

# Crabtree Lane, Openshaw

## Transport Assessment

**Curtins Ref: 086840-CUR-XX-XX-T-TP-00001**

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Client Name: Keepmoat

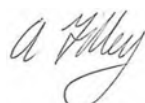
Client Address: Aviation House  
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Control Sheet

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## Plans

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- Plan 079458-CUR-XX-XX-G-TP-06002** – Location Plan – Regional
- Plan 079458-CUR-XX-XX-G-TP-06003** – Accessibility – Pedestrian Catchment Plan
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## Drawings

- Drawing 086840-CUR-XX-00-D-TP-75001** – Proposed Access Arrangement
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## Appendices

- Appendix A** – Proposed Site Layout
- Appendix B** – Traffic Figures
- Appendix C** – Journey to Work Census Data
- Appendix D** – TRICS Output
- Appendix E** – Junction Capacity Assessment Results

## 1.0 Introduction

### 1.1 Background

- 1.1.1 Curtins has been appointed by Keepmoat to provide transport and highways advice in relation to a planning application for a residential development in Openshaw, Manchester.
- 1.1.2 The proposed development would provide 194 dwellings.
- 1.1.3 The proposed site layout is provided in **Appendix A**.

### 1.2 Purpose of the Report

- 1.2.1 This Transport Assessment (TA) has been prepared to inform Highway Officers at Manchester City Council as the Local Highway Authority (LHA) of the development proposals and their potential impact on the surrounding area from a traffic and transportation perspective.
- 1.2.2 The TA is supported by a range of appendices, with access drawings showing visibility splays and swept path assessments. Additionally, the TA is supported by an Interim Travel Plan (Document Reference: **086840-CUR-XX-XX-T-TP-00002**) with measures and initiatives to encourage active and sustainable travel.
- 1.2.3 A Stage 1 Road Safety Audit of the proposed development has been undertaken by an independent auditor, and a Designer's Response prepared by Curtins (Document Reference: **086840-CUR-XX-XX-T-TP-00004**).

### 1.3 Scope of the Report

- 1.3.1 The scope of this report is consistent with local and national transport planning policy and guidance.
- 1.3.2 A pre-application response was provided by MCC Highways on 29<sup>th</sup> October 2024, also incorporating comments from MCC Planning and Transport for Greater Manchester (TfGM). Comments included:
  - Regarding the layout, Highways were concerned over lack of footways in some locations, and Planning regarding overdevelopment and the amount of off-curtilage parking;
  - TfGM advise assessing all junctions where the development would result in 30 additional vehicles;
  - The scope of the planning submission, with Highways requesting a Servicing Management Plan and Waste Management Plan, as well as a Transport Assessment and Interim Travel Plan;
  - The site is "highly accessible";
  - Access requirements, including demonstrating that the proposals meet design standards, appropriate stopping sight distances can be achieved from the access, footway reinstatement at any redundant accesses;

- If the internal roads are to be adopted, then it was requested that Crabtree Lane is updated to adoptable standards. It was requested that a 20mph speed limit is enforced on any adopted highways within the site. Adopted roads should have a 5.5m-wide carriageway with continuous 2m-wide footways along both sides, and be manoeuvrable for vehicles, including refuse. MCC does not accept shared spaces; separate pedestrian areas are required;
- Requested details of any traffic calming within the site, and how the site would connect to the towpath;
- Requested details of and justification for the proposed car parking arrangements, including how parking will be allocated to houses and apartments. All driveway parking spaces should have Electric Vehicle (EV) charging provision, while 20% of communal car parking spaces should, and there should be ducting infrastructure for future EVC installation. There should be 100% cycle parking, as well some provision for visitors; and
- Any mitigation required should be identified by the Transport Assessment.

1.3.3 A follow-up meeting with MCC Highways Officers took place on 13<sup>th</sup> January 2025 where specific elements relating to the internal site layout, servicing strategy and proposed car parking provision/arrangements were discussed.

1.3.4 On this basis, the TA contains the following:

- Details of the existing use and the development proposals, together with a proposed site layout plan;
- A review of highway safety within the vicinity of the site for the most recent five years;
- A review of accessibility by all modes of travel including walking, cycling, and public transport;
- Drawings showing the site access proposals, vehicle tracking and visibility splays;
- Details of proposed parking arrangements and justification for the provision;
- Information regarding traffic generation, distribution, growth, committed development and assignment; and
- A review of the relevant transport planning policy.

## 1.4 Structure of the Report

1.4.1 Following this introduction, **Section 2** of the report provides a comprehensive description of the existing site and its location. This includes the local highway network and facilities for pedestrians, cyclists and public transport users.

1.4.2 **Section 2** also reviews the local area in terms of highways safety by way of obtaining records of collisions adjacent to the site over the most recent five-year period available.

1.4.3 **Section 3** gives an overview of the development proposals including details on proposed access, parking provision, and a servicing and refuse strategy.

- 1.4.4 **Section 4** considers the site's accessibility by sustainable modes of transport, including walking, cycling and public transport.
- 1.4.5 **Section 5** outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals and the highway impact, with **Section 6** providing an assessment on the highway impacts.
- 1.4.6 **Section 7** summarises key national and local transport planning policy, and **Section 8** provides a report summary and conclusion.

## 2.0 Existing Situation

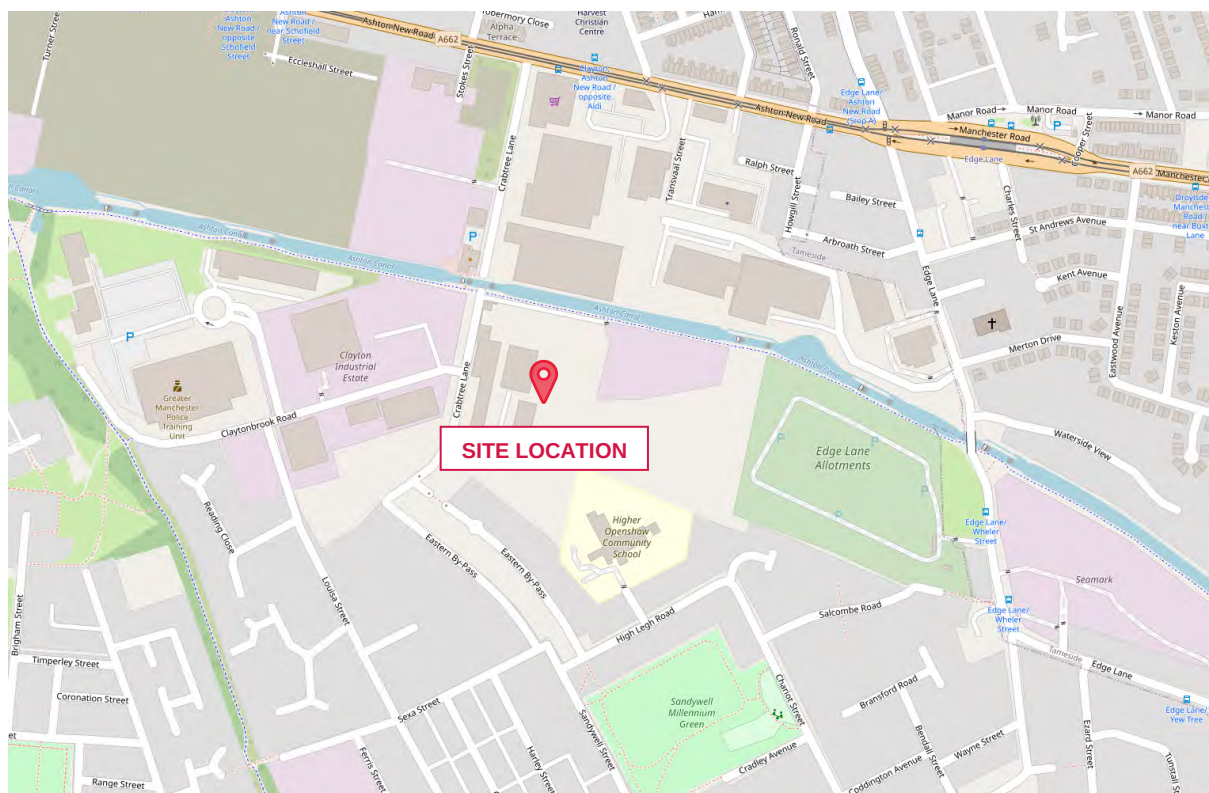
### 2.1 Site Location

2.1.1 The site is located in Openshaw in East Manchester.

2.1.2 The A662 Ashton New Road is situated 220m to the north of the site, separated by the Ashton Canal, with the A635 Ashton old Road located approximately 720m to the south of the site. Both routes run on an east/west alignment and connect Openshaw with Manchester city centre to the west and Ashton-under Lyne to the east.

2.1.3 In a more local context, the site is bound by Ashton Canal to the north, brownfield land and the Higher Openshaw Community School to the east, several residential properties, Eastern By-Pass and a stretch of green space to the south, and Crabtree Lane, a mast and an industrial estate to the west.

2.1.4 **Figure 2.1** below shows the site in a local context relating to the local highway network:



**Figure 2.1 – Site Location**

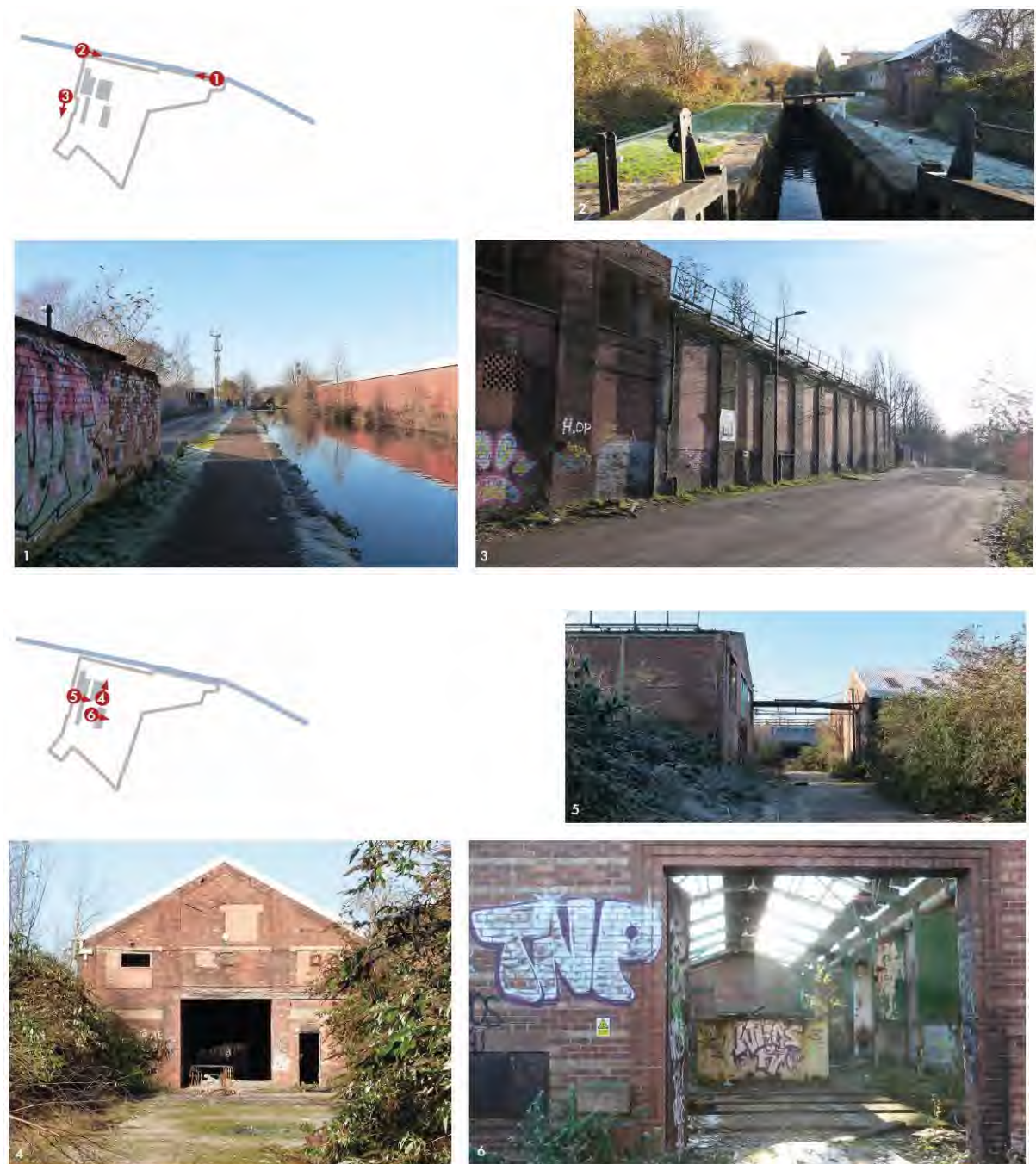
(Source: OpenStreetMap, 2024)

2.1.5 **Plan 079458-CUR-XX-XX-G-TP-06001** to the rear of the report illustrates the location of the site in relation to the surrounding areas, and **Plan 079458-CUR-XX-XX-G-TP-06002** to the rear of the report shows the site in a more local context relating to the local highway network.

## 2.2 Existing Use and Access

2.2.1 The existing site is currently occupied by a collection of redundant industrial units each in varying states of disrepair. Within the site boundary, there are separate areas of hardstanding and overgrown vegetation.

2.2.2 **Figures 2.2** below illustrates the exterior and interior of the site:



**Figure 2.2 – Site Photos**  
(Source: JTP, 2024)

2.2.3 As shown below, there are currently three gated, derelict accesses from Crabtree Lane into the site.



**Figure 2.3 – Northernmost Access**

(Source: Google Street View, August 2023)



**Figure 2.4 – Central Access**

(Source: Google Street View, August 2023)



**Figure 2.5 – Southernmost Access**

(Source: Google Street View, August 2023)

## 2.3 Surrounding Highway Network

2.3.1 Figure 2.6 provides an extract of the adopted highway boundary plan supplied by MCC which covers the local highway network in the vicinity of the proposed development site.

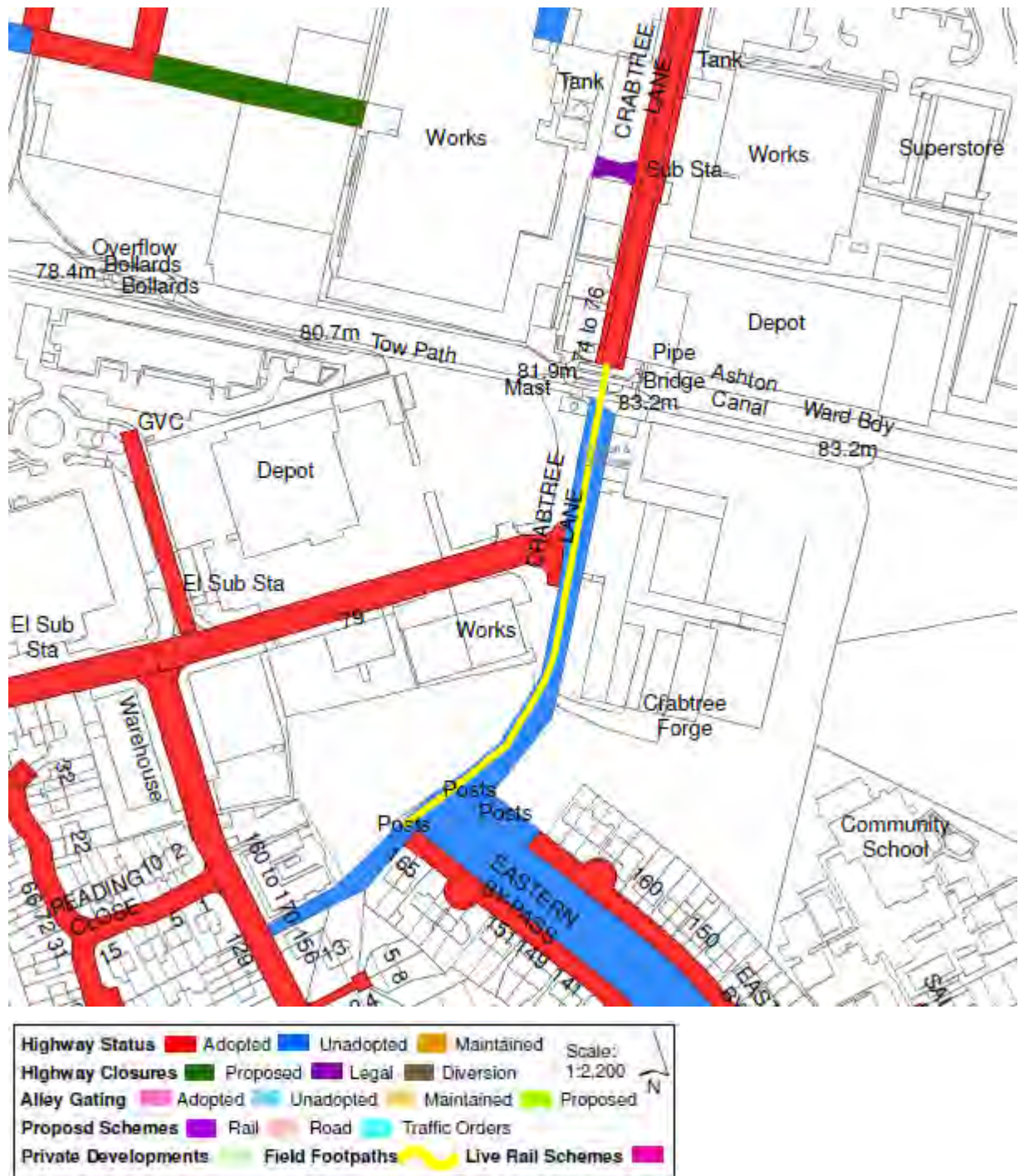


Figure 2.6 – Extent of Adopted Highway  
(Source: Manchester City Council, August 2021)

***Crabtree Lane (south of the canal)***

- 2.3.2 To the south of the Ashton Canal, Crabtree Lane extends for approximately 180m in a southerly direction along the full site frontage. There are bollards at both the southern and northern ends of the road.
- 2.3.3 **Figure 2.6** confirms that this length of Crabtree Lane is currently unadopted and not publicly maintained. There is however, a “Field Footpath” which runs along Crabtree Lane which connects Eastern by-pass in the south to the Ashton Canal.
- 2.3.4 The road ranges from 9m to 11m in width with dense, overgrown vegetation along both sides of Crabtree Lane, as shown by the images provided in **Section 2.2**.
- 2.3.5 There are no footways on either side of the road for the majority of its length, however, the road is well-lit by regular streetlights on both sides.
- 2.3.6 A pedestrian footbridge is provided at the northern extent of Crabtree Lane facilitated continues access on foot and bicycle to the north of the site.

***Crabtree Lane (north of the canal)***

- 2.3.7 As noted, there is a bridge allowing pedestrians access across the Ashton Canal to the northern side of Crabtree Lane which extends approximately 200m to the north terminating at a priority-controlled junction with Ashton New Road. **Figure 2.3** confirms that this length of Crabtree Lane is adopted.
- 2.3.8 The pavements are typically 2m wide on both sides of the road. There are some dropped kerbs, but no tactile paving except at the junction with Ashton New Road.
- 2.3.9 The road is subject to a 20mph speed limit and benefits from streetlighting along both sides.

***Claytonbrook Road***

- 2.3.10 Claytonbrook Road is an adopted highway that provides access to the wider Clayton Industrial Estate and is approximately 7.5m wide with 2m wide pavements on both sides.
- 2.3.11 There are footways and streetlighting provided along the full length of the road, which is also subject to a 20mph speed limit.

***Louisa Street***

- 2.3.12 Louisa Street extends for approximately 680m in a south-easterly direction between the junctions with Claytonbrook Road and Ashton Old Road.
- 2.3.13 There is extensive on-street parking on the eastern side of the road, with single and double yellow lines along most of the western side.

- 2.3.14 The road varies slightly between a width of 6.5m to 7.5m, with pavements of approximately 2m wide. There are dropped kerbs, but limited tactile paving.

**A635 Ashton Old Road**

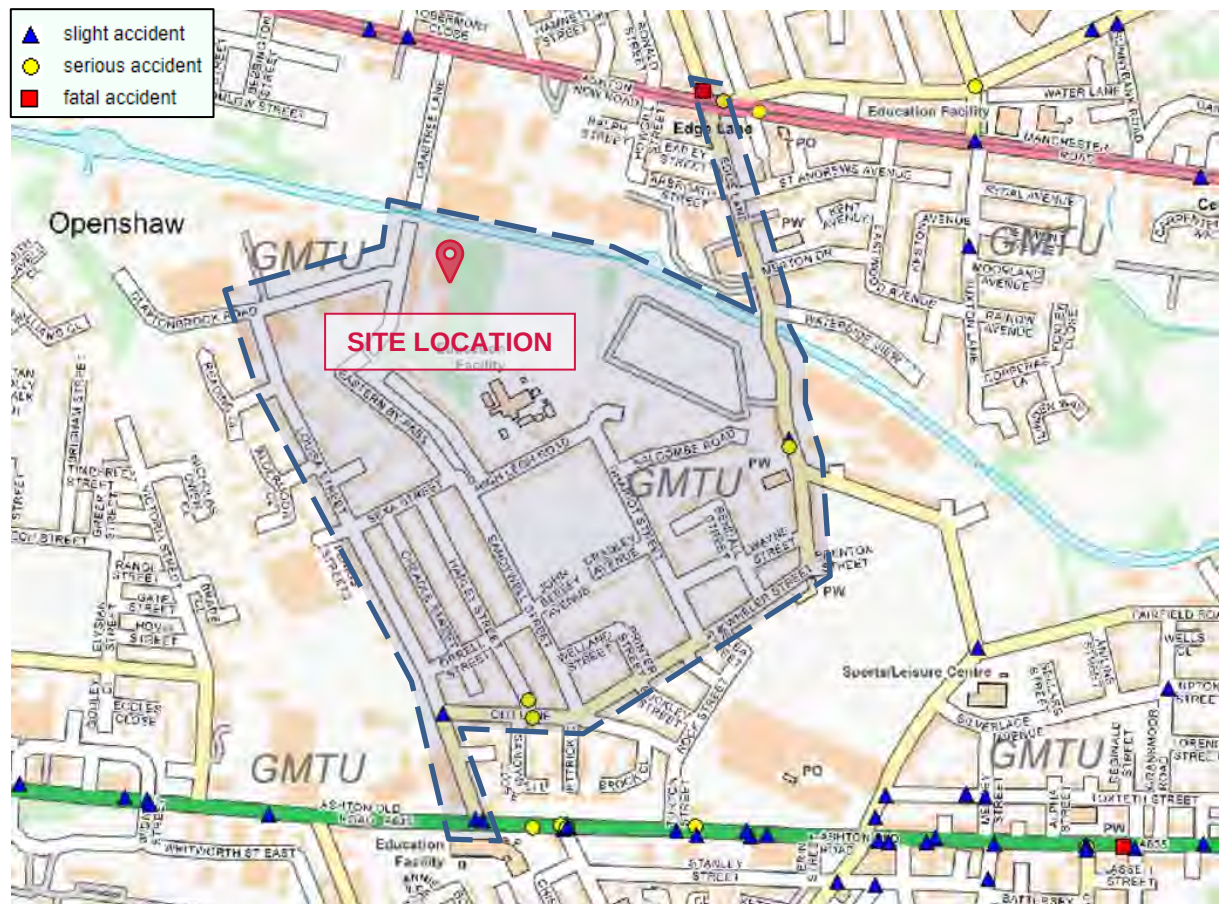
- 2.3.15 The road is approximately 12m wide with at least one lane in each direction and a central reservation.
- 2.3.16 The footways range between 2m and 4m in width with dropped kerbs and tactile paving at crossings.
- 2.3.17 The road is well-lit by streetlights at regular intervals.
- 2.3.18 There is a pedestrian crossing to the east of the Louisa Street/ Ashton Old Road junction with push-button operated traffic lights, dropped kerbs and tactile paving.

## 2.4 Highway Safety

- 2.4.1 Collision data for the highway network adjacent to the site has been obtained from the TfGM reported road incidents database for the most recent 60 months. The details of the search are contained in **Figure 2.6** and a breakdown of the information is contained in **Table 2.1**:

| Junction/Link                                          | Slight   | Serious  | Fatal    | Totals   |
|--------------------------------------------------------|----------|----------|----------|----------|
| Edge Lane / Ashton New Road                            | 0        | 1        | 1        | 2        |
| Edge Lane, adjacent access for Christ Apostolic Church | 1        | 1        | 0        | 2        |
| Old Lane / Harley Street                               | 0        | 2        | 0        | 2        |
| Louisa Street / Old Lane                               | 1        | 0        | 0        | 1        |
| Louisa Street / Ashton Old Road                        | 2        | 0        | 0        | 2        |
| <b>Total</b>                                           | <b>4</b> | <b>4</b> | <b>1</b> | <b>9</b> |

**Table 2.1** – Collision Data Summary



**Figure 2.7 – Area Assessed for Personal Injury Collision Data (5 years)**

(Source: TfGM, December 2024)

- 2.4.2 There has been a total of nine collisions in the latest five-year period available, four of which were 'slight' severity incidents, four of which were 'serious' severity incidents, and one of which was a fatal incident.
- 2.4.3 The fatal collision occurred during wet, lit conditions at 09:20 on Friday 06/08/2021. The front of a car turning right from Ashton New Road onto Edge Lane collided with a crossing pedestrian.
- 2.4.4 As demonstrated by the Traffic Figures at the rear of this report, it is forecast that 13% of traffic would route via the Ashton New Road / Edge Lane junction, equating to 11 and 7 two-way vehicular trips in the AM and PM peak hours, respectively.
- 2.4.5 No significant correlations have been identified to suggest that highway condition, layout or design were significant contributory factors in any of the collisions. It is not considered that there is an existing safety issue that is likely to be exacerbated by the proposed development.
- 2.4.6 The application proposes to upgrade Crabtree Lane to adoptable standards and deliver a 5.5m-wide carriageway, along with a 3.0m-wide shared footway / cycleway along the western side of the road and a 2.0m-wide footway along the eastern side. Uncontrolled crossings complete with tactile paving and dropped kerbs would be provided across Crabtree Lane, adjacent to the two proposed site accesses,

and across Claytonbrook Road. Crabtree Lane would terminate at an amended turning head at the south. It would entail the relocation of existing lampposts and removal / trimming / management of dense vegetation on the western side of Crabtree Lane. This would be a significant improvement to safety for users of the road.

## 3.0 Development Proposals

### 3.1 Overview of Proposals

3.1.1 The proposed development would provide 194 dwellings, breaking down as follows:

Land at Crabtree Lane  
03.02.2025



| Housetype | Range | Storeys | Beds | Capacity | Width | Depth | Target Mix % | Count | Mix % |
|-----------|-------|---------|------|----------|-------|-------|--------------|-------|-------|
| Ashburn   | NDSS  | 2       | 2    | 3        | 4.776 | 9.215 | 20%          | 16    | 23%   |
| Fewston   | NDSS  | 2       | 3    | 4        | 5.260 | 9.215 | 40%          | 10    | 34%   |
| Seacourt  | NDSS  | 2       | 3    | 4        | 5.620 | 9.215 |              | 12    |       |
| Holgate   | NDSS  | 2       | 3    | 5        | 5.958 | 9.553 |              | 2     |       |
| Longford  | NDSS  | 2       | 4    | 6        | 6.745 | 9.435 | 40%          | 12    | 43%   |
| Devoke    | NDSS  | 3       | 4    | 7        | 5.114 | 9.778 |              | 18    |       |

|              |    |
|--------------|----|
| Houses Total | 70 |
|--------------|----|

| Apartment Type   | Range | Storeys | Beds | Capacity | Width | Depth | Target Mix % | Count | Mix % |
|------------------|-------|---------|------|----------|-------|-------|--------------|-------|-------|
| Apartment Type 1 | NDSS  | 1       | 1    | 2        |       |       | 50%          | 66    | 53%   |
| Apartment Type 2 | NDSS  | 1       | 2    | 3        |       |       | 50%          | 30    | 24%   |
| Apartment Type 3 | NDSS  | 1       | 2    | 4        |       |       |              | 28    | 23%   |

|                  |     |
|------------------|-----|
| Apartments Total | 124 |
|------------------|-----|

|             |     |
|-------------|-----|
| Grand Total | 194 |
|-------------|-----|

|                           |     |
|---------------------------|-----|
| Parking                   |     |
| Apartment Parking         | 62  |
| Allocated Housing Parking | 101 |
| Visitor                   | 12  |
| Car Club                  | 1   |
| Total                     | 176 |

**Figure 3.1 – Schedule of Accommodation**

(Source: JTP, 2025)

3.1.2 The proposed site layout is provided in **Appendix A**.

### 3.2 Transport Vision

3.2.1 The vision for the site is to minimise reliance on single-occupancy car travel by maximising the usage of more sustainable modes, particularly walking, cycling and public transport.

3.2.2 As detailed in **Section 5**, the restricted car parking provision proposed, particularly for the flats, is likely to encourage many site users to travel by sustainable modes.

3.2.3 The Interim Travel Plan (Document Reference: **086840-CUR-XX-XX-T-TP-00002**) sets the following objectives:

- **Objective 1** – To increase the level of walking to and from the site;
- **Objective 2** – To increase the level of cycling to and from the site;
- **Objective 3** – To increase the level of public transport use to and from the site;
- **Objective 4** – To encourage car sharing and shared transport to and from the site; and
- **Objective 5** – To encourage uptake of Ultra Low and Zero Emission vehicles.

### 3.3 Proposed Access

#### *Crabtree Lane*

- 3.3.1 As noted previously, Crabtree Lane is currently unadopted and provides no dedicated pedestrian infrastructure.
- 3.3.2 It is therefore proposed as part of the application proposals to upgrade Crabtree Lane to adoptable standards and deliver a 5.5m-wide carriageway, along with a 3.0m-wide shared footway / cycleway along the western side of the road and a 2.0m-wide footway along the eastern side. Uncontrolled crossings complete with tactile paving and dropped kerbs would be provided across Crabtree Lane, adjacent to the two proposed site accesses, and across Claytonbrook Road. Crabtree Lane would terminate at an amended turning head at the south and the junction with Claytonbrook Road would be realigned. **Drawing 086840-CUR-00-XX-DR-TP-75001** at the rear of this report demonstrates the proposed arrangement. It would entail the relocation of existing lampposts and removal / trimming / management of dense vegetation on the western side of Crabtree Lane.
- 3.3.3 The posted speed limit of 20mph would be extended to include the proposed development which will provide a natural extension to the existing local highway network.

#### *Site Access and Internal Routes*

- 3.3.4 There would be two accesses into the site from Crabtree Lane, located c. 32m to the north of and c. 63m to the south of the existing Claytonbrook Road / Crabtree Lane junction.
- 3.3.5 The internal road network would have a typical carriageway width of 5.5m (widening where necessary to allow two-way movements) with 2m footways provided along both sides of all roads. A 6m aisle width would be provided within the four parking courts for the flats.
- 3.3.6 Adoption would be sought for the entire internal road network (excluding the parking courts).
- 3.3.7 **Drawing 086840-CUR-00-XX-DR-TP-05001** at the rear of this report shows that a refuse vehicle can ingress and egress from the site in forward gear and traverse the internal road network, with suitable bin drag distances from all dwellings.
- 3.3.8 **Drawing 086840-CUR-00-XX-DR-TP-05002** at the rear of this report shows that a fire tender can ingress and egress from the site in forward gear and traverse the internal road network.

- 3.3.9 **Drawing 086840-CUR-00-XX-DR-TP-05003** at the rear of this report shows that a large car can ingress and egress from the site in forward gear and traverse the internal road network.
- 3.3.10 Raised tables will be incorporated throughout the site to minimise vehicle speeds and provide crossings.
- 3.3.11 The proposed highway enhancements delivered as part of the planning application would see Crabtree Lane reprioritised at its northern extent and would continue into the proposed development site, with vehicle traffic turning east onto the internal road network. Crabtree Lane would terminate to the south, as is currently the case. Pedestrians and cyclists would continue to be permitted to continue along Eastern Bypass, Ashton Canal, and across the bridge to the northern section of Crabtree Lane. Therefore, vehicular traffic on the surrounding roads will be limited and walking and cycling will likely be more attractive for some trips, particularly to the primary school, surrounding residential properties, allotments and the various amenities, including a large Aldi within a 500m walk, along Ashton New Road and Ashton Old Road.
- 3.3.12 It is noted that as part of the previous application a connection between Crabtree Lane and Eastern by-pass to the south was explored at the request of MCC Highways. Given the current unadopted status of Crabtree Lane and the northern extents of Eastern By-pass, plus the potential third party land implications, the option was not considered viable.

## 3.4 Proposed Parking

- 3.4.1 Car and cycle parking for the development is provided in accordance with the Manchester Residential Quality Guidance, adopted in 2017, which requires proposals to *“incorporate sufficient car parking in an appropriate location that does not harm pedestrian movement”* and *“provide secure cycle parking for residents and visitors, which is safe and convenient”*. The guide does not specify exact numbers of car and cycle parking spaces for residential developments.

### **Car Parking**

- 3.4.2 As detailed by Figure 3.1, the proposed development would provide 176 car parking spaces, comprising:
- 1 allocated space per 2- / 3-bed house<sup>1</sup>
  - 2 allocated spaces per 4-bed house
  - 0.5 spaces per flat
  - 12 visitor spaces
  - 1 Enterprise Car Club space

<sup>1</sup> There is one 3-bed house (number 051) that has an additional parking space due to the nature of the layout.

- 3.4.3 All the allocated spaces for the houses and 20% of the spaces for the flats would be equipped with EV chargers from the outset, with ducting incorporated so the remaining spaces for the flats could be equipped with chargers, if necessary, in the future. There would be no EV charging provision for the visitor and car club spaces.
- 3.4.4 Car clubs provide a genuine alternative to car ownership<sup>2</sup>, and would be attractive for residents who do not have access to a car but would benefit from using one for occasional trips. Throughout the contracted period (initially two years), all residents (including where there are multiple occupants of the same address) will be offered 1 year's free Enterprise Car Club membership and £25 driving credit (to be used within 90 days of joining).
- 3.4.5 Enterprise Car Club will develop a utilisation model which can trigger the provision of additional vehicles in response to demand at no extra cost to the applicant.
- 3.4.6 All residents joining will also be eligible to receive a discount with Enterprise Rent-A-Car, who offer a free pick-up and drop-off service for customers who cannot get to a branch but live within 10 miles. The combination of car club and car rental is very attractive to people as an alternative to car ownership.
- 3.4.7 Enterprise can attend sales and promotional events and assist with the production of customised promotional materials. Enterprise also provide dedicated support and create reports and statistics for the developer and council.
- 3.4.8 Enterprise's rates for customers without incentives are provided at the following webpage: <https://www.enterpriseclub.co.uk/gb/en/programs/regions/north-west-england/manchester.html>

### ***Cycle Parking***

- 3.4.9 Secure, externally accessed bike stores would be provided at the ground floor of each block of flats, providing one space per flat in the form of Sheffield stands.
- 3.4.10 Cycle sheds would be provided in the gardens of all houses.
- 3.4.11 This is one of the many initiatives to encourage more people to travel by sustainable modes (in addition to other measures outlined in the accompanying Interim Travel Plan (Document Reference: **086840-CUR-00-XX-RP-TP-002**). The provision of sufficient cycle parking of suitable quality has a key synergy with the successful implementation of travel plans.

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<sup>2</sup> Research for the Department for Transport (<https://www.gov.uk/government/publications/car-clubs-a-rapid-evidence-assessment>, published in 2024) found, in relation to car ownership, that:

- Four studies with schemes that were predominantly or exclusively back to bay (like Enterprise) found between 19% and 33% reported that their personal or household car ownership had decreased since joining a car club.
- Two studies, based on online survey data, reported a significant decrease (between 0.1 and 0.43) in the average number of vehicles owned by participants before and after they started participating in car clubs.
- Several studies have found that some car club members avoid purchasing a first or additional car

## 4.0 Accessibility by Sustainable Modes of Travel

### 4.1 Introduction

- 4.1.1 A key element of national and local policy is to ensure that new developments are located in areas where alternative modes of travel are available. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.
- 4.1.2 Walking, cycling, and public transport should be prioritised over car use, according to the National Design Guide (DLUHC (now MHCLG), 2021).
- 4.1.3 The accessibility of the proposed development is considered in this context for the following modes of travel:
- Pedestrian Accessibility;
  - Cycle Accessibility; and
  - Public Transport Accessibility.

### 4.2 Pedestrian Accessibility

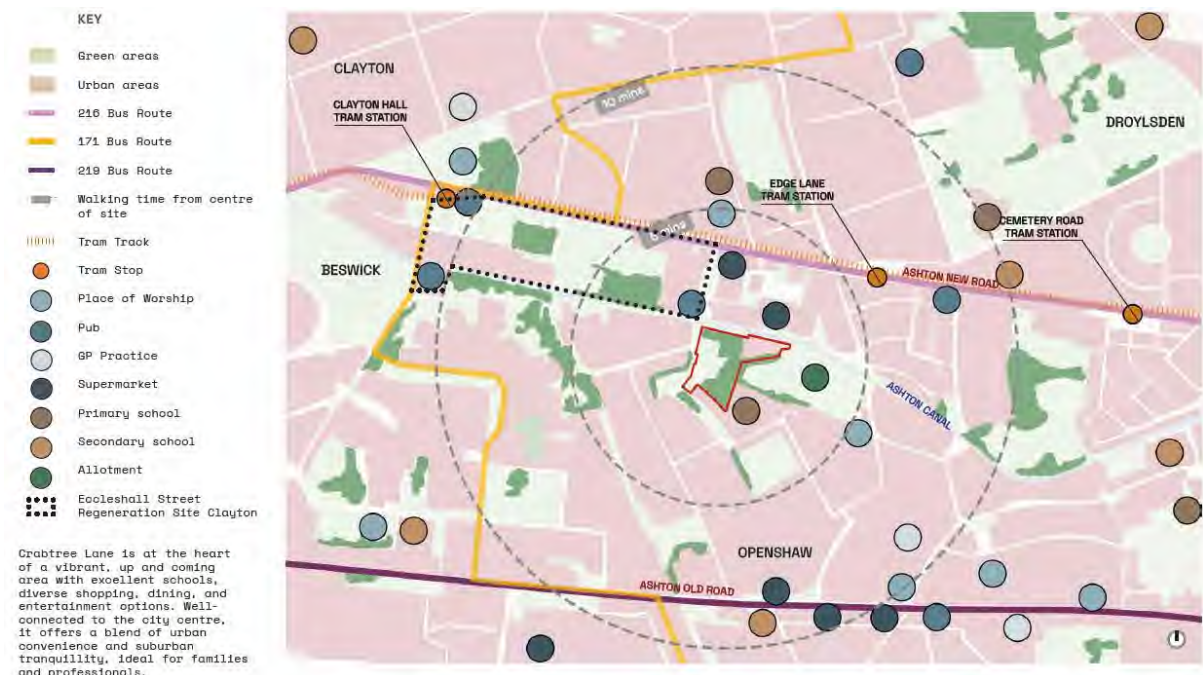
- 4.2.1 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities.
- 4.2.2 The National Design Guide (NDG, published by DLUHC (now MHCLG), 2021) says that well designed places / neighbourhoods are walkable, which is defined “*Local facilities are within walking distance, generally considered to be no more than a 10 minute walk (800m radius).*”
- 4.2.3 Despite the NDG characterising 800m as a maximum acceptable walking distance, the Department for Transport’s (DfT) National Travel Survey datasets provide empirical evidence to demonstrate people are willing to walk further. This is reflected in Manual for Streets guidance (MfS, published by the DfT, 2007) which states an 800m catchment should not be “...an upper limit” and that walking “...offers the greatest potential to replace short car trips, particularly those under 2 km.” The Chartered Institution for Highways and Transportation (CIHT) produced a document in 2000 titled ‘*Guidelines for Providing for Journeys on Foot*’ which provides catchments more in line with those reported in the NTS. The suggested CIHT walking distances are reproduced in **Table 4.1** below:

| CIHT Category     | Town Centres (m) | Commuting/School/<br>Sightseeing (m) | Elsewhere (m) |
|-------------------|------------------|--------------------------------------|---------------|
| Desirable         | 200              | 500                                  | 400           |
| Acceptable        | 400              | 1,000                                | 800           |
| Preferred Maximum | 800              | 2,000                                | 1,200         |

**Table 4.1** – CIHT Recommended Walking Distances

4.2.4 The average pedestrian can walk approximately 400m every five minutes, based on the CIHT document 'Planning for Walking' (2015).

4.2.5 **Figure 4.1** below shows the amenities near the site:



**Figure 4.1 – Nearby Amenities**

(Source: JTP, 2024)

4.2.6 To assist in summarising the accessibility of the site by foot, an indicative pedestrian catchment plan has been produced. **Plan 079458-CUR-XX-XX-G-TP-06003** shows distances of 500m, 1,000m and 2,000m which are termed 'Desirable', 'Acceptable' and the 'Preferred Maximum' by the CIHT for commuting trips; which are considered a good approximation for trips associated with the development.

4.2.7 The neighbouring industrial estate, a primary school, Sandywell Millennium Green, an Aldi supermarket, pub, chemist, and a Subway can be accessed within a 500m walk of the site.

4.2.8 Located within a 500m – 1000m walk residents could access more residential properties, primary schools, a playing field, post office, petrol and EV charger station, convenience stores and supermarkets, restaurants and hot food takeaways, a place of worship, and Lime Square Retail Park.

4.2.9 Within 1000m – 2000m of the site residents could further access more residential areas, schools, supermarkets, restaurants, takeaways, places of worship, parks, the National Cycling Centre, Gorton rail station, a veterinary clinic, pharmacy, bowling and boxing clubs, and New Smithfield Market.

4.2.10 It is considered that the site is situated within a highly accessible area, with a number of complimentary uses within walking distance.

- 4.2.11 As part of the development proposals, the pedestrian infrastructure along Crabtree Lane will be enhanced and improve connectivity to the wider built-up area.

### 4.3 Cycle Accessibility

- 4.3.1 Cycling is a cheap, efficient, and healthy way to travel. Cycling also provides a predictable arrival time which depending on location, can be quicker than driving or using public transport, and is subject to fewer delays.
- 4.3.2 In order to assist in assessing the accessibility of the site by cycle, **Plan 079458-CUR-XX-XX-G-TP-06004** presents 5.5km and 8km cycle catchments for the site, along with the National Cycle Network Routes available within these ranges.
- 4.3.3 The average cycling trip length was 5,730m in 2022 and 4,545m in 2023 (based on National Travel Survey dataset NTS9910a). The average length was between 5.0km and 6.0km every year from 2012/13 to 2022, except 2014/15 and 2020.
- 4.3.4 National Travel Survey statistics demonstrate that 80% and 84% of cycling trips were under 5 miles / 8km in 2022 and 2023, respectively (see dataset NTS0308b). This distance is also referenced by both the National Model Design Code – Part 2 (DLUHC (now MHCLG), 2021) and LTN1/20.
- 4.3.5 The average cyclist travels at approximately 12mph, according to CD195 of the Design Manual for Roads and Bridges, so they could travel 5.5km and 8km in approximately 17 and 25 minutes, respectively.
- 4.3.6 Within 5.5km of the site residents could cycle to all Openshaw, Failsworth, Longsight, Gorton, Reddish, and parts of Manchester City Centre, including the Northern Quarter, Gay Village and Manchester Piccadilly rail station. The 8km catchment encompasses the rest of Manchester City Centre including all major transport links as west as Salford Central, along with Levenshulme, Cheetham Hill, Moston, Ashton-under-Lyne and Dukinfield.
- 4.3.7 In close proximity to the site, off Claytonbrook Road, residents could access NCN Route 60, a mainly traffic-free route between East Manchester and North Manchester. Within 5.5km of the site, Route 60 can be used to access NCN Routes 66 – Manchester to Spurn Head in Yorkshire, via Bradford, Leeds, York, and Kingston upon Hull – and 6 – which runs in sections from London to Preston. Residents could also access the still under construction NCN Route 55 within the larger 8km catchment, running in sections from Ironbridge to Preston.
- 4.3.8 The local cycle network in the vicinity of the site is shown in **Figure 4.1** below:

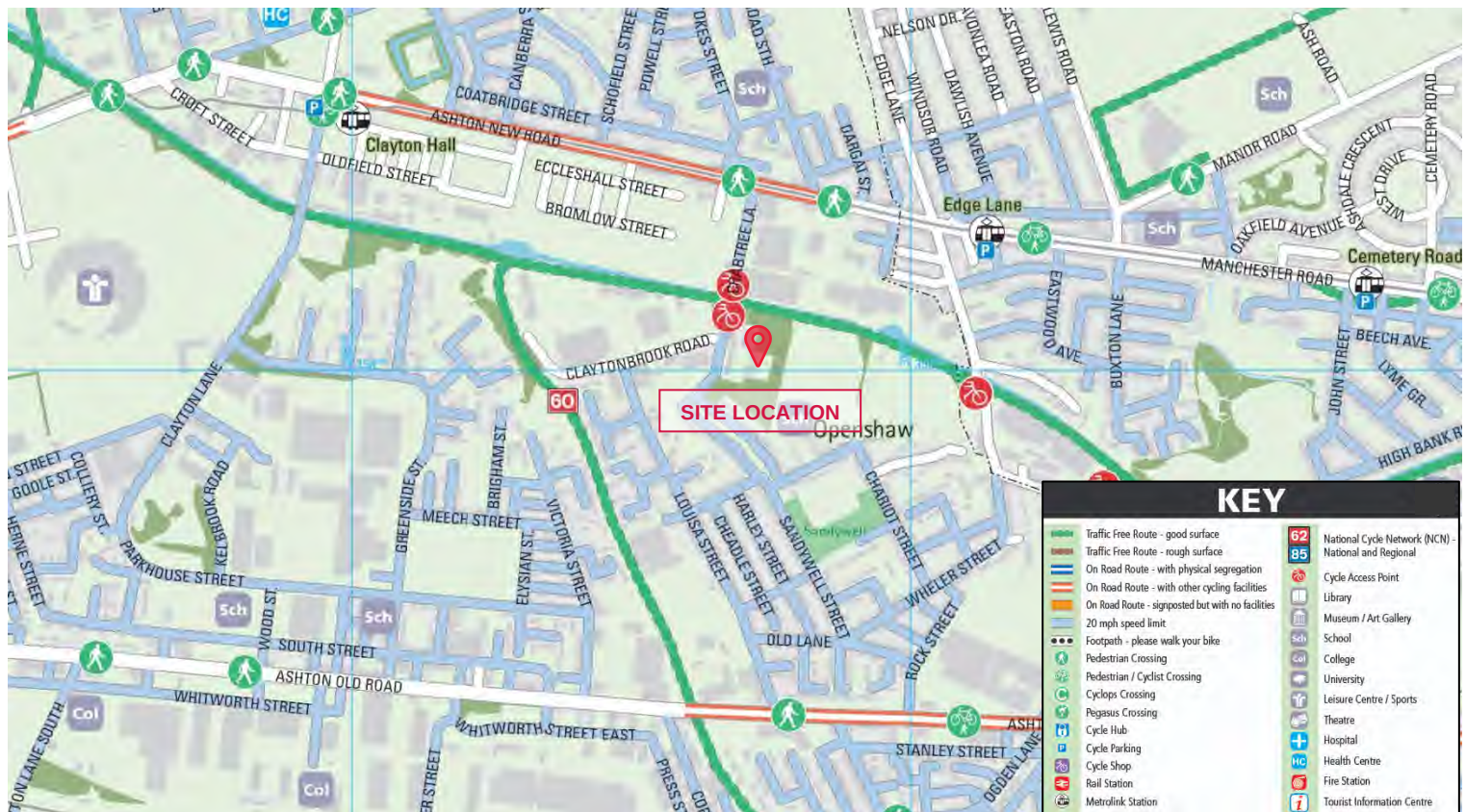


Figure 4.2 – Local Cycle Network  
(Source: TfGM, 2024)

4.3.9 Furthermore, the development will provide secure cycle parking spaces to encourage cycling.

4.3.10 The site is therefore ideally placed to take advantage of the cycle connections around Manchester and it is considered that cycling is a highly realistic mode of travel to and from the site.

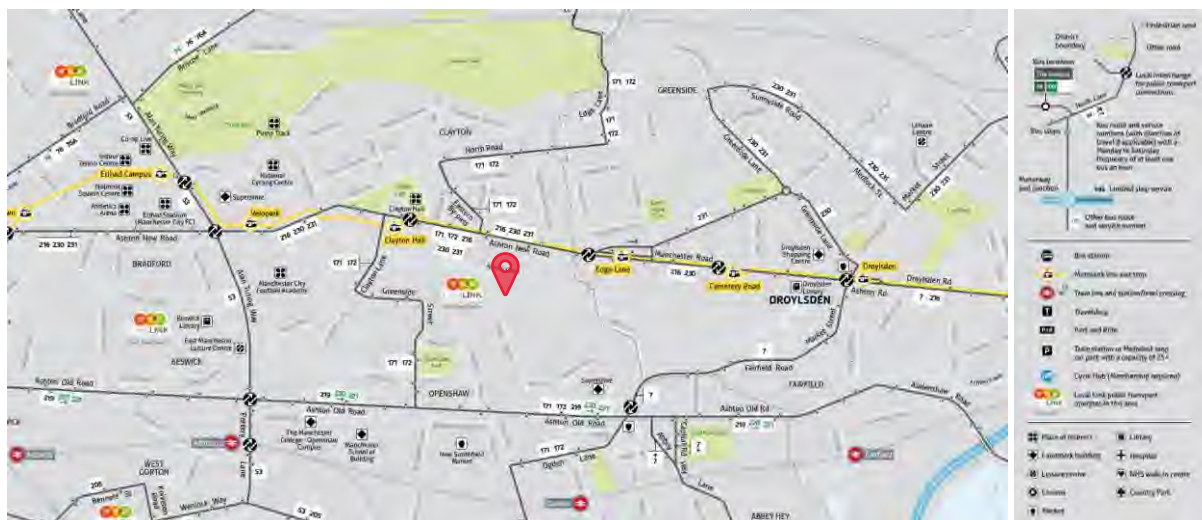
## 4.4 Public Transport Accessibility

4.4.1 The site is well situated to take advantage of existing public transport infrastructure to Manchester city centre and other areas of Greater Manchester.

4.4.2 **Plan 079458-CUR-00-XX-DR-TP-06005** demonstrates the areas accessible via public transport within 20, 40 and 60 minutes of the site. These include:

- 20 minutes – Openshaw, Clayton, Droylsden;
- 40 minutes – Manchester Piccadilly, Manchester Oxford Road, Deansgate, Salford Central, Manchester Victoria, Moston, Ashton-under-Lyne, Fairfield, Ashburys; and
- 60 minutes – Lostock, Bolton, Mills Hill, Greenfield, Broadbottom, Hazel Grove, Romiley, Stockport, Levenshulme, Macclesfield, Wilmslow, Gatley, Manchester Airport, East Didsbury, Trafford Park, Stretford, Warrington Central, Eccles.

- 4.4.3 Developed by Transport for Greater Manchester (TfGM), Greater Manchester Accessibility Levels (GMAL) are a measure of the accessibility of a point to both the conventional public transport network (i.e. bus, Metrolink and rail) and Greater Manchester's Local Link (flexible transport service), considering walk access time, service availability, and average waiting time. The method is essentially a way of measuring the density of the public transport provision at any location within the Greater Manchester region.
- 4.4.4 The accessibility index score is categorised into eight levels (1 to 8), where 1 is characterised as a 'very low' level of accessibility by TfGM, and level 8 a 'very high' level. The site is in an area with a GMAL rating of 5 and is considered appropriately situated to take advantage of existing public transport infrastructure within Openshaw.
- 4.4.5 The National Model Design Code – Part 2 (DLUHC (now MHCLG), 2021) states: *"Generally, people are prepared to walk further to a railway station or tram stop (10 minutes) [800m walking distance] than to a bus stop (5 minutes) [400m walking distance]."* These times and distances are also cited in the CIHT document 'Planning for Walking' (2015).
- 4.4.6 Accessibility by bus, Local Link, Metrolink, and rail are considered further below, with a local public transport network map included in **Figure 4.3** below:



**Figure 4.3 – Surrounding Public Transport Network**

(Source: TfGM)

### Bus Accessibility

- 4.4.7 Further CIHT guidance – from 'Buses in Urban Developments' (2018) – indicates that a bus stop should be located within the following walking distances from a new development based on its location and the number and frequency of services:

| Situation                                                   | Maximum Walking Distance |
|-------------------------------------------------------------|--------------------------|
| Core bus corridors with two or more high-frequency services | 500m                     |
| Single high-frequency routes (every 12 minutes or better)   | 400m                     |
| Less frequent routes                                        | 300m                     |
| Town/city centres                                           | 250m                     |

**Table 4.2** – CIHT Maximum Suggested Walking Distances to Bus Stops

4.4.8 The closest pair of bus stops, 'Aldi' on Ashton New Road to the north, are between c. 300m and 700m walking distance from all proposed dwellings. As detailed earlier in this report, 63% of dwellings will be provided by the four blocks of flats along the northern boundary of the site: the furthest of these would be c. 470m from the westbound bus stop, and c. 620m from the eastbound bus stop.

4.4.9 **Table 4.3** details the services that call at this stop, and their associated frequencies:

| Bus Service | Route                                                 | Peak Hourly Frequency |         |          |
|-------------|-------------------------------------------------------|-----------------------|---------|----------|
|             |                                                       | Mon – Fri             | Sat     | Sun/Hols |
| <b>216</b>  | Manchester – Clayton – Ashton – Stalybridge           | 10 mins               | 12 mins | 15 mins  |
| <b>230</b>  | Manchester – Clayton – Droylsden – Ashton             | 30 mins               | 30 mins | Hourly   |
| <b>231</b>  | Manchester – Clayton – Droylsden – Hartshead – Ashton | 30 mins               | 30 mins | Hourly   |
| <b>713</b>  | Newton Heath – Gorton – St Peter's High School        | Once per day          | -       | -        |

**Table 4.3** – Summary of Nearby Bus Services

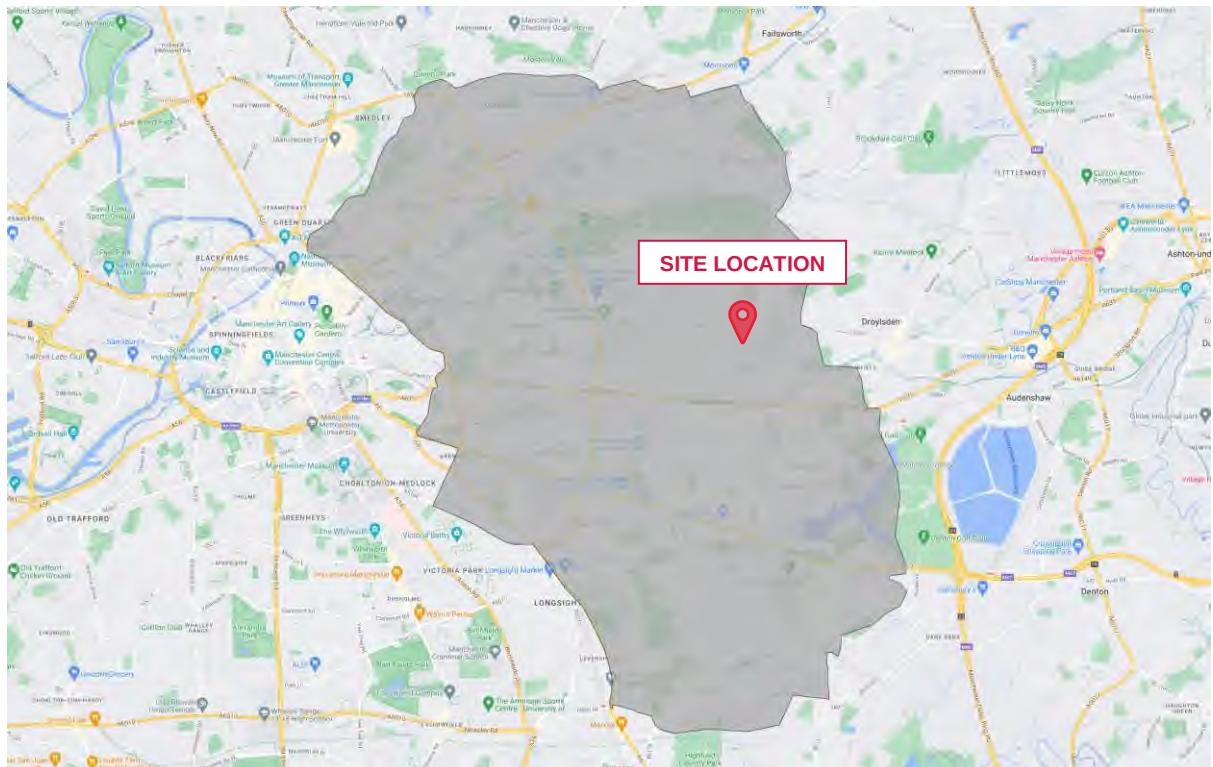
4.4.10 These stops provide frequent access across Manchester and areas of Greater Manchester.

4.4.11 It is considered that the site is accessible by bus.

#### **Local Link Accessibility**

4.4.12 Local Link offers a flexible transport service for local journeys in areas where public transport services are limited. Shared minibuses can be booked in advance by anyone to travel anywhere with a Local Link service area, with fares similar to busses.

4.4.13 The site is located within the East Manchester service area, as illustrated below. The service runs every day between 06:30 and 22:00 and can be used to access many areas, including Monsall, New Islington, Clayton, Gorton, and Belle Vue.



**Figure 4.4 – Map of East Manchester Local Link Service Area**  
(Source: TfGM)

### ***Rail Accessibility***

- 4.4.14 Gorton rail station would be between a c. 1,400m to 1,750m walk from all proposed dwellings. This lies outside the recommended distance for stations; however, it is within the 2,000m 'Preferred Maximum' walking distance for commuting trips, as defined by the CIHT, and is accessible by cycle.
- 4.4.15 There is step-free access across the whole station in the form of ramps to the platforms, which, in turn, can be accessed from Lees Street. There is a ticket office which is manned part-time. There is no cycle storage, but Northern Rail offers space for up to two bikes on all trains for no extra charge on a first-come, first-serve basis.
- 4.4.16 A summary of rail services from the rail station is outlined in **Table 4.4**:

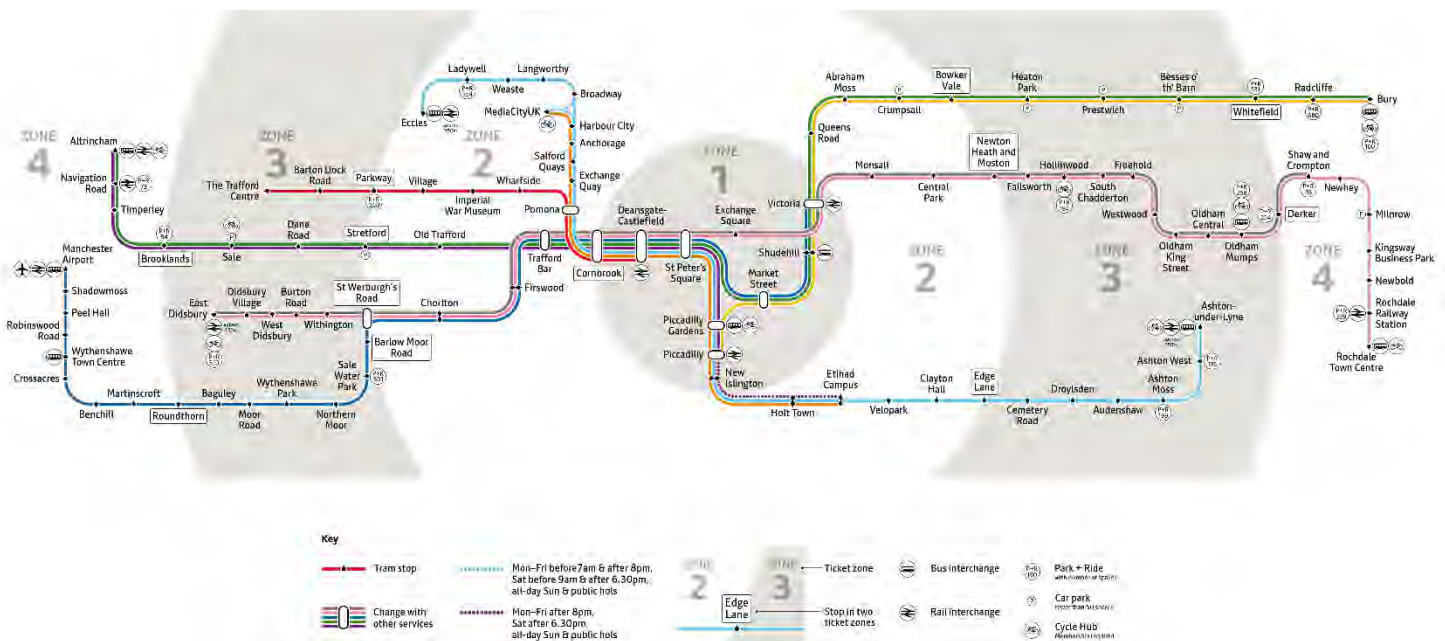
| Service                                   | Peak Service Frequency                              |                                                     |              |
|-------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|--------------|
|                                           | Weekday                                             | Saturday                                            | Sunday       |
| Manchester Piccadilly to Hadfield         | Four trains per day to Hadfield, five to Piccadilly | Four trains per day to Hadfield, five to Piccadilly | Twice hourly |
| Manchester Piccadilly to Rose Hill Marple | Hourly                                              | Hourly                                              | —            |

**Table 4.4 – Summary of Rail Services calling at Gorton**

- 4.4.17 The trains that service Gorton rail station run regularly 7 days a week to a number of different locations and residential areas within East Manchester and Greater Manchester; this provides access for residents of the site and is a viable alternative to private car use.
- 4.4.18 It is noted that the provision of rail services will change over time in response to current circumstances. The rail frequencies are accurate at the time of writing, whereas up-to-date rail times can be found on Northern Rail's website: <https://www.northernrailway.co.uk/stations/GTO>.
- 4.4.19 The site is connected to the rail network, particularly along the Rose Hill Marple line, and train would be a viable alternative to the private car for residents travelling to locations served by the train.

#### **Metrolink (Light Rail) Accessibility**

- 4.4.20 The nearest Metrolink station is Edge Lane, located between a c. 700m and 930m walk from all proposed dwellings. It is on the Eccles – Ashton line.
- 4.4.21 All lines run at a frequency of every 12 minutes between 06:00 – 00:00 on Mondays to Saturdays, every 24 minutes between 00:00 – 01:00 on Fridays and Saturdays, and every 15 minutes between 07:00 – 00:00 on Sundays. Some services operate for part of the day at busier times.
- 4.4.22 Users can change in the city centre to access the entire Metrolink network, as shown in the Metrolink map in **Figure 4.5**.



**Figure 4.5 – TfGM Metrolink Network Map**  
(Source: TfGM, 2024)

- 4.4.23 In summary, it is considered the site is highly accessible by Metrolink (light rail).

## **4.5 Summary**

- 4.5.1 It is considered the site is highly accessible by sustainable modes of transport, which are also usable by those with limited mobility and are wheelchair accessible. The surrounding area exhibits excellent levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the site.

## 5.0 Traffic Forecasting

### 5.1 Introduction

5.1.1 This section of the report details the methodology used to predict the demand associated with the proposed development and derive future year traffic flows in order to assess the impact of the site.

### 5.2 Scope of Assessment

5.2.1 TfGM has advised that the study area comprise any junctions likely to experience an increase of 30 vehicles per hour as a result of the development.

5.2.2 In line with this, the operation of the existing highway network has been assessed at the following locations:

- **Junction 1** – Louisa Street / Claytonbrook Road;
- **Junction 2** – Louisa Street / Old Lane; and
- **Junction 3** – Louisa Street / Ashton Old Road.

5.2.3 All three junctions are priority controlled.

5.2.4 The traffic surveys were undertaken on Wednesday 13<sup>th</sup> November 2024 for the weekday AM (07:00-10:00) and PM (16:00-19:00) hours for the junctions identified above. The surveys comprised turning counts and queue surveys at the above junctions.

5.2.5 The network peak hours have been derived as follows:

- AM: 08:00 – 09:00; and
- PM: 16:30 – 17:30.

5.2.6 **Traffic Figures 1 and 2** at the rear of the report show the 'Observed' peak hour traffic flows for the AM and PM peaks respectively. All Traffic Figures are provided in **Appendix B**.

5.2.1 As per recent applications in Manchester, consideration of changes in travel habits/working patterns associated with the post-Covid 19 world has taken place, with car travel to/from the Manchester expected to reduce – and not grow in the coming years – with the uptake in home working/flexible working. A reduction in peak hour trips to the city centre is also in line with the City Centre Transport Strategy to 2040.

5.2.2 It is considered that the 2024 surveys represent a robust baseline scenario for assessment. This has been an approach taken on other schemes in Manchester and accepted by MCC and TfGM.

### 5.3 Trip Distribution and Assignment

- 5.3.1 The data used for the proposed trip distribution has been calculated using information provided by the Census 2011 Origin-Destination information for the place of work at an MSOA (Middle Super Output Area) level.
- 5.3.2 The dataset used is the 'Location of Usual Residence and Place of Work by Method of Travel to Work' (MSOA Level). This is used and interrogated to find the destinations of trips to work from home-based origins centred around the middle super output area where the site is located per the 2011 Census.
- 5.3.3 The distribution has been calculated by considering the most likely route to be selected by residents at the proposed development to reach their place of employment, based on travel distances and times as suggested by online route planners. The route planner was undertaken during peak hours considering local traffic conditions, whereas the places of work analysed were inclusive of all 2011 Census merged local authority districts across England and Wales.
- 5.3.4 A summary of the projected traffic Census distribution is provided in **Appendix C**, whereas **Traffic Figure 3** included at the rear of this report illustrates the percentages of the traffic that passes through the assessed junctions, assigning traffic to each of the arms.

### 5.4 Forecasted Trip Generation

- 5.4.1 The trip generation figures utilised to predict the anticipated level of demand associated with the proposed residential uses on site have been informed by TRICS trip rates. TRICS is the industry recognised tool for calculating the anticipated future trip demand of a proposed development. The database contains multi-modal surveys of varying land uses in multiple destinations across the UK, including residential land uses.
- 5.4.2 The full search criteria used in the TRICS database are included in **Appendix D**, applying the following:
- Land Use: Houses Privately Owned and Flats Privately Owned
  - Regions: Great Britain
  - Location Type: Suburban Area and Edge of Town
  - Unit Range: 20 to 500 units
  - Date Range: from 1<sup>st</sup> January 2016 (TRICS default)
- 5.4.3 The peak hour trip rates and subsequent people trips associated with the proposed development is provided in **Table 5.1**. All trip rates are per one dwelling. It should be noted that the trip generation is based on 124 flats and 74 houses, slightly more than the 124 flats and 70 houses that is being proposed.

| Time Period         | Average Trip Rates |        |        | Average Trip Generation |        |       |
|---------------------|--------------------|--------|--------|-------------------------|--------|-------|
|                     | Arrive             | Depart | Total  | Arrive                  | Depart | Total |
| <b>Flats</b>        |                    |        |        |                         |        |       |
| AM (08:00 – 09:00)  | 0.081              | 0.464  | 0.545  | 10                      | 58     | 68    |
| PM (16:30-17:30)    | 0.29               | 0.1525 | 0.4425 | 36                      | 19     | 55    |
| Daily (07:00-21:00) | 2.635              | 2.624  | 5.259  | 327                     | 325    | 652   |
| <b>Houses</b>       |                    |        |        |                         |        |       |
| AM (08:00 – 09:00)  | 0.218              | 0.773  | 0.991  | 16                      | 57     | 73    |
| PM (16:30-17:30)    | 0.564              | 0.2675 | 0.8315 | 42                      | 20     | 62    |
| Daily (07:00-21:00) | 4.476              | 4.338  | 8.814  | 331                     | 321    | 652   |
| <b>Total</b>        |                    |        |        |                         |        |       |
| AM (08:00 – 09:00)  | –                  | –      | –      | 26                      | 115    | 141   |
| PM (16:30-17:30)    | –                  | –      | –      | 78                      | 39     | 116   |
| Daily (07:00-21:00) | –                  | –      | –      | 658                     | 646    | 1304  |

**Table 5.1** – Trip Rates and Generation

- 5.4.4 Dataset 'WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)' of the 2011 Census has been used to assist in determining the modal breakdown of these trips. The resulting modal split – using the Manchester 017 Middle Super Output Area (MSOA), where the site is located, as the place of residence, and England and Wales as the place of residence – is summarised below:

| Mode of Travel to Work                 | Total        | Percent     |
|----------------------------------------|--------------|-------------|
| Underground, metro, light rail or tram | 19           | 1%          |
| Train                                  | 87           | 3%          |
| Bus, minibus, or coach                 | 870          | 31%         |
| Taxi                                   | 21           | 1%          |
| Motorcycle, scooter or moped           | 5            | 0%          |
| Driving a car or van                   | 1,238        | 44%         |
| Passenger in a car or van              | 148          | 5%          |
| Bicycle                                | 80           | 3%          |
| On foot                                | 314          | 11%         |
| Other method of travel to work         | 11           | 0%          |
| <b>Total</b>                           | <b>2,793</b> | <b>100%</b> |

**Table 5.2** – 2011 Method of Travel to Work – Proposed Development

- 5.4.5 At the time of the 2011 Census, it was noted that only 0.7% of those who lived in Manchester 017 travelled to work by tram.

- 5.4.6 As detailed in **Section 4.4**, the site is well connected by tram, located near the Edge Lane tram stop (on the line to / from Ashton). This stop / line did not exist at the time of the 2011 Census, with the route map at the time provided below<sup>3</sup>:



**Figure 5.1** – 2010 Metrolink Route Map

- 5.4.7 Dataset 'TS061 - Method used to travel to work' of the 2021 Census demonstrates that 2.7% of those in the Manchester 017G Lower Super Output Area<sup>4</sup> where the site is located travelled to work by 'Underground, metro, light rail, tram'.
- 5.4.8 It is noted however that the 2021 Census was undertaken on Sunday 21st March 2021 amidst the Covid-19 pandemic. At this time, England was in the third national lockdown with a stay-at-home order, although restrictions had recently been loosened to reopen primary and secondary school and allow recreation in an outdoor public space between two people<sup>5</sup>. During lockdowns people were advised to avoid public transport where possible and *"the 2-metre social distancing rule would only leave effective capacity for one in ten passengers on many parts of the network."*<sup>6</sup>
- 5.4.9 Therefore, consideration has been given the rebounding of Metrolink usage following the pandemic, and how this affect the proportion of residents of the proposed development that can be expected to travel to work by tram.
- 5.4.10 The Department for Transport's Light Rail and Tram Statistics shows the number of passenger journeys on Metrolink more than quadrupled between 2021 (10.3 million) and 2024 (42.0 million). This equates to a factor of 408%.
- 5.4.11 As such, the modal split has been adjusted to account for the change in tram usage between 2011 and the present, as detailed by **Figure 5.3** below. The underlying modal share used is from 2021 for tram and 2011 for all other modes. The 2021 tram modal share has been uplifted by 408% to account for the

<sup>3</sup> <https://www.manchestereveningnews.co.uk/news/greater-manchester-news/gallery/12-maps-show-how-metrolink-27339128>

<sup>4</sup> The difference in the level of geography analysed for the 2011 and 2021 Censuses related to: 1) MSOAs being the lowest level of geography available for dataset WU03EW of the 2011 Census, and 2) The site is located at the northern boundary of the MSOA and LSOA, so most of each is further away from the tram stop than the site. Dataset TS061 of the 2021 Census shows that 2.0% of people in the Manchester 017 MSOA travel to work by tram, lower than the LSOA.

<sup>5</sup> <https://www.instituteforgovernment.org.uk/data-visualisation/timeline-coronavirus-lockdowns>

<sup>6</sup> <https://www.gov.uk/government/news/new-guidance-published-to-ensure-transport-network-is-safe-for-those-who-need-to-use-it>

change in patronage between 2021 and 2024. The difference between the '2024' and 2011 tram modal shares has been subtracted from the 2011 car driver modal share.

| Mode of Travel to Work                 | Percent     |
|----------------------------------------|-------------|
| Underground, metro, light rail or tram | 11%         |
| Train                                  | 3%          |
| Bus, minibus, or coach                 | 31%         |
| Taxi                                   | 1%          |
| Motorcycle, scooter or moped           | 0%          |
| Driving a car or van                   | 34%         |
| Passenger in a car or van              | 5%          |
| Bicycle                                | 3%          |
| On foot                                | 11%         |
| Other method of travel to work         | 0%          |
| <b>Total</b>                           | <b>100%</b> |

**Table 5.3** – Adjusted Method of Travel to Work – Proposed Development

5.4.12 **Figure 5.4** below provides the trip generation broken down by mode, using the adjusted modal split:

| Mode of Travel   | AM (08:00 – 09:00) |        |           | PM (16:30 – 17:30) |        |           | Daily (07:00 – 21:00) |        |       |
|------------------|--------------------|--------|-----------|--------------------|--------|-----------|-----------------------|--------|-------|
|                  | Arrive             | Depart | Total     | Arrive             | Depart | Total     | Arrive                | Depart | Total |
| Car Driver       | 9                  | 39     | <b>48</b> | 26                 | 13     | <b>40</b> | 223                   | 219    | 443   |
| Car Passenger    | 1                  | 6      | 7         | 4                  | 2      | 6         | 35                    | 34     | 69    |
| Public Transport | 12                 | 52     | 64        | 35                 | 18     | 53        | 298                   | 293    | 591   |
| Bicycle          | 1                  | 3      | 4         | 2                  | 1      | 3         | 19                    | 19     | 37    |
| On foot          | 3                  | 13     | 16        | 9                  | 4      | 13        | 74                    | 73     | 147   |
| Other            | 0                  | 2      | 2         | 1                  | 1      | 2         | 9                     | 9      | 17    |

**Table 5.4** – Trip Generation by Method of Travel to Work – Proposed Development

5.4.13 As shown above, the proposed development could generate 48 and 40 two-way vehicle movements in the observed AM and PM peak hours. This has been incorporated with the turning proportions to produce traffic flows within **Traffic Figures 4 and 5**.

5.4.14 The trip generation has been based entirely upon TRICS surveys of private dwellings, due to the lower sample size for affordable dwellings. TRICS research<sup>7</sup> indicates that affordable dwellings generate fewer vehicle trips than private dwellings, given an element of the application scheme will include affordable housing, the actual trip generation may be lower than indicated above.

5.4.15 The assessments of trip generation and distribution have been undertaken on the basis of employment trips only. In practice, trips, even during the weekday peak hours, comprise a variety of journey

<sup>7</sup> [https://www.trics.org/img/TRICS%20Residential%20Sub-Category%20Comparative%20Analysis%20\(2022\).pdf](https://www.trics.org/img/TRICS%20Residential%20Sub-Category%20Comparative%20Analysis%20(2022).pdf)

purposes, including education, retail and recreation / leisure. Trips for these other journey purposes are typically less car-reliant and travelling to closer locations than employment trips.

5.4.16 It should also be noted that static trip rates from 2016 to 2024 have been used. Analysis of the TRICS database<sup>8</sup> has demonstrated that vehicle trips for dwellings fell by 12% for the daily peak between 1999-2003 and 2014-2018, a trend which is likely to continue into the future.

5.4.17 There is generally a strong positive correlation between parking provision and the two-way vehicle trip rates / vehicle modal share. The relatively low parking provision at the proposed development, compared to the existing dwellings in wider area used to derive the modal split, would likely further reduce the vehicle modal share, and resulting vehicle trips.

## 5.5 Assessment Traffic Flows

5.5.1 The development traffic flows have been added to the Observed scenario to form the Observed + Proposed Development traffic flows. The resultant figures are set out in **Traffic Figures 6** and **7**.

5.5.2 **Table 5.5** below summarises the two-way vehicular movements through the junctions considered resulting from the proposed development:

| Junction                          | AM Peak | PM Peak | Daily |
|-----------------------------------|---------|---------|-------|
| Louisa St / Claytonbrook Rd       | 48      | 39      | 443   |
| Louisa St / Old Ln                | 48      | 39      | 443   |
| Louisa St / Ashton Old Rd         | 41      | 34      | 381   |
| Ashton Old Rd / Alan Turing Way   | 21      | 9       | 133   |
| Ashton Old Rd / Turton St         | 4       | 3       | 38    |
| Old Ln / Sandywell St / Wheler St | 7       | 6       | 62    |
| Edge Ln / Ashton New Rd           | 6       | 5       | 56    |

**Table 5.5** – Summary of Vehicular Impact

5.5.3 As demonstrated above, Louisa Street / Claytonbrook Road, Louisa Street / Old Lane, and Louisa Street / Ashton Old Road are the only junctions to meet TfGM's threshold for undertaking surveys and junction modelling.

<sup>8</sup> TRICS Guidance Note on Changes in Travel Behaviour (August 2019)

## 6.0 Capacity Assessments

### 6.1 Introduction

6.1.1 As part of this TA, the future year operation of the local highway network has been assessed at the following locations.

- **Junction 1** – Louisa Street / Claytonbrook Road;
- **Junction 2** – Louisa Street / Old Lane; and
- **Junction 3** – Louisa Street / Ashton Old Road.

6.1.2 The above junctions all operate under priority control and have been modelled utilising TRL's JUNCTIONS program.

6.1.3 JUNCTIONS results refer to the Ratio of Flow to Capacity (RFC), delay and queue length predicted on each arm of the junction. An RFC of 1.00 indicates that the arm in question is operating at its theoretical capacity, whilst an RFC of 0.85 or less indicates that the arm is operating within its practical capacity.

6.1.4 The results from the junction assessments are shown in the following section and the relevant junction modelling output reports are attached in **Appendix E** to the rear of this report.

### 6.2 Modelling Results

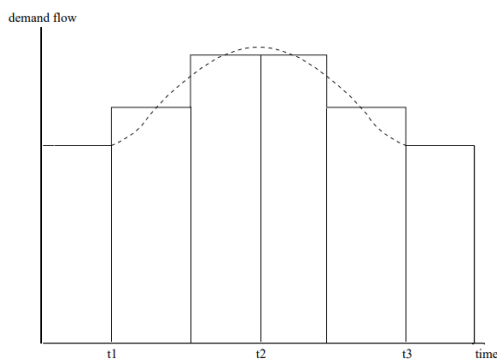
6.2.1 **Tables 6.1** presents a summary of the PICADY results for peak flows during Observed and Observed + Development scenarios, using the 'ONE HOUR' profile for all junctions.

| Junction                        | Lane Descriptor            | AM Peak |       |      | PM Peak |       |      |
|---------------------------------|----------------------------|---------|-------|------|---------|-------|------|
|                                 |                            | Queue   | Delay | RFC  | Queue   | Delay | RFC  |
| Observed                        |                            |         |       |      |         |       |      |
| 1 - Louisa St / Claytonbrook Rd | Louisa St                  | 0.1     | 8.16  | 0.07 | 0.0     | 6.79  | 0.02 |
|                                 | Claytonbrook Rd (East)     | 0.0     | 0.00  | 0.00 | 0.0     | 0.00  | 0.00 |
|                                 | Access                     | 0.1     | 7.24  | 0.07 | 0.1     | 7.02  | 0.05 |
|                                 | Claytonbrook Rd (West)     | 0.0     | 0.00  | 0.00 | 0.0     | 0.00  | 0.00 |
| 2 - Louisa Str / Old Ln         | Old Ln                     | 0.4     | 9.71  | 0.31 | 0.1     | 7.89  | 0.13 |
|                                 | Louisa St (South)          | 0.4     | 8.02  | 0.24 | 0.2     | 5.89  | 0.15 |
| 3 - Louisa St / Ashton Old Rd   | Louisa St                  | 3.1     | 40.41 | 0.77 | 0.7     | 17.76 | 0.40 |
|                                 | Ashton Old Rd (East) Ahead | 3.6     | 9.57  | 0.65 | 1.7     | 8.21  | 0.49 |
|                                 | Ashton Old Rd (East) Right | 0.2     | 10.10 | 0.64 | 0.4     | 11.22 | 0.56 |
| Observed + Proposed             |                            |         |       |      |         |       |      |
| 1 - Louisa St / Claytonbrook Rd | Louisa St                  | 0.1     | 8.21  | 0.09 | 0.1     | 7.21  | 0.07 |
|                                 | Claytonbrook Rd (East)     | 0.0     | 0.00  | 0.00 | 0.0     | 0.00  | 0.00 |
|                                 | Access                     | 0.1     | 7.36  | 0.07 | 0.1     | 7.15  | 0.05 |
|                                 | Claytonbrook Rd (West)     | 0.0     | 0.00  | 0.00 | 0.0     | 0.00  | 0.00 |

| Junction                      | Lane Descriptor            | AM Peak |       |      | PM Peak |       |      |
|-------------------------------|----------------------------|---------|-------|------|---------|-------|------|
|                               |                            | Queue   | Delay | RFC  | Queue   | Delay | RFC  |
| 2 - Louisa St / Old Ln        | Old Ln                     | 0.5     | 10.06 | 0.32 | 0.2     | 8.20  | 0.14 |
|                               | Louisa St (South)          | 0.4     | 8.37  | 0.26 | 0.3     | 6.29  | 0.20 |
| 3 - Louisa St / Ashton Old Rd | Louisa St                  | 7.3     | 86.51 | 0.92 | 0.8     | 20.02 | 0.45 |
|                               | Ashton Old Rd (East) Ahead | 3.7     | 9.70  | 0.65 | 2.4     | 10.94 | 0.58 |
|                               | Ashton Old Rd (East) Right | 0.2     | 10.27 | 0.64 | 0.6     | 14.24 | 0.62 |

**Table 6.1** – Modelling Results – ONE HOUR profile

- 6.2.2 Based on the results shown in **Table 6.1**, Junctions 1 and 2 are predicted to operate well within practical capacity under both assessment scenarios.
- 6.2.3 All lanes of Junction 3 are predicted to operate within practical capacity in the Observed scenario, while all lanes except Louisa Street in the AM Peak would also be within practical capacity in the Observed + Development scenario. Using the 'ONE HOUR' profile, the RFC is predicted to increase from 0.77 to 0.92 – which is above practical, but within theoretical, capacity – for Louisa Street. As with all other junctions / lanes, Louisa Street would remain well within practical capacity during the PM Peak.
- 6.2.4 As indicated below, PICADY's 'ONE HOUR' profile shapes the demand into a 'peak profile', where the demand for the first time segment starts off lower than the entered demand (about 75%), rises to a higher value and then decreases again.



**Figure 6.1** - ONE HOUR profile

- 6.2.5 **Figure 6.2** below details the total vehicular movements observed travelling through the three junctions by 15-minute interval during the AM and PM peak hours:

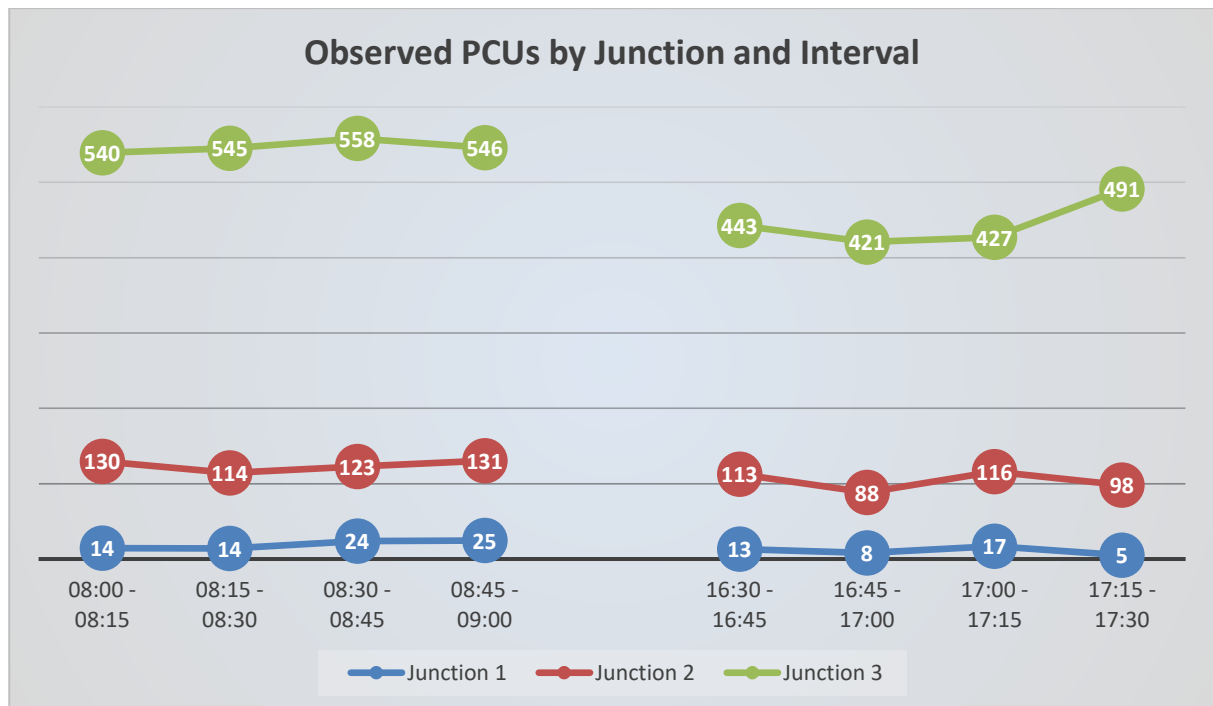


Figure 6.2 – Total Observed PCU by Junction and Interval

- 6.2.6 The maximum value (558 PCU) for the AM Peak is 3.5% higher than minimum (540 PCU) for Junction 3. As such, it is considered that the ONE HOUR profile is not an accurate representation of how Junction 3 operates during the AM Peak. As presented below, Junction 3 has also been modelled using a FLAT profile during the AM Peak.

| Junction                      | Lane Descriptor            | AM Peak |       |      |
|-------------------------------|----------------------------|---------|-------|------|
|                               |                            | Queue   | Delay | RFC  |
| Observed                      |                            |         |       |      |
| 3 - Louisa St / Ashton Old Rd | Louisa St                  | 1.8     | 25.45 | 0.65 |
|                               | Ashton Old Rd (East) Ahead | 2.8     | 8.25  | 0.59 |
|                               | Ashton Old Rd (East) Right | 0.2     | 8.73  | 0.58 |
| Observed + Proposed           |                            |         |       |      |
| 3 - Louisa St / Ashton Old Rd | Louisa St                  | 3.2     | 40.24 | 0.77 |
|                               | Ashton Old Rd (East) Ahead | 2.8     | 8.34  | 0.59 |
|                               | Ashton Old Rd (East) Right | 0.2     | 8.87  | 0.59 |

Table 6.2 – Modelling Results – FLAT profile during AM Peak for Junction 3

- 6.2.7 As can be seen above, using the more appropriate FLAT profile, Junction 3 is predicted to operate below practical capacity in the AM Peak.
- 6.2.8 The less than 15 second increase in queuing would be indiscernible to drivers.
- 6.2.9 Based on the above, the increases are not considered significant or severe in the context of the NPPF for any junction or period.

## **6.3 Conclusions**

- 6.3.1 It has been demonstrated in this Transport Assessment that all junctions in the vicinity of the site are predicted to operate safely with a sufficient amount of residual capacity available following completion of the proposed development.
- 6.3.2 It is not considered that the change in traffic between the proposed development and the observed scenario would have a significant or severe impact on any of the assessed junctions in the context of the NPPF.

## 7.0 Transport Planning Policy

### 7.1 Introduction

- 7.1.1 The following section sets out key local and national transport planning policies, and how the proposals relate to them.

### 7.2 National Planning Policy Framework (2024)

- 7.2.1 The National Planning Policy Framework (NPPF) sets out the current national transport planning policy and outlines the important role that transport policies have to play in facilitating sustainable development.

- 7.2.2 Paragraph 11 states that:

*“Plans and decisions should apply a presumption in favour of sustainable development.”*

- 7.2.3 Section 9 of the NPPF is entitled *Promoting Sustainable Transport* and outlines the important role that transport policies have to play in facilitating sustainable development. The section states that:

*“The planning system should actively manage patterns of growth ...Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.”*

- 7.2.4 The document emphasises the need for developments to offer a choice of sustainable modes of transport to *“reduce congestion and emissions and improve air quality and public health”* and provide *“safe and suitable access”* for all users.

- 7.2.5 Paragraph 115 of the NPPF states that in assessing sites that may be allocated for development in plans, or specific applications in development, it should be ensured that:

- a) *“sustainable transport modes are prioritised taking account of the vision for the site, 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 through a vision-led approach.”*

- 7.2.6 The development proposals have shown that safe and suitable access to the site will be achieved. Additionally, the site is located within a highly accessible area, and it is not anticipated that the proposals would result in any significant impacts on the highway network.

7.2.7 Paragraph 116 of the NPPF states that:

*“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, following mitigation, would be severe, taking into account all reasonable future scenarios.”*

7.2.8 The traffic impact assessment shows that all of the junctions in the vicinity of the site are forecast to operate within capacity without and with the proposed development. The impact of the development traffic passing through the junctions is minor and it is reasonable to conclude that the impact is not significant or severe in the context of the NPPF.

7.2.9 Paragraph 117 of the NPPF states that applications for development should:

- *“Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *Allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

7.2.10 The proposed development is situated in an accessible location. There is good walking and cycling infrastructure adjacent to the site, and the public transport network is accessible within short walking distance. The proposed development has been designed to promote active travel and sustainable transport, with appropriate servicing facilities.

7.2.11 The proposed development accords with the general principles of the NPPF.

### 7.3 National Planning Practice Guidance (NPPG)

7.3.1 In addition to the NPPF, National Planning Practice Guidance (NPPG) has been developed by the Department for Communities and Local Government (DCLG; now the MHCLG) in 2014. It brings together planning practice guidance for England and sits alongside the NPPF. Within this document there is a specific section that clarifies the over-arching principles on Travel Plans, Transport Assessments and Transport Statements. The guidance states that:

*“Travel Plans, Transport Assessments and Statements can positively contribute to:*

- *Encouraging sustainable travel;*

- *Lessening traffic generation and its detrimental impacts;*
- *Reducing carbon emissions and climate impacts;*
- *Creating accessible, connected, inclusive communities;*
- *Improving health outcomes and quality of life;*
- *Improving road safety; and*
- *Reducing the need for new development to increase existing road capacity or provide new roads.”*

7.3.2 The guidance on Transport Assessments and Statements re-iterates the circumstances in which either document would usually be required. It is clear that a development of the size and nature of this development requires a Transport Statement. It also clarifies the process for establishing a scope for what the documents should contain. The NPPG has been considered in the production of this TS and the accompanying Interim Travel Plan (Document Reference: **086840-CUR-XX-XX-T-TP-00002**).

7.3.3 As outlined above, this TS demonstrates that the site is accessible by active and sustainable modes of travel, and that safe and suitable access can be gained to the development. The development proposals therefore apply the principles set out in the NPPG and will seek to create a sustainable development and make a positive contribution to the local area.

## **7.4 Manchester Core Strategy (2012 – 2027)**

7.4.1 The Manchester Core Strategy promotes similar principles to the NPPF. It contains three specific “Transport” policies, comprising:

- Policy T1 – Sustainable Transport;
- Policy T2 – Accessible Areas of Opportunity and Need; and
- Policy T3 – Strategic Integration.

7.4.2 Policy T1 focuses on sustainable transport and access for all. The accessibility of the site would encourage users of the proposed development to travel by sustainable modes.

7.4.3 Policy T2 of the Manchester Core Strategy states:

*“The Council will actively manage the pattern of development to ensure that [outside the City Centre] ... all new development should provide appropriate car parking facilities, taking account of the guidance in appendix B... In all parts of the City proposals should have regard to the need for disabled and cycle parking, in line with appendix B.”*

7.4.4 It is considered the proposed parking provision is reflective of the highly accessible nature of the development, whilst considering the realistic requirements of the users. The development would benefit from sustainable transport links across the city centre. The Council notes that it “will take the circumstances of each proposal into account to establish what level of parking is appropriate.”

7.4.5 Appendix B does not specify parking requirements for residential developments.

- 7.4.6 Policy T3 is in relation to strategic integration of developments with the sustainable transport network. The proposed development would not prejudice the implementation of any of the strategic integration projects.

## 7.5 Greater Manchester Transport Strategy 2040

- 7.5.1 In 2021, TfGM updated the 2040 Vision for Transport to deliver a transport system which enables residents, businesses, and visitors in Greater Manchester to travel to a wide range of different destinations and opportunities, and where sustainable transport can be a viable and attractive alternative to the car.

- 7.5.2 Under Policy 3, the Transport Strategy states that TfGM will “maintain a programme of interventions designed to encourage people to make sustainable journeys. We will support this through journey planning tools and information to encourage travel behaviour change and mode shift, and in order to make the most efficient use of available capacity (particularly during peak periods).” Such interventions comprise:

- *“Reducing the carbon and environmental cost of journeys;*
- *New ways of working which make the best use of the transport network;*
- *Maximising the benefit of new, integrated transport infrastructure and services;*
- *Delivering public health benefits through enabling more active travel;*
- *Supporting town and city centre economic vitality and sustainability;*
- *Improving access to key services and jobs;*
- *Maximising sustainable travel in new developments; and*
- *Becoming more resilient to disruption.”*

- 7.5.3 The above measures and additional initiatives have also been provided in greater detail in the accompanying Interim Travel Plan (**Document Reference 086840-CUR-XX-XX-T-TP-00002**).

- 7.5.4 Under Policy 4, TfGM will also “work with developers to ensure that new developments are accessible by sustainable modes, and to reduce transport emissions and impacts on the highway network.” This will be in accordance with the principles of:

- *“Reducing the need to travel;*
- *Reducing the need to travel by car, and the distance travelled;*
- *Maximising accessibility by sustainable modes;*
- *Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;*
- *Maximising opportunities to provide additional public transport; and*
- *Designing to encourage active travel.”*

- 7.5.5 It is considered that the development proposals will not adversely impact the transport network, and instead would support the Transport Strategy by enhancing opportunities for sustainable travel by integrating into existing infrastructure.

## 7.6 Manchester Residential Quality Guidance

- 7.6.1 In 2017, MCC adopted the Manchester Residential Quality Guidance which sets out the standards of design for residential developments in the city. It is structured around nine components to ensure high-quality developments: make it happen, make it a home, make it future proof, make it practical, make it Manchester, make it bring people together, make it animate street and spaces, make it easy to get around, make it work with the landscape.

- 7.6.2 The guidance does not require a specific level of car parking as *“there is no ‘one size fits all’ approach to car parking and it should be considered on a case-by-case basis”*.

- 7.6.3 MCC stipulates in the document that development proposals:

- *“Incorporate sufficient car parking in an appropriate location that does not harm pedestrian movement;*
- *Provide secure cycle parking for residents and visitors, which is safe and convenient and within the envelope of the building;*
- *Provide sufficient bin storage to accord with MCC’s standards and is conveniently located with minimal impact on the streetscene; and*
- *Have considered where temporary stopping could be accommodated”*

## 7.7 Places for Everyone (PfE) Plan

- 7.7.1 The Places for Everyone Plan was adopted by nine Greater Manchester local authorities – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, and Wigan – in March 2024. PfE forms part of the Development Plan for Manchester.

- 7.7.2 The transport-related policies within PfE are as follows:

- Policy JP-C1 – An Integrated Network;
- Policy JP-C3 – Public Transport;
- Policy JP-C4 – The Strategic Road Network;
- Policy JP-C5 – Streets for All;
- Policy JP-C6 – Walking and Cycling;
- Policy JP-C7 – Freight and Logistics; and
- Policy JP-C8 – Transport Requirements of New Development.

- 7.7.3 Transport Requirements of New Development states:

*“We will require new development to be located and designed to enable and encourage walking, cycling and public transport use, to reduce the negative effects of car dependency, and help deliver high quality, attractive, liveable and sustainable environments.*

*We will do this by:*

*Connectivity and Permeability*

1. *Prioritising safe and convenient access to the site and buildings for all users in accordance with the user hierarchy in Policy JP-C1 'An Integrated Network', including;*
  - *Prioritising new and enhanced walking, cycling and public transport routes and stops, through and around the site. These routes should:*
    - *be direct, safe and convenient;*
    - *connect to nearby facilities, employment areas, public transport stops; and*
    - *improve the coverage, quality and integration of the wider walking and cycling infrastructure and public transport provision;*
  - *Ensuring that the layout, design and landscaping of development prioritises the provision of safe, secure and attractive access to local services and facilities for pedestrians, cyclists and people with a disability; and*
  - *Ensuring that new development is connected visually and physically; within the site and to the surrounding built environment;*
2. *Ensure appropriate connectivity to the existing highway network;*

*Design*

3. *Reducing the need to travel by ensuring that community facilities, services and amenities are provided within the site or within walking distance of new development;*
4. *Incorporating highway design at a human scale using street-based prescriptions such as those within Manual for Streets and/or any locally adopted design guidance, to ensure that highways do not dominate the development;*

*Public Transport*

5. *Ensuring (through funding improvements where appropriate) that the nearest public transport stops (both within and adjacent to the development site) are attractive to users in terms of seating, shelters, information and easy step-free access;*

6. *Subsidising new or amended public transport services where the development would otherwise have inadequate public transport access;*

Parking Infrastructure

7. *Making adequate car parking provision, including for disabled drivers and passengers;*
8. *Ensuring that car parking provision is well integrated and unobtrusive, so it supports the street scene; and where appropriate parking provision is flexible and can be adapted over time to reflect demand;*
9. *Incorporating enough secure and covered cycle parking to meet long-term demand from occupiers and visitors in a convenient location that helps to maximise its use, and for workplaces, where appropriate providing:*
  - *Showers, changing facilities and lockers for cyclists and walkers,*
  - *Pool or hire bikes for use by occupiers,*
  - *Information in advance about facilities to visitors.*
10. *Promoting alternatives to car ownership, such as the use of ULEV car clubs rather than the provision of private car parking spaces;*
11. *Promoting the increased provision of ULEV charging infrastructure including meeting any standards set by local plans;*
12. *Providing for overnight parking and rest areas, with appropriate facilities, for heavy goods vehicle drivers, where the development is likely to generate demand, and it is appropriate to the location;*

Access and Servicing

13. *Providing designated pick-up/drop-off points for taxis and other demand-responsive transport services where appropriate, taking into account the potential increase in demand if car ownership falls;*
14. *Making appropriate provision for deliveries and servicing (including requiring Delivery and Servicing Plans for appropriate developments), in a way that:*
  - *meets road safety requirements,*
  - *reduces transport emissions and other environmental impacts,*

- *reduces traffic congestion, the number of vehicle movements and the need for repeat deliveries.*

#### Construction Management

15. *Ensuring Construction Management Plans are produced for developments, where appropriate, to mitigate construction logistics and environmental impacts including air quality and noise on the surrounding area and encourage sustainable deliveries;*

#### Transport Assessments

16. *Planning applications will be accompanied by a Transport Assessment / Transport Statement and Travel Plan where appropriate, in order to assess impacts and determine the most appropriate mitigation on the SRN and local transport network. Where a Transport Assessment is required, this should start with a vision of what the development/allocation is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision. Consultation should be undertaken, at pre-application stage, with the relevant local highway authorities to agree which committed developments / allocations and which potential transport interventions should be considered, with reference to Appendix D, as appropriate;*
17. *Planning applications which are required to be accompanied by a Transport Assessment will need to consider air quality impacts on Holcroft Moss, within the Manchester Mosses Special Area of Conservation (SAC). Any proposals that would result in increased traffic flows on the M62 past Holcroft Moss of more than 100 vehicles per day or 20 Heavy Goods Vehicles (HGVs) per day must devise a scheme-specific range of measures to reduce reliance on cars, reduce trip generation and promote ultra-low emission vehicles and provide a contribution towards restoration measures in accordance with the Holcroft Moss Habitat Mitigation Plan."*

7.7.4 The proposed development accords with the principles and requirements of PfE.

## **7.8 Conclusions**

- 7.8.1 It is considered that the proposed development is in line with national and local transport policies and guidance. The site is located within an area which has a range of existing local facilities and plenty of sustainable travel choices.

## 8.0 Summary and Conclusions

### 8.1 Summary

- 8.1.1 Curtins has been appointed by Keepmoat to provide transport and highways advice in relation to a planning application for a residential development in Openshaw, Manchester.
- 8.1.2 A review of baseline conditions and highway safety in the vicinity of the site has been undertaken. It is not considered that there is an existing highway safety issue that is likely to be exacerbated by the proposed development.
- 8.1.3 Relevant details of the proposed site layout, access, parking facilities, and servicing arrangements have been provided.
- 8.1.1 The site is accessible by sustainable modes of transport. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are several public transport opportunities within acceptable walking distance of the site.
- 8.1.2 The traffic impact assessment shows that all of the junctions in the vicinity of the site are forecast to operate within capacity without and with the proposed development. The impact of the development traffic passing through the junctions is minor and it is reasonable to conclude that the impact is not significant or severe in the context of the NPPF.
- 8.1.3 Additionally, measures are proposed in the accompanying Interim Travel Plan to increase the level of walking, cycling and public transport use to and from the site, and to reduce reliance on the private car.
- 8.1.4 A review of relevant local and national transport planning guidance has been undertaken. It is considered that the proposed development conforms with such policy.

### 8.2 Conclusions

- 8.2.1 It is Curtins' view that from a highways and transport perspective there are no reasons why the development proposals should not be granted planning approval.

Plans



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Project:  
CRABTREE LANE - OPENSHAW

Status:  
PRELIMINARY

Drg Title:  
SITE LOCATION  
REGIONAL VIEW

Drawn By: JM Checked By: AT

Designed By: JM Date: 07/10/21

Scale: NTS

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

79458 - CUR - 00 - XX - DR - TP - 06001 - P01



KEY:



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Project:  
CRABTREE LANE - OPENSHAW

Status:  
PRELIMINARY

Drg Title:  
SITE LOCATION  
LOCAL VIEW

Drawn By: JM Checked By: AT

Designed By: JM Date: 07/10/21

Scale: NTS

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

79458 - CUR - 00 - XX - DR - TP - 06002 - P01



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Project:  
CRABTREE LANE - OPENSHAW

Status:  
PRELIMINARY

Drg Title:  
ACCESSIBILITY  
INDICATIVE WALKING CATCHMENT

Drawn By: JM Checked By: AT

Designed By: JM Date: 07/10/21

Scale: NTS

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

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Project:  
CRABTREE LANE - OPENSHAW

Status:  
PRELIMINARY

Drg Title:  
ACCESSIBILITY  
INDICATIVE CYCLE CATCHMENT

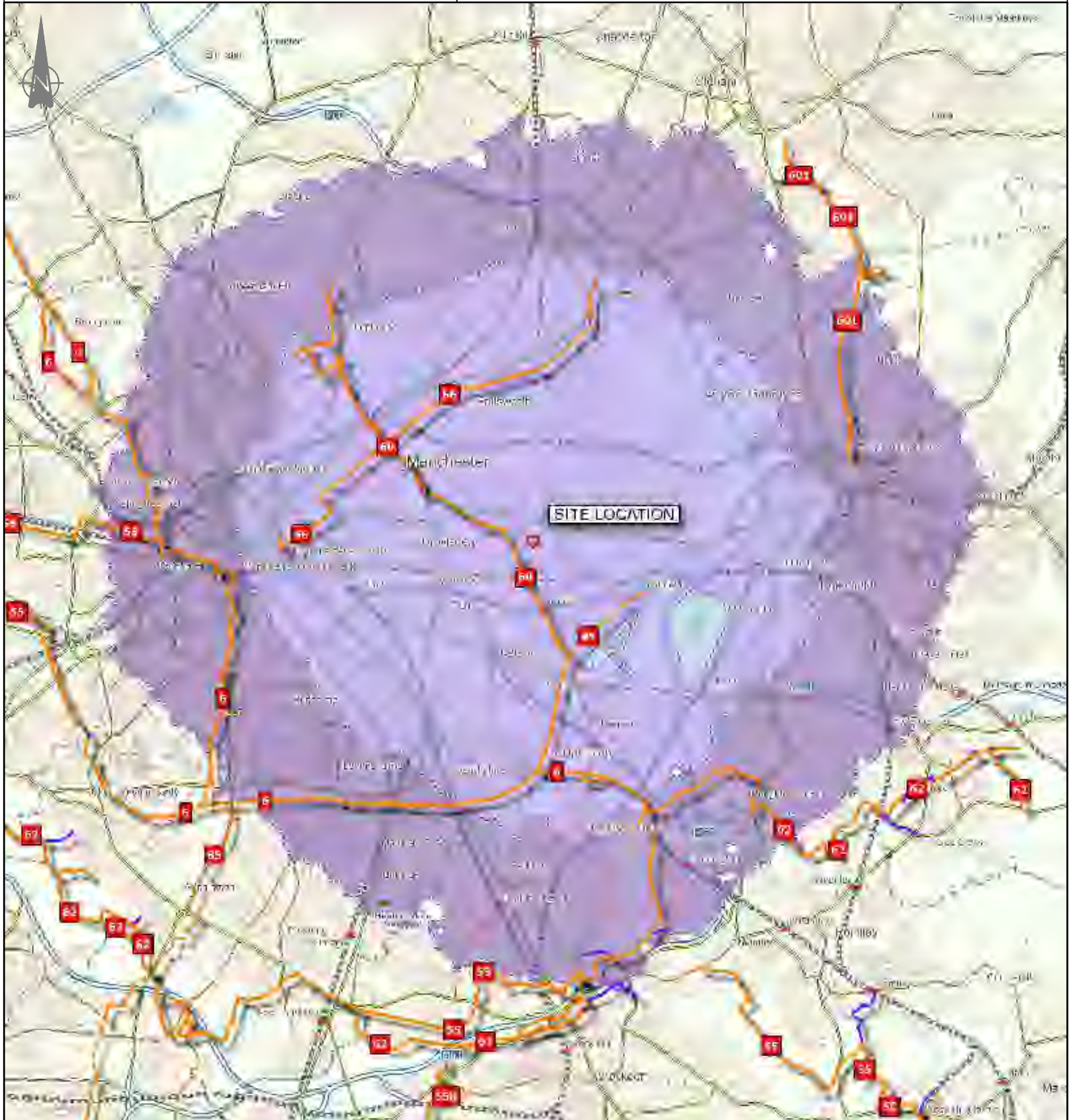
Drawn By: JM Checked By: AT

Designed By: JM Date: 07/10/21

Scale: NTS

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

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Project:  
CRABTREE LANE - OPENSHAW

Status:  
PRELIMINARY

Drg Title:  
ACCESSIBILITY  
INDICATIVE PUBLIC  
TRANSPORT CATCHMENT

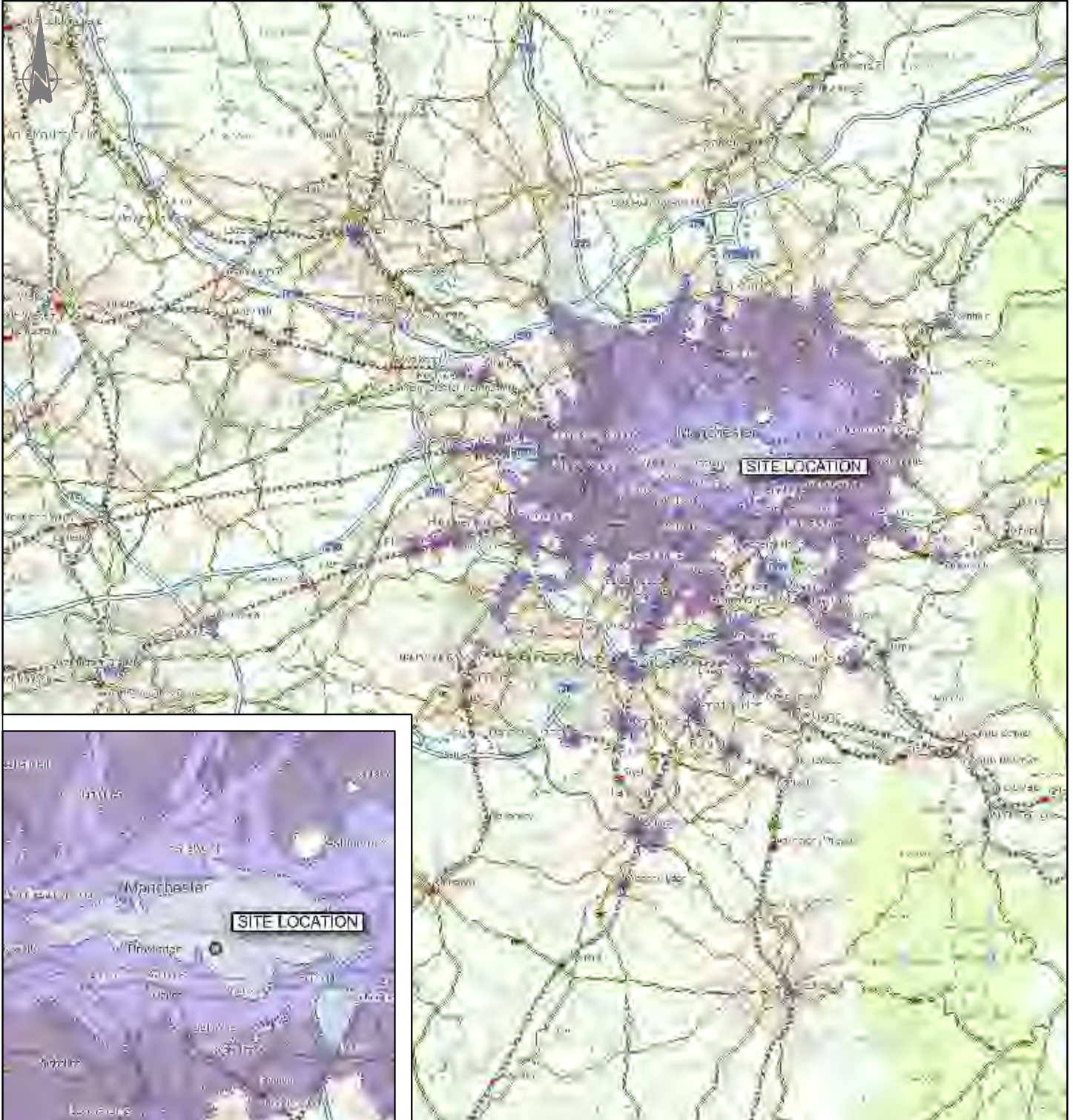
Drawn By: JM Checked By: AT

Designed By: JM Date: 07/10/21

Scale: NTS

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

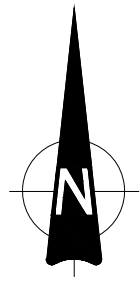
79458 - CUR - 00 - XX - DR - TP - 06005 - P01



KEY:

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Drawings



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- BASED ON LAND SURVEY

KEY: — RED LINE BOUNDARY (as supplied by JTP)  
— PROPOSED RAISED KERB  
— PROPOSED ROAD MARKINGS  
— PROPOSED FLUSH KERB / BACK OF FOOTWAY

|      |                                                                 |          |     |       |
|------|-----------------------------------------------------------------|----------|-----|-------|
| P05  | Site layout and access arrangement updated                      | 28/03/25 | MQ  | AT    |
| P04  | Site layout and access arrangement updated                      | 20/02/25 | MQ  | AT    |
| P03  | Site layout and red line updated                                | 31/01/25 | MQ  | AT    |
| P02  | Topo survey updated. Site layout and access arrangement updated | 13/01/25 | MQ  | AT    |
| Rev: | Description:                                                    | Date:    | By: | Chkd: |

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|---------------------------------------------------------------------------|------------------------------|-------------|----------|----------------------|
| Status:                                                                   | PRELIMINARY                  |             |          |                      |
| Project:                                                                  | TPMA CRABTREE LANE, OPENSHAW |             |          |                      |
| Dwg Title:                                                                | PROPOSED ACCESS ARRANGEMENT  |             |          |                      |
| Drawn By                                                                  | MQ                           | Designed By | MQ       | Checked By           |
|                                                                           |                              |             |          | AT                   |
|                                                                           |                              | Date        | 22/11/24 | Scales @ A1<br>1:500 |
| Project No - Originator - Function - Spatial - Form - Discipline - Number |                              |             |          | Revision             |
| 86840 - CUR - XX - 00 - D -TP- 75001                                      |                              |             |          | P05                  |

\\ms-b-1\Projects\086001 - 087000\086840 - TPMA Crabtree Lane, Openshaw\04-Production\04-Models Drawings\TPCAD075

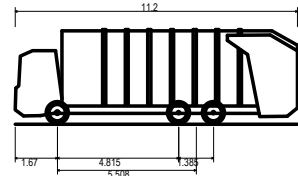


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- BASED ON LAND SURVEY

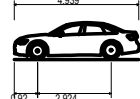
- KEY:
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  - PROPOSED RAISED KERB
  - PROPOSED ROAD MARKINGS
  - PROPOSED FLUSH KERB / BACK OF FOOTWAY
  - PROPOSED BIN STORES

VEHICLE PROFILE:



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

|                             |         |
|-----------------------------|---------|
| Overall Length              | 11.200m |
| Overall Width               | 2.530m  |
| Overall Body Height         | 3.130m  |
| Min Body Ground Clearance   | 0.304m  |
| Track Width                 | 2.200m  |
| Lock to lock time           | 4.00s   |
| Kerb to kerb Turning Radius | 9.500m  |



Audi A6 (2018)

|                             |        |
|-----------------------------|--------|
| Overall Length              | 4.939m |
| Overall Width               | 2.114m |
| Overall Body Height         | 1.427m |
| Min Body Ground Clearance   | 0.142m |
| Max Track Width             | 1.850m |
| Lock to lock time           | 4.00s  |
| Kerb to kerb Turning Radius | 9.500m |

|      |                                                               |          |     |       |
|------|---------------------------------------------------------------|----------|-----|-------|
| P06  | Site layout and access arrangement updated                    | 28/03/25 | MQ  | AT    |
| P05  | Site layout and access arrangement updated                    | 20/02/25 | MQ  | AT    |
| P04  | Topo survey added. Site layout and access arrangement updated | 13/01/25 | MQ  | AT    |
| P03  | Site layout and redline updated                               | 06/12/24 | JM  | AT    |
| P02  | Manoeuvres updated following comment                          | 25/11/24 | JM  | AT    |
| Rev: | Description:                                                  | Date:    | By: | Chkd: |

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|---------------------------------------------------------------------------|---------------------------------------------|-------------|----------|
| Status:                                                                   | PRELIMINARY                                 |             |          |
| Project:                                                                  | CRABTREE LANE - OPENSHAW                    |             |          |
| Orig Title:                                                               | SWEPT PATH ANALYSIS<br>11.2m REFUSE VEHICLE |             |          |
| Drawn By                                                                  | JM                                          | Designed By | JM       |
| Checked By                                                                | AT                                          | Date        | 25/11/24 |
| Project No - Originator - Function - Spatial - Form - Discipline - Number | 86840 - CUR - XX - 00 - D - TP- 05001       |             | Revision |
|                                                                           |                                             | P06         |          |

\\ms-b-1\Projects\08601 - 087000\08640 - TPA Crabtree Lane, Openshaw\04-Production\04-Models\Drawings\TP\CAD\05

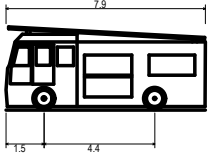


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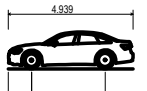
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- BASED ON LAND SURVEY

- KEY:
- RED LINE BOUNDARY (as supplied by JTP)
  - PROPOSED RAISED KERB
  - PROPOSED ROAD MARKINGS
  - PROPOSED FLUSH KERB / BACK OF FOOTWAY

VEHICLE PROFILE:



Pumping Appliance  
Overall Length 7.900m  
Overall Width 2.500m  
Overall Body Height 3.500m  
Min Body Ground Clearance 0.140m  
Track Width 2.000m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 7.750m



Audi A6 (2019)  
Overall Length 4.939m  
Overall Width 1.914m  
Overall Body Height 1.457m  
Min Body Ground Clearance 0.140m  
Track Width 1.675m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 5.900m

|      |                                                               |          |     |       |
|------|---------------------------------------------------------------|----------|-----|-------|
| P04  | Site layout and access arrangement updated                    | 28/03/25 | MQ  | AT    |
| P03  | Site layout and access arrangement updated                    | 20/02/25 | MQ  | AT    |
| P02  | Topo survey added. Site layout and access arrangement updated | 13/01/25 | MQ  | AT    |
| Rev: | Description:                                                  | Date:    | By: | Chkd: |

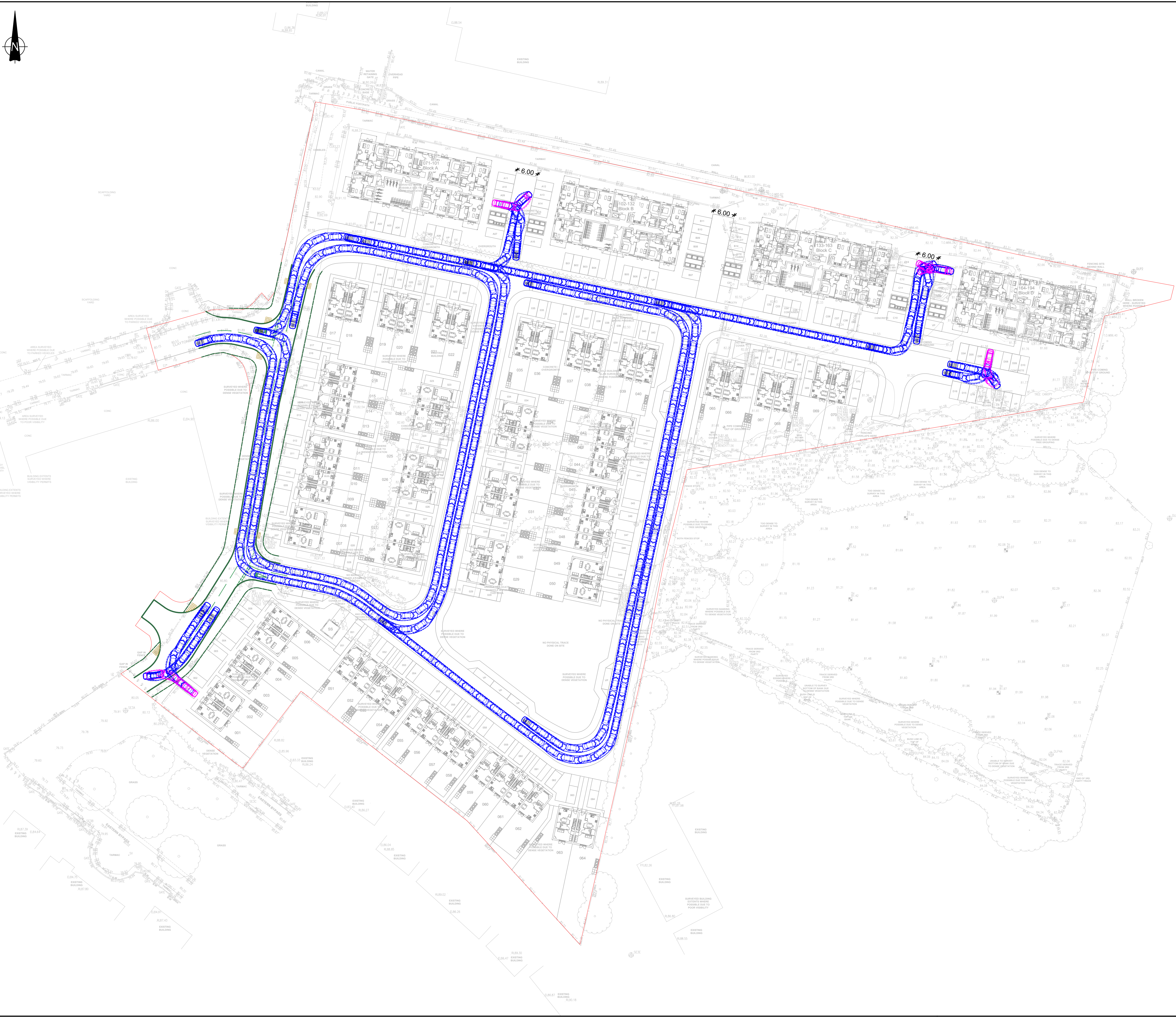
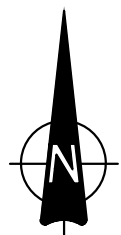
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|---------------------------------------------------------------------------|-----------------------------------------|-------------|----------|----------------------|
| Status:                                                                   | PRELIMINARY                             |             |          |                      |
| Project:                                                                  | CRABTREE LANE - OPENSHAW                |             |          |                      |
| Orig Title:                                                               | SWEPT PATH ANALYSIS<br>7.9m FIRE TENDER |             |          |                      |
| Drawn By                                                                  | JM                                      | Designed By | JM       | Checked By           |
|                                                                           |                                         |             |          | AT                   |
|                                                                           |                                         | Date        | 06/12/24 | Scales @ A1<br>1:500 |
| Project No - Originator - Function - Spatial - Form - Discipline - Number |                                         |             |          | Revision             |
| 86840 - CUR - XX - 00 - D - TP- 05002                                     |                                         |             |          | P04                  |

\\ms-b-1\Projects\08601 - 087000\08640 - TPMA Crabtree Lane, Openshaw\04-Production\04-Models\Drawings\TP\CAD\05

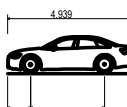


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- BASED ON JTP'S LAYOUT DRAWING REF.: "02292\_JTP\_MP\_00\_DR\_A\_1100 - Level 00 - Proposed Site Plan\_D17"
- BASED ON LAND SURVEY

- KEY:
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  - PROPOSED RAISED KERB
  - PROPOSED ROAD MARKINGS
  - PROPOSED FLUSH KERB / BACK OF FOOTWAY

VEHICLE PROFILE:



Audi A6 (2018)  
Overall Length: 4.50m  
Overall Width: 2.11m  
Min Body Overhang: 0.145m  
Max Body Overhang: 0.145m  
Lock to lock time: 4.00m  
Kerb to Kerb Turning Radius: 5.90m

|      |                                                               |          |     |       |
|------|---------------------------------------------------------------|----------|-----|-------|
| P04  | Site layout and access arrangement updated                    | 28/03/25 | MQ  | AT    |
| P03  | Site layout and access arrangement updated                    | 20/02/25 | MQ  | AT    |
| P02  | Topo survey added. Site layout and access arrangement updated | 13/01/25 | MQ  | AT    |
| Rev: | Description:                                                  | Date:    | By: | Chkd: |

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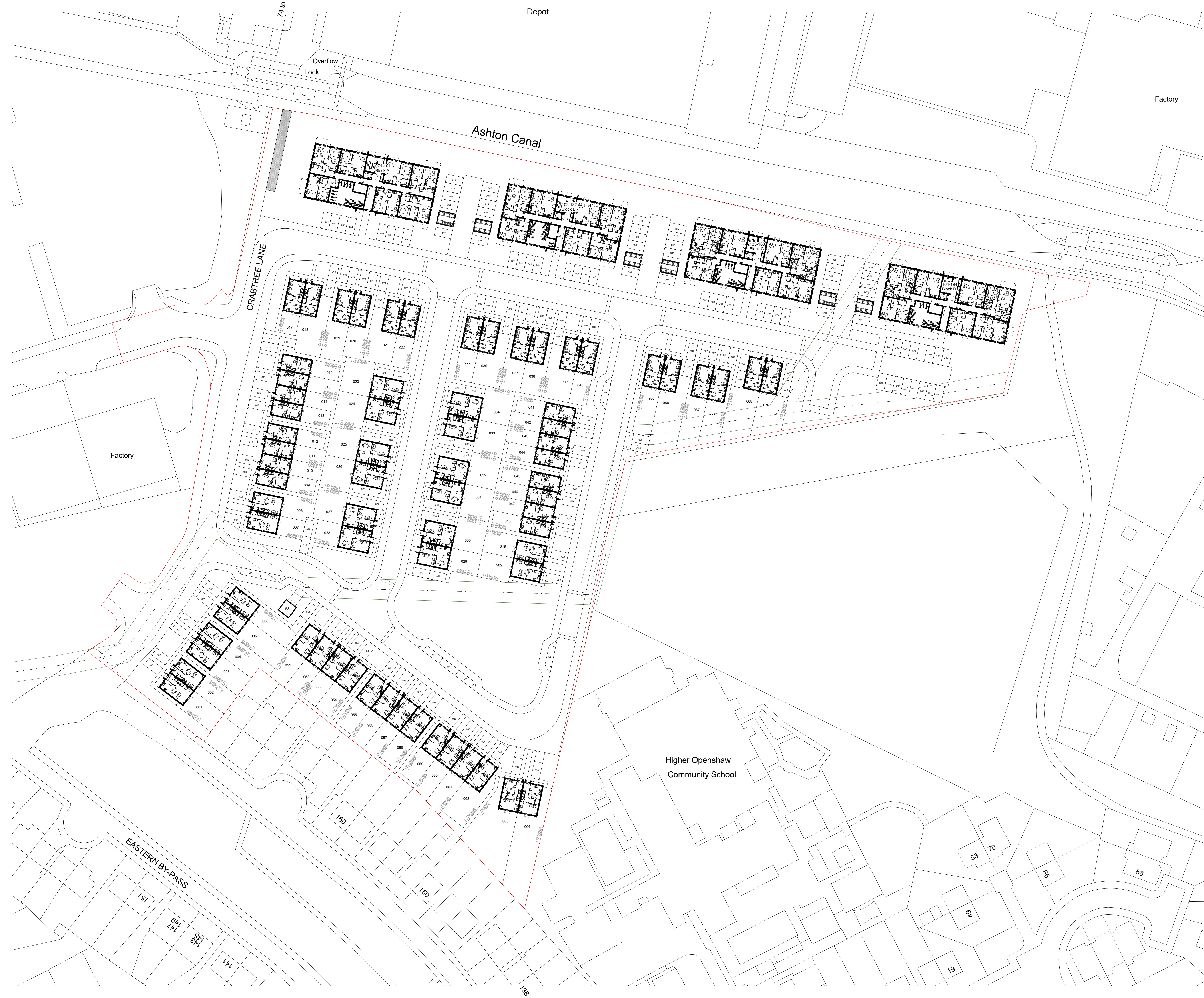
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|---------------------------------------------------------------------------|----------------------------------|-------------|----------|----------------------|
| Status:                                                                   | PRELIMINARY                      |             |          |                      |
| Project:                                                                  | CRABTREE LANE - OPENSHAW         |             |          |                      |
| Orig Title:                                                               | SWEPT PATH ANALYSIS<br>LARGE CAR |             |          |                      |
| Drawn By                                                                  | JM                               | Designed By | JM       | Checked By           |
|                                                                           |                                  |             |          | AT                   |
|                                                                           |                                  | Date        | 06/12/24 | Scales @ A1<br>1:500 |
| Project No - Originator - Function - Spatial - Form - Discipline - Number |                                  |             |          | Revision             |
| 86840 - CUR - XX - 00 - D -TP- 05003                                      |                                  |             |          | P04                  |

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## Appendix A – Proposed Site Layout



Notes

Do not scale from this drawing.  
All contractors must visit the site and be responsible for taking and checking dimensions.  
All construction information should be taken from figured dimensions only.  
Any discrepancies between drawings, specifications and site conditions must be brought to the attention of the supervising officer.  
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This drawing is prepared for the specific project stage in the Drawing Status section below and it is not intended to be used for any other purpose. Whilst all reasonable efforts are used to ensure drawings are accurate, JTP accept no liability for any reliance placed on, or use made of, this plan by anyone for purposes other than those stated in the Drawing Status below.

|      |          |                                                                                           |     |    |
|------|----------|-------------------------------------------------------------------------------------------|-----|----|
| D017 | 19.03.25 | Removal of Crossing Points and Plot 13 Parking Amend                                      | SAK | JC |
| D016 | 10.03.25 | Amendments to Crabtree Lane footpath                                                      | SAK | JC |
| D015 | 28.02.25 | Final Planning Draft                                                                      | SAK | JC |
| D014 | 20.02.25 | Amendments to Apartment Blocks                                                            | RA  | JC |
| D013 | 06.02.25 | Amendments to north-western pathway                                                       | SAK | JC |
| D012 | 04.02.25 | Amendments to north-western junction and parking                                          | SAK | JC |
| D011 | 29.01.25 | Amendments to position of plots 01-06 and inclusion of paths to all rear gardens          | SAK | JC |
| D010 | 24.01.25 | Updates to parking along northern street and removal of turning head in north-east corner | SAK | JC |
| D09  | 15.01.25 | Updates to south-eastern road radius and entrances to parking court widths                | SAK | JC |
| D08  | 14.01.25 | Updates to plots along northern road and rearrangement of parking                         | SAK | JC |
| D07  | 06.01.25 | Draft Issue                                                                               | RA  | JC |
| D06  | 19.12.24 | Redline Boundary Update and Parking Amended                                               | SAK | JC |
| D05  | 16.12.24 | Parking updates and southern layout changes                                               | SAK | JC |
| D04  | 27.11.24 | Redline Boundary Updates                                                                  | SAK | JC |
| D03  | 22.11.24 | External Refuse Stores aded and Proposed Accessway shown                                  | SAK | JC |
| D02  | 19.11.24 | Footway added infront of plots 58-60                                                      | RA  | JC |
| D01  | 12.11.24 | Draft issue                                                                               | RA  | JC |

| Rev | Date | Description | Drawn | Chkd |
|-----|------|-------------|-------|------|
|-----|------|-------------|-------|------|

Drawing Status

Draft



Client

Project

Land at Crabtree Lane

Drawing Title

Level 00 - Proposed Site Plan

Scale @A1 1 : 500

Job Ref. 02292

Drawing No. 02292\_JTP\_MP\_00\_DR\_A\_1100Revision D017

Scale Bar

0 5 10 15 20 25 m

Appendix B – Traffic Figures

086840 - Crabtree Lane, Manchester

Figure 1

AM Peak (08:00 – 09:00) - Observed

Notes:

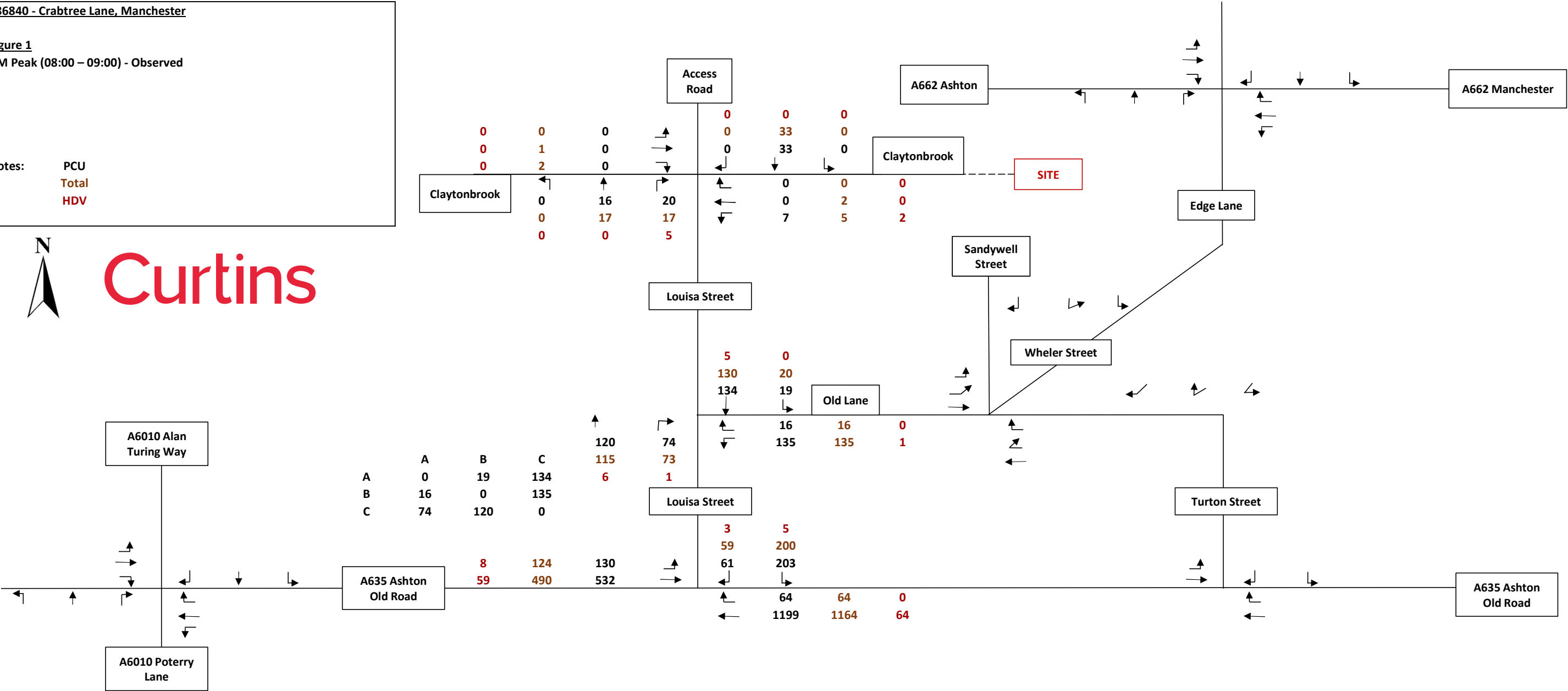
PCU

Total

HDV



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086840 - Crabtree Lane, Manchester

Figure 2

PM Peak (16:30 – 17:30) - Observed

Notes:

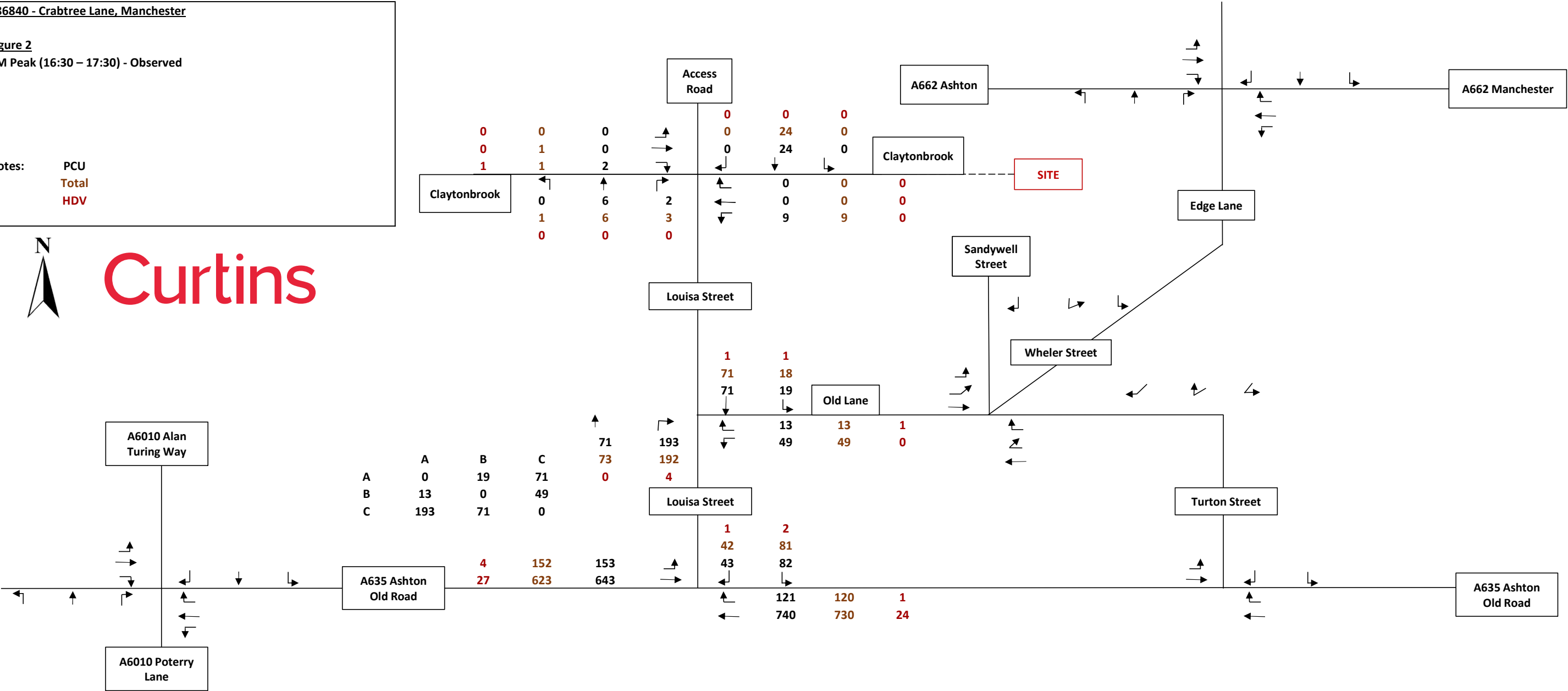
PCU

Total

HDV



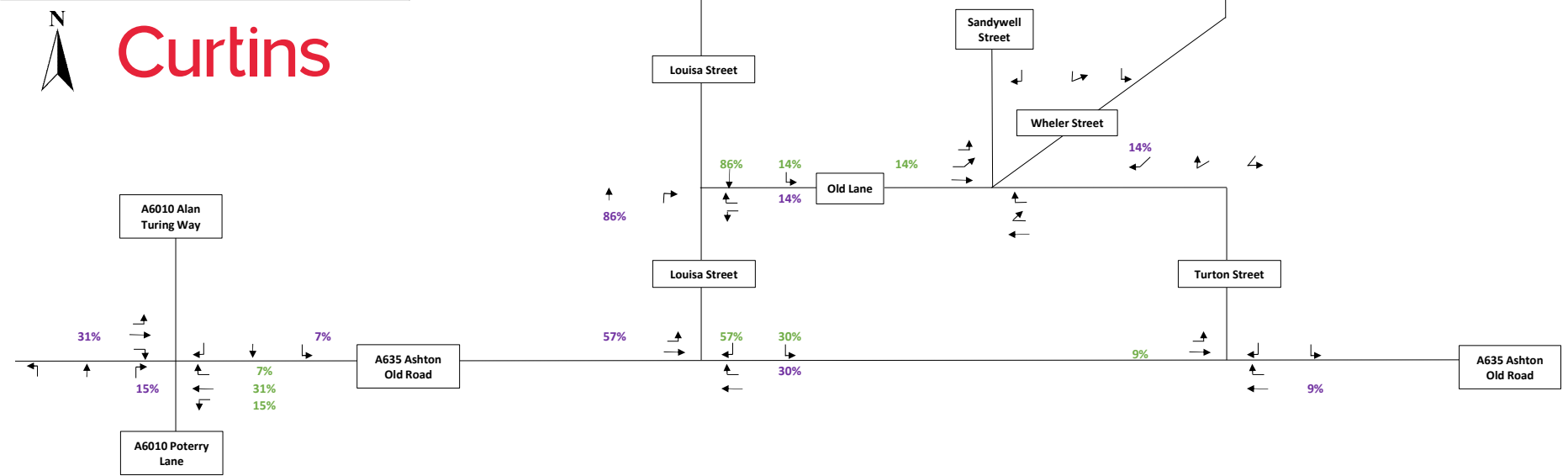
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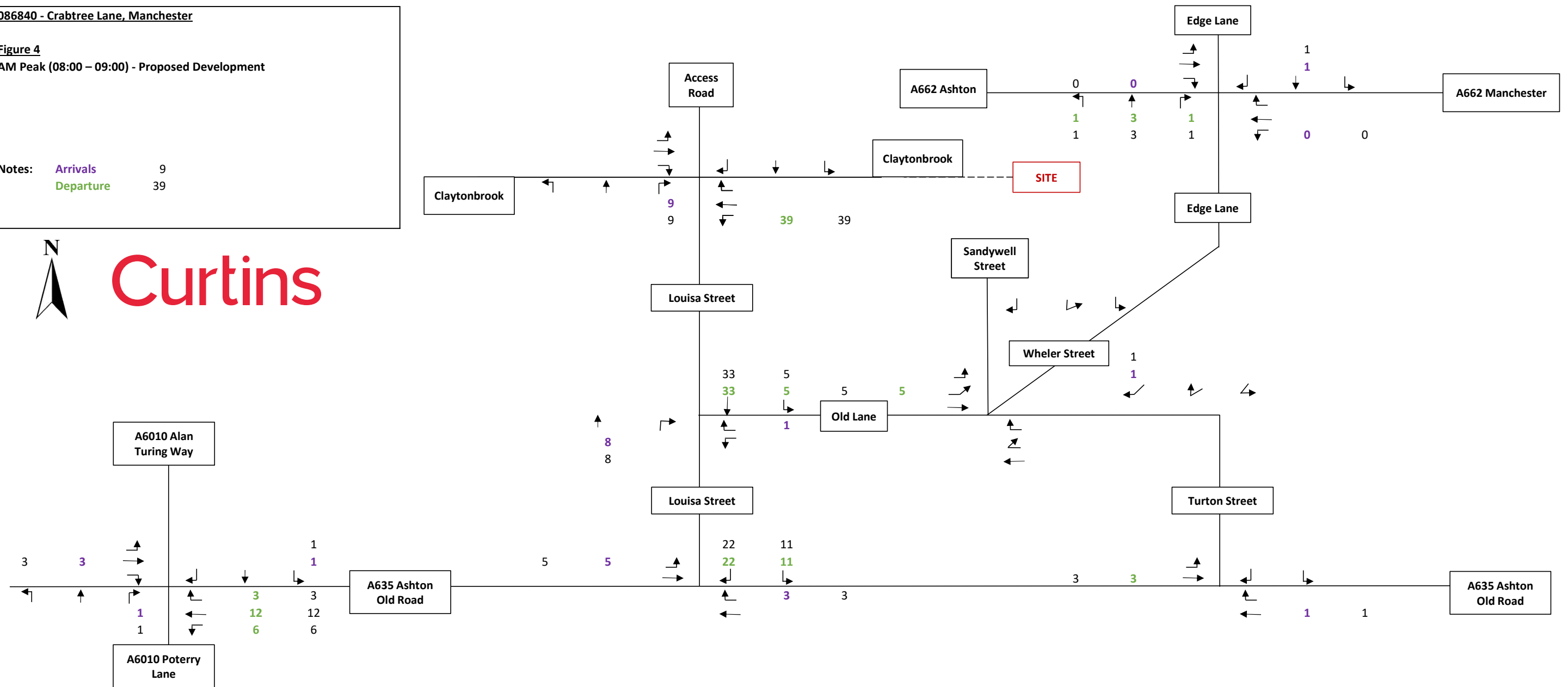
086840 - Crabtree Lane, Manchester

Figure 3  
Distribution

Notes: Arrivals in Purple  
Departures in Green



**Figure 4**  
**AM Peak (08:00 – 09:00) - Proposed Development**



086840 - Crabtree Lane, Manchester

Figure 1

PM Peak (16:30 – 17:30) - Proposed Development

Notes:

Arrivals

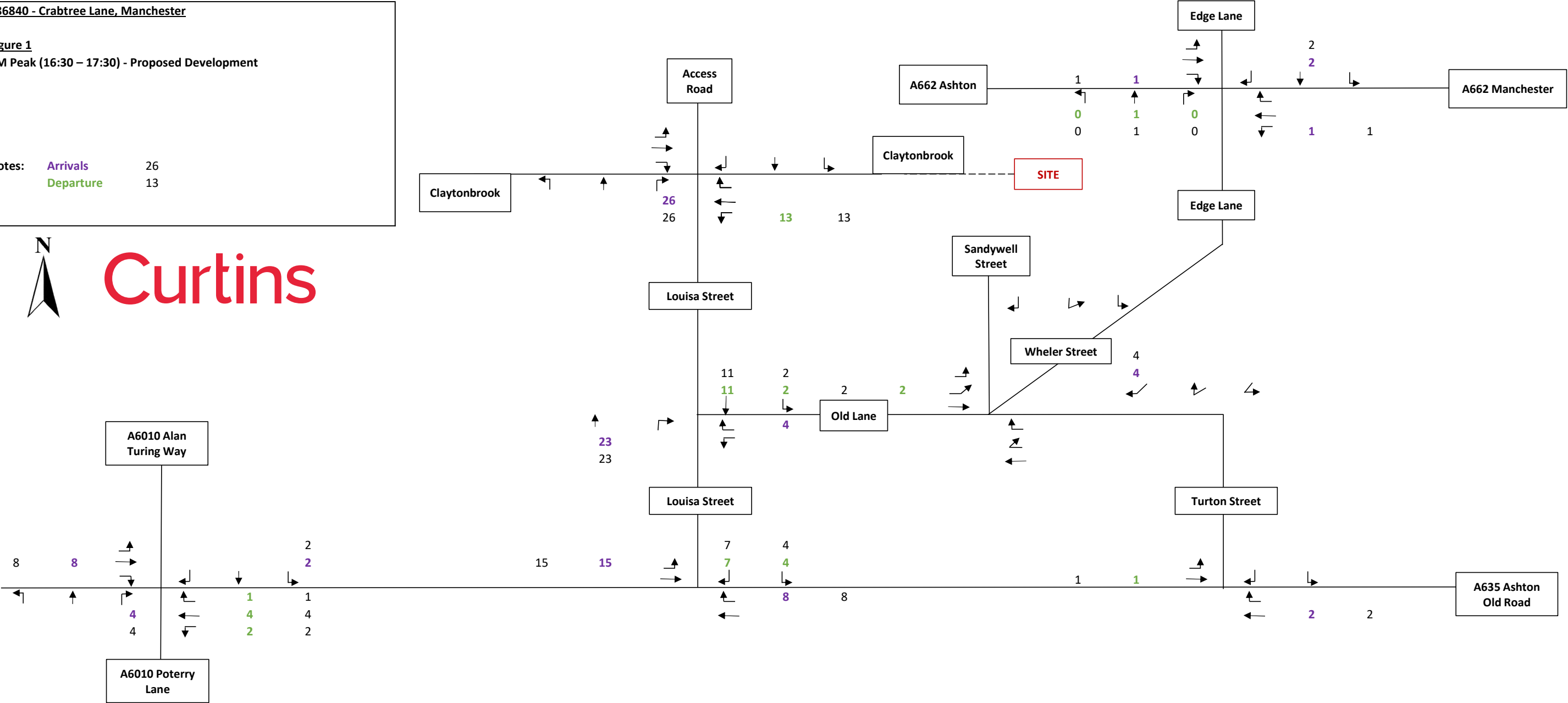
26

Departure

13

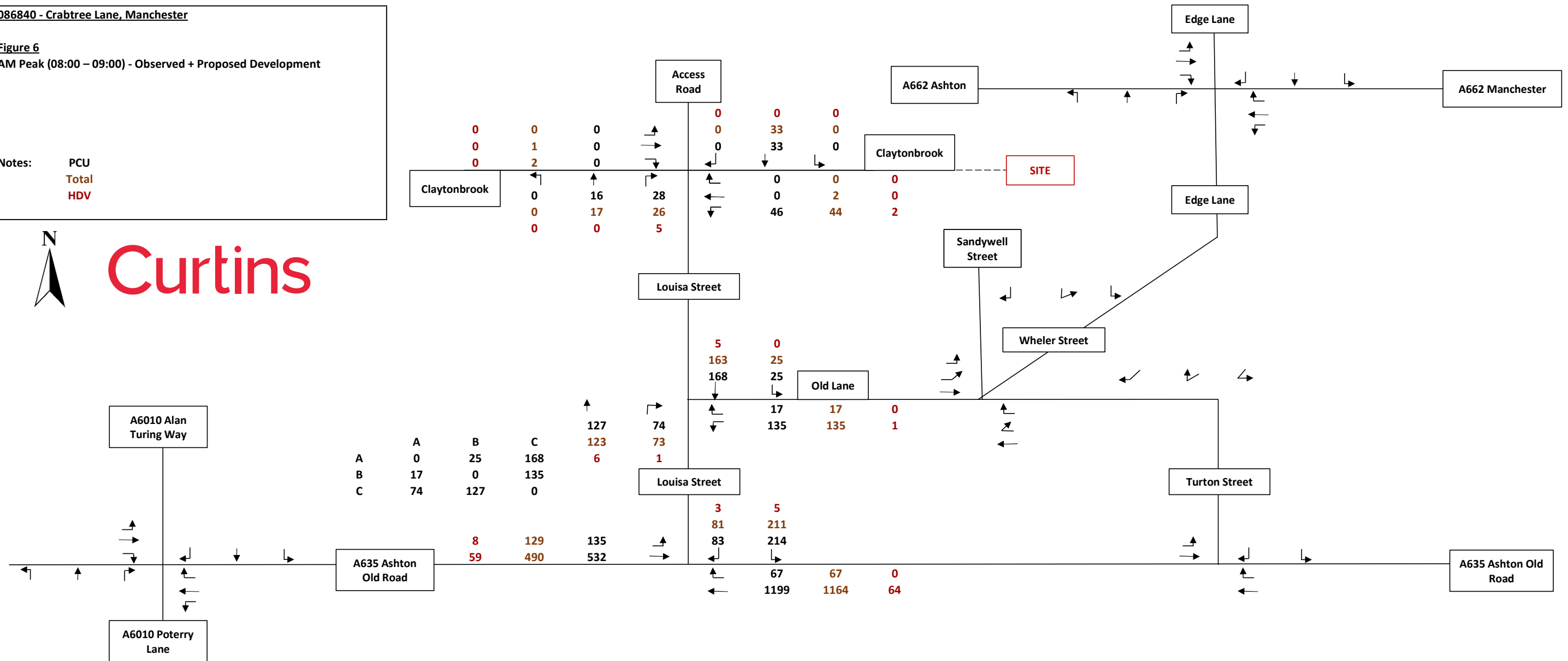


Curtins



**Figure 6**  
**AM Peak (08:00 – 09:00) - Observed + Proposed Development**

# Curtins



086840 - Crabtree Lane, Manchester

Figure 7

PM Peak (16:30 – 17:30) - Observed + Proposed Development

Notes:

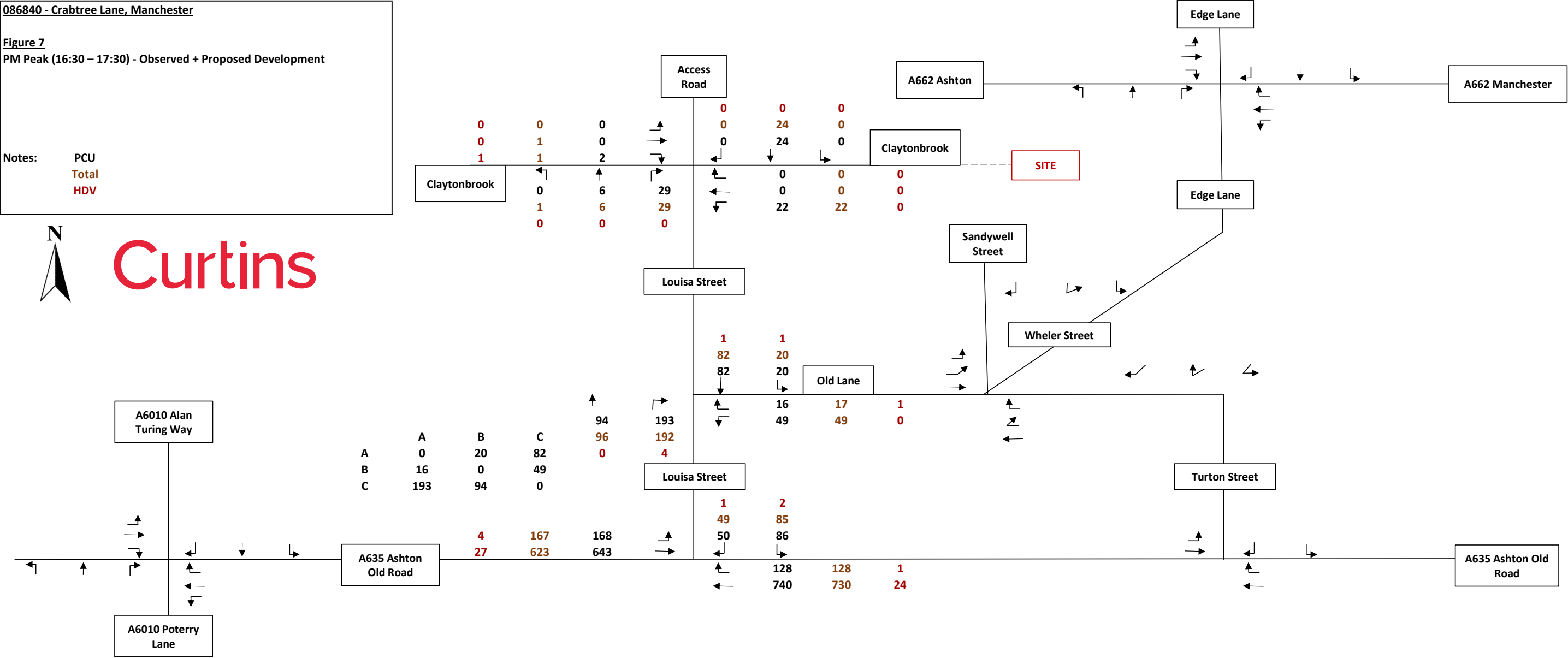
PCU

Total

HDV



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## Appendix C – Journey to Work Census Data

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In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.



Appendix D – TRICS Output

Calculation Reference: AUDIT-148301-241101-1125

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
Category : C - FLATS PRIVATELY OWNED  
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

|    |                   |        |
|----|-------------------|--------|
| 01 | GREATER LONDON    |        |
|    | BE BEXLEY         | 1 days |
|    | BM BROMLEY        | 2 days |
|    | BT BRENT          | 3 days |
|    | EN ENFIELD        | 1 days |
|    | HV HAVERING       | 1 days |
|    | RD RICHMOND       | 1 days |
| 02 | SOUTH EAST        |        |
|    | HF HERTFORDSHIRE  | 2 days |
| 04 | EAST ANGLIA       |        |
|    | CA CAMBRIDGESHIRE | 1 days |
|    | NF NORFOLK        | 1 days |
| 05 | EAST MIDLANDS     |        |
|    | DY DERBY          | 1 days |
|    | NG NOTTINGHAM     | 2 days |
| 06 | WEST MIDLANDS     |        |
|    | SH SHROPSHIRE     | 1 days |
| 08 | NORTH WEST        |        |
|    | MS MERSEYSIDE     | 1 days |
| 09 | NORTH             |        |
|    | TW TYNE & WEAR    | 1 days |

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

**Primary Filtering selection:**

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

Parameter: No of Dwellings  
 Actual Range: 20 to 493 (units: )  
 Range Selected by User: 20 to 493 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

**Public Transport Provision:**

Selection by: Include all surveys

Date Range: 01/01/16 to 16/11/23

*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 |
| Tuesday   | 5 days |
| Wednesday | 8 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          | 19 days |
| Directional ATC Count | 0 days  |

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

**Selected Locations:**

|                                    |    |
|------------------------------------|----|
| Suburban Area (PPS6 Out of Centre) | 15 |
| 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  | 1  |
| Development Zone | 3  |
| Residential Zone | 11 |
| Built-Up Zone    | 1  |
| No Sub Category  | 3  |

*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 | 19 days - Selected |
| Servicing vehicles Excluded | 7 days - Selected  |

Secondary Filtering selection:

Use Class:

C3 19 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

|                   |        |
|-------------------|--------|
| 1,001 to 5,000    | 2 days |
| 10,001 to 15,000  | 1 days |
| 15,001 to 20,000  | 1 days |
| 20,001 to 25,000  | 6 days |
| 25,001 to 50,000  | 8 days |
| 50,001 to 100,000 | 1 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 75,001 to 100,000  | 1 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 3 days |
| 500,001 or More    | 9 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 | 14 days |
| 1.1 to 1.5 | 5 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:

|     |         |
|-----|---------|
| Yes | 7 days  |
| No  | 12 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 | 11 days |
| 1b Very poor    | 3 days  |
| 2 Poor          | 3 days  |
| 3 Moderate      | 1 days  |
| 5 Very Good     | 1 days  |

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

LIST OF SITES relevant to selection parameters

|   |                                                                                  |                 |                     |                |
|---|----------------------------------------------------------------------------------|-----------------|---------------------|----------------|
| 1 | BE-03-C-02<br>CLYDESDALE WAY<br>BELVEDERE                                        | BLOCKS OF FLATS |                     | BEXLEY         |
|   | Edge of Town<br>Industrial Zone<br>Total No of Dwellings:                        | 402             |                     |                |
|   | Survey date: WEDNESDAY                                                           | 19/09/18        | Survey Type: MANUAL |                |
| 2 | BM-03-C-02<br>ORCHARD ROAD<br>BROMLEY                                            | BLOCK OF FLATS  |                     | BROMLEY        |
|   | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 20              |                     |                |
|   | Survey date: TUESDAY                                                             | 17/10/23        | Survey Type: MANUAL |                |
| 3 | BM-03-C-03<br>ORCHARD ROAD<br>BROMLEY                                            | BLOCKS OF FLATS |                     | BROMLEY        |
|   | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 26              |                     |                |
|   | Survey date: WEDNESDAY                                                           | 18/10/23        | Survey Type: MANUAL |                |
| 4 | BT-03-C-01<br>LAKESIDE DRIVE<br>PARK ROYAL                                       | BLOCKS OF FLATS |                     | BRENT          |
|   | Suburban Area (PPS6 Out of Centre)<br>Development Zone<br>Total No of Dwellings: | 170             |                     |                |
|   | Survey date: WEDNESDAY                                                           | 28/09/16        | Survey Type: MANUAL |                |
| 5 | BT-03-C-02<br>ENGINEERS WAY<br>WEMBLEY                                           | BLOCKS OF FLATS |                     | BRENT          |
|   | Suburban Area (PPS6 Out of Centre)<br>Development Zone<br>Total No of Dwellings: | 472             |                     |                |
|   | Survey date: WEDNESDAY                                                           | 30/11/16        | Survey Type: MANUAL |                |
| 6 | BT-03-C-03<br>MOUNT PLEASANT<br>WEMBLEY                                          | BLOCKS OF FLATS |                     | BRENT          |
|   | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 130             |                     |                |
|   | Survey date: THURSDAY                                                            | 16/11/23        | Survey Type: MANUAL |                |
| 7 | CA-03-C-03<br>CROMWELL ROAD<br>CAMBRIDGE                                         | BLOCKS OF FLATS |                     | CAMBRIDGESHIRE |
|   | Suburban Area (PPS6 Out of Centre)<br>No Sub Category<br>Total No of Dwellings:  | 82              |                     |                |
|   | Survey date: MONDAY                                                              | 18/09/17        | Survey Type: MANUAL |                |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                                                                                                                        |                           |                     |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------|
| 8  | DY-03-C-03<br>CAESAR STREET<br>DERBY                                                                                                                                                   | BLOCKS OF FLATS           | DERBY               |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 30<br>Survey date: WEDNESDAY 25/09/19                                                                 |                           | Survey Type: MANUAL |
| 9  | EN-03-C-03<br>NORTH CIRCULAR ROAD<br>PALMERS GREEN                                                                                                                                     | BLOCKS OF FLATS           | ENFIELD             |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 27<br>Survey date: WEDNESDAY 08/11/17                                                                 |                           | Survey Type: MANUAL |
| 10 | HF-03-C-06<br>FERNDOWN ROAD<br>WATFORD<br>SOUTH OXHEY<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 26<br>Survey date: THURSDAY 08/06/23                               | BLOCKS OF FLATS           | HERTFORDSHIRE       |
| 11 | HF-03-C-08<br>HAYLING ROAD<br>WATFORD<br>SOUTH OXHEY<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 22<br>Survey date: TUESDAY 06/06/23                                 | BLOCKS OF FLATS           | HERTFORDSHIRE       |
| 12 | HV-03-C-02<br>WATERLOO ROAD<br>ROMFORD                                                                                                                                                 | BLOCKS OF FLATS           | HAVERING            |
|    | Suburban Area (PPS6 Out of Centre)<br>Built-Up Zone<br>Total No of Dwellings: 493<br>Survey date: TUESDAY 22/11/16                                                                     |                           | Survey Type: MANUAL |
| 13 | MS-03-C-02<br>SOUTH FERRY QUAY<br>LIVERPOOL<br>BRUNSWICK DOCK<br>Suburban Area (PPS6 Out of Centre)<br>Development Zone<br>Total No of Dwellings: 184<br>Survey date: TUESDAY 13/11/18 | BLOCKS OF FLATS           | MERSEYSIDE          |
| 14 | NF-03-C-02<br>HALL ROAD<br>NORWICH<br>LAKENHAM<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 82<br>Survey date: MONDAY 18/11/19                  | MIXED FLATS & HOUSES      | NORFOLK             |
| 15 | NG-03-C-01<br>LAWRENCE WAY<br>NOTTINGHAM                                                                                                                                               | HOUSES (SPLIT INTO FLATS) | NOTTINGHAM          |
|    | Suburban Area (PPS6 Out of Centre)<br>No Sub Category<br>Total No of Dwellings: 56<br>Survey date: TUESDAY 08/11/16                                                                    |                           | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                    |                           |                     |
|----|------------------------------------|---------------------------|---------------------|
| 16 | NG-03-C-02                         | HOUSES (SPLIT INTO FLATS) | NOTTINGHAM          |
|    | CASTLE MARINA ROAD                 |                           |                     |
|    | NOTTINGHAM                         |                           |                     |
|    | Suburban Area (PPS6 Out of Centre) |                           |                     |
|    | No Sub Category                    |                           |                     |
|    | Total No of Dwellings:             | 135                       |                     |
|    | Survey date: WEDNESDAY             | 09/11/16                  | Survey Type: MANUAL |
| 17 | RD-03-C-07                         | BLOCKS OF FLATS           | RICHMOND            |
|    | BESSANT DRIVE                      |                           |                     |
|    | KEW                                |                           |                     |
|    | Suburban Area (PPS6 Out of Centre) |                           |                     |
|    | Residential Zone                   |                           |                     |
|    | Total No of Dwellings:             | 170                       |                     |
|    | Survey date: WEDNESDAY             | 14/06/23                  | Survey Type: MANUAL |
| 18 | SH-03-C-01                         | BLOCK OF FLATS            | SHROPSHIRE          |
|    | ABBEY FOREGATE                     |                           |                     |
|    | SHREWSBURY                         |                           |                     |
|    | Suburban Area (PPS6 Out of Centre) |                           |                     |
|    | Residential Zone                   |                           |                     |
|    | Total No of Dwellings:             | 47                        |                     |
|    | Survey date: MONDAY                | 19/06/23                  | Survey Type: MANUAL |
| 19 | TW-03-C-01                         | BLOCKS OF FLATS           | TYNE & WEAR         |
|    | CAULDWELL AVENUE                   |                           |                     |
|    | WHITLEY BAY                        |                           |                     |
|    | MONKESEATON                        |                           |                     |
|    | Edge of Town                       |                           |                     |
|    | Residential Zone                   |                           |                     |
|    | Total No of Dwellings:             | 45                        |                     |
|    | Survey date: FRIDAY                | 15/10/21                  | 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.

MANUALLY DESELECTED SITES

| Site Ref   | Reason for Deselection |
|------------|------------------------|
| WF-03-C-06 | Covid-19 restrictions  |

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
**MULTI-MODAL TOTAL VEHICLES**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period  
 Total People to Total Vehicles ratio (all time periods and directions): 2.92

| Time Range          | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|                     | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00       |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00       |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00       |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00       |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00       |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00       |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00       |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00       | 19       | 138         | 0.034     | 19         | 138         | 0.108     | 19       | 138         | 0.142     |
| 08:00 - 09:00       | 19       | 138         | 0.036     | 19         | 138         | 0.123     | 19       | 138         | 0.159     |
| 09:00 - 10:00       | 19       | 138         | 0.054     | 19         | 138         | 0.066     | 19       | 138         | 0.120     |
| 10:00 - 11:00       | 19       | 138         | 0.043     | 19         | 138         | 0.053     | 19       | 138         | 0.096     |
| 11:00 - 12:00       | 19       | 138         | 0.043     | 19         | 138         | 0.057     | 19       | 138         | 0.100     |
| 12:00 - 13:00       | 19       | 138         | 0.052     | 19         | 138         | 0.054     | 19       | 138         | 0.106     |
| 13:00 - 14:00       | 19       | 138         | 0.057     | 19         | 138         | 0.062     | 19       | 138         | 0.119     |
| 14:00 - 15:00       | 19       | 138         | 0.052     | 19         | 138         | 0.055     | 19       | 138         | 0.107     |
| 15:00 - 16:00       | 19       | 138         | 0.077     | 19         | 138         | 0.053     | 19       | 138         | 0.130     |
| 16:00 - 17:00       | 19       | 138         | 0.083     | 19         | 138         | 0.058     | 19       | 138         | 0.141     |
| 17:00 - 18:00       | 19       | 138         | 0.111     | 19         | 138         | 0.063     | 19       | 138         | 0.174     |
| 18:00 - 19:00       | 19       | 138         | 0.104     | 19         | 138         | 0.056     | 19       | 138         | 0.160     |
| 19:00 - 20:00       | 8        | 177         | 0.083     | 8          | 177         | 0.040     | 8        | 177         | 0.123     |
| 20:00 - 21:00       | 8        | 177         | 0.069     | 8          | 177         | 0.036     | 8        | 177         | 0.105     |
| 21:00 - 22:00       |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00       |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00       |          |             |           |            |             |           |          |             |           |
| <b>Total Rates:</b> |          |             | 0.898     |            |             | 0.884     |          |             | 1.782     |

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

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

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#### Parameter summary

|                                               |                     |
|-----------------------------------------------|---------------------|
| Trip rate parameter range selected:           | 20 - 493 (units: )  |
| Survey date range:                            | 01/01/16 - 16/11/23 |
| Number of weekdays (Monday-Friday):           | 19                  |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 6                   |
| Surveys manually removed from selection:      | 1                   |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
MULTI-MODAL CYCLISTS  
Calculation factor: 1 DWELLS  
BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 19       | 138         | 0.001     | 19         | 138         | 0.007     | 19       | 138         | 0.008     |
| 08:00 - 09:00 | 19       | 138         | 0.003     | 19         | 138         | 0.013     | 19       | 138         | 0.016     |
| 09:00 - 10:00 | 19       | 138         | 0.002     | 19         | 138         | 0.005     | 19       | 138         | 0.007     |
| 10:00 - 11:00 | 19       | 138         | 0.002     | 19         | 138         | 0.002     | 19       | 138         | 0.004     |
| 11:00 - 12:00 | 19       | 138         | 0.002     | 19         | 138         | 0.002     | 19       | 138         | 0.004     |
| 12:00 - 13:00 | 19       | 138         | 0.001     | 19         | 138         | 0.003     | 19       | 138         | 0.004     |
| 13:00 - 14:00 | 19       | 138         | 0.004     | 19         | 138         | 0.005     | 19       | 138         | 0.009     |
| 14:00 - 15:00 | 19       | 138         | 0.005     | 19         | 138         | 0.005     | 19       | 138         | 0.010     |
| 15:00 - 16:00 | 19       | 138         | 0.006     | 19         | 138         | 0.002     | 19       | 138         | 0.008     |
| 16:00 - 17:00 | 19       | 138         | 0.007     | 19         | 138         | 0.003     | 19       | 138         | 0.010     |
| 17:00 - 18:00 | 19       | 138         | 0.008     | 19         | 138         | 0.004     | 19       | 138         | 0.012     |
| 18:00 - 19:00 | 19       | 138         | 0.006     | 19         | 138         | 0.002     | 19       | 138         | 0.008     |
| 19:00 - 20:00 | 8        | 177         | 0.006     | 8          | 177         | 0.002     | 8        | 177         | 0.008     |
| 20:00 - 21:00 | 8        | 177         | 0.004     | 8          | 177         | 0.001     | 8        | 177         | 0.005     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.057     |            |             | 0.056     |          |             | 0.113     |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
 MULTI-MODAL PEDESTRIANS  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 19       | 138         | 0.022     | 19         | 138         | 0.061     | 19       | 138         | 0.083     |
| 08:00 - 09:00 | 19       | 138         | 0.029     | 19         | 138         | 0.116     | 19       | 138         | 0.145     |
| 09:00 - 10:00 | 19       | 138         | 0.038     | 19         | 138         | 0.054     | 19       | 138         | 0.092     |
| 10:00 - 11:00 | 19       | 138         | 0.031     | 19         | 138         | 0.048     | 19       | 138         | 0.079     |
| 11:00 - 12:00 | 19       | 138         | 0.044     | 19         | 138         | 0.043     | 19       | 138         | 0.087     |
| 12:00 - 13:00 | 19       | 138         | 0.055     | 19         | 138         | 0.049     | 19       | 138         | 0.104     |
| 13:00 - 14:00 | 19       | 138         | 0.040     | 19         | 138         | 0.049     | 19       | 138         | 0.089     |
| 14:00 - 15:00 | 19       | 138         | 0.053     | 19         | 138         | 0.052     | 19       | 138         | 0.105     |
| 15:00 - 16:00 | 19       | 138         | 0.077     | 19         | 138         | 0.047     | 19       | 138         | 0.124     |
| 16:00 - 17:00 | 19       | 138         | 0.076     | 19         | 138         | 0.042     | 19       | 138         | 0.118     |
| 17:00 - 18:00 | 19       | 138         | 0.074     | 19         | 138         | 0.041     | 19       | 138         | 0.115     |
| 18:00 - 19:00 | 19       | 138         | 0.059     | 19         | 138         | 0.031     | 19       | 138         | 0.090     |
| 19:00 - 20:00 | 8        | 177         | 0.062     | 8          | 177         | 0.044     | 8        | 177         | 0.106     |
| 20:00 - 21:00 | 8        | 177         | 0.042     | 8          | 177         | 0.034     | 8        | 177         | 0.076     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.702     |            |             | 0.711     |          |             | 1.413     |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
MULTI-MODAL PUBLIC TRANSPORT USERS  
Calculation factor: 1 DWELLS  
BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 19       | 138         | 0.004     | 19         | 138         | 0.118     | 19       | 138         | 0.122     |
| 08:00 - 09:00 | 19       | 138         | 0.008     | 19         | 138         | 0.148     | 19       | 138         | 0.156     |
| 09:00 - 10:00 | 19       | 138         | 0.019     | 19         | 138         | 0.053     | 19       | 138         | 0.072     |
| 10:00 - 11:00 | 19       | 138         | 0.017     | 19         | 138         | 0.036     | 19       | 138         | 0.053     |
| 11:00 - 12:00 | 19       | 138         | 0.019     | 19         | 138         | 0.036     | 19       | 138         | 0.055     |
| 12:00 - 13:00 | 19       | 138         | 0.030     | 19         | 138         | 0.039     | 19       | 138         | 0.069     |
| 13:00 - 14:00 | 19       | 138         | 0.027     | 19         | 138         | 0.040     | 19       | 138         | 0.067     |
| 14:00 - 15:00 | 19       | 138         | 0.039     | 19         | 138         | 0.039     | 19       | 138         | 0.078     |
| 15:00 - 16:00 | 19       | 138         | 0.051     | 19         | 138         | 0.033     | 19       | 138         | 0.084     |
| 16:00 - 17:00 | 19       | 138         | 0.064     | 19         | 138         | 0.029     | 19       | 138         | 0.093     |
| 17:00 - 18:00 | 19       | 138         | 0.089     | 19         | 138         | 0.030     | 19       | 138         | 0.119     |
| 18:00 - 19:00 | 19       | 138         | 0.111     | 19         | 138         | 0.025     | 19       | 138         | 0.136     |
| 19:00 - 20:00 | 8        | 177         | 0.131     | 8          | 177         | 0.028     | 8        | 177         | 0.159     |
| 20:00 - 21:00 | 8        | 177         | 0.083     | 8          | 177         | 0.028     | 8        | 177         | 0.111     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.692     |            |             | 0.682     |          |             | 1.374     |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
**MULTI-MODAL TOTAL PEOPLE**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period  
 Total People to Total Vehicles ratio (all time periods and directions): 2.92

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 19       | 138         | 0.063     | 19         | 138         | 0.329     | 19       | 138         | 0.392     |
| 08:00 - 09:00 | 19       | 138         | 0.081     | 19         | 138         | 0.464     | 19       | 138         | 0.545     |
| 09:00 - 10:00 | 19       | 138         | 0.126     | 19         | 138         | 0.195     | 19       | 138         | 0.321     |
| 10:00 - 11:00 | 19       | 138         | 0.102     | 19         | 138         | 0.155     | 19       | 138         | 0.257     |
| 11:00 - 12:00 | 19       | 138         | 0.122     | 19         | 138         | 0.160     | 19       | 138         | 0.282     |
| 12:00 - 13:00 | 19       | 138         | 0.157     | 19         | 138         | 0.162     | 19       | 138         | 0.319     |
| 13:00 - 14:00 | 19       | 138         | 0.140     | 19         | 138         | 0.171     | 19       | 138         | 0.311     |
| 14:00 - 15:00 | 19       | 138         | 0.163     | 19         | 138         | 0.165     | 19       | 138         | 0.328     |
| 15:00 - 16:00 | 19       | 138         | 0.247     | 19         | 138         | 0.152     | 19       | 138         | 0.399     |
| 16:00 - 17:00 | 19       | 138         | 0.263     | 19         | 138         | 0.144     | 19       | 138         | 0.407     |
| 17:00 - 18:00 | 19       | 138         | 0.317     | 19         | 138         | 0.161     | 19       | 138         | 0.478     |
| 18:00 - 19:00 | 19       | 138         | 0.319     | 19         | 138         | 0.128     | 19       | 138         | 0.447     |
| 19:00 - 20:00 | 8        | 177         | 0.311     | 8          | 177         | 0.124     | 8        | 177         | 0.435     |
| 20:00 - 21:00 | 8        | 177         | 0.224     | 8          | 177         | 0.114     | 8        | 177         | 0.338     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 2.635     |            |             | 2.624     |          |             | 5.259     |

*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.*

Calculation Reference: AUDIT-148301-240823-0843

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED  
 MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

|    |                                |         |
|----|--------------------------------|---------|
| 01 | GREATER LONDON                 |         |
|    | EN ENFIELD                     | 1 days  |
| 02 | SOUTH EAST                     |         |
|    | CT CENTRAL BEDFORDSHIRE        | 1 days  |
|    | ES EAST SUSSEX                 | 6 days  |
|    | EX ESSEX                       | 1 days  |
|    | HC HAMPSHIRE                   | 11 days |
|    | HF HERTFORDSHIRE               | 1 days  |
|    | KC KENT                        | 7 days  |
|    | SC SURREY                      | 2 days  |
|    | SP SOUTHAMPTON                 | 1 days  |
|    | WB WEST BERKSHIRE              | 1 days  |
|    | WS WEST SUSSEX                 | 4 days  |
| 03 | SOUTH WEST                     |         |
|    | DC DORSET                      | 2 days  |
|    | SD SWINDON                     | 1 days  |
| 04 | EAST ANGLIA                    |         |
|    | NF NORFOLK                     | 13 days |
|    | PB PETERBOROUGH                | 1 days  |
| 05 | EAST MIDLANDS                  |         |
|    | DY DERBY                       | 1 days  |
|    | NT NOTTINGHAMSHIRE             | 1 days  |
| 06 | WEST MIDLANDS                  |         |
|    | ST STAFFORDSHIRE               | 1 days  |
|    | WK WARWICKSHIRE                | 1 days  |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE |         |
|    | NY NORTH YORKSHIRE             | 1 days  |
| 08 | NORTH WEST                     |         |
|    | AC CHESHIRE WEST & CHESTER     | 1 days  |
| 09 | NORTH                          |         |
|    | DH DURHAM                      | 2 days  |
| 11 | SCOTLAND                       |         |
|    | AS ABERDEENSHIRE               | 1 days  |
|    | HI HIGHLAND                    | 1 days  |

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

**Primary Filtering selection:**

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

Parameter: No of Dwellings  
 Actual Range: 24 to 375 (units: )  
 Range Selected by User: 20 to 500 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

**Public Transport Provision:**

Selection by: Include all surveys

Date Range: 01/01/16 to 27/03/24

*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    | 11 days |
| Tuesday   | 21 days |
| Wednesday | 16 days |
| Thursday  | 10 days |
| Friday    | 5 days  |

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

**Selected survey types:**

|                       |         |
|-----------------------|---------|
| Manual count          | 63 days |
| Directional ATC Count | 0 days  |

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

**Selected Locations:**

|                                    |    |
|------------------------------------|----|
| Suburban Area (PPS6 Out of Centre) | 10 |
| Edge of Town                       | 53 |

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

**Selected Location Sub Categories:**

|                  |    |
|------------------|----|
| Residential Zone | 58 |
| Out of Town      | 2  |
| No Sub Category  | 3  |

*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 | 23 days - Selected |
| Servicing vehicles Excluded | 55 days - Selected |

**Secondary Filtering selection:****Use Class:**

|    |         |
|----|---------|
| C3 | 63 days |
|----|---------|

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

**Population within 500m Range:**

All Surveys Included

## Secondary Filtering selection (Cont.):

Population within 1 mile:

|                  |         |
|------------------|---------|
| 1,001 to 5,000   | 5 days  |
| 5,001 to 10,000  | 18 days |
| 10,001 to 15,000 | 19 days |
| 15,001 to 20,000 | 11 days |
| 20,001 to 25,000 | 7 days  |
| 25,001 to 50,000 | 3 days  |

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

Population within 5 miles:

|                    |         |
|--------------------|---------|
| 5,001 to 25,000    | 9 days  |
| 25,001 to 50,000   | 7 days  |
| 50,001 to 75,000   | 11 days |
| 75,001 to 100,000  | 6 days  |
| 100,001 to 125,000 | 2 days  |
| 125,001 to 250,000 | 22 days |
| 250,001 to 500,000 | 5 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 | 13 days |
| 1.1 to 1.5 | 46 days |
| 1.6 to 2.0 | 4 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:

|     |         |
|-----|---------|
| Yes | 41 days |
| No  | 22 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 | 62 days |
| 1b Very poor    | 1 days  |

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

LIST OF SITES relevant to selection parameters

|   |                                                                                                                                                                               |                          |                         |                     |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------|---------------------|
| 1 | AC-03-A-04<br>LONDON ROAD<br>NORTHWICH<br>LEFTWICH<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 24<br>Survey date: THURSDAY 06/06/19   | TOWN HOUSES              | CHESHIRE WEST & CHESTER | Survey Type: MANUAL |
| 2 | AS-03-A-02<br>FARROCHIE ROAD<br>STONEHAVEN<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 131<br>Survey date: WEDNESDAY 20/04/22                           | MIXED HOUSES             | ABERDEENSHIRE           | Survey Type: MANUAL |
| 3 | CT-03-A-03<br>ARLESEY ROAD<br>STOTFOLD<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 73<br>Survey date: TUESDAY 27/06/23                                  | MIXED HOUSES             | CENTRAL BEDFORDSHIRE    | Survey Type: MANUAL |
| 4 | DC-03-A-10<br>ADDISON CLOSE<br>GILLINGHAM<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 26<br>Survey date: WEDNESDAY 09/11/22                             | MIXED HOUSES             | DORSET                  | Survey Type: MANUAL |
| 5 | DC-03-A-11<br>A350<br>SHAFTESBURY<br><br>Edge of Town<br>No Sub Category<br>Total No of Dwellings: 141<br>Survey date: TUESDAY 31/10/23                                       | MIXED HOUSES             | DORSET                  | Survey Type: MANUAL |
| 6 | DH-03-A-01<br>GREENFIELDS ROAD<br>BISHOP AUCKLAND<br><br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 50<br>Survey date: TUESDAY 28/03/17 | SEMI DETACHED            | DURHAM                  | Survey Type: MANUAL |
| 7 | DH-03-A-03<br>PILGRIMS WAY<br>DURHAM<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 57<br>Survey date: FRIDAY 19/10/18                                     | SEMI-DETACHED & TERRACED | DURHAM                  | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                             |                          |                     |
|----|-------------------------------------------------------------|--------------------------|---------------------|
| 8  | DY-03-A-01<br>RADBOURNE LANE<br>DERBY                       | MIXED HOUSES             | DERBY               |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 371                      |                     |
|    | Survey date: TUESDAY                                        | 10/07/18                 | Survey Type: MANUAL |
| 9  | EN-03-A-01<br>BOLLINGBROKE PARK<br>COCKFOSTERS              | TERRACED & SEMI-DETACHED | ENFIELD             |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 32                       |                     |
|    | Survey date: WEDNESDAY                                      | 24/11/21                 | Survey Type: MANUAL |
| 10 | ES-03-A-03<br>SHEPHAM LANE<br>POLEGATE                      | MIXED HOUSES & FLATS     | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 212                      |                     |
|    | Survey date: MONDAY                                         | 11/07/16                 | Survey Type: MANUAL |
| 11 | ES-03-A-05<br>RATTLE ROAD<br>NEAR EASTBOURNE<br>STONE CROSS | MIXED HOUSES & FLATS     | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 99                       |                     |
|    | Survey date: WEDNESDAY                                      | 05/06/19                 | Survey Type: MANUAL |
| 12 | ES-03-A-07<br>NEW ROAD<br>HAILSHAM<br>HELLINGLY             | MIXED HOUSES & FLATS     | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 91                       |                     |
|    | Survey date: THURSDAY                                       | 07/11/19                 | Survey Type: MANUAL |
| 13 | ES-03-A-08<br>WRESTWOOD ROAD<br>BEXHILL                     | MIXED HOUSES & FLATS     | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 110                      |                     |
|    | Survey date: WEDNESDAY                                      | 12/10/22                 | Survey Type: MANUAL |
| 14 | ES-03-A-09<br>THE FAIRWAY<br>NEWHAVEN                       | DETACHED & SEMI-DETACHED | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:  | 47                       |                     |
|    | Survey date: MONDAY                                         | 13/03/23                 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                  |                          |                     |
|----|----------------------------------------------------------------------------------|--------------------------|---------------------|
| 15 | ES-03-A-10<br>WATERGATE<br>BEXHILL-ON-SEA                                        | MIXED HOUSES & FLATS     | EAST SUSSEX         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 139                      |                     |
|    | Survey date: THURSDAY                                                            | 28/09/23                 | Survey Type: MANUAL |
| 16 | EX-03-A-03<br>KESTREL GROVE<br>RAYLEIGH                                          | MIXED HOUSES             | ESSEX               |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 123                      |                     |
|    | Survey date: MONDAY                                                              | 27/09/21                 | Survey Type: MANUAL |
| 17 | HC-03-A-21<br>PRIESTLEY ROAD<br>BASINGSTOKE<br>HOUNDMILLS                        | TERRACED & SEMI-DETACHED | HAMPSHIRE           |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 39                       |                     |
|    | Survey date: TUESDAY                                                             | 13/11/18                 | Survey Type: MANUAL |
| 18 | HC-03-A-22<br>BOW LAKE GARDENS<br>NEAR EASTLEIGH<br>BISHOPSTOKE                  | MIXED HOUSES             | HAMPSHIRE           |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 40                       |                     |
|    | Survey date: WEDNESDAY                                                           | 31/10/18                 | Survey Type: MANUAL |
| 19 | HC-03-A-23<br>CANADA WAY<br>LIPHOOK                                              | HOUSES & FLATS           | HAMPSHIRE           |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 62                       |                     |
|    | Survey date: TUESDAY                                                             | 19/11/19                 | Survey Type: MANUAL |
| 20 | HC-03-A-27<br>DAIRY ROAD<br>ANDOVER                                              | MIXED HOUSES             | HAMPSHIRE           |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 73                       |                     |
|    | Survey date: TUESDAY                                                             | 16/11/21                 | Survey Type: MANUAL |
| 21 | HC-03-A-28<br>EAGLE AVENUE<br>WATERLOOVILLE<br>LOVEDEAN                          | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 125                      |                     |
|    | Survey date: MONDAY                                                              | 08/11/21                 | Survey Type: MANUAL |
| 22 | HC-03-A-31<br>KILN ROAD<br>LIPHOOK                                               | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 44                       |                     |
|    | Survey date: FRIDAY                                                              | 07/10/22                 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                    |                          |                     |
|----|------------------------------------|--------------------------|---------------------|
| 23 | HC-03-A-33                         | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | CROW LANE                          |                          |                     |
|    | RINGWOOD                           |                          |                     |
|    | CROW                               |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 195                      |                     |
|    | Survey date: TUESDAY               | 04/07/23                 | Survey Type: MANUAL |
| 24 | HC-03-A-34                         | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | STONEHAM LANE                      |                          |                     |
|    | EASTLEIGH                          |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 243                      |                     |
|    | Survey date: TUESDAY               | 14/11/23                 | Survey Type: MANUAL |
| 25 | HC-03-A-35                         | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | EAGLE AVENUE                       |                          |                     |
|    | WATERLOOVILLE                      |                          |                     |
|    | LOVEDEAN                           |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 289                      |                     |
|    | Survey date: TUESDAY               | 31/10/23                 | Survey Type: MANUAL |
| 26 | HC-03-A-36                         | MIXED HOUSES & FLATS     | HAMPSHIRE           |
|    | HAVANT ROAD                        |                          |                     |
|    | EMSWORTH                           |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 145                      |                     |
|    | Survey date: TUESDAY               | 12/09/23                 | Survey Type: MANUAL |
| 27 | HC-03-A-37                         | MIXED HOUSES             | HAMPSHIRE           |
|    | REDFIELDS LANE                     |                          |                     |
|    | FLEET                              |                          |                     |
|    | CHURCH CROOKHAM                    |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 50                       |                     |
|    | Survey date: WEDNESDAY             | 27/03/24                 | Survey Type: MANUAL |
| 28 | HF-03-A-03                         | MIXED HOUSES             | HERTFORDSHIRE       |
|    | HARE STREET ROAD                   |                          |                     |
|    | BUNTINGFORD                        |                          |                     |
|    | Edge of Town                       |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 160                      |                     |
|    | Survey date: MONDAY                | 08/07/19                 | Survey Type: MANUAL |
| 29 | HI-03-A-14                         | SEMI-DETACHED & TERRACED | HIGHLAND            |
|    | KING BRUDE ROAD                    |                          |                     |
|    | INVERNESS                          |                          |                     |
|    | SCORGUIE                           |                          |                     |
|    | Suburban Area (PPS6 Out of Centre) |                          |                     |
|    | Residential Zone                   |                          |                     |
|    | Total No of Dwellings:             | 40                       |                     |
|    | Survey date: WEDNESDAY             | 23/03/16                 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                                                                                                               |                          |         |                     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------|---------------------|
| 30 | KC-03-A-03<br>HYTHE ROAD<br>ASHFORD<br>WILLESBOROUGH<br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 51<br>Survey date: THURSDAY 14/07/16 | MIXED HOUSES & FLATS     | KENT    | Survey Type: MANUAL |
| 31 | KC-03-A-04<br>KILN BARN ROAD<br>AYLESFORD<br>DITTON<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 110<br>Survey date: FRIDAY 22/09/17                         | SEMI-DETACHED & TERRACED | KENT    | Survey Type: MANUAL |
| 32 | KC-03-A-06<br>MARGATE ROAD<br>HERNE BAY<br><br>Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 363<br>Survey date: WEDNESDAY 27/09/17        | MIXED HOUSES & FLATS     | KENT    | Survey Type: MANUAL |
| 33 | KC-03-A-07<br>RECVLVER ROAD<br>HERNE BAY<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 288<br>Survey date: WEDNESDAY 27/09/17                             | MIXED HOUSES             | KENT    | Survey Type: MANUAL |
| 34 | KC-03-A-10<br>HEADCORN ROAD<br>STAPLEHURST<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 106<br>Survey date: TUESDAY 09/05/23                             | MIXED HOUSES             | KENT    | Survey Type: MANUAL |
| 35 | KC-03-A-11<br>COLDHARBOUR ROAD<br>GRAVESEND<br><br>Edge of Town<br>No Sub Category<br>Total No of Dwellings: 375<br>Survey date: MONDAY 20/03/23                              | MIXED HOUSES & FLATS     | KENT    | Survey Type: MANUAL |
| 36 | KC-03-A-12<br>WESTERN LINK<br>FAVERSHAM<br>DAVINGTON<br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 186<br>Survey date: TUESDAY 19/09/23                       | MIXED HOUSES & FLATS     | KENT    | Survey Type: MANUAL |
| 37 | NF-03-A-05<br>HEATH DRIVE<br>HOLT<br><br>Edge of Town<br>Residential Zone<br>Total No of Dwellings: 40<br>Survey date: THURSDAY 19/09/19                                      | MIXED HOUSES             | NORFOLK | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                        |                      |                     |
|----|------------------------|----------------------|---------------------|
| 38 | NF-03-A-06             | MIXED HOUSES         | NORFOLK             |
|    | BEAUFORT WAY           |                      |                     |
|    | GREAT YARMOUTH         |                      |                     |
|    | BRADWELL               |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 275                  |                     |
|    | Survey date: MONDAY    | 23/09/19             | Survey Type: MANUAL |
| 39 | NF-03-A-25             | MIXED HOUSES & FLATS | NORFOLK             |
|    | WOODFARM LANE          |                      |                     |
|    | GORLESTON-ON-SEA       |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 55                   |                     |
|    | Survey date: TUESDAY   | 21/09/21             | Survey Type: MANUAL |
| 40 | NF-03-A-30             | MIXED HOUSES         | NORFOLK             |
|    | BRANDON ROAD           |                      |                     |
|    | SWAFFHAM               |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 266                  |                     |
|    | Survey date: THURSDAY  | 23/09/21             | Survey Type: MANUAL |
| 41 | NF-03-A-33             | MIXED HOUSES         | NORFOLK             |
|    | LONDON ROAD            |                      |                     |
|    | ATTLEBOROUGH           |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 143                  |                     |
|    | Survey date: THURSDAY  | 29/09/22             | Survey Type: MANUAL |
| 42 | NF-03-A-34             | MIXED HOUSES         | NORFOLK             |
|    | NORWICH ROAD           |                      |                     |
|    | SWAFFHAM               |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Out of Town            |                      |                     |
|    | Total No of Dwellings: | 80                   |                     |
|    | Survey date: TUESDAY   | 27/09/22             | Survey Type: MANUAL |
| 43 | NF-03-A-35             | MIXED HOUSES & FLATS | NORFOLK             |
|    | REPTON AVENUE          |                      |                     |
|    | NORWICH                |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 116                  |                     |
|    | Survey date: WEDNESDAY | 28/09/22             | Survey Type: MANUAL |
| 44 | NF-03-A-36             | MIXED HOUSES         | NORFOLK             |
|    | LONDON ROAD            |                      |                     |
|    | WYMONDHAM              |                      |                     |
|    | Edge of Town           |                      |                     |
|    | No Sub Category        |                      |                     |
|    | Total No of Dwellings: | 75                   |                     |
|    | Survey date: THURSDAY  | 29/09/22             | Survey Type: MANUAL |
| 45 | NF-03-A-37             | MIXED HOUSES         | NORFOLK             |
|    | GREENFIELDS ROAD       |                      |                     |
|    | DEREHAM                |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 44                   |                     |
|    | Survey date: TUESDAY   | 27/09/22             | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                  |                      |                     |                 |
|----|----------------------------------------------------------------------------------|----------------------|---------------------|-----------------|
| 46 | NF-03-A-39<br>HEATH DRIVE<br>HOLT                                                | MIXED HOUSES         |                     | NORFOLK         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 212                  |                     |                 |
|    | Survey date: TUESDAY                                                             | 27/09/22             | Survey Type: MANUAL |                 |
| 47 | NF-03-A-46<br>BURGH ROAD<br>AYLSHAM                                              | MIXED HOUSES & FLATS |                     | NORFOLK         |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 300                  |                     |                 |
|    | Survey date: TUESDAY                                                             | 14/09/21             | Survey Type: MANUAL |                 |
| 48 | NF-03-A-51<br>CITY ROAD<br>NORWICH<br>LAKENHAM                                   | SEMI-DETACHED        |                     | NORFOLK         |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 34                   |                     |                 |
|    | Survey date: TUESDAY                                                             | 13/09/22             | Survey Type: MANUAL |                 |
| 49 | NF-03-A-52<br>LYNNSPORT WAY<br>KING'S LYNN                                       | MIXED HOUSES         |                     | NORFOLK         |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 130                  |                     |                 |
|    | Survey date: TUESDAY                                                             | 07/11/23             | Survey Type: MANUAL |                 |
| 50 | NT-03-A-08<br>WIGHAY ROAD<br>HUCKNALL                                            | DETACHED HOUSES      |                     | NOTTINGHAMSHIRE |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 36                   |                     |                 |
|    | Survey date: MONDAY                                                              | 18/10/21             | Survey Type: MANUAL |                 |
| 51 | NY-03-A-14<br>PALACE ROAD<br>RIPON                                               | DETACHED & BUNGALOWS |                     | NORTH YORKSHIRE |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       | 45                   |                     |                 |
|    | Survey date: WEDNESDAY                                                           | 18/05/22             | Survey Type: MANUAL |                 |
| 52 | PB-03-A-04<br>EASTFIELD ROAD<br>PETERBOROUGH                                     | DETACHED HOUSES      |                     | PETERBOROUGH    |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: | 28                   |                     |                 |
|    | Survey date: MONDAY                                                              | 17/10/16             | Survey Type: MANUAL |                 |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                                                                  |                          |          |                     |
|----|----------------------------------------------------------------------------------|--------------------------|----------|---------------------|
| 53 | SC-03-A-05<br>REIGATE ROAD<br>HORLEY                                             | MIXED HOUSES             |          | SURREY              |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       |                          | 207      |                     |
|    | Survey date: MONDAY                                                              |                          | 01/04/19 | Survey Type: MANUAL |
| 54 | SC-03-A-07<br>FOLLY HILL<br>FARNHAM                                              | MIXED HOUSES             |          | SURREY              |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       |                          | 41       |                     |
|    | Survey date: WEDNESDAY                                                           |                          | 11/05/22 | Survey Type: MANUAL |
| 55 | SD-03-A-01<br>HEADLANDS GROVE<br>SWINDON                                         | SEMI DETACHED            |          | SWINDON             |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: |                          | 27       |                     |
|    | Survey date: THURSDAY                                                            |                          | 22/09/16 | Survey Type: MANUAL |
| 56 | SP-03-A-02<br>BARNFIELD WAY<br>NEAR SOUTHAMPTON<br>HEDGE END                     | MIXED HOUSES & FLATS     |          | SOUTHAMPTON         |
|    | Edge of Town<br>Out of Town<br>Total No of Dwellings:                            |                          | 250      |                     |
|    | Survey date: TUESDAY                                                             |                          | 12/10/21 | Survey Type: MANUAL |
| 57 | ST-03-A-07<br>BEACONSIDE<br>STAFFORD<br>MARSTON GATE                             | DETACHED & SEMI-DETACHED |          | STAFFORDSHIRE       |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       |                          | 248      |                     |
|    | Survey date: WEDNESDAY                                                           |                          | 22/11/17 | Survey Type: MANUAL |
| 58 | WB-03-A-03<br>DORKING WAY<br>READING<br>CALCOT                                   | MIXED HOUSES             |          | WEST BERKSHIRE      |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       |                          | 108      |                     |
|    | Survey date: FRIDAY                                                              |                          | 09/09/22 | Survey Type: MANUAL |
| 59 | WK-03-A-04<br>DALEHOUSE LANE<br>KENILWORTH                                       | DETACHED HOUSES          |          | WARWICKSHIRE        |
|    | Edge of Town<br>Residential Zone<br>Total No of Dwellings:                       |                          | 49       |                     |
|    | Survey date: FRIDAY                                                              |                          | 27/09/19 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                        |                      |                     |
|----|------------------------|----------------------|---------------------|
| 60 | WS-03-A-08             | MIXED HOUSES         | WEST SUSSEX         |
|    | ROUNDSTONE LANE        |                      |                     |
|    | ANGMERING              |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 180                  |                     |
|    | Survey date: THURSDAY  | 19/04/18             | Survey Type: MANUAL |
| 61 | WS-03-A-14             | MIXED HOUSES         | WEST SUSSEX         |
|    | TODDINGTON LANE        |                      |                     |
|    | LITTLEHAMPTON          |                      |                     |
|    | WICK                   |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 117                  |                     |
|    | Survey date: WEDNESDAY | 20/10/21             | Survey Type: MANUAL |
| 62 | WS-03-A-17             | MIXED HOUSES & FLATS | WEST SUSSEX         |
|    | SHOPWHYKE ROAD         |                      |                     |
|    | CHICHESTER             |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 86                   |                     |
|    | Survey date: WEDNESDAY | 01/03/23             | Survey Type: MANUAL |
| 63 | WS-03-A-19             | MIXED HOUSES & FLATS | WEST SUSSEX         |
|    | TURNERS HILL ROAD      |                      |                     |
|    | EAST GRINSTEAD         |                      |                     |
|    | Edge of Town           |                      |                     |
|    | Residential Zone       |                      |                     |
|    | Total No of Dwellings: | 92                   |                     |
|    | Survey date: MONDAY    | 15/05/23             | 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.

MANUALLY DESELECTED SITES

| Site Ref   | Reason for Deselection |
|------------|------------------------|
| SF-03-A-09 | Covid-19 restrictions  |
| SF-03-A-10 | Covid-19 restrictions  |
| WS-03-A-12 | Covid-19 restrictions  |
| WS-03-A-13 | Covid-19 restrictions  |

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
**MULTI-MODAL TOTAL VEHICLES**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period  
 Total People to Total Vehicles ratio (all time periods and directions): 1.73

| Time Range          | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|                     | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00       |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00       |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00       |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00       |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00       |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00       |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00       |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00       | 63       | 127         | 0.077     | 63         | 127         | 0.303     | 63       | 127         | 0.380     |
| 08:00 - 09:00       | 63       | 127         | 0.139     | 63         | 127         | 0.367     | 63       | 127         | 0.506     |
| 09:00 - 10:00       | 63       | 127         | 0.135     | 63         | 127         | 0.175     | 63       | 127         | 0.310     |
| 10:00 - 11:00       | 63       | 127         | 0.119     | 63         | 127         | 0.149     | 63       | 127         | 0.268     |
| 11:00 - 12:00       | 63       | 127         | 0.131     | 63         | 127         | 0.142     | 63       | 127         | 0.273     |
| 12:00 - 13:00       | 63       | 127         | 0.151     | 63         | 127         | 0.144     | 63       | 127         | 0.295     |
| 13:00 - 14:00       | 63       | 127         | 0.161     | 63         | 127         | 0.152     | 63       | 127         | 0.313     |
| 14:00 - 15:00       | 63       | 127         | 0.165     | 63         | 127         | 0.184     | 63       | 127         | 0.349     |
| 15:00 - 16:00       | 63       | 127         | 0.265     | 63         | 127         | 0.173     | 63       | 127         | 0.438     |
| 16:00 - 17:00       | 63       | 127         | 0.273     | 63         | 127         | 0.159     | 63       | 127         | 0.432     |
| 17:00 - 18:00       | 63       | 127         | 0.347     | 63         | 127         | 0.153     | 63       | 127         | 0.500     |
| 18:00 - 19:00       | 63       | 127         | 0.273     | 63         | 127         | 0.140     | 63       | 127         | 0.413     |
| 19:00 - 20:00       | 1        | 32          | 0.188     | 1          | 32          | 0.125     | 1        | 32          | 0.313     |
| 20:00 - 21:00       | 1        | 32          | 0.219     | 1          | 32          | 0.188     | 1        | 32          | 0.407     |
| 21:00 - 22:00       |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00       |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00       |          |             |           |            |             |           |          |             |           |
| <b>Total Rates:</b> |          |             | 2.643     |            |             | 2.554     |          |             | 5.197     |

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:           | 24 - 375 (units: )  |
| Survey date date range:                       | 01/01/16 - 27/03/24 |
| Number of weekdays (Monday-Friday):           | 63                  |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 11                  |
| Surveys manually removed from selection:      | 4                   |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
**MULTI-MODAL CYCLISTS**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 63       | 127         | 0.004     | 63         | 127         | 0.009     | 63       | 127         | 0.013     |
| 08:00 - 09:00 | 63       | 127         | 0.005     | 63         | 127         | 0.016     | 63       | 127         | 0.021     |
| 09:00 - 10:00 | 63       | 127         | 0.002     | 63         | 127         | 0.004     | 63       | 127         | 0.006     |
| 10:00 - 11:00 | 63       | 127         | 0.003     | 63         | 127         | 0.003     | 63       | 127         | 0.006     |
| 11:00 - 12:00 | 63       | 127         | 0.002     | 63         | 127         | 0.003     | 63       | 127         | 0.005     |
| 12:00 - 13:00 | 63       | 127         | 0.003     | 63         | 127         | 0.002     | 63       | 127         | 0.005     |
| 13:00 - 14:00 | 63       | 127         | 0.003     | 63         | 127         | 0.002     | 63       | 127         | 0.005     |
| 14:00 - 15:00 | 63       | 127         | 0.004     | 63         | 127         | 0.004     | 63       | 127         | 0.008     |
| 15:00 - 16:00 | 63       | 127         | 0.011     | 63         | 127         | 0.007     | 63       | 127         | 0.018     |
| 16:00 - 17:00 | 63       | 127         | 0.011     | 63         | 127         | 0.006     | 63       | 127         | 0.017     |
| 17:00 - 18:00 | 63       | 127         | 0.009     | 63         | 127         | 0.006     | 63       | 127         | 0.015     |
| 18:00 - 19:00 | 63       | 127         | 0.006     | 63         | 127         | 0.004     | 63       | 127         | 0.010     |
| 19:00 - 20:00 | 1        | 32          | 0.000     | 1          | 32          | 0.000     | 1        | 32          | 0.000     |
| 20:00 - 21:00 | 1        | 32          | 0.000     | 1          | 32          | 0.000     | 1        | 32          | 0.000     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.063     |            |             | 0.066     |          |             | 0.129     |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
 MULTI-MODAL PEDESTRIANS  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 63       | 127         | 0.017     | 63         | 127         | 0.040     | 63       | 127         | 0.057     |
| 08:00 - 09:00 | 63       | 127         | 0.040     | 63         | 127         | 0.104     | 63       | 127         | 0.144     |
| 09:00 - 10:00 | 63       | 127         | 0.037     | 63         | 127         | 0.035     | 63       | 127         | 0.072     |
| 10:00 - 11:00 | 63       | 127         | 0.020     | 63         | 127         | 0.029     | 63       | 127         | 0.049     |
| 11:00 - 12:00 | 63       | 127         | 0.030     | 63         | 127         | 0.030     | 63       | 127         | 0.060     |
| 12:00 - 13:00 | 63       | 127         | 0.031     | 63         | 127         | 0.027     | 63       | 127         | 0.058     |
| 13:00 - 14:00 | 63       | 127         | 0.025     | 63         | 127         | 0.027     | 63       | 127         | 0.052     |
| 14:00 - 15:00 | 63       | 127         | 0.033     | 63         | 127         | 0.035     | 63       | 127         | 0.068     |
| 15:00 - 16:00 | 63       | 127         | 0.089     | 63         | 127         | 0.050     | 63       | 127         | 0.139     |
| 16:00 - 17:00 | 63       | 127         | 0.064     | 63         | 127         | 0.039     | 63       | 127         | 0.103     |
| 17:00 - 18:00 | 63       | 127         | 0.049     | 63         | 127         | 0.037     | 63       | 127         | 0.086     |
| 18:00 - 19:00 | 63       | 127         | 0.044     | 63         | 127         | 0.036     | 63       | 127         | 0.080     |
| 19:00 - 20:00 | 1        | 32          | 0.094     | 1          | 32          | 0.000     | 1        | 32          | 0.094     |
| 20:00 - 21:00 | 1        | 32          | 0.000     | 1          | 32          | 0.000     | 1        | 32          | 0.000     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  | 0.573    |             |           | 0.489      |             |           | 1.062    |             |           |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
 MULTI-MODAL PUBLIC TRANSPORT USERS  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 63       | 127         | 0.001     | 63         | 127         | 0.029     | 63       | 127         | 0.030     |
| 08:00 - 09:00 | 63       | 127         | 0.004     | 63         | 127         | 0.038     | 63       | 127         | 0.042     |
| 09:00 - 10:00 | 63       | 127         | 0.003     | 63         | 127         | 0.013     | 63       | 127         | 0.016     |
| 10:00 - 11:00 | 63       | 127         | 0.005     | 63         | 127         | 0.007     | 63       | 127         | 0.012     |
| 11:00 - 12:00 | 63       | 127         | 0.006     | 63         | 127         | 0.006     | 63       | 127         | 0.012     |
| 12:00 - 13:00 | 63       | 127         | 0.006     | 63         | 127         | 0.006     | 63       | 127         | 0.012     |
| 13:00 - 14:00 | 63       | 127         | 0.005     | 63         | 127         | 0.005     | 63       | 127         | 0.010     |
| 14:00 - 15:00 | 63       | 127         | 0.006     | 63         | 127         | 0.006     | 63       | 127         | 0.012     |
| 15:00 - 16:00 | 63       | 127         | 0.025     | 63         | 127         | 0.006     | 63       | 127         | 0.031     |
| 16:00 - 17:00 | 63       | 127         | 0.022     | 63         | 127         | 0.004     | 63       | 127         | 0.026     |
| 17:00 - 18:00 | 63       | 127         | 0.021     | 63         | 127         | 0.003     | 63       | 127         | 0.024     |
| 18:00 - 19:00 | 63       | 127         | 0.018     | 63         | 127         | 0.003     | 63       | 127         | 0.021     |
| 19:00 - 20:00 | 1        | 32          | 0.000     | 1          | 32          | 0.000     | 1        | 32          | 0.000     |
| 20:00 - 21:00 | 1        | 32          | 0.000     | 1          | 32          | 0.000     | 1        | 32          | 0.000     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 0.122     |            |             | 0.126     |          |             | 0.248     |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
**MULTI-MODAL TOTAL PEOPLE**  
 Calculation factor: 1 DWELLS  
 BOLD print indicates peak (busiest) period  
 Total People to Total Vehicles ratio (all time periods and directions): 1.73

| Time Range    | ARRIVALS |             |           | DEPARTURES |             |           | TOTALS   |             |           |
|---------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
|               | No. Days | Ave. DWELLS | Trip Rate | No. Days   | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 |          |             |           |            |             |           |          |             |           |
| 01:00 - 02:00 |          |             |           |            |             |           |          |             |           |
| 02:00 - 03:00 |          |             |           |            |             |           |          |             |           |
| 03:00 - 04:00 |          |             |           |            |             |           |          |             |           |
| 04:00 - 05:00 |          |             |           |            |             |           |          |             |           |
| 05:00 - 06:00 |          |             |           |            |             |           |          |             |           |
| 06:00 - 07:00 |          |             |           |            |             |           |          |             |           |
| 07:00 - 08:00 | 63       | 127         | 0.111     | 63         | 127         | 0.508     | 63       | 127         | 0.619     |
| 08:00 - 09:00 | 63       | 127         | 0.218     | 63         | 127         | 0.773     | 63       | 127         | 0.991     |
| 09:00 - 10:00 | 63       | 127         | 0.210     | 63         | 127         | 0.296     | 63       | 127         | 0.506     |
| 10:00 - 11:00 | 63       | 127         | 0.180     | 63         | 127         | 0.245     | 63       | 127         | 0.425     |
| 11:00 - 12:00 | 63       | 127         | 0.208     | 63         | 127         | 0.235     | 63       | 127         | 0.443     |
| 12:00 - 13:00 | 63       | 127         | 0.243     | 63         | 127         | 0.230     | 63       | 127         | 0.473     |
| 13:00 - 14:00 | 63       | 127         | 0.251     | 63         | 127         | 0.239     | 63       | 127         | 0.490     |
| 14:00 - 15:00 | 63       | 127         | 0.263     | 63         | 127         | 0.289     | 63       | 127         | 0.552     |
| 15:00 - 16:00 | 63       | 127         | 0.575     | 63         | 127         | 0.304     | 63       | 127         | 0.879     |
| 16:00 - 17:00 | 63       | 127         | 0.533     | 63         | 127         | 0.273     | 63       | 127         | 0.806     |
| 17:00 - 18:00 | 63       | 127         | 0.595     | 63         | 127         | 0.262     | 63       | 127         | 0.857     |
| 18:00 - 19:00 | 63       | 127         | 0.465     | 63         | 127         | 0.246     | 63       | 127         | 0.711     |
| 19:00 - 20:00 | 1        | 32          | 0.313     | 1          | 32          | 0.188     | 1        | 32          | 0.500     |
| 20:00 - 21:00 | 1        | 32          | 0.313     | 1          | 32          | 0.250     | 1        | 32          | 0.562     |
| 21:00 - 22:00 |          |             |           |            |             |           |          |             |           |
| 22:00 - 23:00 |          |             |           |            |             |           |          |             |           |
| 23:00 - 24:00 |          |             |           |            |             |           |          |             |           |
| Total Rates:  |          |             | 4.476     |            |             | 4.338     |          |             | 8.814     |

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

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

Appendix E – Junction Capacity Assessment Results

| Junctions 9                                                                                                                                                      |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| PICADY 9 - Priority Intersection Module                                                                                                                          |  |  |  |  |  |  |  |
| Version: 9.5.2.1013                                                                                                                                              |  |  |  |  |  |  |  |
| © Copyright TRL Limited, 2019                                                                                                                                    |  |  |  |  |  |  |  |
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| +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk                                                                                                      |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |  |  |  |  |  |  |

Filename: Crabtree Lane.j9

Path: \\ma-fs-1\Projects\086001 - 087000\086840 - TPMA Crabtree Lane, Openshaw\Q3-Design\3B-Models\TP

Report generation date: 11/12/2024 14:12:13

- »Observed, AM
- »Observed, PM
- »Observed + Proposed, AM
- »Observed + Proposed, PM

#### Summary of junction performance

|                                                           | AM          |           |      |     | PM          |           |      |     |
|-----------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                           | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Observed                                                  |             |           |      |     |             |           |      |     |
| 1 - Louisa Street / Claytonbrook Road - Stream B-ACD      | 0.1         | 8.16      | 0.07 | A   | 0.0         | 6.79      | 0.02 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream A-BCD      | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream D-ABC      | 0.1         | 7.24      | 0.07 | A   | 0.1         | 7.02      | 0.05 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream C-ABD      | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| 2 - Louisa Street / Old Lane - Stream B-AC                | 0.4         | 9.71      | 0.31 | A   | 0.1         | 7.89      | 0.13 | A   |
| 2 - Louisa Street / Old Lane - Stream C-AB                | 0.4         | 8.02      | 0.24 | A   | 0.2         | 5.89      | 0.15 | A   |
| 3 - Louisa Street / Ashton Old Road - Stream B-AC         | 3.1         | 40.41     | 0.77 | E   | 0.7         | 17.76     | 0.40 | C   |
| 3 - Louisa Street / Ashton Old Road - Stream C-A          | 3.6         | 9.57      | 0.65 | A   | 1.7         | 8.21      | 0.49 | A   |
| 3 - Louisa Street / Ashton Old Road - Stream C-B          | 0.2         | 10.10     | 0.64 | B   | 0.4         | 11.22     | 0.56 | B   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream B-AC | 1.8         | 25.45     | 0.65 | D   | 0.5         | 14.82     | 0.34 | B   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream C-A  | 2.8         | 8.25      | 0.59 | A   | 1.4         | 7.44      | 0.44 | A   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream C-B  | 0.2         | 8.73      | 0.58 | A   | 0.3         | 9.76      | 0.51 | A   |
| Observed + Proposed                                       |             |           |      |     |             |           |      |     |
| 1 - Louisa Street / Claytonbrook Road - Stream B-ACD      | 0.1         | 8.21      | 0.09 | A   | 0.1         | 7.21      | 0.07 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream A-BCD      | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream D-ABC      | 0.1         | 7.36      | 0.07 | A   | 0.1         | 7.15      | 0.05 | A   |
| 1 - Louisa Street / Claytonbrook Road - Stream C-ABD      | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| 2 - Louisa Street / Old Lane - Stream B-AC                | 0.5         | 10.06     | 0.32 | B   | 0.2         | 8.20      | 0.14 | A   |
| 2 - Louisa Street / Old Lane - Stream C-AB                | 0.4         | 8.37      | 0.26 | A   | 0.3         | 6.29      | 0.20 | A   |
| 3 - Louisa Street / Ashton Old Road - Stream B-AC         | 7.3         | 86.51     | 0.92 | F   | 0.8         | 20.02     | 0.45 | C   |
| 3 - Louisa Street / Ashton Old Road - Stream C-A          | 3.7         | 9.70      | 0.65 | A   | 2.4         | 10.94     | 0.58 | B   |
| 3 - Louisa Street / Ashton Old Road - Stream C-B          | 0.2         | 10.27     | 0.64 | B   | 0.6         | 14.24     | 0.62 | B   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream B-AC | 3.2         | 40.24     | 0.77 | E   | 0.6         | 16.21     | 0.38 | C   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream C-A  | 2.8         | 8.34      | 0.59 | A   | 1.9         | 9.62      | 0.52 | A   |
| 3b - Louisa Street / Ashton Old Road (Flat) - Stream C-B  | 0.2         | 8.87      | 0.59 | A   | 0.4         | 12.17     | 0.56 | B   |

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

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

## File summary

### File Description

|             |                  |
|-------------|------------------|
| Title       | Crabtree Lane    |
| Location    |                  |
| Site number |                  |
| Date        | 10/12/2024       |
| Version     |                  |
| Status      | (new file)       |
| Identifier  |                  |
| Client      |                  |
| Jobnumber   |                  |
| Enumerator  | CURTINS\Alex.Fry |
| Description |                  |

## Units

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

## Analysis Options

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

## Demand Set Summary

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D1 | Observed            | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D2 | Observed            | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |
| D3 | Observed + Proposed | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D4 | Observed + Proposed | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |

## Analysis Set Details

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

# Observed, AM

## Data Errors and Warnings

| Severity | Area                | Item                                                                                           | Description                                                                                                          |
|----------|---------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Warning  | Major arm width     | 2 - Louisa Street / Old Lane - C - Louisa Street (South) - Major arm geometry                  | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |
| Warning  | Pedestrian Crossing | 3 - Louisa Street / Ashton Old Road - C - Ashton Old Road (East) - Pedestrian crossing         | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |
| Warning  | Pedestrian Crossing | 3b - Louisa Street / Ashton Old Road (Flat) - C - Ashton Old Road (East) - Pedestrian crossing | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |

## Junction Network

### Junctions

| Junction | Name                                   | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------------------------------------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | Louisa Street / Claytonbrook Road      | Right-Left Stagger | Two-way              |                       | 7.00               | A            |
| 2        | Louisa Street / Old Lane               | T-Junction         | Two-way              |                       | 5.12               | A            |
| 3        | Louisa Street / Ashton Old Road        | T-Junction         | Two-way              |                       | 10.41              | B            |
| 3b       | Louisa Street / Ashton Old Road (Flat) | T-Junction         | Two-way              |                       | 7.84               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Junction                                    | Arm | Name                     | Description | Arm type |
|---------------------------------------------|-----|--------------------------|-------------|----------|
| 1 - Louisa Street / Claytonbrook Road       | A   | Claytonbrook Road (East) |             | Major    |
|                                             | B   | Louisa Street            |             | Minor    |
|                                             | C   | Claytonbrook Road (West) |             | Major    |
|                                             | D   | Access                   |             | Minor    |
| 2 - Louisa Street / Old Lane                | A   | Louisa Street (North)    |             | Major    |
|                                             | B   | Old Lane                 |             | Minor    |
|                                             | C   | Louisa Street (South)    |             | Major    |
| 3 - Louisa Street / Ashton Old Road         | A   | Ashton Old Road (West)   |             | Major    |
|                                             | B   | Louisa Street            |             | Minor    |
|                                             | C   | Ashton Old Road (East)   |             | Major    |
| 3b - Louisa Street / Ashton Old Road (Flat) | A   | Ashton Old Road (West)   |             | Major    |
|                                             | B   | Louisa Street            |             | Minor    |
|                                             | C   | Ashton Old Road (East)   |             | Major    |

## Major Arm Geometry

| Junction                                    | 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) |
|---------------------------------------------|------------------------------|--------------------------|----------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) | 7.03                     |                            |                    |                          | 64.0                          | ✓       | 0.00                 |
|                                             | C - Claytonbrook Road (West) | 7.15                     |                            |                    |                          | 63.0                          | ✓       | 0.00                 |
| 2 - Louisa Street / Old Lane                | C - Louisa Street (South)    | 4.96                     |                            |                    |                          | 57.0                          | ✓       | 0.00                 |
| 3 - Louisa Street / Ashton Old Road         | C - Ashton Old Road (East)   | 9.31                     |                            | ✓                  | 2.20                     | 21.0                          |         | -                    |
| 3b - Louisa Street / Ashton Old Road (Flat) | C - Ashton Old Road (East)   | 9.31                     |                            | ✓                  | 2.20                     | 21.0                          |         | -                    |

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

## Minor Arm Geometry

| Junction                                    | Arm               | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---------------------------------------------|-------------------|----------------|----------------|------------------------|-------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B - Louisa Street | One lane       | 3.90           | 23                     | 25                      |
|                                             | D - Access        | One lane       | 3.80           | 26                     | 32                      |
| 2 - Louisa Street / Old Lane                | B - Old Lane      | One lane       | 2.50           | 18                     | 24                      |
| 3 - Louisa Street / Ashton Old Road         | B - Louisa Street | One lane       | 3.40           | 29                     | 31                      |
| 3b - Louisa Street / Ashton Old Road (Flat) | B - Louisa Street | One lane       | 3.40           | 29                     | 31                      |

## Pelican/Puffin Crossings

| Junction                                    | Arm                        | Space between crossing and junc. entry (Signalised) (PCU) | Amber time preceding red (s) | Amber time regarded as green (s) | Time from traffic red start to green man start (s) | Time period green man shown (s) | Clearance Period (s) | Traffic minimum green (s) |
|---------------------------------------------|----------------------------|-----------------------------------------------------------|------------------------------|----------------------------------|----------------------------------------------------|---------------------------------|----------------------|---------------------------|
| 3 - Louisa Street / Ashton Old Road         | C - Ashton Old Road (East) | 4.76                                                      | 3.00                         | 2.90                             | 1.00                                               | 6.00                            | 12.06                | 7.00                      |
| 3b - Louisa Street / Ashton Old Road (Flat) | C - Ashton Old Road (East) | 4.76                                                      | 3.00                         | 2.90                             | 1.00                                               | 6.00                            | 12.06                | 7.00                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction                              | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-A | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-B | Slope for D-C |
|---------------------------------------|--------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 - Louisa Street / Claytonbrook Road | A-D    | 611                | -             | -             | -             | 0.226         | 0.226         | 0.226         | -             | 0.226         | -             | -             |
|                                       | B-AD   | 542                | 0.094         | 0.237         | -             | -             | -             | 0.149         | 0.339         | 0.149         | 0.094         | 0.237         |
|                                       | B-C    | 697                | 0.102         | 0.257         | -             | -             | -             | -             | -             | -             | 0.102         | 0.257         |
|                                       | C-B    | 610                | 0.225         | 0.225         | -             | -             | -             | -             | -             | -             | 0.225         | 0.225         |
|                                       | D-A    | 696                | -             | -             | -             | 0.257         | 0.102         | 0.257         | -             | 0.102         | -             | -             |
|                                       | D-BC   | 542                | 0.150         | 0.150         | 0.340         | 0.238         | 0.094         | 0.238         | -             | 0.094         | -             | -             |

### Priority Intersection Slopes and Intercepts

| Junction                     | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|------------------------------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2 - Louisa Street / Old Lane | B-A    | 470                | 0.090         | 0.226         | 0.142         | 0.323         |
|                              | B-C    | 607                | 0.097         | 0.246         | -             | -             |
|                              | C-B    | 607                | 0.246         | 0.246         | -             | -             |

### Priority Intersection Slopes and Intercepts

| Junction                            | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|-------------------------------------|--------|--------------------|---------------|---------------|---------------|---------------|
| 3 - Louisa Street / Ashton Old Road | B-A    | 522                | 0.081         | 0.206         | 0.130         | 0.294         |
|                                     | B-C    | 669                | 0.088         | 0.222         | -             | -             |
|                                     | C-B    | 586                | 0.194         | 0.194         | -             | -             |

### Priority Intersection Slopes and Intercepts

| Junction                                    | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---------------------------------------------|--------|--------------------|---------------|---------------|---------------|---------------|
| 3b - Louisa Street / Ashton Old Road (Flat) | B-A    | 522                | 0.081         | 0.206         | 0.130         | 0.294         |
|                                             | B-C    | 669                | 0.088         | 0.222         | -             | -             |
|                                             | C-B    | 586                | 0.194         | 0.194         | -             | -             |

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 | Observed      | AM               | ONE HOUR             | 08:00              | 09:30               | 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)

| Junction                                    | Arm                          | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---------------------------------------------|------------------------------|------------|--------------|--------------|-------------------------|--------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |            | ONE HOUR     | ✓            | 7                       | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 36                      | 100.000            |
|                                             | C - Claytonbrook Road (West) |            | ONE HOUR     | ✓            | 0                       | 100.000            |
|                                             | D - Access                   |            | ONE HOUR     | ✓            | 33                      | 100.000            |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |            | ONE HOUR     | ✓            | 153                     | 100.000            |
|                                             | B - Old Lane                 |            | ONE HOUR     | ✓            | 151                     | 100.000            |
|                                             | C - Louisa Street (South)    |            | ONE HOUR     | ✓            | 194                     | 100.000            |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |            | ONE HOUR     | ✓            | 662                     | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 264                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | ONE HOUR     | ✓            | 1263                    | 100.000            |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |            | FLAT         | ✓            | 662                     | 100.000            |
|                                             | B - Louisa Street            |            | FLAT         | ✓            | 264                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | FLAT         | ✓            | 1263                    | 100.000            |

## Demand overview (Pedestrians)

| Junction                                    | Arm                          | Profile type | Average pedestrian flow (Ped/hr) |
|---------------------------------------------|------------------------------|--------------|----------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Claytonbrook Road (West) |              |                                  |
|                                             | D - Access                   |              |                                  |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |              |                                  |
|                                             | B - Old Lane                 |              |                                  |
|                                             | C - Louisa Street (South)    |              |                                  |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |

## Origin-Destination Data

### Demand (PCU/hr)

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
| From |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
|      | A - Claytonbrook Road (East) | 0                            | 7                 | 0                            | 0          |
|      | B - Louisa Street            | 20                           | 0                 | 0                            | 16         |
|      | C - Claytonbrook Road (West) | 0                            | 0                 | 0                            | 0          |
|      | D - Access                   | 0                            | 33                | 0                            | 0          |

### Demand (PCU/hr)

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
| From |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
|      | A - Louisa Street (North) | 0                         | 19           | 134                       |
|      | B - Old Lane              | 16                        | 0            | 135                       |
|      | C - Louisa Street (South) | 74                        | 120          | 0                         |

### Demand (PCU/hr)

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
| From |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
|      | A - Ashton Old Road (West) | 0                          | 130               | 532                        |
|      | B - Louisa Street          | 61                         | 0                 | 203                        |
|      | C - Ashton Old Road (East) | 1199                       | 64                | 0                          |

### Demand (PCU/hr)

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
| From |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
|      | A - Ashton Old Road (West) | 0                          | 130               | 532                        |
|      | B - Louisa Street          | 61                         | 0                 | 203                        |
|      | C - Ashton Old Road (East) | 1199                       | 64                | 0                          |

## Vehicle Mix

### Heavy Vehicle Percentages

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
| From |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
|      | A - Claytonbrook Road (East) | 10                           | 29                | 0                            | 10         |
|      | B - Louisa Street            | 26                           | 10                | 10                           | 0          |
|      | C - Claytonbrook Road (West) | 0                            | 0                 | 10                           | 10         |
|      | D - Access                   | 10                           | 0                 | 10                           | 10         |

### Heavy Vehicle Percentages

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
| From |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
|      | A - Louisa Street (North) | 10                        | 0            | 4                         |
|      | B - Old Lane              | 0                         | 10           | 1                         |
|      | C - Louisa Street (South) | 1                         | 5            | 10                        |

### Heavy Vehicle Percentages

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
| From |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
|      | A - Ashton Old Road (West) | 10                         | 6                 | 11                         |
|      | B - Louisa Street          | 5                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 5                          | 0                 | 10                         |

### Heavy Vehicle Percentages

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
| From |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
|      | A - Ashton Old Road (West) | 10                         | 6                 | 11                         |
|      | B - Louisa Street          | 5                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 5                          | 0                 | 10                         |

## Results

### Results Summary for whole modelled period

| Junction                                    | Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---------------------------------------------|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 0.07    | 8.16          | 0.1             | A       | 33                      | 50                            |
|                                             | A-BCD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | A-B    |         |               |                 |         | 6                       | 10                            |
|                                             | A-C    |         |               |                 |         | 0                       | 0                             |
|                                             | D-ABC  | 0.07    | 7.24          | 0.1             | A       | 30                      | 45                            |
|                                             | C-ABD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | C-D    |         |               |                 |         | 0                       | 0                             |
|                                             | C-A    |         |               |                 |         | 0                       | 0                             |
| 2 - Louisa Street / Old Lane                | B-AC   | 0.31    | 9.71          | 0.4             | A       | 139                     | 208                           |
|                                             | C-AB   | 0.24    | 8.02          | 0.4             | A       | 124                     | 186                           |
|                                             | C-A    |         |               |                 |         | 54                      | 81                            |
|                                             | A-B    |         |               |                 |         | 17                      | 26                            |
|                                             | A-C    |         |               |                 |         | 123                     | 184                           |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 0.77    | 40.41         | 3.1             | E       | 242                     | 363                           |
|                                             | C-A    | 0.65    | 9.57          | 3.6             | A       | 1100                    | 1650                          |
|                                             | C-B    | 0.64    | 10.10         | 0.2             | B       | 59                      | 88                            |
|                                             | A-B    |         |               |                 |         | 119                     | 179                           |
|                                             | A-C    |         |               |                 |         | 488                     | 732                           |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 0.65    | 25.45         | 1.8             | D       | 264                     | 396                           |
|                                             | C-A    | 0.59    | 8.25          | 2.8             | A       | 1199                    | 1799                          |
|                                             | C-B    | 0.58    | 8.73          | 0.2             | A       | 64                      | 96                            |
|                                             | A-B    |         |               |                 |         | 130                     | 195                           |
|                                             | A-C    |         |               |                 |         | 532                     | 798                           |

## Main Results for each time segment

### 08:00 - 08:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 27                    | 7                       |                            | 539               | 0.050 | 27                  | 0.0               | 0.1             | 7.929     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 5                     | 1                       |                            |                   |       | 5                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 25                    | 6                       |                            | 536               | 0.046 | 25                  | 0.0               | 0.0             | 7.033     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 114                   | 28                      |                            | 556               | 0.204 | 113                 | 0.0               | 0.3             | 8.174     | A                             |
|                                             | C-AB   | 99                    | 25                      |                            | 616               | 0.161 | 98                  | 0.0               | 0.2             | 7.262     | A                             |
|                                             | C-A    | 47                    | 12                      |                            |                   |       | 47                  |                   |                 |           |                               |
|                                             | A-B    | 14                    | 4                       |                            |                   |       | 14                  |                   |                 |           |                               |
|                                             | A-C    | 101                   | 25                      |                            |                   |       | 101                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 199                   | 50                      |                            | 473               | 0.420 | 196                 | 0.0               | 0.7             | 13.193    | B                             |
|                                             | C-A    | 903                   | 226                     | 0.00                       | 2065              | 0.437 | 897                 | 0.0               | 1.5             | 6.099     | A                             |
|                                             | C-B    | 48                    | 12                      | 0.00                       | 107               | 0.449 | 48                  | 0.0               | 0.1             | 6.386     | A                             |
|                                             | A-B    | 98                    | 24                      |                            |                   |       | 98                  |                   |                 |           |                               |
|                                             | A-C    | 401                   | 100                     |                            |                   |       | 401                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 410               | 0.643 | 257                 | 0.0               | 1.7             | 23.217    | C                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.587 | 1188                | 0.0               | 2.8             | 8.048     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 109               | 0.585 | 63                  | 0.0               | 0.2             | 8.520     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

### 08:15 - 08:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 32                    | 8                       |                            | 539               | 0.060 | 32                  | 0.1               | 0.1             | 8.025     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 6                     | 2                       |                            |                   |       | 6                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 30                    | 7                       |                            | 535               | 0.055 | 30                  | 0.0               | 0.1             | 7.118     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 136                   | 34                      |                            | 549               | 0.247 | 135                 | 0.3               | 0.3             | 8.768     | A                             |
|                                             | C-AB   | 121                   | 30                      |                            | 619               | 0.196 | 121                 | 0.2               | 0.3             | 7.563     | A                             |
|                                             | C-A    | 53                    | 13                      |                            |                   |       | 53                  |                   |                 |           |                               |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 120                   | 30                      |                            |                   |       | 120                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 237                   | 59                      |                            | 437               | 0.544 | 236                 | 0.7               | 1.2             | 18.210    | C                             |
|                                             | C-A    | 1078                  | 269                     | 0.00                       | 2051              | 0.526 | 1075                | 1.5               | 2.2             | 7.205     | A                             |
|                                             | C-B    | 58                    | 14                      | 0.00                       | 109               | 0.530 | 57                  | 0.1               | 0.1             | 7.616     | A                             |
|                                             | A-B    | 117                   | 29                      |                            |                   |       | 117                 |                   |                 |           |                               |
|                                             | A-C    | 478                   | 120                     |                            |                   |       | 478                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 409               | 0.645 | 264                 | 1.7               | 1.8             | 25.306    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.588 | 1199                | 2.8               | 2.8             | 8.242     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 110               | 0.584 | 64                  | 0.2               | 0.2             | 8.730     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

## 08:30 - 08:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 40                    | 10                      |                            | 538               | 0.074 | 40                  | 0.1               | 0.1             | 8.154     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 8                     | 2                       |                            |                   |       | 8                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 36                    | 9                       |                            | 534               | 0.068 | 36                  | 0.1               | 0.1             | 7.235     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 600               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 166                   | 42                      |                            | 540               | 0.308 | 166                 | 0.3               | 0.4             | 9.688     | A                             |
|                                             | C-AB   | 152                   | 38                      |                            | 622               | 0.245 | 152                 | 0.3               | 0.4             | 8.008     | A                             |
|                                             | C-A    | 61                    | 15                      |                            |                   |       | 61                  |                   |                 |           |                               |
|                                             | A-B    | 21                    | 5                       |                            |                   |       | 21                  |                   |                 |           |                               |
|                                             | A-C    | 148                   | 37                      |                            |                   |       | 148                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 291                   | 73                      |                            | 380               | 0.765 | 284                 | 1.2               | 2.9             | 36.165    | E                             |
|                                             | C-A    | 1320                  | 330                     | 0.00                       | 2030              | 0.650 | 1315                | 2.2               | 3.6             | 9.442     | A                             |
|                                             | C-B    | 70                    | 18                      | 0.00                       | 111               | 0.637 | 70                  | 0.1               | 0.2             | 9.963     | A                             |
|                                             | A-B    | 143                   | 36                      |                            |                   |       | 143                 |                   |                 |           |                               |
|                                             | A-C    | 586                   | 146                     |                            |                   |       | 586                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 409               | 0.645 | 264                 | 1.8               | 1.8             | 25.396    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.588 | 1199                | 2.8               | 2.8             | 8.244     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 110               | 0.584 | 64                  | 0.2               | 0.2             | 8.732     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

## 08:45 - 09:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 40                    | 10                      |                            | 538               | 0.074 | 40                  | 0.1               | 0.1             | 8.156     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 8                     | 2                       |                            |                   |       | 8                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 36                    | 9                       |                            | 534               | 0.068 | 36                  | 0.1               | 0.1             | 7.235     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 600               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 166                   | 42                      |                            | 540               | 0.308 | 166                 | 0.4               | 0.4             | 9.711     | A                             |
|                                             | C-AB   | 152                   | 38                      |                            | 622               | 0.245 | 152                 | 0.4               | 0.4             | 8.018     | A                             |
|                                             | C-A    | 61                    | 15                      |                            |                   |       | 61                  |                   |                 |           |                               |
|                                             | A-B    | 21                    | 5                       |                            |                   |       | 21                  |                   |                 |           |                               |
|                                             | A-C    | 148                   | 37                      |                            |                   |       | 148                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 291                   | 73                      |                            | 379               | 0.766 | 290                 | 2.9               | 3.1             | 40.410    | E                             |
|                                             | C-A    | 1320                  | 330                     | 0.00                       | 2030              | 0.650 | 1320                | 3.6               | 3.6             | 9.573     | A                             |
|                                             | C-B    | 70                    | 18                      | 0.00                       | 111               | 0.636 | 70                  | 0.2               | 0.2             | 10.095    | B                             |
|                                             | A-B    | 143                   | 36                      |                            |                   |       | 143                 |                   |                 |           |                               |
|                                             | A-C    | 586                   | 146                     |                            |                   |       | 586                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 409               | 0.645 | 264                 | 1.8               | 1.8             | 25.415    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.588 | 1199                | 2.8               | 2.8             | 8.245     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 110               | 0.584 | 64                  | 0.2               | 0.2             | 8.733     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

09:00 - 09:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 32                    | 8                       |                            | 539               | 0.060 | 32                  | 0.1               | 0.1             | 8.028     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 6                     | 2                       |                            |                   |       | 6                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 30                    | 7                       |                            | 535               | 0.055 | 30                  | 0.1               | 0.1             | 7.123     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 136                   | 34                      |                            | 549               | 0.247 | 136                 | 0.4               | 0.3             | 8.801     | A                             |
|                                             | C-AB   | 121                   | 30                      |                            | 619               | 0.196 | 121                 | 0.4               | 0.3             | 7.572     | A                             |
|                                             | C-A    | 53                    | 13                      |                            |                   |       | 53                  |                   |                 |           |                               |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 120                   | 30                      |                            |                   |       | 120                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 237                   | 59                      |                            | 436               | 0.545 | 245                 | 3.1               | 1.3             | 19.981    | C                             |
|                                             | C-A    | 1078                  | 269                     | 0.00                       | 2051              | 0.526 | 1083                | 3.6               | 2.2             | 7.322     | A                             |
|                                             | C-B    | 58                    | 14                      | 0.00                       | 109               | 0.529 | 58                  | 0.2               | 0.1             | 7.740     | A                             |
|                                             | A-B    | 117                   | 29                      |                            |                   |       | 117                 |                   |                 |           |                               |
|                                             | A-C    | 478                   | 120                     |                            |                   |       | 478                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 409               | 0.645 | 264                 | 1.8               | 1.8             | 25.438    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.588 | 1199                | 2.8               | 2.8             | 8.246     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 110               | 0.584 | 64                  | 0.2               | 0.2             | 8.734     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

09:15 - 09:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 27                    | 7                       |                            | 539               | 0.050 | 27                  | 0.1               | 0.1             | 7.937     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 5                     | 1                       |                            |                   |       | 5                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 25                    | 6                       |                            | 536               | 0.046 | 25                  | 0.1               | 0.0             | 7.038     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 114                   | 28                      |                            | 556               | 0.204 | 114                 | 0.3               | 0.3             | 8.225     | A                             |
|                                             | C-AB   | 99                    | 25                      |                            | 617               | 0.161 | 100                 | 0.3               | 0.2             | 7.288     | A                             |
|                                             | C-A    | 47                    | 12                      |                            |                   |       | 47                  |                   |                 |           |                               |
|                                             | A-B    | 14                    | 4                       |                            |                   |       | 14                  |                   |                 |           |                               |
|                                             | A-C    | 101                   | 25                      |                            |                   |       | 101                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 199                   | 50                      |                            | 473               | 0.421 | 201                 | 1.3               | 0.8             | 13.704    | B                             |
|                                             | C-A    | 903                   | 226                     | 0.00                       | 2064              | 0.437 | 905                 | 2.2               | 1.6             | 6.189     | A                             |
|                                             | C-B    | 48                    | 12                      | 0.00                       | 107               | 0.449 | 48                  | 0.1               | 0.1             | 6.490     | A                             |
|                                             | A-B    | 98                    | 24                      |                            |                   |       | 98                  |                   |                 |           |                               |
|                                             | A-C    | 401                   | 100                     |                            |                   |       | 401                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 264                   | 66                      |                            | 409               | 0.645 | 264                 | 1.8               | 1.8             | 25.450    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2041              | 0.588 | 1199                | 2.8               | 2.8             | 8.245     | A                             |
|                                             | C-B    | 64                    | 16                      | 0.00                       | 110               | 0.584 | 64                  | 0.2               | 0.2             | 8.732     | A                             |
|                                             | A-B    | 130                   | 33                      |                            |                   |       | 130                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

# Observed, PM

## Data Errors and Warnings

| Severity | Area                | Item                                                                                           | Description                                                                                                          |
|----------|---------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Warning  | Major arm width     | 2 - Louisa Street / Old Lane - C - Louisa Street (South) - Major arm geometry                  | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |
| Warning  | Pedestrian Crossing | 3 - Louisa Street / Ashton Old Road - C - Ashton Old Road (East) - Pedestrian crossing         | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |
| Warning  | Pedestrian Crossing | 3b - Louisa Street / Ashton Old Road (Flat) - C - Ashton Old Road (East) - Pedestrian crossing | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |

## Junction Network

### Junctions

| Junction | Name                                   | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------------------------------------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | Louisa Street / Claytonbrook Road      | Right-Left Stagger | Two-way              |                       | 5.43               | A            |
| 2        | Louisa Street / Old Lane               | T-Junction         | Two-way              |                       | 2.53               | A            |
| 3        | Louisa Street / Ashton Old Road        | T-Junction         | Two-way              |                       | 5.42               | A            |
| 3b       | Louisa Street / Ashton Old Road (Flat) | T-Junction         | Two-way              |                       | 4.79               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D2 | Observed      | PM               | ONE HOUR             | 16:30              | 18:00               | 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)

| Junction                                    | Arm                          | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---------------------------------------------|------------------------------|------------|--------------|--------------|-------------------------|--------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |            | ONE HOUR     | ✓            | 9                       | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 8                       | 100.000            |
|                                             | C - Claytonbrook Road (West) |            | ONE HOUR     | ✓            | 2                       | 100.000            |
|                                             | D - Access                   |            | ONE HOUR     | ✓            | 24                      | 100.000            |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |            | ONE HOUR     | ✓            | 90                      | 100.000            |
|                                             | B - Old Lane                 |            | ONE HOUR     | ✓            | 62                      | 100.000            |
|                                             | C - Louisa Street (South)    |            | ONE HOUR     | ✓            | 264                     | 100.000            |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |            | ONE HOUR     | ✓            | 796                     | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 125                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | ONE HOUR     | ✓            | 861                     | 100.000            |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |            | FLAT         | ✓            | 796                     | 100.000            |
|                                             | B - Louisa Street            |            | FLAT         | ✓            | 125                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | FLAT         | ✓            | 861                     | 100.000            |

### Demand overview (Pedestrians)

| Junction                                    | Arm                          | Profile type | Average pedestrian flow (Ped/hr) |
|---------------------------------------------|------------------------------|--------------|----------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Claytonbrook Road (West) |              |                                  |
|                                             | D - Access                   |              |                                  |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |              |                                  |
|                                             | B - Old Lane                 |              |                                  |
|                                             | C - Louisa Street (South)    |              |                                  |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |

## Origin-Destination Data

### Demand (PCU/hr)

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
| From |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
|      | A - Claytonbrook Road (East) | 0                            | 9                 | 0                            | 0          |
|      | B - Louisa Street            | 2                            | 0                 | 0                            | 6          |
|      | C - Claytonbrook Road (West) | 0                            | 2                 | 0                            | 0          |
|      | D - Access                   | 0                            | 24                | 0                            | 0          |

### Demand (PCU/hr)

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 0                         | 19           | 71                        |
|      | B - Old Lane              | 13                        | 0            | 49                        |
|      | C - Louisa Street (South) | 193                       | 71           | 0                         |
|      |                           |                           |              |                           |

### Demand (PCU/hr)

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 153               | 643                        |
|      | B - Louisa Street          | 43                         | 0                 | 82                         |
|      | C - Ashton Old Road (East) | 740                        | 121               | 0                          |
|      |                            |                            |                   |                            |

### Demand (PCU/hr)

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 153               | 643                        |
|      | B - Louisa Street          | 43                         | 0                 | 82                         |
|      | C - Ashton Old Road (East) | 740                        | 121               | 0                          |
|      |                            |                            |                   |                            |

## Vehicle Mix

### Heavy Vehicle Percentages

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
|      |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
| From | A - Claytonbrook Road (East) | 10                           | 0                 | 10                           | 10         |
|      | B - Louisa Street            | 0                            | 10                | 0                            | 0          |
|      | C - Claytonbrook Road (West) | 0                            | 67                | 10                           | 10         |
|      | D - Access                   | 10                           | 0                 | 10                           | 10         |

### Heavy Vehicle Percentages

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 10                        | 5            | 1                         |
|      | B - Old Lane              | 8                         | 10           | 0                         |
|      | C - Louisa Street (South) | 2                         | 0            | 10                        |
|      |                           |                           |              |                           |

### Heavy Vehicle Percentages

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 3                 | 4                          |
|      | B - Louisa Street          | 2                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 3                          | 1                 | 10                         |
|      |                            |                            |                   |                            |

### Heavy Vehicle Percentages

3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 3                 | 4                          |
|      | B - Louisa Street          | 2                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 3                          | 1                 | 10                         |

## Results

### Results Summary for whole modelled period

| Junction                                    | Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---------------------------------------------|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 0.02    | 6.79          | 0.0             | A       | 7                       | 11                            |
|                                             | A-BCD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | A-B    |         |               |                 |         | 8                       | 12                            |
|                                             | A-C    |         |               |                 |         | 0                       | 0                             |
|                                             | D-ABC  | 0.05    | 7.02          | 0.1             | A       | 22                      | 33                            |
|                                             | C-ABD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | C-D    |         |               |                 |         | 0                       | 0                             |
|                                             | C-A    |         |               |                 |         | 0                       | 0                             |
| 2 - Louisa Street / Old Lane                | B-AC   | 0.13    | 7.89          | 0.1             | A       | 57                      | 85                            |
|                                             | C-AB   | 0.15    | 5.89          | 0.2             | A       | 88                      | 132                           |
|                                             | C-A    |         |               |                 |         | 154                     | 232                           |
|                                             | A-B    |         |               |                 |         | 17                      | 26                            |
|                                             | A-C    |         |               |                 |         | 65                      | 98                            |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 0.40    | 17.76         | 0.7             | C       | 115                     | 172                           |
|                                             | C-A    | 0.49    | 8.21          | 1.7             | A       | 679                     | 1019                          |
|                                             | C-B    | 0.56    | 11.22         | 0.4             | B       | 111                     | 167                           |
|                                             | A-B    |         |               |                 |         | 140                     | 211                           |
|                                             | A-C    |         |               |                 |         | 590                     | 885                           |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 0.34    | 14.82         | 0.5             | B       | 125                     | 188                           |
|                                             | C-A    | 0.44    | 7.44          | 1.4             | A       | 740                     | 1110                          |
|                                             | C-B    | 0.51    | 9.76          | 0.3             | A       | 121                     | 182                           |
|                                             | A-B    |         |               |                 |         | 153                     | 230                           |
|                                             | A-C    |         |               |                 |         | 643                     | 965                           |

## Main Results for each time segment

### 16:30 - 16:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 6                     | 2                       |                            | 540               | 0.011 | 6                   | 0.0               | 0.0             | 6.741     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 610               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 7                     | 2                       |                            |                   |       | 7                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 18                    | 5                       |                            | 540               | 0.033 | 18                  | 0.0               | 0.0             | 6.892     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 47                    | 12                      |                            | 545               | 0.086 | 46                  | 0.0               | 0.1             | 7.327     | A                             |
|                                             | C-AB   | 68                    | 17                      |                            | 688               | 0.099 | 67                  | 0.0               | 0.1             | 5.821     | A                             |
|                                             | C-A    | 131                   | 33                      |                            |                   |       | 131                 |                   |                 |           |                               |
|                                             | A-B    | 14                    | 4                       |                            |                   |       | 14                  |                   |                 |           |                               |
|                                             | A-C    | 53                    | 13                      |                            |                   |       | 53                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 94                    | 24                      |                            | 438               | 0.215 | 93                  | 0.0               | 0.3             | 10.579    | B                             |
|                                             | C-A    | 557                   | 139                     | 0.00                       | 1739              | 0.320 | 554                 | 0.0               | 0.9             | 6.032     | A                             |
|                                             | C-B    | 91                    | 23                      | 0.00                       | 235               | 0.388 | 90                  | 0.0               | 0.2             | 7.220     | A                             |
|                                             | A-B    | 115                   | 29                      |                            |                   |       | 115                 |                   |                 |           |                               |
|                                             | A-C    | 484                   | 121                     |                            |                   |       | 484                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 374               | 0.335 | 123                 | 0.0               | 0.5             | 14.539    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1681              | 0.440 | 734                 | 0.0               | 1.4             | 7.342     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 237               | 0.510 | 120                 | 0.0               | 0.3             | 9.571     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

### 16:45 - 17:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 7                     | 2                       |                            | 540               | 0.013 | 7                   | 0.0               | 0.0             | 6.761     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 609               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 8                     | 2                       |                            |                   |       | 8                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 22                    | 5                       |                            | 540               | 0.040 | 22                  | 0.0               | 0.0             | 6.946     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 56                    | 14                      |                            | 540               | 0.103 | 56                  | 0.1               | 0.1             | 7.557     | A                             |
|                                             | C-AB   | 85                    | 21                      |                            | 704               | 0.121 | 85                  | 0.1               | 0.2             | 5.839     | A                             |
|                                             | C-A    | 152                   | 38                      |                            |                   |       | 152                 |                   |                 |           |                               |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 64                    | 16                      |                            |                   |       | 64                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 112                   | 28                      |                            | 400               | 0.281 | 112                 | 0.3               | 0.4             | 12.718    | B                             |
|                                             | C-A    | 665                   | 166                     | 0.00                       | 1705              | 0.390 | 664                 | 0.9               | 1.2             | 6.789     | A                             |
|                                             | C-B    | 109                   | 27                      | 0.00                       | 237               | 0.460 | 108                 | 0.2               | 0.3             | 8.563     | A                             |
|                                             | A-B    | 138                   | 34                      |                            |                   |       | 138                 |                   |                 |           |                               |
|                                             | A-C    | 578                   | 145                     |                            |                   |       | 578                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 373               | 0.335 | 125                 | 0.5               | 0.5             | 14.814    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1679              | 0.441 | 740                 | 1.4               | 1.4             | 7.441     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 238               | 0.508 | 121                 | 0.3               | 0.3             | 9.761     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:00 - 17:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 9                     | 2                       |                            | 539               | 0.016 | 9                   | 0.0               | 0.0             | 6.790     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 609               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 10                    | 2                       |                            |                   |       | 10                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 26                    | 7                       |                            | 539               | 0.049 | 26                  | 0.0               | 0.1             | 7.018     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 68                    | 17                      |                            | 532               | 0.128 | 68                  | 0.1               | 0.1             | 7.884     | A                             |
|                                             | C-AB   | 111                   | 28                      |                            | 726               | 0.152 | 110                 | 0.2               | 0.2             | 5.877     | A                             |
|                                             | C-A    | 180                   | 45                      |                            |                   |       | 180                 |                   |                 |           |                               |
|                                             | A-B    | 21                    | 5                       |                            |                   |       | 21                  |                   |                 |           |                               |
|                                             | A-C    | 78                    | 20                      |                            |                   |       | 78                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 138                   | 34                      |                            | 345               | 0.399 | 137                 | 0.4               | 0.7             | 17.562    | C                             |
|                                             | C-A    | 815                   | 204                     | 0.00                       | 1653              | 0.493 | 812                 | 1.2               | 1.7             | 8.163     | A                             |
|                                             | C-B    | 133                   | 33                      | 0.00                       | 239               | 0.558 | 133                 | 0.3               | 0.4             | 11.107    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 708                   | 177                     |                            |                   |       | 708                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 373               | 0.335 | 125                 | 0.5               | 0.5             | 14.817    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1679              | 0.441 | 740                 | 1.4               | 1.4             | 7.439     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 238               | 0.508 | 121                 | 0.3               | 0.3             | 9.762     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:15 - 17:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 9                     | 2                       |                            | 539               | 0.016 | 9                   | 0.0               | 0.0             | 6.790     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 609               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 10                    | 2                       |                            |                   |       | 10                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 26                    | 7                       |                            | 539               | 0.049 | 26                  | 0.1               | 0.1             | 7.018     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 68                    | 17                      |                            | 532               | 0.128 | 68                  | 0.1               | 0.1             | 7.888     | A                             |
|                                             | C-AB   | 111                   | 28                      |                            | 727               | 0.153 | 111                 | 0.2               | 0.2             | 5.887     | A                             |
|                                             | C-A    | 180                   | 45                      |                            |                   |       | 180                 |                   |                 |           |                               |
|                                             | A-B    | 21                    | 5                       |                            |                   |       | 21                  |                   |                 |           |                               |
|                                             | A-C    | 78                    | 20                      |                            |                   |       | 78                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 138                   | 34                      |                            | 344               | 0.400 | 138                 | 0.7               | 0.7             | 17.765    | C                             |
|                                             | C-A    | 815                   | 204                     | 0.00                       | 1652              | 0.493 | 815                 | 1.7               | 1.7             | 8.213     | A                             |
|                                             | C-B    | 133                   | 33                      | 0.00                       | 239               | 0.557 | 133                 | 0.4               | 0.4             | 11.215    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 708                   | 177                     |                            |                   |       | 708                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 373               | 0.335 | 125                 | 0.5               | 0.5             | 14.820    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1679              | 0.441 | 740                 | 1.4               | 1.4             | 7.441     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 238               | 0.508 | 121                 | 0.3               | 0.3             | 9.762     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:30 - 17:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 7                     | 2                       |                            | 540               | 0.013 | 7                   | 0.0               | 0.0             | 6.762     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 609               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 8                     | 2                       |                            |                   |       | 8                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 22                    | 5                       |                            | 540               | 0.040 | 22                  | 0.1               | 0.0             | 6.947     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 56                    | 14                      |                            | 540               | 0.103 | 56                  | 0.1               | 0.1             | 7.561     | A                             |
|                                             | C-AB   | 85                    | 21                      |                            | 704               | 0.121 | 85                  | 0.2               | 0.2             | 5.852     | A                             |
|                                             | C-A    | 152                   | 38                      |                            |                   |       | 152                 |                   |                 |           |                               |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 64                    | 16                      |                            |                   |       | 64                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 112                   | 28                      |                            | 400               | 0.281 | 113                 | 0.7               | 0.4             | 12.874    | B                             |
|                                             | C-A    | 665                   | 166                     | 0.00                       | 1703              | 0.391 | 667                 | 1.7               | 1.2             | 6.842     | A                             |
|                                             | C-B    | 109                   | 27                      | 0.00                       | 237               | 0.458 | 109                 | 0.4               | 0.3             | 8.674     | A                             |
|                                             | A-B    | 138                   | 34                      |                            |                   |       | 138                 |                   |                 |           |                               |
|                                             | A-C    | 578                   | 145                     |                            |                   |       | 578                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 373               | 0.335 | 125                 | 0.5               | 0.5             | 14.820    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1679              | 0.441 | 740                 | 1.4               | 1.4             | 7.441     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 238               | 0.508 | 121                 | 0.3               | 0.3             | 9.762     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:45 - 18:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 6                     | 2                       |                            | 540               | 0.011 | 6                   | 0.0               | 0.0             | 6.741     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 610               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 7                     | 2                       |                            |                   |       | 7                   |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 18                    | 5                       |                            | 540               | 0.033 | 18                  | 0.0               | 0.0             | 6.895     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 47                    | 12                      |                            | 545               | 0.086 | 47                  | 0.1               | 0.1             | 7.340     | A                             |
|                                             | C-AB   | 68                    | 17                      |                            | 688               | 0.099 | 68                  | 0.2               | 0.1             | 5.839     | A                             |
|                                             | C-A    | 131                   | 33                      |                            |                   |       | 131                 |                   |                 |           |                               |
|                                             | A-B    | 14                    | 4                       |                            |                   |       | 14                  |                   |                 |           |                               |
|                                             | A-C    | 53                    | 13                      |                            |                   |       | 53                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 94                    | 24                      |                            | 437               | 0.215 | 95                  | 0.4               | 0.3             | 10.728    | B                             |
|                                             | C-A    | 557                   | 139                     | 0.00                       | 1737              | 0.321 | 558                 | 1.2               | 0.9             | 6.084     | A                             |
|                                             | C-B    | 91                    | 23                      | 0.00                       | 236               | 0.386 | 91                  | 0.3               | 0.2             | 7.319     | A                             |
|                                             | A-B    | 115                   | 29                      |                            |                   |       | 115                 |                   |                 |           |                               |
|                                             | A-C    | 484                   | 121                     |                            |                   |       | 484                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 125                   | 31                      |                            | 373               | 0.335 | 125                 | 0.5               | 0.5             | 14.820    | B                             |
|                                             | C-A    | 740                   | 185                     | 0.00                       | 1679              | 0.441 | 740                 | 1.4               | 1.4             | 7.442     | A                             |
|                                             | C-B    | 121                   | 30                      | 0.00                       | 238               | 0.508 | 121                 | 0.3               | 0.3             | 9.764     | A                             |
|                                             | A-B    | 153                   | 38                      |                            |                   |       | 153                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

# Observed + Proposed, AM

## Data Errors and Warnings

| Severity | Area                | Item                                                                                           | Description                                                                                                          |
|----------|---------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Warning  | Major arm width     | 2 - Louisa Street / Old Lane - C - Louisa Street (South) - Major arm geometry                  | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |
| Warning  | Pedestrian Crossing | 3 - Louisa Street / Ashton Old Road - C - Ashton Old Road (East) - Pedestrian crossing         | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |
| Warning  | Pedestrian Crossing | 3b - Louisa Street / Ashton Old Road (Flat) - C - Ashton Old Road (East) - Pedestrian crossing | Pedestrian crossing uses default flow of 0. Is this correct?                                                         |

## Junction Network

### Junctions

| Junction | Name                                   | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------------------------------------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | Louisa Street / Claytonbrook Road      | Right-Left Stagger | Two-way              |                       | 4.91               | A            |
| 2        | Louisa Street / Old Lane               | T-Junction         | Two-way              |                       | 5.00               | A            |
| 3        | Louisa Street / Ashton Old Road        | T-Junction         | Two-way              |                       | 17.05              | C            |
| 3b       | Louisa Street / Ashton Old Road (Flat) | T-Junction         | Two-way              |                       | 10.11              | B            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | Observed + Proposed | AM               | ONE HOUR             | 08:00              | 09:30               | 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)

| Junction                                    | Arm                          | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---------------------------------------------|------------------------------|------------|--------------|--------------|-------------------------|--------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |            | ONE HOUR     | ✓            | 46                      | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 44                      | 100.000            |
|                                             | C - Claytonbrook Road (West) |            | ONE HOUR     | ✓            | 0                       | 100.000            |
|                                             | D - Access                   |            | ONE HOUR     | ✓            | 33                      | 100.000            |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |            | ONE HOUR     | ✓            | 193                     | 100.000            |
|                                             | B - Old Lane                 |            | ONE HOUR     | ✓            | 152                     | 100.000            |
|                                             | C - Louisa Street (South)    |            | ONE HOUR     | ✓            | 201                     | 100.000            |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |            | ONE HOUR     | ✓            | 667                     | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 297                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | ONE HOUR     | ✓            | 1266                    | 100.000            |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |            | FLAT         | ✓            | 667                     | 100.000            |
|                                             | B - Louisa Street            |            | FLAT         | ✓            | 297                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | FLAT         | ✓            | 1266                    | 100.000            |

### Demand overview (Pedestrians)

| Junction                                    | Arm                          | Profile type | Average pedestrian flow (Ped/hr) |
|---------------------------------------------|------------------------------|--------------|----------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Claytonbrook Road (West) |              |                                  |
|                                             | D - Access                   |              |                                  |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |              |                                  |
|                                             | B - Old Lane                 |              |                                  |
|                                             | C - Louisa Street (South)    |              |                                  |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 0.00                             |

## Origin-Destination Data

#### Demand (PCU/hr)

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
| From |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
|      | A - Claytonbrook Road (East) | 0                            | 46                | 0                            | 0          |
|      | B - Louisa Street            | 28                           | 0                 | 0                            | 16         |
|      | C - Claytonbrook Road (West) | 0                            | 0                 | 0                            | 0          |
|      | D - Access                   | 0                            | 33                | 0                            | 0          |

### Demand (PCU/hr)

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 0                         | 25           | 168                       |
|      | B - Old Lane              | 17                        | 0            | 135                       |
|      | C - Louisa Street (South) | 74                        | 127          | 0                         |
|      |                           |                           |              |                           |

### Demand (PCU/hr)

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 135               | 532                        |
|      | B - Louisa Street          | 83                         | 0                 | 214                        |
|      | C - Ashton Old Road (East) | 1199                       | 67                | 0                          |
|      |                            |                            |                   |                            |

### Demand (PCU/hr)

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 135               | 532                        |
|      | B - Louisa Street          | 83                         | 0                 | 214                        |
|      | C - Ashton Old Road (East) | 1199                       | 67                | 0                          |
|      |                            |                            |                   |                            |

## Vehicle Mix

### Heavy Vehicle Percentages

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
|      |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
| From | A - Claytonbrook Road (East) | 10                           | 4                 | 0                            | 10         |
|      | B - Louisa Street            | 18                           | 10                | 10                           | 0          |
|      | C - Claytonbrook Road (West) | 0                            | 0                 | 10                           | 10         |
|      | D - Access                   | 10                           | 0                 | 10                           | 10         |

### Heavy Vehicle Percentages

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 10                        | 0            | 3                         |
|      | B - Old Lane              | 0                         | 10           | 1                         |
|      | C - Louisa Street (South) | 1                         | 5            | 10                        |
|      |                           |                           |              |                           |

### Heavy Vehicle Percentages

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 6                 | 11                         |
|      | B - Louisa Street          | 4                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 5                          | 0                 | 10                         |
|      |                            |                            |                   |                            |

### Heavy Vehicle Percentages

3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 6                 | 11                         |
|      | B - Louisa Street          | 4                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 5                          | 0                 | 10                         |

## Results

### Results Summary for whole modelled period

| Junction                                    | Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---------------------------------------------|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 0.09    | 8.21          | 0.1             | A       | 40                      | 61                            |
|                                             | A-BCD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | A-B    |         |               |                 |         | 42                      | 63                            |
|                                             | A-C    |         |               |                 |         | 0                       | 0                             |
|                                             | D-ABC  | 0.07    | 7.36          | 0.1             | A       | 30                      | 45                            |
|                                             | C-ABD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | C-D    |         |               |                 |         | 0                       | 0                             |
|                                             | C-A    |         |               |                 |         | 0                       | 0                             |
| 2 - Louisa Street / Old Lane                | B-AC   | 0.32    | 10.06         | 0.5             | B       | 139                     | 209                           |
|                                             | C-AB   | 0.26    | 8.37          | 0.4             | A       | 132                     | 198                           |
|                                             | C-A    |         |               |                 |         | 53                      | 79                            |
|                                             | A-B    |         |               |                 |         | 23                      | 34                            |
|                                             | A-C    |         |               |                 |         | 154                     | 231                           |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 0.92    | 86.51         | 7.3             | F       | 273                     | 409                           |
|                                             | C-A    | 0.65    | 9.70          | 3.7             | A       | 1100                    | 1650                          |
|                                             | C-B    | 0.64    | 10.27         | 0.2             | B       | 61                      | 92                            |
|                                             | A-B    |         |               |                 |         | 124                     | 186                           |
|                                             | A-C    |         |               |                 |         | 488                     | 732                           |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 0.77    | 40.24         | 3.2             | E       | 297                     | 446                           |
|                                             | C-A    | 0.59    | 8.34          | 2.8             | A       | 1199                    | 1799                          |
|                                             | C-B    | 0.59    | 8.87          | 0.2             | A       | 67                      | 101                           |
|                                             | A-B    |         |               |                 |         | 135                     | 203                           |
|                                             | A-C    |         |               |                 |         | 532                     | 798                           |

## Main Results for each time segment

08:00 - 08:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 33                    | 8                       |                            | 537               | 0.062 | 33                  | 0.0               | 0.1             | 7.908     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 35                    | 9                       |                            |                   |       | 35                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 25                    | 6                       |                            | 531               | 0.047 | 25                  | 0.0               | 0.0             | 7.116     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 597               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 114                   | 29                      |                            | 548               | 0.209 | 113                 | 0.0               | 0.3             | 8.345     | A                             |
|                                             | C-AB   | 105                   | 26                      |                            | 609               | 0.173 | 104                 | 0.0               | 0.2             | 7.447     | A                             |
|                                             | C-A    | 46                    | 12                      |                            |                   |       | 46                  |                   |                 |           |                               |
|                                             | A-B    | 19                    | 5                       |                            |                   |       | 19                  |                   |                 |           |                               |
|                                             | A-C    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 224                   | 56                      |                            | 456               | 0.490 | 220                 | 0.0               | 1.0             | 15.395    | C                             |
|                                             | C-A    | 903                   | 226                     | 0.00                       | 2054              | 0.439 | 897                 | 0.0               | 1.5             | 6.146     | A                             |
|                                             | C-B    | 50                    | 13                      | 0.00                       | 112               | 0.452 | 50                  | 0.0               | 0.1             | 6.458     | A                             |
|                                             | A-B    | 102                   | 25                      |                            |                   |       | 102                 |                   |                 |           |                               |
|                                             | A-C    | 401                   | 100                     |                            |                   |       | 401                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 389               | 0.763 | 286                 | 0.0               | 2.8             | 32.790    | D                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1188                | 0.0               | 2.8             | 8.133     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.588 | 66                  | 0.0               | 0.2             | 8.648     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

08:15 - 08:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 40                    | 10                      |                            | 536               | 0.074 | 39                  | 0.1               | 0.1             | 8.035     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 41                    | 10                      |                            |                   |       | 41                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 30                    | 7                       |                            | 528               | 0.056 | 30                  | 0.0               | 0.1             | 7.218     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 594               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 137                   | 34                      |                            | 540               | 0.253 | 136                 | 0.3               | 0.3             | 9.002     | A                             |
|                                             | C-AB   | 128                   | 32                      |                            | 610               | 0.210 | 128                 | 0.2               | 0.3             | 7.810     | A                             |
|                                             | C-A    | 52                    | 13                      |                            |                   |       | 52                  |                   |                 |           |                               |
|                                             | A-B    | 22                    | 6                       |                            |                   |       | 22                  |                   |                 |           |                               |
|                                             | A-C    | 151                   | 38                      |                            |                   |       | 151                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 267                   | 67                      |                            | 417               | 0.640 | 264                 | 1.0               | 1.7             | 23.622    | C                             |
|                                             | C-A    | 1078                  | 269                     | 0.00                       | 2040              | 0.528 | 1075                | 1.5               | 2.2             | 7.272     | A                             |
|                                             | C-B    | 60                    | 15                      | 0.00                       | 113               | 0.533 | 60                  | 0.1               | 0.1             | 7.719     | A                             |
|                                             | A-B    | 121                   | 30                      |                            |                   |       | 121                 |                   |                 |           |                               |
|                                             | A-C    | 478                   | 120                     |                            |                   |       | 478                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 388               | 0.765 | 296                 | 2.8               | 3.1             | 39.231    | E                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1199                | 2.8               | 2.8             | 8.334     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.587 | 67                  | 0.2               | 0.2             | 8.864     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

## 08:30 - 08:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 48                    | 12                      |                            | 534               | 0.091 | 48                  | 0.1               | 0.1             | 8.207     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 600               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 51                    | 13                      |                            |                   |       | 51                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 36                    | 9                       |                            | 525               | 0.069 | 36                  | 0.1               | 0.1             | 7.362     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 591               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 167                   | 42                      |                            | 528               | 0.317 | 167                 | 0.3               | 0.5             | 10.033    | B                             |
|                                             | C-AB   | 162                   | 40                      |                            | 611               | 0.264 | 161                 | 0.3               | 0.4             | 8.356     | A                             |
|                                             | C-A    | 60                    | 15                      |                            |                   |       | 60                  |                   |                 |           |                               |
|                                             | A-B    | 28                    | 7                       |                            |                   |       | 28                  |                   |                 |           |                               |
|                                             | A-C    | 185                   | 46                      |                            |                   |       | 185                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 327                   | 82                      |                            | 357               | 0.915 | 310                 | 1.7               | 5.9             | 62.942    | F                             |
|                                             | C-A    | 1320                  | 330                     | 0.00                       | 2017              | 0.654 | 1314                | 2.2               | 3.6             | 9.566     | A                             |
|                                             | C-B    | 74                    | 18                      | 0.00                       | 115               | 0.640 | 73                  | 0.1               | 0.2             | 10.135    | B                             |
|                                             | A-B    | 149                   | 37                      |                            |                   |       | 149                 |                   |                 |           |                               |
|                                             | A-C    | 586                   | 146                     |                            |                   |       | 586                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 388               | 0.765 | 297                 | 3.1               | 3.1             | 39.821    | E                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1199                | 2.8               | 2.8             | 8.336     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.587 | 67                  | 0.2               | 0.2             | 8.867     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

## 08:45 - 09:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 48                    | 12                      |                            | 534               | 0.091 | 48                  | 0.1               | 0.1             | 8.208     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 600               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 51                    | 13                      |                            |                   |       | 51                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 36                    | 9                       |                            | 525               | 0.069 | 36                  | 0.1               | 0.1             | 7.362     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 591               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 167                   | 42                      |                            | 528               | 0.317 | 167                 | 0.5               | 0.5             | 10.062    | B                             |
|                                             | C-AB   | 162                   | 40                      |                            | 611               | 0.264 | 162                 | 0.4               | 0.4             | 8.368     | A                             |
|                                             | C-A    | 60                    | 15                      |                            |                   |       | 60                  |                   |                 |           |                               |
|                                             | A-B    | 28                    | 7                       |                            |                   |       | 28                  |                   |                 |           |                               |
|                                             | A-C    | 185                   | 46                      |                            |                   |       | 185                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 327                   | 82                      |                            | 357               | 0.917 | 322                 | 5.9               | 7.3             | 86.505    | F                             |
|                                             | C-A    | 1320                  | 330                     | 0.00                       | 2017              | 0.654 | 1320                | 3.6               | 3.7             | 9.703     | A                             |
|                                             | C-B    | 74                    | 18                      | 0.00                       | 115               | 0.640 | 74                  | 0.2               | 0.2             | 10.270    | B                             |
|                                             | A-B    | 149                   | 37                      |                            |                   |       | 149                 |                   |                 |           |                               |
|                                             | A-C    | 586                   | 146                     |                            |                   |       | 586                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 388               | 0.765 | 297                 | 3.1               | 3.2             | 40.045    | E                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1199                | 2.8               | 2.8             | 8.337     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.587 | 67                  | 0.2               | 0.2             | 8.868     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

09:00 - 09:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 40                    | 10                      |                            | 536               | 0.074 | 40                  | 0.1               | 0.1             | 8.039     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 41                    | 10                      |                            |                   |       | 41                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 30                    | 7                       |                            | 528               | 0.056 | 30                  | 0.1               | 0.1             | 7.220     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 594               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 137                   | 34                      |                            | 539               | 0.253 | 137                 | 0.5               | 0.3             | 9.038     | A                             |
|                                             | C-AB   | 128                   | 32                      |                            | 610               | 0.210 | 129                 | 0.4               | 0.3             | 7.823     | A                             |
|                                             | C-A    | 52                    | 13                      |                            |                   |       | 52                  |                   |                 |           |                               |
|                                             | A-B    | 22                    | 6                       |                            |                   |       | 22                  |                   |                 |           |                               |
|                                             | A-C    | 151                   | 38                      |                            |                   |       | 151                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 267                   | 67                      |                            | 416               | 0.641 | 288                 | 7.3               | 2.0             | 32.659    | D                             |
|                                             | C-A    | 1078                  | 269                     | 0.00                       | 2039              | 0.529 | 1084                | 3.7               | 2.3             | 7.394     | A                             |
|                                             | C-B    | 60                    | 15                      | 0.00                       | 113               | 0.532 | 61                  | 0.2               | 0.1             | 7.851     | A                             |
|                                             | A-B    | 121                   | 30                      |                            |                   |       | 121                 |                   |                 |           |                               |
|                                             | A-C    | 478                   | 120                     |                            |                   |       | 478                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 388               | 0.765 | 297                 | 3.2               | 3.2             | 40.165    | E                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1199                | 2.8               | 2.8             | 8.338     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.587 | 67                  | 0.2               | 0.2             | 8.870     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

09:15 - 09:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 33                    | 8                       |                            | 537               | 0.062 | 33                  | 0.1               | 0.1             | 7.918     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 603               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 35                    | 9                       |                            |                   |       | 35                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 25                    | 6                       |                            | 531               | 0.047 | 25                  | 0.1               | 0.0             | 7.119     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 597               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 114                   | 29                      |                            | 548               | 0.209 | 115                 | 0.3               | 0.3             | 8.398     | A                             |
|                                             | C-AB   | 105                   | 26                      |                            | 609               | 0.173 | 106                 | 0.3               | 0.2             | 7.481     | A                             |
|                                             | C-A    | 46                    | 11                      |                            |                   |       | 46                  |                   |                 |           |                               |
|                                             | A-B    | 19                    | 5                       |                            |                   |       | 19                  |                   |                 |           |                               |
|                                             | A-C    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 224                   | 56                      |                            | 455               | 0.491 | 227                 | 2.0               | 1.0             | 16.467    | C                             |
|                                             | C-A    | 903                   | 226                     | 0.00                       | 2054              | 0.440 | 905                 | 2.3               | 1.6             | 6.238     | A                             |
|                                             | C-B    | 50                    | 13                      | 0.00                       | 112               | 0.452 | 51                  | 0.1               | 0.1             | 6.563     | A                             |
|                                             | A-B    | 102                   | 25                      |                            |                   |       | 102                 |                   |                 |           |                               |
|                                             | A-C    | 401                   | 100                     |                            |                   |       | 401                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 297                   | 74                      |                            | 388               | 0.765 | 297                 | 3.2               | 3.2             | 40.239    | E                             |
|                                             | C-A    | 1199                  | 300                     | 0.00                       | 2029              | 0.591 | 1199                | 2.8               | 2.8             | 8.338     | A                             |
|                                             | C-B    | 67                    | 17                      | 0.00                       | 114               | 0.587 | 67                  | 0.2               | 0.2             | 8.870     | A                             |
|                                             | A-B    | 135                   | 34                      |                            |                   |       | 135                 |                   |                 |           |                               |
|                                             | A-C    | 532                   | 133                     |                            |                   |       | 532                 |                   |                 |           |                               |

# Observed + Proposed, PM

## Data Errors and Warnings

| Severity | Area            | Item                                                                          | Description                                                                                                          |
|----------|-----------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Warning  | Major arm width | 2 - Louisa Street / Old Lane - C - Louisa Street (South) - 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        | Louisa Street / Claytonbrook Road      | Right-Left Stagger | Two-way              |                       | 5.23               | A            |
| 2        | Louisa Street / Old Lane               | T-Junction         | Two-way              |                       | 2.93               | A            |
| 3        | Louisa Street / Ashton Old Road        | T-Junction         | Two-way              |                       | 6.96               | A            |
| 3b       | Louisa Street / Ashton Old Road (Flat) | T-Junction         | Two-way              |                       | 5.99               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D4 | Observed + Proposed | PM               | ONE HOUR             | 16:30              | 18:00               | 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)

| Junction                                    | Arm                          | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---------------------------------------------|------------------------------|------------|--------------|--------------|-------------------------|--------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |            | ONE HOUR     | ✓            | 22                      | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 35                      | 100.000            |
|                                             | C - Claytonbrook Road (West) |            | ONE HOUR     | ✓            | 2                       | 100.000            |
|                                             | D - Access                   |            | ONE HOUR     | ✓            | 24                      | 100.000            |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |            | ONE HOUR     | ✓            | 102                     | 100.000            |
|                                             | B - Old Lane                 |            | ONE HOUR     | ✓            | 65                      | 100.000            |
|                                             | C - Louisa Street (South)    |            | ONE HOUR     | ✓            | 287                     | 100.000            |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |            | ONE HOUR     | ✓            | 811                     | 100.000            |
|                                             | B - Louisa Street            |            | ONE HOUR     | ✓            | 136                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | ONE HOUR     | ✓            | 868                     | 100.000            |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |            | FLAT         | ✓            | 811                     | 100.000            |
|                                             | B - Louisa Street            |            | FLAT         | ✓            | 136                     | 100.000            |
|                                             | C - Ashton Old Road (East)   |            | FLAT         | ✓            | 868                     | 100.000            |

### Demand overview (Pedestrians)

| Junction                                    | Arm                          | Profile type | Average pedestrian flow (Ped/hr) |
|---------------------------------------------|------------------------------|--------------|----------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | A - Claytonbrook Road (East) |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Claytonbrook Road (West) |              |                                  |
|                                             | D - Access                   |              |                                  |
| 2 - Louisa Street / Old Lane                | A - Louisa Street (North)    |              |                                  |
|                                             | B - Old Lane                 |              |                                  |
|                                             | C - Louisa Street (South)    |              |                                  |
| 3 - Louisa Street / Ashton Old Road         | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 100.00                           |
| 3b - Louisa Street / Ashton Old Road (Flat) | A - Ashton Old Road (West)   |              |                                  |
|                                             | B - Louisa Street            |              |                                  |
|                                             | C - Ashton Old Road (East)   | [ONEHOUR]    | 100.00                           |

## Origin-Destination Data

#### Demand (PCU/hr)

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
| From |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
|      | A - Claytonbrook Road (East) | 0                            | 22                | 0                            | 0          |
|      | B - Louisa Street            | 29                           | 0                 | 0                            | 6          |
|      | C - Claytonbrook Road (West) | 0                            | 2                 | 0                            | 0          |
|      | D - Access                   | 0                            | 24                | 0                            | 0          |

### Demand (PCU/hr)

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 0                         | 20           | 82                        |
|      | B - Old Lane              | 16                        | 0            | 49                        |
|      | C - Louisa Street (South) | 193                       | 94           | 0                         |
|      |                           |                           |              |                           |

### Demand (PCU/hr)

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 168               | 643                        |
|      | B - Louisa Street          | 50                         | 0                 | 86                         |
|      | C - Ashton Old Road (East) | 740                        | 128               | 0                          |
|      |                            |                            |                   |                            |

### Demand (PCU/hr)

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 0                          | 168               | 643                        |
|      | B - Louisa Street          | 50                         | 0                 | 86                         |
|      | C - Ashton Old Road (East) | 740                        | 128               | 0                          |
|      |                            |                            |                   |                            |

## Vehicle Mix

### Heavy Vehicle Percentages

#### 1 - Louisa Street / Claytonbrook Road

|      | To                           |                              |                   |                              |            |
|------|------------------------------|------------------------------|-------------------|------------------------------|------------|
|      |                              | A - Claytonbrook Road (East) | B - Louisa Street | C - Claytonbrook Road (West) | D - Access |
| From | A - Claytonbrook Road (East) | 10                           | 0                 | 0                            | 10         |
|      | B - Louisa Street            | 0                            | 10                | 0                            | 0          |
|      | C - Claytonbrook Road (West) | 0                            | 67                | 10                           | 10         |
|      | D - Access                   | 10                           | 0                 | 10                           | 10         |

### Heavy Vehicle Percentages

#### 2 - Louisa Street / Old Lane

|      | To                        |                           |              |                           |
|------|---------------------------|---------------------------|--------------|---------------------------|
|      |                           | A - Louisa Street (North) | B - Old Lane | C - Louisa Street (South) |
| From | A - Louisa Street (North) | 10                        | 5            | 1                         |
|      | B - Old Lane              | 6                         | 10           | 0                         |
|      | C - Louisa Street (South) | 2                         | 0            | 10                        |
|      |                           |                           |              |                           |

### Heavy Vehicle Percentages

#### 3 - Louisa Street / Ashton Old Road

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 2                 | 4                          |
|      | B - Louisa Street          | 2                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 3                          | 1                 | 10                         |
|      |                            |                            |                   |                            |

### Heavy Vehicle Percentages

#### 3b - Louisa Street / Ashton Old Road (Flat)

|      | To                         |                            |                   |                            |
|------|----------------------------|----------------------------|-------------------|----------------------------|
|      |                            | A - Ashton Old Road (West) | B - Louisa Street | C - Ashton Old Road (East) |
| From | A - Ashton Old Road (West) | 10                         | 2                 | 4                          |
|      | B - Louisa Street          | 2                          | 10                | 2                          |
|      | C - Ashton Old Road (East) | 3                          | 1                 | 10                         |

## Results

### Results Summary for whole modelled period

| Junction                                    | Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---------------------------------------------|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 0.07    | 7.21          | 0.1             | A       | 32                      | 48                            |
|                                             | A-BCD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | A-B    |         |               |                 |         | 20                      | 30                            |
|                                             | A-C    |         |               |                 |         | 0                       | 0                             |
|                                             | D-ABC  | 0.05    | 7.15          | 0.1             | A       | 22                      | 33                            |
|                                             | C-ABD  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
|                                             | C-D    |         |               |                 |         | 0                       | 0                             |
|                                             | C-A    |         |               |                 |         | 0                       | 0                             |
| 2 - Louisa Street / Old Lane                | B-AC   | 0.14    | 8.20          | 0.2             | A       | 60                      | 89                            |
|                                             | C-AB   | 0.20    | 6.29          | 0.3             | A       | 116                     | 175                           |
|                                             | C-A    |         |               |                 |         | 147                     | 220                           |
|                                             | A-B    |         |               |                 |         | 18                      | 28                            |
|                                             | A-C    |         |               |                 |         | 75                      | 113                           |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 0.45    | 20.02         | 0.8             | C       | 125                     | 187                           |
|                                             | C-A    | 0.58    | 10.94         | 2.4             | B       | 679                     | 1019                          |
|                                             | C-B    | 0.62    | 14.24         | 0.6             | B       | 117                     | 176                           |
|                                             | A-B    |         |               |                 |         | 154                     | 231                           |
|                                             | A-C    |         |               |                 |         | 590                     | 885                           |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 0.38    | 16.21         | 0.6             | C       | 136                     | 204                           |
|                                             | C-A    | 0.52    | 9.62          | 1.9             | A       | 740                     | 1110                          |
|                                             | C-B    | 0.56    | 12.17         | 0.4             | B       | 128                     | 192                           |
|                                             | A-B    |         |               |                 |         | 168                     | 252                           |
|                                             | A-C    |         |               |                 |         | 643                     | 965                           |

## Main Results for each time segment

### 16:30 - 16:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 26                    | 7                       |                            | 539               | 0.049 | 26                  | 0.0               | 0.1             | 7.013     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 18                    | 5                       |                            | 534               | 0.034 | 18                  | 0.0               | 0.0             | 6.976     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 603               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 49                    | 12                      |                            | 533               | 0.092 | 49                  | 0.0               | 0.1             | 7.525     | A                             |
|                                             | C-AB   | 90                    | 22                      |                            | 686               | 0.131 | 89                  | 0.0               | 0.2             | 6.051     | A                             |
|                                             | C-A    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
|                                             | A-B    | 15                    | 4                       |                            |                   |       | 15                  |                   |                 |           |                               |
|                                             | A-C    | 62                    | 15                      |                            |                   |       | 62                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 102                   | 26                      |                            | 430               | 0.238 | 101                 | 0.0               | 0.3             | 11.133    | B                             |
|                                             | C-A    | 557                   | 139                     | 75.29                      | 1521              | 0.366 | 553                 | 0.0               | 1.1             | 7.329     | A                             |
|                                             | C-B    | 96                    | 24                      | 75.29                      | 219               | 0.440 | 95                  | 0.0               | 0.2             | 8.850     | A                             |
|                                             | A-B    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
|                                             | A-C    | 484                   | 121                     |                            |                   |       | 484                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 364               | 0.374 | 134                 | 0.0               | 0.6             | 15.807    | C                             |
|                                             | C-A    | 740                   | 185                     | 75.29                      | 1478              | 0.501 | 733                 | 0.0               | 1.8             | 9.071     | A                             |
|                                             | C-B    | 128                   | 32                      | 75.29                      | 227               | 0.564 | 126                 | 0.0               | 0.4             | 11.771    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

### 16:45 - 17:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 31                    | 8                       |                            | 538               | 0.058 | 31                  | 0.1               | 0.1             | 7.100     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 20                    | 5                       |                            |                   |       | 20                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 22                    | 5                       |                            | 532               | 0.041 | 22                  | 0.0               | 0.0             | 7.049     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 601               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 58                    | 15                      |                            | 526               | 0.111 | 58                  | 0.1               | 0.1             | 7.799     | A                             |
|                                             | C-AB   | 112                   | 28                      |                            | 702               | 0.160 | 112                 | 0.2               | 0.2             | 6.136     | A                             |
|                                             | C-A    | 146                   | 36                      |                            |                   |       | 146                 |                   |                 |           |                               |
|                                             | A-B    | 18                    | 4                       |                            |                   |       | 18                  |                   |                 |           |                               |
|                                             | A-C    | 74                    | 18                      |                            |                   |       | 74                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 122                   | 31                      |                            | 391               | 0.313 | 122                 | 0.3               | 0.5             | 13.617    | B                             |
|                                             | C-A    | 665                   | 166                     | 89.90                      | 1482              | 0.449 | 664                 | 1.1               | 1.4             | 8.317     | A                             |
|                                             | C-B    | 115                   | 29                      | 89.90                      | 227               | 0.506 | 115                 | 0.2               | 0.3             | 10.277    | B                             |
|                                             | A-B    | 151                   | 38                      |                            |                   |       | 151                 |                   |                 |           |                               |
|                                             | A-C    | 578                   | 145                     |                            |                   |       | 578                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 363               | 0.375 | 136                 | 0.6               | 0.6             | 16.201    | C                             |
|                                             | C-A    | 740                   | 185                     | 89.90                      | 1460              | 0.507 | 740                 | 1.8               | 1.8             | 9.278     | A                             |
|                                             | C-B    | 128                   | 32                      | 89.90                      | 230               | 0.556 | 128                 | 0.4               | 0.4             | 11.847    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:00 - 17:15

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 39                    | 10                      |                            | 538               | 0.072 | 38                  | 0.1               | 0.1             | 7.213     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 24                    | 6                       |                            |                   |       | 24                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 26                    | 7                       |                            | 530               | 0.050 | 26                  | 0.0               | 0.1             | 7.147     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 599               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 72                    | 18                      |                            | 517               | 0.138 | 71                  | 0.1               | 0.2             | 8.195     | A                             |
|                                             | C-AB   | 147                   | 37                      |                            | 724               | 0.203 | 146                 | 0.2               | 0.3             | 6.274     | A                             |
|                                             | C-A    | 169                   | 42                      |                            |                   |       | 169                 |                   |                 |           |                               |
|                                             | A-B    | 22                    | 6                       |                            |                   |       | 22                  |                   |                 |           |                               |
|                                             | A-C    | 90                    | 23                      |                            |                   |       | 90                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 150                   | 37                      |                            | 334               | 0.449 | 148                 | 0.5               | 0.8             | 19.674    | C                             |
|                                             | C-A    | 815                   | 204                     | 110.10                     | 1405              | 0.580 | 811                 | 1.4               | 2.3             | 10.803    | B                             |
|                                             | C-B    | 141                   | 35                      | 110.10                     | 229               | 0.615 | 140                 | 0.3               | 0.5             | 14.015    | B                             |
|                                             | A-B    | 185                   | 46                      |                            |                   |       | 185                 |                   |                 |           |                               |
|                                             | A-C    | 708                   | 177                     |                            |                   |       | 708                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 362               | 0.375 | 136                 | 0.6               | 0.6             | 16.207    | C                             |
|                                             | C-A    | 740                   | 185                     | 110.10                     | 1429              | 0.518 | 740                 | 1.8               | 1.9             | 9.614     | A                             |
|                                             | C-B    | 128                   | 32                      | 110.10                     | 227               | 0.563 | 128                 | 0.4               | 0.4             | 12.165    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:15 - 17:30

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 39                    | 10                      |                            | 538               | 0.072 | 39                  | 0.1               | 0.1             | 7.213     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 602               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 24                    | 6                       |                            |                   |       | 24                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 26                    | 7                       |                            | 530               | 0.050 | 26                  | 0.1               | 0.1             | 7.148     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 599               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 72                    | 18                      |                            | 517               | 0.139 | 72                  | 0.2               | 0.2             | 8.201     | A                             |
|                                             | C-AB   | 147                   | 37                      |                            | 724               | 0.203 | 147                 | 0.3               | 0.3             | 6.286     | A                             |
|                                             | C-A    | 169                   | 42                      |                            |                   |       | 169                 |                   |                 |           |                               |
|                                             | A-B    | 22                    | 6                       |                            |                   |       | 22                  |                   |                 |           |                               |
|                                             | A-C    | 90                    | 23                      |                            |                   |       | 90                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 150                   | 37                      |                            | 333               | 0.450 | 150                 | 0.8               | 0.8             | 20.015    | C                             |
|                                             | C-A    | 815                   | 204                     | 110.10                     | 1404              | 0.580 | 815                 | 2.3               | 2.4             | 10.940    | B                             |
|                                             | C-B    | 141                   | 35                      | 110.10                     | 230               | 0.614 | 141                 | 0.5               | 0.6             | 14.236    | B                             |
|                                             | A-B    | 185                   | 46                      |                            |                   |       | 185                 |                   |                 |           |                               |
|                                             | A-C    | 708                   | 177                     |                            |                   |       | 708                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 362               | 0.375 | 136                 | 0.6               | 0.6             | 16.210    | C                             |
|                                             | C-A    | 740                   | 185                     | 110.10                     | 1429              | 0.518 | 740                 | 1.9               | 1.9             | 9.618     | A                             |
|                                             | C-B    | 128                   | 32                      | 110.10                     | 227               | 0.563 | 128                 | 0.4               | 0.4             | 12.166    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:30 - 17:45

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 31                    | 8                       |                            | 538               | 0.058 | 32                  | 0.1               | 0.1             | 7.101     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 604               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 20                    | 5                       |                            |                   |       | 20                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 22                    | 5                       |                            | 532               | 0.041 | 22                  | 0.1               | 0.0             | 7.050     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 601               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 58                    | 15                      |                            | 526               | 0.111 | 59                  | 0.2               | 0.1             | 7.809     | A                             |
|                                             | C-AB   | 113                   | 28                      |                            | 702               | 0.160 | 113                 | 0.3               | 0.3             | 6.157     | A                             |
|                                             | C-A    | 145                   | 36                      |                            |                   |       | 145                 |                   |                 |           |                               |
|                                             | A-B    | 18                    | 4                       |                            |                   |       | 18                  |                   |                 |           |                               |
|                                             | A-C    | 74                    | 18                      |                            |                   |       | 74                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 122                   | 31                      |                            | 390               | 0.314 | 124                 | 0.8               | 0.5             | 13.856    | B                             |
|                                             | C-A    | 665                   | 166                     | 89.90                      | 1482              | 0.449 | 669                 | 2.4               | 1.5             | 8.404     | A                             |
|                                             | C-B    | 115                   | 29                      | 89.90                      | 229               | 0.503 | 116                 | 0.6               | 0.3             | 10.426    | B                             |
|                                             | A-B    | 151                   | 38                      |                            |                   |       | 151                 |                   |                 |           |                               |
|                                             | A-C    | 578                   | 145                     |                            |                   |       | 578                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 362               | 0.375 | 136                 | 0.6               | 0.6             | 16.213    | C                             |
|                                             | C-A    | 740                   | 185                     | 89.90                      | 1460              | 0.507 | 740                 | 1.9               | 1.8             | 9.288     | A                             |
|                                             | C-B    | 128                   | 32                      | 89.90                      | 230               | 0.556 | 128                 | 0.4               | 0.4             | 11.859    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

## 17:45 - 18:00

| Junction                                    | Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Pedestrian demand (Ped/hr) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---------------------------------------------|--------|-----------------------|-------------------------|----------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| 1 - Louisa Street / Claytonbrook Road       | B-ACD  | 26                    | 7                       |                            | 539               | 0.049 | 26                  | 0.1               | 0.1             | 7.021     | A                             |
|                                             | A-BCD  | 0                     | 0                       |                            | 605               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | A-B    | 17                    | 4                       |                            |                   |       | 17                  |                   |                 |           |                               |
|                                             | A-C    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | D-ABC  | 18                    | 5                       |                            | 534               | 0.034 | 18                  | 0.0               | 0.0             | 6.980     | A                             |
|                                             | C-ABD  | 0                     | 0                       |                            | 603               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
|                                             | C-D    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
|                                             | C-A    | 0                     | 0                       |                            |                   |       | 0                   |                   |                 |           |                               |
| 2 - Louisa Street / Old Lane                | B-AC   | 49                    | 12                      |                            | 533               | 0.092 | 49                  | 0.1               | 0.1             | 7.542     | A                             |
|                                             | C-AB   | 90                    | 22                      |                            | 686               | 0.131 | 90                  | 0.3               | 0.2             | 6.077     | A                             |
|                                             | C-A    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
|                                             | A-B    | 15                    | 4                       |                            |                   |       | 15                  |                   |                 |           |                               |
|                                             | A-C    | 62                    | 15                      |                            |                   |       | 62                  |                   |                 |           |                               |
| 3 - Louisa Street / Ashton Old Road         | B-AC   | 102                   | 26                      |                            | 429               | 0.239 | 103                 | 0.5               | 0.3             | 11.286    | B                             |
|                                             | C-A    | 557                   | 139                     | 75.29                      | 1536              | 0.363 | 559                 | 1.5               | 1.0             | 7.161     | A                             |
|                                             | C-B    | 96                    | 24                      | 75.29                      | 227               | 0.424 | 97                  | 0.3               | 0.2             | 8.517     | A                             |
|                                             | A-B    | 126                   | 32                      |                            |                   |       | 126                 |                   |                 |           |                               |
|                                             | A-C    | 484                   | 121                     |                            |                   |       | 484                 |                   |                 |           |                               |
| 3b - Louisa Street / Ashton Old Road (Flat) | B-AC   | 136                   | 34                      |                            | 362               | 0.375 | 136                 | 0.6               | 0.6             | 16.212    | C                             |
|                                             | C-A    | 740                   | 185                     | 75.29                      | 1484              | 0.499 | 740                 | 1.8               | 1.8             | 9.033     | A                             |
|                                             | C-B    | 128                   | 32                      | 75.29                      | 232               | 0.551 | 128                 | 0.4               | 0.4             | 11.616    | B                             |
|                                             | A-B    | 168                   | 42                      |                            |                   |       | 168                 |                   |                 |           |                               |
|                                             | A-C    | 643                   | 161                     |                            |                   |       | 643                 |                   |                 |           |                               |

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