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Proposed Commercial Development
Land off Silburn Way, Middleton

Transport Assessment

Prepared on behalf of:



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1.0 INTRODUCTION

1.1 Overview

1.1.1 This Transport Assessment (TA) has been prepared by Focus Transport Planning (Focus TP) on behalf of Oxenwood Real Estate LLP (Oxenwood) to consider highways and transport matters related to proposals for a new commercial development scheme on land off Silburn Way, Middleton, Manchester, M24 4NE.

1.1.2 This TA forms part of the planning application submission documentation for the development of a parcel of land (the application site) within the established Rhodes Business Park. The application seeks full planning permission for the delivery of circa 1,975m² Gross Internal Area (GIA) of B2/B8 industrial/warehouse land use development, with ancillary office space and associated parking, within the southeastern corner of the business park.

1.1.3 This report includes an assessment of the proposed site access strategy and an analysis of the impact of development related traffic over the immediate local highway network. In addition, the report considers the sustainability of the site, its accessibility to existing local services and the opportunity to encourage trips to and from the site to be undertaken by alternative travel modes to the private car. The purpose of this report is to appraise the Local Planning and Highway Authority (LPA/LHA) Rochdale Borough Council (RBC) of the anticipated highway and transport related effects associated with the proposed commercial development scheme.

1.2 Transport Assessment Scope

1.2.1 This TA includes an assessment of the proposed commercial development, and detailed analysis of the likely traffic related operational effects that could arise. This assessment has been undertaken in line with current best practice guidance on Transport Assessments, as outlined in national Planning Practice Guidance (PPG).

- 1.2.2 The scope and nature of the assessment matters considered in this TA reflects the extent of highways and traffic issues considered to be of material interest to the RBC.

1.3 TA Structure

- 1.3.1 This TA consists of nine sections including this introduction. The remainder of the document is summarised as follows:

- Section 2 provides an overview of the application site's location and existing local conditions, including surveyed traffic flows on the study area highway network, site planning history and details of local accident history;
- Section 3 considers the application site's accessibility and includes a review of local sustainable transport connections and accessibility from surrounding residential areas;
- Section 4 provides a detailed description of the development proposals, including an overview of the proposed land use, vehicular access proposals, and sustainable transport infrastructure provision;
- Section 5 identifies the key assessment parameters used to inform this TA, including consideration of assessment scenarios, consideration of background network traffic growth, review of any committed development schemes to be considered and, traffic conditions forming the baseline for assessment;
- Section 6 provides a review of the traffic levels anticipated to be generated by the development, and the distribution and assignment of this traffic over the local highway network;
- Section 7 considers the impact of the potential traffic loadings of the proposed development scheme on key local highway network links and junctions, as well as the need for any additional measures to mitigate the impact of development; and,

- Section 8 outlines a summary of the TA findings and provides Focus TP's conclusions.

2.0 SITE LOCATION & EXISTING CONDITIONS

2.1 Site Location

2.1.1 The strategic location of the application site is illustrated in **Figure TA1** to this statement. This plan identifies the location of the site approximately 1.7km to the southwest of Middleton town centre. **Figure TA1** also identifies the key strategic route network corridors of both the M60, which lies to the south of the site, and the M60 to the north of the site.

2.1.2 **Figure TA2** illustrates the site location in terms of its immediate context and identifies the key areas of the local highway network including the primary route of the A576 Manchester Old Road and its connection with the trunk road route of the M60 at J19 Rhodes Interchange to the southwest of the site. **Figure TA2** also illustrates the context of the application site relative to the south-eastern outskirts of the town of Middleton and the northern residential areas of Greater Manchester.

2.2 Existing Site Conditions & Local Highway Network

2.2.1 The application site currently forms a parcel of brownfield land, totalling c0.5ha, and located approximately 1.7km to the southwest of Middleton town centre. To the immediate north the site is bounded by Silburn Way (access road to Rhodes Business Park), to the south lies the River Irk, whilst to the east and west the site is bounded by the tree-lined riverbank of the River Irk.

2.2.2 Vehicular access to the site is directly from Silburn Way via the A576 Manchester Old Road. The route of Silburn Way gives access to the established Rhodes Business Park.

Local Highway Network

2.2.3 Silburn Way is adopted for a length of approximately 110m from its junction with Manchester Old Rd, whereafter it becomes a private access route to Rhodes Business Park. The adopted section of Silburn Way has a width of c7m and includes for one lane in each direction. Footways are provided to both sides of the adopted length of the route, whilst the private route incorporates a footway to its northern

side. Access to Rhodes Business Park is controlled via a gated access which includes for a security gatehouse.

2.2.4 The Rhodes Business Park access road forms a Ghost Island Right Turn Lane priority T-junction with the route of the A576 Manchester Old Rd. In fact, in the immediate area Manchester Old Road includes for a central hatched corridor of right turning pockets to several side roads and private accesses. A signalised crossing facility is available on Manchester Old Rd located c.260m to the west of the site access road junction. Locally to the application site the A576 Manchester Old Rd includes street lighting, is subject to a 30mph speed limit and includes on-carriageway cycle lanes to both sides of the carriageway.

2.2.5 The A576 serves as a key local distributor route linking Middleton town centre to the north and Manchester to the south, with onward connectivity to Trafford Park. Locally the A576 Manchester Old Rd connects with the routes of Oldham Rd to the east and the M60 at J19 Rhodes Interchange approximately 1.2km to the west of the business park access road junction. Further afield the route provides key access to the wider Greater Manchester area, and Northwest region, via its connectivity with the M60 at J19, just 1.7km to the south of M60/M62/M66 J18 Simister Island.

2.3 Local Planning History

2.3.1 The application site has previously been the subject of an application for planning permission to erect a commercial/industrial unit, in 2004 (Ref: 04/D43078). However, it is understood that this permission wasn't, ultimately, implemented.

2.4 Observed Background Traffic Conditions

2.4.1 In order to inform this TA, a fully classified turning count has been undertaken at both the signalised crossroads junction of the A576 Manchester Old Road/Middleton Road/A6045 Heywood Old Road/Kelvin Avenue, as well as the Rhodes Business Park access road junction of the A576 Manchester Old Road/Silburn Way. The survey was undertaken on Thursday 12th October 2023 (outside the school holiday period) and is considered to be representative of normal conditions.

2.4.2 **Figures TA3a-c** to this report summarise the recorded traffic flows on the immediate local highway network for the observed AM and PM network peak hour periods of 08:15-09:15 and 16:30-17:30 respectively, and an Average Weekday 12-hour period (see Section 5 of this TA for further information regarding peak hour assessment time periods).

2.4.3 Reference to the recorded peak hour traffic data identifies that maximum prevailing traffic levels along the A576 Manchester Old Road stand at 1,515 two-way movements during the PM peak hour period, falling to 1,182 two-way movements during the AM peak hour, whilst to the west of the A6045 Heywood Road these flows increase to 2,498 two-way movements during the PM peak hour period and 1,814 two-way movements during the AM peak hour. At the Rhodes Business Park access junction turning movements were recorded as 50 two-way during the PM peak hour, with 45 during the AM peak period.

2.4.4 With regard to observed flows on the A576 Manchester Old Road, peak hour traffic appears not to be significantly tidal - during the AM peak period flow on the route is 51% to the west and 49% to the east, whilst during the PM peak periods these observations are reversed, with traffic on the route 49% to the west and 51% to the east.

2.5 Review of Road Safety History

2.5.1 An appraisal of the operational safety of the immediate local network to the application site has been carried out through a review of historical Personal Injury Accident (PIA) data obtained from Crashmap.co.uk for the five-year period Q1 2017 to Q3 2021 inclusive. Crashmap provides PIA data collected by the police. This data is approved by the National Statistics Authority and reported on by the Department for Transport each year. This five-year search methodology accords with the search period criteria recommended in national Planning Policy Guidance (PPG). Details of the extent of the search area and recorded individual accident events are illustrated in **Figure TA4** to this TA. Further, more detailed information regarding each recorded accident event is attached in **Appendix TA1** to this report.

2.5.2 Review of the recorded PIA data demonstrates that 6 injury accident events occurred across the study area for the full five-year search period. All of these

incidents were of 'slight' injury class with no serious or fatal injury accident events recorded and none involved pedestrians. Details of these incidents are as follows:

Incident 1: 1 vehicles, 2 Casualties

- 05:15 Sunday 25 March 2018 - Slight Class Incident, Dry & Fine without high winds, Darkness.
- Vehicle proceeded normally along the carriageway, not on a bend and collided with a permanent object off carriageway.

Incident 2: 2 vehicles, 1 Casualty

- 18:45 Wednesday 6 December 2017 - Slight Class Incident, Wet/Damp & Raining without high winds, Darkness.
- Collision between a car proceeding normally along the carriageway and a car waiting to turn right.

Incident 3: 1 vehicles, 1 Casualties

- 16:00 Monday 15 May 2017 - Slight Class Incident, Wet / Damp & Raining without high winds, Daylight.
- Collision between a car proceeding normally along the carriageway and a pedestrian in carriageway, crossing elsewhere within 50 metres of a pedestrian crossing.

Incident 4: 2 vehicles, 1 Casualty

- 07:00 Sunday 28 June 2020 - Slight Class Incident, Wet / Damp & Raining without high winds, Daylight.
- Collision between a car reversing and another car waiting to proceed normally but is held up.

Incident 5: 2 vehicles, 1 Casualty

- 12:40 Sunday 9 June 2019 - Slight Class Incident, Dry & Fine without high winds, Daylight.
- Collision between two cars proceeding normally along the carriageway, with one car going into the back of the other car.

Incident 6: 2 vehicles, 1 Casualty

- 11:39 Tuesday 24 October 2017 - Slight Class Incident, Dry & Fine without high winds, Daylight.
- Collision between two cars, one in the act of turning left and the other waiting to turn left.

2.5.3 On the basis of the above review of local accident history on the highway network it is ultimately considered that there are no substantive road safety issues that would call the proposed development of the application site for commercial/industrial land use into question.

3.0 SITE ACCESSIBILITY AUDIT

3.1 Introduction

3.1.1 Both local and national planning policy and guidance identify a number of key transport related sustainability objectives, including:

- Reducing the need to travel, especially by private car;
- Ensuring accessibility to a range of sustainable travel options.

3.1.2 This chapter therefore considers the potential of the application site to deliver appropriate opportunities for sustainable travel. The nature of local sustainable transport connections available within the immediate catchment of the application site is therefore summarised in the paragraphs below.

3.2 Accessibility via Walking & Cycling Travel Modes

3.2.1 The application site is located such that access to the site can be achieved by both walking and cycling. As already noted, the site enjoys a good standard of footway connection, by virtue of existing infrastructure along the immediate sections of both the access road to the north, as well as along A576 Manchester Old Road. **Figure TA5** to this report also demonstrates that a number of Public Rights of Way lie directly to the south and southeast of the application site's southern boundary. The PRoWs are accessed via two footbridges across the Rivier Irk and serve to connect the site with Alkrington Woods Nature Reserve to the east and the residential areas to the south of the M60.

3.2.2 National planning guidance notes that walking is the most important mode of travel at the local scale, offering the greatest potential to replace short distance car trips of under 2km. The Chartered Institute of Highways & Transportation (IHT) guidance 'Providing for Journeys on Foot' suggests that a 1.0km walk catchment represents an acceptable walk distance to a place of work for commuting purposes, with a preferred maximum distance of 2.0km.

3.2.3 **Figure TA6** to this report illustrates a maximum 2.0km walking iso-distance catchment measured from the application site and demonstrates that such a

walking catchment crucially extends to cover the residential areas of Bowlee to the north, Higher Blackley & Blackley to the south, as well as the eastern extents of Middleton town centre. In addition, the site is situated within the established area of Rhodes, a suburb of the town of Middleton and therefore lies in a highly sustainable location and is well supported by a wide range of local services and facilities.

3.2.4 In addition to walking opportunities, it is generally accepted that the pedal cycle represents a practical alternative travel option to the private car for journeys of up to 5km (particularly for commuting journeys). **Figure TA7** to this report illustrates a 5km cycle iso-distance catchment measured from the application site and demonstrates that such a cycle catchment extends as far as covering the entirety of Middleton town centre, as well as its outlying northern, eastern and southern residential areas.

3.2.5 Details of available local cycling routes and connections are illustrated in **Figure TA8** to this report and demonstrate that a number of dedicated cycle routes (both traffic-free and on-road) are available within the immediate area surrounding the application site.

3.3 Access to Public Transport

Local Bus Services

3.3.1 **Figure TA9** to this report identifies the location of the application site relative to key local public transport infrastructure within a 2km walking distance. A number of existing local bus services operate within the vicinity of the Rhodes Business Park proposal site. The closest bus stop to the site is located at the site access junction on Manchester Old Road, within a c215m walking distance of the centre of the site. Full timetable information for bus services serving the existing local stops is attached at **Appendix TA2** and summarised in **Table TA3.1** below. **Table TA3.1** demonstrates that regular connections are available to the key local destinations of Middleton town centre, Manchester and Oldham.

Table TA3.1 - Bus Services Available at Local Bus Stops

	Route	One-Way Hourly Frequency					
		Mon-Fri		Sat		Sun	
		Day	Eve	Day	Eve	Day	Eve
59	Piccadilly Gardens - Middleton - Chadderton - Oldham Mumps	Every 12mins	Hourly	Every 10mins	Hourly	Every 20mins	Hourly
156	Middleton - Rhodes - Higher Blackley - Blackley - Shudehill	Every 30mins	No late service	Every 30mins	No late service	No service	

3.3.2 Review of **Table TA3.1** shows that between Monday to Saturday in the daytime there are approximately 7 buses per hour between the application site and Manchester City centre, from where onward connections are available to a number of destinations, including onward journeys by tram and train. Other key destinations served by these bus services include Middleton and Oldham town centres.

3.4 Accessibility Summary

Overall, it is concluded that the Rhodes Business Park application site represents a highly appropriate location for a commercial development, being located within an acceptable walk and cycle catchment of surrounding residential areas and accessible by bus services to and from further local residential centres. These services are anticipated to reduce the need for employees based at the site to utilise the car for everyday commuting journeys. Furthermore, the location of the site ensures that employees and visitors at the proposed development would also have access within walking distance to key local services such as foodstores and other food retail outlets. Such positive locational characteristics should assist in meeting the key sustainable planning objectives of promoting opportunities for the use of alternative travel modes to the private car and managing the overall traffic impact associated with new development.

4.0 DESCRIPTION OF THE DEVELOPMENT PROPOSALS

4.1 Overview

4.1.1 The application site is proposed to be developed to provide a total of 1,975m² Gross Internal Area (GIA) of B2/B8 industrial unit/commercial warehouse land use with ancillary office space. An illustrative masterplan of the development scheme is provided at **Drawing 4696-RBP-pHp-XX-00-DR-A-101-P07** to this report. The full schedule of the proposed development is summarised below:

- 1,975m² GFA of development, across 1 unit, comprising:
 - 1,752m² GFA of B2/B8 land use;
 - 56m² GFA of ancillary office ground floor area; and
 - 167m² GFA of ancillary office first floor area.
- 27 Car parking spaces, comprising:
 - 21 standard car parking spaces (including 2 EVC);
 - 3 car-sharing parking spaces (both EVC); and
 - 3 accessible spaces (both EVC).
- 1 Cycle shelter providing 10 cycle spaces.
- 2 Motorcycle spaces.

4.2 Highway Access Strategy

4.2.1 As mentioned in Section 2 of this report, existing vehicular access to the application site is available via the Rhodes Business Park access road running along the site's north-western/north-eastern boundary. The route has a width of c7m and includes footway access. Accordingly, it is considered that the route is of a standard that would be appropriate to serve the commercial development proposed at the application site.

4.2.2 The development proposals include for the rearrangement of the existing site access junction in order to provide two new access junctions from the internal Rhodes Business Park access route.

4.3 Pedestrian / Cycle Access

- 4.3.1 As outlined above Silburn Way is an adopted route from its junction with Manchester Old Road to the Rhodes Business Park gated access. Footways at a width of 2.0m are provided along both sides of Silburn Way for its adopted extent. Within the business park itself a footway is provided along the northern side of the access road at a width of 2.0m.
- 4.3.2 The proposals, however, include for the introduction of a new section of footway to the southern side of the business park spine road, beyond the existing security gates. This new section of footway would enable those accessing the site on foot to cross over the access road to/from the security area and continue their journey safely.

4.4 Vehicle Servicing

- 4.4.1 The proposed site layout has been designed to accommodate the types of vehicles typically likely to be expected to the type of units proposed at the site - large vans, smaller HGVs and the occasional larger articulated HGV.
- 4.4.2 **Drawings J000467-ATR001 & ATR002** to this TA illustrate the swept path assessment of the proposed site layout based on access to the site by a rigid HGV, in the event that an articulated HGV is already parked in front of one of the loading doors, and vice versa. As outlined above, it is envisaged that access by articulated HGVs would not be a regular occurrence, and the majority of vehicles accessing the site would be either rigid HGVs or larger LGV panel vans. Nevertheless, the swept path assessments clearly demonstrate that the site would still cater for the occasional articulated 16.5m HGV at the same time as a rigid HGV. Accordingly, it is considered that the design of the site would be appropriate for the proposed use.

4.5 Vehicle Parking

- 4.5.1 As outlined above, the development proposals seek planning permission for up to 27 car parking spaces at the application site, along with 2 motorcycle spaces and

cycle parking for up to 10 cycles. This level of provision is considered to be in accordance with RBC standards.

5.0 KEY ASSESSMENT PARAMETERS

5.1 Assessment Time Periods

5.1.1 As identified in Section 2 of this report, review of background daily traffic patterns derived from the October 2023 traffic surveys suggests that maximum background traffic levels over the local highway network are experienced during the following weekday time periods:

- Network AM peak hour: **08:15-09:15**
- Network PM peak hour: **16:30-17:30**

5.1.2 In practice these AM & PM peak periods are also likely to represent the maximum combined traffic demand periods associated with traffic to and from the proposed commercial development and therefore these time periods have been utilised for the network capacity appraisals included in this TA report. In addition to the network peak hours, this TA also considers the trip generation associated with the development over the core weekday daytime 12-hour period of 07:00-19:00.

5.2 Future Year Traffic Growth Assumptions

5.2.1 It is anticipated that, based upon current market conditions, the development of the commercial site could be completed and fully occupied by the end of 2025. Accordingly, a 2025 opening year date has been utilised for core traffic demand assessments within this TA. In order to account for future network traffic conditions, an additional future design year of 2033 has been considered for all capacity related assessments. This represents 10 years beyond submission of planning application.

5.2.2 Guidance published by the DfT identifies that future estimates of traffic should be made through the application of regional growth factors derived from the National Transport Model (NTM). NTM forecasts give traffic growth by region, road type and whether the area is built up or not. These forecasts are then adjusted by local TEMPro factors to reflect local traffic trends. **Appendix TA3** provides the TEMPro growth factor outputs for the Rochdale 024 Super Output Area (MSOA), in which

the site lies, for the above future year periods, whilst **Table TA5.1** summarises the results.

Table TA5.1: TEMPro Adjusted NTM Growth Factors

	2023-2025	2023-2033
Weekday AM Peak	1.0156	1.1177
Weekday PM Peak	1.0145	1.1147
Average Weekday	1.0148	1.1158

- 5.2.3 The TEMPro adjusted NTM growth factors have been applied to the 2023 surveyed traffic flows presented in **Figures TA3a-c** to produce the 2025 Opening Year and 2033 Future Year baseline traffic flows illustrated respectively at **Figures TA10a-c** and **TA11a-c**.

5.3 Committed Development Traffic

- 5.3.1 Focus TP is not aware of any significant additional local committed development schemes that could be expected to have a material influence on future baseline traffic conditions in the immediate vicinity of the application scheme. However, given that TEMPro adjusted National Transport Model (NTM) factors, as outlined above, already include for both local housing and employment growth projections (as derived from such sources as Local Plans), the effects of any notable committed development schemes should be inherently accounted for within the application of general network growth.
- 5.3.2 Indeed, it should be noted that the TEMPro derived growth factors outlined above may also inherently include for the development of the application site for commercial use, as identified within the *RBC Draft Allocations Plan*, contained in **Appendix TA4**. The *Allocations Plan* proposes areas and sites around the borough to build or develop up to 2028 (setting to one side the potentially forthcoming Places for Everyone strategic development plan for the majority of Greater Manchester, incl. Rochdale). Accordingly, the assessments of this scheme that are outlined in the following sections of this report may potentially “double count” the effects of the development of the application site. Nevertheless, this approach is considered highly robust.

6.0 ANTICIPATED TRIP GENERATION AND DISTRIBUTION

6.1 Introduction

- 6.1.1 This section of the TA seeks to identify the levels of traffic anticipated to be generated by the proposed commercial development scheme and the routes that such traffic is likely to take on the local highway network.

6.2 Anticipated Trip Generation

- 6.2.1 Estimates of the trip generation likely to be associated with the proposed development have been derived reference to the TRICS database of development trip rates for both “Employment - Industrial Unit” and “Employment - Warehousing (Commercial)” land use sites within the TRICS database. The sites within the TRICS database for such uses include for ancillary office use also, and so there is no need to separately assess that element of the proposed use. TRICS is a nationally regarded source of historical trip demand data and contains observed traffic data for a large number of development-type sites. As such, it is considered a largely reliable source of base trip rate data.
- 6.2.2 It should be noted that TRICS provides outputs in half-hourly intervals (e.g. 08:00-08:30) and not for intervening fifteen-minute periods such as that being considered for the AM peak in this assessment (see section 5 to this TA). For the purposes of this assessment the “half-hour” TRICS information has been applied to the assessed peak hours regardless, in order to ensure the most robust assessment i.e., the TRICS forecasts of trip generation for 08:00-09:00 have been applied to the assessed period of 08:15-09:15.
- 6.2.3 Review of the TRICS data attached at **Appendix TA5** suggests the following “Total Vehicle” and “HGV” trip rates for the B2 and B8 land uses, for both the peak hour periods and 12-hour daytime period, as outlined in **Tables TA6.1a-b** and **Tables TA6.2a-b** below:

Table TA6.1a: TRICS Derived B8 Warehouse Trip Rates - Total Vehicles

	Warehouse (Commercial) - Trip Rate (per 100m ²)		
	Arr	Dep	Total
AM Peak (08:00-09:00)	0.380	0.068	0.448
PM Peak (16:30-17:30)	0.053	0.356	0.409
12-Hour (07:00-19:00)	2.428	2.643	5.071

Table TA6.1b: TRICS Derived B8 Warehouse Trip Rates - HGVs

	Warehouse (Commercial) - Trip Rate (per 100m ²)		
	Arr	Dep	Total
AM Peak (08:00-09:00)	0.016	0.016	0.032
PM Peak (16:30-17:30)	0.015	0.015	0.030
12-Hour (07:00-19:00)	0.422	0.404	0.826

Table TA6.2a: TRICS Derived B2 Industrial Unit Trip Rates - Total Vehicles

	Industrial Unit - Trip Rate (per 100m ²)		
	Arr	Dep	Total
AM Peak (08:00-09:00)	0.335	0.059	0.394
PM Peak (16:30-17:30)	0.061	0.306	0.367
12-Hour (07:00-19:00)	1.956	1.976	3.932

Table TA6.2b: TRICS Derived B2 Industrial Unit Trip Rates - HGVs

	Industrial Unit - Trip Rate (per 100m ²)		
	Arr	Dep	Total
AM Peak (08:00-09:00)	0.024	0.021	0.045
PM Peak (16:30-17:30)	0.002	0.006	0.008
12-Hour (07:00-19:00)	0.304	0.242	0.546

- 6.2.4 Application of the above trip rates to the proposed schedule of development outlined above would suggest the following estimates of trip demand.

Table TA6.3a: Predicted Development Trips - B8 Warehouse - Total Vehicles

	Warehouse (Commercial) - 1,975m ² GFA		
	Arr	Dep	Total
AM Peak (08:15-09:15)	8	1	9
PM Peak (16:30-17:30)	1	7	8
12-Hour (07:00-19:00)	48	52	100

Table TA6.3b: Predicted Development Trips - B8 Warehouse - HGVs

	Warehouse (Commercial) - 1,975m ² GFA		
	Arr	Dep	Total
AM Peak (08:15-09:15)	1	1	2
PM Peak (16:30-17:30)	1	1	2
12-Hour (07:00-19:00)	8	8	16

Table TA6.4a: Predicted Development Trips - B2 Industrial Unit - Total Vehicles

	Industrial Unit - 1,975m ² GFA		
	Arr	Dep	Total
AM Peak (08:15-09:15)	7	1	8
PM Peak (16:30-17:30)	1	6	7
12-Hour (07:00-19:00)	39	39	78

Table TA6.3b: Predicted Development Trips - B2 Industrial Unit - HGVs

	Industrial Unit - 1,975m ² GFA		
	Arr	Dep	Total
AM Peak (08:15-09:15)	0	0	0
PM Peak (16:30-17:30)	0	0	0
12-Hour (07:00-19:00)	6	5	11

6.2.5 Review of the trip rate assessment above identifies that the application site is likely to typically generate similar levels of traffic under either the B2 or B8 land use designations - between 7-9 two-way vehicle movements are forecast during each peak hour period, with the B8 use generating 1 more two-way movement in each peak than the B2 use. Over the course of the core daytime 12-hour period, the B2 use is anticipated to give rise to a marginally lower level of trip demand - of the order of 80 two-way movements compared to 100 two-way movements from the B8 use. Such peak hour levels of traffic are the equivalent of approximately 1 additional vehicle movement every 6-7 minutes. It is anticipated that such levels of trip generation are unlikely to result in any noticeable impact upon local network operating conditions.

6.2.6 With regard to HGV trip generation, the above assessment identifies that peak hour movements are not anticipated to be significant, with a maximum of 2 two-way HGV movements during the AM & PM peaks for the B8 use and no HGV trips under the B2 use. Over the course of the 12-hour period, approximately 1 additional two-way vehicle movement every 4 minutes is expected across the daytime period under the B8 use falling to 1 two-way movement every 6 minutes under the B2 use.

6.2.7 On the basis of the above review of trip generation associated with either the B2 or B8 land use of the application site, the remainder of this Transport Assessment considers the traffic related effects of the proposed development scheme under the marginally higher trip generating use of B8 Commercial Warehousing. Similarly, the assessment of traffic related effects on air quality, in the Air Quality Assessment, is also based upon the marginally higher trip generating B8 warehouse use.

6.3 Predicted Development Traffic Distribution and Assignment

6.3.1 The distribution of development related traffic to and from the application site has been undertaken on the basis of a gravity model derived from the 2011 Census Journey to Work data, which provides home origin and employment destination information for all wards within the UK.

6.3.2 The 2011 Census data was analysed with regard to all employment trips made to the Rochdale 024 MSOA (see Section 5.2) and, in particular, those made by vehicle. Trips to the employment destination ward were distributed on the basis of the most likely route choices that drivers would make, based on local knowledge of the area along with proprietary traffic routing software. The distribution of trips was undertaken across a wider area than is assessed within this TA - the data produced in order to inform the Air Quality Assessment that is submitted with the application. Accordingly, **Table TA6.5** below illustrates the calculated anticipated proportional distribution of traffic along the key local route corridors which comprise the extents of the study area considered in the wider AQA study area:

Table TA6.5: Anticipated Distribution of Development Traffic

Route	Proportion of Development Traffic
M60 (N) via J19	34.3%
A576 Middleton Rd (W) via J19	4.9%
M60 (S) via J19	13.6%
A6045 Heywood Old Rd	6.9%
A664 Oldham Rd (E)	34.6%
A664 Rochdale Rd (S) at J20	5.7%

6.3.3 The above development traffic distribution assumptions have then been used to derive a more localised distribution matrix, which is illustrated in **Figure TA12** to this report. Assignment of the anticipated development trip totals (based on B8 use) to these distribution proportions is illustrated in **Figures TA13a-c** to this report.

6.4 Predicted Future Year Traffic Flows

6.4.1 The anticipated assignment of development trips illustrated in **Figures TA13a-c** has been added to the projected 2025 Opening Year and 2033 Future Year baseline network traffic movements identified at **Figures TA10a-c** and **TA11a-c** in Section 6 of this TA. The resulting 2025 Opening Year and 2033 Future Year baseline plus development network traffic flows used for the assessment of development impact are illustrated in **Figures TA14a-c** and **TA15a-c**.

7.0 ASSESSMENT OF ANTICIPATED DEVELOPMENT TRAFFIC IMPACT

7.1 Introduction

7.1.1 This section of the report considers the operation of the immediate highway network to the development site and the ability of this network to accommodate the predicted future development traffic flow conditions identified in Section 6. Assessment of the impact of the development proposals has been carried out through the consideration of both link flow impact and junction operational capacity across the study area as summarised below:

- A576 Manchester Old Road/Middleton Road/A6045 Heywood Old Road/Kelvin Avenue signalised 4-arm junction; and,
- A576 Manchester Old Road/Silburn Way priority T-junction.

7.1.2 The assessment of development impact has been undertaken for each of the above network locations on the basis of the following traffic flow scenarios:

- 2023 Surveyed AM and PM peak hour periods;
- 2025 Opening Year Baseline AM and PM peak hour periods;
- 2033 Future Year Baseline AM and PM peak hour periods;
- 2025 Opening Year Baseline + Development AM and PM peak hour periods; and,
- 2033 Future Year Baseline + Development AM and PM peak hour periods.

7.1.3 The operational performance of the above junctions has been assessed using the following industry standard software:

- TRL analysis software Junctions9 (PICADY module) - for priority-controlled T-junctions; and,
- JCT Consultancy LinSig V3 - for traffic signal-controlled junctions.

7.2 Planning Policy Context

7.2.1 Paragraphs 110-113 of the National Planning Policy Framework (September 2023) (NPPF) provide guidance on the nature and detail of development transport

appraisal to be carried out to support new development schemes and those key matters to be considered when determining the suitability of proposals:

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

- a) appropriate opportunities to promote sustainable transport modes can be - or have been - taken up, given the type of development and its location;***
- b) safe and suitable access to the site can be achieved for all users;***
- c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and***
- d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.” (Para 110)***

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.” (Para 111)

“All developments that will generate significant amounts of movement should be required to provide a Travel Plan, and the application should be supported by a Transport Statement or Transport Assessment so that the likely impacts of the proposal can be assessed” (Para 113)

7.2.2 Paragraph 111 of the NPPF is considered to be of key relevance in the context of the review of the proposed commercial development scheme at Rhodes Business Park, and the assessment of the operation of the immediate local highway network. NPPF clearly identifies that development should only be refused on traffic and transportation grounds in those cases where highways impact would be ‘severe’. This is typically understood to mean situations where development is likely to result in a material detrimental step change in highway network operating circumstances when compared to predicted baseline conditions.

7.2.3 Whilst the NPPF does not seek to define the nature of what is considered to represent a severe impact, thereby allowing for some flexibility to reflect site specific circumstances, it is clear that the guidance has the effect of setting a high level for planning & highway authorities in terms of their ability to identify and successfully sustain objections to planning applications on highways grounds. The

very nature of the wording of NPPF paragraph 111 inherently suggests that some measure of highways impact must be viewed as being acceptable and that it is only when a severe detrimental highways position is identified that a refusal of planning permission on such grounds is appropriate.

7.3 Assessment Approach & Impact Criteria

7.3.1 The anticipated network operational impact of the proposed development has been established by reference to the following matters:

- *Link flow impact assessment* - percentage change in predicted future year network traffic flows between Baseline and Baseline + Development scenario network traffic flows.
- *Junction operational assessment* - via reference to industry standard junction modelling software.

7.3.2 The assessment of link impact has been undertaken for the anticipated opening year of 2025, which should provide the maximum proportional impact of the development proposals. Assessments consider the change in traffic flows arising in a “Baseline + Development” scenario against a “Baseline” scenario which represents the effective future baseline traffic flow conditions across the study area highway network.

7.3.3 Assessments of study area network junction capacity have been undertaken for both the anticipated 2025 Opening Year as well as the Future Year of 2033, for all scenarios. These 2033 Future Year traffic flow forecasts would represent the worst-case assessment conditions for junction capacity when compared to the 2025 Opening Year conditions (future year conditions would see a higher total volume of traffic assessed at each junction than opening year conditions). Accordingly, this TA only presents and considers the results of the future year assessment scenarios.

7.3.4 Further information with respect to appropriate assessment criteria and thresholds is set out below.

Link Impact Assessment (Percentage Change)

7.3.5 Traditionally, link flow assessment criteria have been based on those percentage impact thresholds identified in 1994 Institution of Highways and Transportation report ‘Guidelines for Traffic Impact Assessment’. This document suggested that more detailed analysis of highway impact and/or capacity improvements was only likely to be required for situations when either:

- Traffic to/from the development exceeds 10% of existing two-way traffic on the adjoining highway; or,
- Where traffic to/from the development exceeds 5% of the existing two-way traffic flow on the adjoining highways, at locations where traffic congestion exists within the assessment period or in other sensitive locations.

7.3.6 This position was reviewed and updated in March 2007 DfT document “Guidelines for Transport Assessment”, subsequently withdrawn in 2014, which noted:

“If the TA confirms that a development will have material impact on the highway network, the level of impact at all critical locations on the network should be established. A particular example of material impact would be a worsening of congestion. In congested areas, the percentage traffic impact that is considered significant or detrimental to the network may be relatively low (possibly below the average daily variation in flow), and should have been determined in discussions with the relevant highway authorities. For the avoidance of doubt, the 1994 guidance regarding the assessment thresholds of 10 per cent and 5 per cent levels of development traffic relative to background traffic is no longer deemed an acceptable mechanism, since it creates an incentive in favour of locating development where high levels of background traffic already exist.”

7.3.7 Notwithstanding these observations, in the case of the wider local highway network to the application site, which has been noted to operate with a reasonable degree of spare capacity, it is considered that the traditional 5% & 10% thresholds still represent a reasonable contextual guide as to the extent of development-related traffic impact on immediate local routes.

Junction Operational Capacity Assessment

- 7.3.8 In order to provide a comprehensive understanding of the potential operational effects associated with the application scheme, this TA report also includes for an appraisal of the future capacity of key local junctions using industry standard analysis software (Junctions9 for priority-controlled junctions & LinSig V3 for signal-controlled junctions).

Junctions 9 - PICADY

- 7.3.9 The Junctions9 software considers junction performance with regard to the Ratio of Flow to Capacity (RFC) and associated traffic queuing. RFC values for approach arms between 0.00 and 0.85 are generally considered to represent stable and acceptable operating conditions. Values between 0.85 and 1.0 represent variable operation i.e., possible substantive queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction. RFC values in excess of 1.0 represent overloaded conditions i.e., congested conditions.
- 7.3.10 Guidance in relation to the design of new junction schemes and operating capacity thresholds states:

“Due to site to site entry variation, there may be a standard error of prediction of the entry capacity by the formulae of + or - 15% for any site. Thus, queuing should not occur in the various turning movements in the chosen design year peak hour in 5 out of 6 peak periods or sites, if a maximum RFC of about 85% (0.85) is used. Similarly, if a maximum RFC of 75% is used, queuing will theoretically be avoided in 39 out of 40 peak hour periods or sites.

The general use of designs with an RFC of about 85% is likely to result in a level of provision which will be economically justified....”

- 7.3.11 The above guidance clearly identifies that it is possible for a junction to operate with individual RFC levels of above 0.85 without regular unacceptable congestion and delay taking place. The 0.85 threshold identifies the optimum position at which operational capacity is maximised when viewed against the likely frequency of queuing and delay events. RFC values of above 0.85 simply demonstrate a greater potential for congestion and delay to occur, which must be viewed in the

context of the extent of future year horizon under assessment and general network wide baseline conditions.

LinSig V3

7.3.12 LinSig software presents network modelling results in terms of a percentage Degree of Saturation (DoS) value and corresponding predicted traffic queues for each modelled link. For traffic signal-controlled junctions, it is generally accepted that degrees of saturation of 90% or less on individual links represent satisfactory link operation, with values above this threshold (but below 100%) representing variable operation and therefore increasing the potential for regular congestion and delay.

7.3.13 LinSig also provides a further reference value, Practical Reserve Capacity (PRC), which provides an overall indicative measure of the general operation of a junction within the network. PRC values of 0% or above are generally considered to represent acceptable junction operating conditions, with values of less than 0% (negative PRC) indicating a propensity for more variable junction operation and the potential for some congestion and queue build up. It should be noted that negative junction PRC values can be obtained when a number of individual junction arms are operating at less than 100% degree of saturation i.e. the point where theoretical operating capacity is reached on an approach arm. The PRC value provides only a general guide to overall junction performance.

7.4 Assessment of Link Flow Impact (Proportional Change)

7.4.1 **Table TA7.1** below illustrates the anticipated changes in 2025 Opening Year traffic flows as a result of the anticipated trip generation of the commercial warehousing development proposals (assuming the higher B8 warehouse trip generation).

Table TA7.1: Predicted 2025 “Opening Year” Link Impact

Two-way Link Flow	Proportional Impact (%)		
	AM Peak Period (08:15-09:15)	PM Peak Period (16:30-17:30)	12-Hour Period (07:00-19:00)
<i>A576 Manchester Old Rd/Silburn Way T-Junction</i>			
Manchester Old Rd (E)	0.30%	0.21%	0.29%
Manchester Old Rd (W)	0.44%	0.31%	0.42%
<i>A576 Manchester Old Rd/A6045 Heywood Rd Signalised Junction</i>			

Manchester Old Rd (E)	0.46%	0.32%	0.44%
Heywood Old Rd	0.06%	0.04%	0.06%
Manchester Old Rd (W)	0.25%	0.17%	0.24%

Two-way traffic flows

7.4.2 Review of the illustrated changes in link flows identifies that across the local highway network the proposed development scheme is not anticipated to give rise to any material increases in traffic. During the 2025 assessment year scenario all links within the local highway network would see increases in traffic of less than 0.5%, significantly below the 5% threshold outlined above for congested conditions. The proportional impact of traffic arising from the development would therefore be negligible.

7.5 Assessment of Junction Operational Capacity

7.5.1 Junction capacity modelling of the junctions outlined above should provide further clarification as to whether the proposed development would give rise to any measurable effects on the local highway network. Assessments of junction capacity have been undertaken for the AM and PM peak hour periods identified in section 6 of this report (08:15-09:15 & 16:30-17:30).

A576 Manchester Old Road/Silburn Way T-Junction

7.5.2 The results of the PICADY assessment of the A576 Manchester Old Road/Silburn Way priority-controlled T-junction are summarised in **Tables TA7.2a-b** below, for the 2023 surveyed traffic flows, the 2033 baseline traffic flows (i.e. without development) and the 2033 baseline flows with development in place (full PICADY output is attached at **Appendix TA6**):

Table TA7.2a: A576 Manchester Old Rd/Silburn Way Junction- AM Peak

Turning Movement	2023 Survey		2033 Baseline		2033 Baseline + Development	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Stream B-C	0.01	0.0	0.01	0.0	0.01	0.0
Stream B-A	0.03	0.0	0.04	0.0	0.05	0.0
Stream C-AB	0.05	0.1	0.06	0.1	0.07	0.1

Arm A - A576 Manchester Old Road (E) Arm B - Silburn Way Arm C - A576 Manchester Old Road (W)

Table TA7.2b: A576 Manchester Old Rd/Silburn Way Junction - PM Peak

Turning Movement	2023 Survey		2033 Baseline		2033 Baseline + Development	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Stream B-C	0.07	0.1	0.08	0.1	0.09	0.1
Stream B-A	0.13	0.1	0.18	0.2	0.20	0.3
Stream C-AB	0.01	0.0	0.01	0.0	0.02	0.0

Arm A - A576 Manchester Old Road (E) Arm B - Silburn Way Arm C - A576 Manchester Old Road (W)

- 7.5.3 Review of these capacity assessment results demonstrates that the site access connection to the A576 Manchester Old Road corridor is predicted to operate with significant levels of spare capacity during both the AM and PM network peak periods. Maximum RFC values would be well below 0.85 whilst any queuing would be negligible.

A576 Manchester Old Road Crossroads Signalised Junction

- 7.5.4 The results of the LinSig assessment of the A576 signalised junction are summarised in **Table TA7.3a-b** below, for the 2023 surveyed traffic flows, the 2033 baseline traffic flows (without development) and the 2033 baseline flows with development in place (full LinSig output is attached at **Appendix TA7**):

Table TA7.3a: A576 Manchester Old Rd/Silburn Way Junction - AM Peak

AM Peak	2023 Survey		2033 Baseline		2033 Baseline + Development	
	DoS	Mean Max Queue (PCU)	DoS	Mean Max Queue (PCU)	DoS	Mean Max Queue (PCU)
A576 Middleton Rd Left	47.9%	6.4	53.6%	7.4	53.6%	7.4
A576 Middleton Rd Right/Ahead	70.0%	12.0	78.1%	14.3	78.1%	14.5
Kelvin Ave Left/Right/Ahead	2.0%	0.2	2.2%	0.2	2.2%	0.2
A576 Manchester Old Rd Ahead/Left	62.8%	9.7	75.0%	12.6	77.0%	13.1
A576 Manchester Old Rd Ahead/Right	51.7%	3.7	64.9%	3.9	62.9%	3.7

A6045 Heywood Old Rd Ahead/Left	8.7%	1.0	9.7%	1.1	9.8%	1.1
A6045 Heywood Old Rd Right	70.1%	11.0	78.4%	13.6	78.4%	13.6
PRC	28.5%		14.8%		14.2%	
Cycle Time	90s		90s		90s	

Table TA7.3b: A576 Manchester Old Rd/Silburn Way Junction - PM Peak

PM Peak	2023 Survey		2023 Baseline		2023 Baseline + Development	
	DoS	Mean Max Queue (PCU)	DoS	Mean Max Queue (PCU)	DoS	Mean Max Queue (PCU)
A576 Middleton Rd Left	82.1%	15.8	91.4%	23.9	91.4%	23.9
A576 Middleton Rd Right/Ahead	69.1%	13.1	77.0%	18.1	77.2%	18.1
Kelvin Ave Left/Right/Ahead	4.0%	0.2	4.5%	0.4	4.5%	0.4
A576 Manchester Old Rd Ahead/Left	64.6%	10.8	72.0%	14.9	72.5%	15.1
A576 Manchester Old Rd Ahead/Right	75.0%	2.3	83.3%	3.4	84.2%	3.5
A6045 Heywood Old Rd Ahead/Left	13.2%	1.5	14.6%	1.5	14.6%	1.5
A6045 Heywood Old Rd Right	79.7%	12.3	89.2%	14.5	89.2%	14.5
PRC	9.7%		-1.6%		-1.6%	
Cycle Time	90s		90s		90s	

7.5.5 Review of the above results identifies that the junction currently operates with a reasonable level of capacity (PRC >28%) during the AM peak period and with some level of capacity (PRC c10%) during the PM peak period. Under 2033 Future Year baseline conditions the modelling identifies increases in maximum Degrees of Saturation from 70% to 78% during the AM peak period, and from 82% to 91% during the PM peak period, with PRC falling to -1.6%.

7.5.6 The addition of forecast development traffic flows would not result in any notable increase in DoS at the junction during either peak period, with junction capacity anticipated to also remain the same. Similarly the addition of development related

traffic is not anticipated to result in any notable increase in queuing at the junction. In summary, it is clear that the proposed B2/B8 commercial development would give rise to only a negligible impact upon local highway network junction capacity.

7.6 Impact Summary

- 7.6.1 In summary it is concluded that the proposed B2/B8 commercial development scheme would not give rise to any material adverse impact upon local highway network capacity. Indeed, it has been demonstrated that traffic anticipated to arise from the development would have only a negligible impact, both in terms of the proportional increase in traffic on the network and also in terms of local highway network junction capacity.

8.0 SUMMARY & CONCLUSIONS

8.1 Introduction

8.1.1 This Transport Assessment has been prepared by Focus Transport Planning on behalf of Oxenwood to consider highways and transport matters related to proposals for a new B2/B8 commercial development scheme on land off Silburn Way, Middleton, Greater Manchester.

8.1.2 This report includes a review of existing local conditions, consideration of the development scheme, review of the proposed site access strategy and an analysis of the impact of development related traffic over the immediate local highway network. In addition, the report considers the sustainability of the site, its accessibility to existing local services and from surrounding residential areas, and the opportunity to encourage trips to and from the site to be undertaken by alternative travel modes to the private car.

8.1.3 This assessment has been undertaken in line with current best practice guidance on Transport Assessments, as outlined in national Planning Practice Guidance (PPG). The scope and nature of the assessment matters considered in this TA reflects the extent of highways and traffic issues considered to be of material interest to the Local Planning and Highway Authority (LPA/LHA), Rochdale Borough Council.

8.2 Site Location & Existing Conditions

8.2.1 The application site currently forms a parcel of brownfield land, totalling c0.5ha, and located approximately 1.7km to the southwest of Middleton town centre. To the immediate north the site is bounded by Silburn Way (access road to Rhodes Business Park), to the south lies the River Irk, whilst to the east and west the site is bounded by the riverbank of the River Irk.

8.2.2 Vehicular access to the site is directly from Silburn Way via the A576 Manchester Old Road. The route of Silburn Way gives access to the established Rhodes Business Park. The access road forms a priority T-junction with A576 Manchester Old Road, which in turn forms a signalised crossroads junction with A6045 Heywood Old Road,

Kelvin Avenue and A576 Middleton Road, approximately 1km to the south-west of the application site. These two junctions form the extent of the study area considered within this TA.

Existing Observed Traffic Demand

- 8.2.3 Base traffic flow patterns for the local highway network have been established through the undertaking of traffic surveys in October 2023 at both the signalised junction of the A576 Manchester Old Road/Middleton Road/A6045 Heywood Old Road/Kelvin Avenue, as well as the Rhodes Business Park access road junction of the A576 Manchester Old Road/Silburn Way.
- 8.2.4 Based upon the recorded survey data, the AM and PM network peak rush hour periods were determined to be between 08:15-09:15 and 16:30-17:30 respectively. Reference to the recorded peak hour traffic data identifies that maximum prevailing traffic levels along the A576 Manchester Old Road stand at 1,515 two-way movements during the PM peak hour period, falling to 1,182 two-way movements during the AM peak hour. At the Rhodes Business Park access junction turning movements were recorded as 50 two-way during the PM peak hour, with 45 during the AM peak period.

Personal Injury Accident Records

- 8.2.5 Personal Injury Accident (PIA) data for the immediate local highway network has been obtained from Crashmap.co.uk for the five-year period Q1 2017 to Q3 2021 inclusive. Review of the data ultimately concludes that there are no prevailing material highway safety issues within the vicinity of the site which give rise to any demonstrable adverse safety record.

8.3 Site Accessibility Audit

- 8.3.1 The location of the application site is anticipated to allow for a range of everyday journeys to be undertaken by sustainable transport modes including walking, cycling and public transport. Frequent bus services to a number of key destinations including Manchester City centre are anticipated to reduce the need for employees based at the site to utilise the car for everyday journeys. Such positive locational

characteristics should assist in meeting the key sustainable planning objectives of promoting opportunities for the use of alternative travel modes to the private car and managing the overall traffic impact associated with new development.

8.4 Description of the Development Proposals

- 8.4.1 The application site is proposed to be developed to provide a total of 1,975m² Gross Floor Area (GFA) of B2/B8 industrial/warehouse land use with ancillary office space.
- 8.4.2 Access to the development site would be taken via two new access junctions with the existing Rhodes Business Park access road running along the site's north-western/north-eastern boundary. The route has a width of c7m and includes footway access. Accordingly, it is considered that the route is of a standard that would be appropriate to serve the commercial development proposed at the application site.
- 8.4.3 The development proposals also include for 27 parking spaces (in accordance with RBC standards). Sustainable transport related infrastructure measures within the site are proposed such as car-sharing parking spaces, EV charging parking spaces, a cycle shelter as well as new footway connections to connect with existing Business Park footways.

8.5 Key Assessment Parameters

Assessment Time Periods

- 8.5.1 Based on the review of background daily traffic patterns derived from the 2023 traffic surveys, maximum background traffic levels across the local highway network are experienced for the AM and PM peak hours of 08:15-09:15 and 16:30-17:30 respectively. Given that these AM & PM peak periods are also likely to represent the maximum traffic periods associated with traffic to and from the proposed commercial development, these time periods have been utilised for the network capacity appraisals included in this TA report, along with the core weekday daytime 12-hour period of 07:00-19:00.

Future Year Traffic Growth Assumptions

- 8.5.2 It is anticipated that, based upon current market conditions, the development of the commercial site could be completed and fully occupied by the end of 2025. Accordingly, a 2025 Opening Year date has been utilised for core traffic demand assessments. In order to account for future network traffic conditions, an additional future design year of 2033 has been considered for all capacity related assessments. This represents 10 years beyond submission of planning application.
- 8.5.3 Background traffic data has been factored up to these future years on the basis of DfT NTM TEMPro forecasts for the immediate area, in order to create opening year and future year background traffic flows.

Committed Development Traffic

- 8.5.4 Focus TP is not aware of any significant additional local committed development schemes that could be expected to have a material influence on future baseline traffic conditions in the immediate vicinity of the application scheme. However, given that TEMPro adjusted National Transport Model (NTM) factors, as outlined above, already include for both local housing and employment growth projections (as derived from such sources as Local Plans), the effects of any notable committed development schemes should be inherently accounted for within the application of general network growth.

8.6 Anticipated Trip Generation and Distribution

- 8.6.1 Estimates of the trip generation likely to be associated with the proposed development have been derived reference to the TRICS database of development trip rates for both “Employment - Industrial Unit” and “Employment - Warehousing (Commercial)” land use sites within the TRICS database.
- 8.6.2 Of the two land uses proposed at the site, B8 warehousing is anticipated to give rise to a marginally higher level of trip generation when compared to the potential B2 use. Based on this approach, it has been identified that the site could generate a maximum of between 7-9 two-way vehicle movements during each of the peak hour periods, and between 80-100 two-way movements over the course of the core

daytime 12-hour period. This level of trip generation would equate to approximately 1 additional two-way vehicle movement every 6-7 minutes during each peak hour.

8.6.3 With regard to HGV trip generation, the above assessment identifies that peak hour movements are not anticipated to be significant, with a maximum of 2 two-way HGV movements during the AM & PM peaks under the B8 warehouse use. Over the course of the 12-hour period, approximately 1 additional two-way vehicle movement every 4 minutes is expected across the daytime period.

8.6.4 The distribution of development related traffic to and from the application site has been undertaken on the basis of a gravity model derived from the 2011 Census Journey to Work data, which provides home origin and employment destination information for all wards within the UK. This approach has identified that approximately one third of all trips would route via the M60 (N) at J19, with another third via the A664 Oldham Road to the east. The remaining split of trips would route via a mix of other local routes towards Manchester and Rochdale, as well as via the M60 (S) at J19.

8.7 Assessment of Anticipated Development Traffic Impact

8.7.1 Assessment of the impact of the development proposals has been based upon the marginally higher trip generating B8 warehouse land use, and has been undertaken through the consideration of both link flow impact and junction operational capacity across the local highway network that forms the study area.

Assessment of Link Flow Impact

8.7.2 A review of the predicted changes in local network link flows has identified that the proposed development scheme would not give rise to any notable increases in traffic. During the 2025 assessment year scenario all links on the network would see increases below 0.5% - well below the traditional assessment threshold for congested conditions.

Assessment of Junction Operational Impact

8.7.3 Notwithstanding the results of the proportional link flow impact exercise, junction capacity modelling has been undertaken for the AM and PM peak hour future year periods, for both junctions within the study area. Assessments have considered 2023 surveyed traffic flows, 2033 baseline traffic flows (without development) and 2033 baseline flows with development in place, in order to provide a comparison against future year baseline conditions without the commercial development in place.

8.7.4 It has been concluded that the addition of development related traffic is not anticipated to result in any notable decrease in operational capacity or increase in queuing at either junction in the study area. Indeed, it has been concluded that the proposed B2/B8 commercial development would give rise to only a negligible impact upon local highway network junction capacity.

8.8 Summary

8.8.1 Given the above review of issues, it is considered that the proposed B2/B8 commercial development scheme represents an appropriate and sustainable development. The application site is located adjacent to established residential areas and within a short walk of other key facilities and services. The site is also accessible via a range of travel modes and has the potential to accommodate further sustainable travel modes in the future. Crucially the site is well located to the Strategic Route Network via the M60 at J19, as well as the Primary Route Network of the wider Greater Manchester area, which will assist in reducing vehicle miles associated with the transportation of any goods to and from the site.

8.8.2 This TA has demonstrated that the development scheme would not result in a severe or detrimental impact on the local highway network, either in operational or highway safety terms. Indeed, it has been demonstrated in this TA that the development proposals would give rise to a strictly negligible impact on local highway network operation. Focus TP therefore considers that there are no overriding reasons for refusing the planning application on highways and transportation grounds.



<u>UNIT</u>	
Warehouse Area	- 1,752 sqm / 18,858 ft ²
Office Ground Floor	- 56 m ² / 602 ft ²
Office First Floor	- 167 m ² / 1,797 ft ²
Total GIA	- 1,975 m² / 21,258 ft²
Internal Haunch Height - 9m	

Car Parking = **27 Bays** (Including 3 Disabled)
 Motorcycle Parking (PTW) = **2 Bays**
 Cycle Shelters = **10 Cycles Spaces**

Level Access = 2 Doors

External Finishes Legend

- 
Trees and Hedges
 All proposed trees are shown indicatively for illustrative purposes. For detailed information on new, retained and removed planting refer to Landscape Architects drawing and specification.
 - 
Trees to be removed
 Refer to Landscape Architects drawings for further details.

Rev. _____ Date/Checked _____

The Old Rectory Rectory Lane Milton Malsor
NORTHAMPTON NN7 3AQ

t: +44 (0)1604 858916 f: +44 (0)1604 859123

www.peter-huddon.com

pHp
architects

Proposed Site Plan

Status	PLANNING
--------	----------

Drawn	JB	Checked	JL
-------	----	---------	----

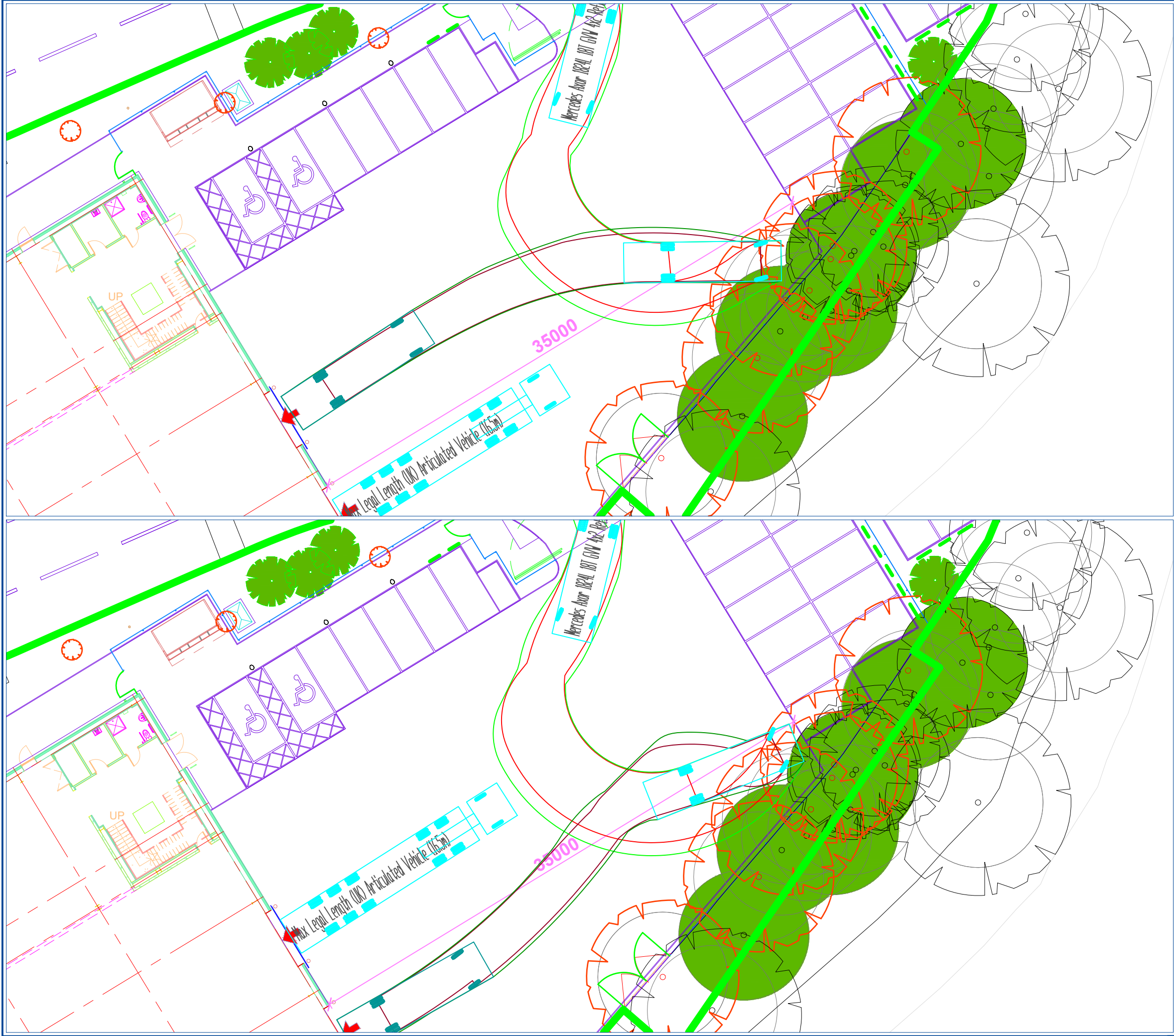
Date AUGUST 2023

Project Code	Originator	Zone	Level-Info	Type	Rate	Org. No.	Revision
--------------	------------	------	------------	------	------	----------	----------

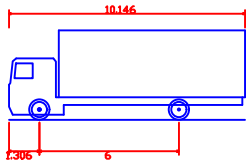
RBP- pHp-XX- 00- DR-A- 101- P07
Scale@ A0 As indicated

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SCALE 1:200
Copyright reserved. Dimensions to be checked on site.

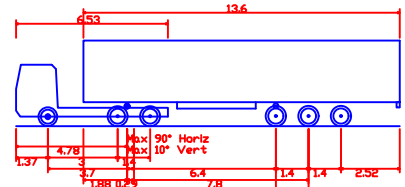
Discrepancies to be reported before proceeding.	
---	--



Revision:
A -



Mercedes Axor 1824L 18T GVW 4x2 Refrigerated
Overall Length 10.146m
Overall Width 2.587m
Overall Body Height 3.841m
Min Body Ground Clearance 0.221m
Track Width 2.490m
Lock to lock time 5.00s
Max Steering Angle (Virtual) 41.10°



Max Legal Length (UK) Articulated Vehicle (16.5m)
Overall Length 16.500m
Overall Width 2.550m
Overall Body Height 3.681m
Min Body Ground Clearance 0.411m
Max Track Width 2.500m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 6.530m

Client:
Oxenwood Real Estate

Project:
Proposed B2/B8 Unit on Land at
Rhodes Business Park, Middleton

Drawing Title:
Swept Path Assessment of Proposed Site
Layout Based on 16.5m Articulated HGV &
Rigid HGV Simultaneously (1 of 2)

Drawing Number:
J000467-ATR001

Revision:
-

Date:
20.10.23

Scale:
NTS

Drawn By:
MH

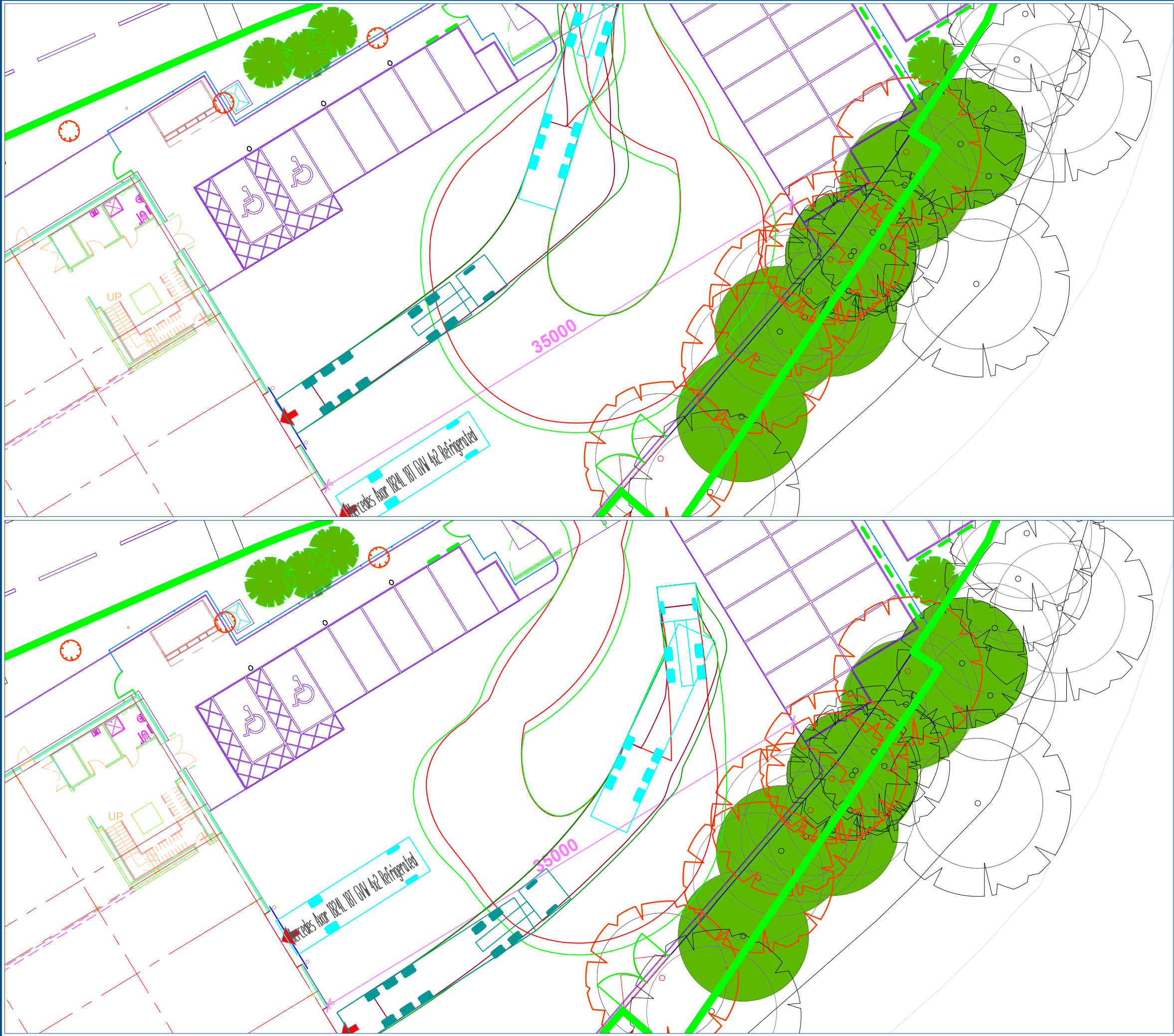
Checked By:
MH

Status:
Planning

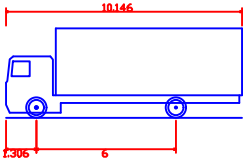
This drawing is the copyright of Focus Transport Planning Ltd. and may not be loaned, copied or reproduced in any way, or used for any offer, quote, tender or construction purposes without prior written consent of the company.

DO NOT SCALE - Follow any figured dimensions.

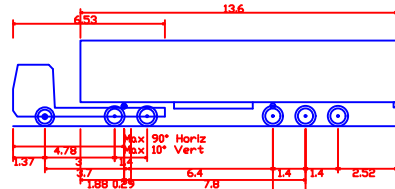
This drawing has been prepared for feasibility purposes and does not represent a construction plan. All design aspects to be confirmed at the appropriate detailed design stage.



Revision:	
A	-



Mercedes Axor 1824L 18T GVW 4x2 Refrigerated	
Overall Length	10.146m
Overall Width	2.306m
Overall Body Height	0.587m
Min Body Ground Clearance	0.221m
Track Width	2.490m
Lock to lock time	5.00s
Max Steering Angle (Virtual)	41.10°



Max Legal Length (UK) Articulated Vehicle (16.5m)	
Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

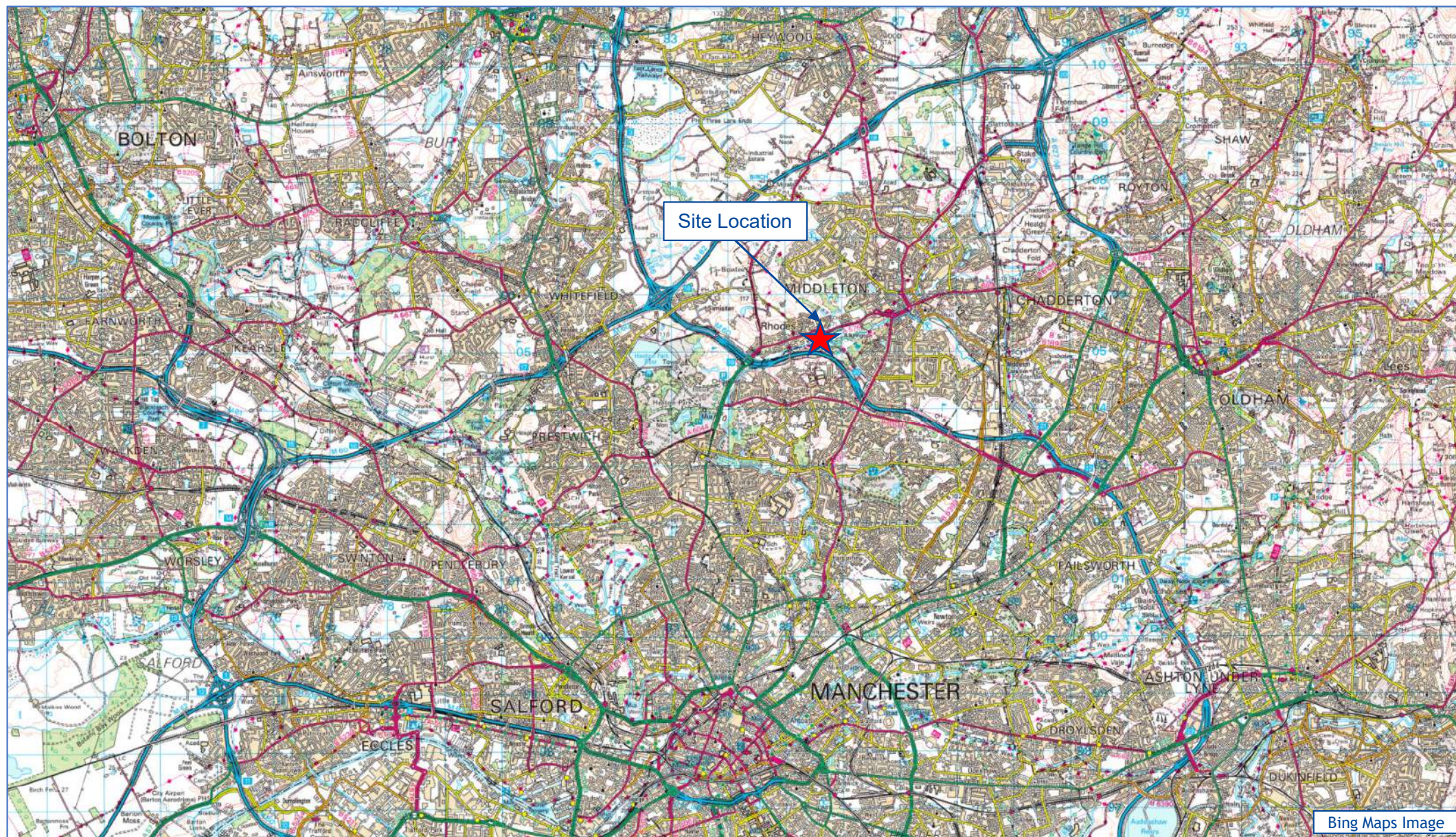
Client:	
Oxenwood Real Estate	
Project:	
Proposed B2/B8 Unit on Land at Rhodes Business Park, Middleton	
Drawing Title:	
Swept Path Assessment of Proposed Site Layout Based on 16.5m Articulated HGV & Rigid HGV Simultaneously (2 of 2)	
Drawing Number:	Revision:
J000467-ATR002	-
Date:	Scale:
20.10.23	NTS
Drawn By:	Checked By:
MH	MH
Status:	
Planning	

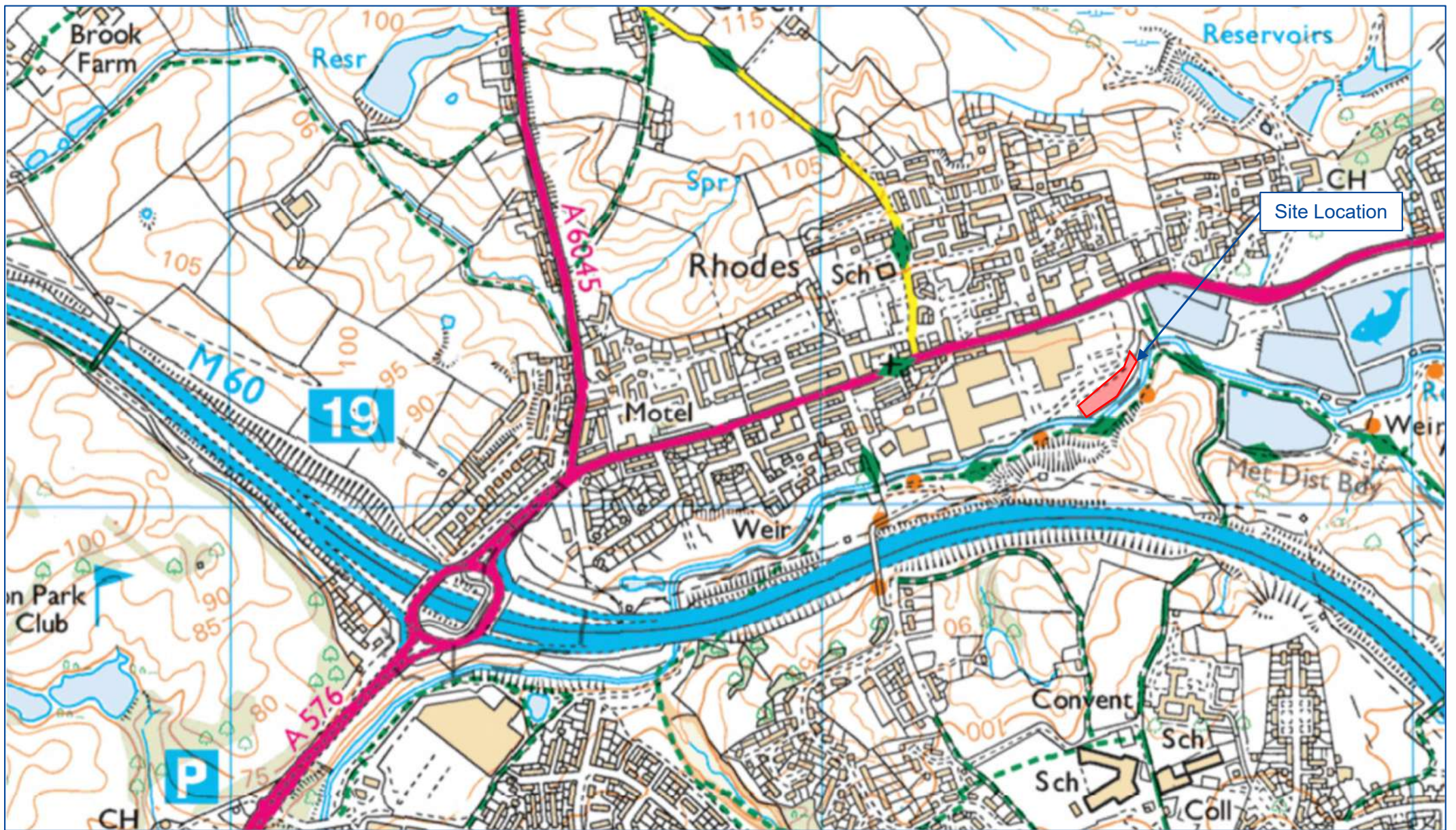
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DO NOT SCALE - Follow any figured dimensions.

This drawing has been prepared for feasibility purposes and does not represent a construction plan. All design aspects to be confirmed at the appropriate detailed design stage.





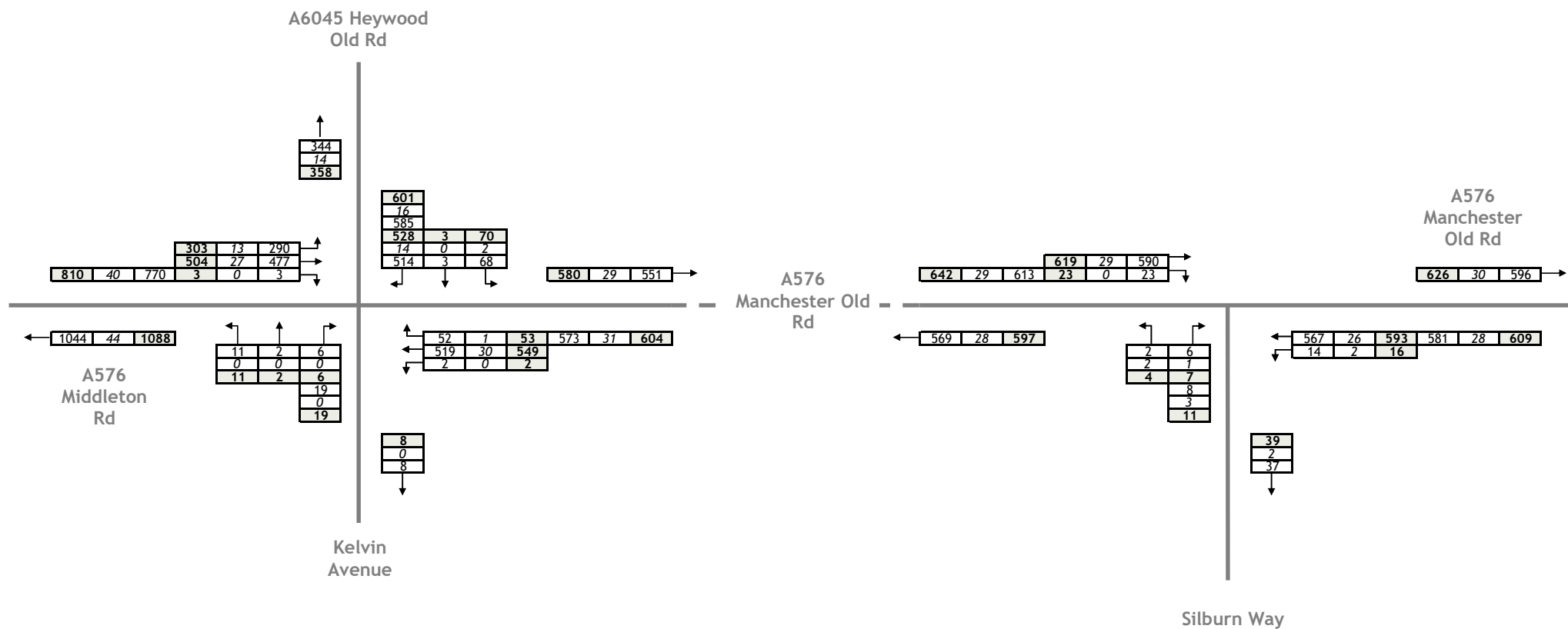


Time: Weekday AM Peak (08:15-09:15)

Year: 2023

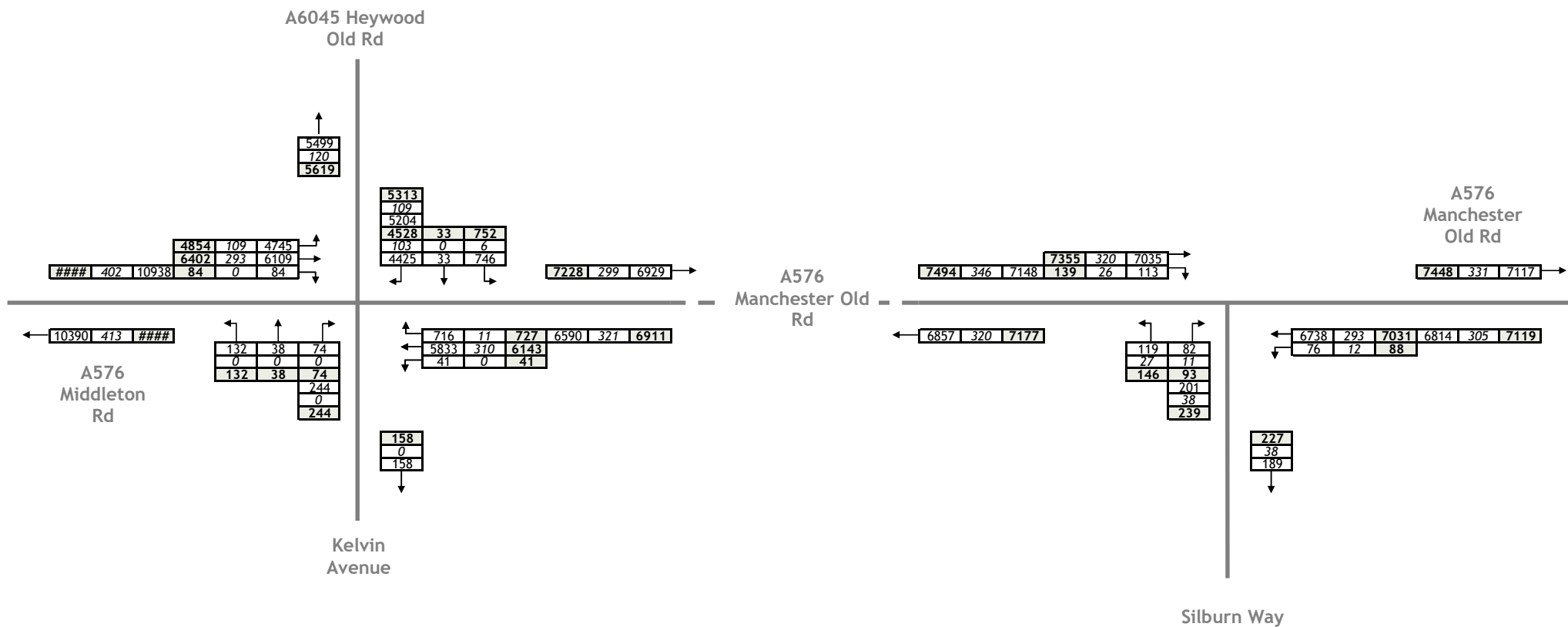
Scenario: Traffic Survey Data

10	Total Vehicles
5	HGVs
15	PCUs



Time: Average Weekday (07:00-19:00)
 Year: 2023
 Scenario: Traffic Survey Data

10	Total Vehicles
5	HGVs
15	PCUs





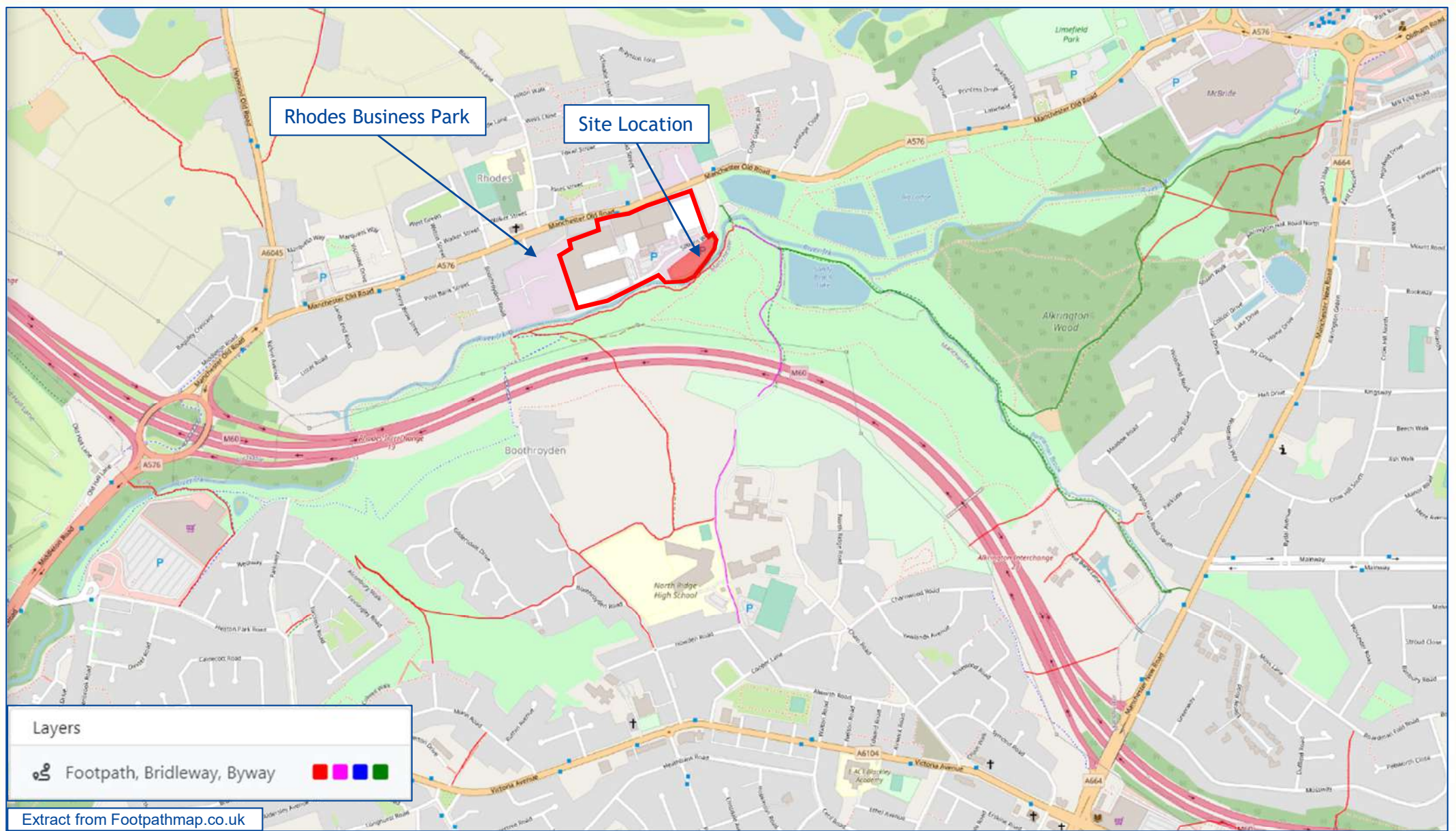


Figure TA5

Local Public Rights of Way to the Application Site

J000467

Land South of Silburn Way, Middleton

November 2023

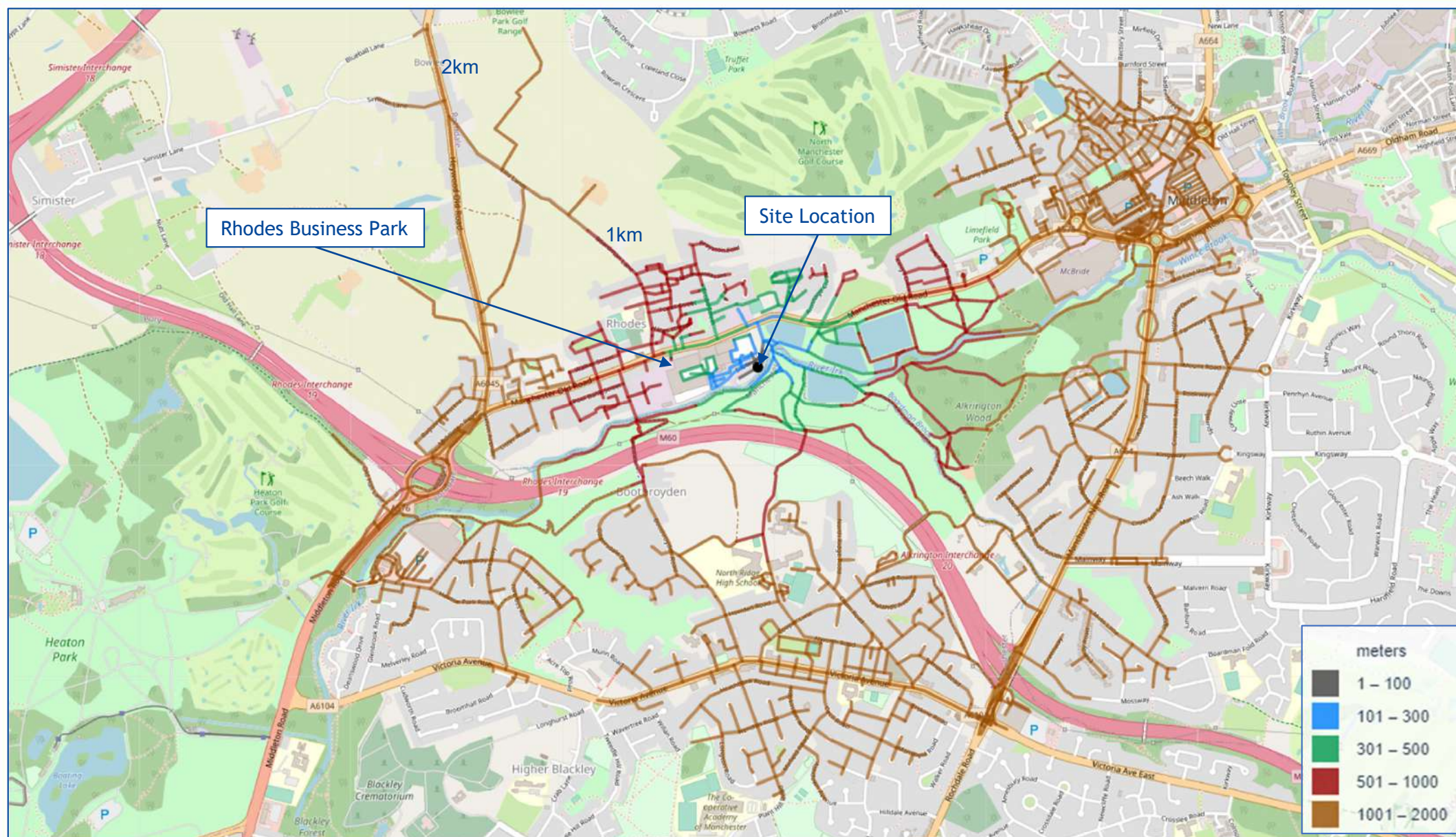


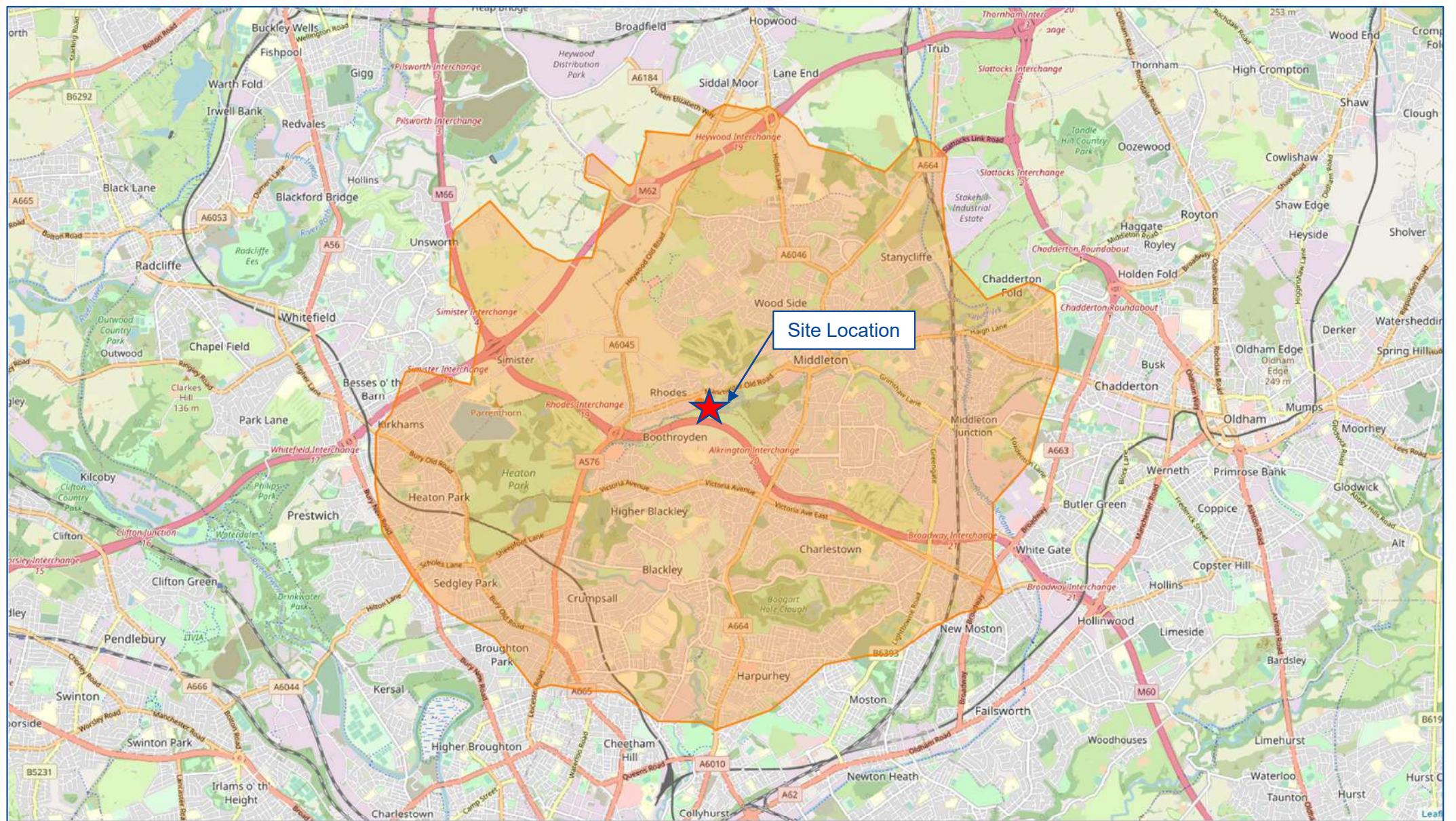
Figure TA6

Local Walking Catchment up to 2km

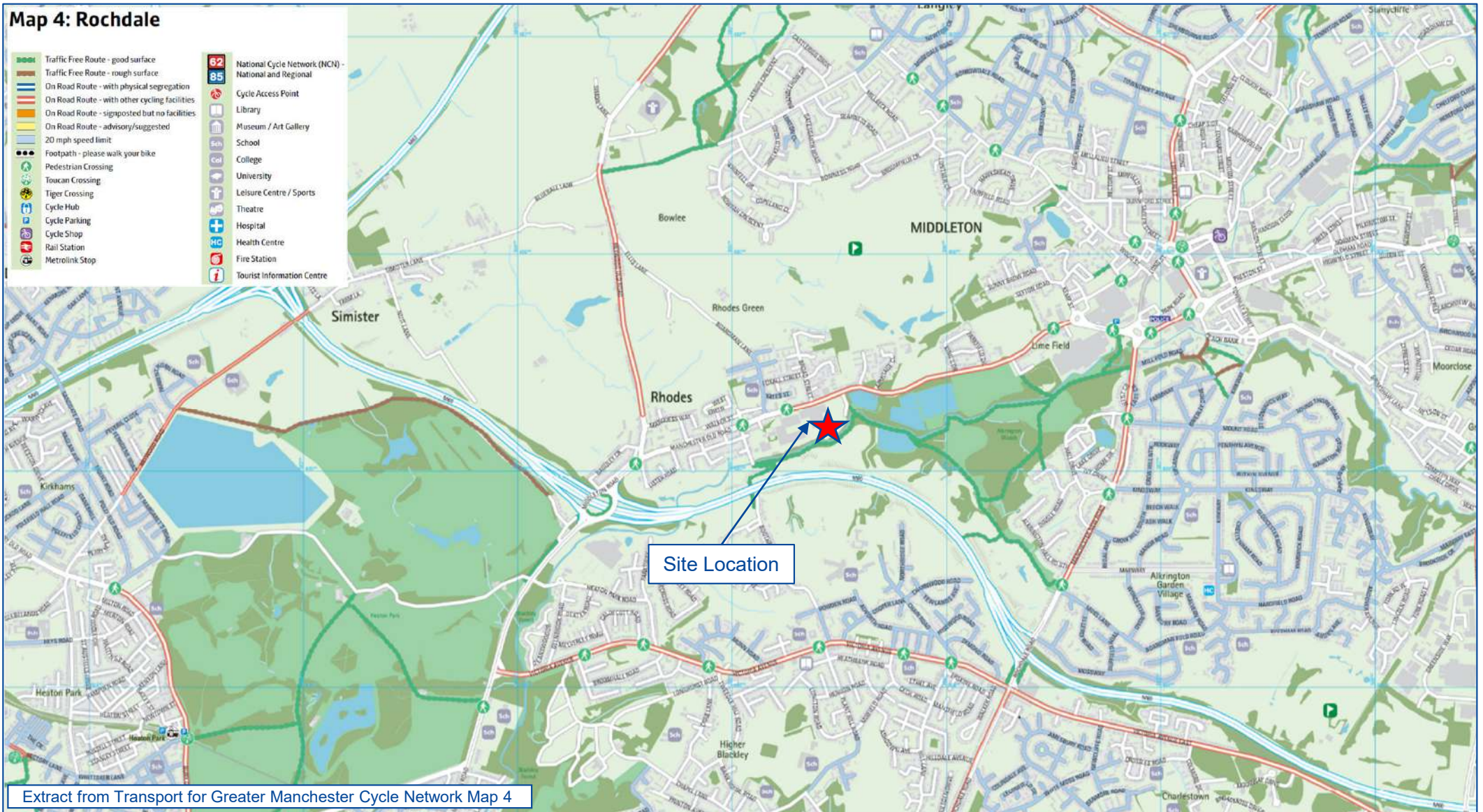
J000467

Land South of Silburn Way, Middleton

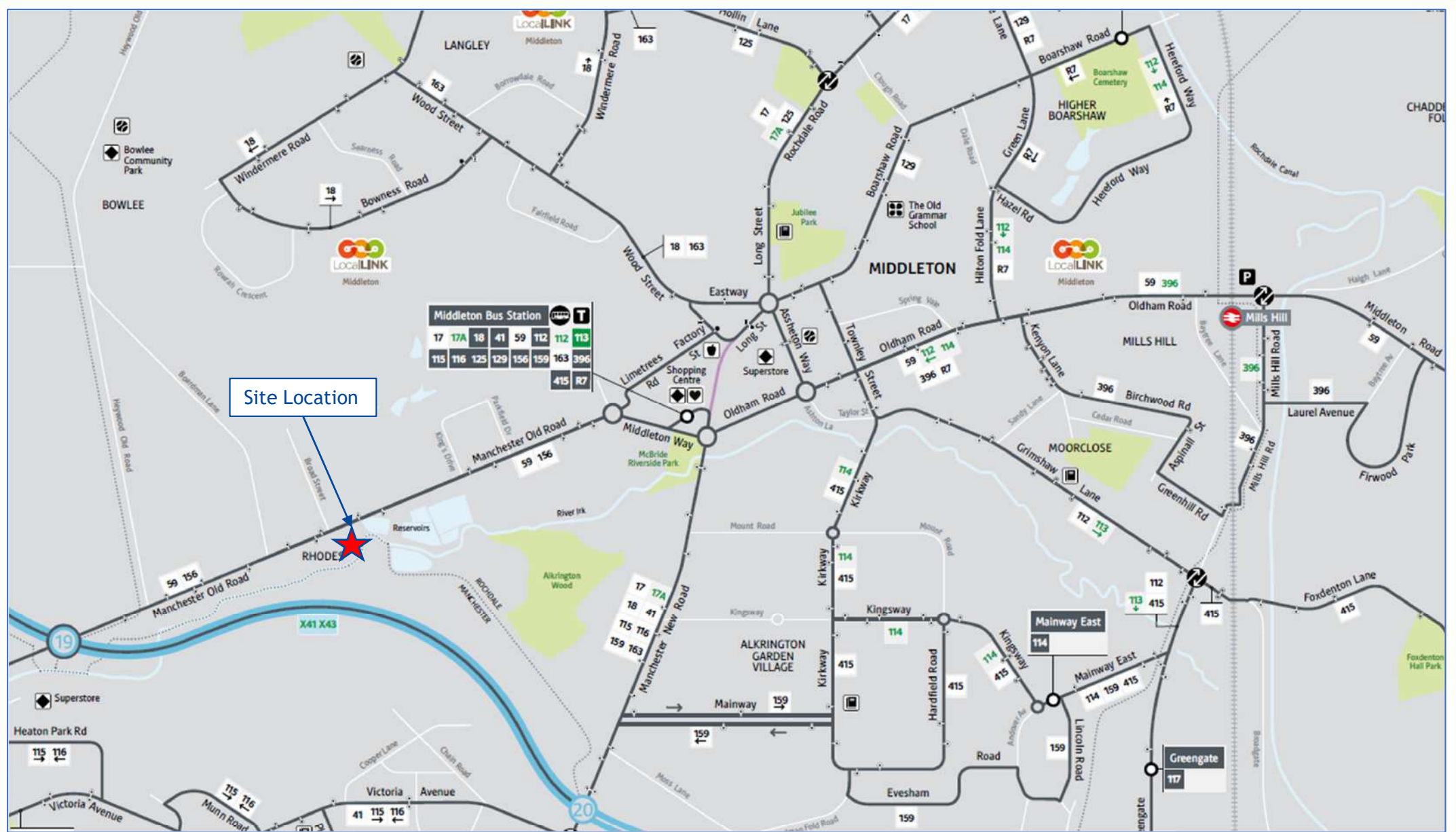
November 2023



Map 4: Rochdale

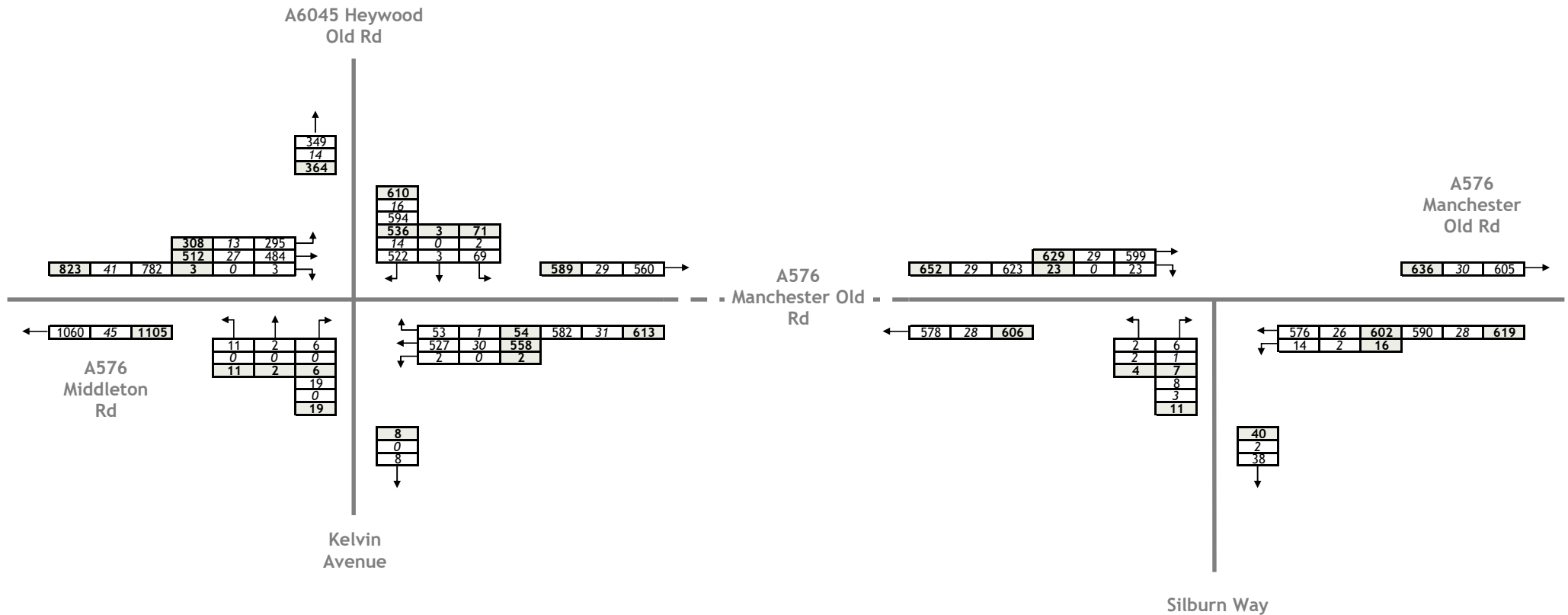


Extract from Transport for Greater Manchester Cycle Network Map 4



Scenario: Opening Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs

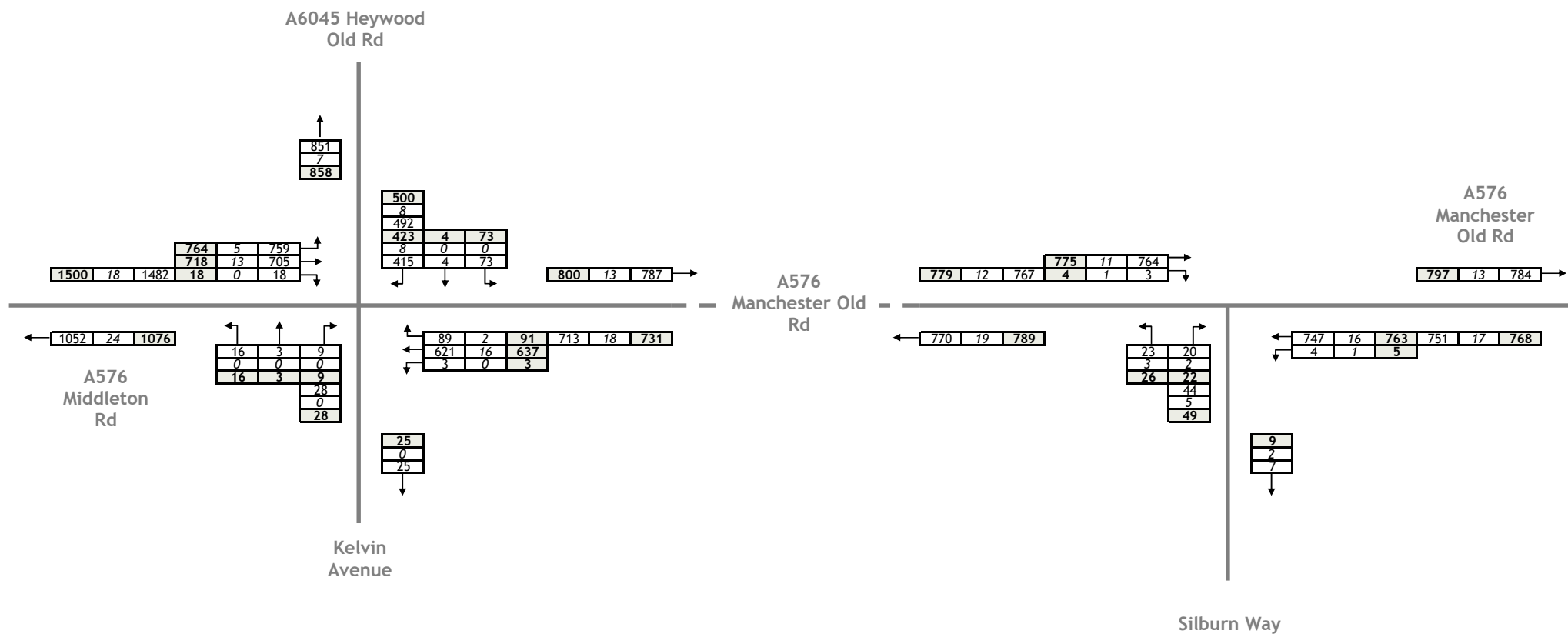


Time: Weekday PM Peak (16:30-17:30)

Year: 2025

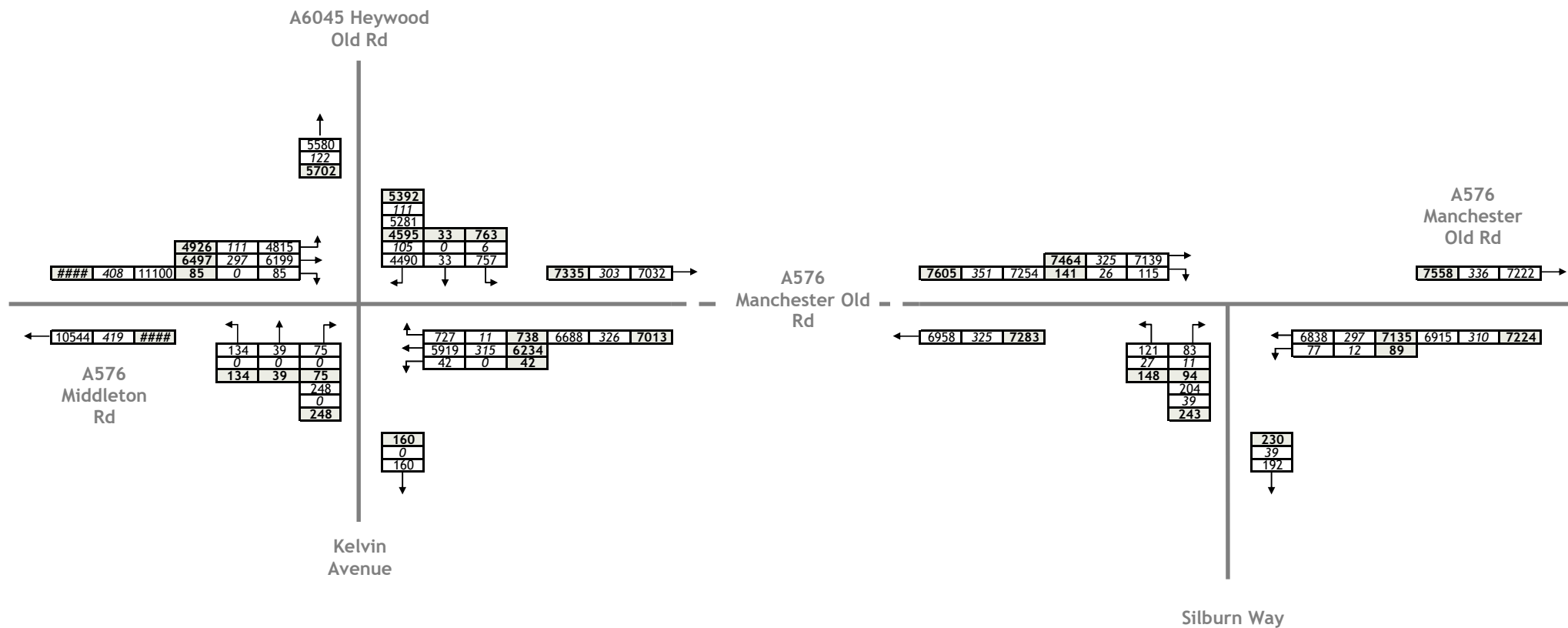
Scenario: Opening Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs



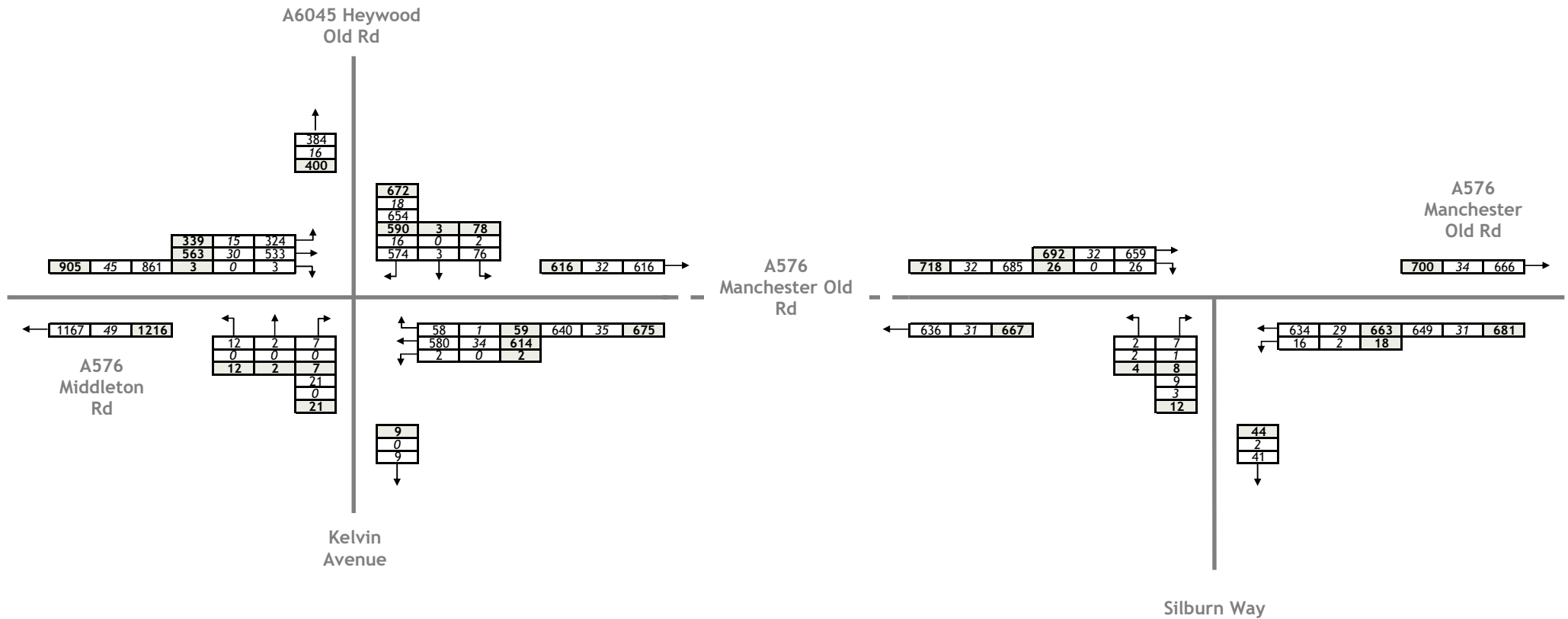
Time: Average Weekday (07:00-19:00)
 Year: 2025
 Scenario: Opening Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs



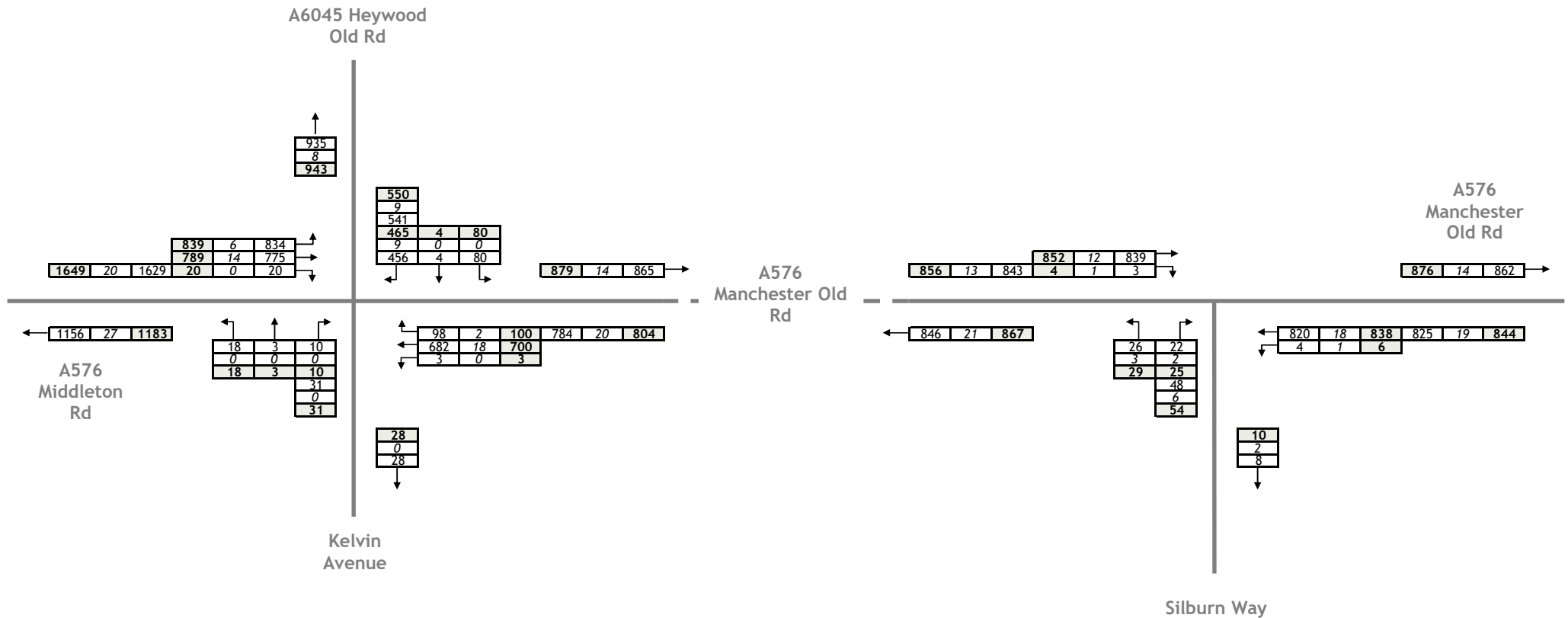
Scenario: Future Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs



Scenario: Future Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs

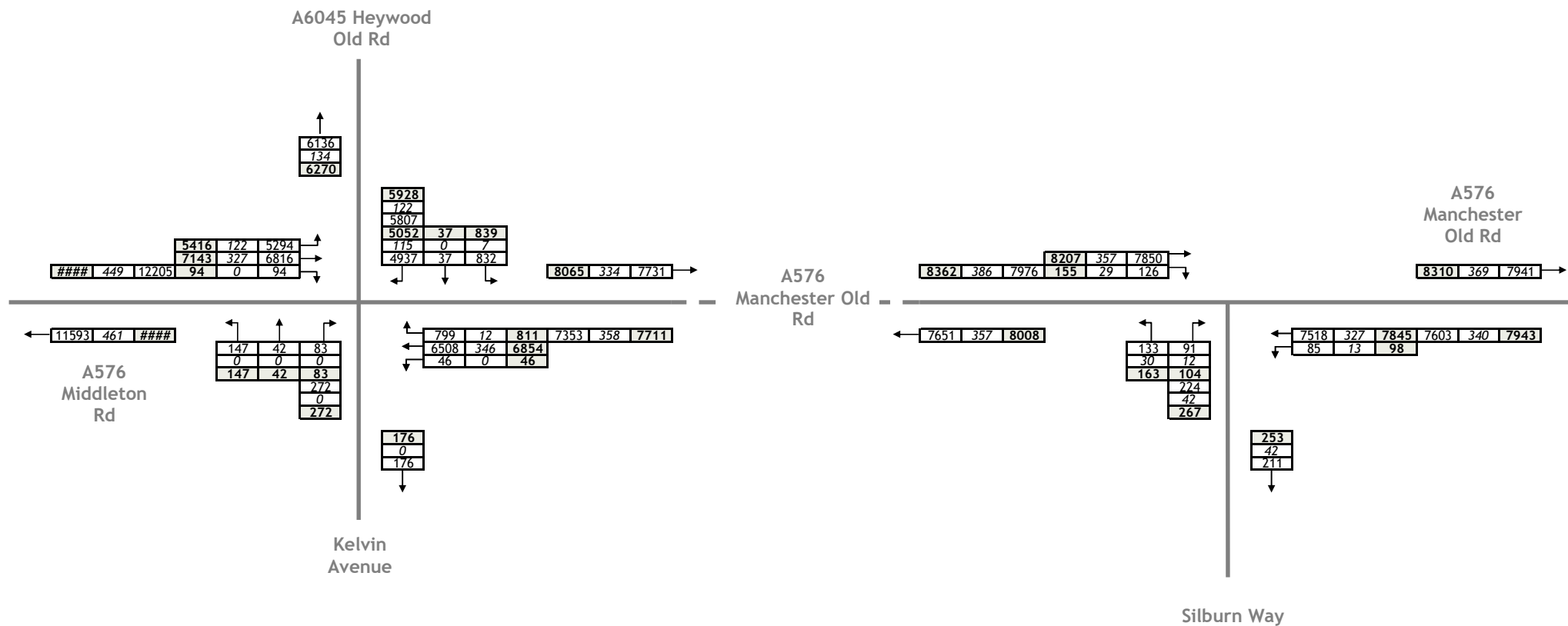


Time: Average Weekday (07:00-19:00)

Year: 2033

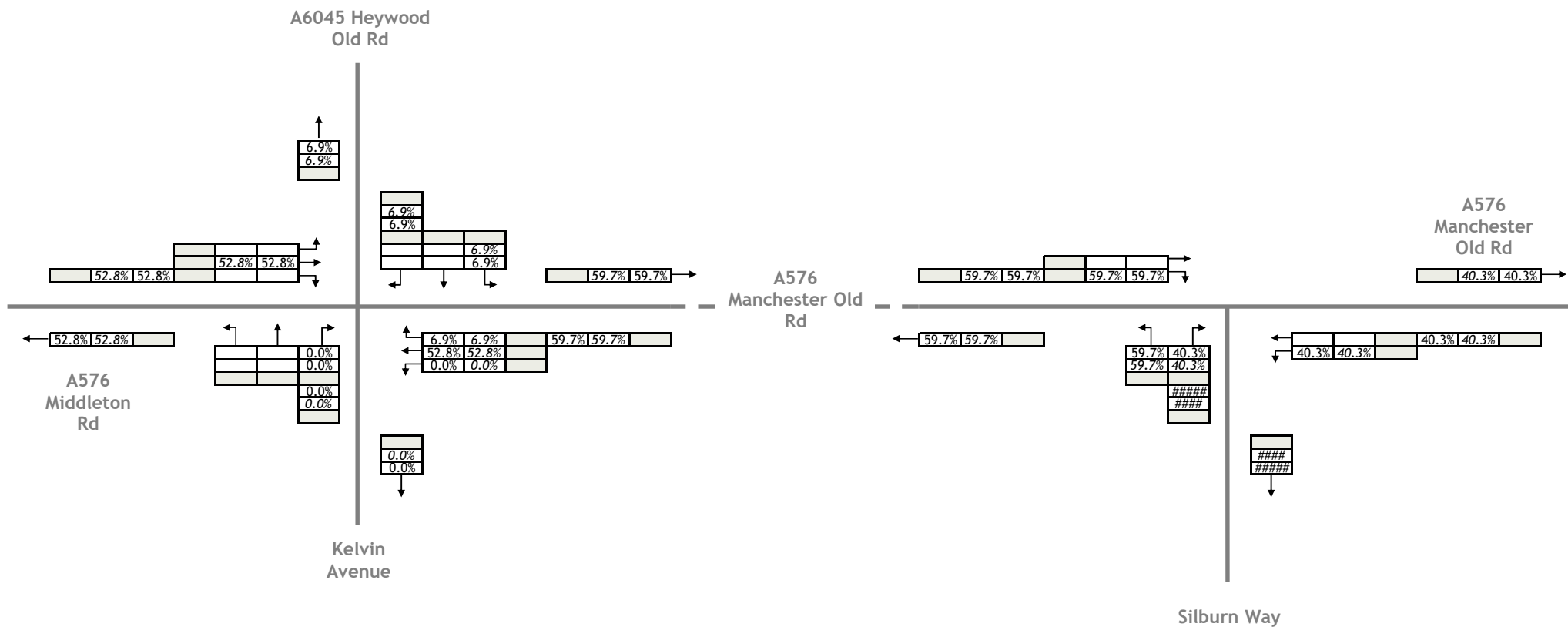
Scenario: Future Year Baseline

10	Total Vehicles
5	HGVs
15	PCUs



Time: -
Year: -
Scenario: Development Traffic Distribution

10	Total Vehicles
5	HGVs
15	PCUs



Time: Weekday AM Peak (08:15-09:15)

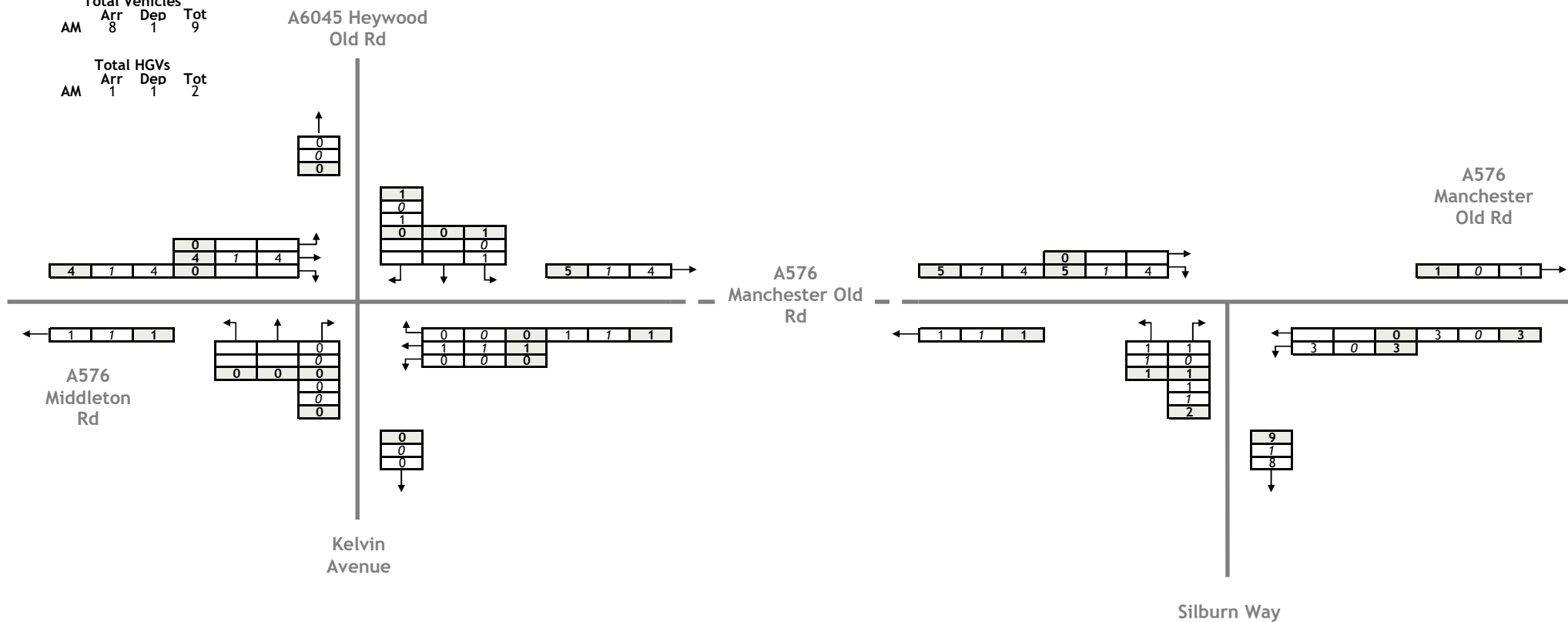
Year: -

Scenario: Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

Total Vehicles			
AM	Arr	Dep	Tot
	8	1	9

Total HGVs			
AM	Arr	Dep	Tot
	1	1	2



Time: Weekday PM Peak (16:30-17:30)

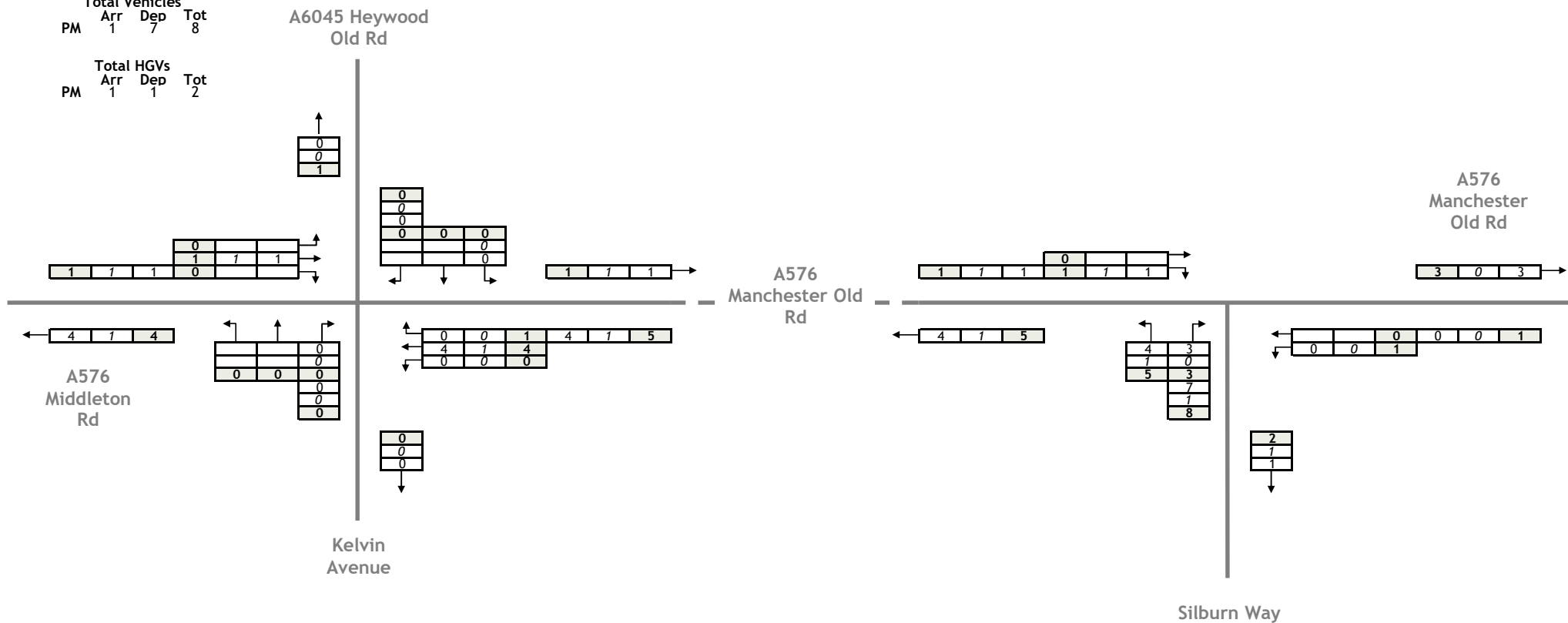
Year: -

Scenario: Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

Total Vehicles			
PM	Arr	Dep	Tot
	1	7	8

Total HGVs			
PM	Arr	Dep	Tot
	1	1	2

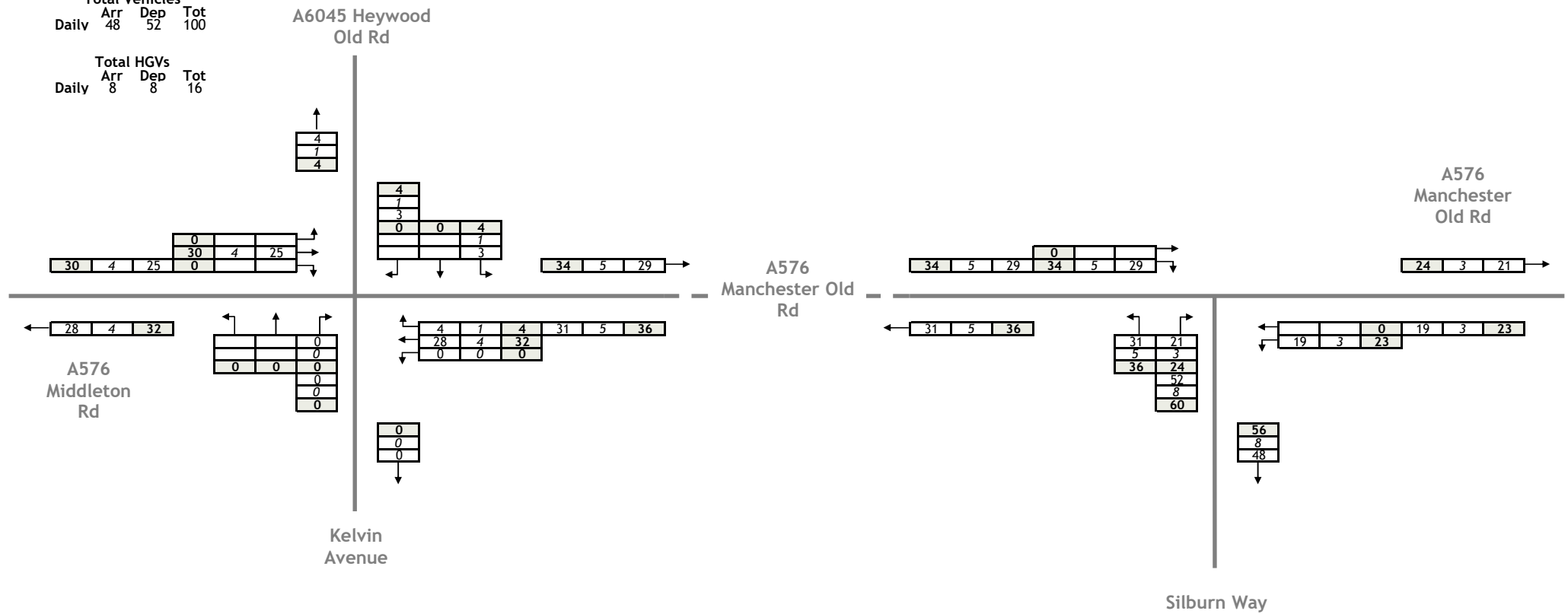


Scenario: Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

	Total Vehicles		
	Arr	Dep	Tot
Daily	48	52	100

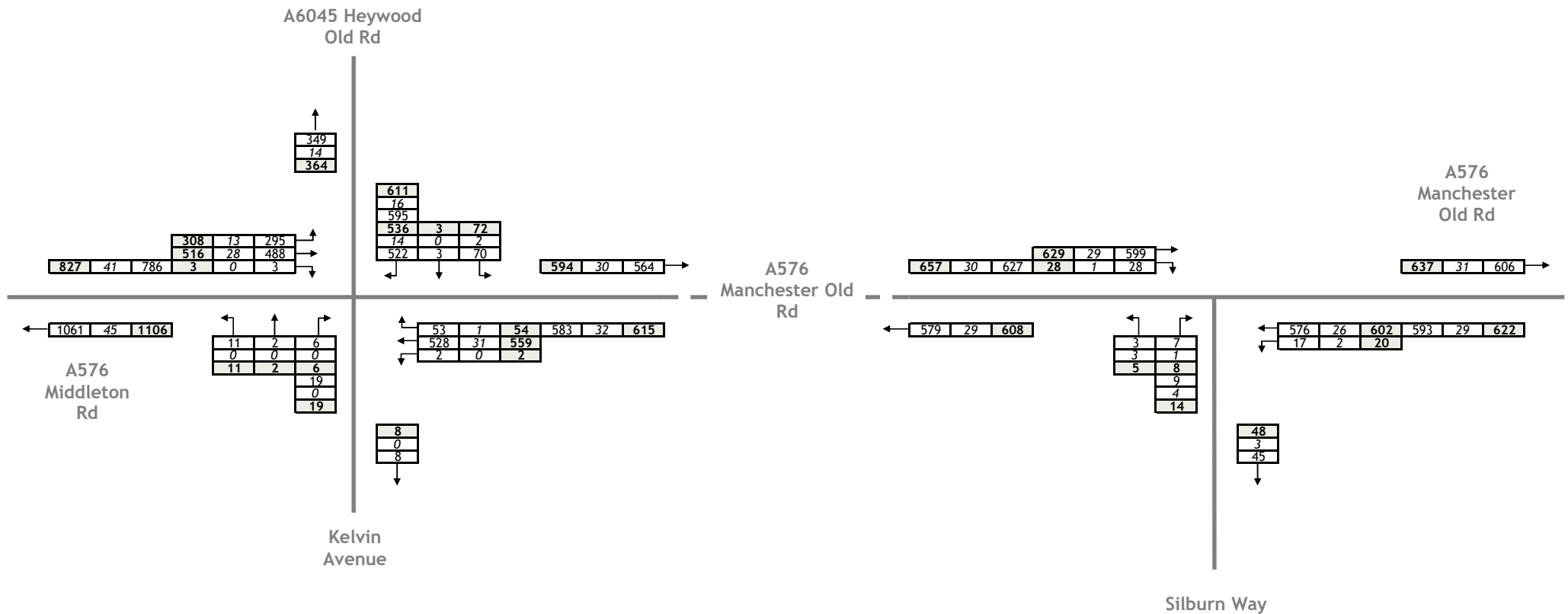
	Total	HGVs	
	Arr	Dep	Tot
Daily	8	8	16



10	Total Vehicles
5	HGVs
15	PCUs

Scenario: Opening Year Baseline plus Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

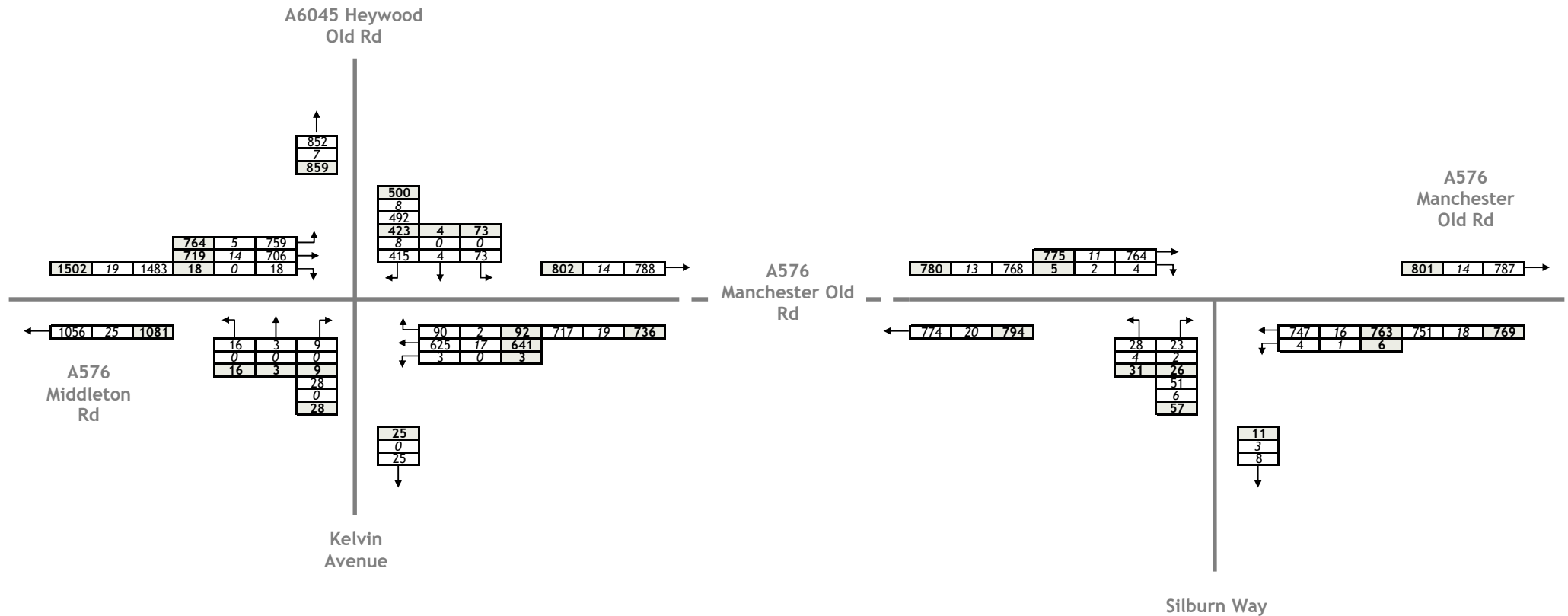


Time: Weekday PM Peak (16:30-17:30)

Year: 2025

Scenario: Opening Year Baseline plus Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

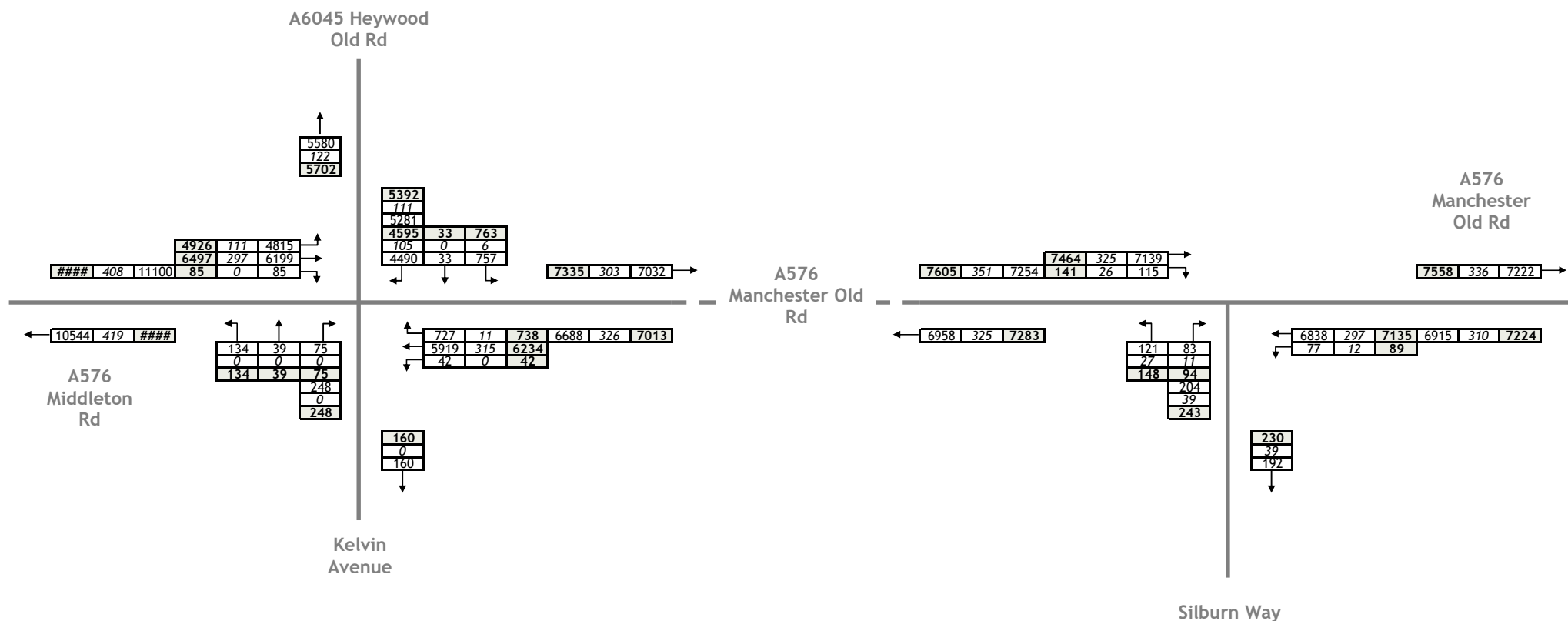


Time: Average Weekday (07:00-19:00)

Year: 2025

Scenario: Opening Year Baseline plus Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

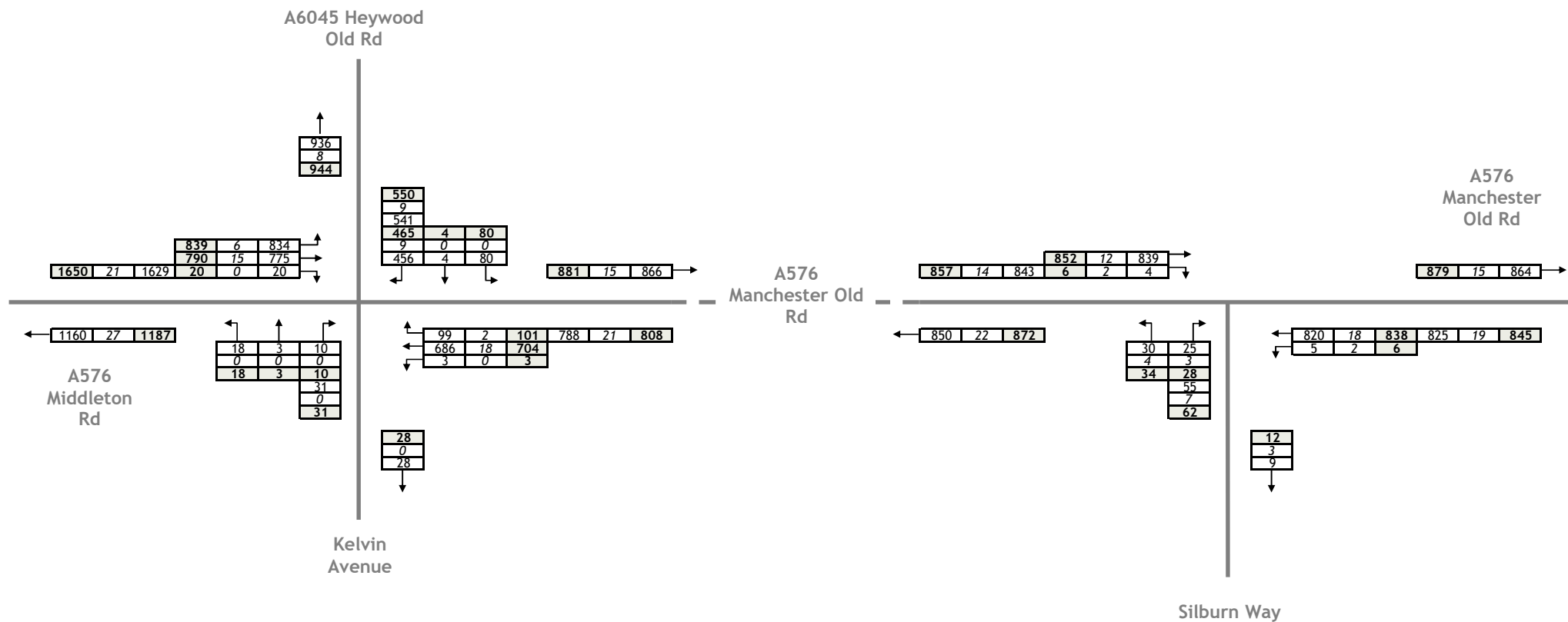


Time: Weekday PM Peak (16:30-17:30)

Year: 2033

Scenario: Future Year Baseline plus Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs

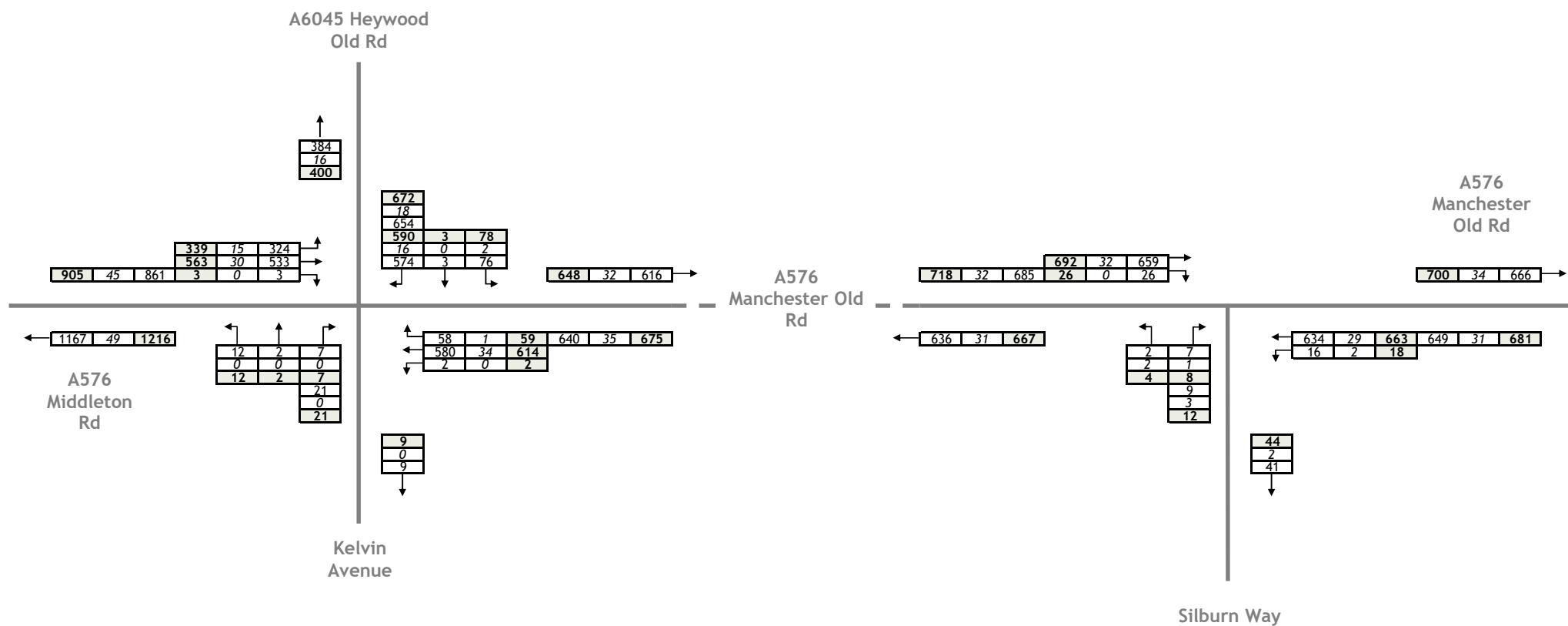


Time: Average Weekday (07:00-19:00)

Year: 2033

Scenario: Future Year Baseline plus Development Traffic

10	Total Vehicles
5	HGVs
15	PCUs









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Validated Data

Crash Date: Tuesday, October 24, 2017 **Time of Crash:** 11:39:00 AM **Crash Reference:** 201706P037110

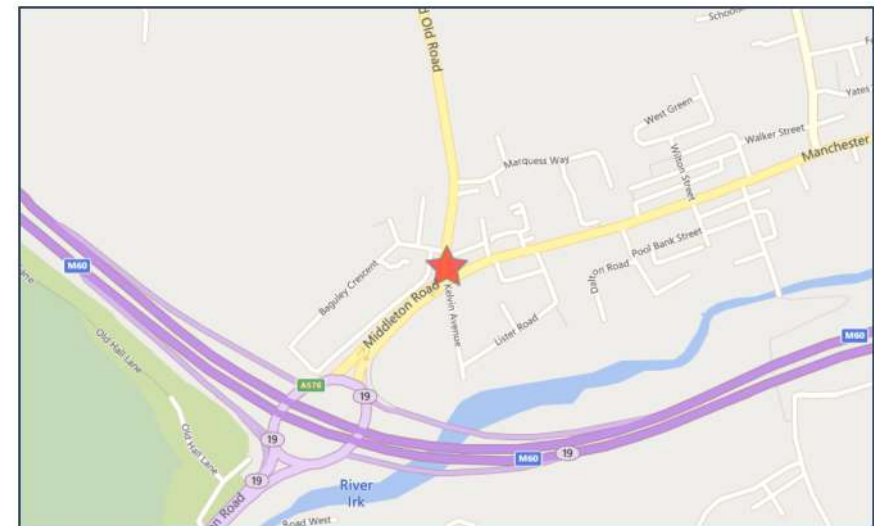
Highest Injury Severity: Slight
Highway Authority: Rochdale
Local Authority: Rochdale Metropolitan Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Crossroads
Junction Pedestrian Crossing: Pedestrian phase at traffic signal junction
Road Type: Single carriageway
Junction Control: Auto traffic signal

Road Number: A6045

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 384577 405077



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	10	Male	26 - 35	Vehicle is in the act of turning left	Nearside	Unknown	Kerb	Other permanent object
2	Car (excluding private hire)	0	Female	56 - 65	Vehicle is waiting to turn left	Offside	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Female	56 - 65	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Sunday, June 09, 2019 **Time of Crash:** 12:40:00 PM **Crash Reference:** 201906P358375

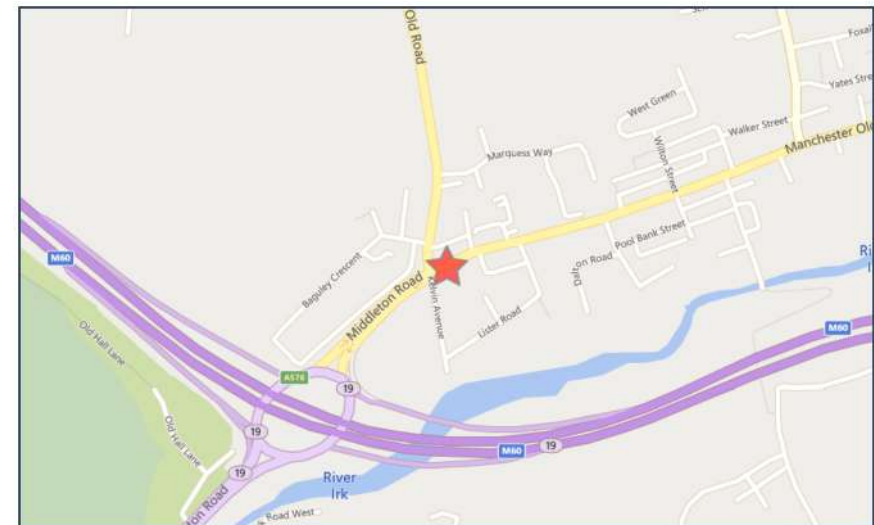
Highest Injury Severity: Slight
Highway Authority: Rochdale
Local Authority: Rochdale Metropolitan Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Not at or within 20 metres of junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Not Applicable

Road Number: A576

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 384603 405063



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Female	56 - 65	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None
2	Car (excluding private hire)	11	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Back	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

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Validated Data

Crash Date: Sunday, June 28, 2020 **Time of Crash:** 7:00:00 AM **Crash Reference:** 202006P373372

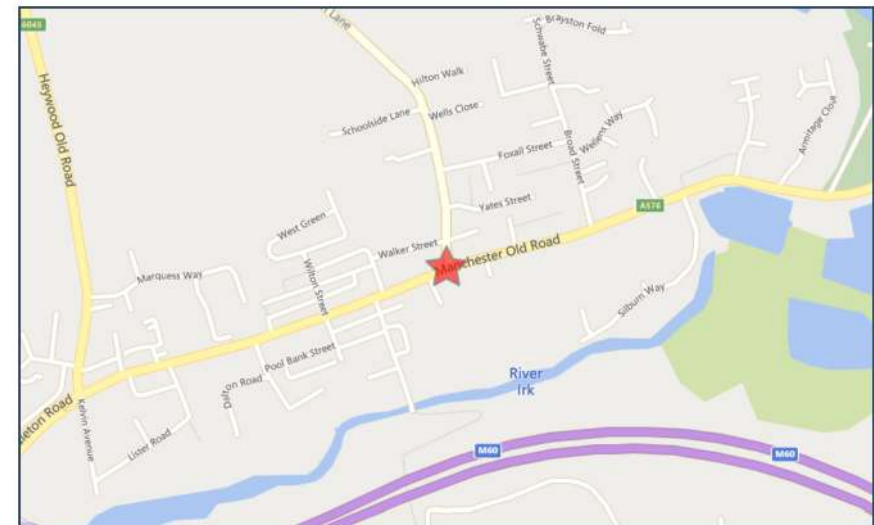
Highest Injury Severity: Slight
Highway Authority: Rochdale
Local Authority: Rochdale Metropolitan Borough
Weather Description: Raining without high winds
Road Surface Description: Wet or Damp
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: A576

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 385147 405250



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	13	Unknown	Unknown	Vehicle is reversing	Back	Unknown	None	None
2	Car (excluding private hire)	5	Male	26 - 35	Vehicle is waiting to proceed normally but is held up	Front	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

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Validated Data

Crash Date: Monday, May 15, 2017 **Time of Crash:** 4:00:00 PM **Crash Reference:** 201706P030639

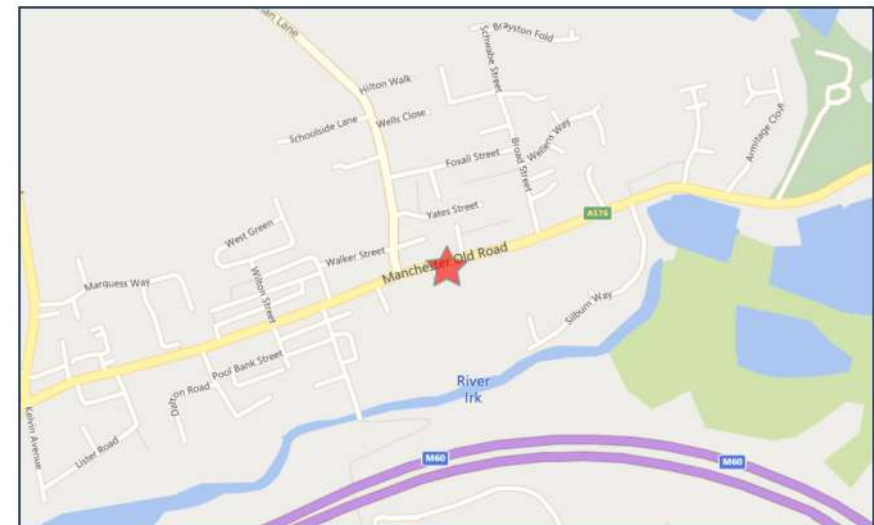
Highest Injury Severity: Slight
Highway Authority: Rochdale
Local Authority: Rochdale Metropolitan Borough
Weather Description: Raining without high winds
Road Surface Description: Wet or Damp
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: Pelican, puffin, toucan or similar non-junction pedestrian light crossing
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: A576

Number of Casualties: 1

Number of Vehicles: 1

OS Grid Reference: 385228 405267



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Unknown	Unknown	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	16 - 20	In carriageway, crossing elsewhere within 50 metres of pedestrian crossing	Crossing from driver's nearside

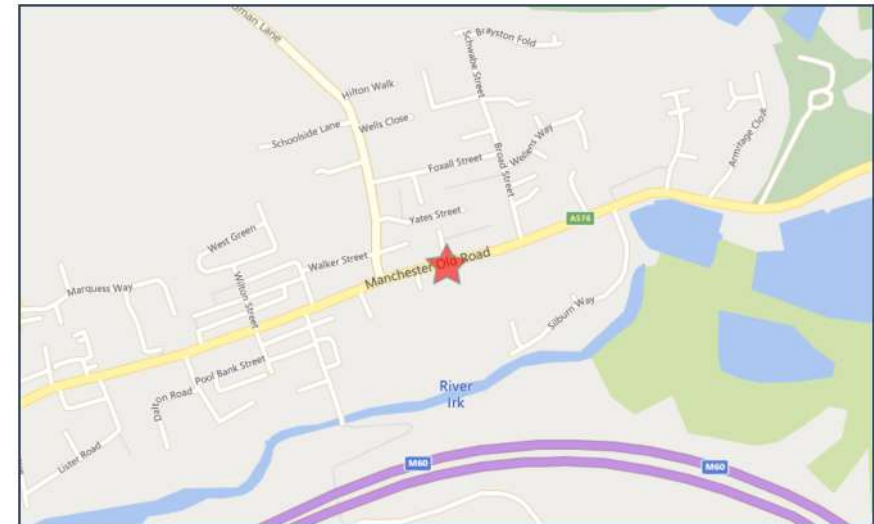
For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date:	Wednesday, December 06, 2017	Time of Crash:	6:45:00 PM	Crash Reference:	201706P038372
Highest Injury Severity:	Slight	Road Number:	A576	Number of Casualties:	1
Highway Authority:	Rochdale			Number of Vehicles:	2
Local Authority:	Rochdale Metropolitan Borough			OS Grid Reference:	385255 405278
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	Pelican, puffin, toucan or similar non-junction pedestrian light crossing				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Male	26 - 35	Vehicle is waiting to turn right	Front	Unknown	None	None
2	Car (excluding private hire)	10	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Sunday, March 25, 2018 **Time of Crash:** 5:15:00 AM **Crash Reference:** 201806P342709

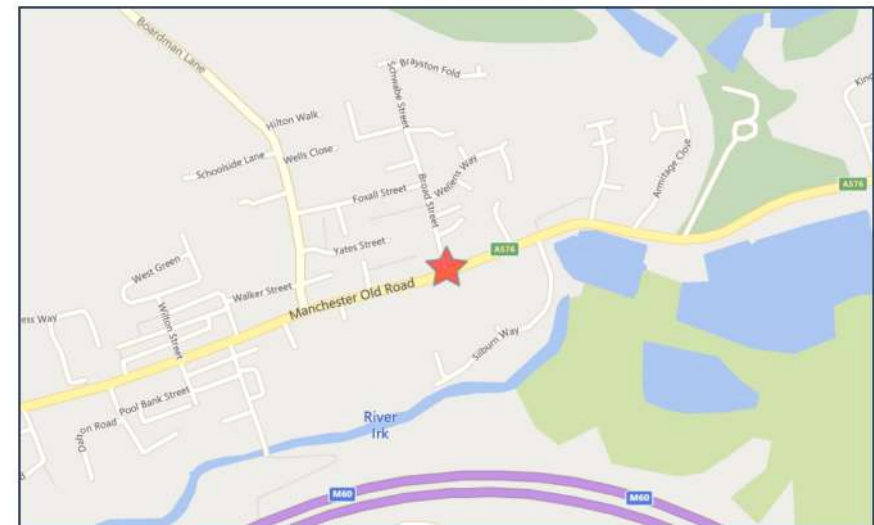
Highest Injury Severity: Slight
Highway Authority: Rochdale
Local Authority: Rochdale Metropolitan Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Darkness: street lights present and lit
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 2

Number of Vehicles: 1

OS Grid Reference: 385372 405320



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	12	Female	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	Other permanent object

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	16 - 20	Unknown or other	Unknown or other
1	2	Slight	Vehicle or pillion passenger	Female	16 - 20	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

To subscribe to unlimited reports using CrashMap Pro visit www.crashmap.co.uk/Home/Premium_Services





From 15 January

59

Route is changed to run direct via St Mary's Way and Yorkshire Street, on journeys from Manchester, no longer serving Lord Street

Bus

59



Easy access on all buses

Oldham
Chadderton
Mills Hill
Middleton
Rhodes
Crumpsall
Cheetham Hill
Strangeways
Manchester

From 15 January 2023

For public transport information
phone **0161 244 1000**

7am – 8pm Mon to Fri

8am – 8pm Sat, Sun & public holidays

This timetable is available online at
www.tfgm.com

Operated by
First Manchester

Additional information

Alternative format

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Easy access on buses



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Using the 24 hour clock

Times are shown in four figures. The first two are the hour and the last two are the minutes.

0753 is 53 minutes past 7am

1953 is 53 minutes past 7pm



Operator details

First Manchester

Wallshaw Street

Oldham

OL1 3TR

Telephone 03456 460707

Travelshops

Manchester Shudehill Interchange

Mon to Sat 7am to 6pm

Sunday 8am to 1.15pm and 2pm to 4pm

Public hols 8am to 5.20pm

Middleton Bus Station

Mon to Sat 8.30am to 1.15pm and 2pm to 4pm

Sunday* Closed

Oldham Bus Station

Mon to Fri 7am to 5.30pm

Saturday 8am to 5.30pm

Sunday* Closed

*Including public holidays

Mondays to Fridays

Oldham, Mumps	0409	0447	0517	0534	0544	0552	0559	0612	0624		1048	1100	1112		1248	1300	1312		1736
Oldham, Bus Station arr	0414	0454	0524	0541	0551	0559	0606	0619	0632		1056	1110	1120		1256	1310	1320		1744
Oldham, Bus Station dep	0414	0454	0524	0541	0551	0559	0606	0619	0634		1058	1110	1122		1258	1310	1322		1746
Chadderton, Town Hall	0419	0500	0530	0547	0557	0605	0612	0625	0642	and	1106	1118	1130	and	1306	1318	1330	and	1754
Mills Hill, Train Station	0426	0507	0537	0554	0604	0612	0619	0632	0651	every	1115	1127	1139	every	1315	1327	1339	every	1803
Middleton, Bus Station arr	0433	0513	0543	0600	0610	0618	0625	0638	0658	12	1122	1134	1146	12	1322	1334	1346	12	1810
Middleton, Bus Station dep	0434	0515	0545	0602	0612	0620	0627	0640	0700	mins	1124	1136	1148	mins	1324	1336	1348	mins	1812
Heaton Park, Sainsbury's	0441	0521	0551	0608	0618	0627	0634	0647	0707	until	1131	1143	1155	until	1331	1343	1355	until	1819
Cheetham Hill, Half Way House	0447	0527	0557	0614	0624	0634	0642	0655	0715		1139	1151	1203		1339	1351	1403		1827
Waterloo Road/Derby Street	0452	0537	0607	0624	0634	0645	0655	0708	0727		1151	1203	1215		1351	1403	1415		1839
Manchester, Piccadilly Gardens	0501	0552	0622	0639	0649	0701	0712	0725	0743		1207	1219	1231		1407	1419	1431		1855



Oldham, Mumps	1804	1834																	
Oldham, Bus Station arr	1811	1841																	
Oldham, Bus Station dep	1813	1843	1917	2017	2117	2217	2317												
Chadderton, Town Hall	1819	1849	1922	2022	2122	2222	2322												
Mills Hill, Train Station	1826	1856	1929	2029	2129	2229	2329												
Middleton, Bus Station arr	1833	1903	1936	2036	2136	2236	2336												
Middleton, Bus Station dep	1833	1903	1937	2037	2137	2237	2337												
Heaton Park, Sainsbury's	1839	1909	1944	2044	2144	2244	2344												
Cheetham Hill, Half Way House	1847	1917	1950	2050	2150	2250	2350												
Waterloo Road/Derby Street	1855	1925	1955	2055	2155	2255	2355												
Manchester, Piccadilly Gardens	1908	1938	2005	2105	2205	2305	0005												

– Journey provided with the financial support of Transport for Greater Manchester

– All bus 59 journeys are run using easy access buses. See inside front cover of this leaflet for details

Summer times: between mid July and early September, some timetables will be different. Check www.tfgm.com for details

Saturdays



Oldham, Mumps	0447	0517	0544	0606	0624		0804	0814		1714	1734	1804	1834					
Oldham, Bus Station arr	0454	0524	0551	0613	0632		0812	0822		1722	1742	1811	1841					
Oldham, Bus Station dep	0454	0524	0551	0613	0634		0814	0824	and at	1724	1744	1813	1843	1917	2017	2117	2217	2317
Chadderton, Town Hall	0500	0530	0557	0619	0642	and	0822	0832	frequent	1732	1752	1819	1849	1922	2022	2122	2222	2322
Mills Hill, Train Station	0507	0537	0604	0626	0651	every	0831	0841	intervals	1741	1801	1826	1856	1929	2029	2129	2229	2329
Middleton, Bus Station arr	0513	0543	0610	0632	0658	20	0838	0848	of not	1748	1808	1833	1903	1936	2036	2136	2236	2336
Middleton, Bus Station dep	0515	0545	0612	0634	0700	mins	0840	0850	more than	1750	1810	1833	1903	1937	2037	2137	2237	2337
Heaton Park, Sainsbury's	0521	0551	0618	0641	0707	until	0847	0857	10 minutes	1757	1817	1839	1909	1944	2044	2144	2244	2344
Cheetham Hill, Half Way House	0527	0557	0624	0649	0715		0855	0905	until	1805	1825	1847	1917	1950	2050	2150	2250	2350
Waterloo Road/Derby Street	0537	0607	0634	0702	0727		0907	0917		1817	1837	1855	1925	1955	2055	2155	2255	2355
Manchester, Piccadilly Gardens	0552	0622	0649	0719	0743		0923	0933		1833	1853	1908	1938	2005	2105	2205	2305	0005

Sundays and public holidays (except Christmas and New Year period)

Oldham, Mumps	0550	0650	0711		0811							1908	2008	2108				
Oldham, Bus Station	0555	0655	0720	0750	0820	0850	0920		1740	1810	1840	1917	2017	2117	2217	2317		
Chadderton, Town Hall	0600	0700	0726	0756	0826	0856	0926		1746	1816	1846	1922	2022	2122	2222	2322		
Mills Hill, Train Station	0607	0707	0733	0803	0833	0903	0933	and	1753	1823	1853	1929	2029	2129	2229	2329		
Middleton, Bus Station arr	0614	0714	0740	0810	0840	0910	0940	every	1800	1830	1900	1936	2036	2136	2236	2336		
Middleton, Bus Station dep	0615	0715	0740	0810	0840	0910	0940	20	1800	1830	1900	1937	2037	2137	2237	2337		
Heaton Park, Sainsbury's	0622	0722	0750	0820	0850	0920	0950	mins	1810	1840	1910	1944	2044	2144	2244	2344		
Cheetham Hill, Half Way House	0627	0727	0758	0828	0858	0928	0958	until	1818	1848	1918	1950	2050	2150	2250	2350		
Waterloo Road/Derby Street	0632	0732	0806	0836	0906	0936	1006		1826	1856	1926	1955	2055	2155	2255	2355		
Manchester, Piccadilly Gardens	0642	0742	0819	0849	0919	0949	1019		1839	1909	1939	2005	2105	2205	2305	0005		

For details of buses during the Christmas and New Year period, please phone 0161 244 1000

– Journey provided with the financial support of Transport for Greater Manchester

– All bus 59 journeys are run using easy access buses. See inside front cover of this leaflet for details

Mondays to Fridays

Manchester, Piccadilly Gardens	0511		0557	0627		0647	0700		1748	1800	1812	1824	1836	1904	1925	1952	2022	2122	2222
Waterloo Road/Derby Street	0521		0607	0639		0659	0712		1800	1813	1825	1837	1849	1917	1938	2005	2032	2132	2232
Cheetham Hill, Half Way House	0529		0615	0650		0710	0723		1811	1822	1834	1846	1858	1926	1947	2014	2038	2138	2238
Heaton Park, Sainsbury's	0534		0620	0657		0717	0730	and	1818	1830	1842	1854	1906	1934	1955	2022	2043	2143	2243
Middleton, Bus Station arr	0540		0626	0709		0729	0742	every	1830	1843	1855	1907	1919	1947	2008	2035	2051	2151	2251
Middleton, Bus Station dep	0540	0610	0626	0711	0720	0731	0744	12	1832	1843	1855	1907	1919	1947	2008	2035	2051	2151	2251
Mills Hill, Train Station	0546	0616	0632	0718	0727	0738	0751	mins	1839	1850	1902	1914	1926	1954	2015	2042	2058	2158	2258
Chadderton, Town Hall	0553	0623	0639	0726	0735	0746	0759	until	1847	1857	1909	1921	1933	2001	2022	2049	2105	2205	2305
Oldham, Bus Station arr	0559	0629	0645	0734	0743	0754	0807		1855	1902	1914	1926	1938	2006	2027	2054	2110	2210	2310
Oldham, Bus Station dep	0600	0630	0646	0736	0745	0756	0809		1857	1902	1914	1926	1938		2027	2054			
Oldham, Mumps	0607	0637	0653	0743	0752	0803	0816		1904	1906	1918	1930	1942		2031	2058			



Manchester, Piccadilly Gardens	2322	0010
Waterloo Road/Derby Street	2332	0020
Cheetham Hill, Half Way House	2338	0026
Heaton Park, Sainsbury's	2343	0031
Middleton, Bus Station arr	2351	0039
Middleton, Bus Station dep	2351	0039
Mills Hill, Train Station	2358	0046
Chadderton, Town Hall	0005	0053
Oldham, Bus Station arr	0010	0058
Oldham, Bus Station dep		0058
Oldham, Mumps		0102

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Saturdays

Manchester, Piccadilly Gardens	0600	0630	0700	0730		0930	0940		1750	1800	1810	1820	1832	1842	1904	1925	1952	2022
Waterloo Road/Derby Street	0612	0642	0712	0742		0942	0952		1802	1813	1823	1833	1845	1855	1917	1938	2005	2032
Cheetham Hill, Half Way House	0623	0653	0723	0753		0953	1003	and at	1813	1822	1832	1842	1854	1904	1926	1947	2014	2038
Heaton Park, Sainsbury's	0630	0700	0730	0800	and	1000	1010	frequent	1820	1830	1840	1850	1902	1912	1934	1955	2022	2043
Middleton, Bus Station arr	0642	0712	0742	0812	every	1012	1022	intervals	1832	1843	1853	1903	1915	1925	1947	2008	2035	2051
Middleton, Bus Station dep	0644	0714	0744	0814	20	1014	1024	of not	1834	1843	1853	1903	1915	1925	1947	2008	2035	2051
Mills Hill, Train Station	0651	0721	0751	0821	mins	1021	1031	more than	1841	1850	1900	1910	1922	1932	1954	2015	2042	2058
Chadderton, Town Hall	0659	0729	0759	0829	until	1029	1039	10 minutes	1849	1857	1907	1917	1929	1939	2001	2022	2049	2105
Oldham, Bus Station arr	0707	0737	0807	0837		1037	1047	until	1857	1902	1912	1922	1934	1944	2006	2027	2054	2110
Oldham, Bus Station dep	0709	0739	0809	0839		1039	1049		1859	1902		1922	1934	1944		2027	2054	
Oldham, Mumps	0716	0746	0816	0846		1046	1056		1906	1906		1926	1938	1948		2031	2058	



Manchester, Piccadilly Gardens	2122	2222	2322	0010														
Waterloo Road/Derby Street	2132	2232	2332	0020														
Cheetham Hill, Half Way House	2138	2238	2338	0026														
Heaton Park, Sainsbury's	2143	2243	2343	0031														
Middleton, Bus Station	2151	2251	2351	0039														
Mills Hill, Train Station	2158	2258	2358	0046														
Chadderton, Town Hall	2205	2305	0005	0053														
Oldham, Bus Station	2210	2310	0010	0058														
Oldham, Mumps				0102														

Sundays and public holidays (except Christmas and New Year period)



Manchester, Piccadilly Gardens	0650	0750	0830		1030		1730	1750	1810	1830	1850	1922	1952	2022	2122	2222	2322	0010
Waterloo Road/Derby Street	0700	0800	0843	and	1043	and	1743	1803	1823	1843	1903	1935	2005	2032	2132	2232	2332	0020
Cheetham Hill, Half Way House	0706	0806	0852	every	1052	every	1752	1812	1832	1852	1912	1944	2014	2038	2138	2238	2338	0026
Heaton Park, Sainsbury's	0711	0811	0900	30	1100	20	1800	1820	1840	1900	1920	1952	2022	2043	2143	2243	2343	0031
Middleton, Bus Station	0719	0819	0913	mins	1113	mins	1813	1833	1853	1913	1933	2005	2035	2051	2151	2251	2351	0039
Mills Hill, Train Station	0726	0826	0920	until	1120	until	1820	1840	1900	1920	1940	2012	2042	2058	2158	2258	2358	0046
Chadderton, Town Hall	0733	0833	0927		1127		1827	1847	1907	1927	1947	2019	2049	2105	2205	2305	0005	0053
Oldham, Bus Station	0738	0838	0932		1132		1832	1852	1912	1932	1952	2024	2054	2110	2210	2310	0010	0058
Oldham, Mumps							1856				1956	2028	2058					0102

For details of buses during the Christmas and New Year period, please phone 0161 244 1000

– Journey provided with the financial support of Transport for Greater Manchester

– All bus 59 journeys are run using easy access buses. See inside front cover of this leaflet for details



From 4 September

56

Service is reinstated

156

Normal times reintroduced at the end of
the Summer period

Buses

56 156



Easy access on all buses

Middleton

Rhodes

Heaton Park

Higher Blackley

Bank House

North Manchester General Hospital

Blackley

Collyhurst

Manchester

From 4 September 2022

For public transport information
phone **0161 244 1000**

7am – 8pm Mon to Fri

8am – 8pm Sat, Sun & public holidays

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Operated by
Stagecoach

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0753 is 53 minutes past 7am

1953 is 53 minutes past 7pm



Operator details

Stagecoach

Head Office

Hyde Road

Ardwick

Manchester

M12 6JS

Telephone 0345 241 8000

Email manchester.enquiries@stagecoachbus.com

Twitter @stagecoachGM

Travelshops

Manchester Shudehill Interchange

Mon to Sat 7am to 6pm

Sunday 8.30am to 1.15pm and 2pm to 4pm

Public hols 8am to 5.20pm

Middleton Bus Station

Mon to Sat 8.30am to 1.15pm and 2pm to 4pm

Sunday* Closed

*Including public holidays

Mondays to Fridays

Manchester, Shudehill Interchange	0630	0658	0735	0815	0850	0921		1421	1451	1520	1551	1621	1700	1735	1805
Collyhurst, Queens Road	0637	0707	0745	0825	0859	0928	and	1428	1459	1529	1600	1631	1710	1745	1815
North Manchester General Hospital	0646	0718	0757	0837	0909	0937	every	1437	1508	1539	1610	1642	1721	1756	1826
Higher Blackley, Plant Hill Road	0654	0726	0805	0845	0917	0945	30	1445	1516	1547	1619	1651	1730	1805	1834
North Manchester General Hospital	0705	0740	0817	0854	0926	0954	mins	1454	1525	1556	1628	1700	1739	1814	1843
Collyhurst, Queens Road	0717	0754	0831	0906	0938	1006	until	1506	1537	1608	1640	1711	1750	1825	1854
Manchester, Shudehill Interchange	0725	0808	0843	0914	0946	1014		1514	1545	1616	1648	1719	1758	1833	1902

Saturdays

Manchester, Shudehill Interchange	0936	1021		1621	1700	1807									
Collyhurst, Queens Road	0943	1028	and	1628	1707	1814									
North Manchester General Hospital	0952	1037	every	1637	1716	1823									
Higher Blackley, Plant Hill Road	1000	1045	30	1645	1731	1838									
North Manchester General Hospital	1009	1054	mins	1654	1740	1846									
Collyhurst, Queens Road	1021	1106	until	1706	1752	1858									
Manchester, Shudehill Interchange	1029	1114		1714	1800	1906									

Bus 56 does not run on Sundays or public holidays

Bus 56 is provided with the financial support of Transport for Greater Manchester

♿ – All bus 56 journeys are run using easy access buses. See inside front cover of this leaflet for details

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Mondays to Fridays

																		ℳ	ℳ
Middleton, Bus Station	0603	0627	0648	0712	0742	0845	0919		1419	1449	1519	1550	1623	1658	1728	1808			1902
Rhodes, Gardeners Arms	0607	0631	0654	0718	0751	0851	0924	and	1424	1454	1524	1555	1628	1703	1733	1813			1906
Higher Blackley, Glenbrook Road	0610	0636	0701	0732	0807	0857	0928	every	1428	1458	1528	1559	1632	1707	1737	1817			1910
Bank House, Chapel Lane	0508	0618	0641	0708	0741	0816	0905	0935	30	1435	1506	1536	1607	1640	1715	1745	1824		1916
North Manchester General Hospital	0512	0622	0646	0713	0746	0823	0909	0939	mins	1439	1510	1540	1611	1644	1719	1749	1828	1903	1919
Collyhurst, Queens Road	0522	0631	0657	0728	0803	0839	0921	0951	until	1451	1522	1552	1622	1655	1730	1800	1839	1913	1930
Manchester, Shudehill Interchange	0530	0640	0710	0740	0817	0854	0933	0959		1459	1530	1600	1630	1703	1738	1808	1847	1921	1938

	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ												
Middleton, Bus Station		2002		2102		2202	2302												
Rhodes, Gardeners Arms		2006		2106		2206	2306												
Higher Blackley, Glenbrook Road		2010		2110		2210	2310												
Bank House, Chapel Lane		2016		2116		2216	2316												
North Manchester General Hospital	2003	2019	2103	2119	2203	2219	2319												
Collyhurst, Queens Road	2013	2030	2113	2130	2213	2230	2330												
Manchester, Shudehill Interchange	2021	2038	2121	2138	2221	2238	2338												

Saturdays

							ℳ	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ	ℳ			
Middleton, Bus Station		0819		1649	1737	1802			1902		2002		2102		2202	2302			
Rhodes, Gardeners Arms		0824	and	1654	1742	1806			1906		2006		2106		2206	2306			
Higher Blackley, Glenbrook Road	0802	0828	every	1658	1746	1810			1910		2010		2110		2210	2310			
Bank House, Chapel Lane	0708	0808	0835	30	1705	1753	1816		1916		2016		2116		2216	2316			
North Manchester General Hospital	0712	0812	0839	mins	1709	1757	1819	1903	1919	2003	2019	2103	2119	2203	2219	2319			
Collyhurst, Queens Road	0722	0822	0851	until	1721	1807	1830	1913	1930	2013	2030	2113	2130	2213	2230	2330			
Manchester, Shudehill Interchange	0730	0830	0859		1729	1815	1838	1921	1938	2021	2038	2121	2138	2221	2238	2338			

Sundays and public holidays (except Christmas and New Year period)

	🕒	🕒	🕒	🕒	🕒	🕒
Middleton, Bus Station		0802		02		2202
Rhodes, Gardeners Arms		0806		06	mins	2206
Higher Blackley, Glenbrook Road		0810	then	10	past	2210
Bank House, Chapel Lane		0816	at	16	each	2216
North Manchester General Hospital	0803	0819		03	19	hour 2203 2219
Collyhurst, Queens Road	0813	0830		13	30	until 2213 2230
Manchester, Shudehill Interchange	0821	0838		21	38	2221 2238

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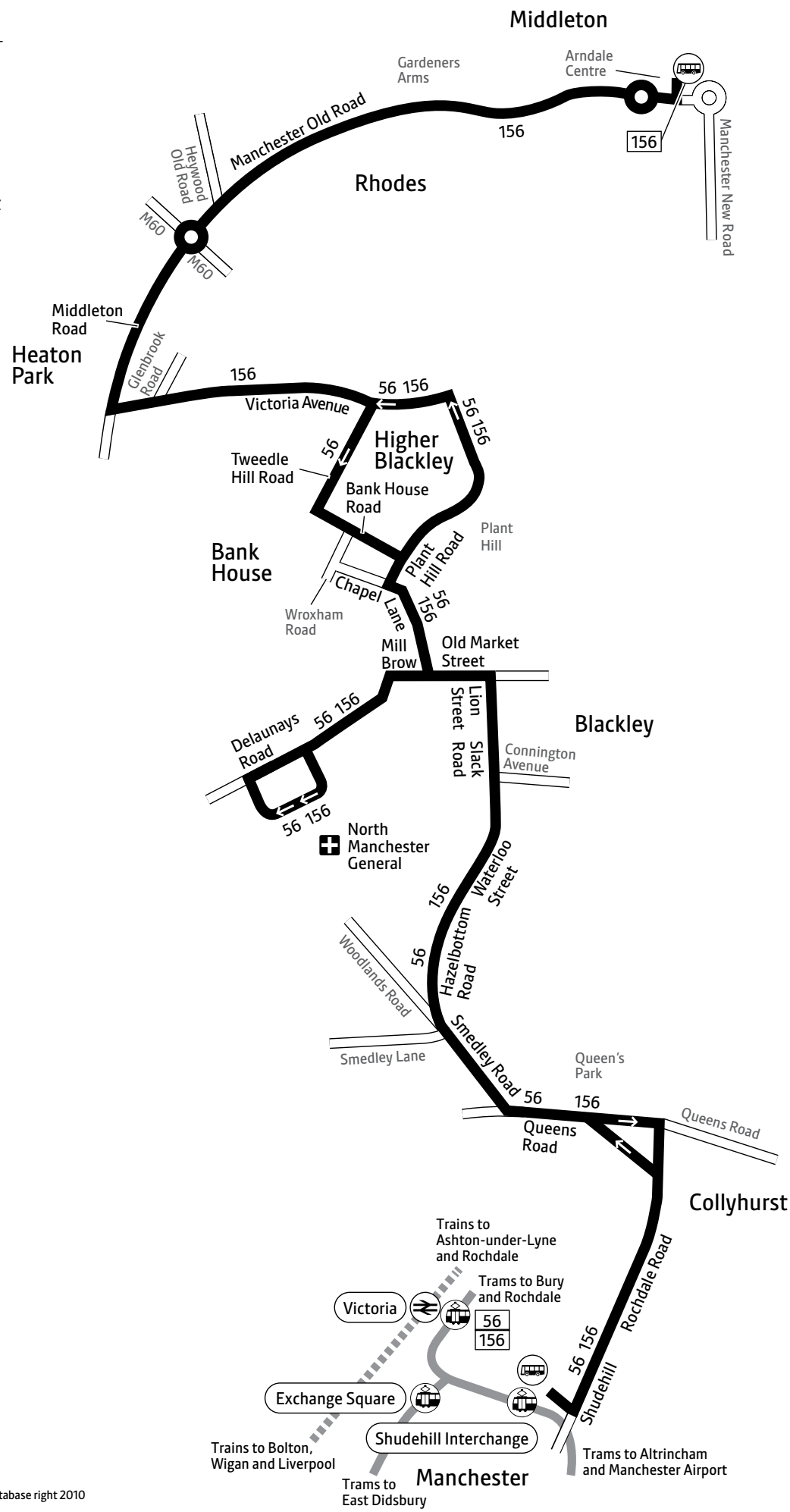
🕒 – Journey provided with the financial support of Transport for Greater Manchester

♿ – All bus 156 journeys are run using easy access buses. See inside front cover of this leaflet for details

Summer times: between mid July and early September, some timetables will be different. Check www.tfgm.com for details

56 156

- Key**
- Bus route
 - Train line
 - Tram line
 - Direction of travel
 - Bus station/connection point
 - Train station
 - Metrolink stop
 - Hospital
 - 56 Terminus



Mondays to Fridays

																			⌚
Manchester, Shudehill Interchange	0535	0650	0715	0755	0833	0903	0936		1406	1436	1505	1536	1606	1640	1720	1750	1825	1855	1925
Collyhurst, Queens Road	0541	0657	0724	0805	0842	0910	0943	and	1413	1444	1514	1545	1616	1650	1730	1800	1834	1902	1931
North Manchester General Hospital	0549	0706	0735	0817	0853	0919	0952	every	1422	1453	1524	1555	1627	1701	1741	1811	1844	1912	1939
Bank House, Chapel Lane	0553	0711	0740	0822	0858	0924	0957	30	1427	1458	1529	1601	1632	1706	1746	1816	1848	1916	1943
Higher Blackley, Glenbrook Road		0717	0746	0828	0904	0930	1003	mins	1433	1504	1537	1607	1638	1712	1752	1822	1854	1922	1949
Rhodes, Gardeners Arms		0722	0751	0833	0909	0935	1008	until	1438	1509	1542	1614	1645	1719	1759	1828	1858	1926	1953
Middleton, Bus Station		0726	0755	0837	0913	0939	1012		1442	1513	1546	1618	1649	1723	1803	1832	1902	1930	1957
	⌚	⌚	⌚	⌚	⌚	⌚	⌚												
Manchester, Shudehill Interchange	1943	2025	2043	2125	2143	2225	2343												
Collyhurst, Queens Road	1949	2031	2049	2131	2149	2231	2349												
North Manchester General Hospital	1957	2039	2057	2139	2157	2239	2357												
Bank House, Chapel Lane		2043		2143		2243	0001												
Higher Blackley, Glenbrook Road		2049		2149		2249	0007												
Rhodes, Gardeners Arms		2053		2153		2253	0011												
Middleton, Bus Station		2057		2157		2257	0015												

Saturdays

									⌚	⌚	⌚	⌚	⌚	⌚	⌚	⌚			
Manchester, Shudehill Interchange	0735	0835	0906	1006		1636	1737	1834	1925	1943	2025	2043	2125	2143	2225	2343			
Collyhurst, Queens Road	0741	0841	0913	1013	and	1643	1744	1841	1931	1949	2031	2049	2131	2149	2231	2349			
North Manchester General Hospital	0749	0849	0922	1022	every	1652	1753	1850	1939	1957	2039	2057	2139	2157	2239	2357			
Bank House, Chapel Lane	0753	0853	0927	1027	30	1657	1758	1854	1943		2043		2143		2243	0001			
Higher Blackley, Glenbrook Road	0759	0859	0933	1033	mins	1703	1804	1901	1949		2049		2149		2249	0007			
Rhodes, Gardeners Arms	0804	0904	0938	1038	until	1708	1809	1906	1953		2053		2153		2253	0011			
Middleton, Bus Station	0808	0908	0942	1042		1712	1814	1912	1957		2057		2157		2257	0015			

Sundays and public holidays (except Christmas and New Year period)

									
Manchester, Shudehill Interchange	0725	0825	0843		25	43		2143	2225
Collyhurst, Queens Road	0731	0831	0849		31	49	mins	2149	2231
North Manchester General Hospital	0739	0839	0857	then	39	57	past	2157	2239
Bank House, Chapel Lane	0743	0843		at	43		each		2243
Higher Blackley, Glenbrook Road	0749	0849			49		hour		2249
Rhodes, Gardeners Arms	0753	0853			53		until		2253
Middleton, Bus Station	0757	0857			57				2257

For details of buses during the Christmas and New Year period, please phone 0161 244 1000

 – Journey provided with the financial support of Transport for Greater Manchester

 – All bus 156 journeys are run using easy access buses. See inside front cover of this leaflet for details

Summer times: between mid July and early September, some timetables will be different. Check www.tfgm.com for details



NTM Growth Factors

2023-2025 AM Peak Period

NTM main form

Select Type of Comparison
Data selections
Trip end selections
Trip end by time period selections

Select time period
Weekday AM peak period (0700 - 0900)

Trip end type
☐ Production/Attraction
☒ Origin/Destination

Select data type
☒ Growth factors (2023 Data/2023 Data)
☐ Future Year (2025 - Base Year (2023))
☐ Base year data (2023)
☐ Future year data (2025)

*Statistical results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels

Car Drive Combined Modes

Area Description	Name	Origin	Destination
Level	Rochdale 024	1.0235	1.0298

NTM Traffic Growth Calculations

Scenario Core
Time Period: Weekday AM peak period (0700 - 0900)
Base Year: 2023
Future Year: 2025

1. Select NTM Dataset:

NTM Dataset Description	From	To
NTM 2022 Core	2015	2060
NTM 2022 Behavioural Change	2015	2060
NTM 2022 High Economy	2015	2060
NTM 2022 Low Economy	2015	2060
NTM 2022 Mode-balanced Decarbonisation	2015	2060
NTM 2022 Regional	2015	2060
NTM 2022 Technology	2015	2060
NTM 2022 Vehicle-led Decarbonisation	2015	2060

2. Select Areas to make up the geographic region:
☒ Rochdale 024 (02001155)

3. Select area type:
☐ Urban
☐ Rural
☐ All

4. Select road type:
☐ Motorway
☐ Trunk
☐ A Road
☐ Minor
☒ All

5. Select which area it serves:
☐ Region
☐ England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
02001155	Rochdale 024	1.0156

Reset Selections

17°C Heavy rain

Search

ENG UK

11:35 24/10/2023

2023-2025 PM Peak Period

NTM main form

Select Type of Comparison
Data selections
Trip end selections
Trip end by time period selections

Select time period
Weekday PM peak period (1600 - 1800)

Trip end type
☐ Production/Attraction
☒ Origin/Destination

Select data type
☒ Growth factors (2023 Data/2023 Data)
☐ Future Year (2025 - Base Year (2023))
☐ Base year data (2023)
☐ Future year data (2025)

*Statistical results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels

Car Drive Combined Modes

Area Description	Name	Origin	Destination
Level	Rochdale 024	1.0194	1.0215

NTM Traffic Growth Calculations

Scenario Core
Time Period: Weekday PM peak period (1600 - 1800)
Base Year: 2023
Future Year: 2025

1. Select NTM Dataset:

NTM Dataset Description	From	To
NTM 2022 Core	2015	2060
NTM 2022 Behavioural Change	2015	2060
NTM 2022 High Economy	2015	2060
NTM 2022 Low Economy	2015	2060
NTM 2022 Mode-balanced Decarbonisation	2015	2060
NTM 2022 Regional	2015	2060
NTM 2022 Technology	2015	2060
NTM 2022 Vehicle-led Decarbonisation	2015	2060

2. Select Areas to make up the geographic region:
☒ Rochdale 024 (02001155)

3. Select area type:
☐ Urban
☐ Rural
☐ All

4. Select road type:
☐ Motorway
☐ Trunk
☐ A Road
☐ Minor
☒ All

5. Select which area it serves:
☐ Region
☐ England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
02001155	Rochdale 024	1.0145

Reset Selections

17°C Heavy rain

Search

ENG UK

11:01 24/10/2023

2023-2025 Average Weekday

12345 main form

Select Type of Comparison
Data selections
Trip and selections
Trip and by time period selections

Select time period
Average Weekday

Trip end type
Production/Attraction
Origin/Destination

Reset Selections

Select data type
Growth Factors (2023 Data/2023 Data)
Future Year (2023) - Base Year (2023)
Base year data (2023)
Future year data (2025)

*Multilevel results indicate that there is a lower level of confidence in data presented at the road level than when aggregated to higher geographical levels

Car Drive Combined Nodes

Area Description	Name	Origin	All Purposes	Destination
Level	RD2001155	45/3/204	2.0206	2.0206

NTM Traffic Growth Calculations

Scenario Core
Time Period: Average Weekday
Base Year: 2023
Future Year: 2025

1. Select NTM Dataset:

NTM Dataset Description	From	To
NRTP 2022 Core	2015	2060
NRTP 2022 Behavioural Change	2015	2060
NRTP 2022 High Economy	2015	2060
NRTP 2022 Low Economy	2015	2060
NRTP 2022 Mode-Balanced Decarbonisation	2015	2060
NRTP 2022 Regional	2015	2060
NRTP 2022 Technology	2015	2060
NRTP 2022 Vehicle-led Decarbonisation	2015	2060

2. Select Areas to make up the geographic region:
☒ Roadside 124 (RD2001155)

3. Select area type:
☐ Urban
☐ Rural
☐ All

4. Select road type:
☐ Motorway
☐ Trunk
☐ A Road
☐ Minor
☒ All

5. Select which area it serves:
☒ Region
☐ England
Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
RD2001155	Roadside 124	1.0146

2023-2033 AM Peak Period

12345 main form

Select Type of Comparison
Data selections
Trip and selections
Trip and by time period selections

Select time period
Weekday AM peak period (0700 - 0900)

Trip end type
Production/Attraction
Origin/Destination

Reset Selections

Select data type
Growth Factors (2033 Data/2033 Data)
Future Year (2033) - Base Year (2023)
Base year data (2023)
Future year data (2033)

*Multilevel results indicate that there is a lower level of confidence in data presented at the road level than when aggregated to higher geographical levels

Car Drive Combined Nodes

Area Description	Name	Origin	All Purposes	Destination
Level	RD2001155	Roadside 124	1.0882	1.0882

NTM Traffic Growth Calculations

Scenario Core
Time Period: Weekday AM peak period (0700 - 0900)
Base Year: 2023
Future Year: 2033

1. Select NTM Dataset:

NTM Dataset Description	From	To
NRTP 2022 Core	2015	2060
NRTP 2022 Behavioural Change	2015	2060
NRTP 2022 High Economy	2015	2060
NRTP 2022 Low Economy	2015	2060
NRTP 2022 Mode-Balanced Decarbonisation	2015	2060
NRTP 2022 Regional	2015	2060
NRTP 2022 Technology	2015	2060
NRTP 2022 Vehicle-led Decarbonisation	2015	2060

2. Select Areas to make up the geographic region:
☒ Roadside 124 (RD2001155)

3. Select area type:
☐ Urban
☐ Rural
☐ All

4. Select road type:
☐ Motorway
☐ Trunk
☐ A Road
☐ Minor
☒ All

5. Select which area it serves:
☒ Region
☐ England
Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
RD2001155	Roadside 124	1.1177

2023-2033 PM Peak Period

ITDP's main form

Select Type of Comparison: Data selections, Trip end selections, Trip end by time period selections

Select time period: Weekday PM peak period (1600 - 1800)

Trips end type: Production/Attraction, Origin/Destination

Select data type: Growth factors (2013 Data/2023 Data), Future Year (2013 - Base Year (2022)), Base year data (2022), Future year data (2033)

*Statistical results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels

Car Drive, Combined Modes

Area Description: Level: 002001155, Name: Rochdale 024, Origin: L.07, Destination: L.082

Results

ITDP Traffic Growth Calculations

Scenario Core: Base Year 2023, Future Year 2033

Time Period: Weekday PM peak period (1600 - 1800)

1. Select RTM Dataset:

RTM Dataset Description	From	To
MRTP 2022 Core	2015	2040
MRTP 2022 Behaviour Change	2015	2040
MRTP 2022 High Economy	2015	2040
MRTP 2022 Low Economy	2015	2040
MRTP 2022 Mode-balanced Decarbonisation	2015	2040
MRTP 2022 Rational	2015	2040
MRTP 2022 Technology	2015	2040
MRTP2022 Vehicle-led Decarbonisation	2015	2040

2. Select Areas to make up the geographic region: Rochdale 024 (002001155)

3. Select area type: Urban, Rural, All

4. Select road type: Motorway, Trunk, A Road, Minor, All

5. Select which area it serves: Region, England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
002001155	Rochdale 024	1.1147

Reset Selections

ITDP Heavy rain

Search

ENG UK

12:04 24/10/2023

2023-2033 Average Weekday

ITDP's main form

Select Type of Comparison: Data selections, Trip end selections, Trip end by time period selections

Select time period: Average Weekday

Trips end type: Production/Attraction, Origin/Destination

Select data type: Growth factors (2013 Data/2033 Data), Future Year (2013 - Base Year (2022)), Base year data (2022), Future year data (2033)

*Statistical results indicate that there is a lower level of confidence in data presented at the zonal level than when aggregated to higher geographical levels

Car Drive, Combined Modes

Area Description: Level: 002001155, Name: Rochdale 024, Origin: L.0772, Destination: L.0708

Results

ITDP Traffic Growth Calculations

Scenario Core: Base Year 2023, Future Year 2033

Time Period: Average Weekday

1. Select RTM Dataset:

RTM Dataset Description	From	To
MRTP 2022 Core	2015	2040
MRTP 2022 Behaviour Change	2015	2040
MRTP 2022 High Economy	2015	2040
MRTP 2022 Low Economy	2015	2040
MRTP 2022 Mode-balanced Decarbonisation	2015	2040
MRTP 2022 Rational	2015	2040
MRTP 2022 Technology	2015	2040
MRTP2022 Vehicle-led Decarbonisation	2015	2040

2. Select Areas to make up the geographic region: Rochdale 024 (002001155)

3. Select area type: Urban, Rural, All

4. Select road type: Motorway, Trunk, A Road, Minor, All

5. Select which area it serves: Region, England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
002001155	Rochdale 024	1.1138

Reset Selections

ITDP Heavy rain

Search

ENG UK

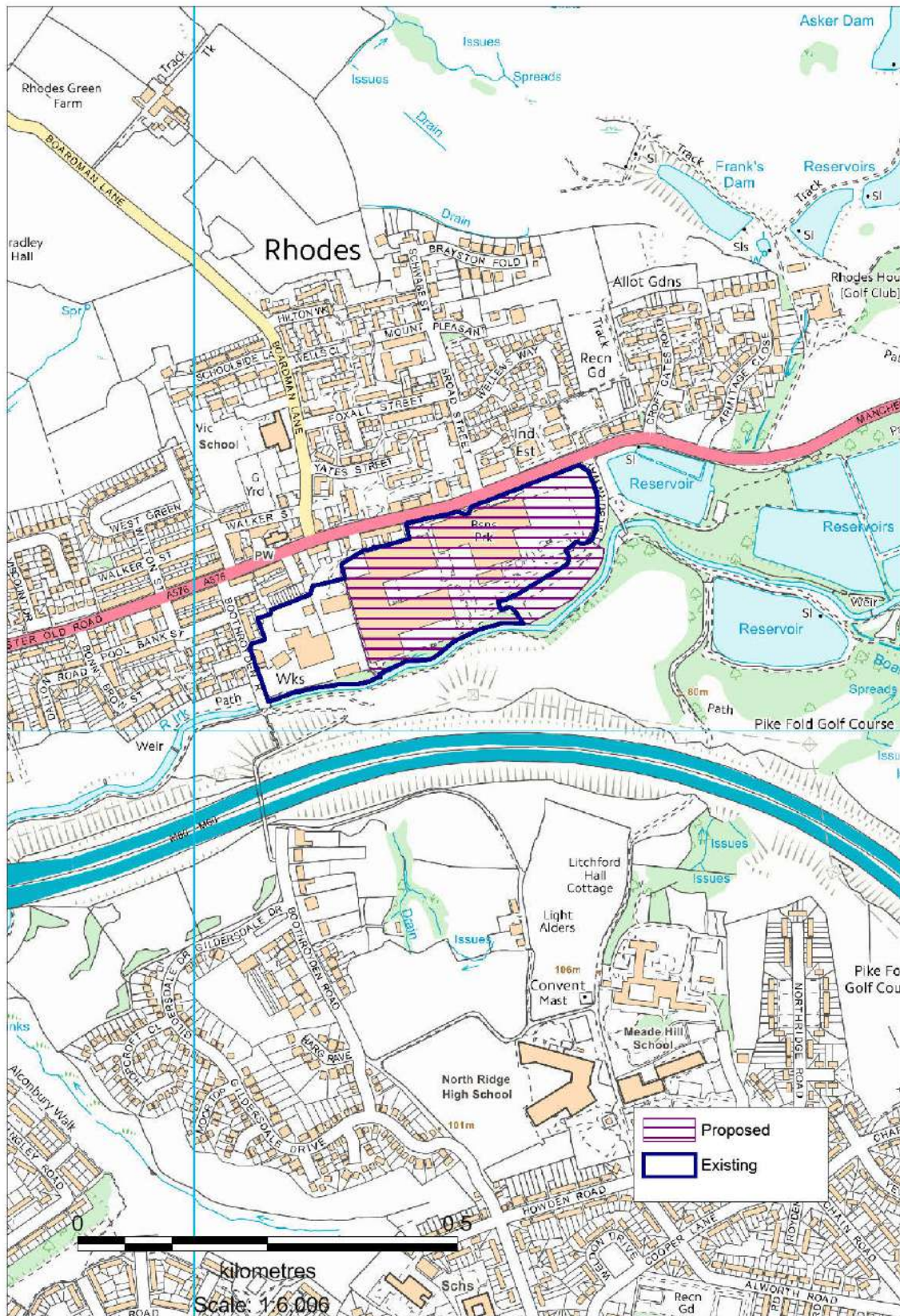
12:04 24/10/2023





Rochdale Borough Council Draft Allocations Plan

Employment Zone - Manchester Old Rd / Rhodes, Middleton





Focus Transport Planning Village Way Wilmslow

Licence No: 506501

Filtering Summary

Land Use	02/F	EMPLOYMENT/WAREHOUSING (COMMERCIAL)
Selected Trip Rate Calculation Parameter Range	190-3950 sqm GFA	
Actual Trip Rate Calculation Parameter Range	190-3665 sqm GFA	
Date Range	Minimum: 01/01/15	Maximum: 27/09/21
Parking Spaces Range	All Surveys Included	
Days of the week selected	Monday	3
	Thursday	2
	Friday	1
Main Location Types selected	Edge of Town Centre	1
	Suburban Area (PPS6 Out of Centre)	1
	Edge of Town	4
Inclusion of Servicing Vehicles Counts	Servicing vehicles Included	X - Selected
	Servicing vehicles Excluded	6 - Selected
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	5,001 to 10,000	3
	10,001 to 15,000	1
	20,001 to 25,000	1
	25,001 to 50,000	1
Population <5 Mile ranges selected	25,001 to 50,000	1
	125,001 to 250,000	3
	250,001 to 500,000	1
	500,001 or More	1
Car Ownership <5 Mile ranges selected	0.6 to 1.0	3
	1.1 to 1.5	3
PTAL Rating	No PTAL Present	6
Filter by Site Operations Breakdown	All Surveys Included	

Calculation Reference: AUDIT-506501-231031-1018

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BO BEDFORD	1 days
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	TB TORBAY	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	KS KIRKLEES	1 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	1 days

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

Focus Transport Planning Village Way Wilmslow

Licence No: 506501

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: Gross floor area
 Actual Range: 190 to 3665 (units: sqm)
 Range Selected by User: 190 to 3950 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 27/09/21

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 3 days
 Thursday 2 days
 Friday 1 days

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

Selected survey types:

Manual count 6 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:

Edge of Town Centre 1
 Suburban Area (PPS6 Out of Centre) 1
 Edge of Town 4

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:

Industrial Zone 3
 Commercial Zone 1
 Built-Up Zone 1
 No Sub Category 1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included X days - Selected
 Servicing vehicles Excluded 6 days - Selected

Secondary Filtering selection:**Use Class:**

n/a 1 days
 B8 5 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®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 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
125,001 to 250,000	3 days
250,001 to 500,000	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	3 days
1.1 to 1.5	3 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	6 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	6 days
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This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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LIST OF SITES relevant to selection parameters

1	AN-02-F-05 BLACKSTAFF ROAD BELFAST ANDERSONSTOWN Suburban Area (PPS6 Out of Centre) No Sub Category Total Gross floor area: 700 sqm Survey date: THURSDAY 26/11/20	SEAFOOD DISTRIBUTION ANTRIM
2	BO-02-F-01 CAMBRIDGE ROAD BEDFORD Edge of Town Industrial Zone Total Gross floor area: 3500 sqm Survey date: THURSDAY 15/10/20	DRINKS WHOLESALER BEDFORD Survey Type: MANUAL
3	HC-02-F-03 WARSASH ROAD PARK GATE Edge of Town Industrial Zone Total Gross floor area: 3665 sqm Survey date: MONDAY 27/09/21	PPE DISTRIBUTION HAMPSHIRE Survey Type: MANUAL
4	KS-02-F-01 MORTIMER STREET CLECKHEATON Edge of Town Centre Built-Up Zone Total Gross floor area: 1507 sqm Survey date: MONDAY 19/09/16	ELECTRONICS DISTRIBUTION KIRKLEES Survey Type: MANUAL
5	TB-02-F-01 ALDERS WAY PAIGNTON Edge of Town Industrial Zone Total Gross floor area: 190 sqm Survey date: FRIDAY 29/03/19	OPTICS WAREHOUSE TORBAY Survey Type: MANUAL
6	WM-02-F-02 SOVEREIGN ROAD BIRMINGHAM KINGS NORTON Edge of Town Commercial Zone Total Gross floor area: 3625 sqm Survey date: MONDAY 09/11/15	LOGISTICS FIRM WEST MIDLANDS 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.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.046	3	1463	0.046	3	1463	0.092
05:30 - 06:00	3	1463	0.159	3	1463	0.023	3	1463	0.182
06:00 - 06:30	3	1463	0.114	3	1463	0.137	3	1463	0.251
06:30 - 07:00	3	1463	0.182	3	1463	0.023	3	1463	0.205
07:00 - 07:30	6	2198	0.076	6	2198	0.083	6	2198	0.159
07:30 - 08:00	6	2198	0.136	6	2198	0.045	6	2198	0.181
08:00 - 08:30	6	2198	0.190	6	2198	0.015	6	2198	0.205
08:30 - 09:00	6	2198	0.190	6	2198	0.053	6	2198	0.243
09:00 - 09:30	6	2198	0.099	6	2198	0.015	6	2198	0.114
09:30 - 10:00	6	2198	0.083	6	2198	0.038	6	2198	0.121
10:00 - 10:30	6	2198	0.076	6	2198	0.083	6	2198	0.159
10:30 - 11:00	6	2198	0.182	6	2198	0.144	6	2198	0.326
11:00 - 11:30	6	2198	0.129	6	2198	0.099	6	2198	0.228
11:30 - 12:00	6	2198	0.106	6	2198	0.136	6	2198	0.242
12:00 - 12:30	6	2198	0.083	6	2198	0.129	6	2198	0.212
12:30 - 13:00	6	2198	0.144	6	2198	0.167	6	2198	0.311
13:00 - 13:30	6	2198	0.212	6	2198	0.114	6	2198	0.326
13:30 - 14:00	6	2198	0.136	6	2198	0.076	6	2198	0.212
14:00 - 14:30	6	2198	0.121	6	2198	0.182	6	2198	0.303
14:30 - 15:00	6	2198	0.106	6	2198	0.129	6	2198	0.235
15:00 - 15:30	6	2198	0.091	6	2198	0.265	6	2198	0.356
15:30 - 16:00	6	2198	0.083	6	2198	0.099	6	2198	0.182
16:00 - 16:30	6	2198	0.083	6	2198	0.121	6	2198	0.204
16:30 - 17:00	6	2198	0.038	6	2198	0.045	6	2198	0.083
17:00 - 17:30	6	2198	0.015	6	2198	0.311	6	2198	0.326
17:30 - 18:00	6	2198	0.023	6	2198	0.114	6	2198	0.137
18:00 - 18:30	5	2336	0.009	5	2336	0.137	5	2336	0.146
18:30 - 19:00	5	2336	0.017	5	2336	0.043	5	2336	0.060
19:00 - 19:30	3	1463	0.000	3	1463	0.046	3	1463	0.046
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.929			2.918			5.847

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:	190 - 3665 (units: sqm)
Survey date range:	01/01/15 - 27/09/21
Number of weekdays (Monday-Friday):	6
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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.023	3	1463	0.000	3	1463	0.023
05:30 - 06:00	3	1463	0.000	3	1463	0.023	3	1463	0.023
06:00 - 06:30	3	1463	0.000	3	1463	0.023	3	1463	0.023
06:30 - 07:00	3	1463	0.000	3	1463	0.023	3	1463	0.023
07:00 - 07:30	6	2198	0.008	6	2198	0.045	6	2198	0.053
07:30 - 08:00	6	2198	0.015	6	2198	0.015	6	2198	0.030
08:00 - 08:30	6	2198	0.008	6	2198	0.008	6	2198	0.016
08:30 - 09:00	6	2198	0.008	6	2198	0.008	6	2198	0.016
09:00 - 09:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
09:30 - 10:00	6	2198	0.030	6	2198	0.008	6	2198	0.038
10:00 - 10:30	6	2198	0.023	6	2198	0.045	6	2198	0.068
10:30 - 11:00	6	2198	0.053	6	2198	0.030	6	2198	0.083
11:00 - 11:30	6	2198	0.023	6	2198	0.030	6	2198	0.053
11:30 - 12:00	6	2198	0.015	6	2198	0.023	6	2198	0.038
12:00 - 12:30	6	2198	0.023	6	2198	0.030	6	2198	0.053
12:30 - 13:00	6	2198	0.015	6	2198	0.023	6	2198	0.038
13:00 - 13:30	6	2198	0.023	6	2198	0.015	6	2198	0.038
13:30 - 14:00	6	2198	0.015	6	2198	0.000	6	2198	0.015
14:00 - 14:30	6	2198	0.023	6	2198	0.015	6	2198	0.038
14:30 - 15:00	6	2198	0.023	6	2198	0.008	6	2198	0.031
15:00 - 15:30	6	2198	0.023	6	2198	0.023	6	2198	0.046
15:30 - 16:00	6	2198	0.023	6	2198	0.015	6	2198	0.038
16:00 - 16:30	6	2198	0.030	6	2198	0.030	6	2198	0.060
16:30 - 17:00	6	2198	0.015	6	2198	0.015	6	2198	0.030
17:00 - 17:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
17:30 - 18:00	6	2198	0.008	6	2198	0.000	6	2198	0.008
18:00 - 18:30	5	2336	0.009	5	2336	0.009	5	2336	0.018
18:30 - 19:00	5	2336	0.009	5	2336	0.009	5	2336	0.018
19:00 - 19:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.445			0.473			0.918

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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
05:30 - 06:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
06:00 - 06:30	3	1463	0.023	3	1463	0.000	3	1463	0.023
06:30 - 07:00	3	1463	0.046	3	1463	0.000	3	1463	0.046
07:00 - 07:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
07:30 - 08:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
08:00 - 08:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
08:30 - 09:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
09:00 - 09:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
09:30 - 10:00	6	2198	0.000	6	2198	0.008	6	2198	0.008
10:00 - 10:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
10:30 - 11:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
11:00 - 11:30	6	2198	0.008	6	2198	0.008	6	2198	0.016
11:30 - 12:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
12:00 - 12:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
12:30 - 13:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
13:00 - 13:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
13:30 - 14:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
14:00 - 14:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
14:30 - 15:00	6	2198	0.008	6	2198	0.008	6	2198	0.016
15:00 - 15:30	6	2198	0.000	6	2198	0.015	6	2198	0.015
15:30 - 16:00	6	2198	0.000	6	2198	0.015	6	2198	0.015
16:00 - 16:30	6	2198	0.000	6	2198	0.008	6	2198	0.008
16:30 - 17:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
17:00 - 17:30	6	2198	0.000	6	2198	0.008	6	2198	0.008
17:30 - 18:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
18:00 - 18:30	5	2336	0.000	5	2336	0.000	5	2336	0.000
18:30 - 19:00	5	2336	0.000	5	2336	0.000	5	2336	0.000
19:00 - 19:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.109			0.070			0.179

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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 CARS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.023	3	1463	0.046	3	1463	0.069
05:30 - 06:00	3	1463	0.159	3	1463	0.000	3	1463	0.159
06:00 - 06:30	3	1463	0.068	3	1463	0.068	3	1463	0.136
06:30 - 07:00	3	1463	0.182	3	1463	0.000	3	1463	0.182
07:00 - 07:30	6	2198	0.045	6	2198	0.015	6	2198	0.060
07:30 - 08:00	6	2198	0.099	6	2198	0.030	6	2198	0.129
08:00 - 08:30	6	2198	0.159	6	2198	0.008	6	2198	0.167
08:30 - 09:00	6	2198	0.159	6	2198	0.023	6	2198	0.182
09:00 - 09:30	6	2198	0.091	6	2198	0.000	6	2198	0.091
09:30 - 10:00	6	2198	0.030	6	2198	0.015	6	2198	0.045
10:00 - 10:30	6	2198	0.030	6	2198	0.023	6	2198	0.053
10:30 - 11:00	6	2198	0.076	6	2198	0.061	6	2198	0.137
11:00 - 11:30	6	2198	0.068	6	2198	0.045	6	2198	0.113
11:30 - 12:00	6	2198	0.053	6	2198	0.045	6	2198	0.098
12:00 - 12:30	6	2198	0.038	6	2198	0.091	6	2198	0.129
12:30 - 13:00	6	2198	0.099	6	2198	0.106	6	2198	0.205
13:00 - 13:30	6	2198	0.136	6	2198	0.076	6	2198	0.212
13:30 - 14:00	6	2198	0.106	6	2198	0.045	6	2198	0.151
14:00 - 14:30	6	2198	0.076	6	2198	0.144	6	2198	0.220
14:30 - 15:00	6	2198	0.068	6	2198	0.099	6	2198	0.167
15:00 - 15:30	6	2198	0.038	6	2198	0.205	6	2198	0.243
15:30 - 16:00	6	2198	0.038	6	2198	0.061	6	2198	0.099
16:00 - 16:30	6	2198	0.023	6	2198	0.053	6	2198	0.076
16:30 - 17:00	6	2198	0.023	6	2198	0.023	6	2198	0.046
17:00 - 17:30	6	2198	0.008	6	2198	0.296	6	2198	0.304
17:30 - 18:00	6	2198	0.008	6	2198	0.106	6	2198	0.114
18:00 - 18:30	5	2336	0.000	5	2336	0.128	5	2336	0.128
18:30 - 19:00	5	2336	0.000	5	2336	0.034	5	2336	0.034
19:00 - 19:30	3	1463	0.000	3	1463	0.023	3	1463	0.023
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.903			1.869			3.772

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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 LGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
05:30 - 06:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
06:00 - 06:30	3	1463	0.046	3	1463	0.046	3	1463	0.092
06:30 - 07:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
07:00 - 07:30	6	2198	0.023	6	2198	0.023	6	2198	0.046
07:30 - 08:00	6	2198	0.023	6	2198	0.000	6	2198	0.023
08:00 - 08:30	6	2198	0.015	6	2198	0.000	6	2198	0.015
08:30 - 09:00	6	2198	0.023	6	2198	0.023	6	2198	0.046
09:00 - 09:30	6	2198	0.008	6	2198	0.015	6	2198	0.023
09:30 - 10:00	6	2198	0.023	6	2198	0.015	6	2198	0.038
10:00 - 10:30	6	2198	0.015	6	2198	0.015	6	2198	0.030
10:30 - 11:00	6	2198	0.045	6	2198	0.053	6	2198	0.098
11:00 - 11:30	6	2198	0.030	6	2198	0.023	6	2198	0.053
11:30 - 12:00	6	2198	0.038	6	2198	0.061	6	2198	0.099
12:00 - 12:30	6	2198	0.023	6	2198	0.008	6	2198	0.031
12:30 - 13:00	6	2198	0.023	6	2198	0.038	6	2198	0.061
13:00 - 13:30	6	2198	0.053	6	2198	0.023	6	2198	0.076
13:30 - 14:00	6	2198	0.015	6	2198	0.030	6	2198	0.045
14:00 - 14:30	6	2198	0.023	6	2198	0.023	6	2198	0.046
14:30 - 15:00	6	2198	0.015	6	2198	0.023	6	2198	0.038
15:00 - 15:30	6	2198	0.030	6	2198	0.030	6	2198	0.060
15:30 - 16:00	6	2198	0.023	6	2198	0.015	6	2198	0.038
16:00 - 16:30	6	2198	0.023	6	2198	0.038	6	2198	0.061
16:30 - 17:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
17:00 - 17:30	6	2198	0.008	6	2198	0.015	6	2198	0.023
17:30 - 18:00	6	2198	0.008	6	2198	0.008	6	2198	0.016
18:00 - 18:30	5	2336	0.000	5	2336	0.000	5	2336	0.000
18:30 - 19:00	5	2336	0.009	5	2336	0.000	5	2336	0.009
19:00 - 19:30	3	1463	0.000	3	1463	0.023	3	1463	0.023
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.542			0.548			1.090

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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
MOTOR CYCLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
05:30 - 06:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
06:00 - 06:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
06:30 - 07:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
07:00 - 07:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
07:30 - 08:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
08:00 - 08:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
08:30 - 09:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
09:00 - 09:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
09:30 - 10:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
10:00 - 10:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
10:30 - 11:00	6	2198	0.008	6	2198	0.000	6	2198	0.008
11:00 - 11:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
11:30 - 12:00	6	2198	0.000	6	2198	0.008	6	2198	0.008
12:00 - 12:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
12:30 - 13:00	6	2198	0.008	6	2198	0.000	6	2198	0.008
13:00 - 13:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
13:30 - 14:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
14:00 - 14:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
14:30 - 15:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
15:00 - 15:30	6	2198	0.000	6	2198	0.008	6	2198	0.008
15:30 - 16:00	6	2198	0.000	6	2198	0.008	6	2198	0.008
16:00 - 16:30	6	2198	0.008	6	2198	0.000	6	2198	0.008
16:30 - 17:00	6	2198	0.000	6	2198	0.008	6	2198	0.008
17:00 - 17:30	6	2198	0.000	6	2198	0.000	6	2198	0.000
17:30 - 18:00	6	2198	0.000	6	2198	0.000	6	2198	0.000
18:00 - 18:30	5	2336	0.000	5	2336	0.000	5	2336	0.000
18:30 - 19:00	5	2336	0.000	5	2336	0.000	5	2336	0.000
19:00 - 19:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
19:30 - 20:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:00 - 20:30	3	1463	0.000	3	1463	0.000	3	1463	0.000
20:30 - 21:00	3	1463	0.000	3	1463	0.000	3	1463	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.048			0.032			0.080

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.



Junctions 9	
PICADY 9 - Priority Intersection Module	
Version: 9.5.1.7462 © Copyright TRL Limited, 2019	
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Filename: A576_Silburn Way Priority T-junction.j9

Path: C:\Data\Projects\J000451-J000500\J000467 Rhodes Business Park\Background Information\Junction Assessments

Report generation date: 22/11/2023 13:00:14

-
- »2023 Survey, AM
 - »2023 Survey, PM
 - »2025 OY Base, AM
 - »2025 OY Base, PM
 - »2033 FY Base, AM
 - »2033 FY Base, PM
 - »2025 OY Base + Dev, AM
 - »2025 OY Base + Dev, PM
 - »2033 FY Base + Dev, AM
 - »2033 FY Base + Dev, PM

Summary of junction performance

	AM								PM							
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2023 Survey															
Stream B-C	D1	0.0	15.85	0.01	C	0.29	A	43 %	D2	0.1	10.18	0.07	B	0.53	A	15 %
Stream B-A		0.0	17.02	0.03	C			[Stream B-A]		0.1	23.66	0.13	C			[Stream B-A]
Stream C-AB		0.1	7.75	0.05	A			0.0		10.80	0.01	B	[Stream B-A]			
	2025 OY Base															
Stream B-C	D3	0.0	15.94	0.01	C	0.28	A	41 %	D4	0.1	10.27	0.07	B	0.53	A	14 %
Stream B-A		0.0	17.33	0.03	C			[Stream B-A]		0.1	24.38	0.13	C			[Stream B-A]
Stream C-AB		0.1	7.80	0.05	A			0.0		10.88	0.01	B	[Stream B-A]			
	2033 FY Base															
Stream B-C	D5	0.0	16.79	0.01	C	0.31	A	28 %	D6	0.1	11.13	0.08	B	0.65	A	3 %
Stream B-A		0.0	19.78	0.04	C			[Stream B-A]		0.2	31.55	0.18	D			[Stream B-A]
Stream C-AB		0.1	8.18	0.06	A			0.0		11.44	0.01	B	[Stream B-A]			
	2025 OY Base + Dev															
Stream B-C	D7	0.0	15.54	0.01	C	0.36	A	40 %	D8	0.1	10.56	0.08	B	0.65	A	12 %
Stream B-A		0.0	17.38	0.04	C			[Stream B-A]		0.2	25.20	0.15	D			[Stream B-A]
Stream C-AB		0.1	8.24	0.07	A			0.0		12.33	0.01	B	[Stream B-A]			
	2033 FY Base + Dev															
Stream B-C	D9	0.0	16.54	0.01	C	0.40	A	23 %	D10	0.1	11.44	0.09	B	0.80	A	2 %
Stream B-A		0.0	22.36	0.05	C			[Stream B-A]		0.3	33.51	0.20	D			[Stream B-A]
Stream C-AB		0.1	8.55	0.07	A			0.0		12.99	0.02	B	[Stream B-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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

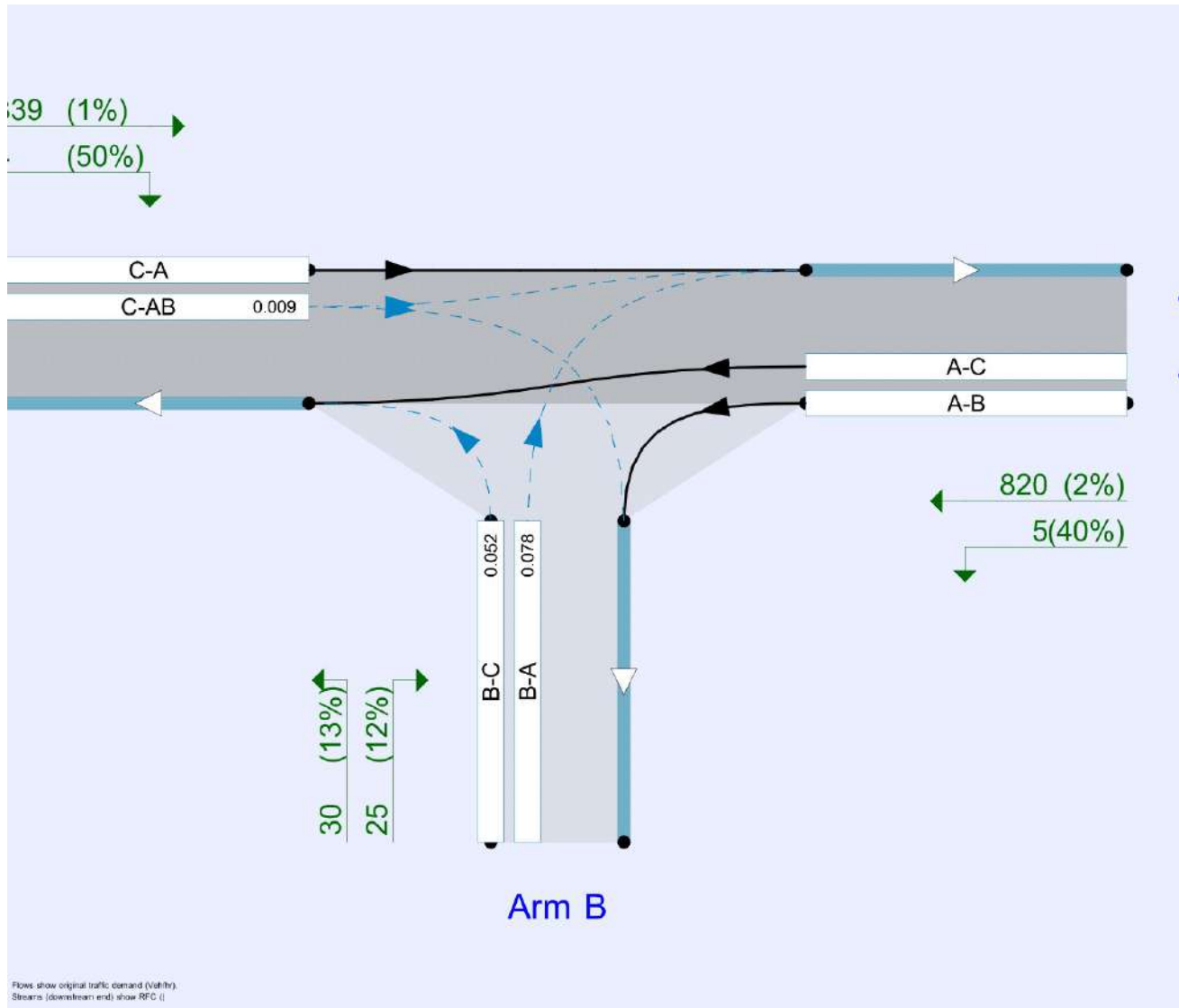
File summary

File Description

Title	
Location	
Site number	
Date	04/10/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	FTPDT-01\Office
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	Veh	Veh	perHour	s	-Min	perMin



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Survey	AM	ONE HOUR	00:00	01:30	15	✓
D2	2023 Survey	PM	ONE HOUR	00:00	01:30	15	✓
D3	2025 OY Base	AM	ONE HOUR	00:00	01:30	15	✓
D4	2025 OY Base	PM	ONE HOUR	00:00	01:30	15	✓
D5	2033 FY Base	AM	ONE HOUR	00:00	01:30	15	✓
D6	2033 FY Base	PM	ONE HOUR	00:00	01:30	15	✓
D7	2025 OY Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓
D8	2025 OY Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓
D9	2033 FY Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓
D10	2033 FY Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓

Analysis Set Details

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

2023 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.29	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	43	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	Manchester Old Rd (east)		Major
B	Silburn Way		Minor
C	Manchester Old Rd (west)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.48		✓	3.00	70.0	✓	5.00

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	8.35	6.20	3.20	2.80	2.80		1.00	80	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	544	0.101	0.256	0.161	0.366
B-C	627	0.098	0.248	-	-
C-B	668	0.265	0.265	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Survey	AM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	581	100.000
B		ONE HOUR	✓	8	100.000
C		ONE HOUR	✓	613	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	14	567
	B	6	0	2
	C	590	23	0

Proportions

	To			
		A	B	C
	A	0.00	0.02	0.98
	B	0.75	0.00	0.25
	C	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	14	5
	B	17	0	100
	C	5	0	0

Average PCU Per Veh

	To			
		A	B	C
	A	1.000	1.140	1.050
	B	1.170	1.000	2.000
	C	1.050	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	437	460
	B	6	8
	C	461	484
00:15-00:30	A	522	550
	B	7	10
	C	551	578
00:30-00:45	A	640	673
	B	9	12
	C	675	707
00:45-01:00	A	640	673
	B	9	12
	C	675	707
01:00-01:15	A	522	550
	B	7	10
	C	551	578
01:15-01:30	A	437	460
	B	6	8
	C	461	484

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	15.85	0.0	C	2	3
B-A	0.03	17.02	0.0	C	6	8
C-AB	0.05	7.75	0.1	A	21	32
C-A					541	812
A-B					13	19
A-C					520	780

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	256	0.006	1	0.0	0.0	14.133	B
B-A	5	1	296	0.015	4	0.0	0.0	12.335	B
C-AB	17	4	546	0.032	17	0.0	0.0	6.803	A
C-A	444	111			444				
A-B	11	3			11				
A-C	427	107			427				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	245	0.007	2	0.0	0.0	14.801	B
B-A	5	1	263	0.020	5	0.0	0.0	13.951	B
C-AB	21	5	523	0.040	21	0.0	0.0	7.172	A
C-A	530	133			530				
A-B	13	3			13				
A-C	510	127			510				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	229	0.010	2	0.0	0.0	15.846	C
B-A	7	2	218	0.030	7	0.0	0.0	17.019	C
C-AB	25	6	490	0.052	25	0.0	0.1	7.747	A
C-A	650	162			650				
A-B	15	4			15				
A-C	624	156			624				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	229	0.010	2	0.0	0.0	15.849	C
B-A	7	2	218	0.030	7	0.0	0.0	17.022	C
C-AB	25	6	490	0.052	25	0.1	0.1	7.749	A
C-A	650	162			650				
A-B	15	4			15				
A-C	624	156			624				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	245	0.007	2	0.0	0.0	14.806	B
B-A	5	1	263	0.020	5	0.0	0.0	13.956	B
C-AB	21	5	523	0.040	21	0.1	0.0	7.173	A
C-A	530	133			530				
A-B	13	3			13				
A-C	510	127			510				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	256	0.006	2	0.0	0.0	14.134	B
B-A	5	1	296	0.015	5	0.0	0.0	12.346	B
C-AB	17	4	546	0.032	17	0.0	0.0	6.806	A
C-A	444	111			444				
A-B	11	3			11				
A-C	427	107			427				

2023 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.53	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	15	Stream B-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)	Run automatically
D2	2023 Survey	PM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	740	100.000
B		ONE HOUR	✓	43	100.000
C		ONE HOUR	✓	756	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	4	736
	From B	20	0	23
	From C	753	3	0

Proportions

	To			
		A	B	C
	From A	0.00	0.01	0.99
	From B	0.47	0.00	0.53
	From C	1.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	25	2
	From B	10	0	13
	From C	1	33	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.250	1.020
	From B	1.100	1.000	1.130
	From C	1.010	1.330	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	557	569
	B	32	36
	C	569	576
00:15-00:30	A	665	679
	B	39	43
	C	680	687
00:30-00:45	A	815	832
	B	47	53
	C	832	842
00:45-01:00	A	815	832
	B	47	53
	C	832	842
01:00-01:15	A	665	679
	B	39	43
	C	680	687
01:15-01:30	A	557	569
	B	32	36
	C	569	576

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.07	10.18	0.1	B	21	32
B-A	0.13	23.66	0.1	C	18	28
C-AB	0.01	10.80	0.0	B	3	4
C-A					691	1036
A-B					4	6
A-C					675	1013

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	447	0.039	17	0.0	0.0	8.365	A
B-A	15	4	272	0.055	15	0.0	0.1	13.978	B
C-AB	2	0.56	389	0.006	2	0.0	0.0	9.307	A
C-A	567	142			567				
A-B	3	0.75			3				
A-C	554	139			554				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	419	0.049	21	0.0	0.1	9.026	A
B-A	18	4	231	0.078	18	0.1	0.1	16.881	C
C-AB	3	0.67	367	0.007	3	0.0	0.0	9.879	A
C-A	677	169			677				
A-B	4	1			4				
A-C	662	165			662				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	379	0.067	25	0.1	0.1	10.167	B
B-A	22	6	174	0.127	22	0.1	0.1	23.619	C
C-AB	3	1	337	0.010	3	0.0	0.0	10.798	B
C-A	829	207			829				
A-B	4	1			4				
A-C	810	203			810				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	379	0.067	25	0.1	0.1	10.181	B
B-A	22	6	174	0.126	22	0.1	0.1	23.656	C
C-AB	3	1	337	0.010	3	0.0	0.0	10.798	B
C-A	829	207			829				
A-B	4	1			4				
A-C	810	203			810				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	419	0.049	21	0.1	0.1	9.043	A
B-A	18	4	232	0.078	18	0.1	0.1	16.891	C
C-AB	3	0.67	367	0.007	3	0.0	0.0	9.880	A
C-A	677	169			677				
A-B	4	1			4				
A-C	662	165			662				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	447	0.039	17	0.1	0.0	8.383	A
B-A	15	4	273	0.055	15	0.1	0.1	13.988	B
C-AB	2	0.56	389	0.006	2	0.0	0.0	9.309	A
C-A	567	142			567				
A-B	3	0.75			3				
A-C	554	139			554				

2025 OY Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.28	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	41	Stream B-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)	Run automatically
D3	2025 OY Base	AM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	590	100.000
B		ONE HOUR	✓	8	100.000
C		ONE HOUR	✓	622	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	14	576
	From B	6	0	2
	From C	599	23	0

Proportions

	To			
		A	B	C
	From A	0.00	0.02	0.98
	From B	0.75	0.00	0.25
	From C	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	14	5
	From B	17	0	100
	From C	5	0	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.140	1.050
	From B	1.170	1.000	2.000
	From C	1.050	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	444	467
	B	6	8
	C	468	491
00:15-00:30	A	530	558
	B	7	10
	C	559	586
00:30-00:45	A	650	683
	B	9	12
	C	685	718
00:45-01:00	A	650	683
	B	9	12
	C	685	718
01:00-01:15	A	530	558
	B	7	10
	C	559	586
01:15-01:30	A	444	467
	B	6	8
	C	468	491

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	15.94	0.0	C	2	3
B-A	0.03	17.33	0.0	C	6	8
C-AB	0.05	7.80	0.1	A	21	32
C-A					550	824
A-B					13	19
A-C					529	793

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	255	0.006	1	0.0	0.0	14.183	B
B-A	5	1	294	0.015	4	0.0	0.0	12.443	B
C-AB	17	4	544	0.032	17	0.0	0.0	6.827	A
C-A	451	113			451				
A-B	11	3			11				
A-C	434	108			434				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	244	0.007	2	0.0	0.0	14.866	B
B-A	5	1	260	0.021	5	0.0	0.0	14.117	B
C-AB	21	5	520	0.040	21	0.0	0.0	7.204	A
C-A	538	135			538				
A-B	13	3			13				
A-C	518	129			518				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	228	0.010	2	0.0	0.0	15.939	C
B-A	7	2	214	0.031	7	0.0	0.0	17.316	C
C-AB	25	6	487	0.052	25	0.0	0.1	7.794	A
C-A	660	165			660				
A-B	15	4			15				
A-C	634	159			634				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	228	0.010	2	0.0	0.0	15.942	C
B-A	7	2	214	0.031	7	0.0	0.0	17.326	C
C-AB	25	6	487	0.052	25	0.1	0.1	7.795	A
C-A	660	165			660				
A-B	15	4			15				
A-C	634	159			634				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	244	0.007	2	0.0	0.0	14.872	B
B-A	5	1	260	0.021	5	0.0	0.0	14.124	B
C-AB	21	5	520	0.040	21	0.1	0.0	7.205	A
C-A	538	135			538				
A-B	13	3			13				
A-C	518	129			518				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	255	0.006	2	0.0	0.0	14.186	B
B-A	5	1	294	0.015	5	0.0	0.0	12.455	B
C-AB	17	4	544	0.032	17	0.0	0.0	6.831	A
C-A	451	113			451				
A-B	11	3			11				
A-C	434	108			434				

2025 OY Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.53	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	14	Stream B-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)	Run automatically
D4	2025 OY Base	PM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	751	100.000
B		ONE HOUR	✓	43	100.000
C		ONE HOUR	✓	767	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	4	747
	B	20	0	23
	C	764	3	0

Proportions

	To			
		A	B	C
	A	0.00	0.01	0.99
	B	0.47	0.00	0.53
	C	1.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	25	2
	B	10	0	13
	C	1	33	0

Average PCU Per Veh

	To			
		A	B	C
	A	1.000	1.250	1.020
	B	1.100	1.000	1.130
	C	1.010	1.330	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	565	577
	B	32	36
	C	577	584
00:15-00:30	A	675	689
	B	39	43
	C	690	697
00:30-00:45	A	827	844
	B	47	53
	C	844	854
00:45-01:00	A	827	844
	B	47	53
	C	844	854
01:00-01:15	A	675	689
	B	39	43
	C	690	697
01:15-01:30	A	565	577
	B	32	36
	C	577	584

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.07	10.27	0.1	B	21	32
B-A	0.13	24.38	0.1	C	18	28
C-AB	0.01	10.88	0.0	B	3	4
C-A					701	1052
A-B					4	6
A-C					685	1028

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	445	0.039	17	0.0	0.0	8.405	A
B-A	15	4	269	0.056	15	0.0	0.1	14.151	B
C-AB	2	0.56	387	0.006	2	0.0	0.0	9.347	A
C-A	575	144			575				
A-B	3	0.75			3				
A-C	562	141			562				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	417	0.050	21	0.0	0.1	9.082	A
B-A	18	4	227	0.079	18	0.1	0.1	17.179	C
C-AB	3	0.67	365	0.007	3	0.0	0.0	9.934	A
C-A	687	172			687				
A-B	4	1			4				
A-C	672	168			672				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	376	0.067	25	0.1	0.1	10.260	B
B-A	22	6	169	0.130	22	0.1	0.1	24.343	C
C-AB	3	1	334	0.010	3	0.0	0.0	10.878	B
C-A	841	210			841				
A-B	4	1			4				
A-C	822	206			822				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	376	0.067	25	0.1	0.1	10.274	B
B-A	22	6	170	0.130	22	0.1	0.1	24.383	C
C-AB	3	1	334	0.010	3	0.0	0.0	10.878	B
C-A	841	210			841				
A-B	4	1			4				
A-C	822	206			822				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	416	0.050	21	0.1	0.1	9.102	A
B-A	18	4	228	0.079	18	0.1	0.1	17.193	C
C-AB	3	0.67	365	0.007	3	0.0	0.0	9.936	A
C-A	687	172			687				
A-B	4	1			4				
A-C	672	168			672				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	445	0.039	17	0.1	0.0	8.423	A
B-A	15	4	269	0.056	15	0.1	0.1	14.160	B
C-AB	2	0.56	387	0.006	2	0.0	0.0	9.350	A
C-A	575	144			575				
A-B	3	0.75			3				
A-C	562	141			562				

2033 FY Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.31	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	28	Stream B-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)	Run automatically
D5	2033 FY Base	AM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	650	100.000
B		ONE HOUR	✓	9	100.000
C		ONE HOUR	✓	685	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	16	634
	From B	7	0	2
	From C	659	26	0

Proportions

	To			
		A	B	C
	From A	0.00	0.02	0.98
	From B	0.78	0.00	0.22
	From C	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	14	5
	From B	17	0	100
	From C	5	0	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.140	1.050
	From B	1.170	1.000	2.000
	From C	1.050	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	489	515
	B	7	9
	C	516	541
00:15-00:30	A	584	615
	B	8	11
	C	616	645
00:30-00:45	A	716	753
	B	10	13
	C	754	790
00:45-01:00	A	716	753
	B	10	13
	C	754	790
01:00-01:15	A	584	615
	B	8	11
	C	616	645
01:15-01:30	A	489	515
	B	7	9
	C	516	541

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	16.79	0.0	C	2	3
B-A	0.04	19.78	0.0	C	6	10
C-AB	0.06	8.18	0.1	A	24	36
C-A					605	907
A-B					15	22
A-C					582	873

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	247	0.006	1	0.0	0.0	14.689	B
B-A	5	1	277	0.019	5	0.0	0.0	13.222	B
C-AB	20	5	532	0.037	19	0.0	0.0	7.025	A
C-A	496	124			496				
A-B	12	3			12				
A-C	477	119			477				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	234	0.008	2	0.0	0.0	15.495	C
B-A	6	2	241	0.026	6	0.0	0.0	15.364	C
C-AB	23	6	505	0.046	23	0.0	0.0	7.469	A
C-A	592	148			592				
A-B	14	4			14				
A-C	570	142			570				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	217	0.010	2	0.0	0.0	16.786	C
B-A	8	2	190	0.041	8	0.0	0.0	19.772	C
C-AB	29	7	469	0.061	29	0.0	0.1	8.178	A
C-A	726	181			726				
A-B	18	4			18				
A-C	698	175			698				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	217	0.010	2	0.0	0.0	16.791	C
B-A	8	2	190	0.041	8	0.0	0.0	19.784	C
C-AB	29	7	469	0.061	29	0.1	0.1	8.180	A
C-A	726	181			726				
A-B	18	4			18				
A-C	698	175			698				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.45	234	0.008	2	0.0	0.0	15.504	C
B-A	6	2	241	0.026	6	0.0	0.0	15.375	C
C-AB	23	6	505	0.046	23	0.1	0.0	7.471	A
C-A	592	148			592				
A-B	14	4			14				
A-C	570	142			570				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	0.38	247	0.006	2	0.0	0.0	14.691	B
B-A	5	1	277	0.019	5	0.0	0.0	13.236	B
C-AB	20	5	532	0.037	20	0.0	0.0	7.029	A
C-A	496	124			496				
A-B	12	3			12				
A-C	477	119			477				

2033 FY Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.65	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	Stream B-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)	Run automatically
D6	2033 FY Base	PM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	824	100.000
B		ONE HOUR	✓	48	100.000
C		ONE HOUR	✓	842	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	4	820
	B	22	0	26
	C	839	3	0

Proportions

	To			
		A	B	C
	A	0.00	0.00	1.00
	B	0.46	0.00	0.54
	C	1.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	25	2
	B	10	0	13
	C	1	33	0

Average PCU Per Veh

	To			
		A	B	C
	A	1.000	1.250	1.020
	B	1.100	1.000	1.130
	C	1.010	1.330	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	620	633
	B	36	40
	C	634	641
00:15-00:30	A	741	756
	B	43	48
	C	757	765
00:30-00:45	A	907	926
	B	53	59
	C	927	937
00:45-01:00	A	907	926
	B	53	59
	C	927	937
01:00-01:15	A	741	756
	B	43	48
	C	757	765
01:15-01:30	A	620	633
	B	36	40
	C	634	641

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.08	11.13	0.1	B	24	36
B-A	0.18	31.55	0.2	D	20	30
C-AB	0.01	11.44	0.0	B	3	4
C-A					770	1155
A-B					4	6
A-C					752	1129

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	432	0.045	19	0.0	0.0	8.720	A
B-A	17	4	247	0.067	16	0.0	0.1	15.597	C
C-AB	2	0.56	376	0.006	2	0.0	0.0	9.626	A
C-A	632	158			632				
A-B	3	0.75			3				
A-C	617	154			617				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	400	0.058	23	0.0	0.1	9.549	A
B-A	20	5	201	0.098	20	0.1	0.1	19.801	C
C-AB	3	0.67	352	0.008	3	0.0	0.0	10.313	B
C-A	754	189			754				
A-B	4	1			4				
A-C	737	184			737				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	29	7	353	0.081	29	0.1	0.1	11.100	B
B-A	24	6	138	0.176	24	0.1	0.2	31.424	D
C-AB	3	1	318	0.010	3	0.0	0.0	11.442	B
C-A	924	231			924				
A-B	4	1			4				
A-C	903	226			903				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	29	7	352	0.081	29	0.1	0.1	11.127	B
B-A	24	6	138	0.175	24	0.2	0.2	31.545	D
C-AB	3	1	318	0.010	3	0.0	0.0	11.442	B
C-A	924	231			924				
A-B	4	1			4				
A-C	903	226			903				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	399	0.059	23	0.1	0.1	9.579	A
B-A	20	5	202	0.098	20	0.2	0.1	19.841	C
C-AB	3	0.67	352	0.008	3	0.0	0.0	10.314	B
C-A	754	189			754				
A-B	4	1			4				
A-C	737	184			737				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	431	0.045	20	0.1	0.0	8.742	A
B-A	17	4	247	0.067	17	0.1	0.1	15.617	C
C-AB	2	0.56	376	0.006	2	0.0	0.0	9.627	A
C-A	632	158			632				
A-B	3	0.75			3				
A-C	617	154			617				

2025 OY Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.36	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	40	Stream B-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)	Run automatically
D7	2025 OY Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	593	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	627	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	17	576
	From B	7	0	3
	From C	599	28	0

Proportions

	To			
		A	B	C
	From A	0.00	0.03	0.97
	From B	0.70	0.00	0.30
	From C	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	12	5
	From B	14	0	100
	From C	5	4	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.120	1.050
	From B	1.140	1.000	2.000
	From C	1.050	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	446	470
	B	8	11
	C	472	495
00:15-00:30	A	533	561
	B	9	13
	C	564	592
00:30-00:45	A	653	687
	B	11	15
	C	690	725
00:45-01:00	A	653	687
	B	11	15
	C	690	725
01:00-01:15	A	533	561
	B	9	13
	C	564	592
01:15-01:30	A	446	470
	B	8	11
	C	472	495

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	15.54	0.0	C	3	4
B-A	0.04	17.38	0.0	C	6	10
C-AB	0.07	8.24	0.1	A	26	39
C-A					550	824
A-B					16	23
A-C					529	793

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	263	0.009	2	0.0	0.0	13.780	B
B-A	5	1	296	0.018	5	0.0	0.0	12.373	B
C-AB	21	5	523	0.040	21	0.0	0.0	7.171	A
C-A	451	113			451				
A-B	13	3			13				
A-C	434	108			434				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	252	0.011	3	0.0	0.0	14.460	B
B-A	6	2	262	0.024	6	0.0	0.0	14.077	B
C-AB	25	6	500	0.050	25	0.0	0.1	7.587	A
C-A	538	135			538				
A-B	15	4			15				
A-C	518	129			518				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	235	0.014	3	0.0	0.0	15.531	C
B-A	8	2	215	0.036	8	0.0	0.0	17.369	C
C-AB	31	8	468	0.066	31	0.1	0.1	8.242	A
C-A	660	165			660				
A-B	19	5			19				
A-C	634	159			634				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	235	0.014	3	0.0	0.0	15.540	C
B-A	8	2	215	0.036	8	0.0	0.0	17.375	C
C-AB	31	8	468	0.066	31	0.1	0.1	8.243	A
C-A	660	165			660				
A-B	19	5			19				
A-C	634	159			634				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	251	0.011	3	0.0	0.0	14.475	B
B-A	6	2	262	0.024	6	0.0	0.0	14.084	B
C-AB	25	6	500	0.050	25	0.1	0.1	7.589	A
C-A	538	135			538				
A-B	15	4			15				
A-C	518	129			518				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	263	0.009	2	0.0	0.0	13.784	B
B-A	5	1	296	0.018	5	0.0	0.0	12.386	B
C-AB	21	5	523	0.040	21	0.1	0.0	7.175	A
C-A	451	113			451				
A-B	13	3			13				
A-C	434	108			434				

2025 OY Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.65	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	Stream B-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)	Run automatically
D8	2025 OY Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	751	100.000
B		ONE HOUR	✓	51	100.000
C		ONE HOUR	✓	768	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	4	747
	From B	23	0	28
	From C	764	4	0

Proportions

	To			
		A	B	C
	From A	0.00	0.01	0.99
	From B	0.45	0.00	0.55
	From C	0.99	0.01	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	25	2
	From B	9	0	14
	From C	1	50	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.250	1.020
	From B	1.090	1.000	1.140
	From C	1.010	1.500	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	565	577
	B	38	43
	C	578	585
00:15-00:30	A	675	689
	B	46	51
	C	690	699
00:30-00:45	A	827	844
	B	56	63
	C	846	856
00:45-01:00	A	827	844
	B	56	63
	C	846	856
01:00-01:15	A	675	689
	B	46	51
	C	690	699
01:15-01:30	A	565	577
	B	38	43
	C	578	585

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.08	10.56	0.1	B	26	39
B-A	0.15	25.20	0.2	D	21	32
C-AB	0.01	12.33	0.0	B	4	6
C-A					701	1052
A-B					4	6
A-C					685	1028

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	443	0.048	21	0.0	0.0	8.531	A
B-A	17	4	267	0.065	17	0.0	0.1	14.366	B
C-AB	3	1	343	0.009	3	0.0	0.0	10.571	B
C-A	575	144			575				
A-B	3	0.75			3				
A-C	562	141			562				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	414	0.061	25	0.0	0.1	9.257	A
B-A	21	5	226	0.092	21	0.1	0.1	17.532	C
C-AB	4	1	324	0.011	4	0.0	0.0	11.246	B
C-A	687	172			687				
A-B	4	1			4				
A-C	672	168			672				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	8	372	0.083	31	0.1	0.1	10.543	B
B-A	25	6	168	0.151	25	0.1	0.2	25.145	D
C-AB	4	1	296	0.015	4	0.0	0.0	12.330	B
C-A	841	210			841				
A-B	4	1			4				
A-C	822	206			822				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	8	372	0.083	31	0.1	0.1	10.562	B
B-A	25	6	168	0.151	25	0.2	0.2	25.203	D
C-AB	4	1	296	0.015	4	0.0	0.0	12.330	B
C-A	841	210			841				
A-B	4	1			4				
A-C	822	206			822				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	413	0.061	25	0.1	0.1	9.280	A
B-A	21	5	226	0.091	21	0.2	0.1	17.557	C
C-AB	4	1	324	0.011	4	0.0	0.0	11.247	B
C-A	687	172			687				
A-B	4	1			4				
A-C	672	168			672				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	21	5	442	0.048	21	0.1	0.1	8.552	A
B-A	17	4	268	0.065	17	0.1	0.1	14.383	B
C-AB	3	1	343	0.009	3	0.0	0.0	10.574	B
C-A	575	144			575				
A-B	3	0.75			3				
A-C	562	141			562				

2033 FY Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.40	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	23	Stream B-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)	Run automatically
D9	2033 FY Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	653	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	689	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	19	634
	From B	7	0	3
	From C	659	30	0

Proportions

	To			
		A	B	C
	From A	0.00	0.03	0.97
	From B	0.70	0.00	0.30
	From C	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	16	5
	From B	29	0	100
	From C	5	3	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.160	1.050
	From B	1.290	1.000	2.000
	From C	1.050	1.030	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	492	518
	B	8	11
	C	519	544
00:15-00:30	A	587	618
	B	9	14
	C	619	650
00:30-00:45	A	719	757
	B	11	17
	C	759	796
00:45-01:00	A	719	757
	B	11	17
	C	759	796
01:00-01:15	A	587	618
	B	9	14
	C	619	650
01:15-01:30	A	492	518
	B	8	11
	C	519	544

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	16.54	0.0	C	3	4
B-A	0.05	22.36	0.0	C	6	10
C-AB	0.07	8.55	0.1	A	28	41
C-A					605	907
A-B					17	26
A-C					582	873

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	252	0.009	2	0.0	0.0	14.417	B
B-A	5	1	248	0.021	5	0.0	0.0	14.807	B
C-AB	23	6	515	0.044	22	0.0	0.0	7.299	A
C-A	496	124			496				
A-B	14	4			14				
A-C	477	119			477				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	239	0.011	3	0.0	0.0	15.230	C
B-A	6	2	215	0.029	6	0.0	0.0	17.256	C
C-AB	27	7	490	0.055	27	0.0	0.1	7.778	A
C-A	592	148			592				
A-B	17	4			17				
A-C	570	142			570				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	221	0.015	3	0.0	0.0	16.532	C
B-A	8	2	169	0.046	8	0.0	0.0	22.339	C
C-AB	33	8	454	0.073	33	0.1	0.1	8.551	A
C-A	726	181			726				
A-B	21	5			21				
A-C	698	175			698				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	221	0.015	3	0.0	0.0	16.541	C
B-A	8	2	169	0.046	8	0.0	0.0	22.357	C
C-AB	33	8	454	0.073	33	0.1	0.1	8.551	A
C-A	726	181			726				
A-B	21	5			21				
A-C	698	175			698				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	1	239	0.011	3	0.0	0.0	15.245	C
B-A	6	2	215	0.029	6	0.0	0.0	17.273	C
C-AB	27	7	490	0.055	27	0.1	0.1	7.782	A
C-A	592	148			592				
A-B	17	4			17				
A-C	570	142			570				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	2	1	252	0.009	2	0.0	0.0	14.428	B
B-A	5	1	248	0.021	5	0.0	0.0	14.826	B
C-AB	23	6	515	0.044	23	0.1	0.0	7.304	A
C-A	496	124			496				
A-B	14	4			14				
A-C	477	119			477				

2033 FY Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A576 Manchester Old Rd / Silburn Way	T-Junction	Two-way		0.80	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	2	Stream B-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)	Run automatically
D10	2033 FY Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	825	100.000
B		ONE HOUR	✓	55	100.000
C		ONE HOUR	✓	843	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	5	820
	From B	25	0	30
	From C	839	4	0

Proportions

	To			
		A	B	C
	From A	0.00	0.01	0.99
	From B	0.45	0.00	0.55
	From C	1.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	40	2
	From B	12	0	13
	From C	1	50	0

Average PCU Per Veh

	To			
		A	B	C
	From A	1.000	1.400	1.020
	From B	1.120	1.000	1.130
	From C	1.010	1.500	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
00:00-00:15	A	621	635
	B	41	47
	C	635	642
00:15-00:30	A	742	758
	B	49	56
	C	758	767
00:30-00:45	A	908	929
	B	61	68
	C	928	940
00:45-01:00	A	908	929
	B	61	68
	C	928	940
01:00-01:15	A	742	758
	B	49	56
	C	758	767
01:15-01:30	A	621	635
	B	41	47
	C	635	642

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.09	11.44	0.1	B	28	41
B-A	0.20	33.51	0.3	D	23	34
C-AB	0.02	12.99	0.0	B	4	6
C-A					770	1155
A-B					5	7
A-C					752	1129

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	431	0.052	22	0.0	0.1	8.814	A
B-A	19	5	242	0.078	18	0.0	0.1	16.092	C
C-AB	3	1	333	0.009	3	0.0	0.0	10.896	B
C-A	632	158			632				
A-B	4	1			4				
A-C	617	154			617				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	398	0.068	27	0.1	0.1	9.698	A
B-A	22	6	197	0.114	22	0.1	0.1	20.585	C
C-AB	4	1	312	0.012	4	0.0	0.0	11.689	B
C-A	754	189			754				
A-B	4	1			4				
A-C	737	184			737				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	349	0.095	33	0.1	0.1	11.401	B
B-A	28	7	135	0.205	27	0.1	0.2	33.323	D
C-AB	4	1	281	0.016	4	0.0	0.0	12.991	B
C-A	924	231			924				
A-B	6	1			6				
A-C	903	226			903				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	348	0.095	33	0.1	0.1	11.438	B
B-A	28	7	135	0.204	28	0.2	0.3	33.506	D
C-AB	4	1	281	0.016	4	0.0	0.0	12.991	B
C-A	924	231			924				
A-B	6	1			6				
A-C	903	226			903				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	397	0.068	27	0.1	0.1	9.733	A
B-A	22	6	198	0.114	23	0.3	0.1	20.650	C
C-AB	4	1	312	0.012	4	0.0	0.0	11.692	B
C-A	754	189			754				
A-B	4	1			4				
A-C	737	184			737				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	430	0.053	23	0.1	0.1	8.842	A
B-A	19	5	242	0.078	19	0.1	0.1	16.123	C
C-AB	3	1	333	0.009	3	0.0	0.0	10.899	B
C-A	632	158			632				
A-B	4	1			4				
A-C	617	154			617				



Focus TP Full Report
Focus TP Full Report

User and Project Details

Project:	J000467 Rhodes Business Park, Middleton
Title:	Land off Silburn Way, Shrewsbury
Location:	Junction of Mancheser Old Road and Heywood Old Road
Site Ref(s):	Signalised Crossroads Junction
Additional detail:	
File name:	A6045 A576 Crossroads Junction.lsg3x
Author:	LV
Company:	Focus Transport Planning Ltd.
Address:	Pentland House, Village Way, Wilmslow, Cheshire SK9 2GH

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

Phase Intergreens Matrix

	Starting Phase				
Terminating Phase		A	B	C	D
	A		-	8	8
	B	-		8	8
	C	8	8		-
	D	8	8	-	

Phases In Stage

Stage No.	Phases in Stage
1	A B
2	C D

Lane Saturation Flows**Scenario 1: '2023 AM Survey'** (FG1: '2023 AM Survey', Plan 1: 'Two Stage')

Junction: A567 / A6045 Crossroads Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A576 Middleton Road)	3.30	0.00	Y	Arm 8 Left	25.00	100.0 %	1835	1835
1/2 (A576 Middleton Road)	3.50	0.00	N	Arm 6 Right	17.00	0.6 %	2104	2104
				Arm 7 Ahead	Inf	99.4 %		
2/1 (Kelvin Avenue)	2.50	0.00	Y	Arm 5 Left	10.00	84.6 %	1655	1655
				Arm 8 Ahead	Inf	15.4 %		
2/2 (Kelvin Avenue)	3.00	0.00	Y	Arm 7 Right	25.00	100.0 %	1807	1807
3/1 (A576 Manchester Old Road)	3.40	0.00	Y	Arm 5 Ahead	Inf	99.5 %	1954	1954
				Arm 6 Left	20.00	0.5 %		
3/2 (A576 Manchester Old Road)	3.20	0.00	N	Arm 5 Ahead	Inf	70.7 %	2007	2007
				Arm 8 Right	13.00	29.3 %		
4/1 (A6045 Heywood Old Road)	3.00	0.00	Y	Arm 6 Ahead	Inf	4.1 %	1674	1674
				Arm 7 Left	10.00	95.9 %		
4/2 (A6045 Heywood Old Road)	3.50	0.00	N	Arm 5 Right	35.00	100.0 %	2018	2018
5/1 (A576 Middleton Rd (Exit Link) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A576 Middleton Rd (Exit Link) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Kelvin Avenue (Exit Link) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (A576 Manchester Old Rd (Exit Link) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A6045 Heywood Old Rd (Exit Link) Lane 1)	Infinite Saturation Flow						Inf	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023 AM Survey'	08:15	09:15	01:00	
2: '2023 PM Survey'	16:30	17:30	01:00	
3: '2025 AM OY Base'	08:15	09:15	01:00	F1 * 1.0156
4: '2025 PM OY Base'	16:30	17:30	01:00	F2 * 1.0145
5: '2033 AM FY Base'	08:15	09:15	01:00	F1 * 1.1177
6: '2033 PM FY Base'	16:30	17:30	01:00	F2 * 1.1147
9: '2025 AM OY Base + Dev AM'	08:15	09:15	01:00	F3 + F7
10: '2025 PM OY Base + Dev PM'	16:30	17:30	01:00	F2 + F8
11: '2033 AM FY Base + Dev AM'	08:15	09:15	01:00	F5 + F7
12: '2033 PM FY Base + Dev PM'	16:30	17:30	01:00	F6 + F8

Scenario 1: '2023 AM Survey' (FG1: '2023 AM Survey', Plan 1: 'Two Stage')

Traffic Flows, Desired

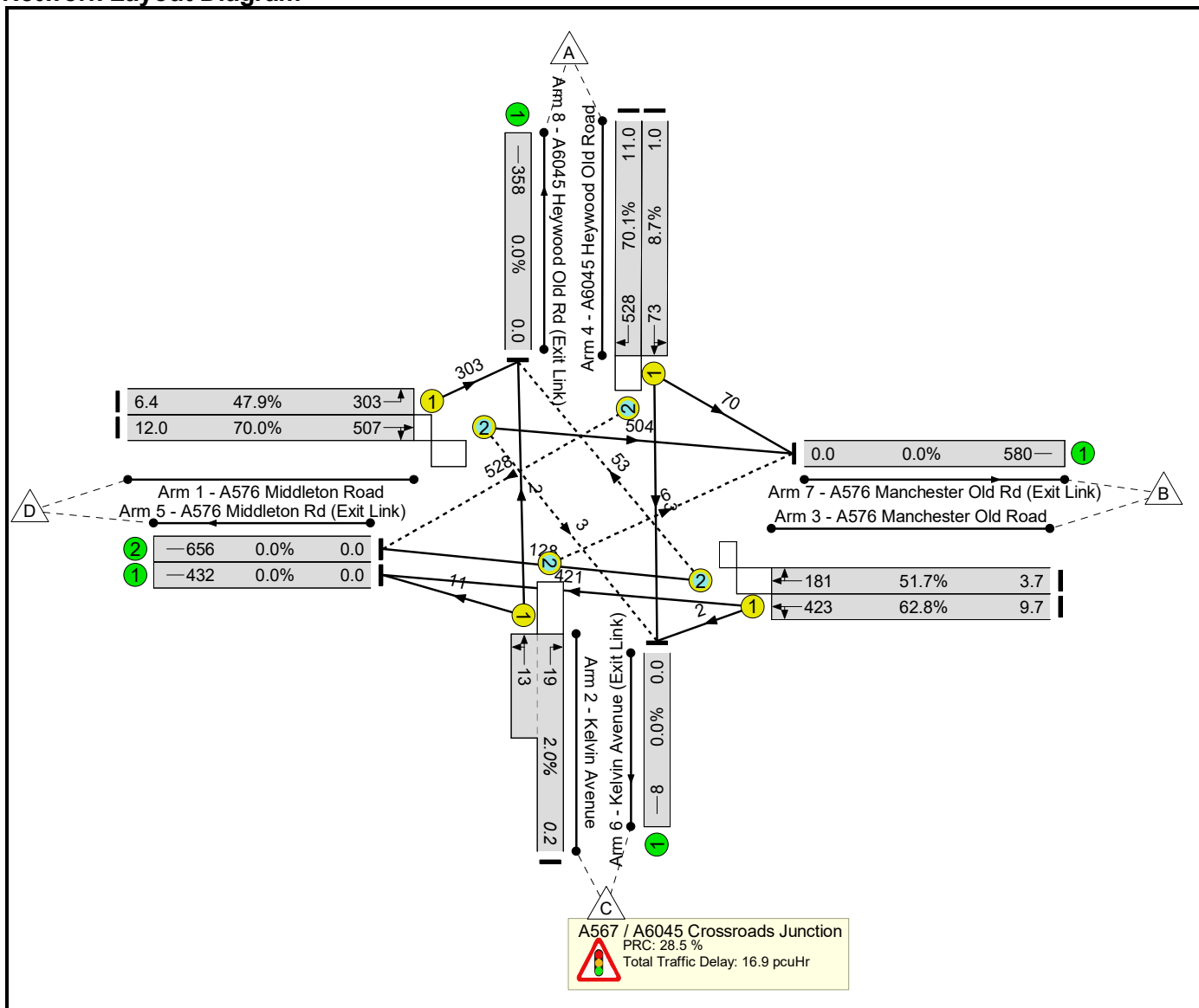
Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	70	3	528	601
	B	53	0	2	549	604
	C	2	6	0	11	19
	D	303	504	3	0	810
	Tot.	358	580	8	1088	2034

Stage Timings

Stage	1	2
Duration	30	44
Change Point	0	38

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	30	-	303	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	30	-	507	2104
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	44	-	19	1807:1655
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	30	-	423	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	30	-	181	2007
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	44	-	73	1674
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	44	-	528	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	70.1%	-	-	589	0	1	-	-	-	-
A567 / A6045 Crossroads Junction	-	70.1%	-	-	589	0	1	-	-	-	-
1/1	632	47.9%	303	303	-	-	-	28.6	5.9	0.5	6.4
1/2	725	70.0%	507	507	3	0	0	33.7	10.8	1.2	12.0
2/2+2/1	955	2.0%	19	19	6	0	0	13.6	0.2	0.0	0.2
3/1	673	62.8%	423	423	-	-	-	31.8	8.8	0.8	9.7
3/2	350	51.7%	181	181	52	0	1	36.5	3.2	0.5	3.7
4/1	837	8.7%	73	73	-	-	-	14.1	1.0	0.0	1.0
4/2	754	70.1%	528	528	528	0	0	26.1	9.8	1.2	11.0
C1 PRC for Signalled Lanes (%): 28.5 PRC Over All Lanes (%): 28.5 Total Delay for Signalled Lanes (pcuHr): 16.92 Total Delay Over All Lanes(pcuHr): 16.92 Cycle Time (s): 90											

Traffic Flows, Desired

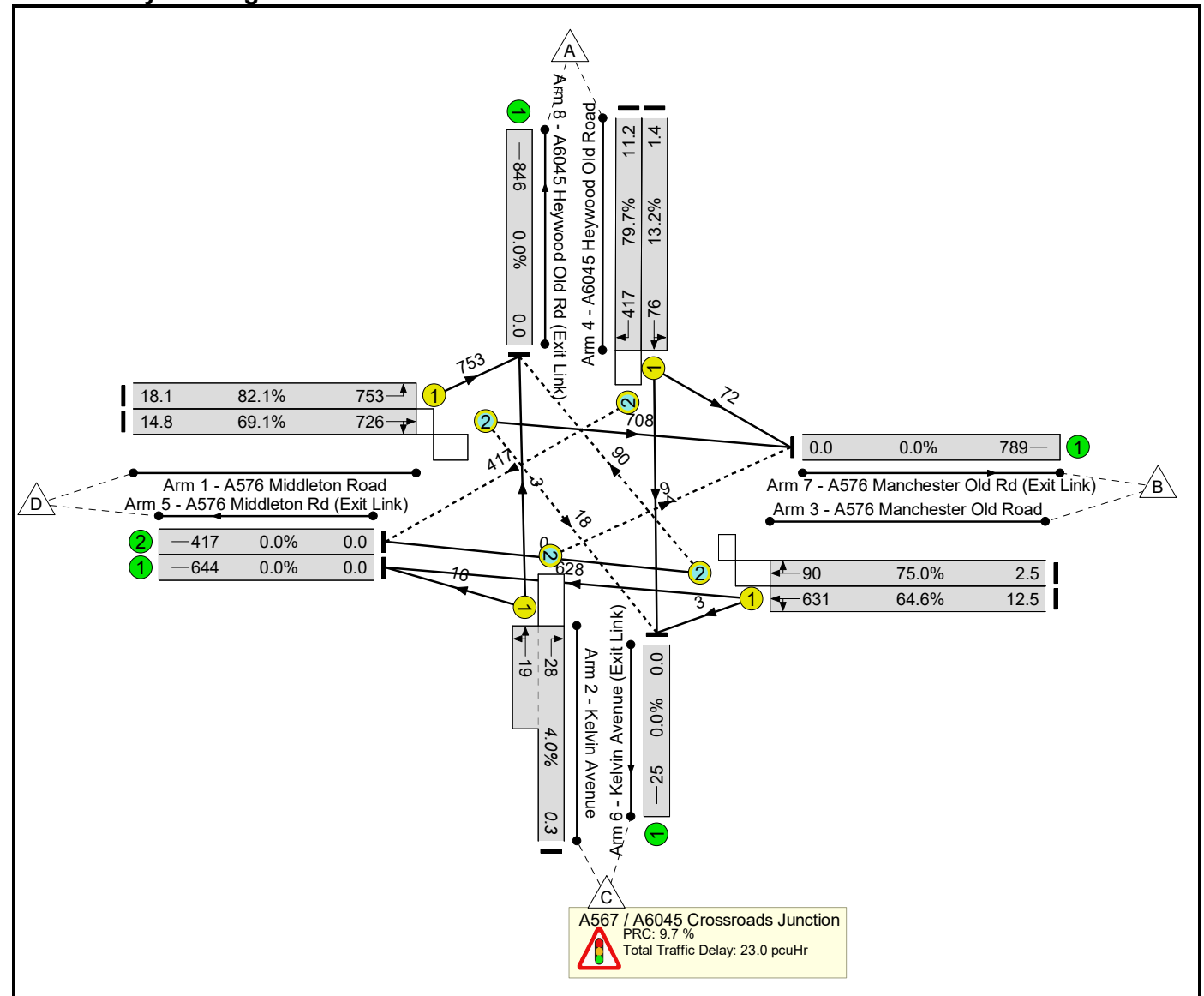
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	72	4	417	493
	B	90	0	3	628	721
	C	3	9	0	16	28
	D	753	708	18	0	1479
	Tot.	846	789	25	1061	2721

Stage Timings

Stage	1	2
Duration	44	30
Change Point	0	52

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	44	-	753	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	44	-	726	2100
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	30	-	28	1807:1656
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	44	-	631	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	44	-	90	1860
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	30	-	76	1677
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	30	-	417	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	82.1%	-	-	444	0	90	-	-	-	-
A567 / A6045 Crossroads Junction	-	82.1%	-	-	444	0	90	-	-	-	-
1/1	917	82.1%	753	753	-	-	-	29.7	15.9	2.2	18.1
1/2	1050	69.1%	726	726	18	0	0	22.9	13.7	1.1	14.8
2/2+2/1	694	4.0%	28	28	9	0	0	22.8	0.3	0.0	0.3
3/1	977	64.6%	631	631	-	-	-	21.8	11.6	0.9	12.5
3/2	120	75.0%	90	90	0	0	90	101.2	1.2	1.4	2.5
4/1	578	13.2%	76	76	-	-	-	23.9	1.3	0.1	1.4
4/2	523	79.7%	417	417	417	0	0	44.5	9.3	1.9	11.2
C1 PRC for Signalled Lanes (%): 9.7 PRC Over All Lanes (%): 9.7 Total Delay for Signalled Lanes (pcuHr): 23.03 Total Delay Over All Lanes(pcuHr): 23.03 Cycle Time (s): 90											

Traffic Flows, Desired

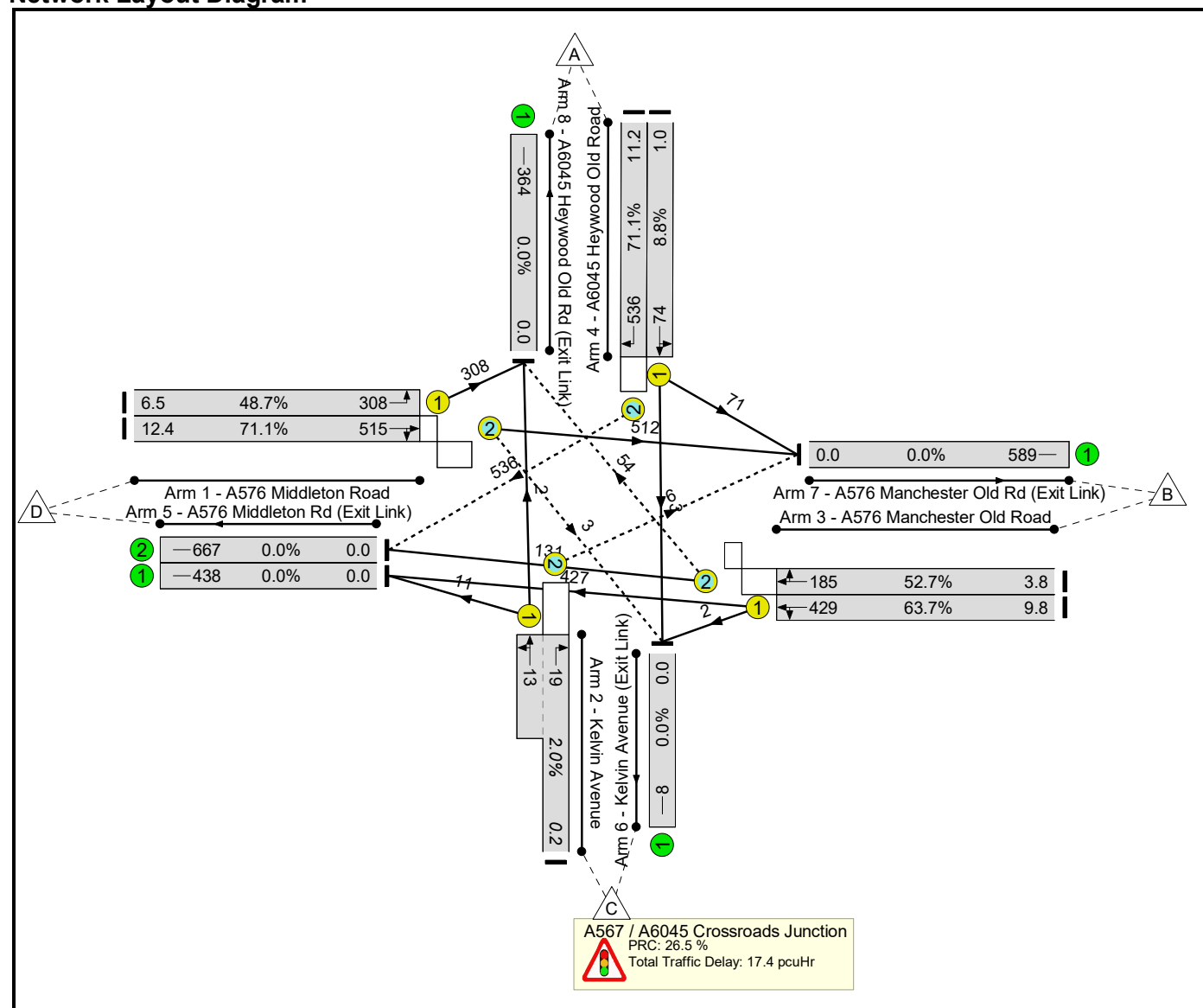
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	71	3	536	610
	B	54	0	2	558	614
	C	2	6	0	11	19
	D	308	512	3	0	823
	Tot.	364	589	8	1105	2066

Stage Timings

Stage	1	2
Duration	30	44
Change Point	0	38

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	30	-	308	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	30	-	515	2104
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	44	-	19	1807:1655
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	30	-	429	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	30	-	185	2007
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	44	-	74	1674
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	44	-	536	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	71.1%	-	-	598	0	1	-	-	-	-
A567 / A6045 Crossroads Junction	-	71.1%	-	-	598	0	1	-	-	-	-
1/1	632	48.7%	308	308	-	-	-	28.8	6.0	0.5	6.5
1/2	725	71.1%	515	515	3	0	0	34.1	11.2	1.2	12.4
2/2+2/1	955	2.0%	19	19	6	0	0	13.6	0.2	0.0	0.2
3/1	673	63.7%	429	429	-	-	-	32.1	8.9	0.9	9.8
3/2	351	52.7%	185	185	53	0	1	37.1	3.3	0.6	3.8
4/1	837	8.8%	74	74	-	-	-	14.1	1.0	0.0	1.0
4/2	754	71.1%	536	536	536	0	0	26.6	10.0	1.2	11.2
C1 PRC for Signalled Lanes (%): 26.5 PRC Over All Lanes (%): 26.5 Total Delay for Signalled Lanes (pcuHr): 17.39 Total Delay Over All Lanes(pcuHr): 17.39 Cycle Time (s): 90											

Traffic Flows, Desired

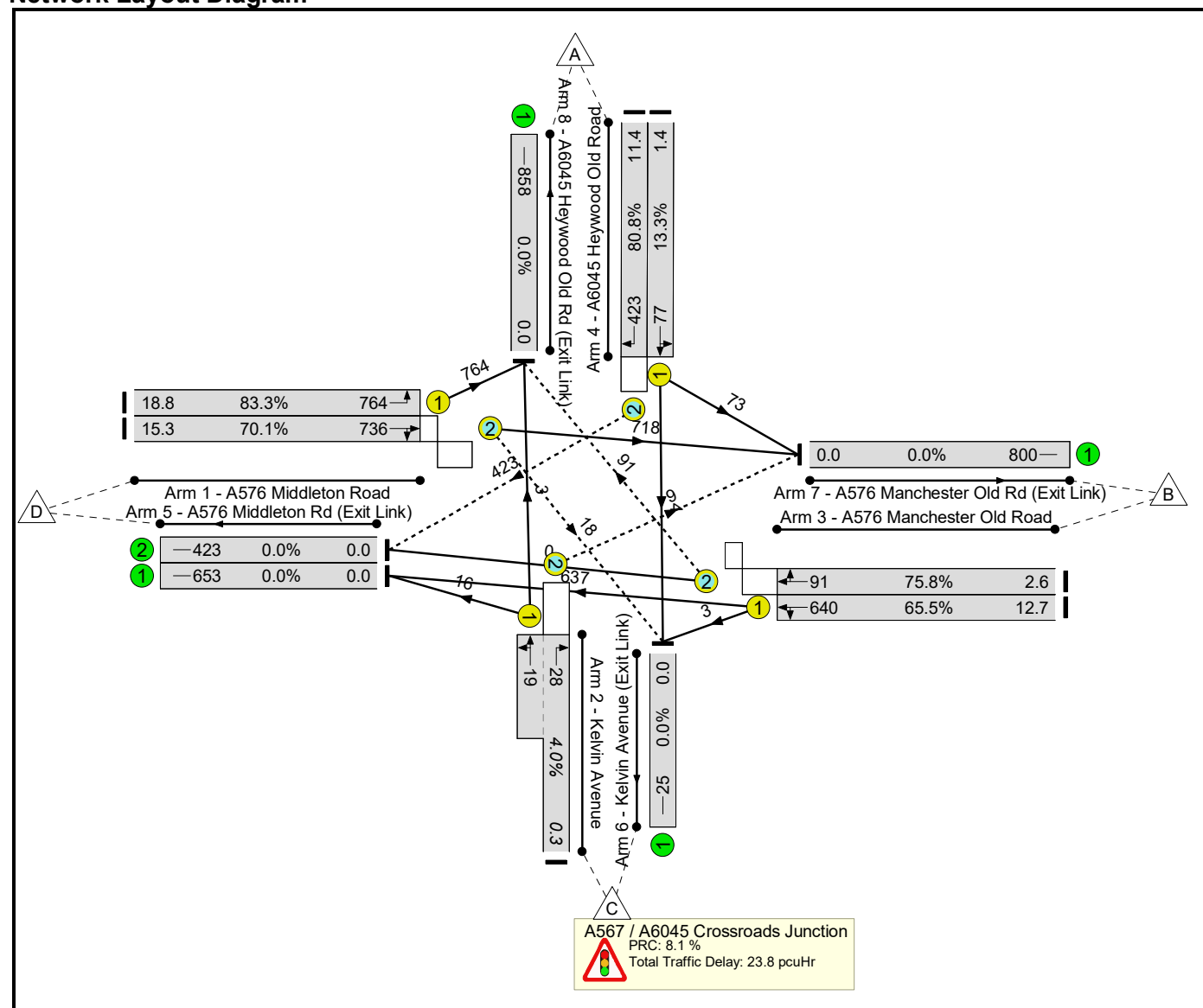
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	73	4	423	500
	B	91	0	3	637	731
	C	3	9	0	16	28
	D	764	718	18	0	1500
	Tot.	858	800	25	1076	2759

Stage Timings

Stage	1	2
Duration	44	30
Change Point	0	52

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	44	-	764	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	44	-	736	2100
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	30	-	28	1807:1656
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	44	-	640	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	44	-	91	1860
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	30	-	77	1677
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	30	-	423	2018

Focus TP Full Report

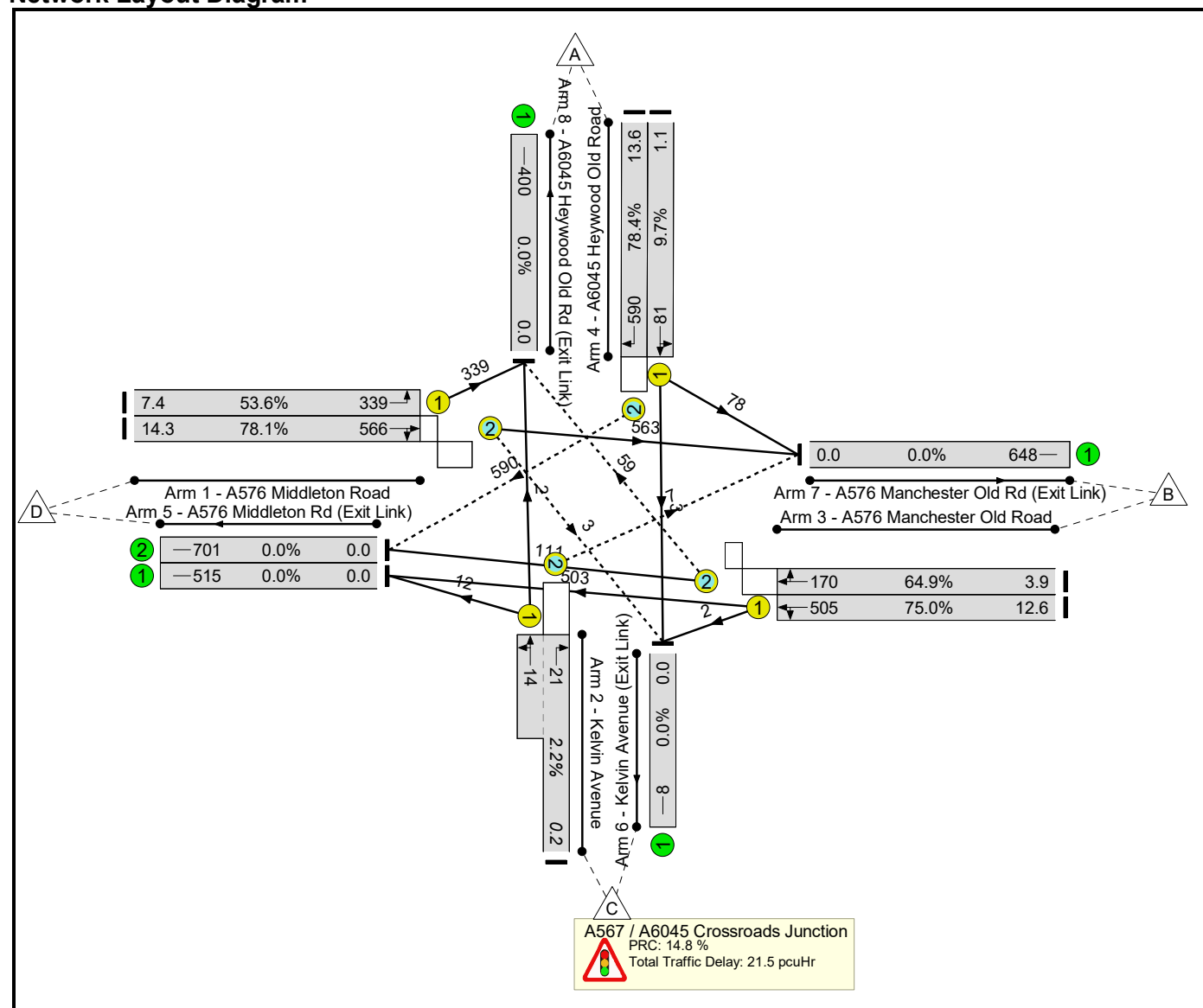
Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	83.3%	-	-	450	0	91	-	-	-	-
A567 / A6045 Crossroads Junction	-	83.3%	-	-	450	0	91	-	-	-	-
1/1	917	83.3%	764	764	-	-	-	30.6	16.3	2.4	18.8
1/2	1050	70.1%	736	736	18	0	0	23.2	14.1	1.2	15.3
2/2+2/1	694	4.0%	28	28	9	0	0	22.8	0.3	0.0	0.3
3/1	977	65.5%	640	640	-	-	-	22.0	11.7	0.9	12.7
3/2	120	75.8%	91	91	0	0	91	102.7	1.2	1.4	2.6
4/1	578	13.3%	77	77	-	-	-	23.9	1.3	0.1	1.4
4/2	523	80.8%	423	423	423	0	0	45.6	9.4	2.0	11.4
C1 PRC for Signalled Lanes (%): 8.1 PRC Over All Lanes (%): 8.1 Total Delay for Signalled Lanes (pcuHr): 23.81 Total Delay Over All Lanes(pcuHr): 23.81 Cycle Time (s): 90											

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	78	3	590	671
	B	59	0	2	614	675
	C	2	7	0	12	21
	D	339	563	3	0	905
	Tot.	400	648	8	1216	2272

Stage Timings

Stage	1	2
Duration	30	44
Change Point	0	38

Network Layout Diagram

Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	30	-	339	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	30	-	566	2104
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	44	-	21	1807:1653
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	30	-	505	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	30	-	170	1995
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	44	-	81	1673
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	44	-	590	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	78.4%	-	-	640	0	19	-	-	-	-
A567 / A6045 Crossroads Junction	-	78.4%	-	-	640	0	19	-	-	-	-
1/1	632	53.6%	339	339	-	-	-	29.8	6.8	0.6	7.4
1/2	725	78.1%	566	566	3	0	0	37.6	12.6	1.7	14.3
2/2+2/1	965	2.2%	21	21	7	0	0	13.6	0.2	0.0	0.2
3/1	673	75.0%	505	505	-	-	-	36.6	11.1	1.5	12.6
3/2	262	64.9%	170	170	41	0	18	47.4	3.0	0.9	3.9
4/1	836	9.7%	81	81	-	-	-	14.2	1.1	0.1	1.1
4/2	753	78.4%	590	590	590	0	0	30.5	11.8	1.8	13.6
C1 PRC for Signalled Lanes (%): 14.8 PRC Over All Lanes (%): 14.8 Total Delay for Signalled Lanes (pcuHr): 21.49 Total Delay Over All Lanes(pcuHr): 21.49 Cycle Time (s): 90											

Traffic Flows, Desired

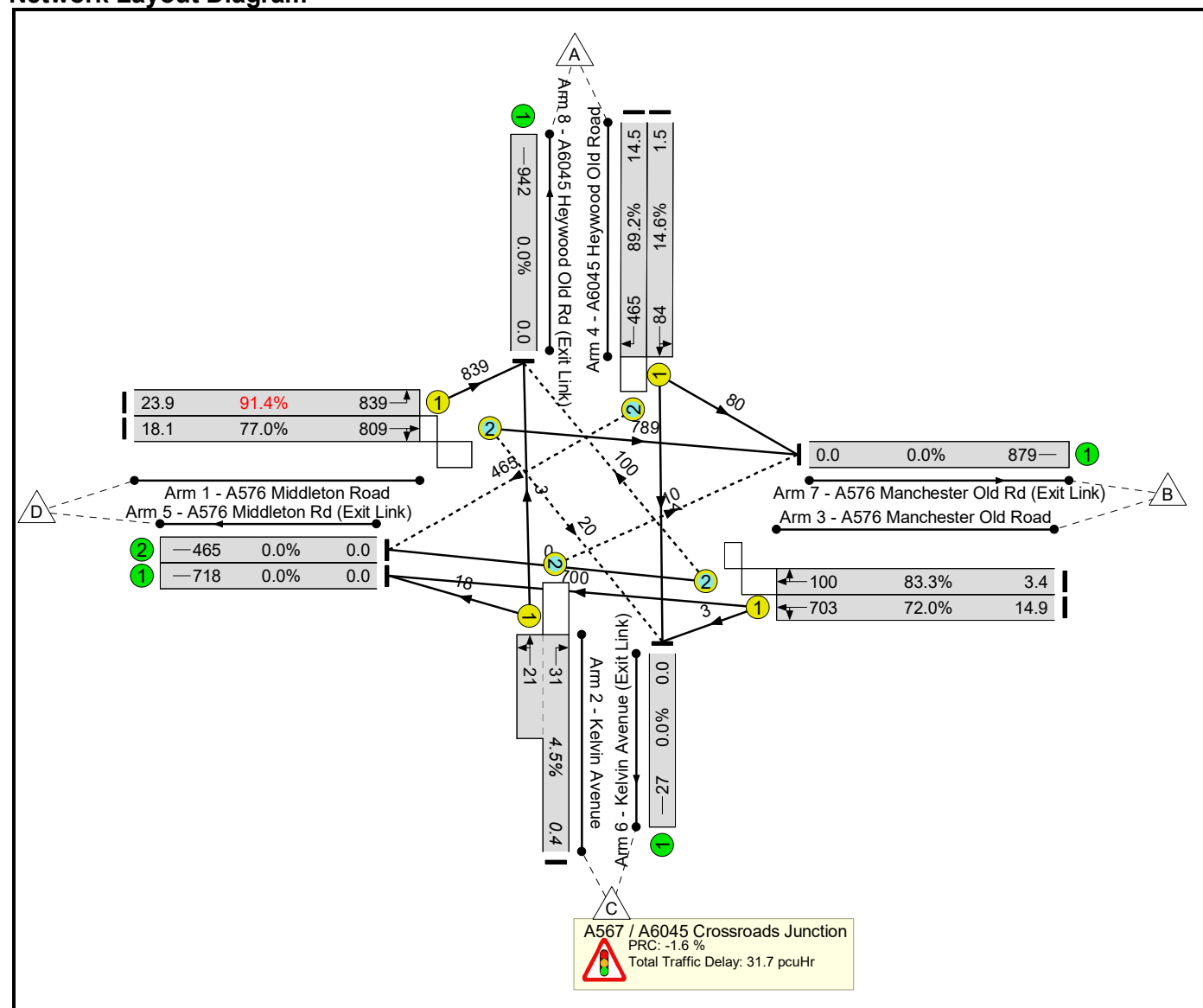
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	80	4	465	549
	B	100	0	3	700	803
	C	3	10	0	18	31
	D	839	789	20	0	1648
	Tot.	942	879	27	1183	3031

Stage Timings

Stage	1	2
Duration	44	30
Change Point	0	52

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	44	-	839	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	44	-	809	2100
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	30	-	31	1807:1653
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	44	-	703	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	44	-	100	1860
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	30	-	84	1676
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	30	-	465	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	91.4%	-	-	495	0	100	-	-	-	-
A567 / A6045 Crossroads Junction	-	91.4%	-	-	495	0	100	-	-	-	-
1/1	917	91.4%	839	839	-	-	-	41.2	19.1	4.8	23.9
1/2	1050	77.0%	809	809	20	0	0	25.9	16.4	1.7	18.1
2/2+2/1	694	4.5%	31	31	10	0	0	22.8	0.3	0.0	0.4
3/1	977	72.0%	703	703	-	-	-	24.1	13.7	1.3	14.9
3/2	120	83.3%	100	100	0	0	100	121.0	1.3	2.1	3.4
4/1	577	14.6%	84	84	-	-	-	24.0	1.4	0.1	1.5
4/2	521	89.2%	465	465	465	0	0	58.0	10.9	3.7	14.5
C1 PRC for Signalled Lanes (%): -1.6 PRC Over All Lanes (%): -1.6 Total Delay for Signalled Lanes (pcuHr): 31.73 Total Delay Over All Lanes(pcuHr): 31.73 Cycle Time (s): 90											

Traffic Flows, Desired

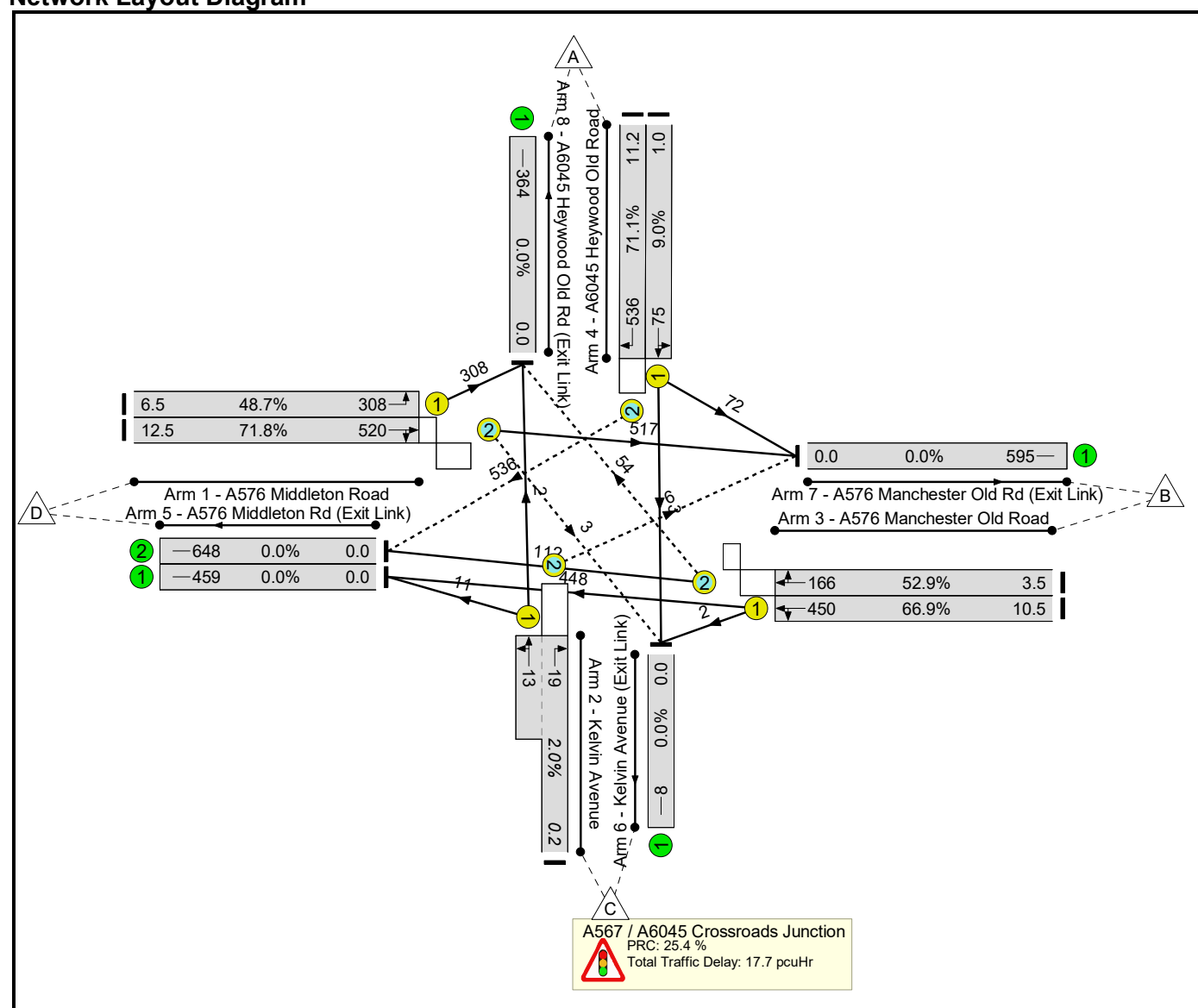
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	72	3	536	611
	B	54	0	2	560	616
	C	2	6	0	11	19
	D	308	517	3	0	828
	Tot.	364	595	8	1107	2074

Stage Timings

Stage	1	2
Duration	30	44
Change Point	0	38

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	30	-	308	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	30	-	520	2104
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	44	-	19	1807:1655
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	30	-	450	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	30	-	166	2000
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	44	-	75	1674
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	44	-	536	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	71.8%	-	-	598	0	1	-	-	-	-
A567 / A6045 Crossroads Junction	-	71.8%	-	-	598	0	1	-	-	-	-
1/1	632	48.7%	308	308	-	-	-	28.8	6.0	0.5	6.5
1/2	725	71.8%	520	520	3	0	0	34.4	11.3	1.3	12.5
2/2+2/1	955	2.0%	19	19	6	0	0	13.6	0.2	0.0	0.2
3/1	673	66.9%	450	450	-	-	-	33.1	9.5	1.0	10.5
3/2	314	52.9%	166	166	53	0	1	38.9	3.0	0.6	3.5
4/1	837	9.0%	75	75	-	-	-	14.2	1.0	0.0	1.0
4/2	754	71.1%	536	536	536	0	0	26.6	10.0	1.2	11.2
C1 PRC for Signalled Lanes (%): 25.4 PRC Over All Lanes (%): 25.4 Total Delay for Signalled Lanes (pcuHr): 17.69 Total Delay Over All Lanes(pcuHr): 17.69 Cycle Time (s): 90											

Traffic Flows, Desired

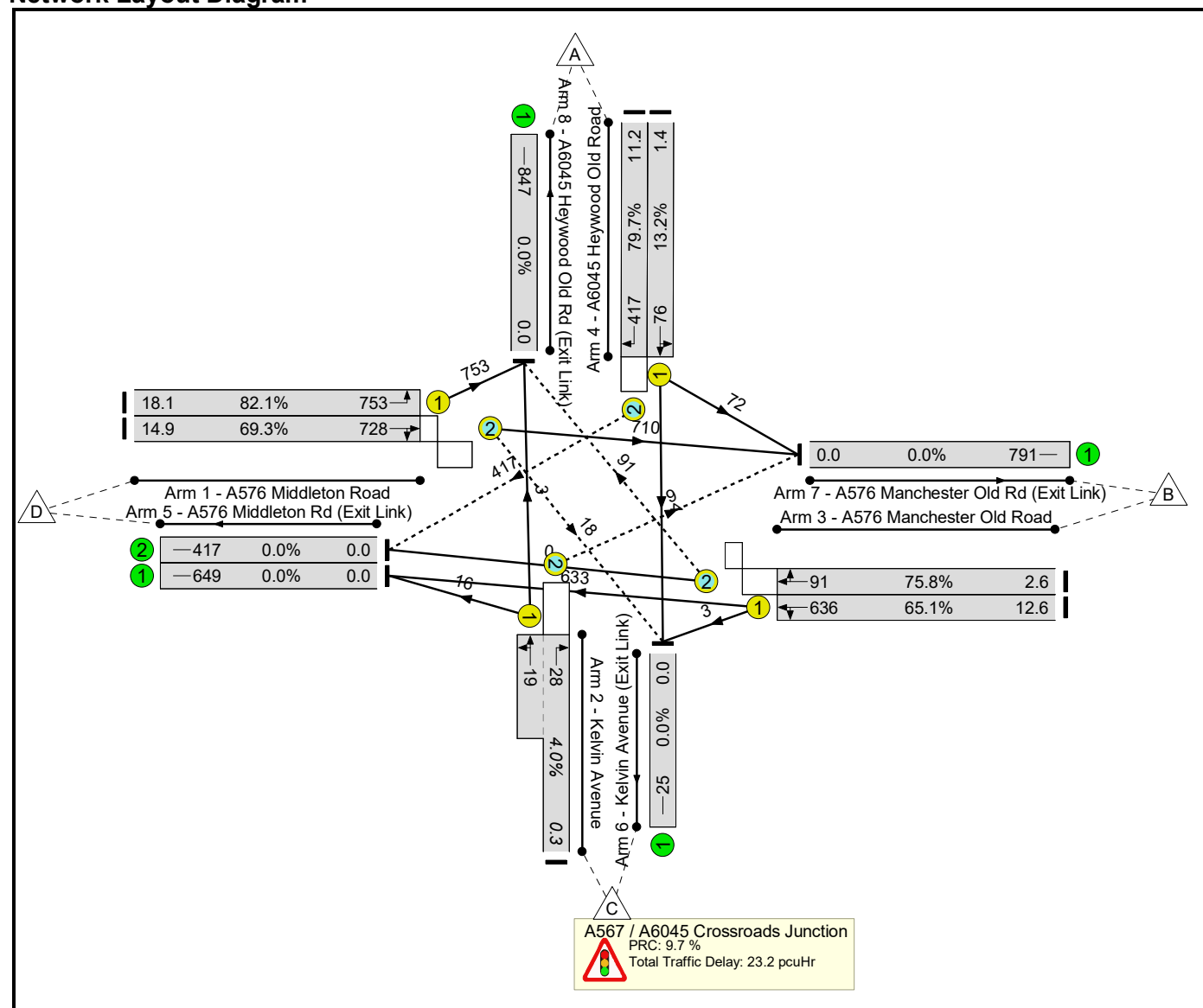
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	72	4	417	493
	B	91	0	3	633	727
	C	3	9	0	16	28
	D	753	710	18	0	1481
	Tot.	847	791	25	1066	2729

Stage Timings

Stage	1	2
Duration	44	30
Change Point	0	52

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	44	-	753	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	44	-	728	2100
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	30	-	28	1807:1656
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	44	-	636	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	44	-	91	1860
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	30	-	76	1677
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	30	-	417	2018

Focus TP Full Report

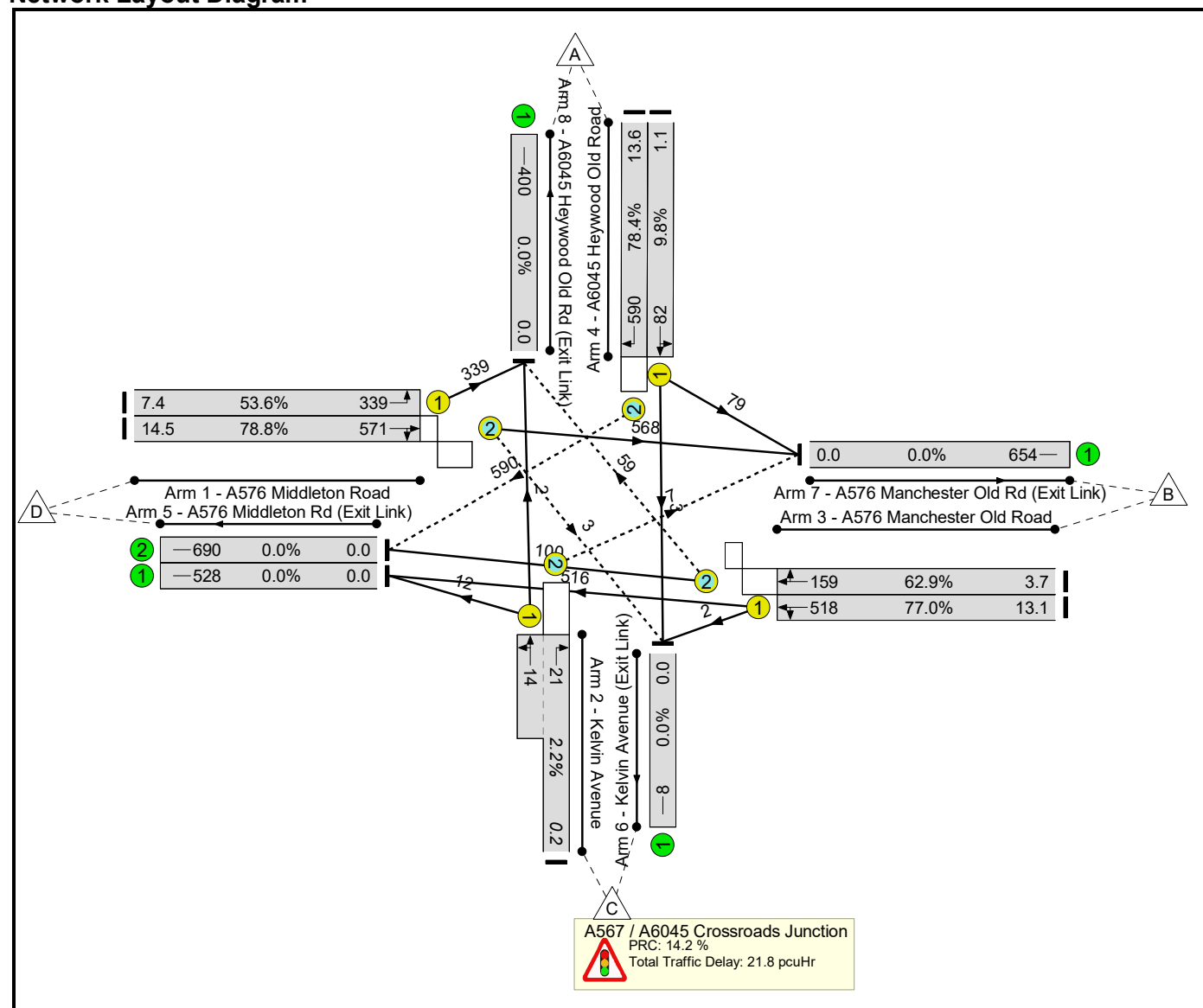
Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	82.1%	-	-	444	0	91	-	-	-	-
A567 / A6045 Crossroads Junction	-	82.1%	-	-	444	0	91	-	-	-	-
1/1	917	82.1%	753	753	-	-	-	29.7	15.9	2.2	18.1
1/2	1050	69.3%	728	728	18	0	0	23.0	13.8	1.1	14.9
2/2+2/1	694	4.0%	28	28	9	0	0	22.8	0.3	0.0	0.3
3/1	977	65.1%	636	636	-	-	-	21.9	11.7	0.9	12.6
3/2	120	75.8%	91	91	0	0	91	102.7	1.2	1.4	2.6
4/1	578	13.2%	76	76	-	-	-	23.9	1.3	0.1	1.4
4/2	523	79.7%	417	417	417	0	0	44.5	9.3	1.9	11.2
C1 PRC for Signalled Lanes (%): 9.7 PRC Over All Lanes (%): 9.7 Total Delay for Signalled Lanes (pcuHr): 23.17 Total Delay Over All Lanes(pcuHr): 23.17 Cycle Time (s): 90											

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	79	3	590	672
	B	59	0	2	616	677
	C	2	7	0	12	21
	D	339	568	3	0	910
	Tot.	400	654	8	1218	2280

Stage Timings

Stage	1	2
Duration	30	44
Change Point	0	38

Network Layout Diagram

Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	30	-	339	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	30	-	571	2104
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	44	-	21	1807:1653
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	30	-	518	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	30	-	159	1990
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	44	-	82	1673
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	44	-	590	2018

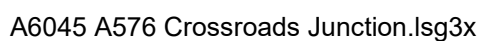
Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	78.8%	-	-	637	0	22	-	-	-	-
A567 / A6045 Crossroads Junction	-	78.8%	-	-	637	0	22	-	-	-	-
1/1	632	53.6%	339	339	-	-	-	29.8	6.8	0.6	7.4
1/2	725	78.8%	571	571	3	0	0	38.0	12.7	1.8	14.5
2/2+2/1	965	2.2%	21	21	7	0	0	13.6	0.2	0.0	0.2
3/1	673	77.0%	518	518	-	-	-	37.7	11.5	1.6	13.1
3/2	253	62.9%	159	159	37	0	22	47.6	2.8	0.8	3.7
4/1	836	9.8%	82	82	-	-	-	14.2	1.1	0.1	1.1
4/2	753	78.4%	590	590	590	0	0	30.5	11.8	1.8	13.6
C1 PRC for Signalled Lanes (%): 14.2 PRC Over All Lanes (%): 14.2 Total Delay for Signalled Lanes (pcuHr): 21.76 Total Delay Over All Lanes(pcuHr): 21.76 Cycle Time (s): 90											

Desired Flow :

Stage Timings

Network Layout Diagram



Link 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)
Network: Land off Silburn Way, Shrewsbury	-	-	N/A	-	-		-	-	-	-	-
A567 / A6045 Crossroads Junction	-	-	N/A	-	-		-	-	-	-	-
1/1	A576 Middleton Road Left	U	N/A	N/A	A		1	44	-	839	1835
1/2	A576 Middleton Road Right Ahead	O	N/A	N/A	A		1	44	-	811	2100
2/2+2/1	Kelvin Avenue Left Right Ahead	O+U	N/A	N/A	D		1	30	-	31	1807:1653
3/1	A576 Manchester Old Road Ahead Left	U	N/A	N/A	B		1	44	-	708	1954
3/2	A576 Manchester Old Road Ahead Right	O	N/A	N/A	B		1	44	-	101	1860
4/1	A6045 Heywood Old Road Ahead Left	U	N/A	N/A	C		1	30	-	84	1676
4/2	A6045 Heywood Old Road Right	O	N/A	N/A	C		1	30	-	465	2018

Focus TP Full Report

Item	Capacity (pcu)	Deg Sat (%)	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Land off Silburn Way, Shrewsbury	-	91.4%	-	-	495	0	101	-	-	-	-
A567 / A6045 Crossroads Junction	-	91.4%	-	-	495	0	101	-	-	-	-
1/1	917	91.4%	839	839	-	-	-	41.2	19.1	4.8	23.9
1/2	1050	77.2%	811	811	20	0	0	26.0	16.4	1.7	18.1
2/2+2/1	694	4.5%	31	31	10	0	0	22.8	0.3	0.0	0.4
3/1	977	72.5%	708	708	-	-	-	24.3	13.8	1.3	15.1
3/2	120	84.2%	101	101	0	0	101	123.6	1.3	2.2	3.5
4/1	577	14.6%	84	84	-	-	-	24.0	1.4	0.1	1.5
4/2	521	89.2%	465	465	465	0	0	58.0	10.9	3.7	14.5
C1 PRC for Signalled Lanes (%): -1.6 PRC Over All Lanes (%): -1.6 Total Delay for Signalled Lanes (pcuHr): 31.95 Total Delay Over All Lanes(pcuHr): 31.95 Cycle Time (s): 90											