children, equating to 40% of the total of congregation.

Table 3.1 Current/Proposed Congregation

Use	Current	Proposed
Childrens Classroom	300	400
Junior Teens Church	75	150
Senior Teens Church	75	150
Main Congregation	600	800
Total	1050	1500

3.2.3 The anticipated church operation is set out below as follows for a worst case scenario:

3.3 Weekday and Saturday Operations of the Site

3.3.1 The following are specific worst case characteristics specifically associated with weekdays and Saturdays;

- A worse case 200 visitors/staff every Wednesday evening for the service between 18:00-20:00;
- The Monday – Saturday prayer group (06:00-07:00) is expected to have 30 attendees;
- 20 members of staff are proposed between 08:00-17:00, 7 days a week;
- The onsite café is open to visitors of the Site only and not open to the general public; and
- The onsite bookshop will be open to the public Monday-Friday from 09:00-17:00.

3.4 Sunday Operations of the Site

3.4.1 The following are worst case operational characteristics specifically associated with Sundays:

- A worst case of 1,500 visitors are expected every Sunday which will be split over 3 services (each service will last approximately 1 hour 40 minutes) leaving 30 minutes between each service:
 - o 08:00 - 09:40;
 - o 10:10 – 11:50; and
 - o 12:20 - 14:00.
- The church facilities will be open on Sundays but only to attendees and not to the wider public, therefore no additional traffic will be generated; and
- As with the rest of the week, 20 members of staff will be present on a Sunday between the hours of 08:00 – 17:00.

3.5 Occasional Uses of the Site

3.5.1 There are a number of additional events that will occur at the Site throughout the year which include:

- Weddings will occasionally take place throughout the year on a Saturday, although frequency cannot be determined as it is based on demand. It is assumed that between 100-150 guests will be present;
- It is expected that up to 5 events per year will take place which will attract up to a total capacity of 1,500 attendees;
- A foodbank will be open on the last Saturday of each month, it is expected that 150 families will take advantage of this between the hours of 11:00 – 13:00; and
- The church café will be open when the foodbank is provided on every last Saturday of the month between the hours of 11:00 – 13:00.

3.6 Travel Characteristics of the Site

3.6.1 In order to establish the current travel characteristics of the congregation, a travel survey was completed in June 2024, with 254 responses from the congregation – this represents 42% of the congregation and therefore provides a good indication of the existing and future occupation – the raw survey results are attached in Appendix B. The results of the mode split are shown below.

Table 3.2 Current Congregation Mode Split

Use	Current
Car Occupant	66.28%
Church bus	13.57%
Public Bus	10.08%
Cycle/Scooter	1.16%
Taxi	6.20%
Tram/Train	0.39%
Walk	2.33%
Total	100%

3.6.2 A further question established how many occupants were in each car on average and the result was 4.06 and for taxis was 2.35.

3.6.3 There are three existing services on a Sunday and the congregation is currently split between them. The travel survey identified that 47% of the congregation currently attend the first service, 34% the second service and 19% the third service.

3.7 Vehicular Site Access

3.7.1 The proposed Site access is shown on the drawing attached at Appendix C. This widens the road to 5.5m to allow a coach to pass a car. The road has not been

widened further due to the impact on the adjacent trees and the low frequency of coaches/service vehicles using the Site access. On occasions the access is used by servicing vehicles for deliveries and refuse collection – it is likely that this will be shared with the adjacent care home facility and take place when church services are not on.

3.7.2 The proposed access arrangements also look to provide TROs on Chain Road around the access and relocate some parking spaces within the maintained highway in order to ensure access to the proposed site and the bus turnaround for the school is not restricted – this is subject to agreement with Manchester Council.

3.7.3 Visibility splays at the accesses internally are shown based on a 2.4m setback and a 20mph (25m) speed. These are shown on the drawing in Appendix D.

3.8 Car Parking

3.8.1 189 car parking spaces are proposed at the Site, of which 20 (10%) have EV charging and a further 12 (6%) are accessible spaces. As the development is for a bespoke use, this has not been analysed against parking standards set out by MCC but instead based on existing operational characteristics.

3.8.2 The nearest use identified within the Manchester Council parking standards is a stadium use, which identifies a requirement for 1 space per 15 seats. If this figure is applied to the 1,500 seats proposed, a total of 100 car parking spaces would be required.

3.8.3 Appendix E provides a breakdown of arrivals/departures on a usual Sunday and includes an assessment of car parking accumulation. This shows that using the existing breakdown of church attendance with the service congregation growthed to 1,500 attendees on a Sunday and the proposed mode split a total of 110 car parking spaces will be required at 9.45.

3.8.4 A further analysis has also been undertaken which utilises the existing mode split of vehicles for the current operation of 1,050 attendees where a total of 103 spaces will be required. When this is increased to 1,500 attendees on a Sunday and if the mode split does not change from the existing, this results in a max car parking occupation of 148 at 9.45.

3.8.5 A survey has also been undertaken of the car parking occupation for the event scenario (up to 5 times a year), where the whole congregation of 1,500 attend in a single service. These services will be organised and managed and as such the proposed mode split target as conditioned within the proposed travel plan will be more easily achieved. The Spreadsheet in Appendix E shows the peak parking accumulation for the service will be 184 vehicles. All the car parking can therefore be accommodated within the proposed car parking spaces on Site.

3.8.6 It should also be noted that the spreadsheet shows the max accumulation for an event for 1,050 people using the existing mode split, would equate to a max parking accumulation of 174. This provides comfort that the parking demand on Site would not exceed supply, even without any changes to the mode of travel with the current congregation number.

3.8.7 In summary, the 189 spaces proposed is considered appropriate due to the following:

- It is in excess of the standard for a stadium (1 per 15 seats), which is deemed the most similar use;
- The congregation arrive in family groups, with the existing car occupancy being over 4 people per car;
- Provides sufficient car parking provision to accommodate the existing mode split and 1,050 current congregation;
- When travel plan measures are implemented to reduce the people arriving by car to 49.2%, the parking provision would not be exceeded even if the full 1,500 capacity was implemented.
- The church currently operates mini-buses and coaches which collect and drop people off and is committed to continuing to operate these services;
- The church is committed to a travel plan and traffic management plan to manage the impact of the church on the local community;
- The Site is within close proximity to a number of residential areas which can be accessed via foot and cycle; and
- Frequent bus stops are within a short walking distance so that people can arrive by public transport.

3.9 Cycle and Motorcycle Parking

3.9.1 40 covered and secure cycle storage spaces are proposed and 10 motorcycle spaces. These are in excess of the amounts identified in the travel survey but allow some additional capacity in order to allow people to arrive at the Site by sustainable means.

3.9.2 Space has also been identified to the northwest of the Site where additional cycle spaces could be installed in the future if demand dictates.

3.10 Servicing

3.10.1 It has been estimated that two servicing vehicles will access the Site per day on average. These will utilise the coach drop off area. A tracking drawing is shown in Appendix F showing the satisfactory operation of the mini-bus/coach drop off facility. Site management will provide assistance to the refuse collectors by wheeling bins to the coach drop off area at collection times.

4. Site Accessibility

4.1 Pedestrian Accessibility

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

4.1.2 Using GIS Network Analyst software, typical walk times (up to 30 mins) from the proposed Site centre to specific local facilities situated in close proximity to the proposed Site are shown on Figure 2. This figure demonstrates that:

- A number of residential areas within Higher Blackley are within a 25 minute walk from the Site;
- A number of bus stops along Victoria Avenue are within a 15 minute walk; and
- A number of off-road footways are provided within a 20 minute walking distance of the Site, specifically to the north, connecting the Site to the residential area to the north of the M60.

4.1.3 It is therefore concluded that the proposed Site will provide good accessibility by foot to a range of local residential areas. This helps reduce the need to travel to the Site by car.

4.2 Accessibility by Cycle

4.2.1 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 kilometres as referred to in Local Transport Note 2/08 (published by the Department for Transport (DfT)). However, the same guidance also refers to commuting cycle trips up to 8km. Using GIS Network Analyst software typical cycle times (with 20 mins approximating to just over a 5km distance) from the Site are shown on Figure3. This figure shows that:

- The entirety of Higher Blackley is within a 5 minute cycle ride;
- The residential areas of Charlestown, Rhodes, Lime Field and Alkrington Garden Village are within a 10 minute cycle ride;
- The residential area of Middleton is within a 15 minute cycle ride;
- Moston Train Station is within a 15 minute cycle ride;
- The residential areas of Langley, Blackley, Cheetham Hill, Broughton Park, Sedgley Park and Heaton Park are within a 20 minute cycle ride; and
- The residential areas of Prestwich, Chadderton, Whitefield and North of Manchester City Centre are within a 25 minute cycle ride.

4.2.2 It is also considered that the more active employees and attendees will choose to cycle further than this guideline distance.

4.2.3 It is therefore concluded that the proposed Site, will provide cycle accessibility to a range of local residential areas within a 25 minute cycle distance, many of the routes are off road.

4.3 Accessibility by Bus

4.3.1 As detailed in Chapter 2, there are several bus services offering frequent services within close proximity to the Site.

4.3.2 The nearest bus stops are provided on Victoria Avenue, as shown on Figure 4, approximately 650m from the Site, further stops are provided on Rochdale Road approximately 900m from the Site. These bus stops provide the following services:

- Middleton Bus Station – 16 minute journey, every 5 minutes;
- Piccadilly Gardens – 28 minute journey, every 30 minutes;
- Rochdale Interchange – 40 minute journey, every 10 minutes;
- Bury Interchange – 58 minute journey, every 15 minutes; and
- Shudehill Interchange – 20 minute journey, every 10 minutes.

4.3.3 The existing bus services will provide future employees and attendees of the Site with access to a number of town centres, residential areas and provides connections to Rochdale, Bury and Shudehill Interchange stations for travel further afield.

4.3.4 It is therefore concluded that the proposed Site, will provide bus accessibility to a range of local services and residential areas within a 30 minute bus ride.

5. Development Trip Generations and Distribution

5.1 Proposed Trip Generation

5.1.1 In order to predict the traffic that will be generated by the proposed development, a bespoke first principles assessment has been undertaken to produce proposed trip generations based on the operation of the Site within Chapter 3. The assessment is based on the proposed trip generations from a maximum 1,500 congregation, split over 3 services on a Sunday and with the travel plan enacted to reduce the number of car occupants arriving at the service. The proposed mode split identified in the travel plan is shown in Table 5.1 and shows the changes from the surveyed mode split.

Table 5.1 Congregation Mode Split (Sunday)

Use	Current	Proposed	Change
Car Occupant	66.28%	49.2%	-17.08%
Church bus	13.57%	28.80%	+15.23%
Public Bus	10.08%	10.08%	-
Cycle/Scooter	1.16%	2.39%	+1.17%
Taxi	6.20%	6.20%	-
Tram/Train	0.39%	0.39%	-
Walk	2.33%	3.00%	+0.67%
Total	100%	100%	-

5.1.2 The baseline data for this was provided by the congregation in the form of online surveys. This provided an understanding of the existing mode of travel and timings of arrivals/departures for the main services on Wednesdays and Sundays. The raw data that the trip generation has been extracted from is available in Appendix B.

5.1.3 It is deemed more appropriate to use bespoke trip generations, as opposed to TRICS as although the development operates 7 days a week, the main congregation utilise the Site only on a Wednesday and Sunday. As such, TRICs data wouldn't accurately reflect the proposals.

5.1.4 A detailed analysis of the trip generations is shown in Appendix E and a summary of the trip generations is provided in Table 5.2 below.

Table 5.2 Vehicular Trip Generation

	Cars		Taxi		Minibus		Total Veh	
	Arr	Dept	Arr	Dept	Arr	Dept	Arr	Dept
Wednesday Church Peak (19:45-20:45)	0	48	5	5	4	4	9	57
Wednesday Network Peak (17:00-18:00)	47	0	5	5	4	4	56	10
Sunday Church Peak (09:30-10:30)*	61	83	31	31	25	25	117	139
Sunday Network Peak (13:30-14:30)*	0	33	7	7	6	6	13	46

*Taxi and mini-bus trips likely to be lower than shown as the pick up and drop off trips assumed not to be linked, however as one service starts another will finish.

5.1.5 As is shown, the peak hour traffic movements for the Church differs from those obtained from the existing highway network following the traffic surveys. Tables 6.1 and 6.2 show that the existing network peak hour will remain busier than the hour containing the peak traffic movements for the new church. As such, the addition of the traffic in the network peak hour will be the worst case scenario.

5.1.6 The methodology used to calculate the proposed trip generation is summarised below:

5.1.7 On a Sunday, three services are proposed between 08:00-09:40, 10:10-11:45 and 12:20-14:00. The calculations for the trips on a Sunday are based on 1,500 attendees split over the three services to the proportions identified within the existing travel survey. It should be noted that 1,500 is the maximum attendance expected in the future, making it highly robust as the current congregation is 1,050 some 30% less.

5.1.8 On a Wednesday the service is proposed between 18:00-19:40 with a maximum of 200 attendees. Currently only 100 people attend the service, however for a robust assessment of future growth, this has been doubled. The surveyed car occupation has also been amended in this assessment from over 4 to just 2 to reflect the changing attendance for the evening service.

5.1.9 The survey data provided information relating to arrivals and departures. It showed how early/late people currently arrive/depart pre and post service (for the Wednesday service and all services on Sunday). This information was used to establish the split in arrival/departure time for both the Sunday and Wednesday services.

5.1.10 The trip generation for Monday-Friday has been calculated based on 30 attendees between the hours of 06:00-07:00 for prayer group. To provide comfort, it has been assumed that 100% of these arrive and depart within 15 minutes of the start/finish time and all will arrive by car in single occupancy cars.

5.1.11 20 members of staff are proposed 7 days a week between 08:00-17:00. Again, to provide comfort we have assumed that 100% of these arrive and depart within 15 minutes of the start/finish time and all arrive by car in single occupancy vehicles.

5.1.12 The travel plan intends to result in a mode split improvement to achieve 49.20% of attendees arriving by car. This figure has been applied to the attendee numbers to produce a number of vehicular trips to/from the Site. In addition to this, car occupancy was found to be 4.06, this has been applied to the Sunday service

trips as these are catered towards families and also run children/teen services (who do not drive). The breakdown of trips per 15 minute period are shown in the spreadsheet attached in Appendix E.

5.1.13 In order to provide comfort that the parking would not result in an issue if the proposed travel plan measures do not result in a greater proportion of trips arriving by the church mini buses, an assessment has also been provided that shows the impact if the existing travel survey results are used. This results in a max parking accumulation of 148 on a Sunday as shown in Appendix G.

5.1.14 To provide comfort that the above methodology and proposed trip generations are robust, mini-buses are included within the HGV number and taken as worst case vehicle number (due to less capacity than coaches). Mini-buses and coaches are to drop off and then depart the Site.

5.2 Trip Distribution and Assignment

5.2.1 To establish the trip distributions for the proposed development, the results from the survey provided postcode information from all respondents. The postcodes of those that drive have been extracted and plotted onto a map (see figure 5).

5.2.2 Having established the geographical distribution of the attendees, it is necessary to assign the distributions onto the highway network. This has been completed by associating the destination to a route from the proposed Site.

5.2.3 The routes that the drivers would be most likely to take between their home and the proposed development have then been predicted using a journey time exercise with the quickest route being deemed the most likely route choice.

5.2.4 These area specific distributions have then been assigned one of the following routes to/from the Site:

- A576 South;
- A576 North;
- Rochdale Road North-East;
- Rochdale Road South-West;
- Victoria Avenue East;
- Plant Hill Road;
- Chain Road South;
- Cooper Lane; and
- Victoria Avenue/Chain Road.

5.2.5 The assignment process is detailed in the attached Spreadsheet in Appendix H and produced the proposed vehicular distribution summarised in Table 5.3.

Table 5.3 Proposed Vehicular Distribution

Route	Percentage
A576 South	19.71%
A576 North	10.29%
Rochdale Road North-East	18.82%
Rochdale Road South-West	26.4%
Victoria Avenue East	21.76%
Plant Hill Road	1.18%
Chain Road South	0.59%
Cooper Lane	0.59%
Victoria Avenue/Chain Road	0.59%
Total	100%

5.2.6 The proposed vehicular distribution compiled in Appendix H and shown in Table 5.3 has been illustrated on the highway network surrounding the development on Figure 10.

5.2.7 As the trips by mini-bus/coaches will be organised by the church and in order to limit disruptions to the surrounding residential roads, the mini-buses/coaches will be instructed to arrive via Chain Road only. The coach/mini-bus distribution is shown in the distribution under heavy goods vehicle distribution, and this has utilised the distribution as per the congregation beyond Chain Road.

5.2.8 Applying the trip generations in Table 5.1 to the distribution shown in Figure 10 produced the following:

- Wednesday Proposed Development Trips Figure 11;
- Sunday Proposed Development Trips (Network Peak) Figure 12; and
- Sunday Proposed Development Trips (Church Peak) Figure 13.

5.3 Existing Church Trips

5.3.1 The current chapel is located on Broughton Lane in Salford, approximately 6.9km south of the proposed new Site. A number of attendees who reside north of the proposed Site would already be on the highway network within the vicinity due to travelling further south to the existing Site.

5.3.2 To calculate this, a separate distribution exercise has been undertaken based on 100 trips on a Wednesday and 1,050 trips on a Sunday, as is shown in Figure 14. The vehicle movements that utilise the highway network surrounding the proposed Site are shown in the following figures:

- Wednesday Proposed Development Trips Figure 15;
- Sunday Proposed Development Trips (Network Peak) Figure 16; and
- Sunday Proposed Development Trips (Church Peak) Figure 17.

5.3.3 In addition to this, the Site has an existing use in the form of a convent. These have been calculated using the same distribution as the proposed development (Figure 10) and a TRICS analysis has been undertaken to provide appropriate trip rates. The TRICS data is available in Appendix I and a summary of the previous trips on the Site are provided in Table 5.4.

Table 5.4 Vehicular Trip Generation

	PM Network Peak (17-18)		Sunday Network Peak (14-15)	
	Arr	Dept	Arr	Dept
Trip Rate per unit	0.106	0.133	0.212	0.265
Trip Generation (28 units)	3	4	6	7

5.3.4 The following figures show the traffic flows associated with the previous use of the Site:

- Wednesday Proposed Development Trips Figure 18;
- Sunday Proposed Development Trips (Network Peak) Figure 19; and
- Sunday Proposed Development Trips (Church Peak) Figure 20.

5.3.5 Table 5.5 shows the net traffic flows associated with the Site in the network peak hours when taking the previous use of the Site into account.

Table 5.5 Net Trip Generation

	PM Network Peak (17-18)		Sunday Network Peak (14-15)	
	Arr	Dept	Arr	Dept
Proposed Trips	56	10	13	46
Previous Trips	3	4	6	7
Net Trips	53	6	7	39

5.3.6 The net trips in table 5.5 within the network peak hours is some 59 two way trips in the Wednesday PM Peak and 46 two way trips in the Sunday peak.

5.3.7 These net trips have been subtracted from the proposed development flows and are shown over the network in the following figures:

- Wednesday Net Development Trips Figure 21; and
- Sunday Net Development Trips (Network Peak) Figure 22.

6. Traffic Flows and Development Impact

6.1.1 This chapter sets out the traffic flow assumptions and provides an assessment of the development traffic impact on the existing highway network. It also includes an assessment of the impact of the development traffic on the local highway network.

6.2 Traffic Flows

6.2.1 Traffic surveys undertaken by Intelligent Data Collection (ID) on the 12th and 16th June 2024 are shown in Figures 23 and 24.

6.2.2 The surveys identified the following peak hour periods:

- Weekday PM Peak – 17:00 to 18:00; and
- Sunday PM Peak – 13:30 to 14:30.

6.2.3 In order to calculate the worst case peak hour once the Site is occupied, the rolling hourly 2024 total counts have been added to the development traffic per rolling hour. The future peaks are then shown as a total in Table 6.1 and 6.2 for Wednesday and Sunday.

Table 6.1 Wednesday Hourly Impact

Hour Starting	Total 2024 Count Traffic	Development Traffic	Total
17:00	10691	65	10756
17:15	10142	65	10207
17:30	9744	62	9806
17:45	9276	47	9323
18:00	8689	50	8739
18:15	8317	63	8380
18:30	7832	66	7898
18:45	7298	66	7364
19:00	6952	18	6970
19:15	6494	10	6504
19:30	6151	7	6158

6.2.4 Table 6.1 shows that the development will increase the total flows on the highway network by 65 vehicles in the Wednesday PM peak. This total doesn't include the netting off of existing trips which are routing past the Site going to the existing facility or going to the former convent use which could become operational again. The above table does demonstrate that the proposed development will not change the network peak hour.

Table 6.2 Sunday Traffic Survey Summary

Hour Starting	Total 2024 Count Traffic	Development Traffic	Total
09:00:00		159	
09:15:00		256	
09:30:00		257	
09:45:00		252	
10:00:00	6784	105	6889
10:15:00	7033	6	7039
10:30:00	7342	5	7347
10:45:00	7537	1	7538
11:00:00	7808	1	7809
11:15:00	8193	94	8287
11:30:00	8381	129	8510
11:45:00	8701	166	8867
12:00:00	8854	170	9024
12:15:00	8884	78	8962
12:30:00	8988	43	9031
12:45:00	9080	4	9084
13:00:00	9138	0	9138
13:15:00	9273	47	9320
13:30:00	9286	58	9344
13:45:00	9172	58	9230
14:00:00	8908	60	8968

6.2.5 Table 6.2 shows that the development will not impact the flows on the highway network materially, the highest flow on the network will go from 9,286 to 9,344 on a Sunday. This is an increase of 58. During the times where the flows from the development are highest, the flows on the network are lower than the peak and the development doesn't impact the peak.

6.2.6 The flows on a Sunday are below what can be accommodated on the highway network on a weekday PM peak, whilst the main increase in flows is outside of times when the highway network is busy. As such, the impact on the highway network will not be severe, with a maximum of 65 two-way trips on a weekday added to the existing highway network.

6.2.7 Notwithstanding the above, an assessment of the highway network will be undertaken on the Wednesday PM peak within Chapter 7 to ensure that local junctions can accommodate the minor increases in traffic flow. No assessment of the network is considered necessary on Sunday due to the low level of flows on the highway network.

6.3 Future Assessment Year and Traffic Growth

6.3.1 No consented developments have been identified by Manchester during pre-application discussions which would materially impact the future traffic flows on the highway network.

6.3.2 Notwithstanding the above and in order to account for traffic growth associated with new developments. A TEMPro growth assessment for the future

design year of 2029 has been undertaken for the Middle Super Output Area Manchester 001. The growth rates are as follows:

- Weekday PM Peak: 1.077; and
- Sunday Peak: 1.078.

6.3.3 Based on the above growth rates, the future baseline flows are displayed in the following figures:

- Wednesday 2029 Base Figure 25; and
- Sunday 2029 Base (Network Peak) Figure 26.

6.3.4 The 2029 design scenarios have then been calculated by adding the 2029 base to the proposed development trips for each scenario and subtracting the existing traffic movements associated with the church. The 2029 Design flows are shown in the following figures:

- Wednesday 2029 Design Figure 27; and
- Sunday 2029 Design (Network Peak) Figure 28.

7. Capacity Assessment and Development Impact

7.1 Introduction

7.1.1 This chapter assesses the impact of the development trips on the highway network in the vicinity of the Site. All capacity outputs are contained in Appendix J.

7.2 Summary of Proposed Impact

7.2.1 Having distributed the net predicted development traffic levels across the network as shown in Figures 21 and 22, a summary is provided in Table 7.1 which shows the impact of the development on the key local junctions.

Table 7.1 Proposed Traffic Flows at each Junction

	Junction Name	Wednesday Count	Sunday Network Peak Count	Wednesday Count		Sunday Network Peak Count	
				Net Dev Impact	% Increase	Dev Impact	% Increase
1	Charnwood Road/Chain Road/Cooper Lane Roundabout	183	125	59	32.2%	45	36.0%
2	Chain Road/A6104 Priority Junction	950	941	41	4.3%	33	3.5%
3	A664 Rochdale Road/A6104 Victoria Avenue East Signalised Junction	3297	3135	39	1.2%	28	0.9%
4	Cooper Lane/A6104 Victoria Avenue Priority Junction	798	774	20	2.5%	15	1.9%
5	A6104 Victoria Avenue/Plant Hill Road Roundabout	969	878	19	2.0%	12	1.4%
6	A576 Middleton Road/A6104 Victoria Avenue Signalised Junction	4211	3427	6	0.1%	-4	-0.1%
7	M60 Junction 20 / Rochdale Road	-	-	11	-	8	-
8	M60 Junction 19 / Middleton Road	-	-	-4	-	-10	-

*Development Trips within Table haven't discounted for existing trips through the junction from the church or for the previous convent use.

7.2.2 Table 7.1 shows the percentage impact is only material at the Chain Road/Charnwood Road mini-roundabout junction. Beyond this the percentage impact drops to less than 5%, with the majority of locations, the impact being less than 2%. Notwithstanding the above, Manchester Council has requested that the impact at the junction of Rochdale Road/Victoria Avenue East is reviewed.

7.2.3 The following junctions are therefore proposed to be modelled in the 2029 Scenarios:

- Charnwood Road/Chain Road/Cooper Lane Roundabout;

- Chain Road/A6104 Priority Junction; and
- Rochdale Road/A6104 Victoria Avenue Signalised Junction.

7.3 Charnwood Road/Chain Road/Cooper Lane Roundabout

7.3.1 The existing junction has been modelled using the ARCADY function in Junctions 10. The junction has been modelled for the AM and PM peak hours for the following scenarios:

- 2024 Count
- 2029 Base; and
- 2029 Design.

7.3.2 The results are summarised in Table 7.2.

Table 7.2 Summary of Charnwood Road/Chain Road/Cooper Lane Roundabout

Scenario	Lane	Wednesday PM Peak Hour			Sunday Peak Hour		
		RFC	Ave Q	Delay (s)	RFC	Ave Q	Delay (s)
2024 Count	Chain Road N	0.04	0	5	0.03	0	4
	Charnwood Road	0.03	0	4	0.04	0	4
	Chain Road S	0.07	0	3	0.04	0	3
	Cooper Lane	0.07	0	6	0.04	0	5
2029 Base	Chain Road N	0.04	0	5	0.04	0	4
	Charnwood Road	0.03	0	4	0.04	0	4
	Chain Road S	0.07	0	3	0.04	0	3
	Cooper Lane	0.07	0	6	0.04	0	5
2029 Design	Chain Road N	0.06	0	5	0.09	0	5
	Charnwood Road	0.03	0	4	0.04	0	4
	Chain Road S	0.10	0	3	0.05	0	3
	Cooper Lane	0.11	0	6	0.07	0	6

Green = within target capacity*

Amber = between target capacity* and unity (absolute capacity)

Red = Over Unity i.e. over 1 (for clarity this is 100)

*Industry Standard Target Capacity is 0.85 RFC for roundabouts

7.3.3 A Ratio of Flow to Capacity value below 0.85 indicates that a junction or arm operates within its predicted capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

7.3.4 As table 7.2 demonstrates, the junction operates well within capacity in all scenarios with no predicted queuing.

7.4 Chain Road/A6104 Victoria East Priority Junction

7.4.1 The existing junction has been modelled using the PICADY function in Junctions 10. The junction has been modelled for the Sunday and Wednesday PM peak hours for the following scenarios:

- 2024 Count
- 2029 Base; and
- 2029 Design.

7.4.2 The results are summarised in Table 7.3.

Table 7.3 Summary of Chain Road/A6104 Priority Junction

Scenario	Lane	PM Peak Hour			Sunday Peak Hour		
		RFC	Ave Q	Delay (s)	RFC	Ave Q	Delay (s)
2024 Count	Chain Road LT	0.11	0	7	0.13	0	7
	Chain Road RT	0.05	0	8	0.04	0	8
	Victoria Avenue RT	0.11	0	7	0.13	0	7
2029 Base	Chain Road LT	0.12	0	7	0.15	0	7
	Chain Road RT	0.06	0	9	0.05	0	9
	Victoria Avenue RT	0.12	0	7	0.15	0	7
2029 Design	Chain Road LT	0.13	0	7	0.20	0	7
	Chain Road RT	0.07	0	9	0.06	0	9
	Victoria Avenue RT	0.19	0	8	0.15	0	7

Green = within target capacity*

Amber = between target capacity* and unity (absolute capacity)

Red = Over Unity i.e. over 1 (for clarity this is 100)

*Industry Standard Target Capacity is 0.85 RFC for roundabouts

7.4.3 A Ratio of Flow to Capacity value below 0.85 indicates that a junction or arm operates within its predicted capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

7.4.4 As table 7.3 demonstrates, the junction operates well within capacity in all scenarios.

7.5 Rochdale Road/A6104 Victoria Avenue Signalised Junction

7.5.1 The existing junction has been modelled using LINSIG and signal control data provided by TfGM. The junction has been modelled for the Wednesday PM Peak for the following scenarios:

- 2024 Count
- 2029 Base; and
- 2029 Design.

7.5.2 Observed queues are recorded from nearside or offside for each approach. The results are summarised in Table 7.4. In order to get modelled queue lengths that validate against the observed queue lengths, the pedestrian only stage has been omitted from the cycle as the inclusion of this demand dependant stage within

each cycle results in inaccurate results. Observations on Site also didn't show this link being demanded.

7.5.3 Only the Wednesday PM peak has been modelled as the traffic flows show that the Sunday peak flows are significantly lower (3,408), than the PM peak hour (3,931).

7.5.4 The results in Table 7.4 show that the model validates well against the observed queue lengths.

Table 7.4 Rochdale Road/A6104 Victoria Avenue Signalised Junction 2024 Count

Lane	PM Peak Hour		
	DoS (%)	MMQ	Observed Queue
Victoria Avenue (E) LT + Ahead	29.1%	4.3	5
Victoria Avenue (E) Ahead	32.5%	5.5	4
Victoria Avenue (E) RT	90.9%	14	18
Rochdale Road (S) LT + Ahead	85.6%	17.6	15
Rochdale Road (S) RT	91.4%	21.1	6
Rochdale Road (S) Ahead			16
Victoria Avenue (W)	88.8%	11.4	11
Rochdale Road (N) LT	79.1%	12.4	9
Rochdale Road (N) Ahead	84.5%	15.8	8
Rochdale Road (N) RT	89%	16.4	5
Rochdale Road (N) Ahead			12

Green = within target capacity*

Amber = between target capacity* and unity (absolute capacity)

Red = Over Unity i.e. over 1 (for clarity this is 100)

*Industry Standard Target Capacity is 0.85 RFC for roundabouts

7.5.5 A Ratio of Flow to Capacity value below 0.85 indicates that a junction or arm operates within its predicted capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

7.5.6 The junction has then been modelled in the 2029 Base and 2029 Design scenarios and the results are shown in Tables 7.5 and 7.6.

Table 7.5 Rochdale Road/A6104 Victoria Avenue Signalised Junction 2029 Base

Lane	PM Peak Hour	
	DoS (%)	MMQ
Victoria Avenue (E) LT + Ahead	30.6%	4.6
Victoria Avenue (E) Ahead	34%	5.8
Victoria Avenue (E) RT	94.1%	16.2
Rochdale Road (S) LT + Ahead	92.7%	21.5
Rochdale Road (S) RT	96.3%	26.8
Rochdale Road (S) Ahead		
Victoria Avenue (W)	95.8%	15.5
Rochdale Road (N) LT	88.5%	15.1
Rochdale Road (N) Ahead	95.4%	21.4
Rochdale Road (N) RT	97.5%	23.6
Rochdale Road (N) Ahead		

Table 7.6 Rochdale Road/A6104 Victoria Avenue Signalised Junction 2029 Design

Lane	PM Peak Hour	
	DoS (%)	MMQ
Victoria Avenue (E) LT + Ahead	30.6%	4.6
Victoria Avenue (E) Ahead	34%	5.8
Victoria Avenue (E) RT	94.1%	16.2
Rochdale Road (S) LT + Ahead	92.7%	21.5
Rochdale Road (S) RT	96.3%	26.8
Rochdale Road (S) Ahead		
Victoria Avenue (W)	95.8%	15.5
Rochdale Road (N) LT	88.5%	15.1
Rochdale Road (N) Ahead	95.4%	21.4
Rochdale Road (N) RT	97.5%	23.6
Rochdale Road (N) Ahead		

7.5.7 The results in Table 7.5 and Table 7.6 show negligible impact from the development on the future operation of the junction. It should be noted that the flows are considered robust as the proposed attendance modelled is twice as large as the current congregation. The congregation in attendance will also be controlled through a management plan conditioned to the application to ensure no overspill onto the highway network.

8. Summary and Conclusions

8.1.1 This Transport Assessment (TA) has been undertaken by Mosodi Limited on behalf of Winners Chapel International and has considered the highways and transportation issues raised by a proposed church use on land previously occupied by the St Euphrasia's Convent to the north of Chain Road, Blackley.

8.1.2 The proposed layout is shown in Appendix A, and comprises of:

- Main chapel building, comprising the following:
 - o Main auditorium;
 - o Offices;
 - o Consulting and Counselling Rooms;
 - o Children's/Teens Church;
 - o Bookshop;
 - o Restaurant and Café; and
 - o Classroom.
- 189 car parking spaces, including 20 EV charging spaces and 12 accessible spaces;
- 10 motorcycle parking spaces;
- 40 cycle storage spaces;
- Mini-bus/coach drop off facility;
- Proposed widened access; and
- Associated landscaping.

8.1.3 The TA has identified what measures will be undertaken to deal with the anticipated impacts of the scheme proposals and has defined what improvements and initiatives will be implemented to improve accessibility to the Site by all modes of travel. The TA should be read in conjunction with the traffic management plan and travel plan which will manage the traffic to and from the development Site.

8.1.4 The proposed development is to be accessed from Chain Road which will be widened to 5.5m in order to accommodate coaches passing cars occasionally. A new pedestrian entrance is to be provided to the east of the access road and has been designed to limit the impact along the tree lined access. As well as improvements to the access, a double yellow line TRO is proposed from the junction with Northridge Road North to and through the Site. This access will be controlled by Manchester Council within the current adoption limits and through on-site management for the area within the Site.

8.1.5 As part of the proposal, a coach pick up and drop off area is provided adjacent to the entrance which is capable of accommodating up to 7 full size coaches. This drop off area will provide an appropriate servicing and refuse collection area with Site management bringing bins to the drop off area for emptying.

8.1.6 The principles of the masterplan have been designed to encourage pedestrian, cycling and public transport trips through improvements to the access routes.

8.1.7 The proposals will result in improved pedestrian and cycling facilities in the immediate vicinity of the Site thereby enhancing accessibility, not just to the development, but to other users of the local network, particularly staff and visitors to the existing adjacent schools.

8.1.8 A comprehensive assessment of the existing and proposed development trip generations and distributions has been undertaken based on the existing church facility and then increased to account for the potential maximum capacity of the proposed church. The peak trip generation for the Site (Sunday morning), does not coincide with the network peak hours and the number of trips within the network peak hours are not material on the highway network.

8.1.9 A full car parking assessment has been completed to ensure that the proposed development will not impact local surrounding roads and that the proposed demand for parking can be accommodated safely on Site. In summary, the 189 spaces proposed is considered appropriate due to the following:

- It is in excess of the standard for a stadium (1 per 15 seats), which is deemed the most similar use;
- The congregation arrive in family groups, with the existing car occupancy being over 4 people per car;
- The layout provides sufficient car parking provision to accommodate the demand for the existing mode split and 1,050 current congregation;
- When travel plan measures are implemented to reduce the people arriving by car to 49.2%, the parking provision would not be exceeded even if the full 1,500 capacity was reached;
- The church currently operates mini-buses and coaches which collect and drop people off and are committed to continuing to operate these services;
- The church is committed to a travel plan and traffic management plan to manage the impact of the church on the local community;
- The Site is within close proximity to a number of residential areas which can be accessed via foot and cycle; and
- Frequent bus stops are within a short walking distance so that people can arrive by public transport.

8.1.10 The principles employed in this TA have been based on the scoping note and response received from Manchester Council highways. The requested traffic management plan sets out that church services will not coincide with the peak operating hours of the adjacent schools (8-9AM and 3-4PM) when the immediate highway network is the busiest.

8.1.11 Weekday evening and Sunday peak hour capacity assessments have been carried out for the junctions within the study network for the following scenarios:

- Traffic Count Flows;
- Base Flows; and
- Total Design Flows.

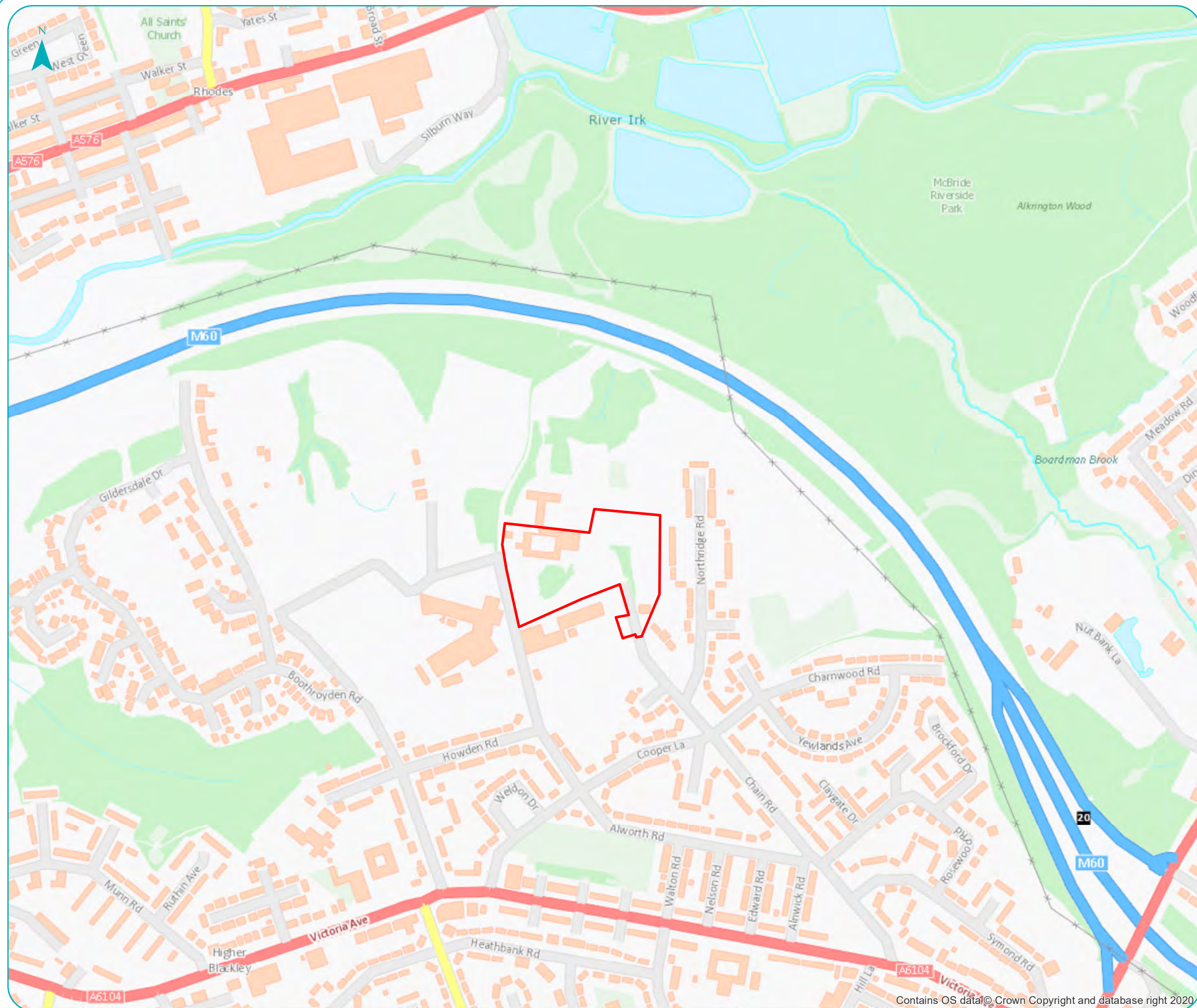
8.1.12 Junction capacity assessments have been undertaken across the network, using industry standard software for various scenarios. It is considered that the base and design traffic flows which have been modelled are robust and demonstrate that the junctions continue to operate within capacity.

8.1.13 A review of accident data for the area immediately surrounding the Site has been undertaken and no accident issues have been identified.

8.1.14 From the extensive work undertaken, it is concluded there are no reasons on highways or transport grounds for why the development should not be granted planning permission.

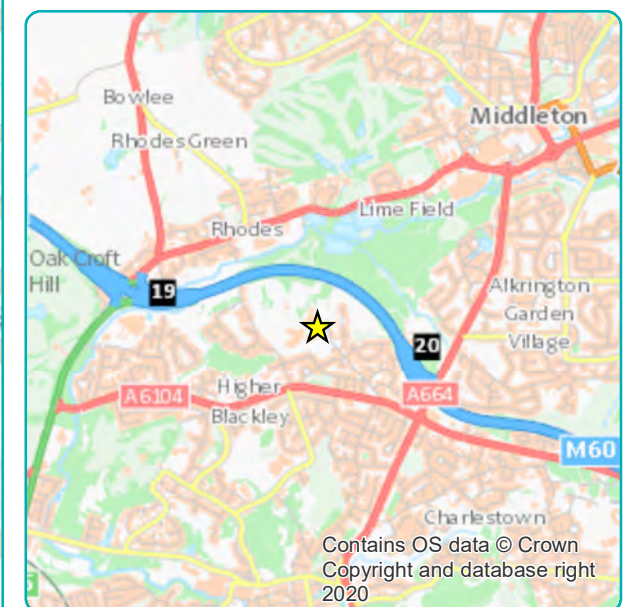
Figures

Appendices



Key

- ★ Proposed Site Location
- Indicative Site Boundary



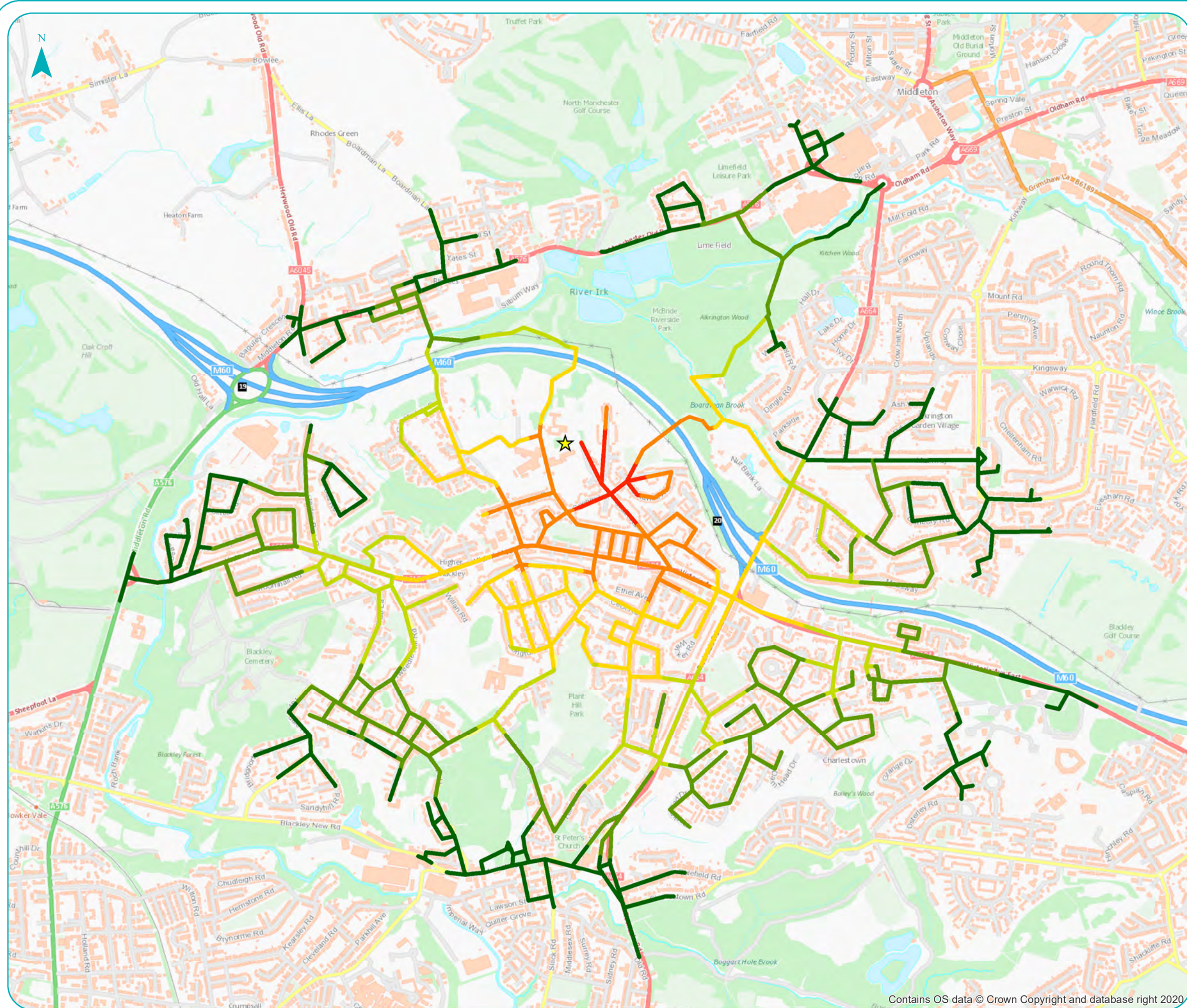
Winners Chapel
Chain Road, Blackley
Site Location Plan

Figure 1

Scale @ A3 1:5,000

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Key

★ Site Location

Walk Accessibility (4.8kph)

0-5 Minutes

5-10 Minutes

10-15 Minutes

15-20 Minutes

20-25 Minutes

25-30 Minutes

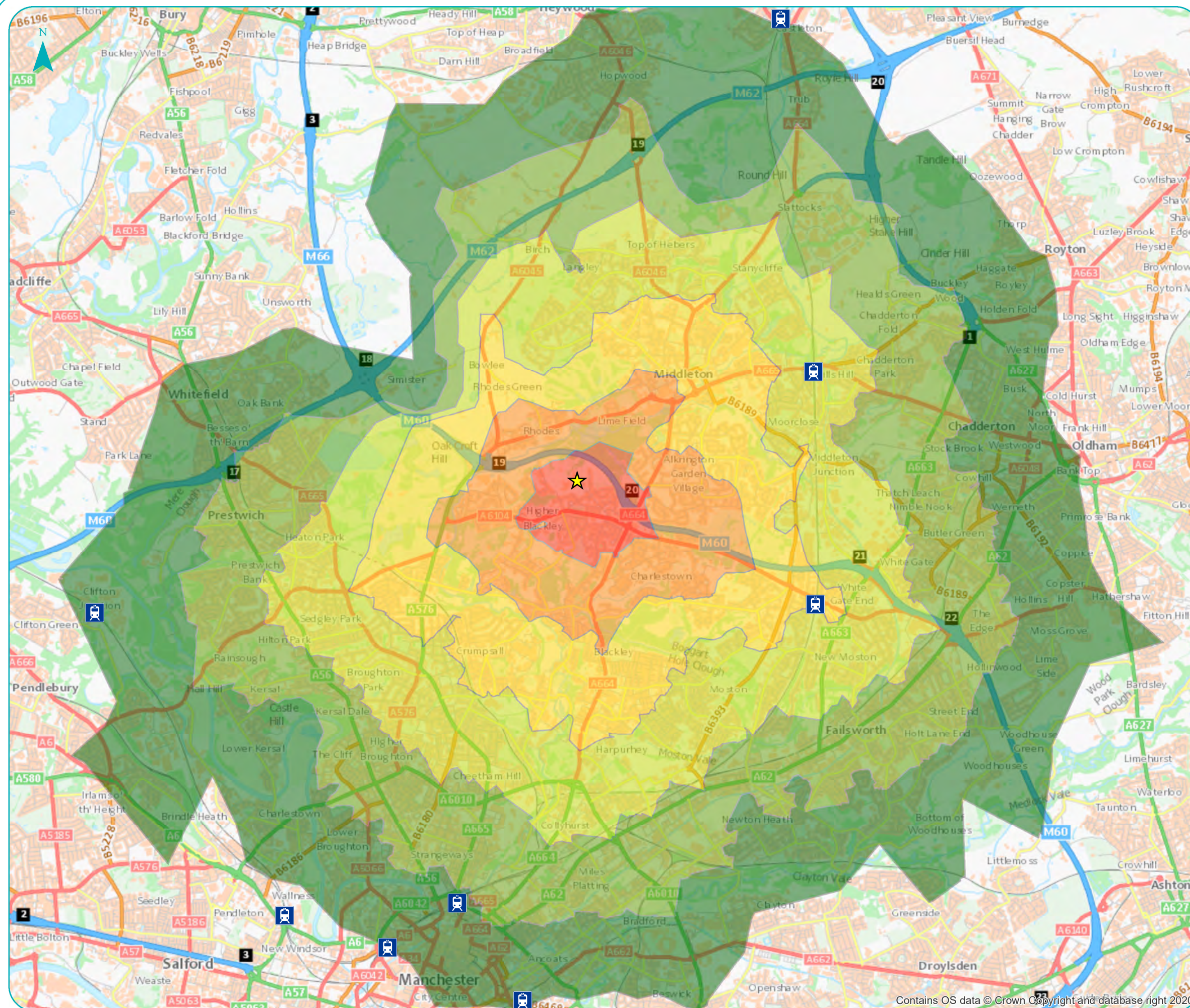
Winners Chapel
Chain Road, Blackley
Pedestrian Accessibility

Figure 2

Scale @ A3 1:15,000

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Key

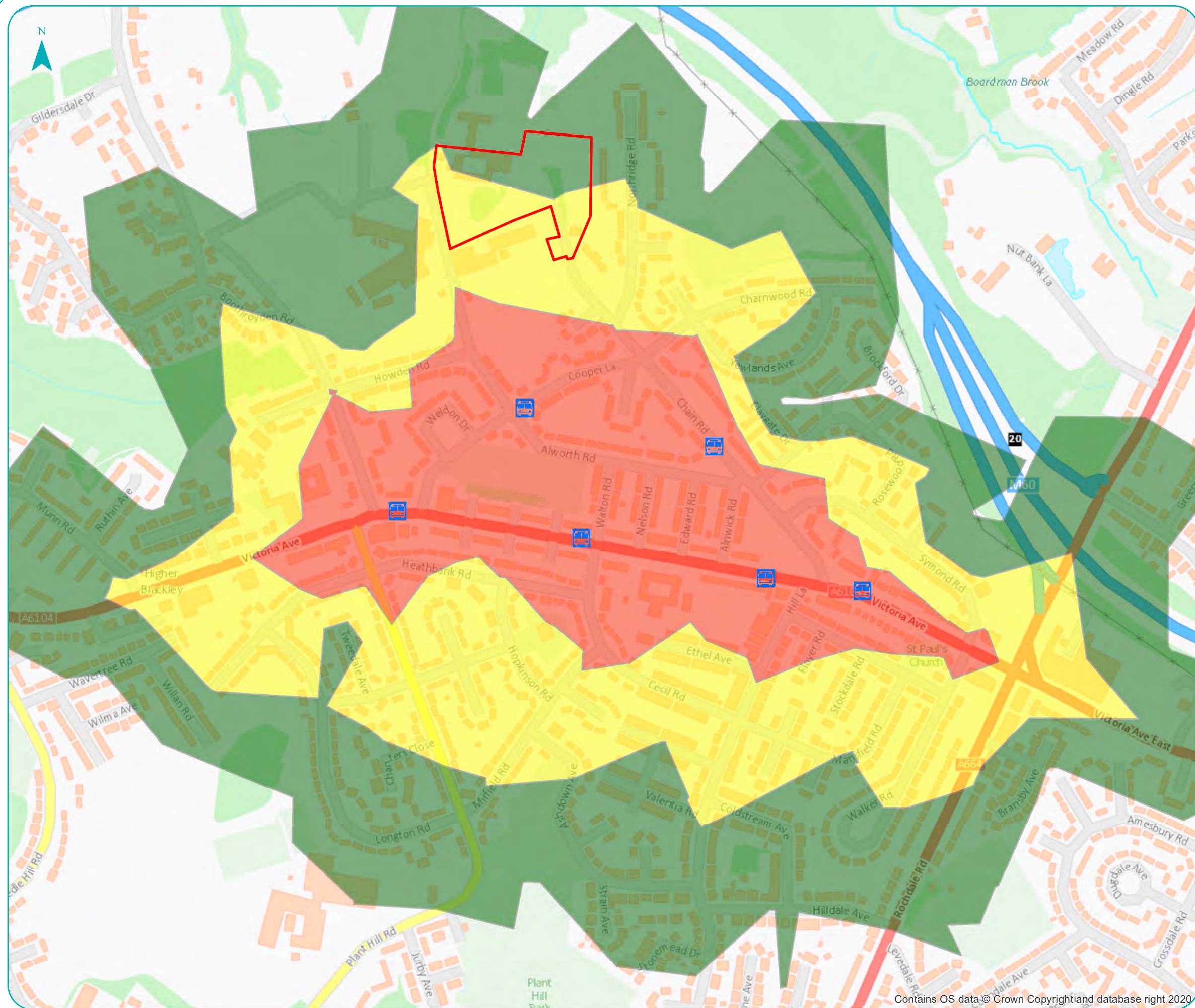
- ★ Site Location
- 🚂 Railway Stations
- Cycle Accessibility (16kph)
 - 0-5 Minutes
 - 5-10 Minutes
 - 10-15 Minutes
 - 15-20 Minutes
 - 20-25 Minutes
 - 25-30 Minutes

Winners Chapel
Chian Road, Blackley
Cycle Accessibility

Figure 3

Scale @ A3 1:50,000

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Key

Indicative Site Boundary

🚌 Bus Stop

Distance (m)

0-200m

200-400m

400-600m

Winners Chapel
Chain Road, Blackley
Bus Stop Accessibility

Figure 4

Scale @ A3 1:5,000

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Key

-  Proposed Site Location
-  Existing Site Location
-  Private Vehicle
-  Car Share (Driver)

Winners Chapel
Car Drivers of Congregation
to Winners Chapel

Figure 5

Scale @ A3 1:150,000

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Appendix A Masterplan

1 : 500 @ A1

0m 10m 20m 30m 40m
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Proposed Site Plan
World Mission Agency – Winners Chapel International
Rev. P01
2024-11-01
23040-MOJO-01-ZZ -DR-A- PL0003

MOJO

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Appendix B Travel Survey Results

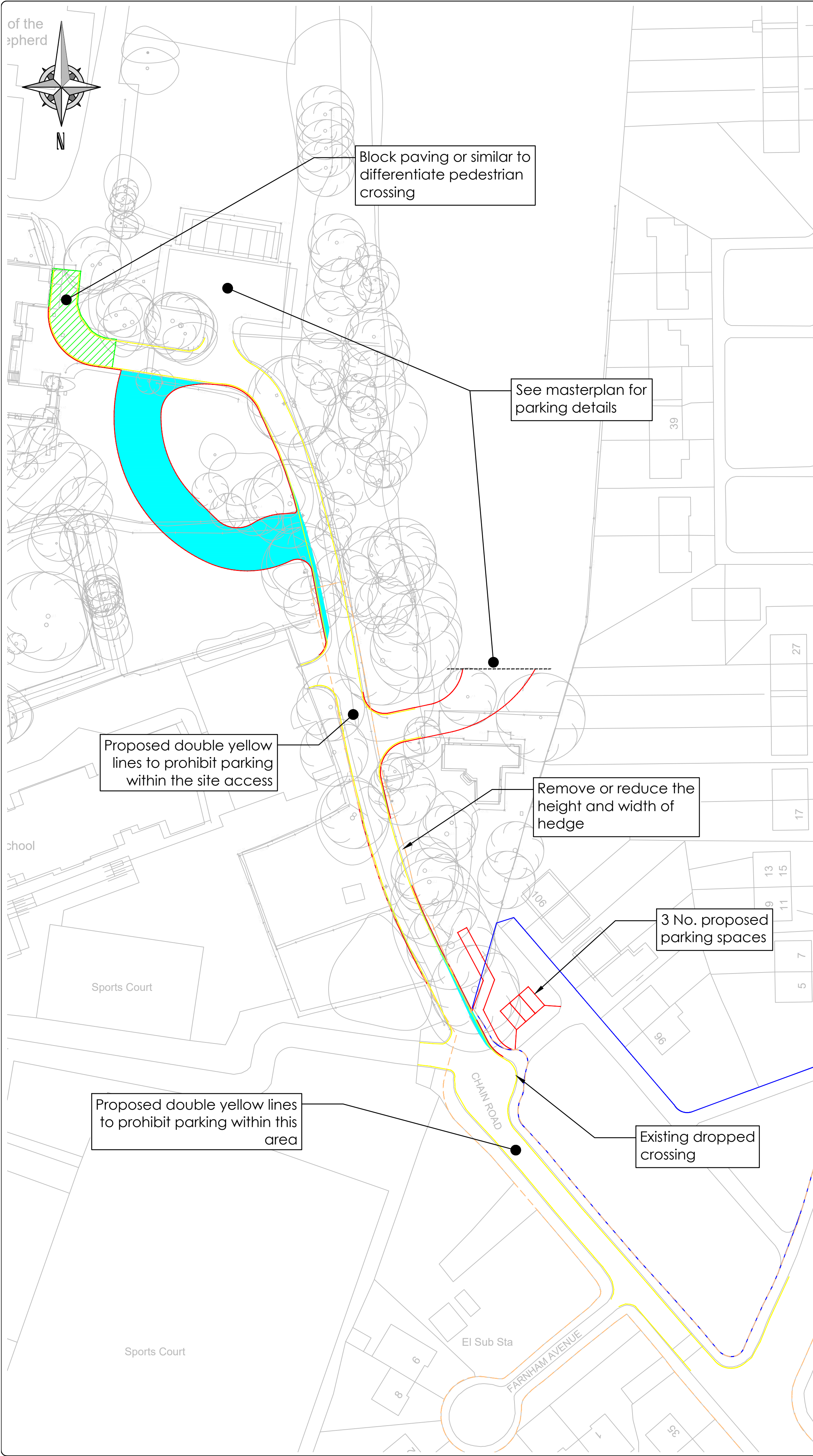
Ref	Do you have access to a car?	If so, is the car electric?	How do you normally travel to Church?	If you car share how many people are in the car?	If you get a taxi how many people are in the taxi (excluding the driver)?	If you currently drive, where do you park?	For the Wednesday service, approximately how many minutes early do you arrive prior to the start of the service? Please specify which service/s you attend.	For the Wednesday service, approximately how many minutes do you stay after the service has ended?	For the Sunday service, approximately how many minutes early do you arrive prior to the start of the service? Please specify which service/s you attend.	Which service?	For the Sunday service, approximately how many minutes do you stay after the service ends? Please specify which service/s you attend.	Which Service?	On average how many days a week do you attend the Church in addition to the Wednesday and Sunday services? Please provide details.	If you currently drive, would you be willing to attend using a church bus/minibus?
	Yes	No	Car Share (passenger)	2		On Site Car Park		5	5	2nd		5	2	No
	Yes	No	Other (please specify)	5		On-Street				1st		15 1st	3	No
	No	No	Public Bus	4						10				
	No	No	Public Bus		4			60	10	15		15	2	
1	Yes	No	Car Driver Alone			On Site Car Park		5	5	5 2nd		5 2nd	0	Yes
2	Yes	No	Car Share (passenger)		5	On-Street		0	10	5 1st		20 1st	0	Yes
3	No	No	Church Bus/Minibus							20 1st		1st	0	Yes
4	No		Taxi			1		30		15			0	Yes
5	No	No	Church Bus/Minibus			On Site Car Park		10	15	30		30	4	Yes
6	Yes	No	Car Share (driver)		6	On Site Car Park		5	10	10 1st and 2nd		10 1st and 2nd	3	Yes
7	Yes	No	Car Share (driver)		4	On-Street		5	5	5		5	2	Yes
8	Yes	No	Car Share (driver)		4	On-Street		5	5	10 Both		5 2nd	2	Yes
9	Yes	No	Car Share (driver)		5	On-Street		5	4	2 1st and 2nd		2nd	2	No
10	Yes	No	Car Driver Alone		3	On-Street				15		15	0	No
11	No	No	Church Bus/Minibus							15		15	1	No
12	No		Public Bus					10	15	10 3rd		30 3rd	2	
13	Yes	No	Car Driver Alone			On-Street			10			10	No	
14	Yes	No	Car Share (driver)	1		On-Street			2	15 2nd and 3rd		30 2nd and 3rd	1	No
15	Yes	No	Car Share (driver)	3		On Site Car Park		10		10 2nd		30	2	No
16	Yes	No	Car Driver Alone			On-Street		10	20	10 3rd		30 3rd	2	No
17	Yes	No	Car Share (passenger)		5	Off Site Car Park							No	
18	Yes	No	Car Share (driver)	4		On-Street		15	30	All Three		20 All Three	1	No
19	No	No	Public Bus					15	5			5	1	Yes
20	No	No	Tram							1		1	1	
21	Yes	No	Car Share (passenger)		6	On-Street				4		20	1	Yes
22	Yes	No	Car Driver Alone					15	2	15		15	2	No
23	Yes	No	Car Share (driver)			On-Street							Yes	
24	No	No	Church Bus/Minibus		4			10	10	20 2nd and 3rd		10 2nd and 3rd	2	Yes
25	No	No	Taxi			3				3rd service		3rd service	2	Yes
26	Yes	No	Car Share (driver)		5	On-Street		5	10	5		12	2	No
27	Yes	No	Car Share (driver)		6	On-Street		5	10	10		20	2	Yes
28	No	No	Public Bus					10	10	3rd		10 3rd	2	Yes
29	Yes	No	Car Driver Alone		3	On Site Car Park							Yes	
30	Yes	No	Car Share (passenger)		4	On-Street				5		10	1	No
31	Yes	No	Car Share (passenger)		5	On-Street				5		5	1	No
32	No	No	Taxi											
33	Yes	No	Car Driver Alone			On-Street		30	5			30	2	No
34	Yes	No	Car Share (driver)		5	On Site Car Park		90	10	5 1st		10 1st	No	
35	Yes	No	Car Driver Alone		4	On-Street		10		2		110	2	Yes
36	Yes	No	Car Share (driver)		6	On Site Car Park		5	5	15 All Three		10 All Three	4	No
37	Yes	No	Car Share (driver)		4	On Site Car Park		10		10 2nd		3 2nd	2	Yes
38	Yes	No	Car Share (driver)		5	On-Street				10 3rd			0	No
39	Yes	No	Car Share (driver)		5	On-Street		5	5	5		10	2	No
40	Yes	No	Car Share (driver)		3			10		15		20	No	
41	Yes	No	Church Bus/Minibus			On Site Car Park		105	2	20		20	1	No
42	Yes	No	Car Share (driver)		5	On-Street						15	1	No
43	No	No	Public Bus			Off Site Car Park		5	5	5		5	5	Yes
44	Yes	No	Car Share (driver)		3	Off Site Car Park							1	No
45	Yes	No	Car Share (passenger)		5	On-Street							0	
46	No	No	Church Bus/Minibus							10		15	1	No
47	No	No	Public Bus							10 1st		20 1st	0	
48	Yes	No	Car Share (driver)		5	On-Street				2nd		20 2nd	2	Yes
49	No	No	Public Bus					5	5	5 2nd and 3rd		2nd	0	Yes
50	Yes	No	Car Share (driver)		4	On Site Car Park		5	20	30 2nd and 3rd		15 2nd and 3rd	3	Yes
51	Yes	No	Car Share (passenger)		5	On-Street			60	30 3rd		30	3	No
52	Yes	No	Car Share (driver)			On Site Car Park		5	10	30		10	1	Yes
53	No	No	Walk					5	3	5		5	2	Yes
54	Yes	No	Car Share (driver)		3	On Site Car Park				5		2nd	3	Yes
55	Yes	No	Car Share (passenger)		5	On-Street		20	20	20		30	3	Yes
56	Yes	No	Car Share (driver)		6	On Site Car Park		10	15	20		20	3	Yes
57	Yes	No	Car Share (driver)		4	On-Street				15		15	1	No
58	No	No	Church Bus/Minibus										Yes	
59	No	No	Taxi			4				10 2nd		15 2nd	0	Yes
60	Yes	No	Car Share (driver)		4	On-Street				3rd		5 3rd	0	No
61	Yes	No	Car Share (driver)		2	On-Street				20 1st		30 1st	No	
62	No	No	Walk							2nd and 3rd		10 2nd and 3rd	1	Yes
63	Yes	No	Car Driver Alone			On Site Car Park		75	5	7		5	0	No
64	Yes	No	Car Driver Alone			On-Street				5		1	0	No
65	Yes	No	Car Share (passenger)		1	On-Street		5	5	5		10	0	No
66	Yes	No	Car Share (driver)		5	On Site Car Park		15	20	15 2nd		10 2nd	0	No
67	Yes	No	Car Share (passenger)		5	On-Street		15	5	15		15	0	Yes
68	Yes	No	Car Share (driver)		5	On-Street				15 3rd		15 3rd	0	Yes
69	Yes	No	Car Driver Alone			On-Street				15 1st		15 1st	0	Yes
70	Yes	No	Car Share (driver)		5	Off Site Car Park			3	20 1st		5 1st	2	Yes
71	Yes	No	Car Share (driver)		5	Off Site Car Park				10 2nd		10 2nd	0	Yes
72	Yes	No	Car Share (driver)		5	On Site Car Park				5		2nd and 3rd	No	
73	Yes	No	Car Driver Alone		3	On-Street		5		5			0	No
74	Yes	No	Car Driver Alone			On Site Car Park		60					3	Yes
75	No	No	Taxi										Yes	
76	No	No	Church Bus/Minibus		1					10			Yes	
77	No	No	Public Bus							5 3rd		3rd	Yes	
78	Yes	No	Car Share (driver)		2	Off Site Car Park				5 2nd		5 2nd	0	Yes
79	Yes	No	Car Driver Alone			On Site Car Park				10		10	2	No
80	Yes	No	Car Share (driver)		5	On-Street				5		10	1	Yes
81	Yes	No	Car Share (driver)		2	On-Street		5	5	5		5	0	No
82	No	No	Taxi			2		10	5	10		10	2	
83	Yes	No	Car Share (passenger)		4	On-Street		10		5		30	1	No
84	Yes	No	Car Share (driver)		4	Off Site Car Park				3rd		10 3rd	1	Yes
85	Yes	No	Car Share (passenger)			On-Street						5	1	No
86	Yes	Yes	Car Share (driver)		5	On Site Car Park		10	5	10		10	Yes	
87	No	No	Public Bus							30		10	0	Yes
88	Yes	No	Car Share (driver)		5	On Site Car Park				3rd		5 3rd	No	
89	No	No	Scooter						5	5		5	2	No
90	Yes	No	Car Share (driver)		6	On-Street				25 1st		10 1st	1	Yes
91	Yes	No	Car Share (passenger)		3	On-Street		15	10	15		20	0	Yes
92	Yes	No	Car Driver Alone			On Site Car Park				5		5	1	Yes
93	Yes	No	Car Share (passenger)		4	Off Site Car Park		10	10	10		10	2	Yes
94	Yes	No	Car Share (passenger)		5	On Site Car Park				5		5	0	Yes
95	No	No	Public Bus					10	20	15		20	3	Yes
96	No	No	Public Bus					4	20	30		30	2	No
97	Yes	No	Car Share (driver)		3	On-Street		10	5	10		60	2	Yes
98	Yes	No	Car Share (driver)		4	On Site Car Park				5			1	Yes
99	No	No	Public Bus					10	3	15		3	1	Yes
100	Yes	Yes	Car Share (passenger)		3	On-Street				5			No	
101	Yes	No	Car Driver Alone			On Site Car Park				3rd		5 3rd	No	
102	Yes	No	Car Share (driver)		3	On Site Car Park		5	5	5		5	2	Yes
103	Yes	Yes	Car Share (driver)		4	On Site Car Park				5		15	1	Yes
104	No	No	Public Bus							20 1st and 2nd		1st and 2nd	Yes	
105	Yes	No	Car Share (driver)		6	On Site Car Park				10		0	1	No
106	No	No	Public Bus							10 1st and 2nd		5 1st and 2nd	0	
107	No	No	Taxi			1		15	90	15		20	2	Yes
108	Yes	No	Car Share (driver)		1	On-Street				10 3rd		0	0	Yes
109	Yes	Yes	Car Share (driver)		5	On Site Car Park		10	5	5		5	1	No
110	Yes	No	Car Driver Alone			On-Street						5	1	Yes
111	Yes	No	Car Share (driver)		1	On Site Car Park			1	10		20	2	No
112	No	No	Car Share (passenger)		3					10		10	1	Yes
113	Yes	No	Car Driver Alone			On Site Car Park				10 1st		1st	1	No
114	Yes	No	Car Share (driver)		3	Off Site Car Park		15	10	60		20	2	No
115	Yes	No	Car Share (driver)		4	On-Street		10					0	No
116	Yes	No	Car Share (driver)		5	On Site Car Park						20	1	Yes
117	Yes	No	Taxi			2 Off Site Car Park			15	30			0	Yes
118	Yes	No	Car Share (driver)		4	On-Street		5		10		5	1	No
119	Yes	No	Car Share (driver)		3	On Site Car Park		15	30	15		15	2	Yes
120	No	No	Church Bus/Minibus							5			1	
121	Yes	No	Car Share (driver)		4	On-Street			Late			5 2nd	0	Yes
122	Yes	No	Church Bus/Minibus							5		5	1	Yes
123	Yes	No	Car Share (driver)		5	On Site Car Park		5	5	2nd		20	1	No
124	No	No	Church Bus/Minibus							3 2nd		10 2nd	1	
125	No	No	Taxi			2				15		10	1	
126	Yes	No	Car Driver Alone			On-Street				2nd		5 2nd	0	No
127	No	No	Public Bus					10				2	0	Yes
128	No	No	Church Bus/Minibus											

144	Yes	No	Church Bus/Minibus		On-Street						Yes
145	Yes	No	Car Share (driver)	4	On Site Car Park	2	2	5	5	2 Yes	
146	Yes	No	Car Share (driver)	2	On Site Car Park		5 Late		5	0 No	
147	Yes	No	Car Share (driver)		On Site Car Park	10	5	10 2nd	2nd	0 Yes	
148	No	No	Public Bus			20	5	10	5	1 Yes	
149	Yes	No	Church Bus/Minibus		Off Site Car Park				0	1 Yes	
150	Yes	No	Car Share (driver)	5	On Site Car Park			5	5	1 No	
151	Yes	No	Car Share (driver)	3				10	10	1 Yes	
152	Yes	No	Car Share (passenger)	3	On Site Car Park	5	5	5 2nd	5 2nd	2 Yes	
153	Yes	No	Car Share (passenger)	7	On Site Car Park	15	30	15	30	2 No	
154	Yes	No	Car Share (driver)	5	Off Site Car Park	10	5	5	5	2 Yes	
155	Yes	No	Car Driver Alone		Partners House Nearby			10	15	2 Yes	
156	No	No	Church Bus/Minibus					2nd	10 2nd	0	
157	Yes	No	Car Share (driver)	7	On Site Car Park			10 2nd	5 2nd	1 Yes	
158	Yes	No	Car Driver Alone		On-Street			2nd	5 2nd	0 No	
159	No	No	Church Bus/Minibus					5	5	1 Yes	
160	Yes	No	Car Share (driver)	5	On-Street			10	20	1 No	
161	Yes	No	Car Share (passenger)	4	On Site Car Park	30	90	10	5	2 Yes	
162	Yes	Yes	Car Share (passenger)	5	Off Site Car Park			15	0	1 Yes	
163	Yes	No	Car Share (driver)	4	Off Site Car Park	20		30	10	2 No	
164	Yes	No	Car Share (passenger)	5	On Site Car Park		15	20	20	1 Yes	
165	Yes	No	Car Share (passenger)	5	Off Site Car Park		20	10	30	1 No	
166	No	No	Taxi		2			2 2nd	10 2nd	1	
167	Yes	No	Car Share (driver)	4	Off Site Car Park		1	5	1	1 Yes	
168	Yes	No	Car Driver Alone		On Site Car Park			10	5 2nd	2 No	
169	No	No	Church Bus/Minibus					10		0 Yes	
170	No	No	Taxi		3			15	5	1 Yes	
171	Yes	No	Car Share (driver)	4	On-Street			5	10	1 No	
172	No	No	Taxi		1	5	5	20	20	2 No	
173	Yes	No	Car Share (driver)	5	On Site Car Park			10 2nd	20 2nd	0 No	
174	No	No	Taxi		1	10	1	5	1	2 No	
175	No	No	Public Bus					10	10	1 Yes	
176	No	No	Church Bus/Minibus			10	10	10	10	0 Yes	
177	No	No	Church Bus/Minibus			5	0	10	10	2	
178	Yes	Yes	Car Driver Alone		On-Street		Late		0	1 No	
179	Yes	No	Car Share (driver)	4	On-Street			15		1 Yes	
180	Yes	No	Car Share (passenger)	4				5	15	0 No	
181	Yes	No	Car Share (driver)	5	On Site Car Park			5	5	1 Yes	
182	Yes	No	Car Share (passenger)	4	On-Street	5	20	10	30	Yes	
183	Yes	No	Walk							Yes	
184	Yes	No	Car Driver Alone		On-Street			90	60	1 No	
185	Yes	No	Car Share (driver)	5	On-Street	10	10	15 1st and 2nd	15 1st and 2nd	2 No	
186	Yes	Yes	Car Share (driver)	5	On-Street			1st and 2nd	20 2nd and 2nd	1 No	
187	Yes	No	Car Share (driver)	3	On Site Car Park	20	15	30 All Three	30 All Three	6 Yes	
188	No	No	Church Bus/Minibus			20	10	20 1st	10 1st	Yes	
189	Yes	No	Car Share (passenger)	4		10	5	10	5	0 Yes	
190	Yes	No	Car Share (passenger)	4	Off Site Car Park			5	5	1 No	
191	Yes	No	Car Share (passenger)	6	On-Street			10	20	2 No	
192	No	No	Church Bus/Minibus					10 1st	10 1st		
193	Yes	No	Car Driver Alone		On-Street	5	1	2 1st	3 1st	0 No	
194	No	No	Walk			4	3	5 All Three	60 All Three	1 Yes	
195	No	No	Church Bus/Minibus					1st	10	0 Yes	
196	Yes	No	Church Bus/Minibus		On-Street	15	5	15	5	2 Yes	
197	Yes	No	Car Share (driver)	4	On-Street	15		30	10	0 No	
198	Yes	Yes	Car Share (driver)	2	On-Street			5 1st	1st	1 No	
199	No	No	Public Bus			1	3	1st	1st	2 No	
200	Yes	No	Car Share (driver)	6	On-Street						
201	Yes	No	Cycle					All Three	10 All Three	0 Yes	
202	Yes	No	Car Driver Alone	6	On-Street	10	20	20 1st	20 1st	4 No	
203	Yes	Yes	Car Share (driver)	4	On Site Car Park		30	5 3rd	60 3rd	0 No	
204	Yes	No	Car Share (driver)	4	On-Street	15	10	30	20 2nd	2 No	
205	No	No	Church Bus/Minibus			10	10	10		1 No	
206	Yes	No	Car Share (driver)	2	On-Street	5	2	3	1	1 Yes	
207	No	No	Church Bus/Minibus					20 1st	10 1st	1 No	
208	Yes	No	Car Share (driver)	3	On-Street			10	10	0 No	
209	Yes	No	Car Driver Alone		On-Street	10	5	25 All Three	10 All Three	Yes	
210	No	No	Church Bus/Minibus			15	10	20	5	No	
211	No	No	Public Bus					30	40	0	
212	No	No	Public Bus			10	5	55 1st and 2nd	10 1st and 2nd	2 Yes	
213	No	No	Taxi		1	10	20	10	20	2	
214	No	No	Public Bus					5	10	2 Yes	
215	Yes	No	Car Share (driver)	6	On-Street			5	5	1 No	
216	Yes	No	Car Share (driver)	5	On Site Car Park	15	15	20	15	2 Yes	
217	Yes	No	Car Share (driver)	2	On-Street	5		10	15	2 No	
218	Yes	No	Car Share (driver)	2	On-Street	5	1		5	2 Yes	
219	Yes	No	Car Share (passenger)	4	On-Street			5 1st	5 1st	2 No	
220	Yes	No	Car Share (driver)	4	On-Street	5		5	190	No	
221	Yes	No	Car Share (passenger)	4	On-Street			10	10	1 No	
222	Yes	No	Car Share (driver)	1	On-Street	1	90	45 1st	1st	3 No	
223	Yes	No	Car Share (passenger)	3	On-Street	5	5	5	10	No	
224	No	No	Taxi		2			2		0 Yes	
225	No	No	Church Bus/Minibus			60	30	15	15	2 Yes	
226	Yes	No	Car Share (driver)	5	On-Street	2		2	10	2 No	
227	Yes	No	Car Share (driver)	4	On Site Car Park		2	30	5	3 No	
228	Yes	No	Car Share (driver)	4	On-Street			5 1st	15 1st	0 No	
229	Yes	No	Car Share (driver)	5	On-Street			90	10	1 No	
230	No	No	Church Bus/Minibus					30	5	1	
231	Yes	No	Car Share (driver)	2	On-Street			1st	10 1st	1 No	
232	Yes	No	Car Share (passenger)	3				5	5	1	
233	No	No	Church Bus/Minibus			5	5	20	15	0	
234	Yes	No	Car Driver Alone		On-Street	5	2	2	5	2 No	
235	Yes	No	Car Driver Alone		On-Street			2	10	1 No	
236	No	No	Walk					1st	1st	1 Yes	
237	No	No	Church Bus/Minibus		On Site Car Park	8	5	10	10	2 Yes	
238	No	No	Public Bus					5	5	Yes	
239	No	No	Church Bus/Minibus			10	15	20	30	3	
240	Yes	No	Car Share (driver)	4	On-Street			10	15	0 No	
241	Yes	No	Car Driver Alone	4	On-Street			35	5	0 No	
242	Yes	No	Car Share (driver)	2	On-Street			2 1st	5 1st	0 No	
243	No	No	Walk					1st	5	1	
244	Yes	No	Car Driver Alone	3	On-Street			20	20	1 No	
245	Yes	No	Car Share (passenger)	5	On Site Car Park	10	5	10	5	2 Yes	
246	Yes	No	Car Driver Alone		On-Street	15	25	15	25	3 Yes	
247	No	No	Public Bus			1	5	15 All Three	All Three	2	
248	Yes	No	Car Driver Alone	5	On-Street	10	20	20	30	3 No	
249	Yes	No	Car Driver Alone		On-Street	10		10	5	1 No	
250	No	No	Church Bus/Minibus								
251	No	No	Public Bus							Yes	
252	Yes	No	Car Driver Alone		On-Street			1 1st	1st	1 No	
253	Yes	No	Car Driver Alone		On-Street		5	10 1st	5 1st	2 Yes	
254	Yes	Yes	Car Share (driver)	5	Off Site Car Park	10	10	10	15	2 Yes	

4.06 2.35

4.063829787 2.352941176

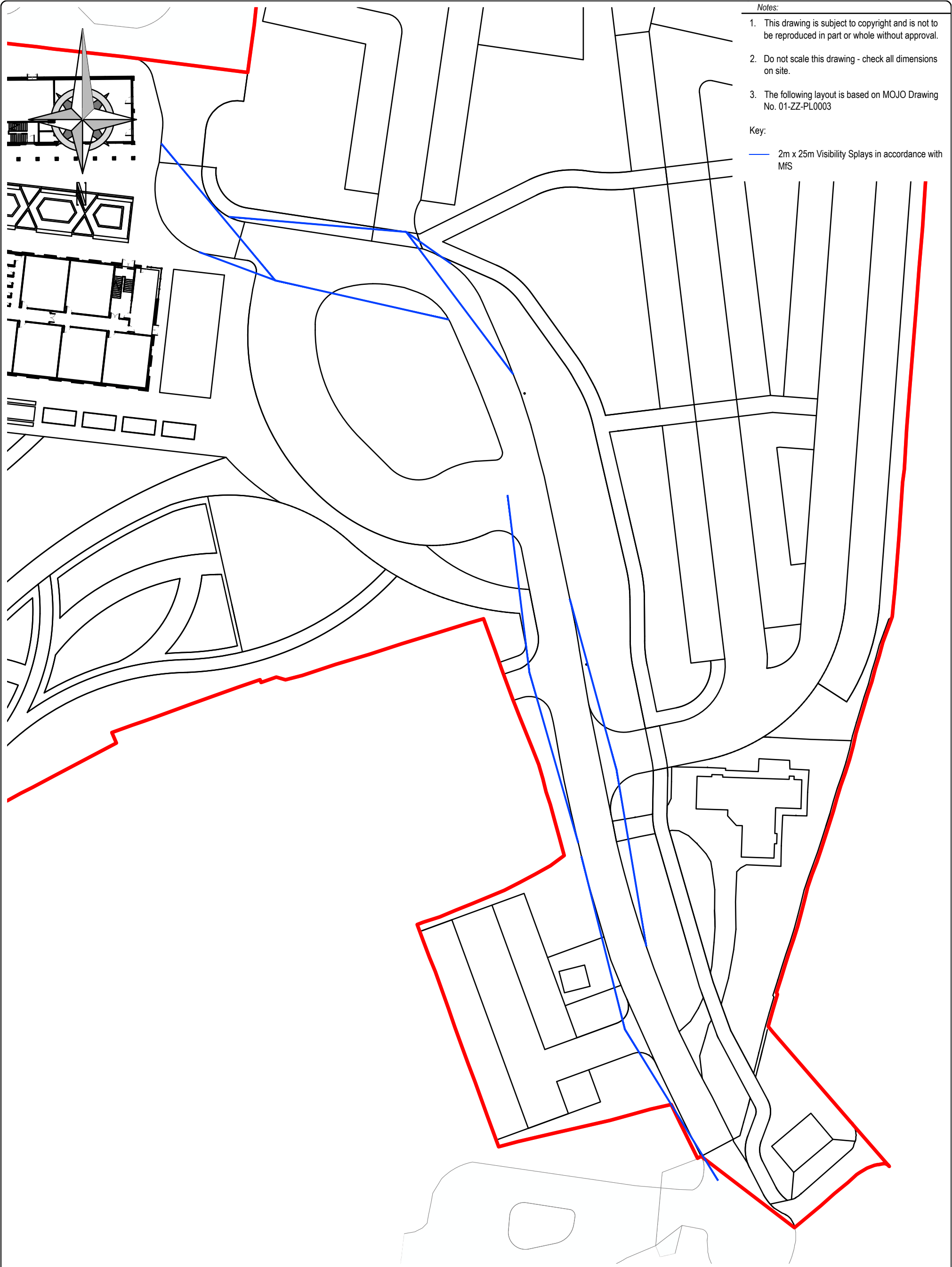
Appendix C Proposed Access Drawing



- Notes:
1. This drawing is subject to copyright and is not to be reproduced in part or whole without approval.
 2. Do not scale this drawing - check all dimensions on site.
 3. Preliminary layout subject to detailed design including full CDM compliance, statutory undertakers search/ diversion requirements, highway drainage provision, tree impact, land availability and local authority approval.
- Key:
- Proposed Widening of Carriageway
 - Proposed New Kerbline
 - Proposed Block Paving
 - Proposed TRO Double Yellow Lines
 - Adopted Highway Boundary*
 - Maintained Area
- * Confirmation of extent being confirmed with Manchester Highways

09.07.24		INITIAL ISSUE		LG
Rev.	Date	Status/Amendments	By	
 mobility solutions through design and innovation				
Manchester		Leeds		
0161 413 5168		0113 323 0854		
Client: WINNERS CHAPEL, MANCHETSER				
Project: CHAIN ROAD, BLACKLEY				
Drawing Title: PROPOSED ACCESS LAYOUT				
Drawn By:	LG	Checked By:	SJP	Approved By:
Scale:	1:500	Paper Size:	A2	Date Created:
Drawing Number:	24015.GA.01	09.07.24		Drawing Revision:
				-

Appendix D Visibility Splay Drawings



- Notes:
1. This drawing is subject to copyright and is not to be reproduced in part or whole without approval.
 2. Do not scale this drawing - check all dimensions on site.
 3. The following layout is based on MOJO Drawing No. 01-ZZ-PL0003
- Key:
- 2m x 25m Visibility Splays in accordance with MfS

- 22.11.24 INITIAL ISSUE Rev: Date: Status/Amendments: By: LG				mosodi mobility solutions through design and innovation Manchester Leeds 0161 413 5168 0113 323 0854		Client: WINNERS CHAPEL, MANCHESTER		Drawing Title: VISIBILITY SPLAYS OF INTERNAL HIGHWAY NETWORK					
						Project: CHAIN ROAD, BLACKLEY		Drawn By: LG		Checked By: SJP		Approved By: SJP	
								Scale: 1:500		Paper Size: A3		Date Created: 22.11.24	
								Drawing Number: 24015.IN.01		Drawing Revision: -			

Appendix E Arrival/Departure Profile

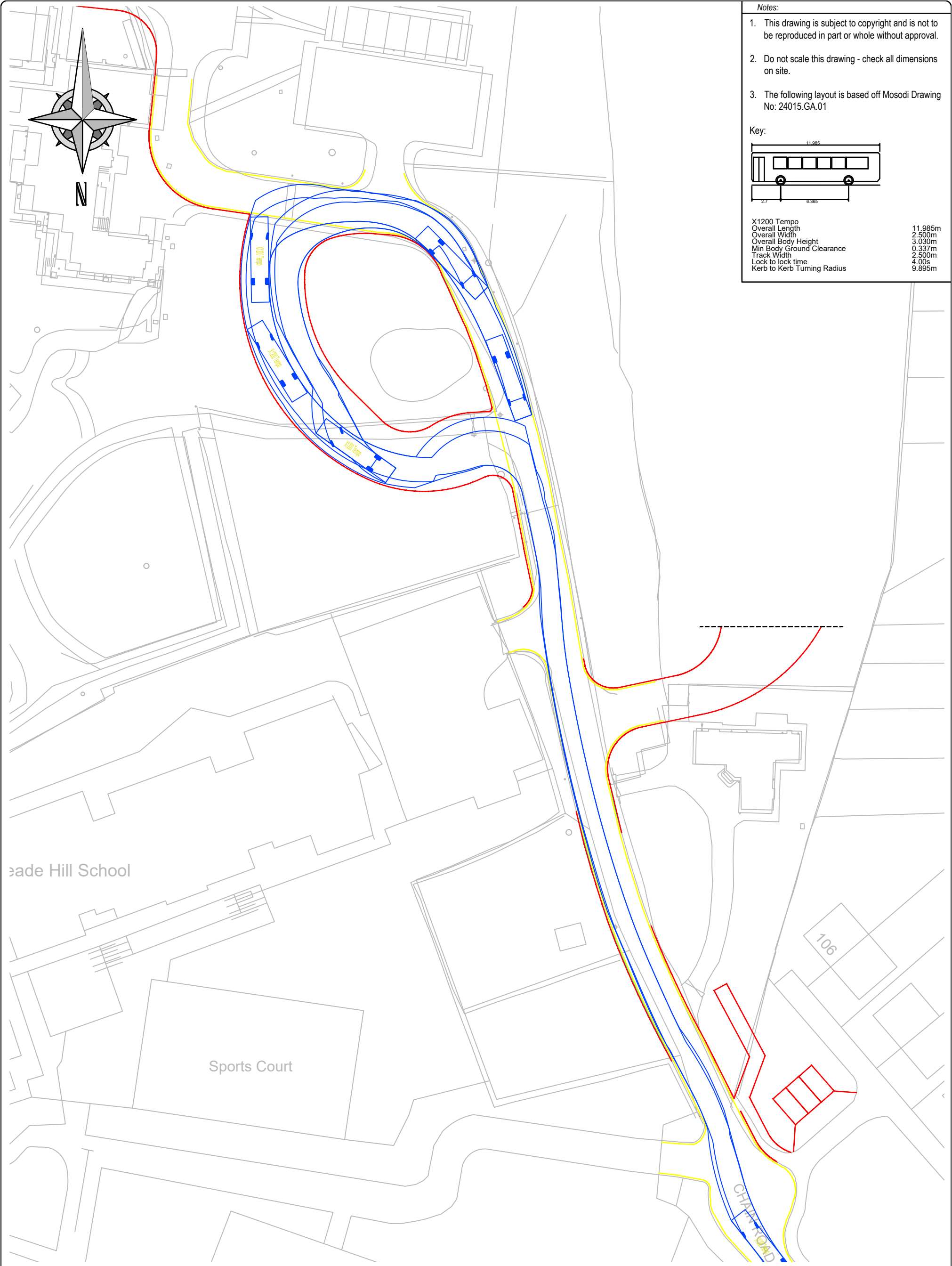
Winners Chapel Car Trip Generation Calculation - Proposed Fully Operational

People arrive by car	49.20%	Car Occupancy Sunday	4.06383
		Car Occupancy Mon-Sat	2

[illegible][illegible]

Notes
3 Sunday services split for 1,500 people
1 Wednesday service (200 people)
m-t morning prayer group (30 people)
20 staff on Site 7 days a week (8-5) - assumed to arrive early on Sunday and leave late on a Wednesday
Special events (1500) are not at set times a worked example of 9am to 11am is shown for car parking demand assessment

Appendix F Proposed Tracking Drawings



Notes:

1. This drawing is subject to copyright and is not to be reproduced in part or whole without approval.
2. Do not scale this drawing - check all dimensions on site.
3. The following layout is based off Mosodi Drawing No: 24015.GA.01

Key:

X1200 Tempo	11.985m
Overall Length	2.500m
Overall Width	3.030m
Overall Body Height	0.337m
Min Body Ground Clearance	2.500m
Track Width	4.00s
Lock to lock time	9.895m
Kerb to Kerb Turning Radius	

- 14.08.24 INITIAL ISSUE Rev: Date: Status/Amendments: By:				mosodi mobility solutions through design and innovation Manchester 0161 413 5168 Leeds 0113 323 0854		Client: WINNERS CHAPEL, MANCHESTER		Drawing Title: VEHICLE TRACKING OF COACH AND BUS DROP OFF	
						Project: CHAIN ROAD, BLACKLEY		Drawn By: LG	Checked By: SJP
				Scale: 1:500		Paper Size: A3		Date Created: 14.08.24	
				Drawing Number: 24015.ATR.03		Drawing Revision: -			

Appendix G Arrival/Departure Existing Mode Split

Winners Chapel Car Trip Generation Calculation - Worst Case 1500 and existing Mode Split

People arrive by car	66.28%	Car Occupancy Sunday	4.06383
		Car Occupancy Mon-Sat	2

[illegible][illegible]

Notes
3 Sunday services split for 1,500 people
1 Wednesday service (200 people)
m-f morning prayer group (30 people)
20 staff on Site 7 days a week (8-5) - assumed to arrive early on Sunday and leave late on a Wednesday
Special events (11500) are not at set times a worked example of 9am to 11am is shown for car parking demand assessment

Appendix H Distribution

Winners Chapel Distribution Calculations

Attendees Postcode	Percentage	A576 South	A576 North	Rochdale Road NE	Rochdale Road SW	Victoria Ave E	Plant Hill Road	Chain Rd S	Cooper Lane	Victoria Avenue/Chain
BB45QJ	0.6%			0.59%						
BL17BG	0.6%			0.59%						
BL32BG	0.6%			0.59%						
BL32NL	0.6%			0.59%						
B47RJ	0.6%			0.59%						
BL49HY	0.6%			0.59%						
BL97DE	0.6%			0.59%						
CW10QG	0.6%		0.59%							
DN171LN	0.6%			0.59%						
M111AS	0.6%				0.29%	0.29%				
M111DR	0.6%				0.29%	0.29%				
M111EG	0.6%				0.29%	0.29%				
M111EGG	0.6%				0.29%	0.29%				
M111NE	0.6%				0.29%	0.29%				
M111NK	0.6%				0.29%	0.29%				
M111QA	0.6%				0.29%	0.29%				
M112LW	0.2%				0.29%	0.29%				
M113LH	0.6%				0.29%	0.29%				
M114GJ	0.6%				0.29%	0.29%				
M114HD	0.6%				0.29%	0.29%				
M114PS	0.6%				0.29%	0.29%				
M114SD	0.6%				0.29%	0.29%				
M125PJ	0.6%				0.59%					
M125PT	0.6%				0.59%					
M125PT	0.6%				0.59%					
M12NN	0.6%				0.59%					
M13LE	0.6%				0.59%					
M146TG	0.6%				0.59%					
M155QH	0.6%	0.29%			0.29%					
M156GF	0.6%	0.29%			0.29%					
M167QG	0.6%	0.29%			0.29%					
M187TH	0.6%					0.59%				
M187TX	0.6%					0.59%				
M188NR	0.6%				0.59%					
M188QR	0.6%				0.59%					
M188WH	0.6%				0.59%					
M188WR	0.6%				0.59%					
M191BE	0.6%				0.59%					
M191QA	0.6%				0.59%					
M193H	0.6%				0.59%					
M203BG	0.6%				0.59%					
M203BG	0.6%				0.59%					
M22GLE	0.6%		0.59%							
M221GS	0.6%		0.59%							
M225GL	0.6%		0.59%							
M231BD	0.6%		0.59%							
M244TJ	0.6%		0.59%							
M245HU	0.6%			0.59%						
M245TA	0.6%			0.59%						
M244DZ	0.6%			0.59%						
M246HJ	0.6%			0.59%						
M257UP	0.6%	0.59%								
M253AD	0.6%	0.59%								
M280JT	0.6%			0.59%						
M280JT	0.6%			0.59%						
M280ZA	0.6%			0.59%						
M281GJ	0.6%			0.59%						
M281SD	0.6%			0.59%						
M283RE	0.6%			0.59%						
M287XL	0.6%			0.59%						
M211TT	0.6%			0.59%						
M303PS	0.6%	0.59%								
M308GB	0.6%	0.59%								
M308GL	0.6%	0.59%								
M320GS	0.6%			0.59%						
M329TU	0.6%			0.59%						
M343AL	0.6%					0.59%				
M343PT	0.6%					0.59%				
M355DAJ	0.6%					0.59%				
M34PT	0.6%	0.59%								
M38PTE	0.6%			0.59%						
M38PTE	0.6%			0.59%						
M38PS	0.6%			0.59%						
M400DS	0.6%					0.59%				
M400DJ	0.6%					0.59%				
M400DX	0.6%					0.59%				
M400JG	0.6%					0.59%				
M402PS	0.6%					0.59%				
M403AW	0.2%				0.59%					
M403AW	0.6%				0.59%					
M407GB	0.6%				0.59%					
M407SG	0.6%				0.59%					
M408NH	0.6%				0.59%					
M409EW	0.6%				0.59%					
M409EG	0.6%				0.59%					
M409NV	0.6%				0.59%					
M409PU	0.6%				0.59%					
M417ZH	0.6%					0.59%				
M436NZ	0.6%					0.59%				
M436NZ	0.6%					0.59%				
M438U	0.6%			0.59%						
M50EU	0.6%	0.59%								
M55HW	0.6%	0.59%								
M55TB	0.6%	0.59%								
M65PY	0.6%	0.59%								
M65TL	0.6%	0.59%								
M65TN	0.6%	0.59%								
M66BJ	0.6%	0.59%								
M66GT	0.6%	0.59%								
M67NR	0.6%	0.59%								
M71AH	0.6%	0.59%								
M71AH	0.6%	0.59%								
M71AH	0.6%	0.59%								
M71AJ	0.6%	0.59%								
M71BP	0.6%	0.59%								
M71LR	0.6%	0.59%								
M71UA	0.6%	0.59%								
M71ZN	0.6%	0.59%								
M72EF	0.6%	0.59%								
M74UT	0.6%	0.59%								
M74UT	0.6%	0.59%								
M74YT	0.6%	0.59%								
M80LH	0.6%						0.59%			
M88BH	0.6%	0.59%								
M88WH	0.6%	0.59%						0.59%		
MP49A	0.6%				0.59%					
MP49X	0.6%				0.59%					
MP49Z	0.6%				0.59%					
MP4EA	0.6%				0.59%					
MP4EF	0.6%				0.59%					
MP4EF	0.6%				0.59%					
MP4FJ	0.6%				0.59%					
MP4LJ	0.6%				0.59%					
MP4NL	0.2%				0.59%					
MP4QH	0.6%				0.59%					
MP4GJ	0.6%				0.59%					
MP4WR	0.6%				0.59%					
MP4LF	0.6%					0.59%				
MP4GJ	0.6%						0.59%			
MP5QW	0.6%							0.59%		
MP4RG	0.6%								0.59%	
MP7AP	0.6%								0.59%	
MP7AW	0.6%								0.59%	
MP7GA	0.6%								0.59%	
MP7JB	0.6%								0.59%	
MP8GJ	0.6%				0.59%					
MP8HU	0.6%				0.59%					
MP8RW	0.6%				0.59%					
OL4LJE	0.6%		0.59%							
OL102ER	0.6%		0.59%							
OL104UN	0.6%		0.59%							
OL112BD	0.6%			0.59%						
OL112BD	0.6%			0.59%						
OL112SU	0.6%			0.59%						
OL113PT	0.6%			0.59%						
OL26GF	0.6%			0.59%						
OL42AW	0.6%			0.59%						
OL20HH	0.6%		0.59%							
OL52AA	0.6%		0.59%							
OL98HW	0.6%		0.59%							
SK143DX	0.6%		0.29%						0.29%	
SK143PW	0.6%		0.29%						0.29%	
SK143CS	0.6%		0.29%						0.29%	
SK143GW	0.6%		0.29%						0.29%	
SK14GZ	0.6%		0.29%						0.29%	
SK14BP	0.2%		0.29%						0.29%	
SK14BX	0.6%		0.29%						0.29%	
SK152PE	0.6%		0.29%						0.29%	
SK38SX	0.6%		0.29%						0.29%	
SK54TR	0.6%		0.29%						0.29%	
SK60HF	0.6%		0.29%						0.29%	
WA106WB	0.6%		0.29%						0.59%	
WA12LD	0.6%								0.59%	
WA157JL	0.6%								0.59%	
WA58WW	0.6%								0.59%	
WN71PY	0.6%	0.29%							0.29%	
WN72DX	0.6%	0.29%							0.29%	
WN73PE	0.6%	0.29%							0.29%	
WN74BN	0.6%	0.29%							0.29%	
WN74FQ	0.6%	0.29%							0.29%	
WN74LG	0.6%	0.29%							0.29%	
	100.00%	19.71%	10.29%	18.82%	26.47%	21.76%	1.18%	0.59%	0.59%	0.59%

Appendix I TRICS Data

Calculation Reference: AUDIT-408201-240919-0925

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : F - SHELTERED ACCOMMODATION
TOTAL VEHICLES

Selected regions and areas:

07	YORKSHIRE & NORTH LINCOLNSHIRE	
	AL CALDERDALE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
	LC LANCASHIRE	1 days
11	SCOTLAND	
	AG ANGUS	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 20 to 39 (units:)
 Range Selected by User: 14 to 124 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 21/04/22

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

Selected survey days:

Monday	1 days
Thursday	1 days
Friday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	4
------------------	---

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	2 days - Selected

Secondary Filtering selection:

Use Class:

C3	4 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	2 days

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

Population within 5 miles:

25,001 to 50,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	4 days
----	--------

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

PTAL Rating:

No PTAL Present	4 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	AG-03-F-01	SHELTERED HOUSING	ANGUS
	CLIFFBURN ROAD EAST		
	ARBROATH		
	HAYSHEAD		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	39	
	Survey date: FRIDAY	28/04/17	Survey Type: MANUAL
2	AL-03-F-01	SHELTERED HOUSING	CALDERDALE
	CHESTER ROAD		
	HALIFAX		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total No of Dwellings:	22	
	Survey date: MONDAY	22/10/18	Survey Type: MANUAL
3	GM-03-F-07	SHELTERED HOUSING	GREATER MANCHESTER
	LANCASTER ROAD		
	SALFORD		
	SWINTON PARK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	32	
	Survey date: FRIDAY	21/06/19	Survey Type: MANUAL
4	LC-03-F-02	SHELTERED HOUSING	LANCASHIRE
	RICHMOND AVENUE		
	BURSCOUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	20	
	Survey date: THURSDAY	21/04/22	Survey Type: MANUAL

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

MOSODI JORDAN STREET MANCHESTER

Licence No: 408201

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.106	4	28	0.124	4	28	0.230
08:00 - 09:00	4	28	0.124	4	28	0.124	4	28	0.248
09:00 - 10:00	4	28	0.195	4	28	0.204	4	28	0.399
10:00 - 11:00	4	28	0.257	4	28	0.195	4	28	0.452
11:00 - 12:00	4	28	0.221	4	28	0.283	4	28	0.504
12:00 - 13:00	4	28	0.195	4	28	0.159	4	28	0.354
13:00 - 14:00	4	28	0.212	4	28	0.265	4	28	0.477
14:00 - 15:00	4	28	0.186	4	28	0.177	4	28	0.363
15:00 - 16:00	4	28	0.142	4	28	0.142	4	28	0.284
16:00 - 17:00	4	28	0.221	4	28	0.142	4	28	0.363
17:00 - 18:00	4	28	0.106	4	28	0.133	4	28	0.239
18:00 - 19:00	4	28	0.115	4	28	0.115	4	28	0.230
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.080			2.063			4.143

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

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

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Parameter summary

Trip rate parameter range selected: 20 - 39 (units:)
 Survey date range: 01/01/16 - 21/04/22
 Number of weekdays (Monday-Friday): 4
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.000	4	28	0.000	4	28	0.000
08:00 - 09:00	4	28	0.009	4	28	0.009	4	28	0.018
09:00 - 10:00	4	28	0.018	4	28	0.018	4	28	0.036
10:00 - 11:00	4	28	0.044	4	28	0.044	4	28	0.088
11:00 - 12:00	4	28	0.053	4	28	0.053	4	28	0.106
12:00 - 13:00	4	28	0.027	4	28	0.027	4	28	0.054
13:00 - 14:00	4	28	0.044	4	28	0.044	4	28	0.088
14:00 - 15:00	4	28	0.027	4	28	0.027	4	28	0.054
15:00 - 16:00	4	28	0.009	4	28	0.009	4	28	0.018
16:00 - 17:00	4	28	0.027	4	28	0.027	4	28	0.054
17:00 - 18:00	4	28	0.044	4	28	0.044	4	28	0.088
18:00 - 19:00	4	28	0.018	4	28	0.018	4	28	0.036
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.320			0.320			0.640

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.009	4	28	0.009	4	28	0.018
08:00 - 09:00	4	28	0.000	4	28	0.000	4	28	0.000
09:00 - 10:00	4	28	0.000	4	28	0.000	4	28	0.000
10:00 - 11:00	4	28	0.000	4	28	0.000	4	28	0.000
11:00 - 12:00	4	28	0.000	4	28	0.000	4	28	0.000
12:00 - 13:00	4	28	0.000	4	28	0.000	4	28	0.000
13:00 - 14:00	4	28	0.000	4	28	0.000	4	28	0.000
14:00 - 15:00	4	28	0.000	4	28	0.000	4	28	0.000
15:00 - 16:00	4	28	0.000	4	28	0.000	4	28	0.000
16:00 - 17:00	4	28	0.000	4	28	0.000	4	28	0.000
17:00 - 18:00	4	28	0.000	4	28	0.000	4	28	0.000
18:00 - 19:00	4	28	0.000	4	28	0.000	4	28	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.009			0.018

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.009	4	28	0.009	4	28	0.018
08:00 - 09:00	4	28	0.009	4	28	0.009	4	28	0.018
09:00 - 10:00	4	28	0.000	4	28	0.000	4	28	0.000
10:00 - 11:00	4	28	0.000	4	28	0.000	4	28	0.000
11:00 - 12:00	4	28	0.000	4	28	0.000	4	28	0.000
12:00 - 13:00	4	28	0.000	4	28	0.000	4	28	0.000
13:00 - 14:00	4	28	0.000	4	28	0.000	4	28	0.000
14:00 - 15:00	4	28	0.000	4	28	0.000	4	28	0.000
15:00 - 16:00	4	28	0.009	4	28	0.009	4	28	0.018
16:00 - 17:00	4	28	0.000	4	28	0.000	4	28	0.000
17:00 - 18:00	4	28	0.000	4	28	0.000	4	28	0.000
18:00 - 19:00	4	28	0.000	4	28	0.000	4	28	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.027			0.054

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION
CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.097	4	28	0.106	4	28	0.203
08:00 - 09:00	4	28	0.106	4	28	0.106	4	28	0.212
09:00 - 10:00	4	28	0.150	4	28	0.177	4	28	0.327
10:00 - 11:00	4	28	0.186	4	28	0.133	4	28	0.319
11:00 - 12:00	4	28	0.115	4	28	0.159	4	28	0.274
12:00 - 13:00	4	28	0.150	4	28	0.106	4	28	0.256
13:00 - 14:00	4	28	0.106	4	28	0.168	4	28	0.274
14:00 - 15:00	4	28	0.124	4	28	0.124	4	28	0.248
15:00 - 16:00	4	28	0.115	4	28	0.097	4	28	0.212
16:00 - 17:00	4	28	0.177	4	28	0.106	4	28	0.283
17:00 - 18:00	4	28	0.062	4	28	0.088	4	28	0.150
18:00 - 19:00	4	28	0.097	4	28	0.097	4	28	0.194
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.485			1.467			2.952

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/F - SHELTERED ACCOMMODATION
 LGVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	28	0.000	4	28	0.009	4	28	0.009
08:00 - 09:00	4	28	0.009	4	28	0.009	4	28	0.018
09:00 - 10:00	4	28	0.027	4	28	0.009	4	28	0.036
10:00 - 11:00	4	28	0.027	4	28	0.018	4	28	0.045
11:00 - 12:00	4	28	0.053	4	28	0.071	4	28	0.124
12:00 - 13:00	4	28	0.018	4	28	0.027	4	28	0.045
13:00 - 14:00	4	28	0.062	4	28	0.053	4	28	0.115
14:00 - 15:00	4	28	0.035	4	28	0.027	4	28	0.062
15:00 - 16:00	4	28	0.018	4	28	0.035	4	28	0.053
16:00 - 17:00	4	28	0.018	4	28	0.009	4	28	0.027
17:00 - 18:00	4	28	0.000	4	28	0.000	4	28	0.000
18:00 - 19:00	4	28	0.000	4	28	0.000	4	28	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.267			0.267			0.534

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

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

Appendix J Capacity Outputs

Junctions 10										
ARCADY 10 - Roundabout Module										
Version: 10.1.1.1905										
© Copyright TRL Software Limited, 2023										
For sales and distribution information, program advice and maintenance, contact TRL Software:										
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com										
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution										

Filename: Chain Road Mini Roundabout.j10

Path: C:\Users\KathrynGriffiths\OneDrive - Mosodi Ltd\Documents - Mosodi\highways\Chain Road, Blackley - 24015

ANALYSIS\CAPACITY\Roundabouts

Report generation date: 11/11/2024 14:59:06

- »2024 Count, PM
- »2024 Count , Sunday Network Peak
- »2029 Base, PM
- »2029 Base, Sunday Network Peak
- »2029 Design, PM
- »2029 Design, Sunday Network Peak

Summary of junction performance

	PM					Sunday Network Peak				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Count									
Arm 1	D1	0.0	4.59	0.04	A	D2	0.0	4.37	0.03	A
Arm 2		0.0	4.29	0.03	A		0.0	4.29	0.04	A
Arm 3		0.1	2.71	0.07	A		0.0	2.61	0.04	A
Arm 4		0.1	5.68	0.07	A		0.0	5.30	0.04	A
	2029 Base									
Arm 1	D4	0.0	4.63	0.04	A	D5	0.0	4.40	0.04	A
Arm 2		0.0	4.31	0.03	A		0.0	4.31	0.04	A
Arm 3		0.1	2.73	0.07	A		0.0	2.62	0.04	A
Arm 4		0.1	5.74	0.07	A		0.0	5.34	0.04	A
	2029 Design									
Arm 1	D7	0.1	4.69	0.06	A	D8	0.1	4.68	0.09	A
Arm 2		0.0	4.35	0.03	A		0.0	4.49	0.04	A
Arm 3		0.1	2.83	0.10	A		0.1	2.67	0.05	A
Arm 4		0.1	6.19	0.11	A		0.1	5.58	0.07	A

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

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

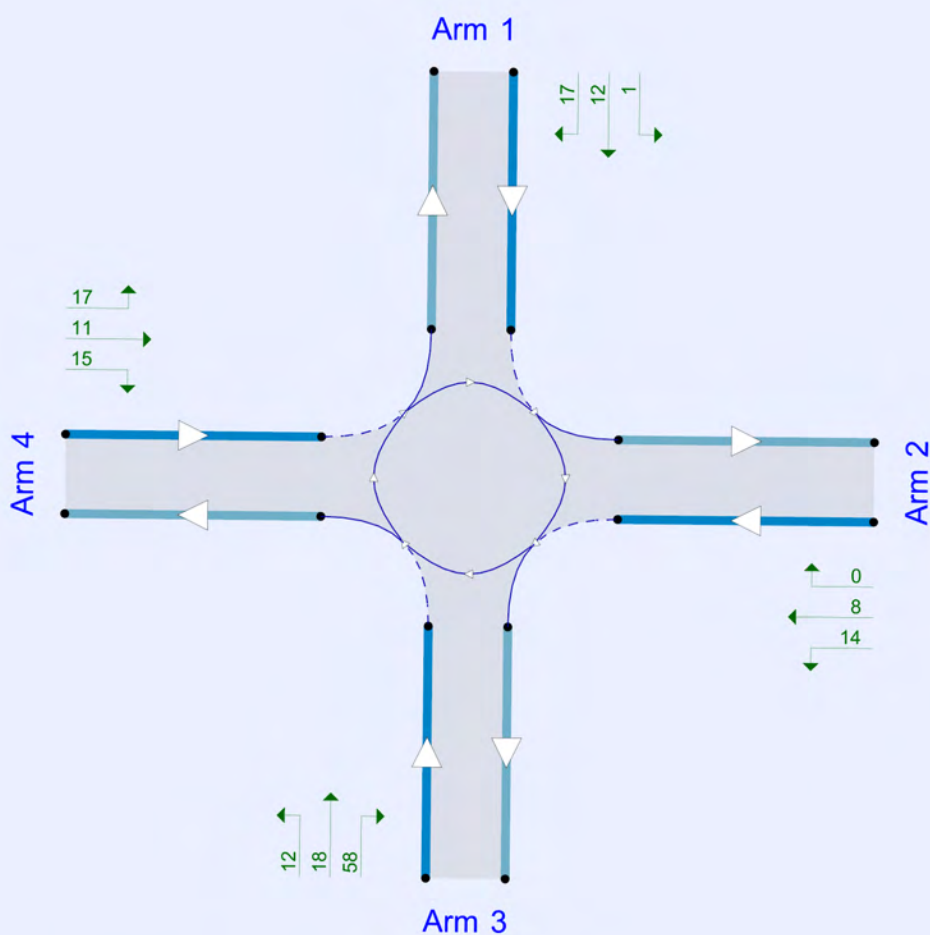
File summary

File Description

Title	Chain Road Mini Roundabout
Location	
Site number	
Date	09/09/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\KathrynGriffiths
Description	

Units

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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			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	2024 Count	PM	ONE HOUR	17:00	18:30	15
D2	2024 Count	Sunday Network Peak	ONE HOUR	13:30	15:00	15
D4	2029 Base	PM	ONE HOUR	17:00	18:30	15
D5	2029 Base	Sunday Network Peak	ONE HOUR	13:30	15:00	15
D7	2029 Design	PM	ONE HOUR	17:00	18:30	15
D8	2029 Design	Sunday Network Peak	ONE HOUR	13:30	15:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Count, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	3.90	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		3.90	A

Arms

Arms

Arm	Name	Description
1	Chain Road North	
2	Charnwood Road	
3	Chain Road South	
4	Cooper Lane	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	4.50	4.50	4.50	0.0	18.00	12.80	0.0	
2	4.50	4.50	4.50	0.0	19.00	15.50	0.0	
3	4.50	4.50	4.50	0.0	20.00	20.00	0.0	
4	3.25	3.25	3.25	0.0	16.00	12.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.655	878
2	0.679	896
3	0.951	1452
4	0.605	732

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Count	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	30	100.000
2		✓	22	100.000
3		✓	88	100.000
4		✓	43	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	12	17
	2	0	0	14	8
	3	18	58	0	12
	4	17	11	15	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.04	4.59	0.0	A
2	0.03	4.29	0.0	A
3	0.07	2.71	0.1	A
4	0.07	5.68	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	23	63	837	0.027	22	0.0	4.422	A
2	17	33	873	0.019	16	0.0	4.201	A
3	66	19	1434	0.046	66	0.0	2.631	A
4	32	57	697	0.046	32	0.0	5.409	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	27	75	828	0.033	27	0.0	4.491	A
2	20	40	869	0.023	20	0.0	4.239	A
3	79	22	1430	0.055	79	0.1	2.663	A
4	39	68	691	0.056	39	0.1	5.520	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	33	92	817	0.040	33	0.0	4.589	A
2	24	48	863	0.028	24	0.0	4.292	A
3	97	27	1426	0.068	97	0.1	2.708	A
4	47	84	681	0.069	47	0.1	5.677	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	33	92	817	0.040	33	0.0	4.590	A
2	24	48	863	0.028	24	0.0	4.292	A
3	97	28	1426	0.068	97	0.1	2.708	A
4	47	84	681	0.069	47	0.1	5.677	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	27	76	828	0.033	27	0.0	4.492	A
2	20	40	869	0.023	20	0.0	4.241	A
3	79	23	1430	0.055	79	0.1	2.663	A
4	39	68	691	0.056	39	0.1	5.524	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	23	63	836	0.027	23	0.0	4.423	A
2	17	33	873	0.019	17	0.0	4.203	A
3	66	19	1434	0.046	66	0.0	2.632	A
4	32	57	697	0.046	32	0.0	5.415	A

2024 Count , Sunday Network Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	3.86	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		3.86	A

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	2024 Count	Sunday Network Peak	ONE HOUR	13:30	15:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	25	100.000
2		✓	30	100.000
3		✓	47	100.000
4		✓	23	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	17	7
	2	0	0	18	12
	3	22	20	0	5
	4	5	11	7	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.03	4.37	0.0	A
2	0.04	4.29	0.0	A
3	0.04	2.61	0.0	A
4	0.04	5.30	0.0	A

Main Results for each time segment

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	19	28	859	0.022	19	0.0	4.283	A
2	23	23	880	0.026	22	0.0	4.198	A
3	35	14	1438	0.025	35	0.0	2.565	A
4	17	32	713	0.024	17	0.0	5.174	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	22	34	855	0.026	22	0.0	4.321	A
2	27	28	877	0.031	27	0.0	4.235	A
3	42	17	1436	0.029	42	0.0	2.583	A
4	21	38	709	0.029	21	0.0	5.228	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	28	42	850	0.032	27	0.0	4.374	A
2	33	34	873	0.038	33	0.0	4.287	A
3	52	21	1432	0.036	52	0.0	2.607	A
4	25	46	704	0.036	25	0.0	5.303	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	28	42	850	0.032	28	0.0	4.374	A
2	33	34	873	0.038	33	0.0	4.287	A
3	52	21	1432	0.036	52	0.0	2.607	A
4	25	46	704	0.036	25	0.0	5.303	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	22	34	855	0.026	22	0.0	4.321	A
2	27	28	877	0.031	27	0.0	4.237	A
3	42	17	1435	0.029	42	0.0	2.585	A
4	21	38	709	0.029	21	0.0	5.231	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	19	29	859	0.022	19	0.0	4.284	A
2	23	23	880	0.026	23	0.0	4.199	A
3	35	14	1438	0.025	35	0.0	2.567	A
4	17	32	713	0.024	17	0.0	5.177	A

2029 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	3.94	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		3.94	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Base	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	32	100.000
2		✓	24	100.000
3		✓	94	100.000
4		✓	46	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	13	18
	2	0	0	15	9
	3	19	62	0	13
	4	18	12	16	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.04	4.63	0.0	A
2	0.03	4.31	0.0	A
3	0.07	2.73	0.1	A
4	0.07	5.74	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	24	67	834	0.029	24	0.0	4.446	A
2	18	35	872	0.021	18	0.0	4.216	A
3	71	20	1433	0.049	71	0.1	2.643	A
4	35	61	695	0.050	34	0.1	5.447	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	29	81	825	0.035	29	0.0	4.521	A
2	22	42	867	0.025	22	0.0	4.257	A
3	85	24	1429	0.059	84	0.1	2.677	A
4	41	73	688	0.060	41	0.1	5.566	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	35	99	813	0.043	35	0.0	4.628	A
2	26	52	861	0.031	26	0.0	4.314	A
3	103	30	1424	0.073	103	0.1	2.726	A
4	51	89	678	0.075	51	0.1	5.737	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	35	99	813	0.043	35	0.0	4.628	A
2	26	52	861	0.031	26	0.0	4.315	A
3	103	30	1423	0.073	103	0.1	2.726	A
4	51	89	678	0.075	51	0.1	5.737	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	29	81	825	0.035	29	0.0	4.524	A
2	22	42	867	0.025	22	0.0	4.257	A
3	85	24	1429	0.059	85	0.1	2.680	A
4	41	73	688	0.060	41	0.1	5.568	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	24	68	833	0.029	24	0.0	4.449	A
2	18	35	872	0.021	18	0.0	4.217	A
3	71	20	1432	0.049	71	0.1	2.645	A
4	35	61	695	0.050	35	0.1	5.453	A

2029 Base, Sunday Network Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	3.88	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		3.88	A

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	2029 Base	Sunday Network Peak	ONE HOUR	13:30	15:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	27	100.000
2		✓	32	100.000
3		✓	51	100.000
4		✓	25	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	18	8
	2	0	0	19	13
	3	24	22	0	5
	4	5	12	8	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.04	4.40	0.0	A
2	0.04	4.31	0.0	A
3	0.04	2.62	0.0	A
4	0.04	5.34	0.0	A

Main Results for each time segment

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	20	31	857	0.024	20	0.0	4.301	A
2	24	25	878	0.027	24	0.0	4.213	A
3	38	16	1437	0.027	38	0.0	2.573	A
4	19	35	711	0.026	19	0.0	5.199	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	24	38	853	0.028	24	0.0	4.342	A
2	29	31	875	0.033	29	0.0	4.253	A
3	46	19	1434	0.032	46	0.0	2.593	A
4	22	41	707	0.032	22	0.0	5.258	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	30	46	848	0.035	30	0.0	4.401	A
2	35	37	870	0.040	35	0.0	4.310	A
3	56	23	1430	0.039	56	0.0	2.620	A
4	28	51	701	0.039	27	0.0	5.341	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	30	46	848	0.035	30	0.0	4.401	A
2	35	37	870	0.040	35	0.0	4.310	A
3	56	23	1430	0.039	56	0.0	2.620	A
4	28	51	701	0.039	28	0.0	5.342	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	24	38	853	0.028	24	0.0	4.345	A
2	29	31	875	0.033	29	0.0	4.255	A
3	46	19	1434	0.032	46	0.0	2.593	A
4	22	41	707	0.032	23	0.0	5.259	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	20	32	857	0.024	20	0.0	4.302	A
2	24	26	878	0.027	24	0.0	4.215	A
3	38	16	1437	0.027	38	0.0	2.574	A
4	19	35	711	0.026	19	0.0	5.200	A

2029 Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	4.07	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		4.07	A

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)
D7	2029 Design	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	42	100.000
2		✓	24	100.000
3		✓	135	100.000
4		✓	63	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	21	20
	2	0	0	15	9
	3	60	62	0	13
	4	35	12	16	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.06	4.69	0.1	A
2	0.03	4.35	0.0	A
3	0.10	2.83	0.1	A
4	0.11	6.19	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	32	67	834	0.038	31	0.0	4.488	A
2	18	43	867	0.021	18	0.0	4.241	A
3	102	22	1431	0.071	101	0.1	2.707	A
4	47	92	677	0.070	47	0.1	5.716	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	38	81	825	0.046	38	0.0	4.573	A
2	22	51	861	0.025	22	0.0	4.288	A
3	121	26	1427	0.085	121	0.1	2.756	A
4	57	110	666	0.085	57	0.1	5.910	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	46	99	813	0.057	46	0.1	4.694	A
2	26	63	853	0.031	26	0.0	4.353	A
3	149	32	1421	0.105	149	0.1	2.827	A
4	69	134	651	0.107	69	0.1	6.191	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	46	99	813	0.057	46	0.1	4.695	A
2	26	63	853	0.031	26	0.0	4.354	A
3	149	32	1421	0.105	149	0.1	2.827	A
4	69	134	651	0.107	69	0.1	6.191	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	38	81	825	0.046	38	0.0	4.576	A
2	22	51	861	0.025	22	0.0	4.290	A
3	121	26	1427	0.085	121	0.1	2.759	A
4	57	110	666	0.085	57	0.1	5.913	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	32	68	833	0.038	32	0.0	4.491	A
2	18	43	867	0.021	18	0.0	4.242	A
3	102	22	1431	0.071	102	0.1	2.709	A
4	47	92	676	0.070	48	0.1	5.724	A

2029 Design, Sunday Network Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3, 4	4.24	A

Junction Network

Driving side	Lighting	Road surface	In London	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		4.24	A

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)
D8	2029 Design	Sunday Network Peak	ONE HOUR	13:30	15:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	71	100.000
2		✓	32	100.000
3		✓	62	100.000
4		✓	44	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	1	50	20
	2	0	0	19	13
	3	34	23	0	5
	4	24	12	8	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.09	4.68	0.1	A
2	0.04	4.49	0.0	A
3	0.05	2.67	0.1	A
4	0.07	5.58	0.1	A

Main Results for each time segment

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	32	857	0.062	53	0.1	4.479	A
2	24	58	856	0.028	24	0.0	4.326	A
3	47	25	1428	0.033	47	0.0	2.605	A
4	33	43	706	0.047	33	0.0	5.346	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	39	853	0.075	64	0.1	4.563	A
2	29	70	848	0.034	29	0.0	4.393	A
3	56	30	1424	0.039	56	0.0	2.631	A
4	40	51	701	0.056	40	0.1	5.441	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	47	847	0.092	78	0.1	4.682	A
2	35	86	838	0.042	35	0.0	4.486	A
3	68	36	1417	0.048	68	0.1	2.668	A
4	48	63	694	0.070	48	0.1	5.575	A

14:15 - 14:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	47	847	0.092	78	0.1	4.683	A
2	35	86	837	0.042	35	0.0	4.487	A
3	68	36	1417	0.048	68	0.1	2.668	A
4	48	63	694	0.070	48	0.1	5.575	A

14:30 - 14:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	39	852	0.075	64	0.1	4.566	A
2	29	70	848	0.034	29	0.0	4.395	A
3	56	30	1424	0.039	56	0.0	2.633	A
4	40	51	701	0.056	40	0.1	5.443	A

14:45 - 15:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	32	857	0.062	54	0.1	4.482	A
2	24	59	856	0.028	24	0.0	4.328	A
3	47	25	1428	0.033	47	0.0	2.605	A
4	33	43	706	0.047	33	0.0	5.352	A

Junctions 10										
PICADY 10 - Priority Intersection Module										
Version: 10.1.1.1905										
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ANALYSIS\CAPACITY\Priority Junctions

Report generation date: 11/11/2024 15:44:52

- »Chain Road/ Victoria Avenue Priority Junction - 2024 Count, PM
- »Chain Road/ Victoria Avenue Priority Junction - 2024 Count, Sunday PM
- »Chain Road/ Victoria Avenue Priority Junction - 2029 Base, PM
- »Chain Road/ Victoria Avenue Priority Junction - 2029 Base, Sunday PM
- »Chain Road/ Victoria Avenue Priority Junction - 2029 Design, PM
- »Chain Road/ Victoria Avenue Priority Junction - 2029 Design, Sunday PM

Summary of junction performance

	PM					Sunday PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Chain Road/ Victoria Avenue Priority Junction - 2024 Count									
Stream B-C	D1	0.1	6.55	0.11	A	D2	0.2	6.85	0.13	A
Stream B-A		0.1	8.35	0.05	A		0.0	8.38	0.04	A
Stream C-AB		0.1	6.75	0.11	A		0.2	7.08	0.13	A
	Chain Road/ Victoria Avenue Priority Junction - 2029 Base									
Stream B-C	D3	0.1	6.71	0.12	A	D4	0.2	7.06	0.15	A
Stream B-A		0.1	8.74	0.06	A		0.0	8.78	0.05	A
Stream C-AB		0.1	6.90	0.12	A		0.2	7.29	0.15	A
	Chain Road/ Victoria Avenue Priority Junction - 2029 Design									
Stream B-C	D5	0.2	6.83	0.13	A	D6	0.3	7.55	0.20	A
Stream B-A		0.1	9.18	0.07	A		0.1	8.94	0.06	A
Stream C-AB		0.2	7.53	0.19	A		0.2	7.35	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.

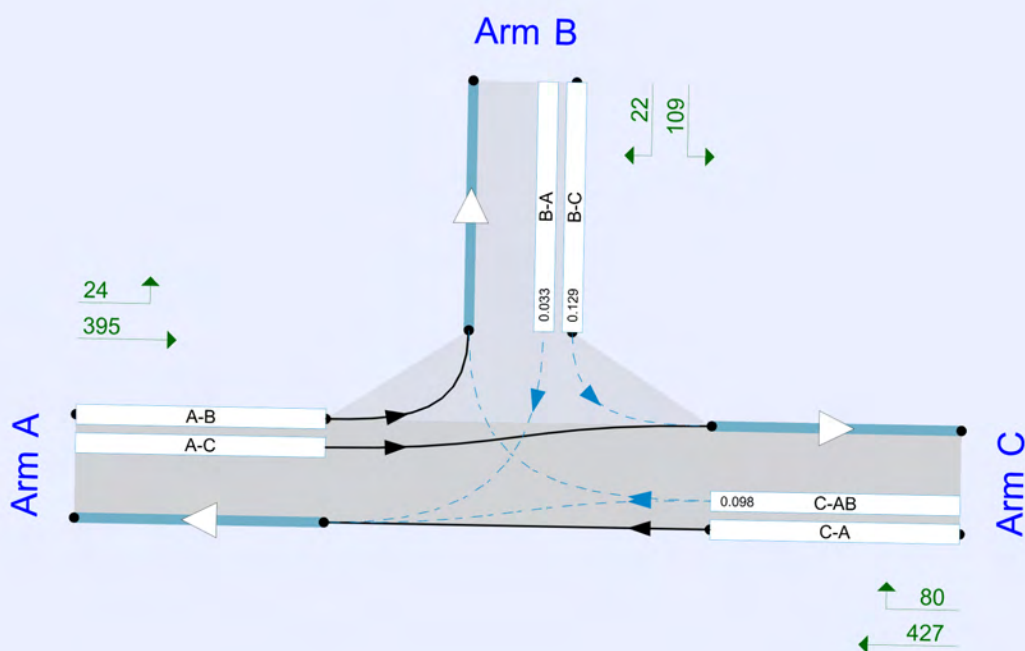
File summary

File Description

Title	Chain Road/Victoria Avenue Priority Junction
Location	Chain Road, Blackley
Site number	24015
Date	11/11/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\KathrynGriffiths
Description	

Units

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



Flows show original traffic demand (PCU/hr).
Streams (downstream end) show RFC (s)

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	2024 Count	PM	ONE HOUR	16:45	18:15	15
D2	2024 Count	Sunday PM	ONE HOUR	13:15	14:45	15
D3	2029 Base	PM	ONE HOUR	16:45	18:15	15
D4	2029 Base	Sunday PM	ONE HOUR	13:15	14:45	15
D5	2029 Design	PM	ONE HOUR	16:45	18:15	15
D6	2029 Design	Sunday PM	ONE HOUR	13:15	14:45	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Chain Road/ Victoria Avenue Priority Junction	100.000

Chain Road/ Victoria Avenue Priority Junction - 2024 Count, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.01	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.01	A

Arms

Arms

Arm	Name	Description	Arm type
A	Victoria Avenue (West)		Major
B	Chain Road		Minor
C	Victoria Avenue (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.10			200.0	✓	6.00

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	One lane plus flare	10.00	4.20	4.10	3.60	3.40	✓	1.00	200	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	675	0.112	0.283	0.178	0.404
B-C	718	0.100	0.253	-	-
C-B	690	0.243	0.243	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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	2024 Count	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	347	100.000
B		✓	83	100.000
C		✓	529	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	29	318
	B	21	0	62
	C	471	58	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	6.55	0.1	A
B-A	0.05	8.35	0.1	A
C-AB	0.11	6.75	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	47	650	0.072	46	0.1	5.958	A
B-A	16	524	0.030	16	0.0	7.073	A
C-AB	44	626	0.070	43	0.1	6.172	A
C-A	355			355			
A-B	22			22			
A-C	239			239			

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	56	637	0.088	56	0.1	6.193	A
B-A	19	495	0.038	19	0.0	7.560	A
C-AB	52	614	0.085	52	0.1	6.406	A
C-A	423			423			
A-B	26			26			
A-C	286			286			

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	68	618	0.110	68	0.1	6.543	A
B-A	23	454	0.051	23	0.1	8.348	A
C-AB	64	597	0.107	64	0.1	6.748	A
C-A	519			519			
A-B	32			32			
A-C	350			350			

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	68	618	0.110	68	0.1	6.546	A
B-A	23	454	0.051	23	0.1	8.351	A
C-AB	64	597	0.107	64	0.1	6.751	A
C-A	519			519			
A-B	32			32			
A-C	350			350			

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	56	637	0.088	56	0.1	6.196	A
B-A	19	495	0.038	19	0.0	7.563	A
C-AB	52	614	0.085	52	0.1	6.408	A
C-A	423			423			
A-B	26			26			
A-C	286			286			

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	47	650	0.072	47	0.1	5.965	A
B-A	16	524	0.030	16	0.0	7.079	A
C-AB	44	626	0.070	44	0.1	6.179	A
C-A	355			355			
A-B	22			22			
A-C	239			239			

Chain Road/ Victoria Avenue Priority Junction - 2024 Count, Sunday PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.22	A

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	2024 Count	Sunday PM	ONE HOUR	13:15	14:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	387	100.000
B		✓	91	100.000
C		✓	468	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0	19	368
	B	17	0	74
	C	397	71	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	6.85	0.2	A
B-A	0.04	8.38	0.0	A
C-AB	0.13	7.08	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	643	0.087	55	0.1	6.126	A
B-A	13	521	0.025	13	0.0	7.087	A
C-AB	53	619	0.086	53	0.1	6.356	A
C-A	299			299			
A-B	14			14			
A-C	277			277			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	628	0.106	66	0.1	6.414	A
B-A	15	490	0.031	15	0.0	7.580	A
C-AB	64	605	0.105	64	0.1	6.647	A
C-A	357			357			
A-B	17			17			
A-C	331			331			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	607	0.134	81	0.2	6.847	A
B-A	19	448	0.042	19	0.0	8.380	A
C-AB	78	586	0.133	78	0.2	7.080	A
C-A	437			437			
A-B	21			21			
A-C	405			405			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	607	0.134	81	0.2	6.850	A
B-A	19	448	0.042	19	0.0	8.383	A
C-AB	78	586	0.133	78	0.2	7.083	A
C-A	437			437			
A-B	21			21			
A-C	405			405			

14:15 - 14:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	628	0.106	67	0.1	6.418	A
B-A	15	490	0.031	15	0.0	7.583	A
C-AB	64	605	0.105	64	0.1	6.651	A
C-A	357			357			
A-B	17			17			
A-C	331			331			

14:30 - 14:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	642	0.087	56	0.1	6.136	A
B-A	13	520	0.025	13	0.0	7.096	A
C-AB	53	619	0.086	54	0.1	6.366	A
C-A	299			299			
A-B	14			14			
A-C	277			277			

Chain Road/ Victoria Avenue Priority Junction - 2029 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	374	100.000
B		✓	90	100.000
C		✓	569	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	31	343
	B	23	0	67
	C	507	62	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.12	6.71	0.1	A
B-A	0.06	8.74	0.1	A
C-AB	0.12	6.90	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	50	645	0.078	50	0.1	6.050	A
B-A	17	513	0.034	17	0.0	7.260	A
C-AB	47	621	0.075	46	0.1	6.258	A
C-A	382			382			
A-B	23			23			
A-C	258			258			

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	60	630	0.096	60	0.1	6.314	A
B-A	21	481	0.043	21	0.0	7.818	A
C-AB	56	608	0.092	56	0.1	6.516	A
C-A	456			456			
A-B	28			28			
A-C	308			308			

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	74	610	0.121	74	0.1	6.711	A
B-A	25	437	0.058	25	0.1	8.737	A
C-AB	68	590	0.116	68	0.1	6.899	A
C-A	558			558			
A-B	34			34			
A-C	378			378			

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	74	610	0.121	74	0.1	6.714	A
B-A	25	437	0.058	25	0.1	8.740	A
C-AB	68	590	0.116	68	0.1	6.901	A
C-A	558			558			
A-B	34			34			
A-C	378			378			

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	60	630	0.096	60	0.1	6.320	A
B-A	21	481	0.043	21	0.0	7.823	A
C-AB	56	608	0.092	56	0.1	6.521	A
C-A	456			456			
A-B	28			28			
A-C	308			308			

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	50	645	0.078	51	0.1	6.058	A
B-A	17	513	0.034	17	0.0	7.266	A
C-AB	47	621	0.075	47	0.1	6.264	A
C-A	382			382			
A-B	23			23			
A-C	258			258			

Chain Road/ Victoria Avenue Priority Junction - 2029 Base, Sunday PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.26	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.26	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Base	Sunday PM	ONE HOUR	13:15	14:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	417	100.000
B		✓	98	100.000
C		✓	505	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	20	397
	B	18	0	80
	C	428	77	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.15	7.06	0.2	A
B-A	0.05	8.78	0.0	A
C-AB	0.15	7.29	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	637	0.095	60	0.1	6.237	A
B-A	14	508	0.027	13	0.0	7.274	A
C-AB	58	614	0.094	58	0.1	6.471	A
C-A	322			322			
A-B	15			15			
A-C	299			299			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	621	0.116	72	0.1	6.558	A
B-A	16	475	0.034	16	0.0	7.839	A
C-AB	69	599	0.116	69	0.1	6.795	A
C-A	385			385			
A-B	18			18			
A-C	357			357			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	598	0.147	88	0.2	7.054	A
B-A	20	430	0.046	20	0.0	8.774	A
C-AB	85	578	0.147	85	0.2	7.290	A
C-A	471			471			
A-B	22			22			
A-C	437			437			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	598	0.147	88	0.2	7.057	A
B-A	20	430	0.046	20	0.0	8.777	A
C-AB	85	578	0.147	85	0.2	7.293	A
C-A	471			471			
A-B	22			22			
A-C	437			437			

14:15 - 14:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	621	0.116	72	0.1	6.567	A
B-A	16	475	0.034	16	0.0	7.844	A
C-AB	69	599	0.116	69	0.1	6.804	A
C-A	385			385			
A-B	18			18			
A-C	357			357			

14:30 - 14:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	637	0.095	60	0.1	6.250	A
B-A	14	508	0.027	14	0.0	7.284	A
C-AB	58	614	0.094	58	0.1	6.481	A
C-A	322			322			
A-B	15			15			
A-C	299			299			

Chain Road/ Victoria Avenue Priority Junction - 2029 Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.38	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.38	A

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	2029 Design	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	376	100.000
B		✓	99	100.000
C		✓	607	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	34	342
	B	25	0	74
	C	506	101	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	6.83	0.2	A
B-A	0.07	9.18	0.1	A
C-AB	0.19	7.53	0.2	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	56	644	0.086	55	0.1	6.109	A
B-A	19	501	0.038	19	0.0	7.461	A
C-AB	76	621	0.122	75	0.1	6.591	A
C-A	381			381			
A-B	26			26			
A-C	257			257			

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	67	629	0.106	66	0.1	6.395	A
B-A	22	467	0.048	22	0.1	8.099	A
C-AB	91	608	0.149	91	0.2	6.960	A
C-A	455			455			
A-B	31			31			
A-C	307			307			

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	81	609	0.134	81	0.2	6.826	A
B-A	28	420	0.066	27	0.1	9.174	A
C-AB	111	589	0.189	111	0.2	7.523	A
C-A	557			557			
A-B	37			37			
A-C	377			377			

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	81	609	0.134	81	0.2	6.829	A
B-A	28	420	0.066	28	0.1	9.181	A
C-AB	111	589	0.189	111	0.2	7.529	A
C-A	557			557			
A-B	37			37			
A-C	377			377			

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	67	629	0.106	67	0.1	6.398	A
B-A	22	467	0.048	23	0.1	8.106	A
C-AB	91	608	0.149	91	0.2	6.969	A
C-A	455			455			
A-B	31			31			
A-C	307			307			

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	56	644	0.086	56	0.1	6.119	A
B-A	19	501	0.038	19	0.0	7.472	A
C-AB	76	621	0.122	76	0.1	6.610	A
C-A	381			381			
A-B	26			26			
A-C	257			257			

Chain Road/ Victoria Avenue Priority Junction - 2029 Design, Sunday PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.52	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.52	A

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	2029 Design	Sunday PM	ONE HOUR	13:15	14:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	419	100.000
B		✓	131	100.000
C		✓	507	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0	24	395
	B	22	0	109
	C	427	80	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
	0	0	0
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.20	7.55	0.3	A
B-A	0.06	8.94	0.1	A
C-AB	0.15	7.35	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	82	636	0.129	81	0.1	6.488	A
B-A	17	507	0.033	16	0.0	7.337	A
C-AB	60	613	0.098	60	0.1	6.505	A
C-A	321			321			
A-B	18			18			
A-C	297			297			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	619	0.158	98	0.2	6.901	A
B-A	20	474	0.042	20	0.0	7.933	A
C-AB	72	598	0.120	72	0.1	6.835	A
C-A	384			384			
A-B	22			22			
A-C	355			355			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	120	597	0.201	120	0.2	7.548	A
B-A	24	427	0.057	24	0.1	8.933	A
C-AB	88	578	0.152	88	0.2	7.347	A
C-A	470			470			
A-B	26			26			
A-C	435			435			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	120	596	0.201	120	0.3	7.554	A
B-A	24	427	0.057	24	0.1	8.937	A
C-AB	88	578	0.152	88	0.2	7.350	A
C-A	470			470			
A-B	26			26			
A-C	435			435			

14:15 - 14:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	619	0.158	98	0.2	6.913	A
B-A	20	473	0.042	20	0.0	7.939	A
C-AB	72	598	0.120	72	0.1	6.845	A
C-A	384			384			
A-B	22			22			
A-C	355			355			

14:30 - 14:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	82	636	0.129	82	0.1	6.508	A
B-A	17	507	0.033	17	0.0	7.345	A
C-AB	60	613	0.098	60	0.1	6.512	A
C-A	321			321			
A-B	18			18			
A-C	297			297			

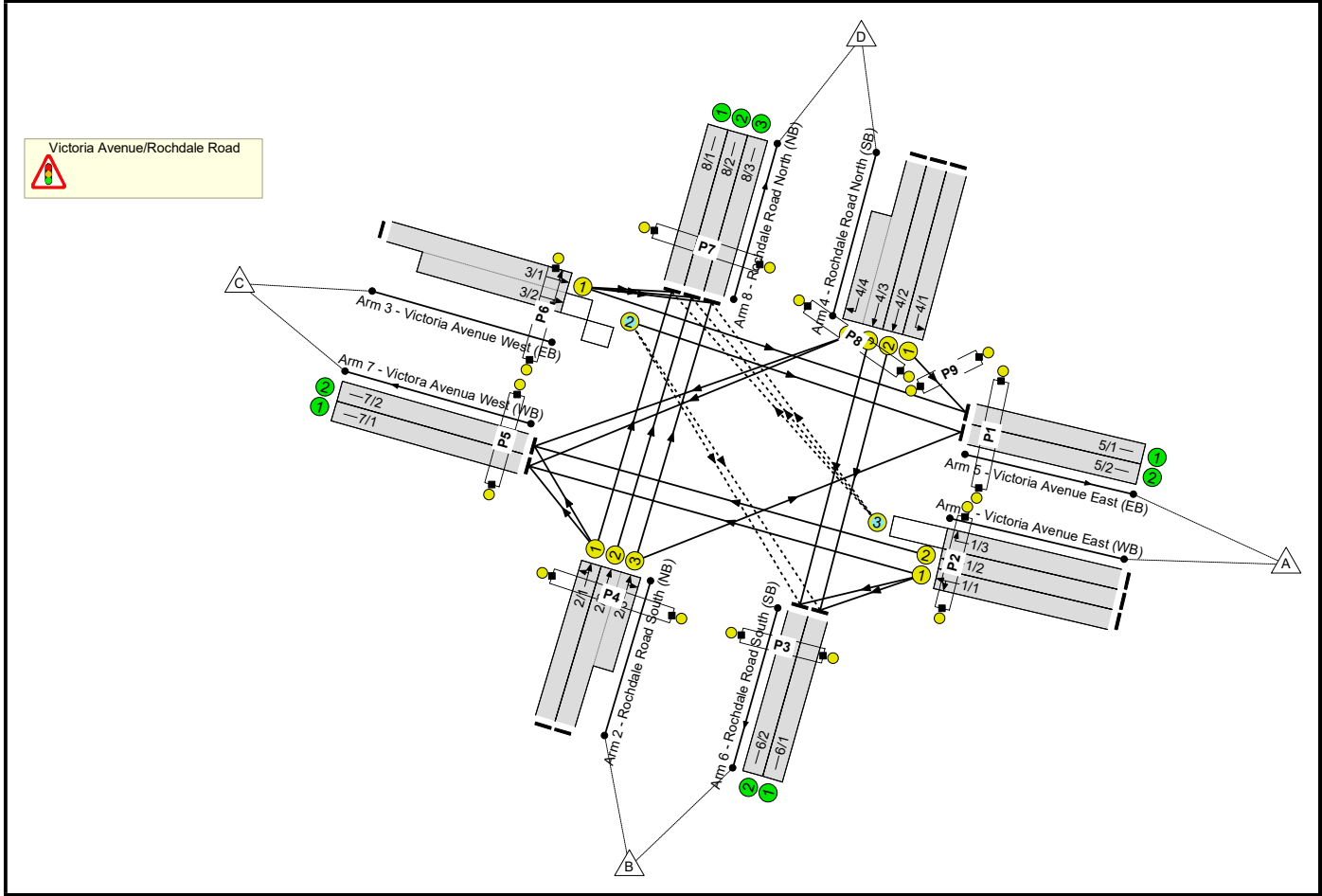
Full Input Data And Results

Full Input Data And Results

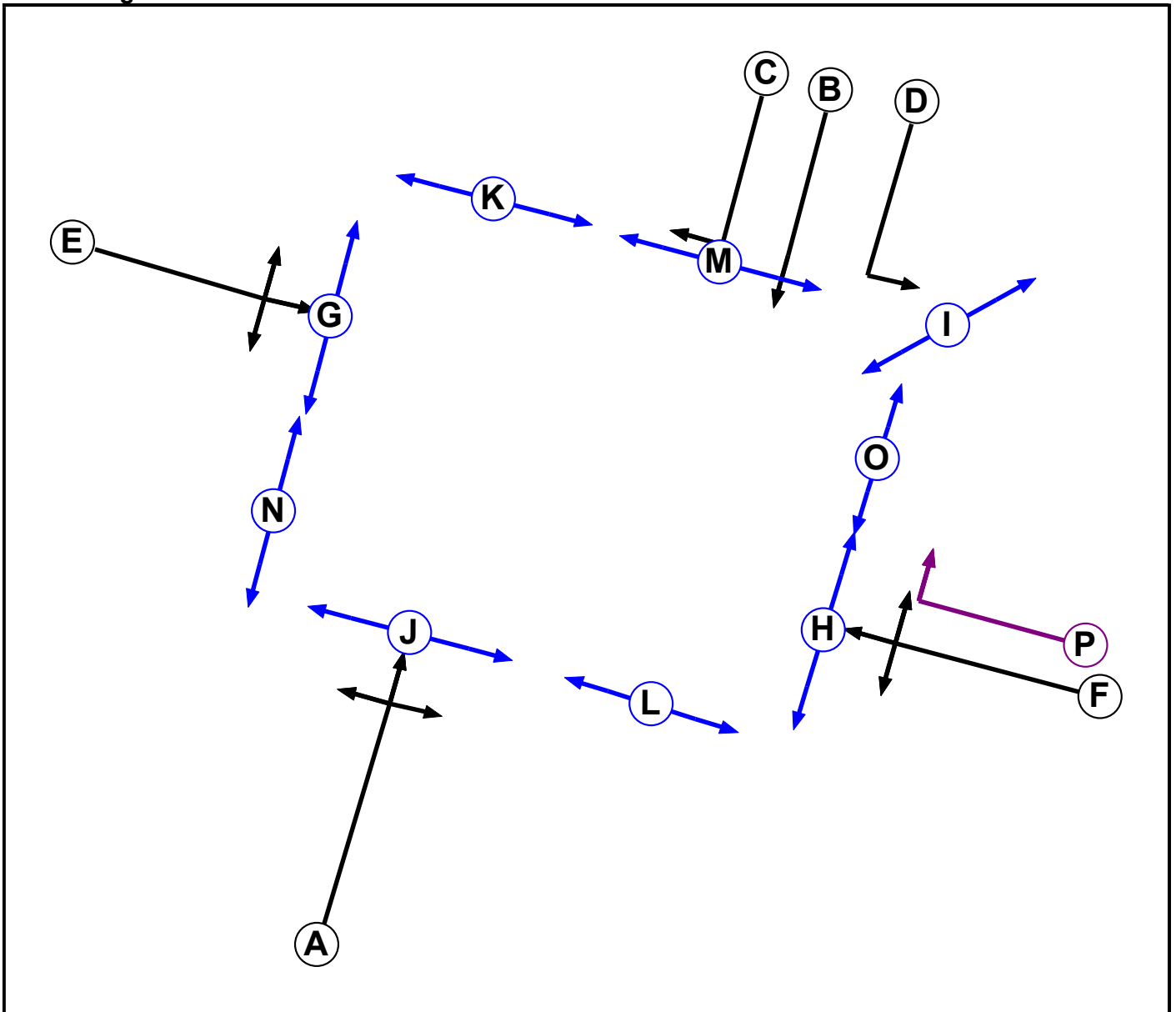
User and Project Details

Project:	Chain Road, Blackley
Title:	Winners Chapel
Location:	
Client:	Winners Chapel, Manchester
Site Ref(s):	24015
Date Started:	14/10/2024
Additional detail:	
File name:	Victoria Street and Rochdale Road Model.lsg3x
Author:	Lewis Griffiths
Company:	Mosodi
Address:	South central, Suite 4E, 11 Peter Street, M2 5QR

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Traffic	1		-9999	7
F	Traffic	1		-9999	7
G	Pedestrian	1		-9999	6
H	Pedestrian	1		-9999	6
I	Pedestrian	1		-9999	5
J	Pedestrian	1		-9999	6
K	Pedestrian	1		-9999	7
L	Pedestrian	1		-9999	6
M	Pedestrian	1		-9999	9
N	Pedestrian	1		-9999	6
O	Pedestrian	1		-9999	6
P	Ind. Arrow	1	F	-9999	4

Phase Intergreens Matrix

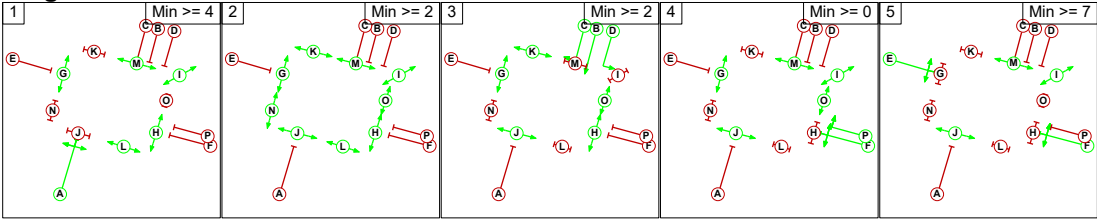
		Starting Phase															
Terminating Phase		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	A		5	5	8	6	5	-	-	-	5	9	-	-	7	8	6
	B	5		-	-	4	6	-	-	-	-	-	9	5	-	-	5
	C	6	-		-	5	5	-	-	-	-	-	-	5	9	-	4
	D	4	-	-		3	-	-	-	5	-	-	-	-	-	-	-
	E	5	8	8	8		-	5	-	-	-	7	13	-	-	9	4
	F	7	8	8	-	-		-	6	-	-	13	7	-	9	-	-
	G	-	-	-	-	7	-		-	-	-	-	-	-	-	-	-
	H	-	-	-	-	-	7	-		-	-	-	-	-	-	-	7
	I	-	-	-	6	-	-	-	-		-	-	-	-	-	-	-
	J	10	-	-	-	-	-	-	-	-		-	-	-	-	-	-
	K	10	-	-	-	10	10	-	-	-	-		-	-	-	-	10
	L	-	7	-	-	8	8	-	-	-	-	-		-	-	-	-
	M	-	7	7	-	-	-	-	-	-	-	-	-		-	-	-
	N	7	-	6	-	-	6	-	-	-	-	-	-	-		-	-
	O	5	-	-	-	6	-	-	-	-	-	-	-	-	-		-
	P	4	4	7	-	5	-	-	5	-	-	13	-	-	-	-	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	AGHILM
1	2	GHIJKLMNO
1	3	BCDGHJKO
1	4	FGIJMOP
1	5	EFIJM

Stage Diagram

Stage Stream: 1



Phase Delays
Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	B	Losing	4	4
3	4	C	Losing	4	4
3	4	D	Losing	4	4
3	4	H	Losing	3	3
4	5	O	Losing	1	1
4	5	P	Losing	2	2

Prohibited Stage Change
Stage Stream: 1

	To Stage					
From Stage		1	2	3	4	5
	1		9	9	X	8
	2	10		7	10	10
	3	10	9		10	10
	4	10	13	13		7
	5	13	13	13	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Victoria Avenue/Rochdale Road											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (Victoria Avenue East (WB))	8/1 (Right)	1439	0	3/1	1.09	All	4.00	-	0.50	4	4.00
				3/2	1.09	To 5/2 (Ahead)					
	8/2 (Right)	1439	0	3/1	1.09	All					
				3/2	1.09	To 5/2 (Ahead)					
	8/3 (Right)	1439	0	3/1	1.09	All					
				3/2	1.09	To 5/2 (Ahead)					
3/2 (Victoria Avenue West (EB))	6/1 (Right)	1439	0	1/1	1.09	All	4.00	2.00	0.50	4	4.00
				1/2	1.09	All					
	6/2 (Right)	1439	0	1/1	1.09	All					
				1/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: Victoria Avenue/Rochdale Road												
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 (Victoria Avenue East (WB))	U	F	2	3	17.4	Geom	-	3.00	0.00	Y	Arm 6 Left	10.80
											Arm 7 Ahead	Inf
1/2 (Victoria Avenue East (WB))	U	F	2	3	17.4	Geom	-	3.00	0.00	N	Arm 7 Ahead	Inf
1/3 (Victoria Avenue East (WB))	O	F P	2	3	17.4	Geom	-	3.00	0.00	N	Arm 8 Right	15.90
2/1 (Rochdale Road South (NB))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	11.30
											Arm 8 Ahead	Inf
2/2 (Rochdale Road South (NB))	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 8 Ahead	Inf
2/3 (Rochdale Road South (NB))	U	A	2	3	7.1	Geom	-	3.00	0.00	N	Arm 5 Right	14.10
											Arm 8 Ahead	Inf
3/1 (Victoria Avenue West (EB))	U	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	7.80
3/2 (Victoria Avenue West (EB))	O	E	2	3	17.4	Geom	-	3.50	0.00	N	Arm 5 Ahead	Inf
											Arm 6 Right	16.20
4/1 (Rochdale Road North (SB))	U	D	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 5 Left	34.50
4/2 (Rochdale Road North (SB))	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
4/3 (Rochdale Road North (SB))	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
4/4 (Rochdale Road North (SB))	U	C	2	3	8.1	Geom	-	3.25	0.00	N	Arm 7 Right	17.70

Full Input Data And Results

5/1 (Victoria Avenue East (EB))	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (Victoria Avenue East (EB))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Rochdale Road South (SB))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (Rochdale Road South (SB))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Victoria Avenue West (WB))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2 (Victoria Avenue West (WB))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Rochdale Road North (NB))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2 (Rochdale Road North (NB))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/3 (Rochdale Road North (NB))	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Wednesday 2024 Count'	17:00	18:00	01:00	
2: 'Wednesday 2029 Base'	17:00	18:00	01:00	
3: 'Wednesday 2029 Design'	17:00	18:00	01:00	
4: 'Wednesday 2024 Design'	17:00	18:00	01:00	

Scenario 1: 'Wednesday 2024 Count' (FG1: 'Wednesday 2024 Count', Plan 2: 'Network Control Plan 2')
Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	78	289	351	718
	B	64	0	52	1083	1199
	C	247	52	0	149	448
	D	338	763	220	0	1321
	Tot.	649	893	561	1583	3686

Traffic Lane Flows

Lane	Scenario 1: Wednesday 2024 Count
Junction: Victoria Avenue/Rochdale Road	
1/1	161
1/2	206
1/3	351
2/1	471
2/2 (with short)	728(In) 381(Out)
2/3 (short)	347
3/1 (with short)	448(In) 204(Out)
3/2 (short)	244
4/1	338
4/2	418
4/3 (with short)	565(In) 345(Out)
4/4 (short)	220
5/1	393
5/2	256
6/1	483
6/2	410
7/1	219
7/2	342
8/1	585
8/2	548
8/3	450

Full Input Data And Results

Lane Saturation Flows

Junction: Victoria Avenue/Rochdale Road								
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 (Victoria Avenue East (WB))	3.00	0.00	Y	Arm 6 Left	10.80	48.4 %	1794	1794
				Arm 7 Ahead	Inf	51.6 %		
1/2 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
1/3 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 8 Right	15.90	100.0 %	1878	1878
2/1 (Rochdale Road South (NB))	3.00	0.00	Y	Arm 7 Left	11.30	11.0 %	1887	1887
				Arm 8 Ahead	Inf	89.0 %		
2/2 (Rochdale Road South (NB))	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
2/3 (Rochdale Road South (NB))	3.00	0.00	N	Arm 5 Right	14.10	18.4 %	2015	2015
				Arm 8 Ahead	Inf	81.6 %		
3/1 (Victoria Avenue West (EB))	3.50	0.00	Y	Arm 5 Ahead	Inf	27.0 %	1723	1723
				Arm 8 Left	7.80	73.0 %		
3/2 (Victoria Avenue West (EB))	3.50	0.00	N	Arm 5 Ahead	Inf	78.7 %	2064	2064
				Arm 6 Right	16.20	21.3 %		
4/1 (Rochdale Road North (SB))	3.65	0.00	Y	Arm 5 Left	34.50	100.0 %	1898	1898
4/2 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/4 (Rochdale Road North (SB))	3.25	0.00	N	Arm 7 Right	17.70	100.0 %	1918	1918
5/1 (Victoria Avenue East (EB) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Victoria Avenue East (EB) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Rochdale Road South (SB) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (Rochdale Road South (SB) Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Victora Avenua West (WB) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Victora Avenua West (WB) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

8/1 (Rochdale Road North (NB) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (Rochdale Road North (NB) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/3 (Rochdale Road North (NB) Lane 3)	Infinite Saturation Flow	Inf	Inf

Scenario 2: 'Wednesday 2029 Base' (FG2: 'Wednesday 2029 Base', Plan 2: 'Network Control Plan 2')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	84	311	378	773
	B	69	0	56	1167	1292
	C	266	56	0	161	483
	D	364	822	237	0	1423
	Tot.	699	962	604	1706	3971

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Wednesday 2029 Base
Junction: Victoria Avenue/Rochdale Road	
1/1	174
1/2	221
1/3	378
2/1	510
2/2 (with short)	782(In) 388(Out)
2/3 (short)	394
3/1 (with short)	483(In) 220(Out)
3/2 (short)	263
4/1	364
4/2	455
4/3 (with short)	604(In) 367(Out)
4/4 (short)	237
5/1	423
5/2	276
6/1	525
6/2	437
7/1	237
7/2	367
8/1	633
8/2	568
8/3	505

Full Input Data And Results

Lane Saturation Flows

Junction: Victoria Avenue/Rochdale Road								
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 (Victoria Avenue East (WB))	3.00	0.00	Y	Arm 6 Left	10.80	48.3 %	1795	1795
				Arm 7 Ahead	Inf	51.7 %		
1/2 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
1/3 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 8 Right	15.90	100.0 %	1878	1878
2/1 (Rochdale Road South (NB))	3.00	0.00	Y	Arm 7 Left	11.30	11.0 %	1887	1887
				Arm 8 Ahead	Inf	89.0 %		
2/2 (Rochdale Road South (NB))	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
2/3 (Rochdale Road South (NB))	3.00	0.00	N	Arm 5 Right	14.10	17.5 %	2017	2017
				Arm 8 Ahead	Inf	82.5 %		
3/1 (Victoria Avenue West (EB))	3.50	0.00	Y	Arm 5 Ahead	Inf	26.8 %	1723	1723
				Arm 8 Left	7.80	73.2 %		
3/2 (Victoria Avenue West (EB))	3.50	0.00	N	Arm 5 Ahead	Inf	78.7 %	2064	2064
				Arm 6 Right	16.20	21.3 %		
4/1 (Rochdale Road North (SB))	3.65	0.00	Y	Arm 5 Left	34.50	100.0 %	1898	1898
4/2 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/4 (Rochdale Road North (SB))	3.25	0.00	N	Arm 7 Right	17.70	100.0 %	1918	1918
5/1 (Victoria Avenue East (EB) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Victoria Avenue East (EB) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Rochdale Road South (SB) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (Rochdale Road South (SB) Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Victora Avenua West (WB) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Victora Avenua West (WB) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

8/1 (Rochdale Road North (NB) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (Rochdale Road North (NB) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/3 (Rochdale Road North (NB) Lane 3)	Infinite Saturation Flow	Inf	Inf

Scenario 3: 'Wednesday 2029 Design' (FG3: 'Wednesday 2029 Design', Plan 2: 'Network Control Plan 2')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	84	323	378	785
	B	69	0	71	1167	1307
	C	268	59	0	162	489
	D	364	822	248	0	1434
	Tot.	701	965	642	1707	4015

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Wednesday 2029 Design
Junction: Victoria Avenue/Rochdale Road	
1/1	180
1/2	227
1/3	378
2/1	516
2/2 (with short)	791(In) 396(Out)
2/3 (short)	395
3/1 (with short)	489(In) 223(Out)
3/2 (short)	266
4/1	364
4/2	457
4/3 (with short)	613(In) 365(Out)
4/4 (short)	248
5/1	425
5/2	276
6/1	529
6/2	436
7/1	255
7/2	387
8/1	625
8/2	576
8/3	506

Full Input Data And Results

Lane Saturation Flows

Junction: Victoria Avenue/Rochdale Road								
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 (Victoria Avenue East (WB))	3.00	0.00	Y	Arm 6 Left	10.80	46.7 %	1798	1798
				Arm 7 Ahead	Inf	53.3 %		
1/2 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
1/3 (Victoria Avenue East (WB))	3.00	0.00	N	Arm 8 Right	15.90	100.0 %	1878	1878
2/1 (Rochdale Road South (NB))	3.00	0.00	Y	Arm 7 Left	11.30	13.8 %	1881	1881
				Arm 8 Ahead	Inf	86.2 %		
2/2 (Rochdale Road South (NB))	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
2/3 (Rochdale Road South (NB))	3.00	0.00	N	Arm 5 Right	14.10	17.5 %	2018	2018
				Arm 8 Ahead	Inf	82.5 %		
3/1 (Victoria Avenue West (EB))	3.50	0.00	Y	Arm 5 Ahead	Inf	27.4 %	1724	1724
				Arm 8 Left	7.80	72.6 %		
3/2 (Victoria Avenue West (EB))	3.50	0.00	N	Arm 5 Ahead	Inf	77.8 %	2063	2063
				Arm 6 Right	16.20	22.2 %		
4/1 (Rochdale Road North (SB))	3.65	0.00	Y	Arm 5 Left	34.50	100.0 %	1898	1898
4/2 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (Rochdale Road North (SB))	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/4 (Rochdale Road North (SB))	3.25	0.00	N	Arm 7 Right	17.70	100.0 %	1918	1918
5/1 (Victoria Avenue East (EB) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Victoria Avenue East (EB) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Rochdale Road South (SB) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (Rochdale Road South (SB) Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Victora Avenua West (WB) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Victora Avenua West (WB) Lane 2)	Infinite Saturation Flow						Inf	Inf

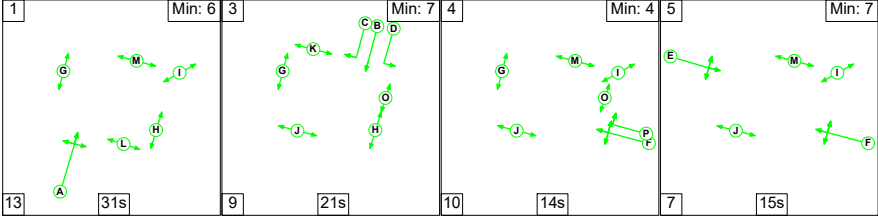
Full Input Data And Results

8/1 (Rochdale Road North (NB) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (Rochdale Road North (NB) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/3 (Rochdale Road North (NB) Lane 3)	Infinite Saturation Flow	Inf	Inf

Scenario 1: 'Wednesday 2024 Count' (FG1: 'Wednesday 2024 Count', Plan 2: 'Network Control Plan 2')

Stage Sequence Diagram

Stage Stream: 1

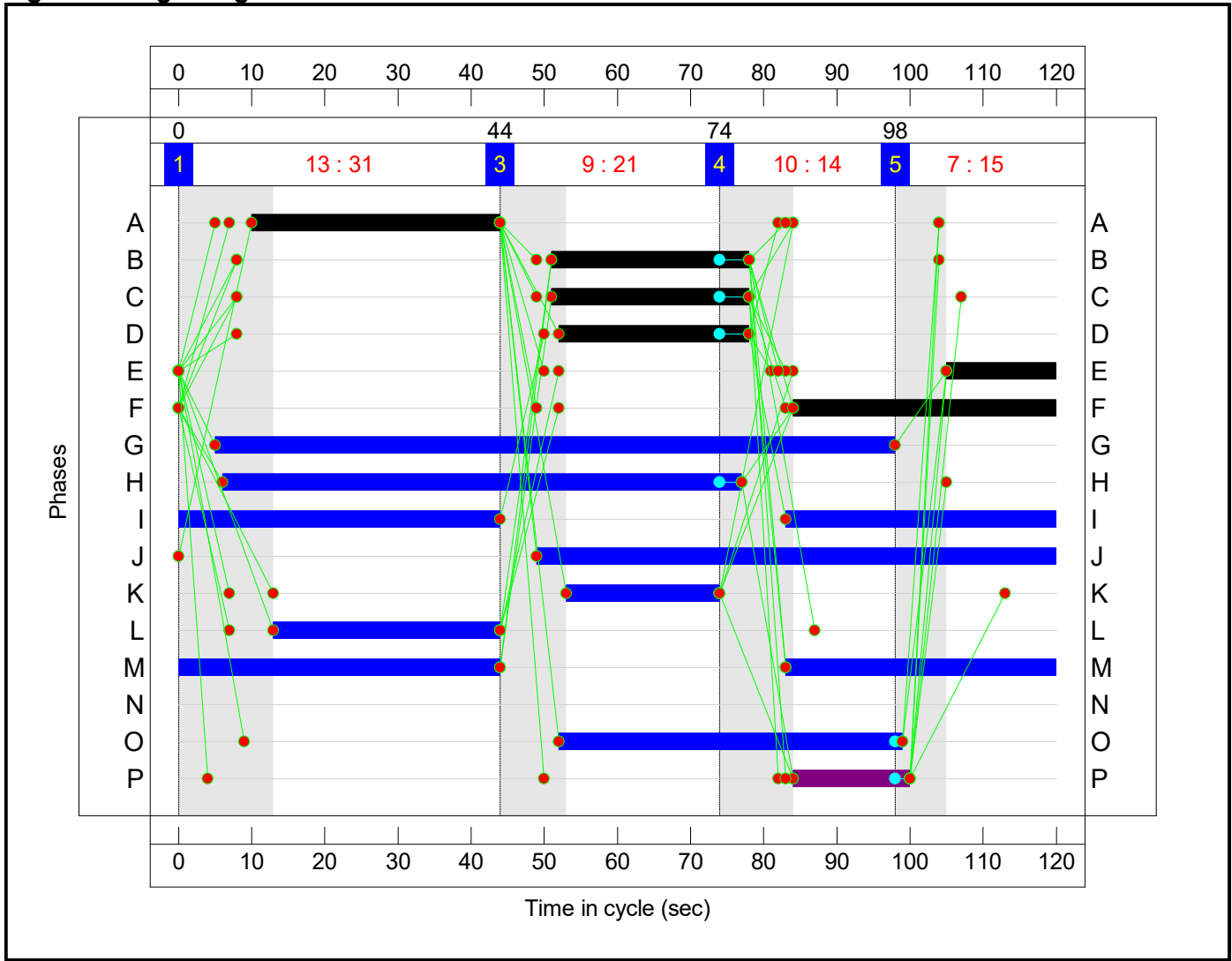


Stage Timings

Stage Stream: 1

Stage	1	3	4	5
Duration	31	21	14	15
Change Point	0	44	74	98

Signal Timings Diagram



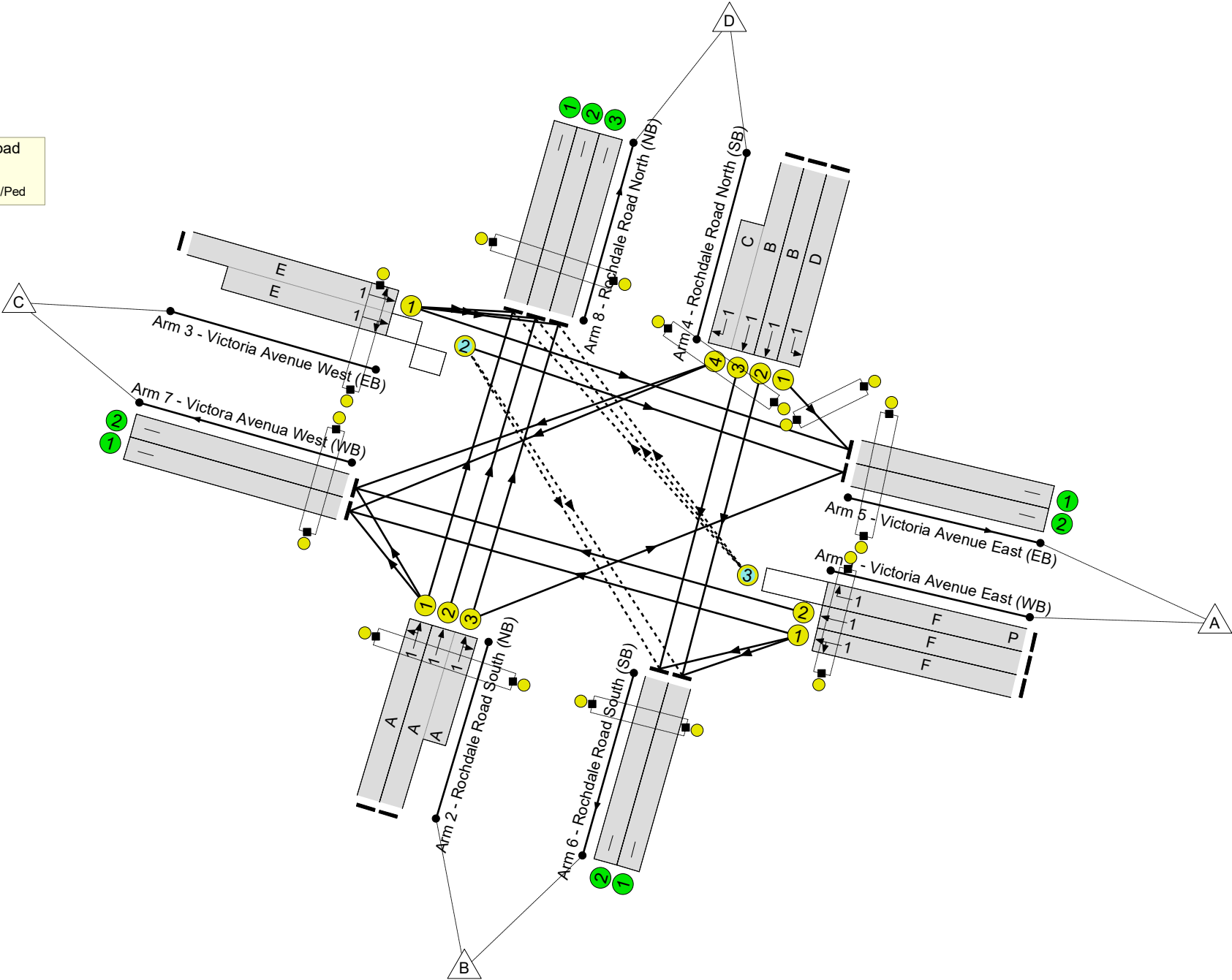
Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Victoria Avenue/Rochdale Road
PRC: -1.6 %
Total Traffic Delay: 65.7 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



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: Winners Chapel	-	-	N/A	-	-		-	-	-	-	-	-	91.4%
Victoria Avenue/Rochdale Road	-	-	N/A	-	-		-	-	-	-	-	-	91.4%
1/1	Victoria Avenue East (WB) Left Ahead	U	1	N/A	F		1	36	-	161	1794	553	29.1%
1/2	Victoria Avenue East (WB) Ahead	U	1	N/A	F		1	36	-	206	2055	634	32.5%
1/3	Victoria Avenue East (WB) Right	O	1	N/A	F	P	1	36	16	351	1878	386	90.9%
2/1	Rochdale Road South (NB) Left Ahead	U	1	N/A	A		1	34	-	471	1887	550	85.6%
2/2+2/3	Rochdale Road South (NB) Right Ahead	U	1	N/A	A		1	34	-	728	2055:2015	417+380	91.4 : 91.4%
3/1+3/2	Victoria Avenue West (EB) Ahead Right Left	U+O	1	N/A	E		1	15	-	448	1723:2064	230+275	88.8 : 88.8%
4/1	Rochdale Road North (SB) Left	U	1	N/A	D		1	26	-	338	1898	427	79.1%
4/2	Rochdale Road North (SB) Ahead	U	1	N/A	B		1	27	-	418	2120	495	84.5%
4/3+4/4	Rochdale Road North (SB) Ahead Right	U	1	N/A	B C		1	27	-	565	2120:1918	387+247	89.0 : 89.0%
5/1	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
5/2	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	256	Inf	Inf	0.0%
6/1	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
6/2	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%

Full Input Data And Results

7/1	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	219	Inf	Inf	0.0%
7/2	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	342	Inf	Inf	0.0%
8/1	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	585	Inf	Inf	0.0%
8/2	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	548	Inf	Inf	0.0%
8/3	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	450	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1	-	O		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	H		1	71	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1	-	L		1	31	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1	-	J		1	71	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1	-	N		0	0	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	1	-	G		1	93	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	1	-	K		1	21	-	0	-	0	0.0%
Ped Link: P8	Unnamed Ped Link	-	1	-	M		1	81	-	0	-	0	0.0%
Ped Link: P9	Unnamed Ped Link	-	1	-	I		1	81	-	0	-	0	0.0%

Full Input Data And Results

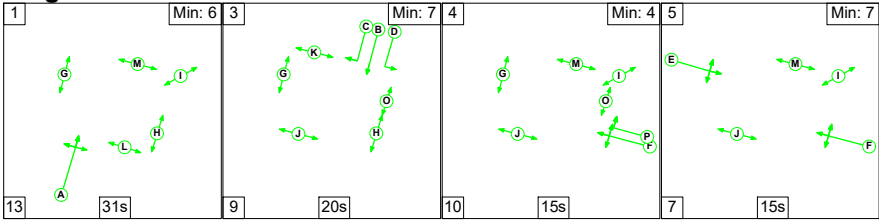
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Winners Chapel	-	-	47	266	89	41.8	23.5	0.3	65.7	-	-	-	-
Victoria Avenue/Rochdale Road	-	-	47	266	89	41.8	23.5	0.3	65.7	-	-	-	-
1/1	161	161	-	-	-	1.4	0.2	-	1.6	36.1	4.1	0.2	4.3
1/2	206	206	-	-	-	1.8	0.2	-	2.1	36.1	5.3	0.2	5.5
1/3	351	351	0	266	85	3.4	4.1	0.3	7.8	80.3	9.9	4.1	14.0
2/1	471	471	-	-	-	5.2	2.8	-	8.0	61.3	14.8	2.8	17.6
2/2+2/3	728	728	-	-	-	7.7	4.7	-	12.4	61.3	16.4	4.7	21.1
3/1+3/2	448	448	47	0	4	6.4	3.5	0.0	9.9	79.5	7.9	3.5	11.4
4/1	338	338	-	-	-	4.1	1.8	-	5.9	63.3	10.6	1.8	12.4
4/2	418	418	-	-	-	5.1	2.6	-	7.7	65.9	13.2	2.6	15.8
4/3+4/4	565	565	-	-	-	6.6	3.7	-	10.3	65.5	12.7	3.7	16.4
5/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	254	254	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	483	483	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	219	219	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	342	342	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	585	585	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	548	548	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/3	450	450	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 - Victoria Avenue/Rochdale Road		Stream: 1 PRC for Signalled Lanes (%):		-1.6		Total Delay for Signalled Lanes (pcuHr):		65.68		Cycle Time (s): 120			
		PRC Over All Lanes (%):		-1.6		Total Delay Over All Lanes(pcuHr):		65.68					

Stage Sequence Diagram

Stage Stream: 1

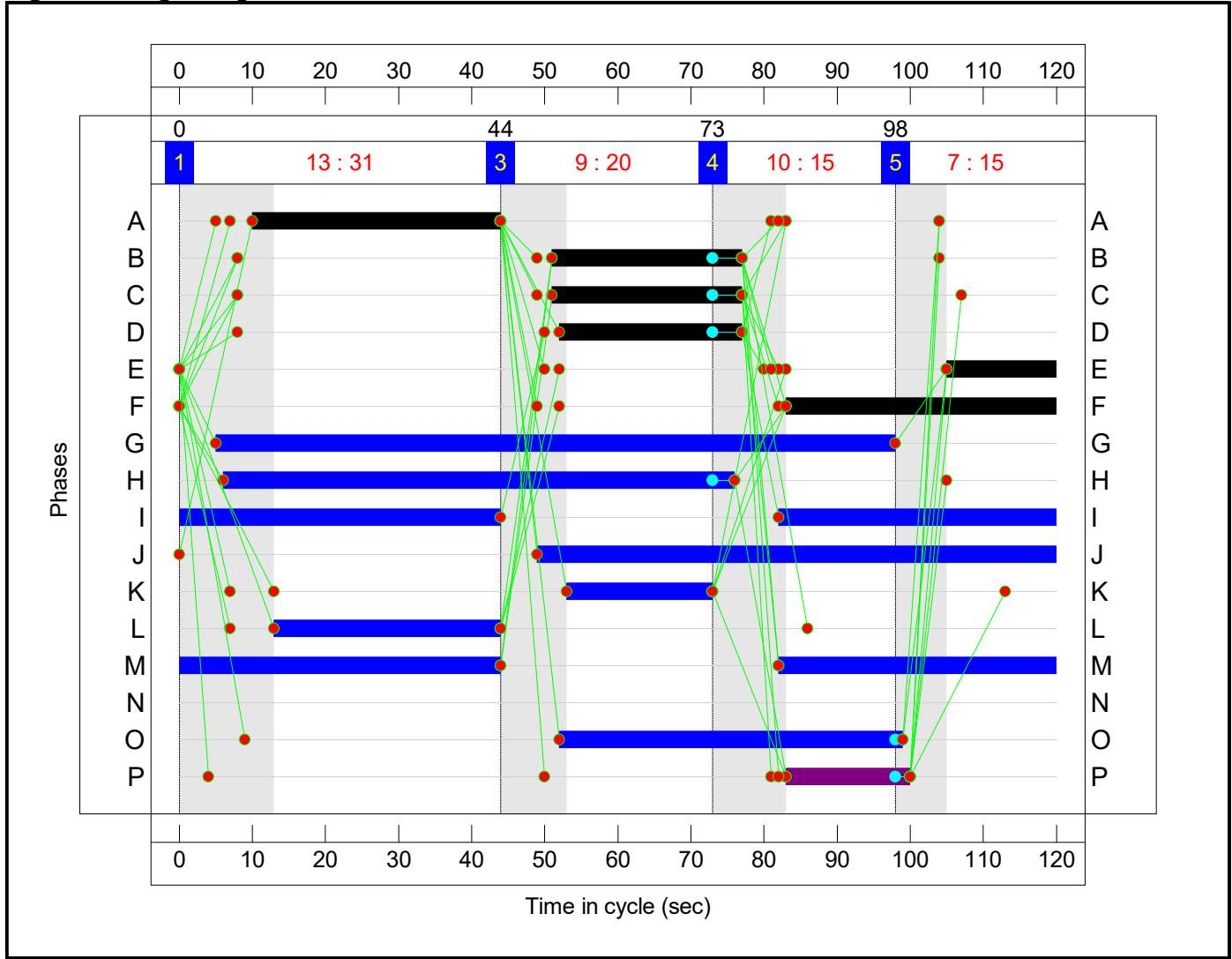


Stage Timings

Stage Stream: 1

Stage	1	3	4	5
Duration	31	20	15	15
Change Point	0	44	73	98

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results

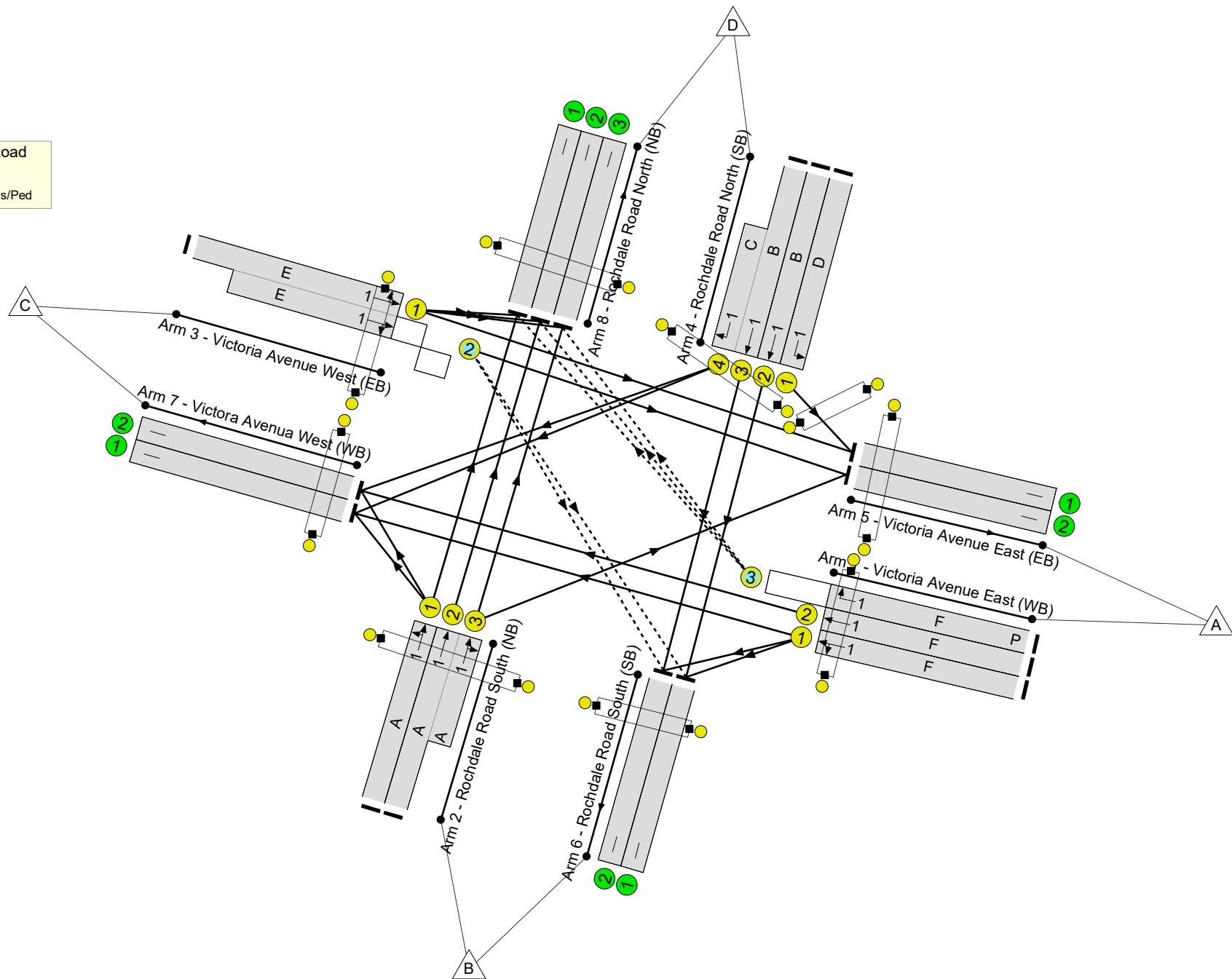


Victoria Avenue/Rochdale Road

PRC: -8.3 %

Total Traffic Delay: 91.6 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



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: Winners Chapel	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
Victoria Avenue/Rochdale Road	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
1/1	Victoria Avenue East (WB) Left Ahead	U	1	N/A	F		1	37	-	174	1795	568	30.6%
1/2	Victoria Avenue East (WB) Ahead	U	1	N/A	F		1	37	-	221	2055	651	34.0%
1/3	Victoria Avenue East (WB) Right	O	1	N/A	F	P	1	37	17	378	1878	402	94.1%
2/1	Rochdale Road South (NB) Left Ahead	U	1	N/A	A		1	34	-	510	1887	550	92.7%
2/2+2/3	Rochdale Road South (NB) Right Ahead	U	1	N/A	A		1	34	-	782	2055:2017	403+409	96.3 : 96.3%
3/1+3/2	Victoria Avenue West (EB) Ahead Right Left	U+O	1	N/A	E		1	15	-	483	1723:2064	230+275	95.8 : 95.7%
4/1	Rochdale Road North (SB) Left	U	1	N/A	D		1	25	-	364	1898	411	88.5%
4/2	Rochdale Road North (SB) Ahead	U	1	N/A	B		1	26	-	455	2120	477	95.4%
4/3+4/4	Rochdale Road North (SB) Ahead Right	U	1	N/A	B C		1	26	-	604	2120:1918	376+243	97.5 : 97.5%
5/1	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	423	Inf	Inf	0.0%
5/2	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
6/1	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
6/2	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	437	Inf	Inf	0.0%

Full Input Data And Results

7/1	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	237	Inf	Inf	0.0%
7/2	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	367	Inf	Inf	0.0%
8/1	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	633	Inf	Inf	0.0%
8/2	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	568	Inf	Inf	0.0%
8/3	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1	-	O		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	H		1	70	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1	-	L		1	31	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1	-	J		1	71	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1	-	N		0	0	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	1	-	G		1	93	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	1	-	K		1	20	-	0	-	0	0.0%
Ped Link: P8	Unnamed Ped Link	-	1	-	M		1	82	-	0	-	0	0.0%
Ped Link: P9	Unnamed Ped Link	-	1	-	I		1	82	-	0	-	0	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: Winners Chapel	-	-	47	282	105	46.1	45.1	0.4	91.6	-	-	-	-
Victoria Avenue/Rochdale Road	-	-	47	282	105	46.1	45.1	0.4	91.6	-	-	-	-
1/1	174	174	-	-	-	1.5	0.2	-	1.7	35.6	4.3	0.2	4.6
1/2	221	221	-	-	-	1.9	0.3	-	2.2	35.6	5.6	0.3	5.8
1/3	378	378	0	282	96	3.7	5.5	0.4	9.5	90.7	10.7	5.5	16.2
2/1	510	510	-	-	-	5.8	5.1	-	10.9	76.9	16.4	5.1	21.5
2/2+2/3	782	782	-	-	-	8.4	8.4	-	16.8	77.3	18.4	8.4	26.8
3/1+3/2	483	483	47	0	8	6.9	6.8	0.0	13.8	102.8	8.7	6.8	15.5
4/1	364	364	-	-	-	4.6	3.4	-	8.0	78.9	11.7	3.4	15.1
4/2	455	455	-	-	-	5.8	6.5	-	12.3	97.3	14.9	6.5	21.4
4/3+4/4	604	604	-	-	-	7.4	9.0	-	16.4	97.7	14.6	9.0	23.6
5/1	423	423	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	273	273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	437	437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	367	367	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	633	633	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	568	568	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/3	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

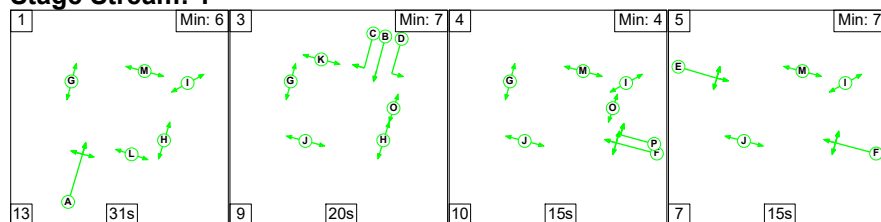
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 - Victoria Avenue/Rochdale Road		Stream: 1 PRC for Signalled Lanes (%):		-8.3		Total Delay for Signalled Lanes (pcuHr):		91.56		Cycle Time (s): 120			
		PRC Over All Lanes (%):		-8.3		Total Delay Over All Lanes(pcuHr):		91.56					

Full Input Data And Results

Scenario 3: 'Wednesday 2029 Design' (FG3: 'Wednesday 2029 Design', Plan 2: 'Network Control Plan 2')

Stage Sequence Diagram

Stage Stream: 1

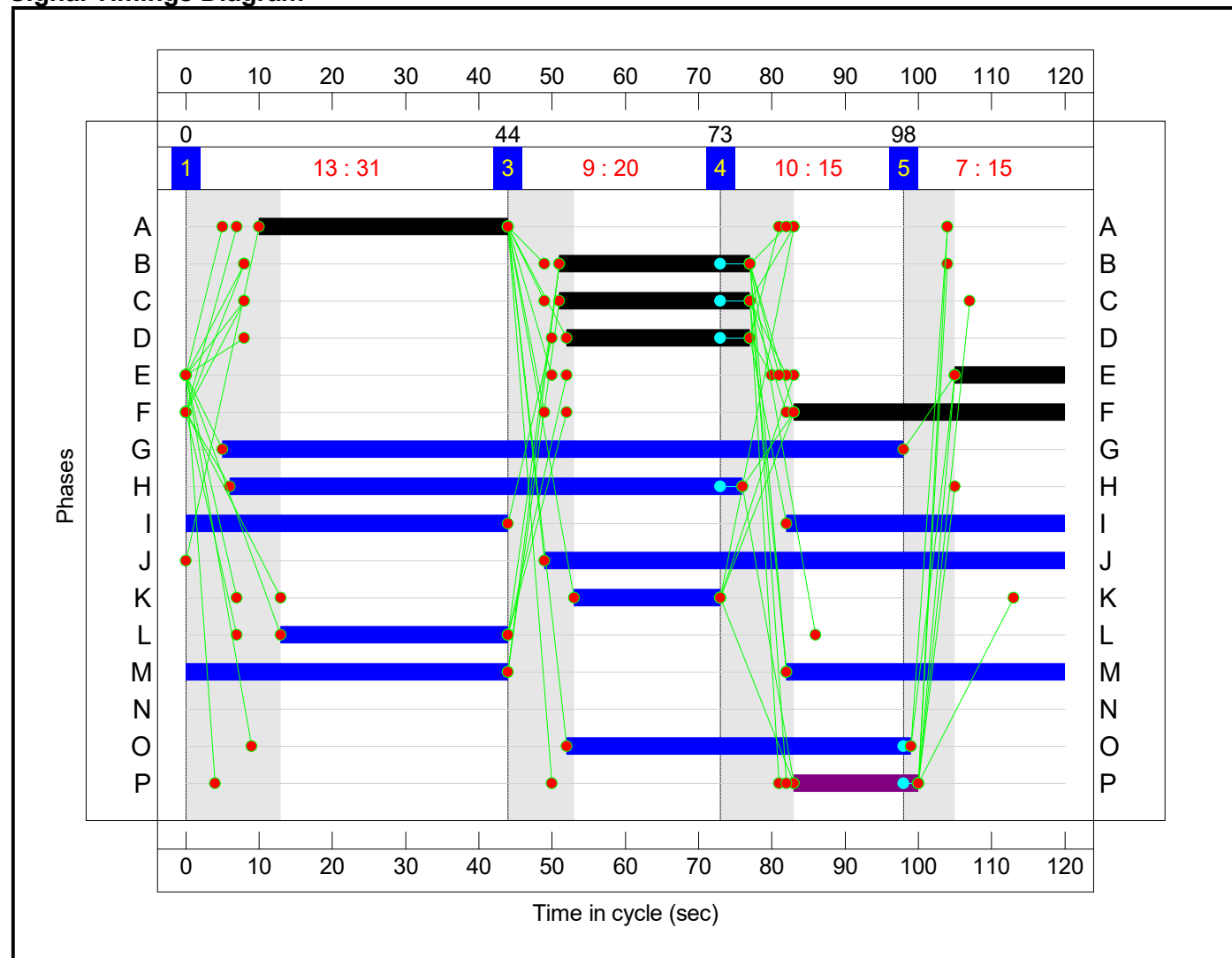


Stage Timings

Stage Stream: 1

Stage	1	3	4	5
Duration	31	20	15	15
Change Point	0	44	73	98

Signal Timings Diagram



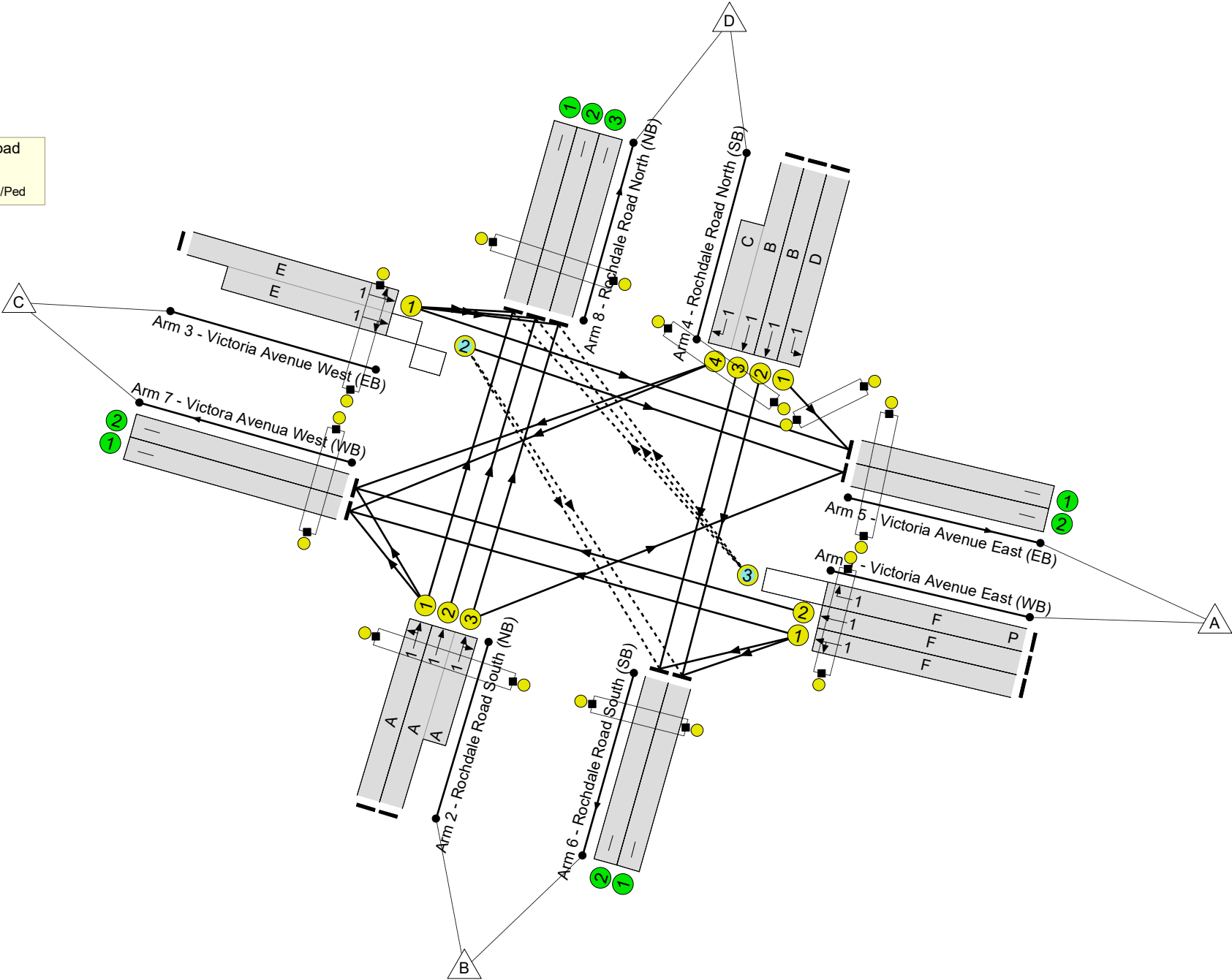
Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Victoria Avenue/Rochdale Road
PRC: -8.6 %
Total Traffic Delay: 95.5 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



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: Winners Chapel	-	-	N/A	-	-		-	-	-	-	-	-	97.7%
Victoria Avenue/Rochdale Road	-	-	N/A	-	-		-	-	-	-	-	-	97.7%
1/1	Victoria Avenue East (WB) Left Ahead	U	1	N/A	F		1	37	-	180	1798	569	31.6%
1/2	Victoria Avenue East (WB) Ahead	U	1	N/A	F		1	37	-	227	2055	651	34.9%
1/3	Victoria Avenue East (WB) Right	O	1	N/A	F	P	1	37	17	378	1878	402	94.1%
2/1	Rochdale Road South (NB) Left Ahead	U	1	N/A	A		1	34	-	516	1881	549	94.1%
2/2+2/3	Rochdale Road South (NB) Right Ahead	U	1	N/A	A		1	34	-	791	2055:2018	408+407	97.1 : 97.1%
3/1+3/2	Victoria Avenue West (EB) Ahead Right Left	U+O	1	N/A	E		1	15	-	489	1724:2063	230+275	97.0 : 96.8%
4/1	Rochdale Road North (SB) Left	U	1	N/A	D		1	25	-	364	1898	411	88.5%
4/2	Rochdale Road North (SB) Ahead	U	1	N/A	B		1	26	-	457	2120	477	95.8%
4/3+4/4	Rochdale Road North (SB) Ahead Right	U	1	N/A	B C		1	26	-	613	2120:1918	374+254	97.7 : 97.7%
5/1	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	425	Inf	Inf	0.0%
5/2	Victoria Avenue East (EB)	U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
6/1	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	529	Inf	Inf	0.0%
6/2	Rochdale Road South (SB)	U	N/A	N/A	-		-	-	-	436	Inf	Inf	0.0%

Full Input Data And Results

7/1	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
7/2	Victoria Avenua West (WB)	U	N/A	N/A	-		-	-	-	387	Inf	Inf	0.0%
8/1	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	625	Inf	Inf	0.0%
8/2	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	576	Inf	Inf	0.0%
8/3	Rochdale Road North (NB)	U	N/A	N/A	-		-	-	-	506	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1	-	O		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	H		1	70	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1	-	L		1	31	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1	-	J		1	71	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1	-	N		0	0	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	1	-	G		1	93	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	1	-	K		1	20	-	0	-	0	0.0%
Ped Link: P8	Unnamed Ped Link	-	1	-	M		1	82	-	0	-	0	0.0%
Ped Link: P9	Unnamed Ped Link	-	1	-	I		1	82	-	0	-	0	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: Winners Chapel	-	-	47	282	106	46.7	48.4	0.4	95.5	-	-	-	-
Victoria Avenue/Rochdale Road	-	-	47	282	106	46.7	48.4	0.4	95.5	-	-	-	-
1/1	180	180	-	-	-	1.6	0.2	-	1.8	35.8	4.6	0.2	4.8
1/2	227	227	-	-	-	2.0	0.3	-	2.3	35.7	5.8	0.3	6.1
1/3	378	378	0	282	96	3.7	5.5	0.4	9.5	90.7	10.7	5.5	16.2
2/1	516	516	-	-	-	5.9	5.8	-	11.8	82.1	16.8	5.8	22.6
2/2+2/3	791	791	-	-	-	8.6	9.4	-	17.9	81.6	18.6	9.4	28.0
3/1+3/2	489	486	47	0	10	7.0	7.8	0.0	14.9	109.5	8.8	7.8	16.6
4/1	364	364	-	-	-	4.6	3.4	-	8.0	78.9	11.7	3.4	15.1
4/2	457	457	-	-	-	5.8	6.8	-	12.6	99.5	15.0	6.8	21.8
4/3+4/4	613	613	-	-	-	7.5	9.3	-	16.8	98.5	14.6	9.3	23.9
5/1	425	425	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	269	269	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	528	528	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	435	435	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	387	387	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	576	576	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/3	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 - Victoria Avenue/Rochdale Road		Stream: 1 PRC for Signalled Lanes (%):		-8.6		Total Delay for Signalled Lanes (pcuHr):		95.51		Cycle Time (s): 120			
		PRC Over All Lanes (%):		-8.6		Total Delay Over All Lanes(pcuHr):		95.51					