

Proposed Residential Development  
Kellen Homes, Castleton Sidings, Rochdale

November 2023

# TRANSPORT ASSESSMENT

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## REPORT

**DOCUMENT:** Transport Assessment

**PROJECT:** Proposed Residential Development, Castleton Sidings,  
Rochdale

**CLIENT:** Kellen Homes

**JOB NUMBER:** 3334

**FILE ORIGIN:** Z:\projects\3334 Castleton, Corus Railway Sidings\Docs\Reports\3334 TA.10.docx

## DOCUMENT CHECKING:

**Primary Author:** MTC **Initialled:**

**Contributor** SM **Initialled:**

**Review By:** PW **Initialled:**

| Issue | Date | Status | Checked for Issue |
|-------|------|--------|-------------------|
|-------|------|--------|-------------------|

|   |            |             |  |
|---|------------|-------------|--|
| 1 | 30-04-2021 | First Draft |  |
|---|------------|-------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 2 | 09-03-2022 | Revised Draft |  |
|---|------------|---------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 3 | 17-05-2023 | Revised Draft |  |
|---|------------|---------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 4 | 03-11-2023 | Revised Draft |  |
|---|------------|---------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 5 | 30-11-2023 | Revised Draft |  |
|---|------------|---------------|--|

# CONTENTS

|          |                                                  |           |
|----------|--------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>                        | <b>1</b>  |
| 1.1      | Introduction.....                                | 1         |
| 1.2      | Structure of Report.....                         | 1         |
| <b>2</b> | <b>EXISTING CONDITIONS.....</b>                  | <b>3</b>  |
| 2.1      | Existing Site Information .....                  | 3         |
| 2.2      | Local Highway Network .....                      | 3         |
| <b>3</b> | <b>DEVELOPMENT PROPOSALS .....</b>               | <b>4</b>  |
| 3.2      | Proposed Development .....                       | 4         |
| 3.3      | Internal Layout.....                             | 5         |
| 3.4      | Refuse Vehicle Access .....                      | 5         |
| 3.5      | Pedestrian and Cycle Access .....                | 6         |
| 3.6      | Emergency Access.....                            | 7         |
| <b>4</b> | <b>RELEVANT PLANNING POLICY .....</b>            | <b>8</b>  |
| 4.1      | Introduction.....                                | 8         |
| 4.2      | National Planning Policy Framework (NPPF) .....  | 8         |
| 4.3      | National Planning Practice Guidance.....         | 12        |
| 4.4      | Rochdale Local Plan .....                        | 13        |
| 4.5      | Planning Policy Summary .....                    | 14        |
| <b>5</b> | <b>ACCESSIBILITY BY NON-CAR MODES.....</b>       | <b>16</b> |
| 5.1      | Introduction.....                                | 16        |
| 5.2      | Access on Foot.....                              | 16        |
| 5.3      | Access by Cycle .....                            | 21        |
| 5.4      | Access by Bus .....                              | 21        |
| 5.5      | Accessibility by Rail.....                       | 23        |
| 5.6      | Accessibility Summary .....                      | 23        |
| <b>6</b> | <b>PROMOTION OF TRAVEL BY NON-CAR MODES.....</b> | <b>24</b> |
| 6.1      | Introduction.....                                | 24        |
| 6.2      | Travel Planning Guidance .....                   | 24        |
| 6.3      | Residential Travel Plan .....                    | 26        |
| <b>7</b> | <b>TRAFFIC IMPACT ANALYSIS.....</b>              | <b>27</b> |
| 7.1      | Introduction.....                                | 27        |
| 7.2      | Assessment Criteria.....                         | 27        |
| 7.3      | Traffic Survey Data.....                         | 27        |
| 7.4      | Growthed Traffic Flows.....                      | 28        |
| 7.5      | Committed Development .....                      | 28        |

|             |                                          |           |
|-------------|------------------------------------------|-----------|
| <b>7.6</b>  | <b>Base Flows .....</b>                  | <b>29</b> |
| <b>7.7</b>  | <b>Proposed Development .....</b>        | <b>29</b> |
| <b>7.8</b>  | <b>Trip Distribution.....</b>            | <b>30</b> |
| <b>7.9</b>  | <b>With Development Flows .....</b>      | <b>31</b> |
| <b>7.10</b> | <b>Capacity Assessments .....</b>        | <b>31</b> |
| <b>7.11</b> | <b>Link Capacities .....</b>             | <b>34</b> |
| <b>7.12</b> | <b>Capacity Assessment Summary .....</b> | <b>36</b> |
| <b>8</b>    | <b>ROAD SAFETY .....</b>                 | <b>38</b> |
| <b>8.2</b>  | <b>Road safety Summary .....</b>         | <b>43</b> |
| <b>9</b>    | <b>CONCLUSIONS .....</b>                 | <b>44</b> |

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## **PLANS**

|               |                                 |
|---------------|---------------------------------|
| <b>Plan 1</b> | <b>Site Location</b>            |
| <b>Plan 2</b> | <b>Site Layout</b>              |
| <b>Plan 3</b> | <b>Proposed Site Access</b>     |
| <b>Plan 4</b> | <b>Swept Path Tracking</b>      |
| <b>Plan 5</b> | <b>2km Pedestrian Catchment</b> |

## **Figures**

|               |             |
|---------------|-------------|
| <b>Figure</b> | <b>1-13</b> |
|---------------|-------------|

## **APPENDICES**

|                   |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| <b>Appendix 1</b> | <b>Travel Plan Framework</b>                                                 |
| <b>Appendix 2</b> | <b>TRICS Output</b>                                                          |
| <b>Appendix 3</b> | <b>CENSUS data</b>                                                           |
| <b>Appendix 4</b> | <b>PICADY Output: A664 Manchester Road/Heywood Road</b>                      |
| <b>Appendix 5</b> | <b>PICADY Output: A664 Manchester Road/Durban Street</b>                     |
| <b>Appendix 6</b> | <b>PICADY Output: A664 Manchester Road/Royal Barn Road/Partington Street</b> |
| <b>Appendix 7</b> | <b>M62 Junctions 19 &amp; 20 STATS19 Accident Data</b>                       |

## **1 INTRODUCTION**

### **1.1 Introduction**

**1.1.1** Eddisons have been instructed by Kellen Homes to advise on the traffic and transport issues relating to a Hybrid planning application comprising Full planning application for residential development, including access, car parking, landscaping, open space and associated engineering and infrastructure including an electric substation and foul water pump station and Outline planning permission with all matters reserved for the principle of development to facilitate the East Lancashire Railway (ELR) extension.

**1.1.2** The report provides information on the traffic and transport planning aspects of the development proposals and assist the local planning authority in the positive determination of the forthcoming planning application.

**1.1.3** The application site is located south-west of the centre of Castleton at the southern end of the Fairway. Its location is shown within **Plan 1**.

### **1.2 Structure of Report**

**1.2.1** The site was previously occupied mostly by Baggs Yard Railway Sidings although it is now vacant. Further details pertaining to the site's existing use will be provided in Section 2 of this report.

**1.2.2** Relevant planning policy pertaining to the proposed development site is discussed in Section 3 of the report.

**1.2.3** The proposal anticipates the erection of 191 new residential dwellings with vehicular access taken from two extensions to the existing cul-de-sacs on Fairway. Further details pertaining to the proposed development will be provided within Section 4.

**1.2.4** Section 5 provides an assessment of the existing accessibility of the site by non-car travel, before Section 6 discusses the Travel Plan Framework.

- 1.2.5 The traffic impact of the proposed development on the local highway network is considered at Section 7, whilst Section 8 presents an analysis of road safety in the vicinity of the site. Section 9 draws together the conclusions to this report.

## **2**      **EXISTING CONDITIONS**

### **2.1**      **Existing Site Information**

**2.1.1**      The site extends to approximately 10.89 hectares. The site is vacant and has been cleared of the former railway sidings and associated buildings with only hardstanding remaining.

**2.1.2**      Prior to this, the site was occupied by Baggs Yard Railway Sidings which was demolished and cleared some years ago. In summary, it is clear that the site has had previous industrial development on the land.

### **2.2**      **Local Highway Network**

**2.2.1**      The site will be served by two extensions to the existing cul-de-sacs on Fairway. Fairway is around 5.5 metres wide with 2.0-metre-wide footways on the existing cul-de-sacs, whilst it widens to around 6.5 metres on the looped section which in turn links to Heywood Road to the north of the site.

**2.2.2**      Heywood Road is around 6 metres wide with footways of around 2.0m on both sides of the carriageway. There are a series of existing traffic calming features which narrow the carriageway and protect areas of on-street parking.

**2.2.3**      The A664 Manchester Road is approximately 8-9.5 metres wide in the vicinity of the site with wide footways on both sides of the road.

**2.2.4**      Heywood Road and Fairway are both subject to a 20mph speed limit, whilst Manchester Road is subject to a 30mph speed limit.

### **3 DEVELOPMENT PROPOSALS**

**3.1.1** The following paragraphs will describe the development proposals and the proposed access arrangements.

#### **3.2 Proposed Development**

**3.2.1** The development proposals consist of 191 residential dwellings with a range of 1-2-, 3- and 4-bedroom houses with associated landscaping and open space.

**3.2.2** The Fairway was previously accepted by the LHA as being the only vehicular access route to and from the site at the time it was allocated for residential development. However, a secondary vehicular access route is proposed to connect to the west of the site onto Heywood Road. This route will permit traffic to enter the site from the Heywood Road direction in addition to The Fairway but would only allow traffic to exit the site via Fairway.

**3.2.3** This would substantially reduce the traffic impact on the existing residential streets to the north and, as described above, would provide an alternative pedestrian and cycle route to and from the site, as shown in **Plan 2**).

**3.2.4** The plan shows how the internal road network will encourage traffic to move through the site and to utilise the two Fairway access routes evenly.

**3.2.5** The Heywood Road access route plan shows a 5.5-metre-wide road with 2-metres wide footways on both sides as the access enters the site. The priority for traffic has been amended at the junction with the site access route with the western part of Heywood Road to assist road safety in the area as shown in **Plan 2**. The proposed vehicular access into the site from Fairway is shown in **Plan 3**.

**3.2.6** The northernmost section of Heywood Road, on its approach to the junction with Manchester Road, is proposed to be slightly widened to allow at least a 5.5-metres, with footways on both sides of the road of between 1.2 and 1.5-metres wide, these being much wider than existing.

**3.2.7** In addition, the marked parking bay on the eastern side of Heywood Road has been removed and formal crossing facilities for pedestrians on Heywood Road at the junction with Manchester Road.

**3.2.8** The plan also shows the proposed Beeline improvements from the most recent TfGM proposals (taken from Drawing Number A1/2003692/100/001). The Beeline works include a widening of the footway on the northern side of Manchester Road, a formal TOUCAN crossing to the west of the Heywood Road junction.

### **3.3 Internal Layout**

**3.3.1** The internal layout has been designed with Manual for Streets in mind and to ensure safe and suitable passage for all pedestrians and road users. A one-way vehicular access into the development will be provided from Heywood Road will serve as the main spine road through the site. The eastern accesses via The Fairways will serve the eastern portion of the site and to allow traffic exiting the site to connect with Heywood Road.

**3.3.2** The spine road and various cul-de-sacs will be offered for formal adoption and have turning heads at their ends. Spurs off these turning areas will also serve a number of short private drives accommodating no more than 5 units on each one.

**3.3.3** Following consultation with the Local Highway Authority (LHA) the LHA requested the internal highways be constructed to an adoptable standard in terms of construction and safe design including a self-enforcing 20mph zone. As shown in **Plan 2**, the internal layout includes elements of traffic calming where appropriate.

### **3.4 Refuse Vehicle Access**

**3.4.1** Refuse vehicle access to the development will be via the new vehicle access points off Fairway. As shown in **Plan 4**, refuse vehicles can access all parts of the residential development and leave the site in forward gear as will all emergency vehicles that are smaller than the refuse vehicle used in this exercise.

### **3.5 Pedestrian and Cycle Access**

**3.5.1** Pedestrian and cycle access will be available via the vehicular access points off Fairway, through the ELR land to Heywood Road and facilitate connection to the Bee Network.

**3.5.2** These links provide pedestrian and cycle connectivity with the surrounding Castleton area. There is an extensive footway network in the vicinity of the site connecting the site to the remainder of the Castleton area and notably the 'day to day' amenities close by, such as, shops, schools, healthcare facilities and employment opportunities.

**3.5.3** The internal layout of the site has been designed to provide a safe environment for pedestrians and cyclists with clearly defined walkways, crossing points and traffic calming features where appropriate.

## **3.6 Emergency Access**

**3.6.1** The LHA have requested that swept paths should also accommodate the turning movements of an emergency access vehicles. Eddisons note the GM Fire Service (GMFS) have not objected to the proposals. Furthermore, a typical fire engine will be smaller than a refuse vehicle, which has been shown to be able to access all parts of the application site as shown in **Plan 4**.

## **4 RELEVANT PLANNING POLICY**

### **4.1 Introduction**

**4.1.1** This section of the TA reviews the relevant national and local transport planning policy and guidance documents in the context of the proposed development.

**4.1.2** It will focus on the National Planning Policy Framework (NPPF), which was first published in March 2012 and last updated in July 2021 and sets out the Government's planning policies for achieving sustainable development. It will also refer to National Planning Practice Guidance.

**4.1.3** Local planning policy is taken from the adopted Local Plan.

### **4.2 National Planning Policy Framework (NPPF)**

**4.2.1** The Department for Communities and Local Government (now the Department for Levelling Up, Housing and Communities) updated its National Planning Policy Framework (NPPF) in July 2021. The NPPF replaces previous Planning Policy Guidance (PPG) Notes and Planning Policy Statements (PPS) with a single document.

**4.2.2** The updated version of the NPPF continues to provide guidance on the same key themes for Local Authorities when preparing Development Plans and associated Policies, with a presumption in favour of approval unless the proposals entail impacts that outweigh the benefits of the development.

**4.2.3** The 2021 revised NPPF provides more guidance on how Local Authorities should form Development Plans, policies and the decision-making process compared to the original NPPF published in 2012. Greater emphasis is placed on early consultation and the addressing of location, provision, and design issues during the planning stages in order to ensure high-quality sustainable developments are brought forward, rather than applying numerous planning conditions to planning decisions.

- 4.2.4 The same principles are also emphasised to ensure new developments are brought forward with minimal delay through the planning process.
- 4.2.5 Local authorities are expected to grant permission, where the proposals accord with an up-to-date development plan or where the Local Plan is absent, silent, indeterminate, or where relevant policies are out of date, unless the adverse effects of granting planning permission significantly and demonstrably outweigh the benefits of the scheme.
- 4.2.6 At the heart of NPPF is ‘a presumption in favour of sustainable development’ (Paragraph 11).
- 4.2.7 Regarding sustainable transport the NPPF states in paragraph 105 that:
- ‘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. This can help to reduce congestion and emissions and improve air quality and public health.’*
- 4.2.8 The NPPF goes on to consider parking provision, stating in paragraph 108 ‘Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport.’
- 4.2.9 In determining planning proposals, paragraph 110 of the NPPF states:
- In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:
  - appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location.
  - safe and suitable access to the site can be achieved for all users.

- 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 46, and
- 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 or development.

**4.2.10** Whilst paragraph 111 advises 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 would be severe.’

**4.2.11** Developments are required to provide and promote pedestrian and cyclist movements as a priority, facilitate access to public transport services and maximise the catchment areas for bus and other public transport services.

**4.2.12** It is demonstrated in the subsequent sections of this TA that the site is located close to good pedestrian links and public transport networks and is therefore ideally situated to encourage trips by sustainable modes of travel.

**4.2.13** Furthermore, the report also demonstrates that the proposals will not have a material impact on the adjoining highway network.

**4.2.14** It is therefore clear from the NPPF that development:

- Should be assessed with a presumption in favour of approval.
- Should be capable of being accessed satisfactorily with safe and suitable access provided for all.
- Should be sustainable, with preference given to accessibility by sustainable modes of transport.
- Should only be refused on highways grounds if there is an unacceptable impact on safety, or the cumulative impacts on the road network are severe.

4.2.15 Therefore, developments should be located and designed where practical to;

- 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.

4.2.16 The location of the proposed development close to several local amenities (as described in Section 4 of this TA), in accordance with the guidance contained within paragraph 20, which states that:

*‘Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for:*

- housing (including affordable housing), employment, retail, leisure, and other commercial development.
- infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat).

- community facilities (such as health, education, and cultural infrastructure), and
- conservation and enhancement of the natural, built, and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation’.

**4.2.17** It is therefore concluded that as the development is located a short distance from a range of local amenities, is accessible by public transport and has been designed in accordance with the guidance contained within Manual for Streets, it is considered that the proposed development accords with the aims and objectives of the Framework.

**4.2.18** Paragraph 111 of the NPPF states:

*‘All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed’.*

**4.2.19** To satisfy this policy requirement, this TA is accompanied by a Travel Plan Framework which provides commitment to produce a full Travel Plan upon completion of the development.

## **4.3 National Planning Practice Guidance**

**4.3.1** The Government has produced the National Planning Practice Guidance to supplement the NPPF. Within the guidance, there is a specific section clarifying the over-arching principles on Travel Plans, Transport Assessments and Transport Statements. There are also sections advising further on each of the three documents discussed.

**4.3.2** The guidance advises that in determining whether a Transport Assessment or Statement will be needed for a proposed development, the local planning authority should take into account a number of considerations. It is considered that the size and nature of this development requires a full Transport Assessment.

**4.3.3** It also clarifies the process for establishing a scope for the assessment, and what the document should contain. The guidance has been considered in the preparation of this TA.

**4.3.4** The guidance on Travel Plans reinforces the requirement for a Travel Plan, the scope of the document, and need for monitoring to continue the strategy into the future. The guidance has been considered in the production of the accompanying Framework Travel Plan.

**4.3.5** It is therefore concluded that the content of this Transport Assessment and accompanying Framework Travel Plan meet the guidance provided within the Planning Practice Guidance.

## **4.4 Rochdale Local Plan**

**4.4.1** The Core Strategy Development Plan Document was adopted in October 2016 and sets out the policies for Rochdale's future development up to 2028 and the planning policies is the key document of the Local Plan.

**4.4.2** Policy SD1 refers to 'Delivering Sustainable Development'. The policy confirms that the council will 'take a positive approach that reflects the presumption in favour of sustainable development'.

**4.4.3** The policy continues to state that 'planning applications that accord with the policies in the Local Plan will be approved without delay'.

**4.4.4** The policy goes on to state the following:

*'Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:*

- *Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*
- *Specific policies in the National Planning Policy Framework indicate that development should be restricted’.*

#### **Castleton Station Masterplan**

**4.4.5** RBC adopted the above document in March 2022. This is a material planning consideration. Within this document the site is identified for residential development.

**4.4.6** The following sections of the TA will ensure that the proposals are acceptable and constitute sustainable development in transport terms.

**4.4.7** It is therefore considered that the site satisfies the relevant policy requirements of the Rochdale Local Plan with regards to transport and highways issues.

### **4.5 Planning Policy Summary**

**4.5.1** The proposed development is in accordance with national and local policy for the following reasons:

- The proposed development will reduce the need to travel due to it being located in close proximity to a range of services such as schools, retail opportunities and health facilities, which are located within a short walk of the site. Further details on the accessibility of the proposed development by non-car modes is provided in Section 5 of this Transport Assessment.
- The site is located in close proximity to a range of public transport opportunities, which will facilitate non-car travel to and from the proposed development.

- 4.5.2** The site promotes sustainable transport in accordance with the Framework (NPPF) as it facilitates sustainable development and contributes to wider sustainability and health objectives.

## **5 ACCESSIBILITY BY NON-CAR MODES**

### **5.1 Introduction**

**5.1.1** In order to accord with the aspirations of the NPPF, any new proposals should extend the choice in transport and secure mobility in a way that supports sustainable development.

**5.1.2** New proposals should therefore attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current national and local planning policy.

**5.1.3** The accessibility of the proposed site has been considered by the following modes of transport:

- accessibility on foot.
- accessibility by cycle.
- accessibility by bus.
- accessibility by rail.

### **5.2 Access on Foot**

**5.2.1** It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.

**5.2.2** Existing footways exist on both sides of Fairway and Heywood Road of around 2 metres in width. These footways provide links to a comprehensive network of routes within the local area, supplemented by a number of controlled crossing points on Manchester Road which facilitate access to the nearby day to day amenities within the area.

**5.2.3** The DFT National Travel Survey of 2018 confirms that 80% of all trips less than a mile (1.6km) are carried out on foot.

**5.2.4** The Institute of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot', provides information on acceptable walking distances. Table 3.2 suggests distances for desirable, acceptable and preferred maximum walks to 'town centres', 'commuting/schools' and 'elsewhere'. The 'preferred maximum' distances are shown below in **Table 5.1**.

| Suggested Preferred Maximum Walk |                  |           |
|----------------------------------|------------------|-----------|
| Town Centre                      | Commuting/School | Elsewhere |
| 800m                             | 2,000m           | 1,200m    |

**Table 5.1 - IHT 'Providing for Journeys on Foot' Walk Distances**

**5.2.5** Manual for Streets (MfS) continues the theme of the acceptability of the 2,000-metre distance in paragraph 4.4.1. This states that '*walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPS13 states that walking offers the greatest potential to replace short car trips, particularly those under 2 km*'.

**5.2.6** **Table 5.2** below summarises this guidance in tabular form.

| 'Comfortable' Walk | 'Preferred Maximum' Walk |
|--------------------|--------------------------|
| 800m               | 2,000m                   |

**Table 5.2 - Manual for Streets Walk Distances**

5.2.7 More specific guidance on the distances that children will walk to school is found in the July 2014 document published by the Department for Education (DfE) entitled ‘Home to School Travel and Transport’ statutory guidance document. This suggests that the maximum walking distance to schools is 2 miles (3.2 kilometres) for children under 8 and 3 miles (4.8 kilometres) for children over the age of 8. This is summarised below in **Table 5.3**.

| Children under 8 Walk Distance | Children over 8 Walk Distance |
|--------------------------------|-------------------------------|
| 3,200m                         | 4,800m                        |

**Table 5.3 – DfE Walk Distances to Schools**

5.2.8 Further evidence that people will walk further than the suggested ‘preferred maximum’ distances in the IHT ‘Providing for Journeys on Foot’ is contained in a WYG Report entitled ‘Accessibility – How Far Do People Walk and Cycle’. This report refers to National Travel Survey (NTS) data for the UK as a whole, excluding London, and confirms the following 85<sup>th</sup> percentile walk distances:

- All journey purposes – 1,930-metres.
- Commuting – 2,400-metres.
- Shopping – 1,600-metres.
- Education – 3,200 or 4,800-metres.
- Personal business – 1,600-metres.

5.2.9 Overall, in Table 5.1, the document states that 1,950 metres is the 85<sup>th</sup> percentile distance for walking as the main mode of travel. **Table 5.4** below summarises the various 85<sup>th</sup> percentile walk distances suggested as guidelines in the WYG Study.

| All Journeys | 85 <sup>th</sup> Percentile Walk Distances |          |               |          | Overall Recommended Preferred Max |
|--------------|--------------------------------------------|----------|---------------|----------|-----------------------------------|
|              | Communiting                                | Shopping | Education     | Personal |                                   |
| 1,950m       | 2,100m                                     | 1,600m   | 3,200m/4,800m | 1,600m   | 1,950m                            |

**Table 5.4 - WYG Report/NTS Data Walk Distances**

- 5.2.10** In summary, the distance of 1,950-metres, or around 2-kilometres, represents an acceptable maximum walking distance for the majority of land uses although clearly the DfE guidance for walking to school is up to 3.2-kilometres.
- 5.2.11** Section 3.1 of the CIHT guidance 'Planning for Walking' mentioned earlier in this report provides a useful reminder of the health benefits of walking. This states that:
- 'A brisk 20 minute walk each day could be enough to reduce an individual's risk of an early death.'*
- 5.2.12** A 20-minute walk equates to a walking distance of around 1,600-metres.
- 5.2.13** In light of the above review, a pedestrian catchment of 2-kilometres from the centre of the site, using all usable pedestrian routes, has been provided in **Plan 5** and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.
- 5.2.14** In addition, to the pedestrian catchment plan, a review of the proximity of local facilities such as local shops/retail outlets and leisure facilities has been undertaken and the location of these is also shown in Plan 5.
- 5.2.15** The 2,000-metre pedestrian catchment illustrates that the majority of Castleton can be accessed, such as, New Bridge Chippy, Annies, Co-op Food, Castleton Primary School, St. Gabriel's RC Primary School, Castleton Post Office, St Edwards C of E Primary School, Premier – Castleton, Castleton Health & Leisure, Small World Nurseries and Well Castleton – Elizabeth Street.

**5.2.16** **Table 5.5** below, shows the approximate walking distance from the centre of the site to several of the local key amenities in the immediate vicinity of the site. The table also confirms whether or not the particular amenity is within the ‘preferred maximum’ walk distances using the above guideline criteria.

| Local Amenity                     | Distance | Guidance Criteria | Meets with Guidance? |
|-----------------------------------|----------|-------------------|----------------------|
| New Bridge Chippy                 | 590m     | 1,600m            | YES                  |
| Castleton Post Office             | 590m     | 1,600m            | YES                  |
| Annies                            | 650m     | 1,600m            | YES                  |
| St Edwards C of E Primary School  | 775m     | 3,200m            | YES                  |
| Co-op Food                        | 800m     | 1,600m            | YES                  |
| Premier - Castleton               | 830m     | 1,600m            | YES                  |
| Castleton Post Office             | 975m     | 1,600m            | YES                  |
| Castleton Health & Leisure        | 975m     | 1,600m            | YES                  |
| Small World Nurseries             | 1,030m   | 1,600m            | YES                  |
| St Gabriel's RC Primary School    | 1,120m   | 3,200m            | YES                  |
| Well Castleton – Elizabeth Street | 1,225m   | 1,600m            | YES                  |

**Table 5.5 - Approximate Distance from Site to Local Facilities**

**5.2.17** As can be seen in the above table, the site is located within proximity to a number of local amenities including primary services as well as leisure facilities.

**5.2.18** All of the day-to-day amenities are well within the ‘preferred maximum’ walk distances described earlier in this section and indeed many, including the nearest food store and nearest primary school, are within the 800 metres ‘comfortable walk’ from the site as contained within MfS guidance.

- 5.2.19 It is therefore considered that the existing and proposed pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and local destinations.

### 5.3 Access by Cycle

- 5.3.1 An alternative mode of travel to the site could be achieved by bicycle. A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass parts of Rochdale, Heywood and Middleton.
- 5.3.2 A new cycle link will be provided, connecting the site to Heywood Road, across the East Lancashire Railway-owned land.
- 5.3.3 National cycle route 66, starts north of Rochdale where it runs south into the city centre where it meets National Cycle Route 92. This route also starts north of Rochdale where it also runs ends in the centre of Rochdale. Both routes are both on and off-national cycle route, 66 is located approximately 380 metres from the site, whereas 92 is located 4.8 kilometres from the site.
- 5.3.4 The site can therefore be considered as being accessible by cycle.

### 5.4 Access by Bus

- 5.4.1 The nearest bus stops to the site are located approximately 800 metres to the east on Manchester Road, around a 10-minute walk from the site. Additional bus stops are located further along Queensway. All the nearest bus stops to the site are shown on **Plan 5**.
- 5.4.2 A summary of the services available from the nearest bus stops from the development site is provided in **Table 5.6** below.

| Serv No | Route                               | Monday – Friday<br>(Per hour) |        |         |     | Sat | Sun |
|---------|-------------------------------------|-------------------------------|--------|---------|-----|-----|-----|
|         |                                     | AM Peak                       | Midday | PM Peak | Eve |     |     |
| 17      | Manchester – Rochdale via Middleton | 3                             | 3      | 3       | 2   | 3   | 2   |

**Table 5.6 - Existing Bus Services Operating Close to the Site**

**5.4.1** As can be seen from Table 5.6, the nearest bus stops to the site provides access to the number 17 service that operates throughout the day, weekday evenings and at weekends to destinations such as Rochdale, Middleton, Blackley and Manchester.

**5.4.2** The above services operate from around 5:00am to around 23:30pm, making travel by public transport a real alternative to travelling by car for all journey purposes.

**5.4.3** In order to demonstrate the level of accessibility, some example journey times by bus are presented below **Table 5.7** below.

| Destination          | Duration   |
|----------------------|------------|
| Rochdale town centre | 11 minutes |
| Middleton            | 16 minutes |
| Manchester           | 34 minutes |

**Table 5.7 - Example Bus Journey Times from the Site**

**5.4.4** The above table demonstrates that Rochdale town centre is an approximate 10-minute bus journey from the site and Middleton is a 16-minute bus journey.

**5.4.5** It is therefore concluded that the site can be considered as highly accessible by bus.

## **5.5 Accessibility by Rail**

**5.5.1** Castleton station is the closest railway station to the site. It can be accessed via a short 8–9-minute walk as the station is 700 metres from the centre of the site. The station is managed by Northern and has 2 platforms, offering 3 services per hour to destinations such as Leeds and Manchester city centre.

**5.5.2** This provides opportunities for travelling to and from the site by rail.

## **5.6 Accessibility Summary**

**5.6.1** The proposals have been considered in terms of accessibility by non-car modes for the proposed development.

**5.6.2** The following conclusions can be drawn from this section of the report:

- The site is well located to cater for trips on foot and provides potential for a high degree of pedestrian trips between the development and the surrounding area.
- It has been demonstrated that the site is accessible by cycle.
- The services from the bus stops on Manchester Road which connect the site with retail, employment and leisure facilities in Rochdale, Middleton and Manchester. It can therefore be concluded that the proposed development is highly accessible by bus.
- The site has been demonstrated to be accessible by rail with Castleton railway station located within a 10-minute walk from the site.

**5.6.3** In light of the above, it is considered that the site is highly accessible and caters for needs of the development's residents and visitors. As such, this will assist in promoting a choice of travel modes other than the private car, as set out in NPPF.

## **6 PROMOTION OF TRAVEL BY NON-CAR MODES**

### **6.1 Introduction**

- 6.1.1 In order to encourage resident and visitor travel to the site by non-car modes, a Travel Plan is included within the application submission.

### **6.2 Travel Planning Guidance**

- 6.2.1 The preparation and adoption of a Travel Plan is an important element of managing the demand for travel to all modern developments. The Department for Transport (DfT) have produced guidance on the preparation of Travel Plans. The document, entitled *‘Good Practice Guidelines: Delivering Travel Plans through the Planning Process’* was published in August 2009.
- 6.2.2 The guidance explains how *“we often need to meet the demands of population and economic growth whilst simultaneously reducing our impact on the environment” and identifies that “The benefits of increases in sustainable travel, in particular cycling and walking, can extend beyond reduction in CO<sub>2</sub> emissions and climate impacts, and include tackling congestion, tackling obesity and health issues, reducing social exclusion and improving quality of life”.*
- 6.2.3 The document sets out an overview of the process and delivery of Travel Plans and states that *“A Travel Plan is a long-term management strategy for an occupier or site that seeks to deliver sustainable transport objectives through positive action and is articulated in a document that is regularly reviewed.”*
- 6.2.4 The Guidance states that *“Travel Plans should involve the development of agreed explicit outcomes linked to an appropriate package of measures aimed at encouraging more sustainable travel, with an emphasis on reducing single occupancy car use...”* and

*“A Travel Plan should seek to establish clear outcomes to be achieved in relation to access and set out all the measures to be implemented in detail, including an action plan, timescales, targets and responsibilities for implementation, monitoring and review”.*

6.2.5 It is made clear in the document that Travel Plans should focus on achieving the lowest practical level of single occupancy vehicle trips to or from a site and widening the use of other travel modes and assist in the wider aims of encouraging sustainable travel, improving health, reducing congestion, energy consumption and pollution. The Travel Plan, it *advises “needs to address all the journeys that may be made to and from a site”.*

6.2.6 The guidance also specifies that “It is important to note that Travel Planning should be developed as one of the means of delivering an area’s sustainable transport strategy. Travel Planning should feature in the policy framework and implementation programs of Regional Spatial Strategies and Local Development Frameworks”.

6.2.7 Further guidance relating specifically to residential Travel Plans is presented in the DfT document entitled *“Making Residential Travel Plans Work”* published in June 2007.

6.2.8 The document states that:

*“Travel Planning is one of a range of measures known as smarter choices which have been found to be effective on reducing traffic and improving accessibility in residential areas”.*

6.2.9 A Residential Travel Plan is a package of measures designed to reduce car use originating from new housing by supporting alternative forms of transport and reducing the need to travel in the first place.

**6.2.10** They are an important tool to help deliver accessible, sustainable communities and offer clear benefits to all the parties involved – public, private and the community. They involve meeting the access needs of residents in a new way and require partnerships between developers, local authorities, local communities, and new residents.

**6.2.11** The value of Travel Plans in reducing car use to workplaces and schools is widely recognized and many local authorities and developers have experience in their design and implementation. However, until recently, little attention has been given to tackling the origins of journeys from people's homes. Now, forward-thinking developers and local authorities are developing packages of smarter choices to both reduce the traffic generated by new housing developments and increasing the travel choices available to residents. These smarter choices are being set out in Residential Travel Plans.

## **6.3 Residential Travel Plan**

**6.3.1** The objective of a Residential Travel Plan is the delivery of the objectives of the NPPF, i.e., to encourage residents to travel to work by bus, rail, on foot and by bicycle.

**6.3.2** The Framework Residential Travel Plan outlines physical and management measures that are designed to achieve this objective.

**6.3.3** However, the principal measure will consist of a Residents Travel Pack containing relevant material to promote non-car modes of travel and the provision of certain physical measures.

**6.3.4** The Travel Pack will contain information to inform residents of the existing long-term strategy for reducing the dependence of residents and visitors on travel by private car.

**6.3.5** The site has been demonstrated to benefit from excellent non-car accessibility and it should, therefore, be expected that the adoption of a Travel Plan would be particularly effective.

## **7**      **TRAFFIC IMPACT ANALYSIS**

### **7.1**      **Introduction**

**7.1.1**      Having established that the proposed development site is highly accessible by modes of travel other than the private car and would be in general accordance with transport policies, the following section considers the traffic impact of the development proposals on the local highway network.

### **7.2**      **Assessment Criteria**

**7.2.1**      Given the proposed residential land use, it is assumed reasonable to consider the AM and PM weekday peak hours, as being those with the greatest impact on the local highway network.

### **7.3**      **Traffic Survey Data**

**7.3.1**      The assessment will be based on a series of traffic counts that have been carried out at the following junctions on the local highway network:

- A664 Manchester Road/Heywood Road priority junction.
- A664 Manchester Road/Durban Street priority junction; and
- A664 Manchester Road/Royal Barn Road/Partington Street staggered priority junction.

**7.3.2**      These surveys were undertaken on Tuesday 4<sup>th</sup> June 2019, prior to the COVID pandemic.

**7.3.3**      The peak hours were identified as 0800 to 0900 hours and 1630 to 1730 hours, for the AM and PM peaks respectively. The surveyed flows for the AM and PM peak hours are shown in **Figures 1** and **2** respectively.

## **7.4**      **Growthed Traffic Flows**

**7.4.1**      For the purpose of this TA, assessments have been undertaken for a design horizon of 2025, representing an estimated build out of circa 50-55 units per year up to a total of 191 units, with construction commencing in 2022.

**7.4.2**      In order to factor the surveyed traffic flows to the assumed future year assessment of 2025, a National Trip End Model (NTEM) adjusted National Road Traffic Model (NTM) growth factor was applied for the area (MSOA Rochdale 017).

- 2019 to 2025 AM Peak = 1.0704.
- 2019 to 2025 PM Peak = 1.0680.

**7.4.3**      The resultant growthed traffic flows are shown in **Figures 3** and **4** for the 2025 growthed traffic flows AM and PM peak periods respectively.

## **7.5**      **Committed Development**

**7.5.1**      It is noted that the planning authority have not requested the inclusion of any other PfE site to be include within the assessment of the Castleton Sidings site. In addition, the planning application for 495-dwellings at the Cowm Top Lane site (planning application ref: 22/01190/FUL) was not objected to by NH and further it recommended that Rochdale, in that case, considered the cumulative impacts of PfE sites rather than NH undertake this assessment.

**7.5.2**      Furthermore, Eddisons are not aware of any other relevant PfE sites that would be required to be included within the traffic impact analysis.

**7.5.3**      The site below is understood to be the only committed development in the area that is likely to generate material traffic flows in the vicinity of the site.

- Trub Farm, Castleton (Appeal Ref: APP/P4225/A/12/2185947/NW).

**7.5.4**      The resultant committed development flows are shown in **Figures 5** and **6** for the AM and PM peak periods respectively.

## 7.6 Base Flows

7.6.1 The growthed traffic flows in Figures 3 and 4 have been added to the committed development traffic flows in Figures 5 and 6 to produce the 2025 Base Flows shown in **Figures 7 and 8** for the AM and PM peaks respectively.

## 7.7 Proposed Development

7.7.1 As previously stated, it is proposed to develop the site for 203 residential dwellings.

7.7.2 In order to calculate the number of trips which the proposed dwellings are forecast to generate, the TRICS 7.8.1 database was analysed. Trip rates were obtained in the field of “Residential – Houses Privately Owned” within the range 100 to 300 residential units with Greater London and Eire sites excluded.

7.7.3 Table 7.1 below, summarises the trip generations for the proposed residential units whilst the TRICS output is contained within **Appendix 2**.

| Mode    | Period       | Trip Rate |       | Trips |     |
|---------|--------------|-----------|-------|-------|-----|
|         |              | Arr       | Dep   | Arr   | Dep |
| Vehicle | AM Peak Hour | 0.142     | 0.381 | 27    | 73  |
|         | PM Peak Hour | 0.357     | 0.172 | 68    | 33  |

**Table 7.1 - Proposed Development Trip Rates and Trips**

7.7.4 As can be seen from the above table, the proposed development is predicted to result in 100 two-way trips during the weekday AM peak and 101 two-way trips during the weekday PM peak period.

7.7.5 National Highways have requested that the cumulative impact of the proposed site alongside others proposed as part of the proposed PfE is forecast to require mitigation on the M62 between J19-21.

**7.7.6** The impact of the proposals on the M62 at any point is likely to be negligible. The traffic flow figures confirm that a maximum of 44 two-way traffic movements would travel to or from the site to the north of the site. This would be the route for all vehicles travelling to the M62 from the site. This route towards Junction 20 of the M62 would involve travelling through a number of key junctions with other potential routes and destinations that residents could be travelling to and from including the majority of Rochdale. Each alternative destination to the north of the site would be likely to reduce any impact of the proposals on the M62 to levels that would be highly likely to be negligible. As such, there would be no requirement for this assessment to include any cumulative impact exercise between Junctions 19 and 21 of the M62.

## **7.8 Trip Distribution**

**7.8.1** In order to assign the proposed development trips shown in Table 7.1 to the local highway network, reference has been made to the Method of Travel to Work data available from the 2011 census.

**7.8.2** The census data has been obtained for the relevant Middle Super Output Area, Rochdale 017, which encompasses the proposed site.

**7.8.3** The census data identifies the destination of residents travelling by car and, by using route planning software, the likely routes residents would take when travelling to the various destinations has been determined.

**7.8.4** The census data and route assumptions are included at **Appendix 3**.

**7.8.5** The vehicle trips, shown in Table 7.1, have been assigned to the network based on the trip distribution shown in **Figure 9** and the resulting proposed development trips are shown in **Figures 10** and **11** for the weekday AM and PM peaks respectively.

## 7.9 With Development Flows

7.9.1 The forecast development traffic flows depicted in Figures 10 and 11 have been added to the 2025 Base Flows shown in Figures 7 and 8. The resultant 2025 With Development Flows are shown in **Figures 12 and 13** for the AM and PM peak periods.

## 7.10 Capacity Assessments

7.10.1 In order to assess the operation of the junctions on the local highway network, assessments were undertaken at the following junctions:

- A664 Manchester Road/Heywood Road priority junction.
- A664 Manchester Road/Durban Street priority junction; and
- A664 Manchester Road/Royal Barn Road/Partington Street staggered priority junction.

### A664 Manchester Road/Heywood Road priority junction

7.10.2 The A664 Manchester Road/Heywood Road priority junction has been assessed using the PICADY module of the Junction 9 programme.

7.10.3 Assessments were undertaken using the 2025 'Base' and 'With Development' flows, the results of which are summarised in **Table 7.2** with the full results contained within **Appendix 4**.

| Arm                                  | 2025 Base Flows |       |            |       | 2025 With Development |       |            |       |
|--------------------------------------|-----------------|-------|------------|-------|-----------------------|-------|------------|-------|
|                                      | Weekday AM      |       | Weekday PM |       | Weekday AM            |       | Weekday PM |       |
|                                      | RFC             | Max Q | RFC        | Max Q | RFC                   | Max Q | RFC        | Max Q |
| Heywood Road                         | 0.00            | 0     | 0.00       | 0     | 0.00                  | 0     | 0.00       | 0     |
| A664 Manchester Road (S) Ahead/Right | 0.16            | 0     | 0.13       | 0     | 0.16                  | 0     | 0.14       | 0     |

**Table 7.2 - Summary of PICADY Results for the A664 Manchester Road/Heywood Road priority junction – 2025 Assessments**

**7.10.4** As can be seen from Table 7.2, the A664 Manchester Road/Heywood Road priority junction is forecast to continue to operate well within its theoretical capacity in both the AM and PM peak scenarios.

**7.10.5** The results also demonstrate that the impact of the proposed development on the junction is minimal.

**A664 Manchester Road/Durban Street priority junction**

**7.10.6** The A664 Manchester Road/Durban Street priority junction has been assessed using the PICADY module of the Junction 9 programme.

**7.10.7** The results for the 'Base' and 'With Development' flow scenarios for 2025 are summarised within Table 7.3 with the full results contained within **Appendix 5**.

| Arm                             | 2025 Base Flows |       |            |       | 2025 With Development |       |            |       |
|---------------------------------|-----------------|-------|------------|-------|-----------------------|-------|------------|-------|
|                                 | Weekday AM      |       | Weekday PM |       | Weekday AM            |       | Weekday PM |       |
|                                 | RFC             | Max Q | RFC        | Max Q | RFC                   | Max Q | RFC        | Max Q |
| <b>Durban Street</b>            | 0.59            | 1     | 0.41       | 1     | 0.62                  | 2     | 0.45       | 1     |
| <b>A664 Manchester Road (S)</b> | 0.22            | 0     | 0.13       | 0     | 0.24                  | 0     | 0.21       | 0     |

**Table 7.3 - Summary of PICADY Results for the A664 Manchester Road/Durban Street priority junction – 2025 Assessments**

**7.10.8** As can be seen from the above table, the A664 Manchester Road/Durban Street priority junction is forecast to operate well within its theoretical capacity in all the assessment scenarios.

**7.10.9** The results also demonstrate a minimal increase in the RFC and Queues, with the maximum increase in queuing being just 1 vehicle. The impact of the proposed development on the operation of this junction can, therefore, be considered minimal.

#### **A664 Manchester Road/Royal Barn Road/Partington Street staggered priority junction**

**7.10.10** The A664 Manchester Road/Durban Street priority junction has been assessed using the PICADY module of the Junction 9 programme.

**7.10.11** The results for the 'Base' and 'With Development' flow scenarios for 2025 are summarised within Table 7.4 with the full results contained within **Appendix 6**.

| Arm                                         | 2025 Base Flows |       |            |       | 2025 With Development |       |            |       |
|---------------------------------------------|-----------------|-------|------------|-------|-----------------------|-------|------------|-------|
|                                             | Weekday AM      |       | Weekday PM |       | Weekday AM            |       | Weekday PM |       |
|                                             | RFC             | Max Q | RFC        | Max Q | RFC                   | Max Q | RFC        | Max Q |
| <b>Partington Street</b>                    | 0.45            | 1     | 0.39       | 1     | 0.70                  | 2     | 0.54       | 1     |
| <b>A664 Manchester Road (S) Ahead/Right</b> | 0.17            | 0     | 0.28       | 0     | 0.18                  | 0     | 0.29       | 1     |
| <b>Royal Barn Road</b>                      | 0.30            | 0     | 0.50       | 1     | 0.31                  | 0     | 0.52       | 1     |

**Table 7.4 - Summary of PICADY Results for the A664 Manchester Road/Royal Barn Road/Partington Street – 2025 Assessments**

**7.10.12** As can be seen from the above table, the A664 Manchester Road/Royal Barn Road/Partington Street priority junction is forecast to operate well within its theoretical capacity in all the assessment scenarios.

**7.10.13** The results also demonstrate a minimal increase in the RFC and Queues, with the maximum increase in queuing being just 1 vehicle. The impact of the proposed development on the operation of this junction can, therefore, be considered minimal.

## **7.11 Link Capacities**

**7.11.1** Consideration has been given to the link capacities along the main routes from the A664 Manchester Road to and from the site via Heywood Road and Heape Street/Fairway.

**7.11.2** As of March 2020, the relevant DMRB document for Link Capacities, TA 79/99 Traffic Capacity of Urban Roads, has been withdrawn and there are currently no replacement standards in the revised DMRB.

**7.11.3** Notwithstanding this, in order to fully inform Rochdale Council, an assessment has been undertaken using the now withdrawn standards as these are still considered to provide best practice guidance on link capacities.

- 7.11.4** DMRB Volume 5, Section 1, Part 3, TA 79/99 provides an estimated maximum hourly vehicle capacity for various types of urban roads. The relevance of this document is discussed below.
- 7.11.5** The types of urban roads and the features which affect their traffic capacity are detailed in Table 1 of TA 79/99. Table 2 of TA 79/99 gives the flow capacity for each road type based on carriageway width parameters. The road type which most closely matches Heywood Road, Heape Street and Fairway is a UAP3 (variable standard road carrying mixed traffic with frontage access) classification.
- 7.11.6** As detailed in Table 2 of TA 79/99, based on a 6.1m two-way single carriageway, the UAP3 road type can cater for up to 900 one-way hourly flows in each direction. The cul-de-sac sections of Fairway are slightly narrower (circa 5.5m) along some sections and, therefore, based on a downwards extrapolation of Table 2, it is felt appropriate that Fairway could accommodate around 690 one-way hourly flows in each direction.
- 7.11.7** The main sections of Fairway, Heape Street and Heywood Road have variable carriageways widths of around 6.0 to 7.0m and, therefore, 900 one-way hourly flows is considered an appropriate hourly capacity.
- 7.11.8** The traffic surveys and trip generation exercise has revealed that the main route from the A664 to the site has existing flows, base flows and post development flows as shown on Table 7.5 below.
- 7.11.9** The final column of the table lists the approximate link capacities of each of the routes based on the available carriageway width by reference to DMRB Volume 5, Section 1, Part 3, TA 79/99.

| Link                            | 2019<br>Survey<br>Flows | 2026 Base<br>Flows | 2026 With<br>Dev Flows | One-Way<br>Capacity |
|---------------------------------|-------------------------|--------------------|------------------------|---------------------|
| Heywood Road                    | 112                     | 119                | 140                    | 900                 |
| Heape<br>Street/Fairway<br>Loop | 132                     | 141                | 175                    | 900                 |
| Fairway Cul-de-<br>sacs         | -                       | -                  | 73                     | 690                 |

**Table 7.5 - Link Flows and Capacities**

**7.11.10** As can be seen in Table 7.5, the traffic impact analysis has revealed that each route is forecast to have a maximum one-way hourly flow which is well below its theoretical capacity of 690 one-way hourly flows.

**7.11.11** As such, this demonstrates that the expected vehicular usage of these links falls well below what would be expected on a typical urban road with similar carriageway dimensions and features.

## **7.12 Capacity Assessment Summary**

**7.12.1** In summary, the capacity assessment undertaken as part of this traffic impact analysis have demonstrated the following:

- The proposed site access points will be a continuation of the existing Fairway cul-de-sacs. The access points have been designed to accord with highway design standards and are considered to have more than sufficient capacity to accommodate the proposed development traffic.
- The A664 Manchester Road/Heywood Road priority junction is forecast to operate well within capacity in all of the traffic flow scenarios.
- The A664 Manchester Road/Durban Street priority junction is forecast to operate well within capacity in all of the traffic flow scenarios and the impact of the proposals on the junction is considered minimal.

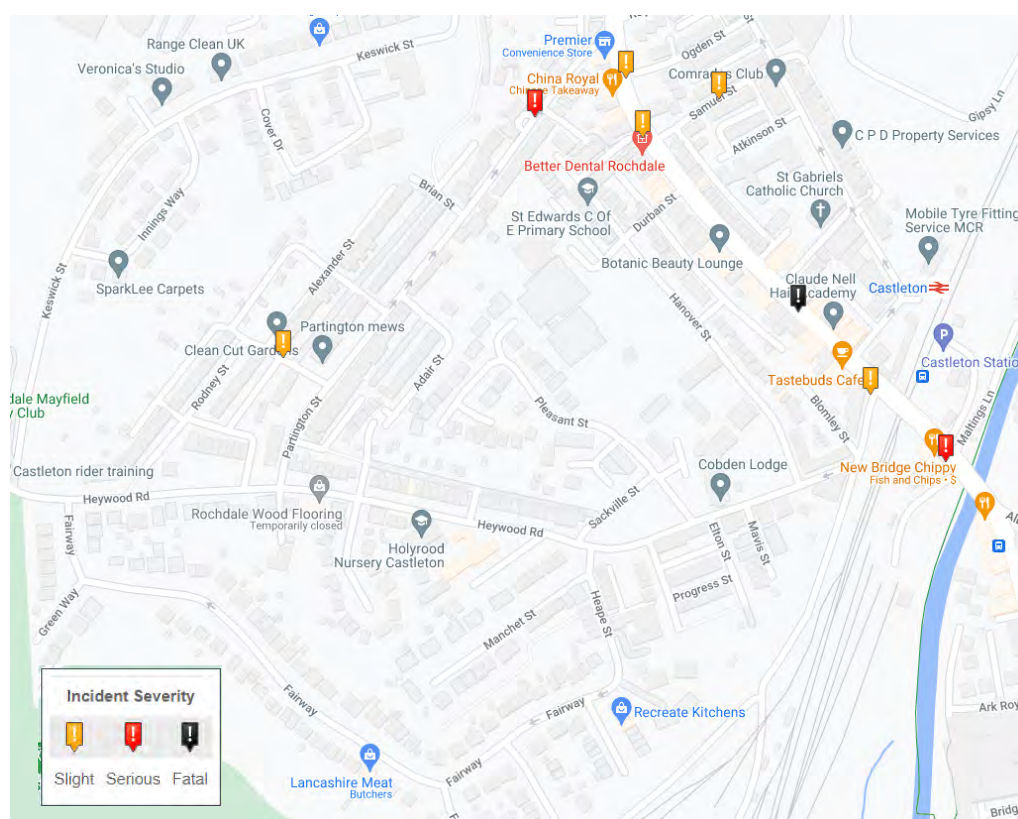
- The A664 Manchester Road/Royal Barn Road/Partington Street staggered priority junction is forecast to operate well within capacity in all of the traffic flow scenarios and the impact of the proposals on the junction is considered minimal.
- The link capacity assessment has demonstrated that Heywood Road, Heape Street and Fairway are operating well within their theoretical capacity and will continue to do so once the development has been completely occupied.

**7.12.2** It is therefore concluded that the development proposals will result in a minimal impact on the local highway network.

## 8 ROAD SAFETY

8.1.1 In order to consider the potential impact of the development on road safety, a brief review of the Crashmap website ([www.crashmap.co.uk](http://www.crashmap.co.uk)) has been undertaken. The information provided on the website covered the five-year period 2018 to 2022 in the vicinity of the development site.

8.1.2 According to the data provided there have been no recorded accidents on Heywood Road or on the Fairway, one accident occurred on Partington Street and only five accidents have occurred on Manchester Road between Queensway and Royal Barn Road, as identified in **Figure 8.1** below.

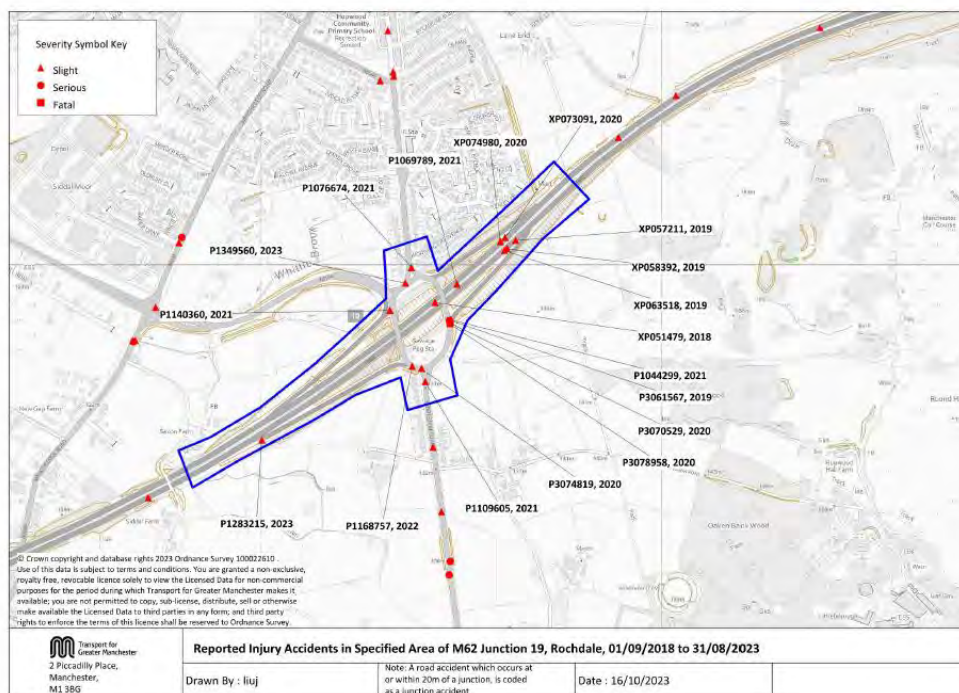


**Figure 8.1 – Location of Accidents in the Vicinity of the Site**

8.1.3 A review of the personal injury data along the A664 Manchester Road shows that there have been five accidents recorded in the five-year period. One of the accidents was fatal, one was serious, and the remaining three were slight.

**8.1.4** Following consultation, National Highways have requested the potential impact of the development on road safety at M62 Junctions 19 and 20. An analysis of STATS19 data provided by Transport for Greater Manchester has been undertaken.

**8.1.5** The information provided by Rochdale Council has covered the five-year period September 2018 to August 2023 on both Junctions 19 and 20. **Figure 8.2** below is an image of the accident plot and then subsequently an analysis of road incidents reported at Junction 19 of the M62 is provided.



**Figure 8.2 - M62 Junction 19 Accident Plot**

**8.1.6** According to the data provided there have been a total of 18 recorded accidents within the study area as is shown in **Appendix 7**, which in this instance comprises:

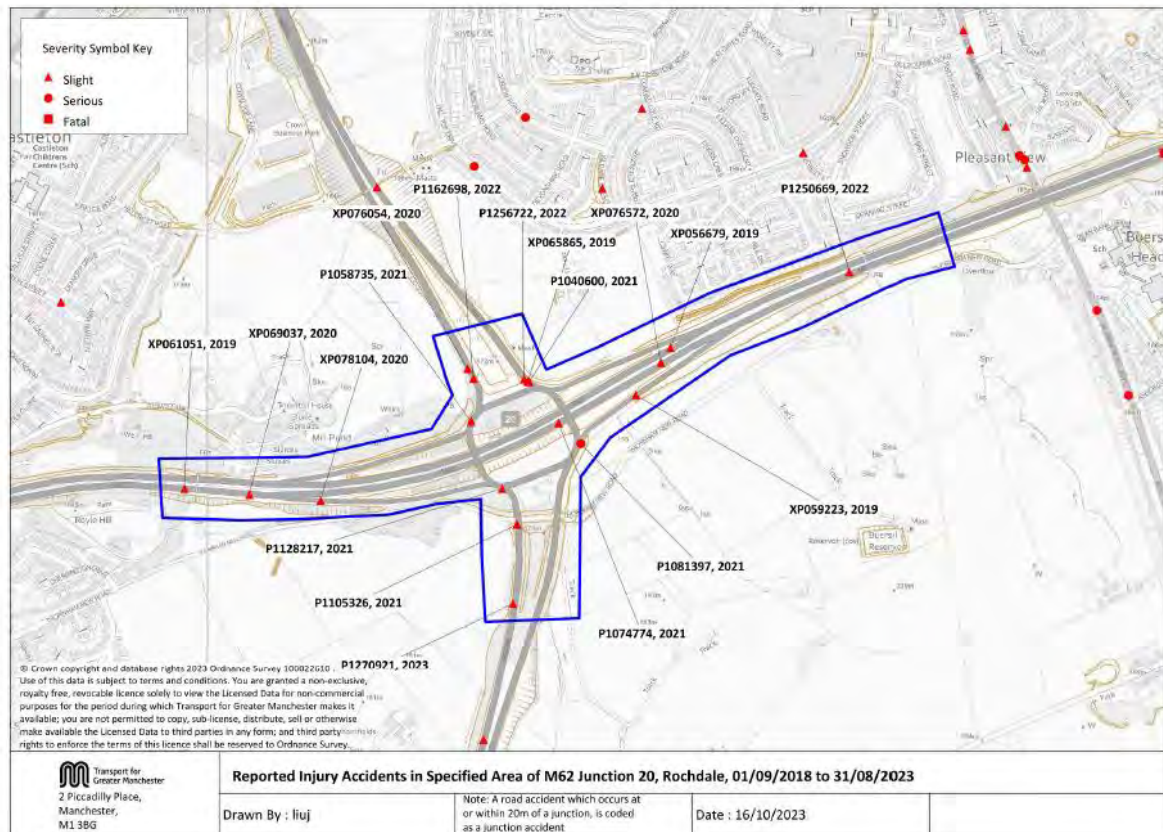
- Middleton Road – 2 accidents
- M62, junction 19 eastbound – 4 accidents
- M62, junction 19 westbound – 4 accidents
- M62, junction 19 roundabout – 8 accidents

**8.1.7** All recorded accidents identified in the data are detailed below in **Table 8.1**.

| Date       | Severity | Light Conditions        | Weather     | Road Conditions | Manoeuvre                                      |
|------------|----------|-------------------------|-------------|-----------------|------------------------------------------------|
| 21/11/2018 | Slight   | Daylight                | Fine        | Dry             | Two car collision while changing lanes         |
| 16/05/2019 | Slight   | Daylight                | Fine        | Dry             | Four vehicle collision while changing lanes    |
| 04/06/2019 | Slight   | Daylight                | Fine        | Dry             | Three vehicle shunts                           |
| 15/09/2019 | Serious  | Darkness / streetlights | Fine        | Dry             | Vehicle collides as fails to give way          |
| 16/10/2019 | Slight   | Daylight                | Fine        | Dry             | Collision while changing lanes                 |
| 18/02/2020 | Serious  | Darkness / streetlights | Fine        | Dry             | Vehicle collides with bicycle on slip road     |
| 07/07/2020 | Slight   | Daylight                | Rain & Wind | Wet             | Three vehicle collision due to road conditions |
| 08/08/2020 | Slight   | Daylight                | Raining     | Dry             | Vehicle collides with cyclist                  |
| 14/09/2020 | Slight   | Darkness                | Fine        | Dry             | Two vehicle collision                          |
| 15/12/2020 | Slight   | Daylight                | Fine        | Wet             | Vehicle collides with cyclist                  |
| 26/04/2021 | Slight   | Daylight                | Other       | Dry             | Two car collision pulling onto roundabout      |
| 22/06/2021 | Slight   | Daylight                | Fine        | Dry             | Vehicle hits rear of other                     |
| 25/07/2021 | Slight   | Daylight                | Fine        | Dry             | Motorcycle rider comes off bike                |
| 18/07/2021 | Slight   | Daylight                | Fine        | Dry             | Rear shunt                                     |
| 15/12/2021 | Slight   | Darkness                | Fine        | Dry             | Rear shunt approaching roundabout              |
| 09/03/2022 | Slight   | Daylight                | Fine        | Dry             | Collision while entering motorway on slip road |
| 04/03/2023 | Slight   | Darkness                | Fine        | Dry             | Drunk driver strikes vehicle                   |
| 28/08/2023 | Slight   | Daylight                | Fine        | Dry             | Two vehicle collision                          |

**Table 1 – M62 Junction 19 Accident Summary**

8.1.8 **Figure 8.3** below is an image of the accident plot and then subsequently an analysis of road incidents reported at Junction 20 of the M62 is provided.



**Figure 8.3 - M62 Junction 20 Accident Plot**

8.1.9 According to the data provided there have been a total of 18 recorded accidents within the study area as is shown in **Appendix 7**, which in this instance comprises:

- A627 (M) – 7 accidents.
- M62, junction 20 eastbound – 1 accident.
- M62, junction 20 westbound – 7 accidents.
- M62, junction 20 roundabout – 3 accidents.

8.1.10 All recorded accidents identified in the data are detailed below in **Table 8.2**.

| Date       | Severity | Light Conditions | Weather     | Road Conditions | Manoeuvre                                                           |
|------------|----------|------------------|-------------|-----------------|---------------------------------------------------------------------|
| 11/05/2019 | Slight   | Daylight         | Fine        | Dry             | Vehicle collides with barrier after losing control                  |
| 12/07/2019 | Slight   | Daylight         | Fine        | Dry             | Three vehicle shunt                                                 |
| 29/08/2019 | Slight   | Darkness         | Fine        | Dry             | Vehicle collides with rear of other                                 |
| 07/12/2019 | Slight   | Darkness         | Rain        | Wet             | Drunken driver collides with vehicle                                |
| 13/02/2020 | Slight   | Darkness         | Rain        | Wet             | Vehicle collides as changes lane                                    |
| 13/10/2020 | Slight   | Daylight         | Fine        | Wet             | Vehicle loses control and collides with car parked on hard shoulder |
| 26/10/2020 | Serious  | Daylight         | Rain & Wind | Wet             | Four vehicle rear shunt                                             |
| 05/12/2020 | Slight   | Darkness         | Fine        | Dry             | Vehicle collides with other due to distraction                      |
| 19/04/2021 | Slight   | Daylight         | Fine        | Dry             | Vehicle fails to stop at red light                                  |
| 30/05/2021 | Slight   | Daylight         | Fine        | Dry             | Rear shunt                                                          |
| 08/08/2021 | Slight   | Daylight         | Rain        | Wet             | Driver loses control and hits other due to water in road            |
| 27/08/2021 | Serious  | Darkness         | Fine        | Dry             | Vehicle loses control and collides with barrier                     |
| 02/11/2021 | Slight   | Darkness         | Rain        | Wet             | Vehicle collides with motorcycle                                    |
| 23/11/2021 | Slight   | Daylight         | Fine        | Dry             | Vehicle changes direction last minute, colliding with other vehicle |
| 14/03/2022 | Slight   | Darkness         | Fine        | Dry             | Two vehicle collision                                               |
| 23/01/2022 | Slight   | Darkness         | Fine        | Dry             | Rear shunt                                                          |
| 07/12/2022 | Slight   | Darkness         | Fine        | Dry             | Seven vehicle collision                                             |
| 22/12/2022 | Slight   | Darkness         | Fine        | Dry             | Three vehicle collision                                             |

**Table 8.2 – M62 Junction 20 Accident Summary**

**8.1.11** The data reviewed has not identified any untypical accidents.

- 8.1.12 The data reveals a number of contributing factors involved throughout the incidents. These include drunk driving, distraction, slippery road, careless driving, spray from other vehicles, travelling too fast for conditions and defective brakes. There are also no accident clusters.
- 8.1.13 The evidence shows that there are no particular engineering issues or problems with the road network or junction layouts.
- 8.1.14 It is considered that the proposals for a residential development will not have a detrimental impact on the characteristics and nature of the surrounding highway network or give rise to any road safety issues.

## **8.2 Road safety Summary**

- 8.2.1 The evidence shows that there are no particular engineering issues or problems with the road network or junction layouts.
- 8.2.2 The data reviewed has demonstrated that there are no particular road safety issues in the vicinity of the site.
- 8.2.3 It is not considered that the proposals will unduly change the characteristics or nature of the surrounding highway network and as such will not have a detrimental impact on overall road safety.

## **9 CONCLUSIONS**

**9.1.1** Eddisons have been instructed by Kellen Homes to advise on the traffic and transport issues relating to a planning application for a proposed residential development on land at the former Baggs Yard Railway Sidings in Castleton.

**9.1.2** A number of conclusions can be drawn from the report, namely:

- The proposed development will be accessed by safe and efficient vehicular access arrangements.
- The report has demonstrated that the proposed development would be highly accessible by non-car travel modes of such as walking, cycling and public transport.
- The proposals will be supported by a Travel Plan to reduce the need to travel by the private car.
- The proposals will not have a severe impact on the local highway network; and
- There is no evidence to suggest that the proposals would have an adverse effect on road safety or the number of accidents in the vicinity.

**9.1.3** It can therefore be concluded that the proposals are acceptable in transport and highway terms.

## PLANS

# PLAN 1



SITE LOCATION

CLIENT:

**KELLEN HOMES**

DRAWING TITLE:

**CASTLETON, CORUS RAILWAY SIDINGS  
SITE LOCATION**

DRAWN:

LG

DATE:

15.04.21

CHECKED:

SM

DATE:

15.04.21

SCALES:

NTS @ A4

Croft Transport Planning & Design  
340 Deansgate  
Manchester  
M3 4LY

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Tel: 0161 837 7380

Web: [www.eddisons.com/services/transport-planning](http://www.eddisons.com/services/transport-planning)

DRAWING NUMBER:

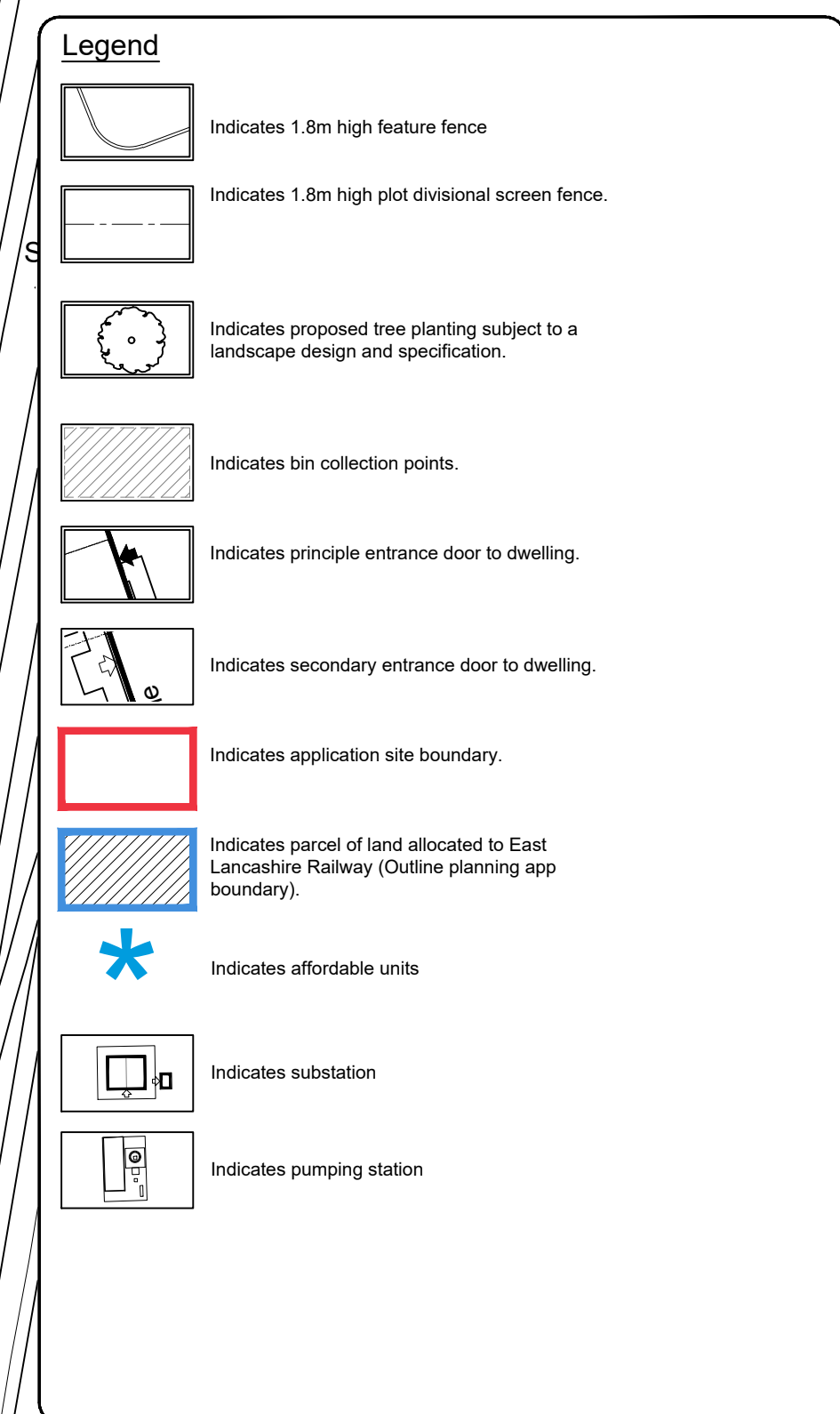
3334-01

REVISION:

-

**Eddisons** | Incorporating  
Croft

## PLAN 2



|     |          |                                    |          |
|-----|----------|------------------------------------|----------|
| A   | 03.11.23 | Amended entrance from heywood road | tp       |
| Rev | Date     | Amend                              | Initials |

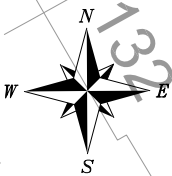
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|--------------------------|--------------------|
| Development              |                    |
| <b>CASTLETON SIDINGS</b> |                    |
| Location                 |                    |
| <b>ROCHDALE</b>          |                    |
| Drawing Title            |                    |
| <b>CAD Site Layout</b>   |                    |
| Job Number               | Drawing Number     |
| <b>KH003</b>             | <b>KH003-A-100</b> |
| Revision                 | Scale              |
| <b>A</b>                 | <b>1:500 - A0</b>  |
| Drawn By                 | Date               |
| <b>BP</b>                | <b>13.01.22</b>    |
| Checked by               | Date Checked       |
| <b>RC</b>                | -                  |

1st Floor, 103 Dalton Avenue, Birchwood Park,  
Warrington WA3 6YE  
T: 01925 363108 W: [www.kellenhomes.com](http://www.kellenhomes.com)

 **KELLEN**  
HOMES



NORTH SOUTH ARIEL VIEW



**NOTES**

**PLAN 3**

THIS IS NOT A CONSTRUCTION DRAWING AND IS FOR INDICATIVE PURPOSES ONLY.  
THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

— INDICATIVE SITE BOUNDARY  
— DENOTES NEW KERBS

PLAN 3

| REV | DETAILS | DRAWN | CHECKED | DATE |
|-----|---------|-------|---------|------|
|     |         |       |         |      |

CLIENT:

**KELLEN HOMES**

PROJECT:

**CASTLETON RAILWAY SERVICES**

DRAWING TITLE:

**PROPOSED SITE ACCESS ARRANGEMENTS**

SCALES:

**1:250 @ A3**

|        |    |          |    |       |        |
|--------|----|----------|----|-------|--------|
| DRAWN: | GM | CHECKED: | LW | DATE: | FEB 23 |
|--------|----|----------|----|-------|--------|

Croft Transport Planning & Design  
340 Deansgate  
Manchester  
M3 4LY

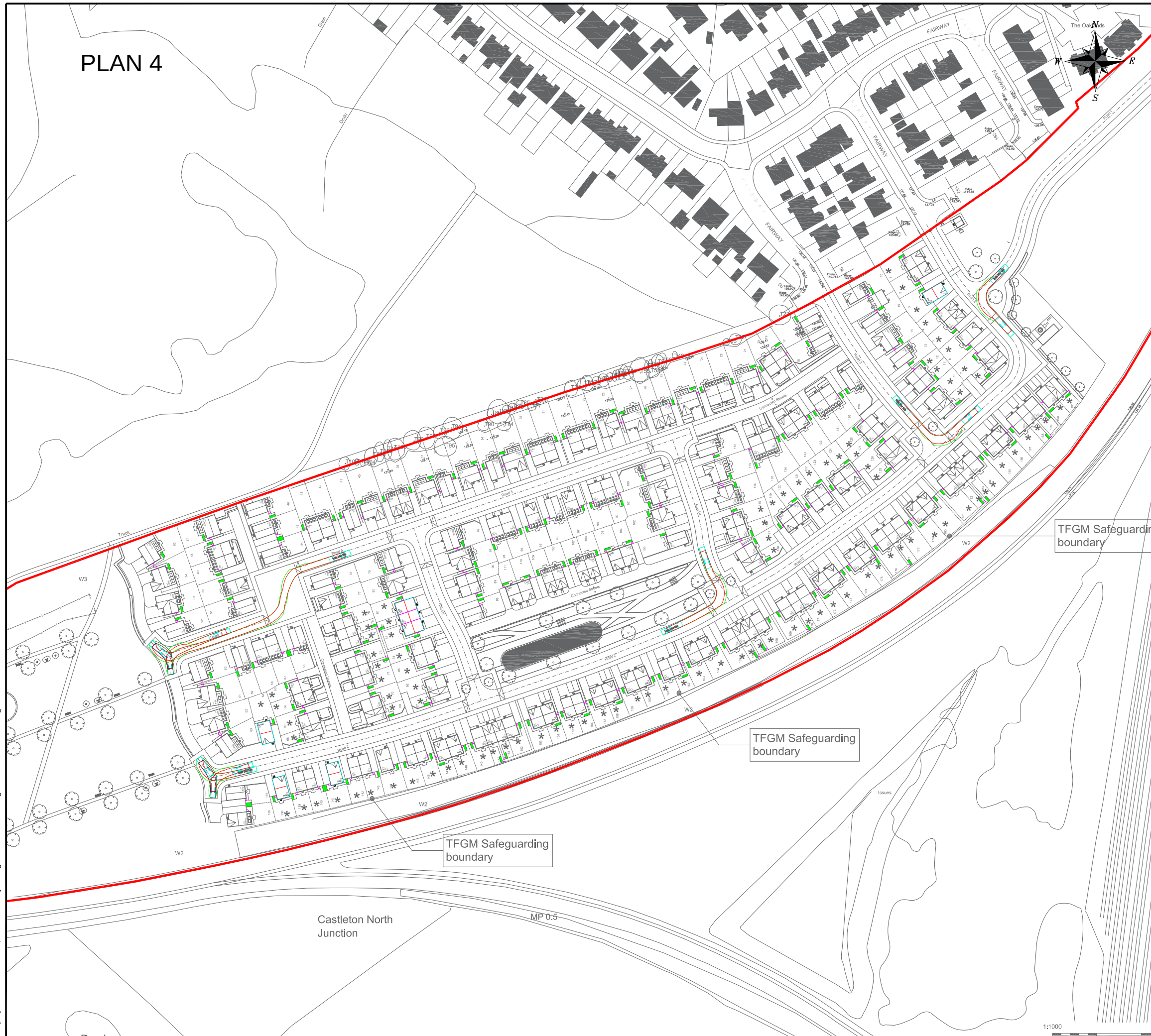
Email: [info@croftts.co.uk](mailto:info@croftts.co.uk)  
Tel: 0161 837 7380  
Web: [www.eddisons.com/services/transport-planning](http://www.eddisons.com/services/transport-planning)

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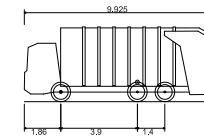


Z:\projects\3334 Castleton, Corus Railway Sidings\CAD\Croft Drawings\3334-SP01 Rev G.dwg

PLAN 4



## NOTES



Rochdale Refuse Vehicle  
Overall Length 9.925m  
Overall Width 2.450m  
Overall Body Height 3.814m  
Min Body Ground Clearance 0.366m  
Track Width 2.450m  
Lock to lock time 4.00s  
Kerb to Kerb Turning Radius 9.500m



| REV | DETAILS | DRAWN | CHECKED | DATE |
|-----|---------|-------|---------|------|
|-----|---------|-------|---------|------|

CLIENT:

KELLEN HOMES

PROJECT:

CASTLETON RAILWAY SIDINGS

DRAWING TITLE:

SWEPT PATH ANALYSIS

SCALES:

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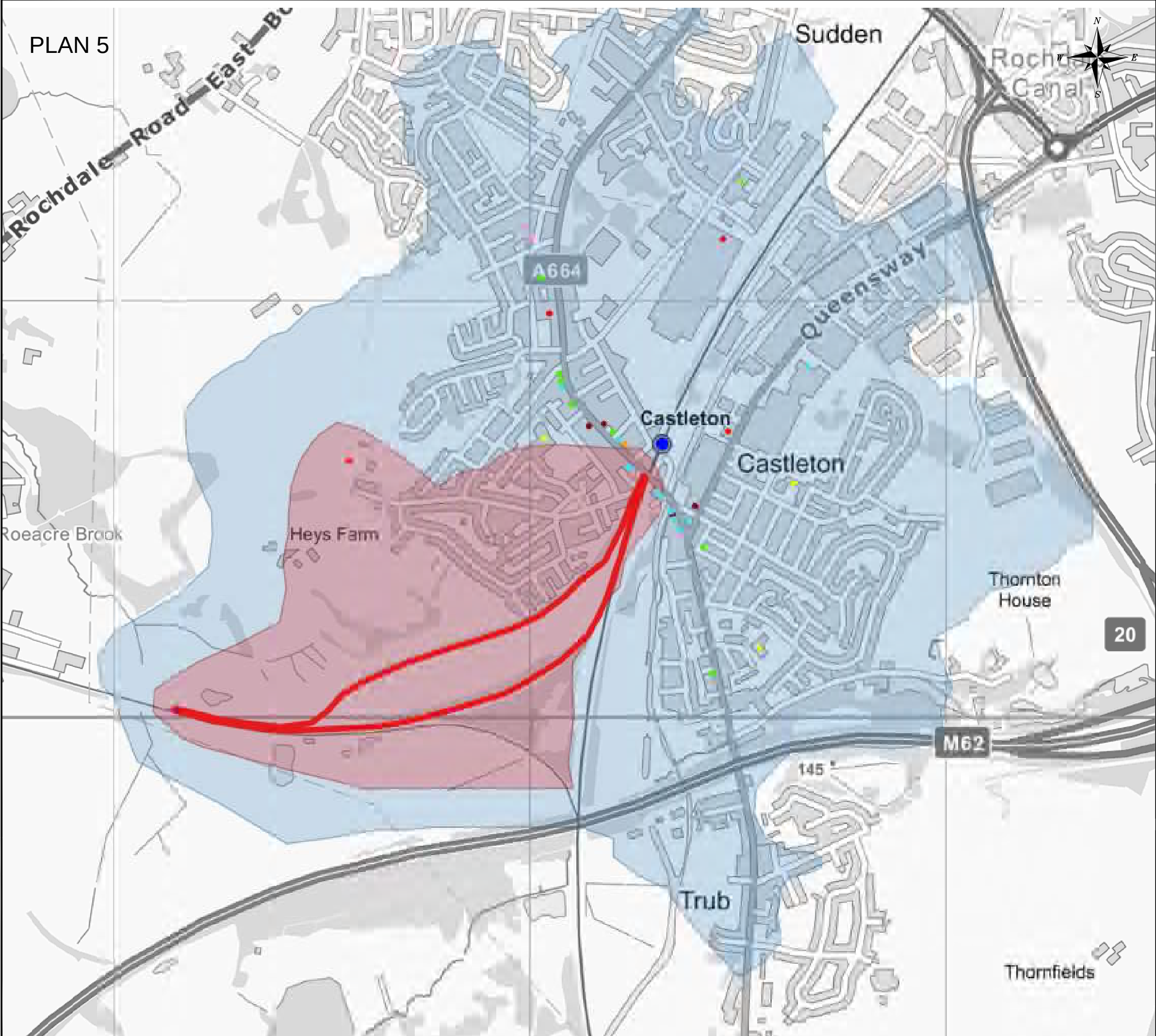
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|--------|----|----------|----|-------|--------|

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|                 |           |           |   |
|-----------------|-----------|-----------|---|
| DRAWING NUMBER: | 3334-SP01 | REVISION: | G |
|-----------------|-----------|-----------|---|

**Eddisons**



PLAN 5

NOTES PLAN 5

- Site Location
- 800m Pedestrian Catchment
- 2km Pedestrian Catchment
- Nearest Bus Stops
- Train Station
- Cafe/Takeaway/Public House
- Education
- Healthcare/Medical
- Post Office
- Retail
- Sport/Leisure

| REV | DETAILS | DRAWN | CHECKED | DATE |
|-----|---------|-------|---------|------|
|     |         |       |         |      |

CLIENT:  
**KELLEN HOMES**

PROJECT:  
**CASTLETON, CORUS RAILWAY SIDINGS**

DRAWING TITLE:  
**800M & 2KM PEDESTRIAN CATCHMENT WITH AMENITIES**

| SCALES:  |          |        |
|----------|----------|--------|
| NTS @ A3 |          |        |
| DRAWN:   | CHECKED: | DATE:  |
| LG       | SM       | APR 21 |

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| DRAWING NUMBER: | REVISION: |
|-----------------|-----------|
| 3334-03         | -         |



## FIGURES

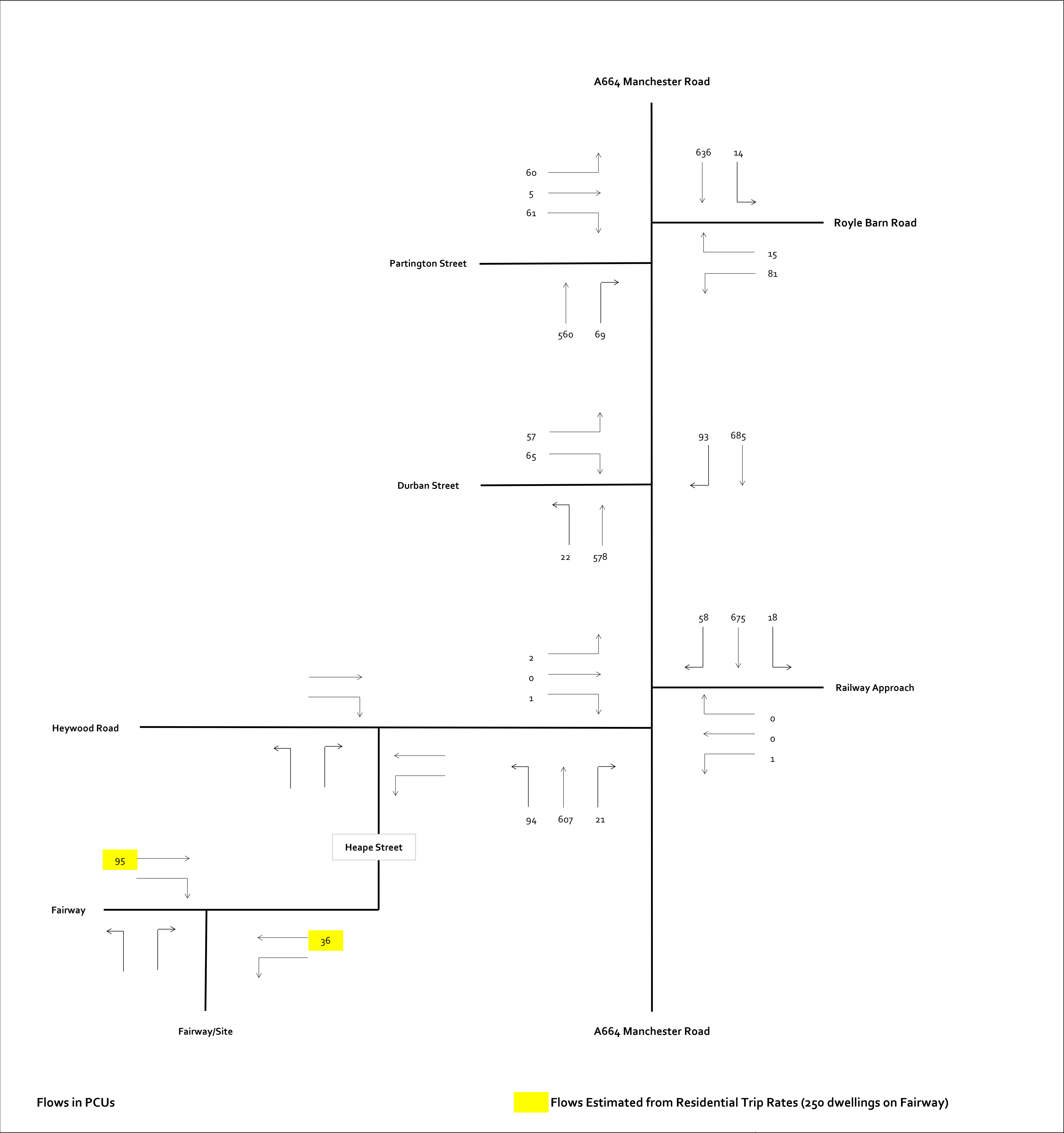
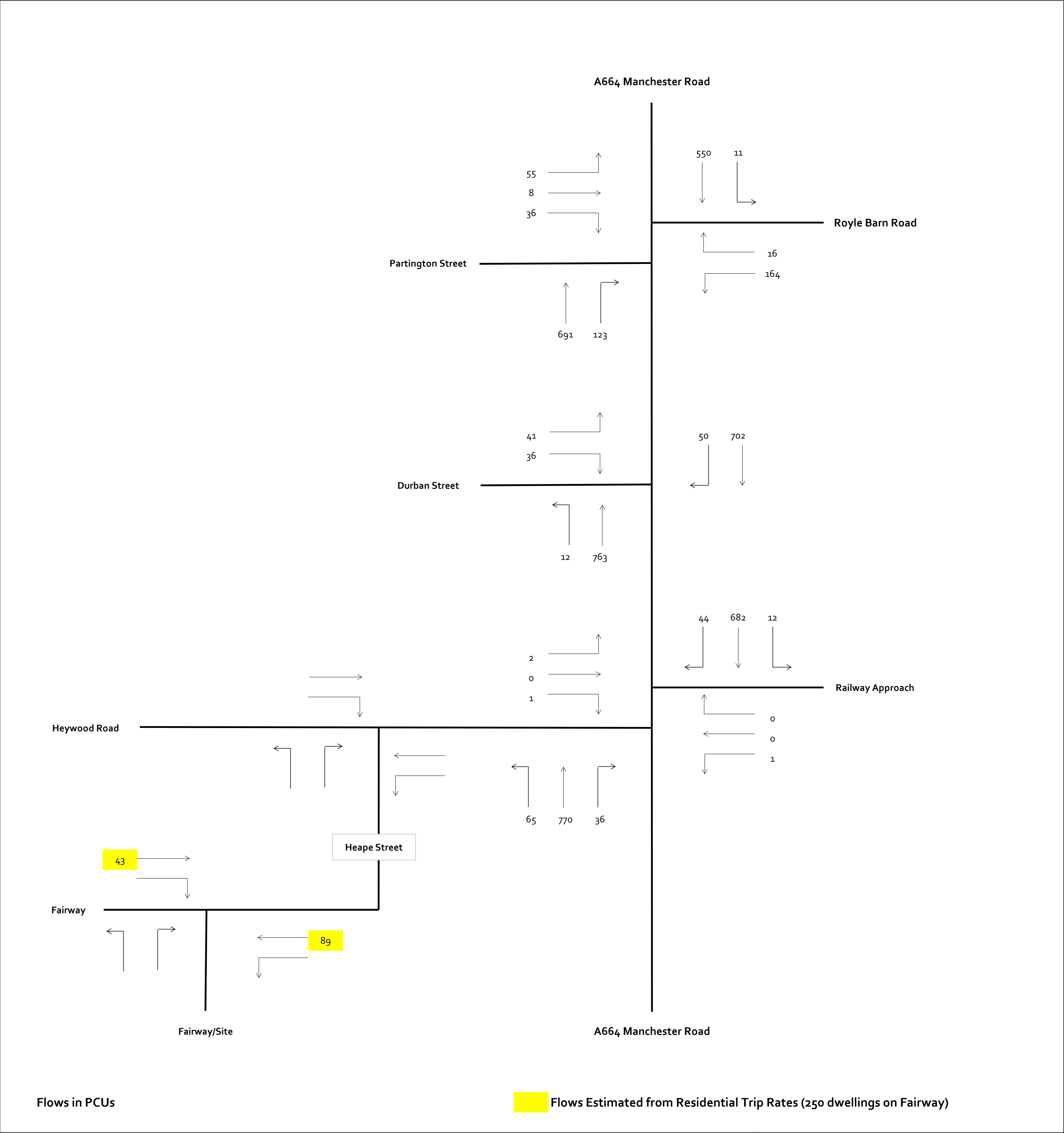


Figure 1 2019 Surveyed Flows - Weekday AM Peak (0800 - 0900)



**Figure 2 2019 Surveyed Flows - Weekday PM Peak (1700 - 1800)**



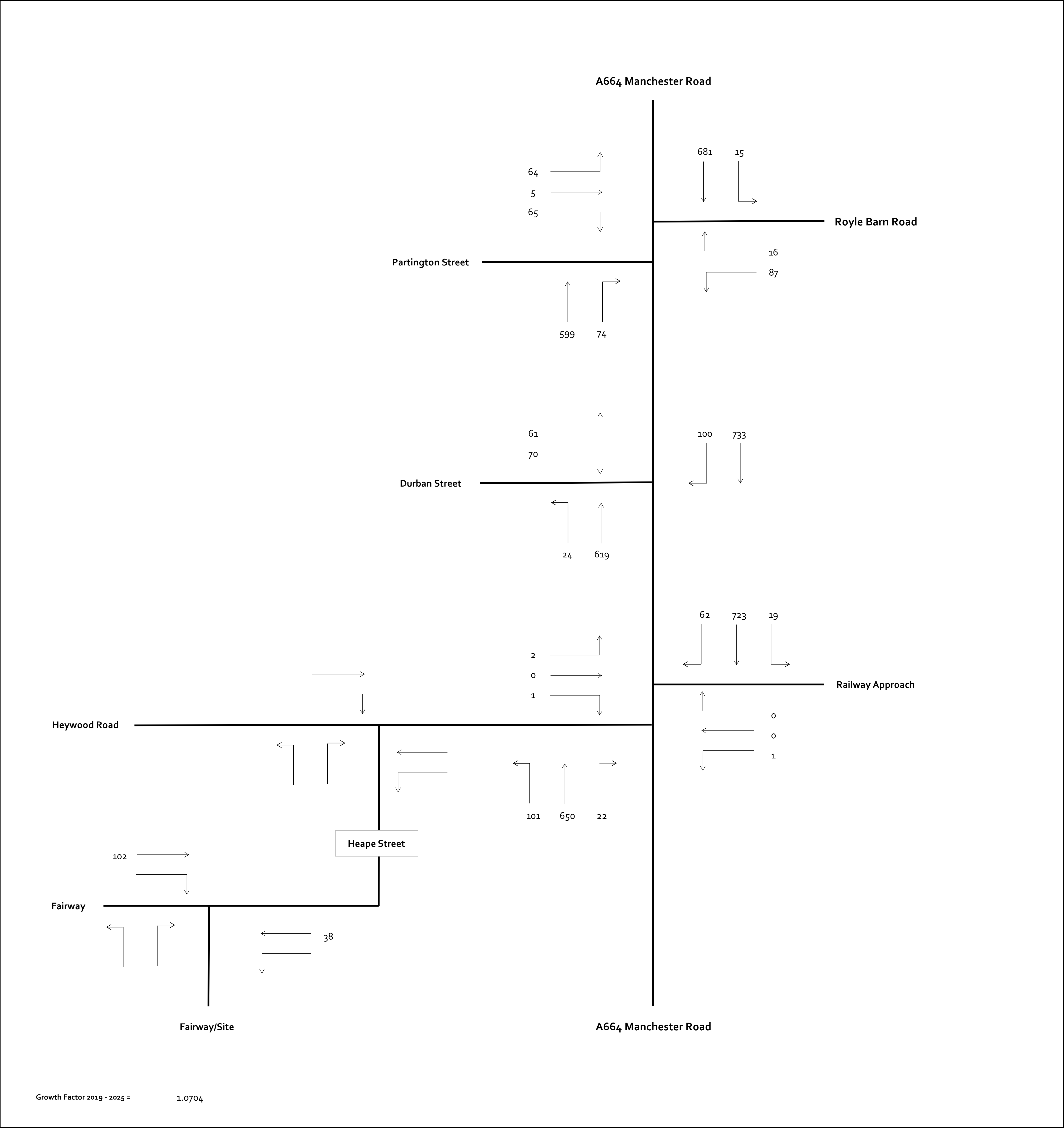


Figure 3 2025 Growthed Flows - Weekday AM Peak (0800 - 0900)



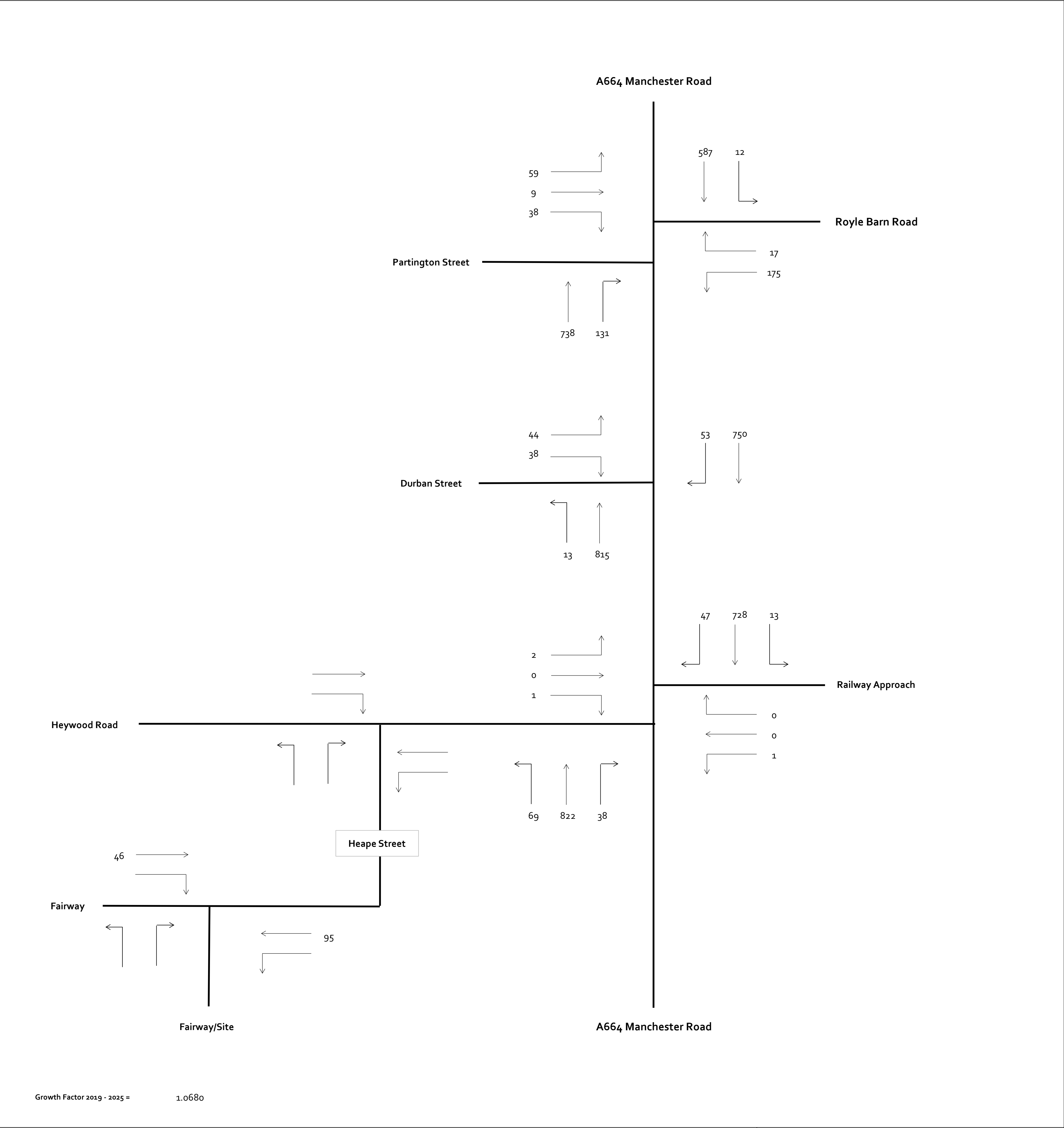


Figure 4 2025 Growthed Flows - Weekday PM Peak (1700 - 1800)



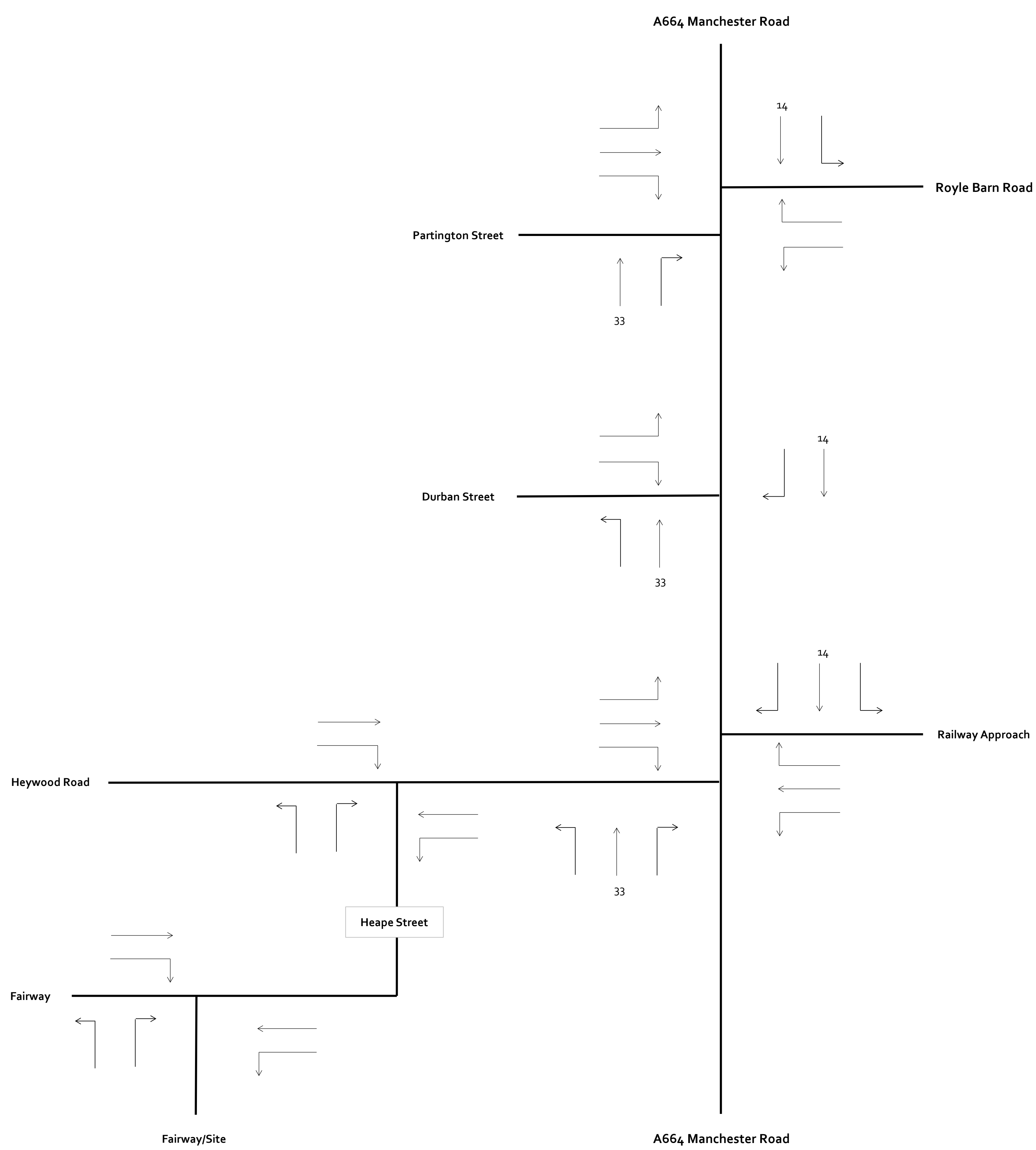


Figure 5 Committed Development Flows - Trub Farm Masterplan (App Ref:11/D54610) - Weekday AM Peak (0800 - 0900)



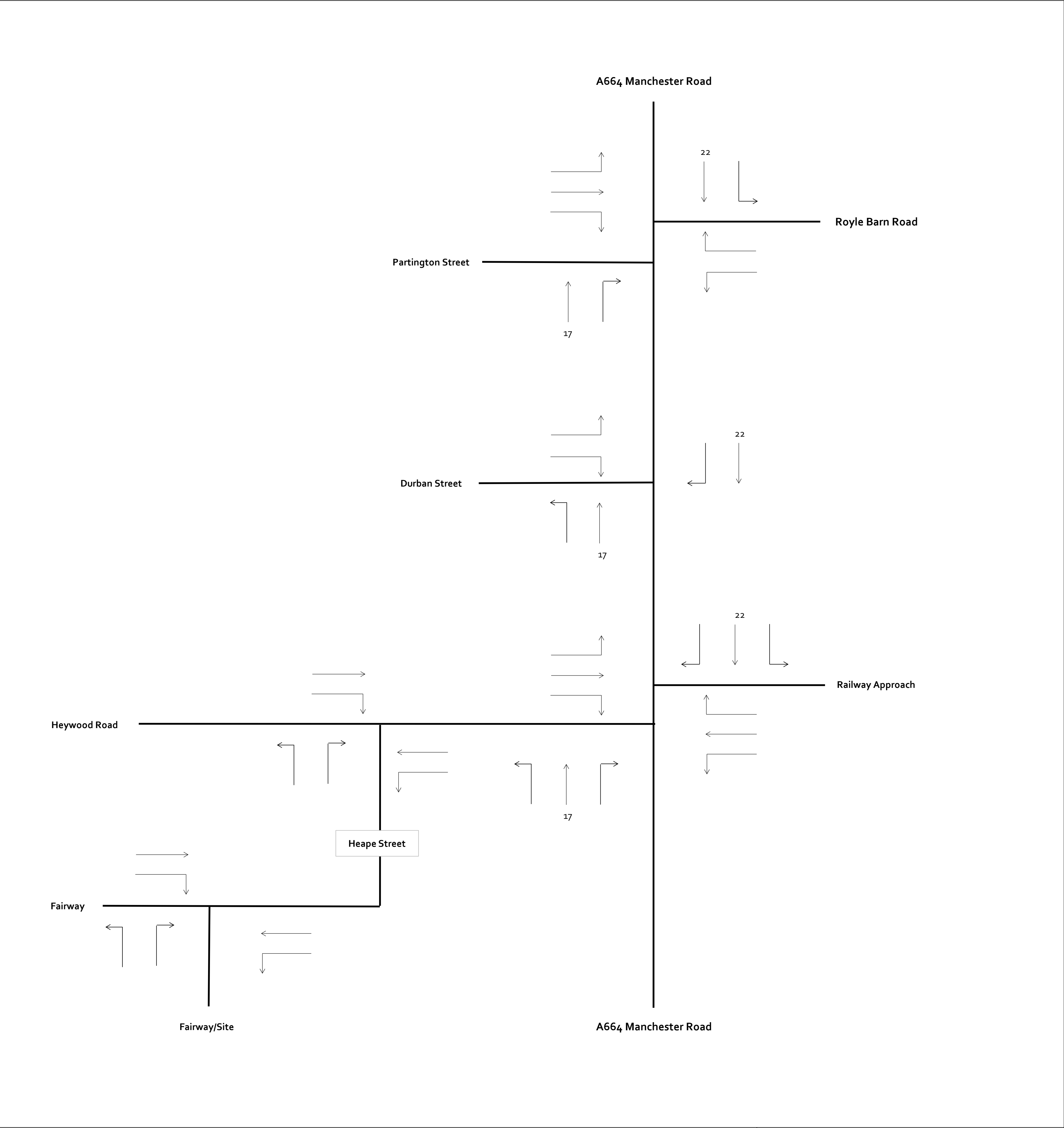


Figure 6 Committed Development Flows - Trub Farm Masterplan (App Ref:11/D54610) - Weekday PM Peak (1700 - 1800)

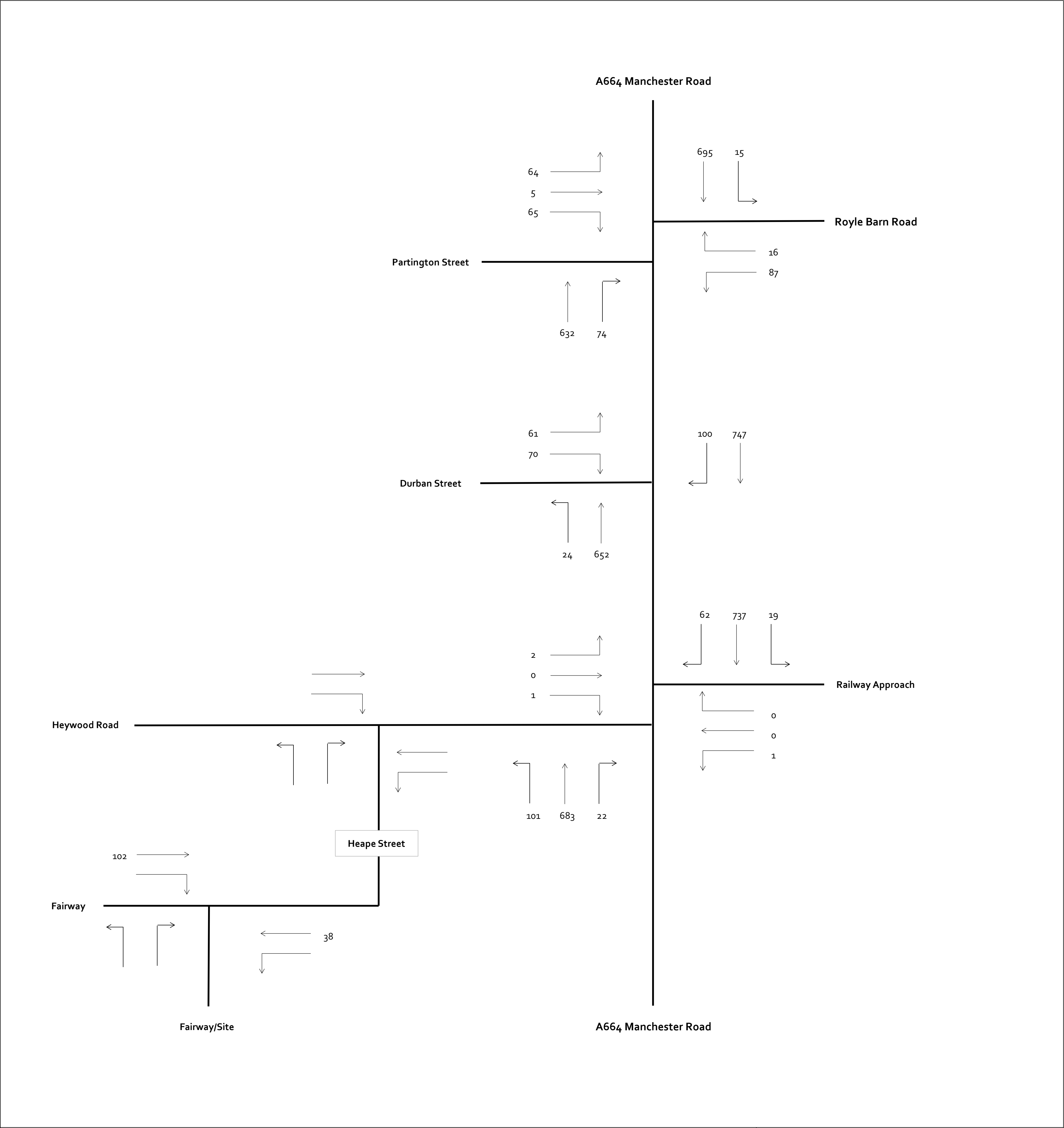


Figure 7 2025 Base Flows - Weekday AM Peak (0800 - 0900)



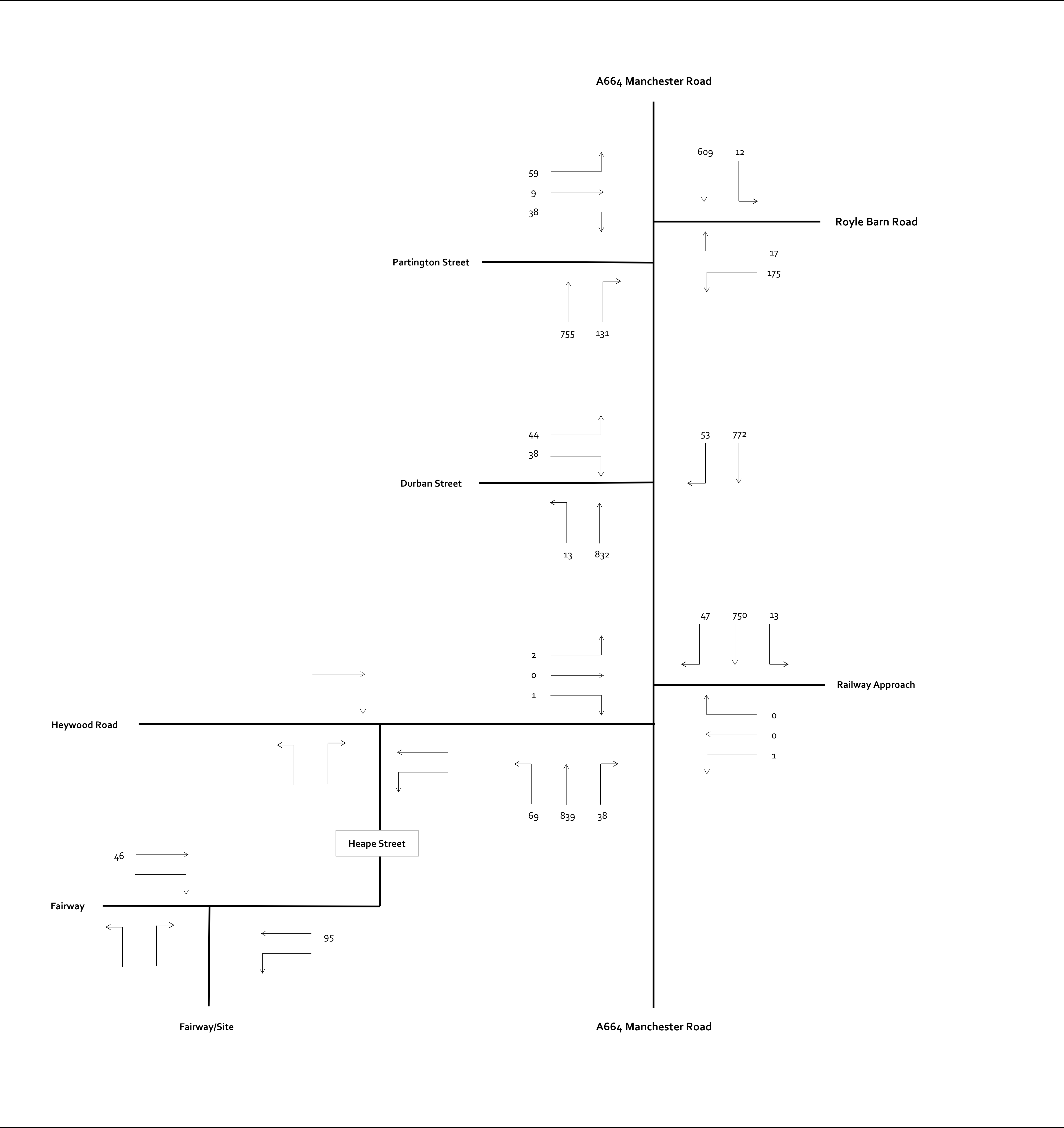


Figure 8 2025 Base Flows - Weekday PM Peak (1700 - 1800)



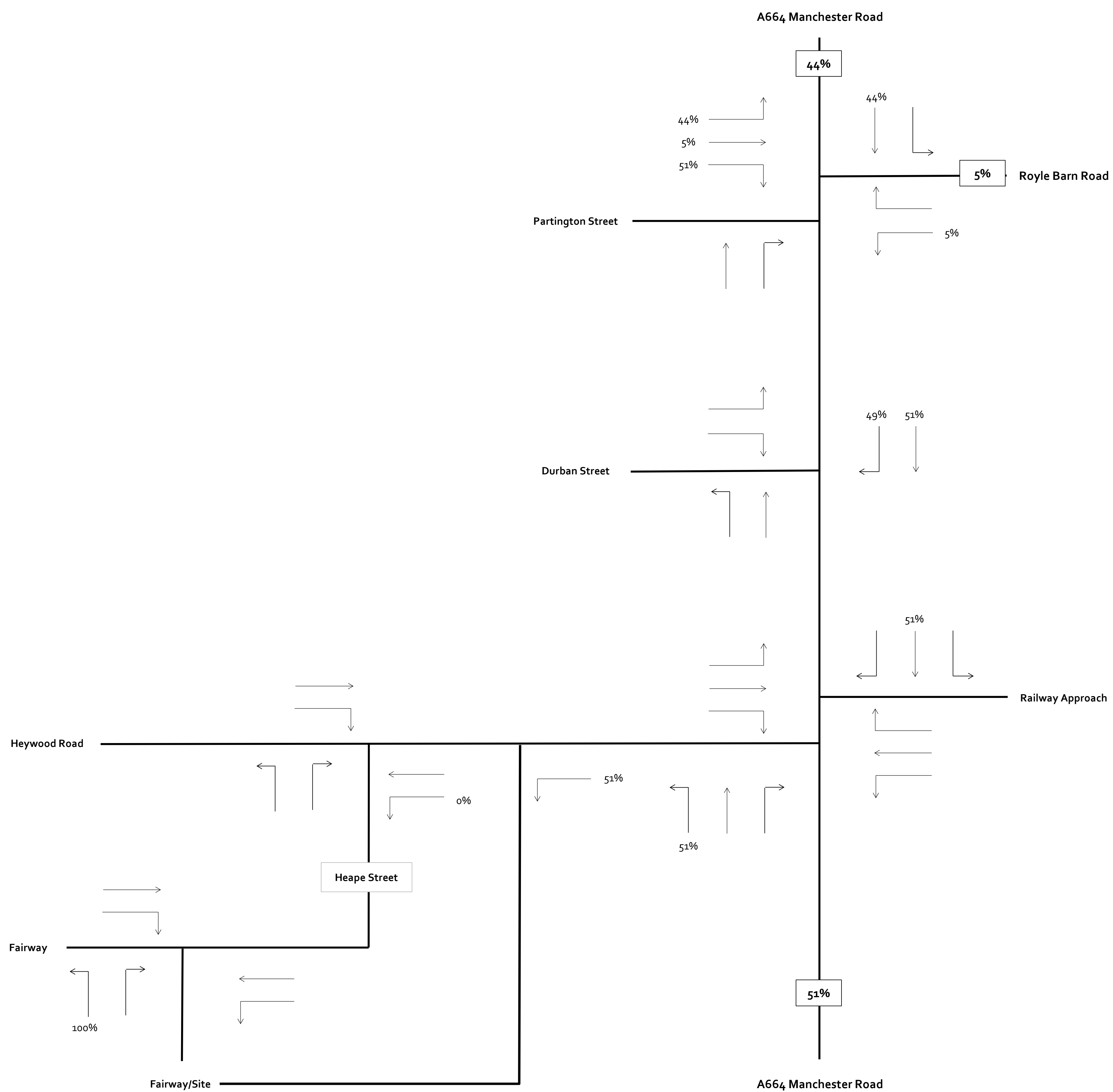
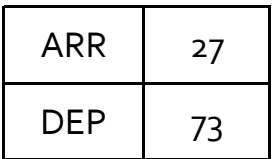


Figure 9 Proposed Residential Distribution



**Eddisons**

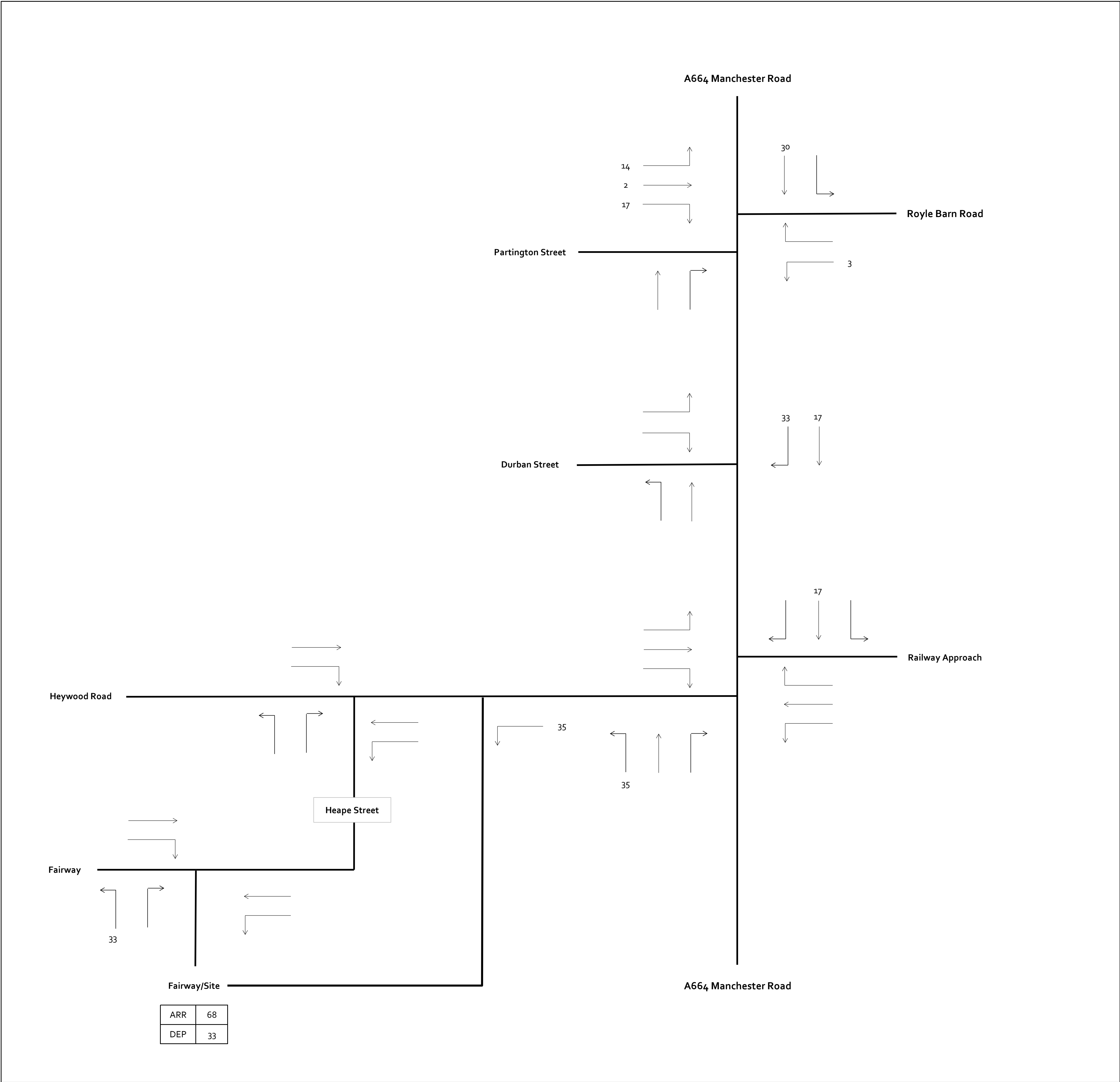


Figure 11 Proposed 191-Unit Development Flows - Weekday PM Peak - (With Heywood Road Entry)

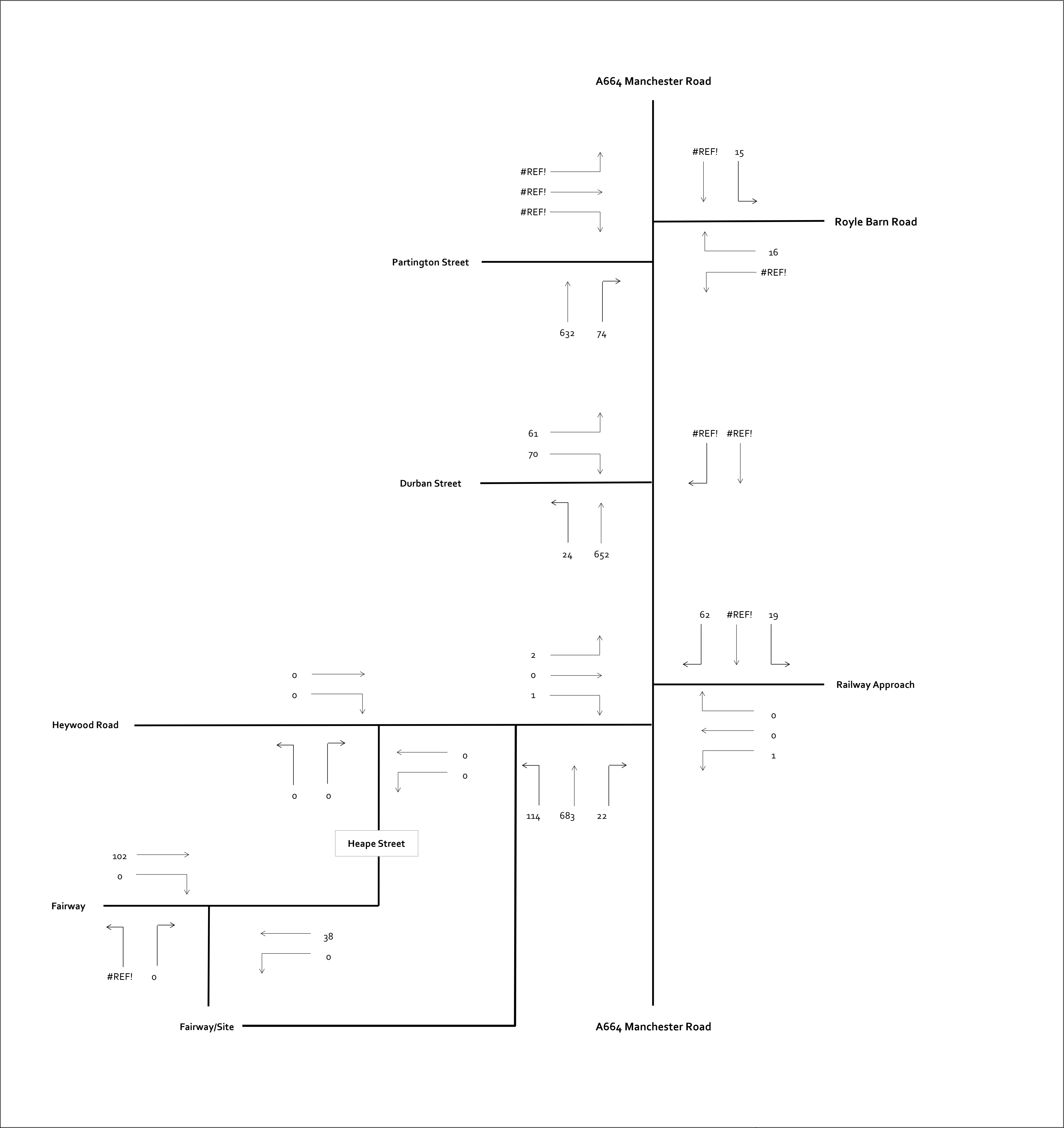


Figure 12 2025 With Development Flows - Weekday AM Peak (0800 - 0900)



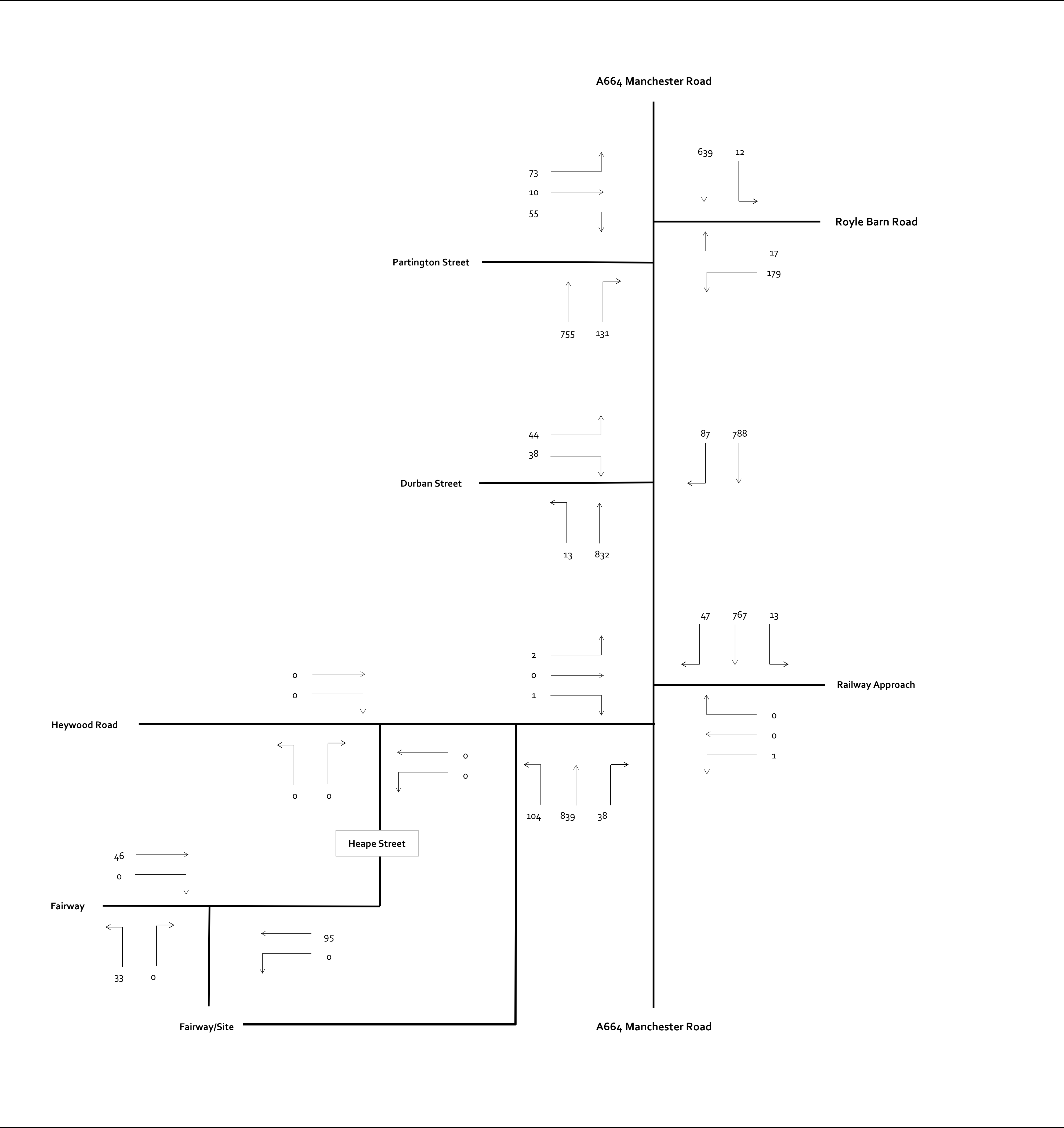


Figure 13 2025 With Development Flows - Weekday PM Peak (1700 - 1800)



## APPENDICES

## **APPENDIX 1**

### **Travel Plan Framework**

Proposed Residential Development  
Kellen Homes, Castleton Sidings, Rochdale

November 2023

# FRAMEWORK TRAVEL PLAN

[eddisons.com](https://eddisons.com)

**Eddisons**

## REPORT

**DOCUMENT:** Travel Plan

**PROJECT:** Proposed Residential Development, Castleton Sidings,  
Rochdale

**CLIENT:** Kellen Homes

**JOB NUMBER:** 3334

**FILE ORIGIN:** Z:\projects\3334 Castleton, Corus Railway  
Sidings\Docs\Reports\3334 TP.03.docx

## DOCUMENT CHECKING:

**Primary Author:** MTC **Initialed:**

**Contributor** SM **Initialed:**

**Review By:** PJW **Initialed:**

| Issue | Date | Status | Checked for Issue |
|-------|------|--------|-------------------|
|-------|------|--------|-------------------|

|   |          |             |  |
|---|----------|-------------|--|
| 1 | 18-08-21 | First Draft |  |
|---|----------|-------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 2 | 15-02-2023 | Revised Draft |  |
|---|------------|---------------|--|

|   |            |               |  |
|---|------------|---------------|--|
| 3 | 03-11-2023 | Revised Draft |  |
|---|------------|---------------|--|

|   |  |  |  |
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## CONTENTS

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|          |                                                    |           |
|----------|----------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>                          | <b>3</b>  |
| 1.1      | Introduction.....                                  | 3         |
| 1.2      | Structure of the Travel Plan .....                 | 3         |
| 1.3      | Development Proposals .....                        | 4         |
| 1.4      | The Travel Plan .....                              | 4         |
| <b>2</b> | <b>TRAVEL PLANNING POLICY AND GUIDANCE.....</b>    | <b>5</b>  |
| 2.1      | Travel Planning Policy .....                       | 5         |
| 2.2      | Travel Planning Guidance .....                     | 5         |
| <b>3</b> | <b>MANAGEMENT MEASURES.....</b>                    | <b>7</b>  |
| 3.1      | Introduction.....                                  | 7         |
| 3.2      | Appointment of Travel Co-ordinator .....           | 7         |
| 3.3      | Resident's Travel Pack .....                       | 8         |
| 3.4      | Travel Awareness and Information.....              | 10        |
| 3.5      | Promotion of Lift Share Scheme.....                | 10        |
| 3.6      | Encouraging Walking/Cycling.....                   | 10        |
| 3.7      | Encourage Home Working and Delivery Services ..... | 10        |
| 3.8      | Encouraging Travel by Public Transport.....        | 11        |
| 3.9      | Marketing and Promotion .....                      | 11        |
| <b>4</b> | <b>ACCESSIBILITY BY NON-CAR MODES.....</b>         | <b>12</b> |
| 4.1      | Introduction.....                                  | 12        |
| 4.2      | Access on Foot.....                                | 12        |
| 4.3      | Access by Cycle .....                              | 17        |
| 4.4      | Access by Bus .....                                | 17        |
| 4.5      | Accessibility by Rail.....                         | 19        |
| 4.6      | Accessibility Summary .....                        | 19        |
| <b>5</b> | <b>TRAVEL PLAN TARGETS .....</b>                   | <b>20</b> |
| 5.1      | Introduction.....                                  | 20        |
| 5.2      | Potential Targets .....                            | 20        |
| 5.3      | Action Plan .....                                  | 21        |
| <b>6</b> | <b>PLAN MONITORING AND ASSESSMENT .....</b>        | <b>23</b> |
| <b>7</b> | <b>CONCLUSIONS .....</b>                           | <b>25</b> |

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## **PLANS**

**(See Transport Assessment)**

# **1 INTRODUCTION**

## **1.1 Introduction**

**1.1.1** Eddisons have been instructed by Kellen Homes to provide a Travel Plan Framework document relating to a planning application for a residential development on land at the former Baggs Yard Railway Sidings in Castleton.

**1.1.2** This Travel Plan Framework will set out the principal strategies that will be put in place once the development is open and residents are occupying the dwellings, to encourage sustainable travel to the development.

**1.1.3** The Department for Transport has issued two separate guides on the preparation of travel plans which are of relevance to this proposed development, these documents are as follows;

- Making Residential Travel Plans Work - Published in September 2005.
- Good Practice Guidelines: Delivering Travel Plans through the Planning Process - Published in April 2009.

## **1.2 Structure of the Travel Plan**

**1.2.1** Following this introduction, Section 2 details Travel Plan Policy and guidance and presents the 'Travel Plan Pyramid'. Section 3 sets out a series of management measures that will be implemented as part of the Travel Plan

**1.2.2** Section 4 of the Travel Plan considers the accessibility of the site by non-car modes, including walking, cycling and public transport. Section 5 discusses targets for reducing trips by the private car while Section 6 details the monitoring of the Travel Plan.

**1.2.3** Section 7 draws together the findings and conclusions.

## **1.3 Development Proposals**

- 1.3.1** The development proposals consist of 191 residential dwellings with a range of 1, 2, 3 and 4 bedroom houses with associated landscaping and open space.
- 1.3.2** The proposed site layout is shown on **Plan 2** of the accompanying Transport Assessment.
- 1.3.3** Pedestrian and cycle access will be available via the vehicular access points off Fairway.
- 1.3.4** These links provide pedestrian and cycle connectivity with the surrounding Castleton area. There is an extensive footway network in the vicinity of the site connecting the site to the remainder of the Castleton area and notably the 'day to day' amenities close by, such as, shops, schools, healthcare facilities and employment opportunities.

## **1.4 The Travel Plan**

- 1.4.1** The aim of the Travel Plan is as follows:
- To encourage residents and visitors to use alternatives to the private car;
  - To increase the awareness of the advantages and potential for travel by more environmentally friendly modes, and
  - To introduce a package of management measures that will facilitate travel by modes of transport other than the private car.

## **2 TRAVEL PLANNING POLICY AND GUIDANCE**

### **2.1 Travel Planning Policy**

**2.1.1** The need to manage transport in new developments is included within national and local policy. The need to reduce car dependency, increase travel choices and encourage sustainable distribution is supported by the National Planning Policy Framework (NPPF) which states that all developments which generate significant amounts of movement should be required to provide a Travel Plan.

### **2.2 Travel Planning Guidance**

**2.2.1** The preparation and adoption of a Travel Plan is an important element of managing the demand for travel to all modern developments.

**2.2.2** The DfT's 'Making Residential Travel Plans Work' which although has been superseded by the National Planning Practice Guidance still provides relevant guidance on the preparation of Travel Plan. This document introduces the concept of a 'Travel Plan Pyramid'. This helps demonstrate how successful plans are built on the firm foundations of a good location and site design. The pyramid is presented in **Figure 2.1**.

**2.2.3** The hierarchy of 5-tiers of measures and criteria are well illustrated in pyramid form since the concept presented within that "good practice" is that each higher layer builds upon the more important foundations of the criteria and initiatives below it.

**2.2.4** The most important layer of the pyramid is considered to be the base, this shows the key to making Travel Plans work is the actual location of the development and its proximity to local facilities and services essential to everyday life.



**Figure 2.1 – The Travel Plan Pyramid**

- 2.2.5** The second layer of the pyramid refers to how the layout of the site can assist in reducing the need to travel, which in this instance is again linked to the existing level of provision to facilitate sustainable travel.
- 2.2.6** As indicated in level 3 of the pyramid, the Travel Plan co-ordinator will be free to develop further measures to maximise the sustainability of the site.
- 2.2.7** The fourth layer of the pyramid looks at how parking management and public transport can influence travel choice, while the top layer of the pyramid relates to how the Travel Plan will be marketed and how the measures within are to be promoted.

## **3 MANAGEMENT MEASURES**

### **3.1 Introduction**

**3.1.1** The following Travel Plan measures will be implemented:

- i) Appointment of Travel Plan Co-ordinator
- ii) Resident's Travel Pack
- iii) Travel Awareness and Information
- iv) Promotion of Lift Share Scheme
- v) Encouraging Walking/Cycling
- vi) Encourage Home Working and Delivery Services
- vii) Encouraging Travel by Public Transport
- viii) Marketing and Promotion

### **3.2 Appointment of Travel Co-ordinator**

**3.2.1** A Travel Plan Co-ordinator (TPC) is to be appointed prior to the properties being occupied.

**3.2.2** The TPC will be responsible for all aspects of the Travel Plan.

**3.2.3** Their primary functions will be as follows;

- Liaison with the local planning and highways authority.
- Provision of a Resident's Travel Pack containing information for residents.
- Promotion of the sustainable transport options available to residents, including public transport, cycle, walking and car sharing schemes.

- Maintenance of all necessary systems, data and paperwork.

**3.2.4** The role of the TPC will also be to develop and manage the Travel Plan for the site.

**3.2.5** The duties will include monitoring, reviewing targets and forming action plans to remedy areas where the Travel Plan is not performing. Annual progress reports will be prepared and submitted to Rochdale Council.

**3.2.6** Details of the nominated TPC will be submitted to Rochdale Council and the appropriate local bus companies at least one month prior to first occupation at the site. Similarly, the TPC will be advised of appropriate contact personnel at the Council.

### **3.3 Resident's Travel Pack**

**3.3.1** It is an important and emerging principle in residential developments that where appropriate, the implementation of travel plan type measures can establish a pattern of travel behaviour favouring sustainable modes from the inception of the development.

**3.3.2** The proposed development is very well placed for encouraging access on foot or by cycle to a wide range of facilities. Similarly, the existence of nearby public transport services will encourage choice of public transport as a primary means of travel for the development.

**3.3.3** However, in order to build on these locational advantages, it is recommended that a Resident's Travel Pack is provided for the occupants of each new dwelling.

**3.3.4** The contents of such a travel pack would include information relating to walking and cycling routes in the area and the provision of up to date bus and rail timetable information as well as identification of the location of nearby amenity facilities as part of the information supplied to prospective purchasers.

**3.3.5** The contents of the packs will vary depending upon the information available on sources such as the internet or local bus stops.

**3.3.6** However, the Travel Packs will include:

- Information about the local area, e.g. location, distance and directions to local shops, schools, Post Offices, Doctor Surgeries, Hospitals, Banks, Libraries, Parks, attractions and other local amenities.
- Copies of the most recently published public transport information.
- Details of web sites and other sources of information which can be accessed in the future such as:
  - o Public Transport - Links to timetable information e.g. [www.traveline.org.uk](http://www.traveline.org.uk) and [www.nationalrail.co.uk](http://www.nationalrail.co.uk)
  - o Car Sharing - Links to websites that co-ordinate car sharing such as [www.carshare.com](http://www.carshare.com), [www.liftshare.org.uk](http://www.liftshare.org.uk) and [www.nationalcarshare.co.uk](http://www.nationalcarshare.co.uk) to encourage car sharing.
  - o Cycling - Link to the UK's National Cyclists Organisation website [www.ctc.org.uk](http://www.ctc.org.uk) and Sustrans [www.sustrans.org.uk](http://www.sustrans.org.uk)
  - o Local Amenities - local supermarkets offering internet shopping would reduce the need for car travel.

**3.3.7** The adoption of such travel packs is recognised as being an important element in ensuring that access by non-car modes is promoted from the earliest occupation of a residential development. Within the Resident's Travel Pack, residents will be encouraged to consider ways in which to reduce their need to travel such as home delivery for shopping and working from home.

**3.3.8** The first issue of the Resident's Travel Pack will be the responsibility of Kellen Homes.

### **3.4 Travel Awareness and Information**

**3.4.1** Residents will be made aware of the existence of the Travel Plan and its aims. As mentioned previously, Resident's Travel Packs will be issued for new residents moving into the development and prospective buyers will be made aware of the Travel Plan when viewing properties.

### **3.5 Promotion of Lift Share Scheme**

**3.5.1** The Travel Plan Co-ordinator will promote the use of car sharing via registering on the Liftshare website. It allows users to register their details, where they are travelling to, if they are offering a lift or need a lift to their destination.

**3.5.2** The website can be found at the following location [www.liftshare.com](http://www.liftshare.com)

### **3.6 Encouraging Walking/Cycling**

**3.6.1** Residents will be provided with information and advice concerning safe pedestrian and cycle routes to the site through the provision of the Resident's Travel Pack.

**3.6.2** Local and National campaigns for walking and cycling will also be promoted by the Travel Plan Co-Ordinator.

**3.6.3** As part of these schemes the provision of walking/cycling signage will be investigated by the Travel Plan Co-ordinator, this signage could provide details on the routes and distances to and from local services and amenities in the area.

### **3.7 Encourage Home Working and Delivery Services**

**3.7.1** All new properties will have the ability to have broadband internet connection points, enabling the residents to obtain the internet. Therefore, encouraging home working and shopping, reducing the need to travel especially during peak times.

- 3.7.2** A number of telecommunication providers serve the area enabling residents to search for potential liftshare opportunities, as well as complete online shopping. Broadband will also enable residents to work from home thus, complying with goals highlighted within national and local policy.

### **3.8 Encouraging Travel by Public Transport**

- 3.8.1** The TPC will liaise with the local bus operators to promote the use of public transport services and ensure that up to date timetable information is readily available to residents.
- 3.8.2** Travel by public transport will be promoted and residents will be encouraged to access the public transport information provided on relevant websites, as well as utilising the Journey Planning tools available.

### **3.9 Marketing and Promotion**

- 3.9.1** To ensure that potential residents of the site are informed about the Travel Plan and its goals from the earliest stage, the Travel Plan will have a significant presence within the sales suite of the development which will include a display outlining the sustainable travel measures being implemented and details of access by sustainable travel modes.
- 3.9.2** The sales staff will be given training to promote the Travel Plan as an asset and selling point of the development and key concepts relating to accessibility included in marketing/sales particulars.

## **4 ACCESSIBILITY BY NON-CAR MODES**

### **4.1 Introduction**

**4.1.1** In order to accord with the aspirations of the NPPF, any new proposals should extend the choice in transport and secure mobility in a way that supports sustainable development.

**4.1.2** New proposals should therefore attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current national and local planning policy.

**4.1.3** The accessibility of the proposed site has been considered by the following modes of transport:

- accessibility on foot.
- accessibility by cycle.
- accessibility by bus.
- accessibility by rail.

### **4.2 Access on Foot**

**4.2.1** It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.

**4.2.2** Existing footways exist on both sides of Fairway and Heywood Road of around 2 metres in width. These footways provide links to a comprehensive network of routes within the local area, supplemented by a number of controlled crossing points on Manchester Road which facilitate access to the nearby day to day amenities within the area.

- 4.2.3 The DFT National Travel Survey of 2018 confirms that 80% of all trips less than a mile (1.6km) are carried out on foot.
- 4.2.4 The Institute of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot', provides information on acceptable walking distances. Table 3.2 suggests distances for desirable, acceptable and preferred maximum walks to 'town centres', 'commuting/schools' and 'elsewhere'. The 'preferred maximum' distances are shown below in **Table 4.1**.

| Suggested Preferred Maximum Walk |                  |           |
|----------------------------------|------------------|-----------|
| Town Centre                      | Commuting/School | Elsewhere |
| 800m                             | 2,000m           | 1,200m    |

**Table 4.1 - IHT 'Providing for Journeys on Foot' Walk Distances**

- 4.2.5 Manual for Streets (MfS) continues the theme of the acceptability of the 2,000-metre distance in paragraph 4.4.1. This states that '*walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPS13 states that walking offers the greatest potential to replace short car trips, particularly those under 2 km*'.
- 4.2.6 **Table 4.2** below summarises this guidance in tabular form.

| 'Comfortable' Walk | 'Preferred Maximum' Walk |
|--------------------|--------------------------|
| 800m               | 2,000m                   |

**Table 4.2 - Manual for Streets Walk Distances**

4.2.7 More specific guidance on the distances that children will walk to school is found in the July 2014 document published by the Department for Education (DfE) entitled ‘Home to School Travel and Transport’ statutory guidance document. This suggests that the maximum walking distance to schools is 2 miles (3.2 kilometres) for children under 8 and 3 miles (4.8 kilometres) for children over the age of 8. This is summarised below in **Table 4.3**.

| Children under 8 Walk Distance | Children over 8 Walk Distance |
|--------------------------------|-------------------------------|
| 3,200m                         | 4,800m                        |

**Table 4.3 – DfE Walk Distances to Schools**

4.2.8 Further evidence that people will walk further than the suggested ‘preferred maximum’ distances in the IHT ‘Providing for Journeys on Foot’ is contained in a WYG Report entitled ‘Accessibility – How Far Do People Walk and Cycle’. This report refers to National Travel Survey (NTS) data for the UK as a whole, excluding London, and confirms the following 85<sup>th</sup> percentile walk distances:

- All journey purposes – 1,930-metres.
- Commuting – 2,400-metres.
- Shopping – 1,600-metres.
- Education – 3,200 or 4,800-metres.
- Personal business – 1,600-metres.

4.2.9 Overall, in Table 5.1, the document states that 1,950 metres is the 85<sup>th</sup> percentile distance for walking as the main mode of travel. **Table 4.4** below summarises the various 85<sup>th</sup> percentile walk distances suggested as guidelines in the WYG Study.

| All Journeys | 85 <sup>th</sup> Percentile Walk Distances |          |               |          | Overall Recommended Preferred Max |
|--------------|--------------------------------------------|----------|---------------|----------|-----------------------------------|
|              | Commuting                                  | Shopping | Education     | Personal |                                   |
| 1,950m       | 2,100m                                     | 1,600m   | 3,200m/4,800m | 1,600m   | 1,950m                            |

**Table 4.4 - WYG Report/NTS Data Walk Distances**

- 4.2.10** In summary, the distance of 1,950-metres, or around 2-kilometres, represents an acceptable maximum walking distance for the majority of land uses although clearly the DfE guidance for walking to school is up to 3.2-kilometres.
- 4.2.11** Section 3.1 of the CIHT guidance 'Planning for Walking' mentioned earlier in this report provides a useful reminder of the health benefits of walking. This states that:
- 'A brisk 20 minute walk each day could be enough to reduce an individual's risk of an early death.'*
- 4.2.12** A 20-minute walk equates to a walking distance of around 1,600-metres.
- 4.2.13** In light of the above review, a pedestrian catchment of 2-kilometres from the centre of the site, using all usable pedestrian routes, has been provided in **Plan 5** and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.
- 4.2.14** In addition, to the pedestrian catchment plan, a review of the proximity of local facilities such as local shops/retail outlets and leisure facilities has been undertaken and the location of these is also shown in Plan 5.
- 4.2.15** The 2,000-metre pedestrian catchment illustrates that the majority of Castleton can be accessed, such as, New Bridge Chippy, Annies, Co-op Food, Castleton Primary School, St. Gabriel's RC Primary School, Castleton Post Office, St Edwards C of E Primary School, Premier – Castleton, Castleton Health & Leisure, Small World Nurseries and Well Castleton – Elizabeth Street.

**4.2.16** **Table 4.5** below, shows the approximate walking distance from the centre of the site to several of the local key amenities in the immediate vicinity of the site. The table also confirms whether or not the particular amenity is within the 'preferred maximum' walk distances using the above guideline criteria.

| Local Amenity                     | Distance | Guidance Criteria | Meets with Guidance? |
|-----------------------------------|----------|-------------------|----------------------|
| New Bridge Chippy                 | 590m     | 1,600m            | YES                  |
| Castleton Post Office             | 590m     | 1,600m            | YES                  |
| Annies                            | 650m     | 1,600m            | YES                  |
| St Edwards C of E Primary School  | 775m     | 3,200m            | YES                  |
| Co-op Food                        | 800m     | 1,600m            | YES                  |
| Premier - Castleton               | 830m     | 1,600m            | YES                  |
| Castleton Post Office             | 975m     | 1,600m            | YES                  |
| Castleton Health & Leisure        | 975m     | 1,600m            | YES                  |
| Small World Nurseries             | 1,030m   | 1,600m            | YES                  |
| St Gabriel's RC Primary School    | 1,120m   | 3,200m            | YES                  |
| Well Castleton – Elizabeth Street | 1,225m   | 1,600m            | YES                  |

**Table 4.5 - Approximate Distance from Site to Local Facilities**

**4.2.17** As can be seen in the above table, the site is located within proximity to a number of local amenities including primary services as well as leisure facilities.

**4.2.18** All of the day-to-day amenities are well within the 'preferred maximum' walk distances described earlier in this section and indeed many, including the nearest food store and nearest primary school, are within the 800 metres 'comfortable walk' from the site as contained within MfS guidance.

- 4.2.19 It is therefore considered that the existing and proposed pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and local destinations.

### 4.3 Access by Cycle

- 4.3.1 An alternative mode of travel to the site could be achieved by bicycle. A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass parts of Rochdale, Heywood and Middleton.
- 4.3.2 A new cycle link will be provided, connecting the site to Heywood Road, across the East Lancashire Railway-owned land.
- 4.3.3 National cycle route 66, starts north of Rochdale where it runs south into the city centre where it meets National Cycle Route 92. This route also starts north of Rochdale where it also runs ends in the centre of Rochdale. Both routes are both on and off-national cycle route, 66 is located approximately 380 metres from the site, whereas 92 is located 4.8 kilometres from the site.
- 4.3.4 The site can therefore be considered as being accessible by cycle.

### 4.4 Access by Bus

- 4.4.1 The nearest bus stops to the site are located approximately 800 metres to the east on Manchester Road, around a 10-minute walk from the site. Additional bus stops are located further along Queensway. All the nearest bus stops to the site are shown on **Plan 5**.
- 4.4.2 A summary of the services available from the nearest bus stops from the development site is provided in **Table 4.6** below.

| Serv No | Route                               | Monday – Friday<br>(Per hour) |        |         |     | Sat | Sun |
|---------|-------------------------------------|-------------------------------|--------|---------|-----|-----|-----|
|         |                                     | AM Peak                       | Midday | PM Peak | Eve |     |     |
| 17      | Manchester – Rochdale via Middleton | 3                             | 3      | 3       | 2   | 3   | 2   |

**Table 4.6 - Existing Bus Services Operating Close to the Site**

4.4.3 As can be seen from Table 5.6, the nearest bus stops to the site provides access to the number 17 service that operates throughout the day, weekday evenings and at weekends to destinations such as Rochdale, Middleton, Blackley and Manchester.

4.4.4 The above services operate from around 5:00am to around 23:30pm, making travel by public transport a real alternative to travelling by car for all journey purposes.

4.4.5 In order to demonstrate the level of accessibility, some example journey times by bus are presented below **Table 4.7** below.

| Destination          | Duration   |
|----------------------|------------|
| Rochdale town centre | 11 minutes |
| Middleton            | 16 minutes |
| Manchester           | 34 minutes |

**Table 4.7 - Example Bus Journey Times from the Site**

4.4.6 The above table demonstrates that Rochdale town centre is an approximate 10-minute bus journey from the site and Middleton is a 16-minute bus journey.

4.4.7 It is therefore concluded that the site can be considered as highly accessible by bus.

## **4.5 Accessibility by Rail**

**4.5.1** Castleton station is the closest railway station to the site. It can be accessed via a short 8–9-minute walk as the station is 700 metres from the centre of the site. The station is managed by Northern and has 2 platforms, offering 3 services per hour to destinations such as Leeds and Manchester city centre.

**4.5.2** This provides opportunities for travelling to and from the site by rail.

## **4.6 Accessibility Summary**

**4.6.1** The proposals have been considered in terms of accessibility by non-car modes for the proposed development.

**4.6.2** The following conclusions can be drawn from this section of the report:

- The site is well located to cater for trips on foot and provides potential for a high degree of pedestrian trips between the development and the surrounding area.
- It has been demonstrated that the site is accessible by cycle.
- The services from the bus stops on Manchester Road which connect the site with retail, employment and leisure facilities in Rochdale, Middleton and Manchester. It can therefore be concluded that the proposed development is highly accessible by bus.
- The site has been demonstrated to be accessible by rail with Castleton railway station located within a 10-minute walk from the site.

**4.6.3** In light of the above, it is considered that the site is highly accessible and caters for needs of the development's residents and visitors. As such, this will assist in promoting a choice of travel modes other than the private car, as set out in NPPF.

## **5 TRAVEL PLAN TARGETS**

### **5.1 Introduction**

**5.1.1** This section of the Travel Plan deals with the post development scenario i.e. once the development is complete, occupied and the Travel Plan has been implemented and relates to targets against which the success of the Plan in achieving its objectives will be measured.

**5.1.2** The targets are designed to be quantifiable, be relevant to both measures and objectives identified in the Plan and to include timescale.

**5.1.3** In order to set the targets, further information (e.g. through a travel survey) will have to be obtained in order to establish against which to set the targets. This information will be related to existing patterns of movement (i.e. the proportion of residents who travel to their workplace by non-car mode) and may be obtained from sources such as the National Travel Survey and the National Census.

**5.1.4** More accurate information to establish the baseline targets will be obtained from a Resident's Travel Survey which will be undertaken within three months of the development being 75% occupied.

### **5.2 Potential Targets**

**5.2.1** The targets are designed to be quantifiable, be relevant to both measures and objectives identified in the Plan and to include timescale.

**5.2.2** Targets which according to the DfT may potentially be included in the Travel Plan include the following:

- Car trips per household - targets set on the basis of predicted trip rates for the development.
- Uptake of alternatives - targets for bus patronage, registration and participation in the Liftshare car share scheme, cycle counts and pedestrian counts.
- Car ownership and mode of travel - trip based targets may be supplemented by targets related to car ownership, travel to work by mode and travel to school by mode.
- Travel Plan awareness targets - for example, a target can be established to ensure a significant percentage of residents are aware of the Travel Plan and its purpose.

## **5.3 Action Plan**

**5.3.1** **Table 5.1** below provides an Action Plan and timescales to assist the Travel Plan Co-ordinator (TPC) to implement the obligations of the Travel Plan;

| Action                                              | Target Date                                               | Indicator/Measured by                                 | Responsibility |
|-----------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------|----------------|
| Appointment of TPC                                  | TPC appointed one month prior to first occupation of site | Appointment of TPC by target date                     | Kellen Homes   |
| Production of Residents Travel Pack                 | Upon Occupation                                           | Distribution of Residents Travel Pack                 | Kellen Homes   |
| Undertake initial travel surveys                    | Within 3 months of reaching 75% occupation of development | Receipt of survey results                             | TPC            |
| Agree Travel Plan Targets                           | 3 months after initial travel survey undertaken           | Receipt of Written agreements of target               | TPC            |
| Achieve target car driver travel to work mode split | 5 years after initial travel survey                       | Resident travel surveys conducted in years 1, 3 and 5 | TPC            |

**Table 5.1 – Travel Plan Action Plan and Timescales**

**5.3.2** The table above sets out the key tasks that will need to be undertaken by the Travel Plan Co-ordinator as part of the Travel Plan including guidance as to timescales for the tasks to be undertaken.

## **6 PLAN MONITORING AND ASSESSMENT**

**6.1.1** DfT best practice guidelines state that monitoring of the Travel Plan should normally take place on the following basis:

- Early on in the occupation period of the site - for example, triggered by 75% occupancy to provide the information base for the review of the plan.
- Annually or at least every two years thereafter to provide on-going information on the impact of the plan.
- Monitoring should take place over a wide range of time periods to reflect the different pattern of journeys that can be generated by residential development.

**6.1.2** The monitoring could include items such as:

- Full residential surveys to be completed in year 1, year 3 and year 5 and snap shot surveys to be completed every 6 to 12 months.
- Feedback from bus operators to establish demand for local bus services.

**6.1.3** Consideration will then be given on how best to monitor and measure the success of the Travel Plan measures when preparing the final Travel Plan for the development. Appropriate monitoring arrangements will be discussed and agreed with Rochdale Council.

**6.1.4** The monitoring and assessment of the Travel Plan will include the submission of annual progress reports detailing the results of the travel surveys with regards to targets, budgets, general effectiveness and current initiatives.

**6.1.5** An annual report is to be submitted to the local authority no later than one month following the anniversary of the approval of the Travel Plan.

- 6.1.6 This will allow effective measures to be promoted and increased while ineffective measures can be revised and rectified. New initiatives for the coming year will also be contained within the report and submitted to officers at the Council.

## **7 CONCLUSIONS**

- 7.1.1** This Travel Plan has detailed the proposals associated with the development site to promote sustainable modes of travel and reduce the dependency of the private car.
- 7.1.2** Additionally, the Travel Plan has presented a series of measures to be implemented to reduce the number of single car occupancy trips.
- 7.1.3** The information contained within the Travel Plan and details of sustainable modes of transport in the vicinity of the site will be accessible to residents and visitors to the development.
- 7.1.4** The aim of the Travel Plan is:
- to encourage residents to use sustainable modes of transport to access the site;
  - reduce the reliance on single car occupancy journeys; and
  - generally reduce traffic related pollution and noise.
- 7.1.5** A wide range of measures and actions will be used to encourage car sharing, public transport use, cycling and walking.
- 7.1.6** The Travel Plan Co-ordinator will ensure the Travel Plan is implemented and is operating effectively.
- 7.1.7** A detailed resident Travel Survey will be undertaken to establish travel modes of residents and following this, specific targets will be set and agreed with the Travel Plan team at Rochdale Council.
- 7.1.8** It can therefore be concluded that the proposals will provide a highly sustainable development which will be enhanced by the evolution of the Travel Plan.

## APPENDIX 2

### TRICS Output

Calculation Reference: AUDIT-851401-210420-0423

## TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

|    |                  |        |
|----|------------------|--------|
| 02 | SOUTH EAST       |        |
|    | ES EAST SUSSEX   | 2 days |
|    | HF HERTFORDSHIRE | 1 days |
|    | KC KENT          | 2 days |
|    | SC SURREY        | 1 days |
|    | WS WEST SUSSEX   | 3 days |
| 03 | SOUTH WEST       |        |
|    | DV DEVON         | 1 days |
| 04 | EAST ANGLIA      |        |
|    | NF NORFOLK       | 3 days |
| 06 | WEST MIDLANDS    |        |
|    | ST STAFFORDSHIRE | 1 days |
| 11 | SCOTLAND         |        |
|    | FA FALKIRK       | 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: 110 to 297 (units: )  
 Range Selected by User: 100 to 300 (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: 01/01/13 to 08/10/20

*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    | 4 days |
| Tuesday   | 1 days |
| Wednesday | 3 days |
| Thursday  | 3 days |
| Friday    | 4 days |

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

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 13 days |
| Directional ATC Count | 2 days  |

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

Selected Locations:

|                                    |    |
|------------------------------------|----|
| Suburban Area (PPS6 Out of Centre) | 2  |
| Edge of Town                       | 13 |

*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 | 14 |
| Out of Town      | 1  |

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,*

## Secondary Filtering selection:

Use Class:

|    |         |
|----|---------|
| C3 | 15 days |
|----|---------|

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

|                  |        |
|------------------|--------|
| 1,000 or Less    | 1 days |
| 1,001 to 5,000   | 2 days |
| 5,001 to 10,000  | 4 days |
| 10,001 to 15,000 | 5 days |
| 15,001 to 20,000 | 1 days |
| 20,001 to 25,000 | 2 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    | 3 days |
| 25,001 to 50,000   | 2 days |
| 50,001 to 75,000   | 1 days |
| 75,001 to 100,000  | 3 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 5 days |

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

Car ownership within 5 miles:

|            |         |
|------------|---------|
| 0.6 to 1.0 | 3 days  |
| 1.1 to 1.5 | 10 days |
| 1.6 to 2.0 | 2 days  |

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

Travel Plan:

|     |        |
|-----|--------|
| Yes | 8 days |
| No  | 7 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 | 15 days |
|-----------------|---------|

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

LIST OF SITES relevant to selection parameters

|   |                                                                                                                         |                          |                                    |
|---|-------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------|
| 1 | DV-03-A-02<br>MILLHEAD ROAD<br>HONITON                                                                                  | HOUSES & BUNGALOWS       | DEVON                              |
|   | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 116<br>Survey date: FRIDAY 25/09/15    |                          |                                    |
| 2 | 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<br>Survey date: MONDAY 11/07/16                          |                          |                                    |
| 3 | ES-03-A-04<br>NEW LYDD ROAD<br>CAMBER                                                                                   | MIXED HOUSES & FLATS     | EAST SUSSEX                        |
|   | Edge of Town<br>Residential Zone<br>Total No of Dwellings: 134<br>Survey date: FRIDAY 15/07/16                          |                          |                                    |
| 4 | FA-03-A-02<br>ROSEBANK AVENUE & SPRINGFIELD DRIVE<br>FALKIRK                                                            | MIXED HOUSES             | FALKIRK                            |
|   | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total No of Dwellings: 161<br>Survey date: WEDNESDAY 29/05/13 |                          |                                    |
| 5 | HF-03-A-03<br>HARE STREET ROAD<br>BUNTINGFORD                                                                           | MIXED HOUSES             | HERTFORDSHIRE                      |
|   | Edge of Town<br>Residential Zone<br>Total No of Dwellings: 160<br>Survey date: MONDAY 08/07/19                          |                          |                                    |
| 6 | KC-03-A-04<br>KILN BARN ROAD<br>AYLESFORD<br>DITTON                                                                     | SEMI-DETACHED & TERRACED | KENT                               |
|   | Edge of Town<br>Residential Zone<br>Total No of Dwellings: 110<br>Survey date: FRIDAY 22/09/17                          |                          |                                    |
| 7 | KC-03-A-07<br>RECVLVER ROAD<br>HERNE BAY                                                                                | MIXED HOUSES             | KENT                               |
|   | Edge of Town<br>Residential Zone<br>Total No of Dwellings: 288<br>Survey date: WEDNESDAY 27/09/17                       |                          |                                    |
| 8 | NF-03-A-06<br>BEAUFORT WAY<br>GREAT YARMOUTH<br>BRADWELL                                                                | MIXED HOUSES             | NORFOLK                            |
|   | Edge of Town<br>Residential Zone<br>Total No of Dwellings: 275<br>Survey date: MONDAY 23/09/19                          |                          |                                    |
| 9 | NF-03-A-07<br>SILFIELD ROAD<br>WYMONDHAM                                                                                | MIXED HOUSES & FLATS     | NORFOLK                            |
|   | Edge of Town<br>Out of Town<br>Total No of Dwellings: 297<br>Survey date: FRIDAY 20/09/19                               |                          |                                    |
|   |                                                                                                                         |                          | Survey Type: DIRECTIONAL ATC COUNT |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                        |                          |                                    |
|----|------------------------|--------------------------|------------------------------------|
| 10 | NF-03-A-16             | MIXED HOUSES & FLATS     | NORFOLK                            |
|    | NORWICH COMMON         |                          |                                    |
|    | WYMONDHAM              |                          |                                    |
|    | Edge of Town           |                          |                                    |
|    | Residential Zone       |                          |                                    |
|    | Total No of Dwellings: | 138                      |                                    |
|    | Survey date: TUESDAY   | 20/10/15                 | Survey Type: DIRECTIONAL ATC COUNT |
| 11 | SC-03-A-05             | MIXED HOUSES             | SURREY                             |
|    | REIGATE ROAD           |                          |                                    |
|    | HORLEY                 |                          |                                    |
|    | Edge of Town           |                          |                                    |
|    | Residential Zone       |                          |                                    |
|    | Total No of Dwellings: | 207                      |                                    |
|    | Survey date: MONDAY    | 01/04/19                 | Survey Type: MANUAL                |
| 12 | ST-03-A-07             | DETACHED & SEMI-DETACHED | STAFFORDSHIRE                      |
|    | BEACONSIDE             |                          |                                    |
|    | STAFFORD               |                          |                                    |
|    | MARSTON GATE           |                          |                                    |
|    | Edge of Town           |                          |                                    |
|    | Residential Zone       |                          |                                    |
|    | Total No of Dwellings: | 248                      |                                    |
|    | Survey date: WEDNESDAY | 22/11/17                 | Survey Type: MANUAL                |
| 13 | WS-03-A-04             | MIXED HOUSES             | WEST SUSSEX                        |
|    | HILLS FARM LANE        |                          |                                    |
|    | HORSHAM                |                          |                                    |
|    | BROADBRIDGE HEATH      |                          |                                    |
|    | Edge of Town           |                          |                                    |
|    | Residential Zone       |                          |                                    |
|    | Total No of Dwellings: | 151                      |                                    |
|    | Survey date: THURSDAY  | 11/12/14                 | Survey Type: MANUAL                |
| 14 | 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                |
| 15 | WS-03-A-09             | MIXED HOUSES & FLATS     | WEST SUSSEX                        |
|    | LITTLEHAMPTON ROAD     |                          |                                    |
|    | WORTHING               |                          |                                    |
|    | WEST DURRINGTON        |                          |                                    |
|    | Edge of Town           |                          |                                    |
|    | Residential Zone       |                          |                                    |
|    | Total No of Dwellings: | 197                      |                                    |
|    | Survey date: THURSDAY  | 05/07/18                 | Survey Type: MANUAL                |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| Time Range          | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|                     | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00       |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00       |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00       |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00       |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00       |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00       |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00       |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00       | 15       | 192         | 0.098        | 15         | 192         | 0.307        | 15       | 192         | 0.405        |
| 08:00 - 09:00       | 15       | 192         | 0.142        | 15         | 192         | 0.381        | 15       | 192         | 0.523        |
| 09:00 - 10:00       | 15       | 192         | 0.154        | 15         | 192         | 0.184        | 15       | 192         | 0.338        |
| 10:00 - 11:00       | 15       | 192         | 0.133        | 15         | 192         | 0.163        | 15       | 192         | 0.296        |
| 11:00 - 12:00       | 15       | 192         | 0.129        | 15         | 192         | 0.151        | 15       | 192         | 0.280        |
| 12:00 - 13:00       | 15       | 192         | 0.167        | 15         | 192         | 0.156        | 15       | 192         | 0.323        |
| 13:00 - 14:00       | 15       | 192         | 0.172        | 15         | 192         | 0.162        | 15       | 192         | 0.334        |
| 14:00 - 15:00       | 15       | 192         | 0.170        | 15         | 192         | 0.207        | 15       | 192         | 0.377        |
| 15:00 - 16:00       | 15       | 192         | 0.284        | 15         | 192         | 0.175        | 15       | 192         | 0.459        |
| 16:00 - 17:00       | 15       | 192         | 0.295        | 15         | 192         | 0.181        | 15       | 192         | 0.476        |
| 17:00 - 18:00       | 15       | 192         | 0.357        | 15         | 192         | 0.172        | 15       | 192         | 0.529        |
| 18:00 - 19:00       | 15       | 192         | 0.303        | 15         | 192         | 0.190        | 15       | 192         | 0.493        |
| 19:00 - 20:00       |          |             |              |            |             |              |          |             |              |
| 20:00 - 21:00       |          |             |              |            |             |              |          |             |              |
| 21:00 - 22:00       |          |             |              |            |             |              |          |             |              |
| 22:00 - 23:00       |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00       |          |             |              |            |             |              |          |             |              |
| <b>Total Rates:</b> |          |             | <b>2.404</b> |            |             | <b>2.429</b> |          |             | <b>4.833</b> |

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:           | 110 - 297 (units: ) |
| Survey date range:                            | 01/01/13 - 08/10/20 |
| Number of weekdays (Monday-Friday):           | 19                  |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 3                   |
| Surveys manually removed from selection:      | 0                   |

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

## APPENDIX 3

### CENSUS data

# WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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population All usual residents aged 16 and over in employment the week before the census  
units Persons  
date 2011  
usual residence E02001148 : Rochdale 017 (2011 super output area - middle layer)

| place of work        | All categories:<br>Method of travel<br>to work (2001<br>specification) | Work mainly at<br>or from home | Underground,<br>metro, light rail<br>or tram | Train      | Bus, minibus<br>or coach | Taxi      | Motorcycle,<br>scooter or<br>moped | Driving a car or<br>van | Passenger in a<br>car or van | Bicycle   | On foot    | Other method<br>of travel to<br>work |
|----------------------|------------------------------------------------------------------------|--------------------------------|----------------------------------------------|------------|--------------------------|-----------|------------------------------------|-------------------------|------------------------------|-----------|------------|--------------------------------------|
| E02001141 : Rochdale | 547                                                                    | 0                              | 0                                            | 13         | 86                       | 14        | 2                                  | 311                     | 65                           | 13        | 40         | 3                                    |
| Oldham               | 352                                                                    | 0                              | 0                                            | 6          | 33                       | 1         | 3                                  | 263                     | 37                           | 4         | 4          | 1                                    |
| E02001148 : Rochdale | 519                                                                    | 0                              | 0                                            | 11         | 20                       | 18        | 4                                  | 215                     | 33                           | 12        | 206        | 0                                    |
| Manchester           | 319                                                                    | 0                              | 5                                            | 56         | 41                       | 1         | 0                                  | 199                     | 14                           | 0         | 3          | 0                                    |
| Bury                 | 191                                                                    | 0                              | 0                                            | 2          | 15                       | 0         | 4                                  | 155                     | 11                           | 2         | 1          | 1                                    |
| E02001146 : Rochdale | 147                                                                    | 0                              | 0                                            | 5          | 7                        | 6         | 0                                  | 95                      | 13                           | 4         | 17         | 0                                    |
| E02001151 : Rochdale | 128                                                                    | 0                              | 0                                            | 0          | 10                       | 1         | 0                                  | 93                      | 14                           | 2         | 7          | 1                                    |
| Salford              | 97                                                                     | 0                              | 5                                            | 7          | 3                        | 1         | 1                                  | 74                      | 4                            | 0         | 2          | 0                                    |
| E02001149 : Rochdale | 104                                                                    | 0                              | 0                                            | 0          | 8                        | 4         | 0                                  | 73                      | 10                           | 3         | 6          | 0                                    |
| E02001155 : Rochdale | 109                                                                    | 0                              | 0                                            | 0          | 24                       | 0         | 0                                  | 71                      | 6                            | 3         | 3          | 2                                    |
| Trafford             | 82                                                                     | 0                              | 1                                            | 2          | 5                        | 0         | 0                                  | 70                      | 3                            | 0         | 1          | 0                                    |
| E02001139 : Rochdale | 97                                                                     | 0                              | 0                                            | 2          | 11                       | 2         | 0                                  | 65                      | 14                           | 1         | 2          | 0                                    |
| E02001140 : Rochdale | 80                                                                     | 0                              | 0                                            | 1          | 8                        | 1         | 1                                  | 55                      | 9                            | 1         | 2          | 2                                    |
| E02001143 : Rochdale | 79                                                                     | 0                              | 0                                            | 0          | 13                       | 2         | 1                                  | 51                      | 7                            | 1         | 4          | 0                                    |
| E02001152 : Rochdale | 84                                                                     | 0                              | 0                                            | 1          | 17                       | 1         | 0                                  | 48                      | 8                            | 4         | 5          | 0                                    |
| E02001136 : Rochdale | 72                                                                     | 0                              | 0                                            | 0          | 9                        | 3         | 2                                  | 45                      | 9                            | 2         | 2          | 0                                    |
| E02001147 : Rochdale | 53                                                                     | 0                              | 0                                            | 2          | 1                        | 3         | 0                                  | 44                      | 1                            | 0         | 2          | 0                                    |
| Tameside             | 41                                                                     | 0                              | 0                                            | 0          | 2                        | 0         | 0                                  | 36                      | 3                            | 0         | 0          | 0                                    |
| E02001150 : Rochdale | 47                                                                     | 0                              | 0                                            | 0          | 5                        | 0         | 0                                  | 33                      | 4                            | 4         | 0          | 1                                    |
| Rossendale           | 39                                                                     | 0                              | 0                                            | 0          | 4                        | 0         | 0                                  | 33                      | 1                            | 1         | 0          | 0                                    |
| Stockport            | 34                                                                     | 0                              | 0                                            | 2          | 1                        | 0         | 0                                  | 30                      | 1                            | 0         | 0          | 0                                    |
| E02001132 : Rochdale | 41                                                                     | 0                              | 0                                            | 3          | 0                        | 0         | 2                                  | 26                      | 9                            | 0         | 1          | 0                                    |
| E02001135 : Rochdale | 30                                                                     | 0                              | 0                                            | 0          | 5                        | 0         | 0                                  | 23                      | 2                            | 0         | 0          | 0                                    |
| E02001144 : Rochdale | 32                                                                     | 0                              | 0                                            | 0          | 1                        | 0         | 2                                  | 23                      | 5                            | 1         | 0          | 0                                    |
| <b>Total</b>         | <b>3,324</b>                                                           | <b>0</b>                       | <b>11</b>                                    | <b>113</b> | <b>329</b>               | <b>58</b> | <b>22</b>                          | <b>2,131</b>            | <b>283</b>                   | <b>58</b> | <b>308</b> | <b>11</b>                            |

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.

## Notes

No Trips under 20

**WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)**

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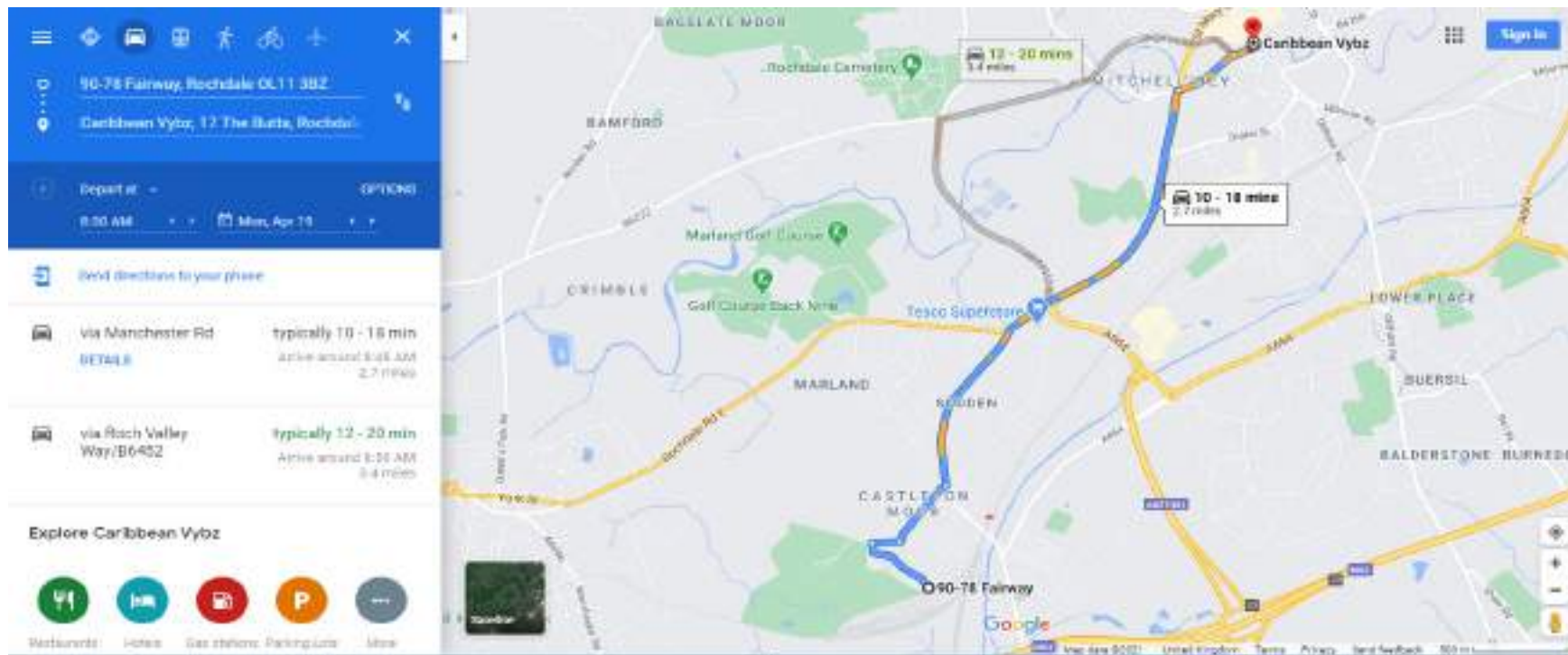
population All usual residents aged 16 and over in employment the week before the census  
units Persons  
date 2011  
usual residence E02001148 : Rochdale 017 (2011 super output area - middle layer)

| place of work            | Centroid                    | Driving a car or van | External Highway Connection Point |                              |                 |           | A664 Manchester Road (North) | A664 Manchester Road (South) | Royal Barn Road | Queensway     |
|--------------------------|-----------------------------|----------------------|-----------------------------------|------------------------------|-----------------|-----------|------------------------------|------------------------------|-----------------|---------------|
|                          |                             |                      | A664 Manchester Road (North)      | A664 Manchester Road (South) | Royal Barn Road | Queensway |                              |                              |                 |               |
| E02001141 : Rochdale 010 | Rochdale town centre        | 14.59%               | 100%                              |                              |                 |           | 14.59%                       | 0.00%                        | 0.00%           | 0.00%         |
| Oldham                   | Oldham town centre          | 12.34%               |                                   | 100%                         |                 |           | 0.00%                        | 12.34%                       | 0.00%           | 0.00%         |
| E02001148 : Rochdale 017 | Castleton Industrial Estate | 10.09%               |                                   |                              | 50%             | 50%       | 0.00%                        | 0.00%                        | 5.04%           | 5.04%         |
| Manchester               | Manchester City Centre      | 9.34%                |                                   | 50%                          |                 | 50%       | 0.00%                        | 4.67%                        | 0.00%           | 4.67%         |
| Bury                     | Bury town centre            | 7.27%                | 100%                              |                              |                 |           | 7.27%                        | 0.00%                        | 0.00%           | 0.00%         |
| E02001146 : Rochdale 015 | Deeplish                    | 4.46%                | 50%                               |                              |                 | 50%       | 2.23%                        | 0.00%                        | 0.00%           | 2.23%         |
| E02001151 : Rochdale 020 | Heywood                     | 4.36%                | 100%                              |                              |                 |           | 4.36%                        | 0.00%                        | 0.00%           | 0.00%         |
| Salford                  | Salford City Centre         | 3.47%                |                                   | 50%                          |                 | 50%       | 0.00%                        | 1.74%                        | 0.00%           | 1.74%         |
| E02001149 : Rochdale 018 | Broadfield Industrial Park  | 3.43%                | 100%                              |                              |                 |           | 3.43%                        | 0.00%                        | 0.00%           | 0.00%         |
| E02001155 : Rochdale 024 | Middleton                   | 3.33%                |                                   | 100%                         |                 |           | 0.00%                        | 3.33%                        | 0.00%           | 0.00%         |
| Trafford                 | Sale                        | 3.28%                |                                   |                              |                 | 100%      | 0.00%                        | 0.00%                        | 0.00%           | 3.28%         |
| E02001139 : Rochdale 008 | Newbold                     | 3.05%                | 50%                               |                              |                 | 50%       | 1.53%                        | 0.00%                        | 0.00%           | 1.53%         |
| E02001140 : Rochdale 009 | Spotland                    | 2.58%                | 100%                              |                              |                 |           | 2.58%                        | 0.00%                        | 0.00%           | 0.00%         |
| E02001143 : Rochdale 012 | Globe Park                  | 2.39%                | 50%                               |                              |                 | 50%       | 1.20%                        | 0.00%                        | 0.00%           | 1.20%         |
| E02001152 : Rochdale 021 | Stakehill Industrial        | 2.25%                |                                   | 100%                         |                 |           | 0.00%                        | 2.25%                        | 0.00%           | 0.00%         |
| E02001136 : Rochdale 005 | Shawclough                  | 2.11%                | 100%                              |                              |                 |           | 2.11%                        | 0.00%                        | 0.00%           | 0.00%         |
| E02001147 : Rochdale 016 | Balderstone                 | 2.06%                |                                   |                              |                 | 100%      | 0.00%                        | 0.00%                        | 0.00%           | 2.06%         |
| Tameside                 | Ashton-under-Lyne           | 1.69%                |                                   | 100%                         |                 |           | 0.00%                        | 1.69%                        | 0.00%           | 0.00%         |
| E02001150 : Rochdale 019 | Heywood Distribution Park   | 1.55%                | 100%                              |                              |                 |           | 1.55%                        | 0.00%                        | 0.00%           | 0.00%         |
| Rossendale               | Rawtenstall                 | 1.55%                | 100%                              |                              |                 |           | 1.55%                        | 0.00%                        | 0.00%           | 0.00%         |
| Stockport                | Stockport Town Centre       | 1.41%                |                                   | 100%                         |                 |           | 0.00%                        | 1.41%                        | 0.00%           | 0.00%         |
| E02001132 : Rochdale 001 | Littleborough               | 1.22%                | 50%                               |                              |                 | 50%       | 0.61%                        | 0.00%                        | 0.00%           | 0.61%         |
| E02001135 : Rochdale 004 | Smallbridge                 | 1.08%                | 50%                               |                              |                 | 50%       | 0.54%                        | 0.00%                        | 0.00%           | 0.54%         |
| E02001144 : Rochdale 013 | Milnrow                     | 1.08%                | 50%                               |                              |                 | 50%       | 0.54%                        | 0.00%                        | 0.00%           | 0.54%         |
| <b>Total</b>             |                             | <b>100%</b>          |                                   |                              |                 |           | <b>44.09%</b>                | <b>27.43%</b>                | <b>5.04%</b>    | <b>23.44%</b> |

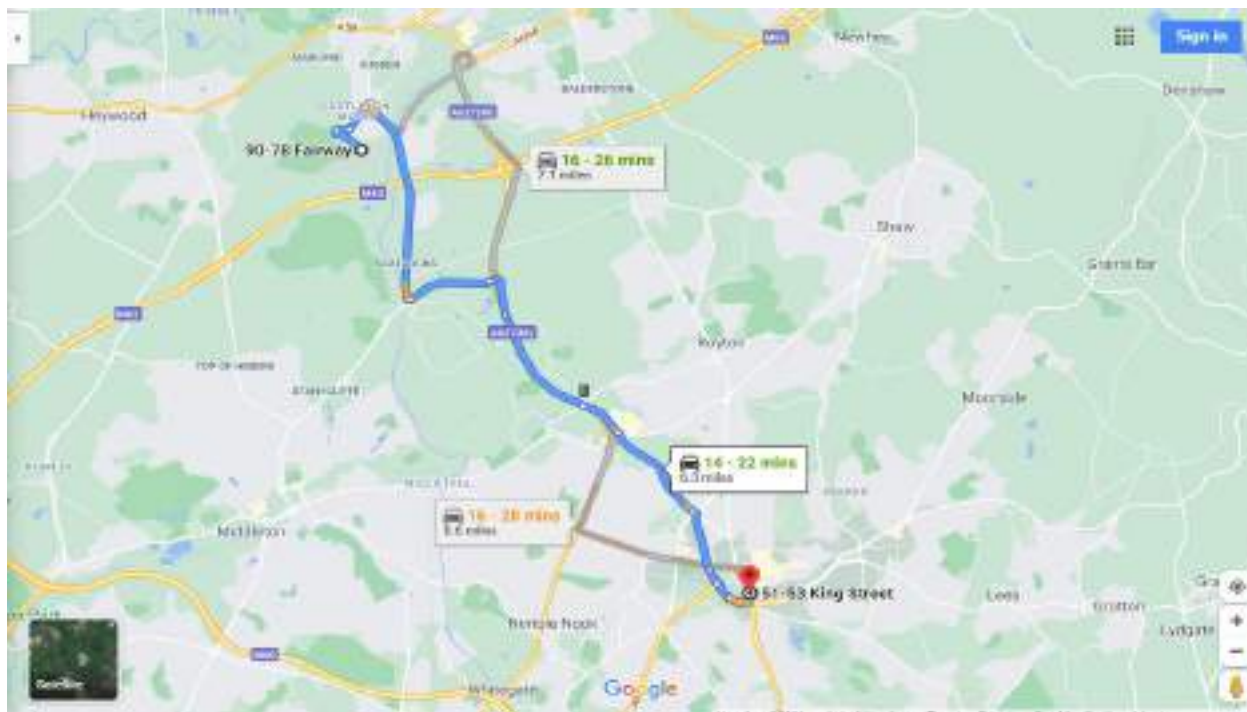
100%

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.

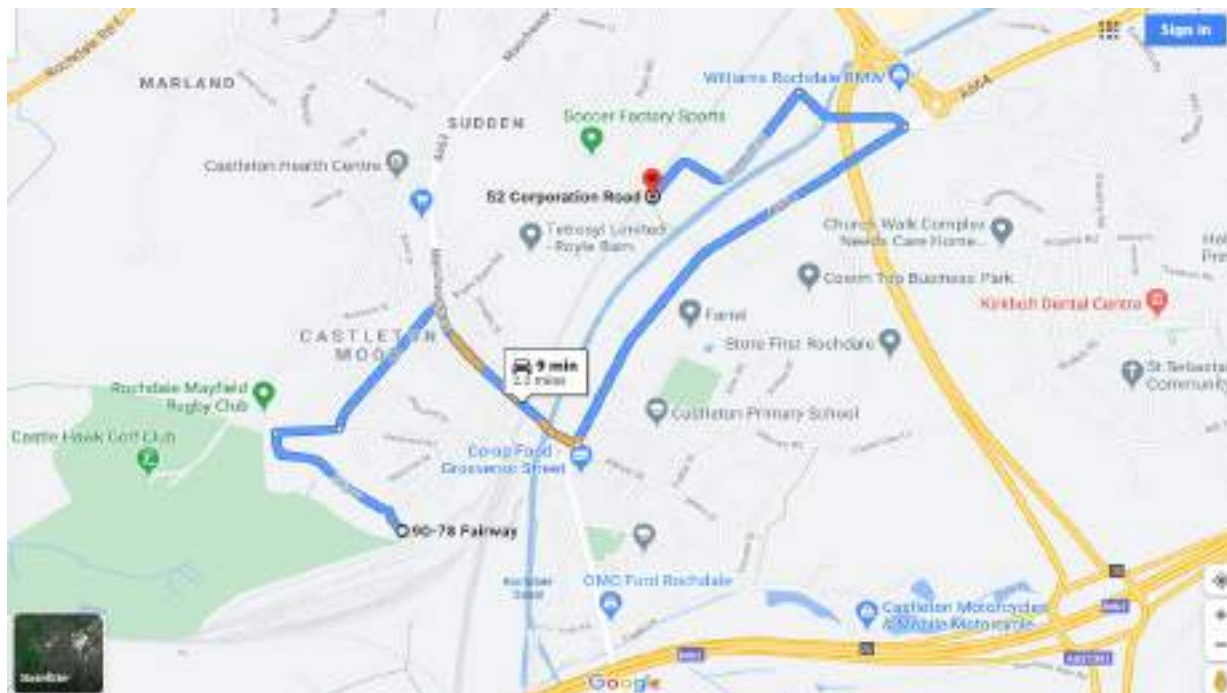
Notes  
No Trips under 20



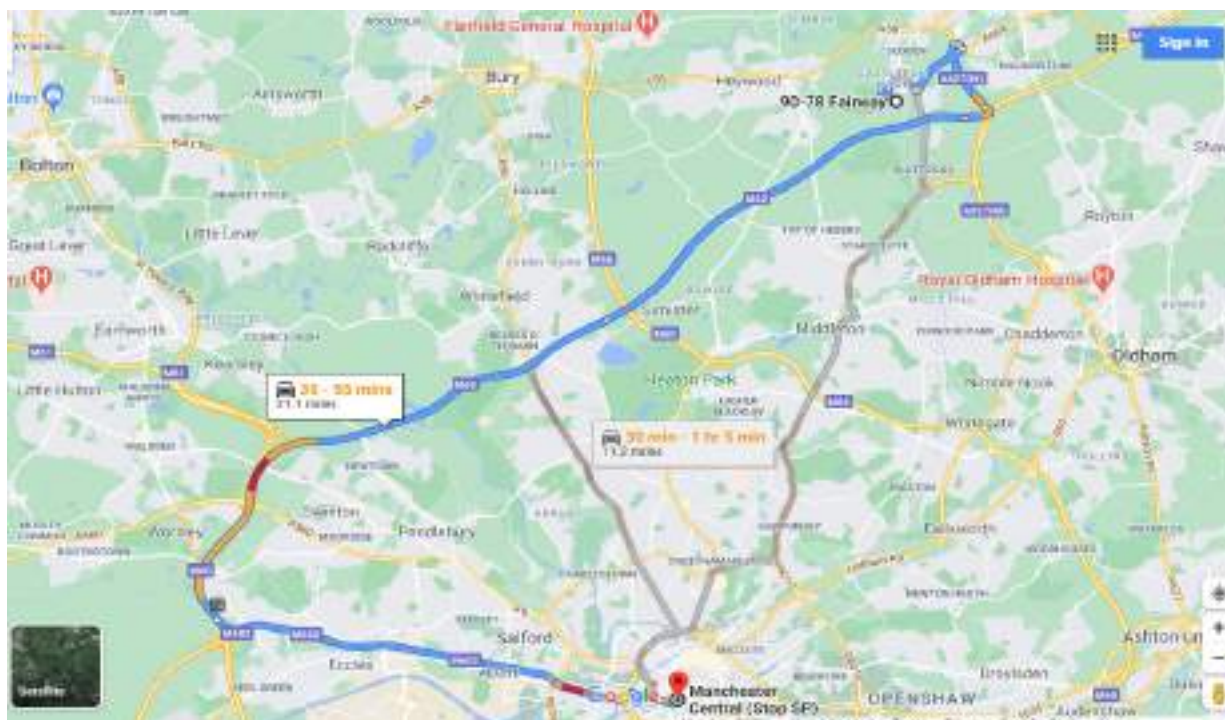
Rochdale 010 - Manchester Road (N)



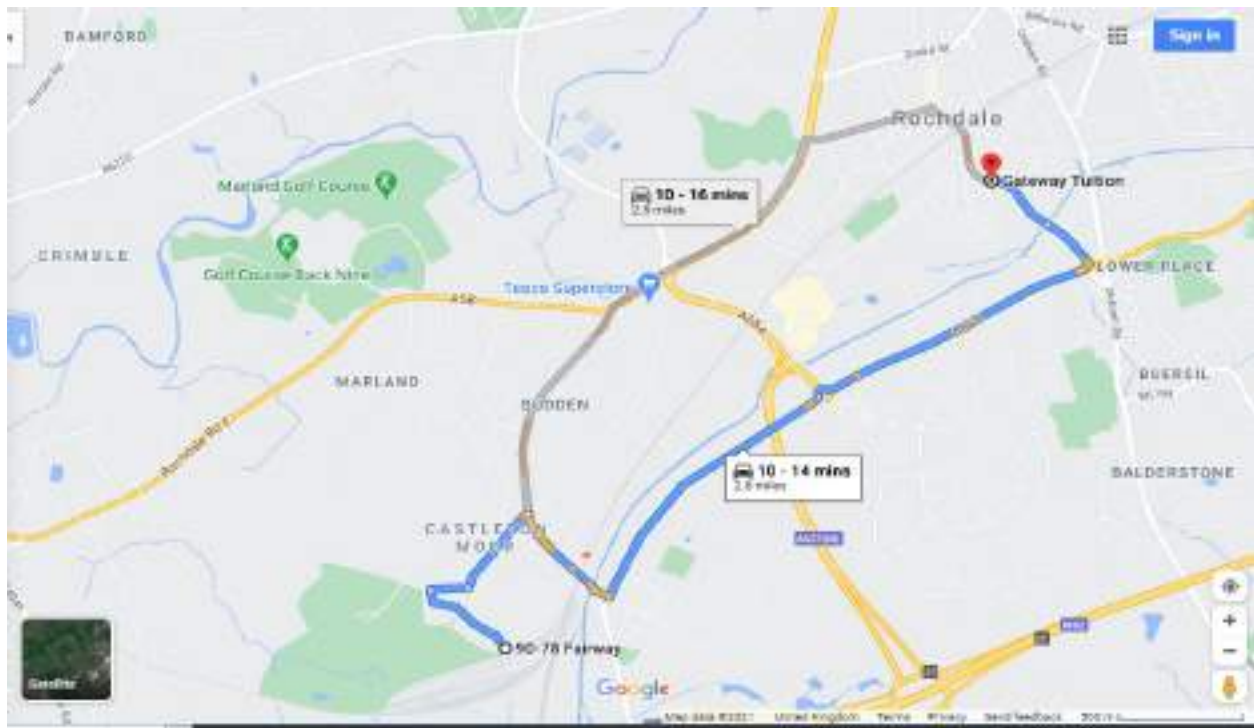
Oldham - Manchester Road (S)



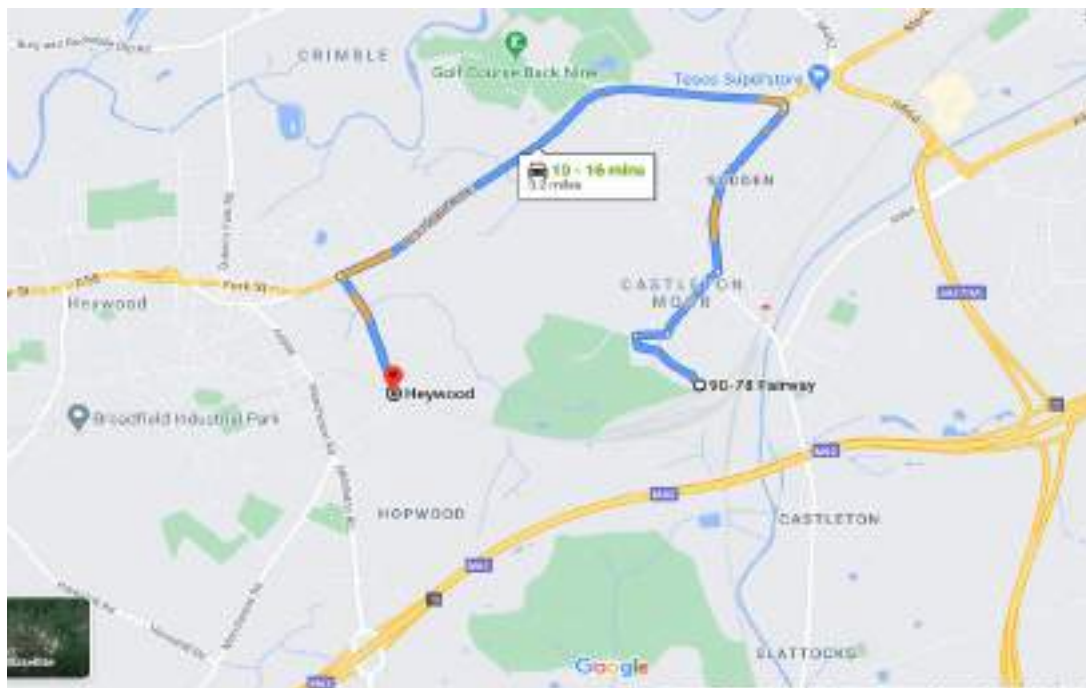
Rochdale 017 - Queensway/Royal Barn Road Industrial Estates



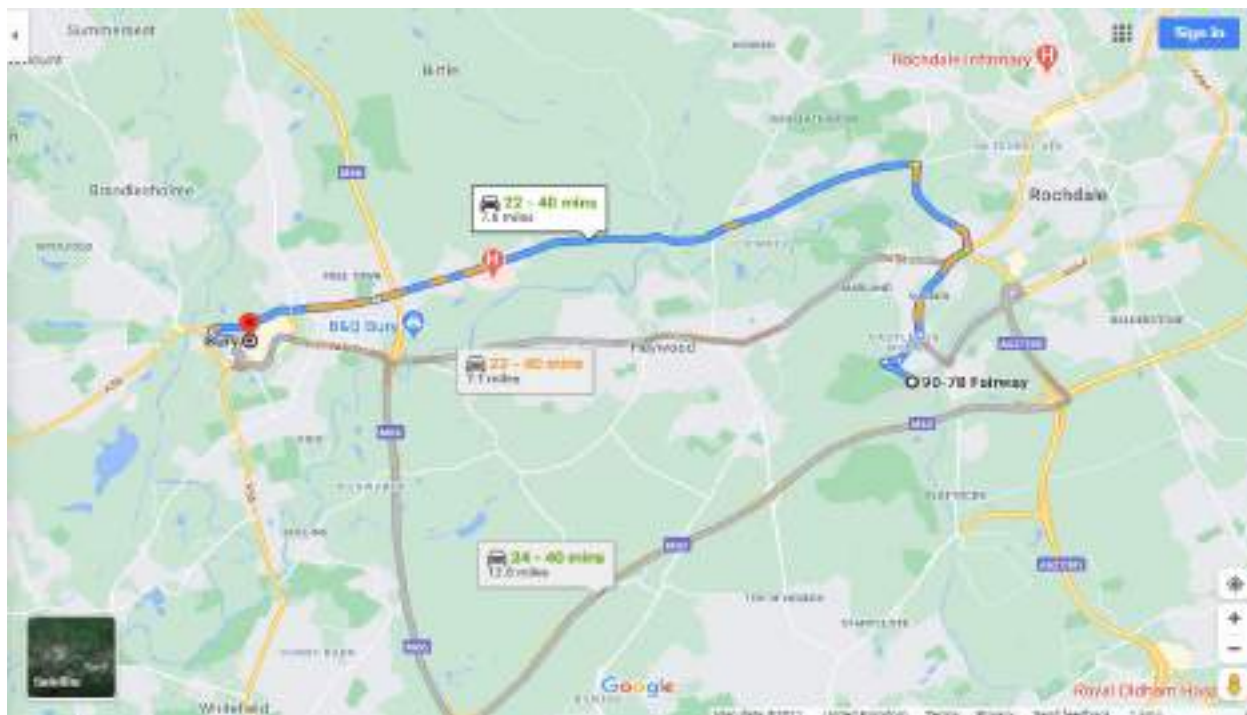
Manchester City Centre - Queensway/Manchester Road (S)



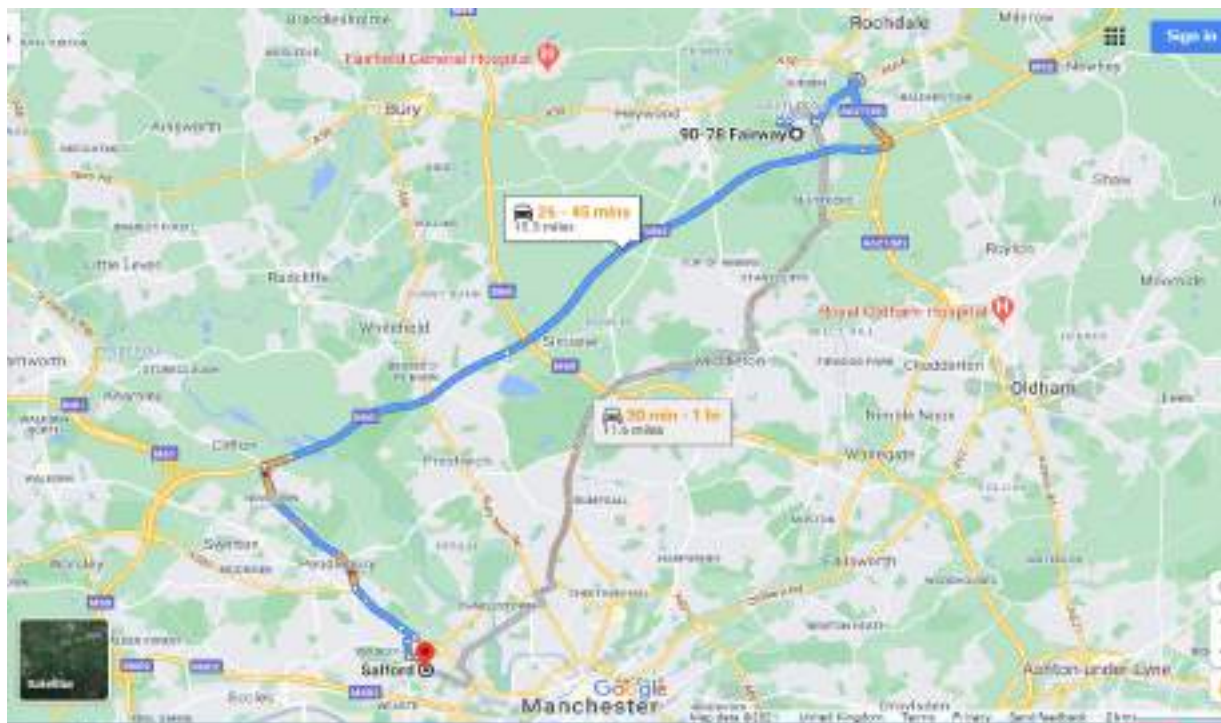
Rochdale 015 - Manchester Road (N)/Queensway



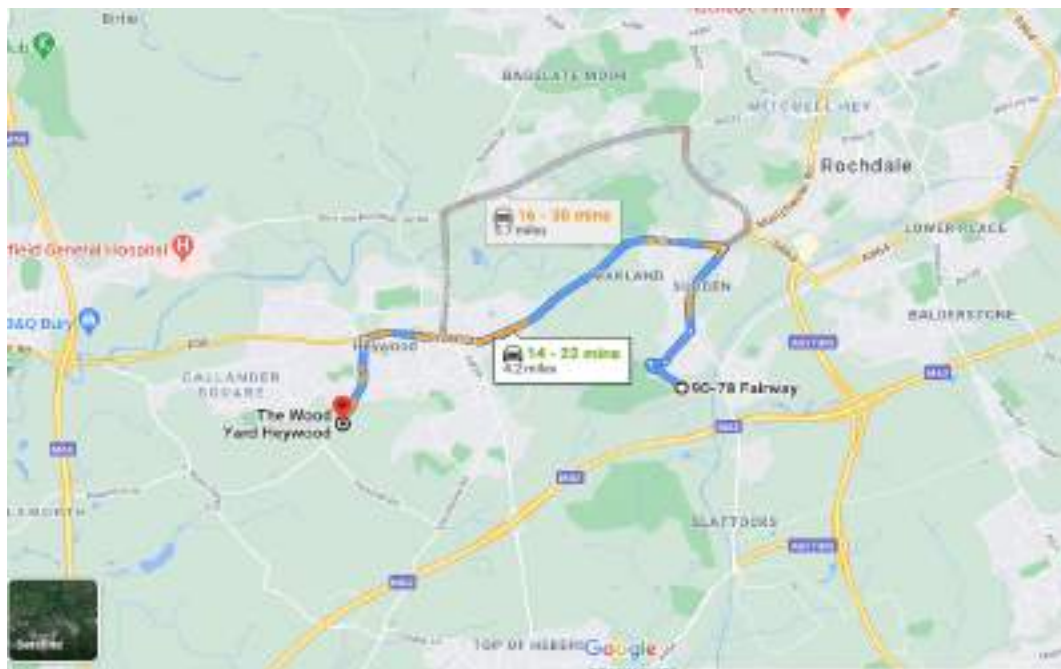
Rochdale 020 - Heywood



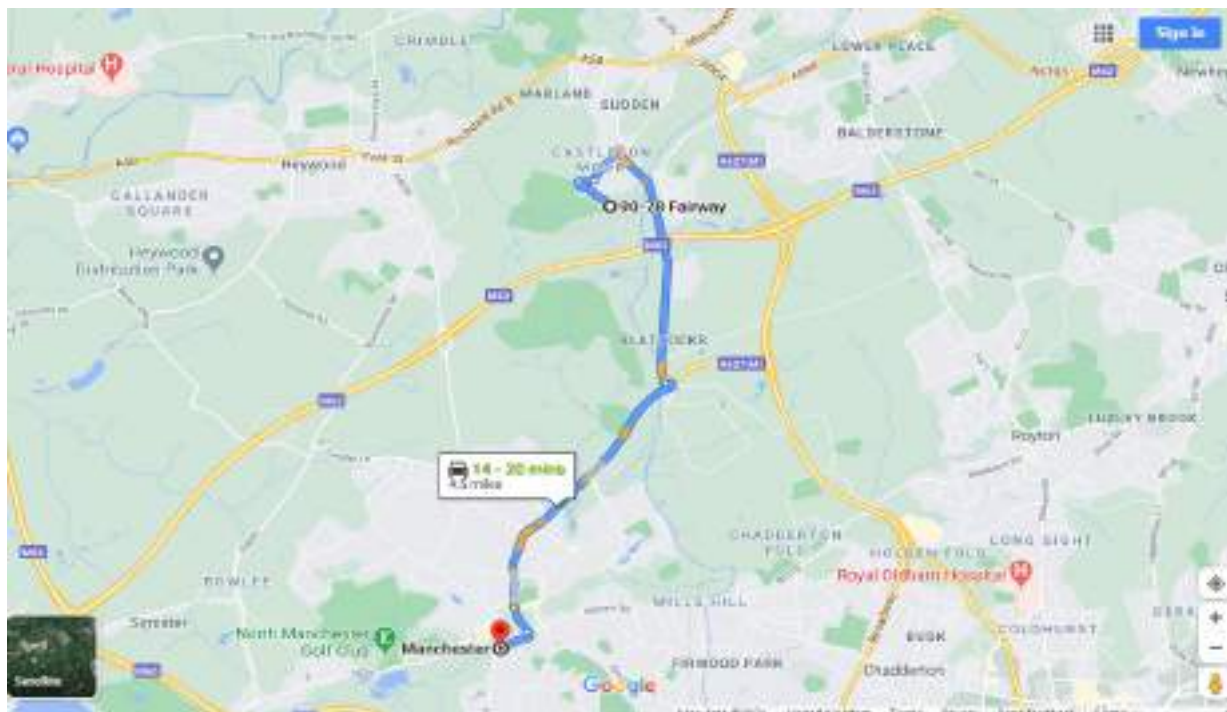
Bury - Manchester Road (N)



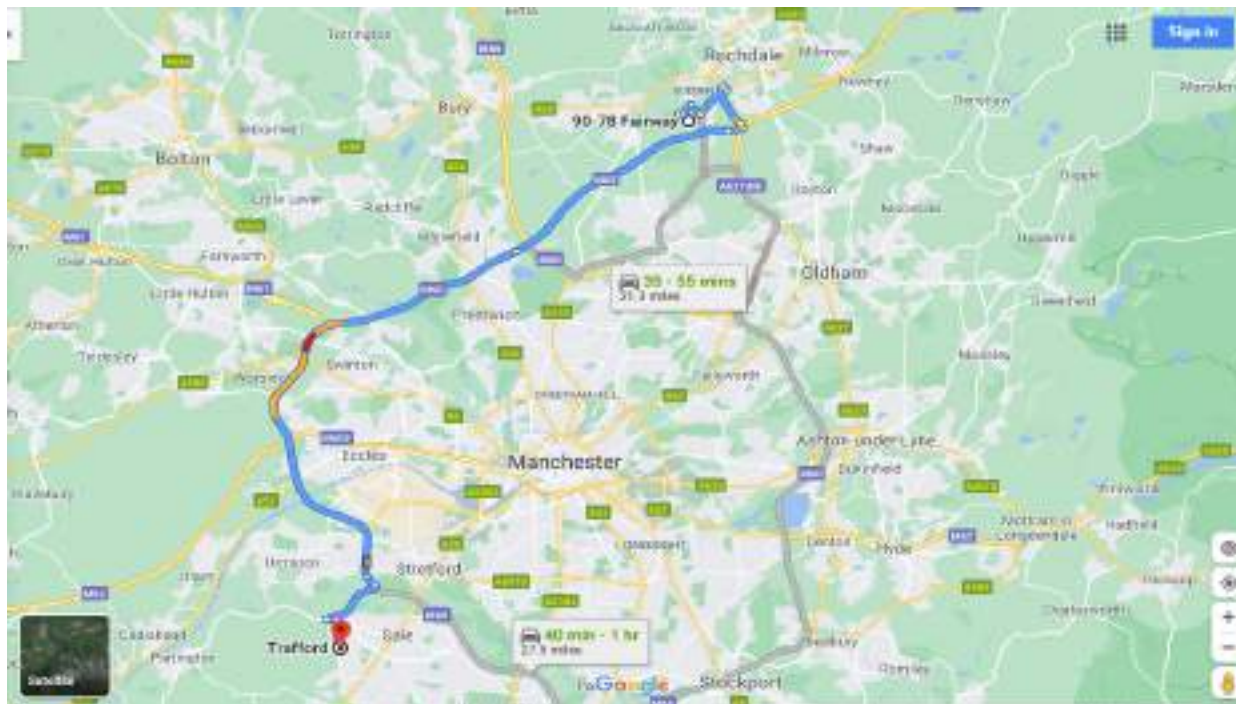
Salford - Manchester Road (S)/Queensway



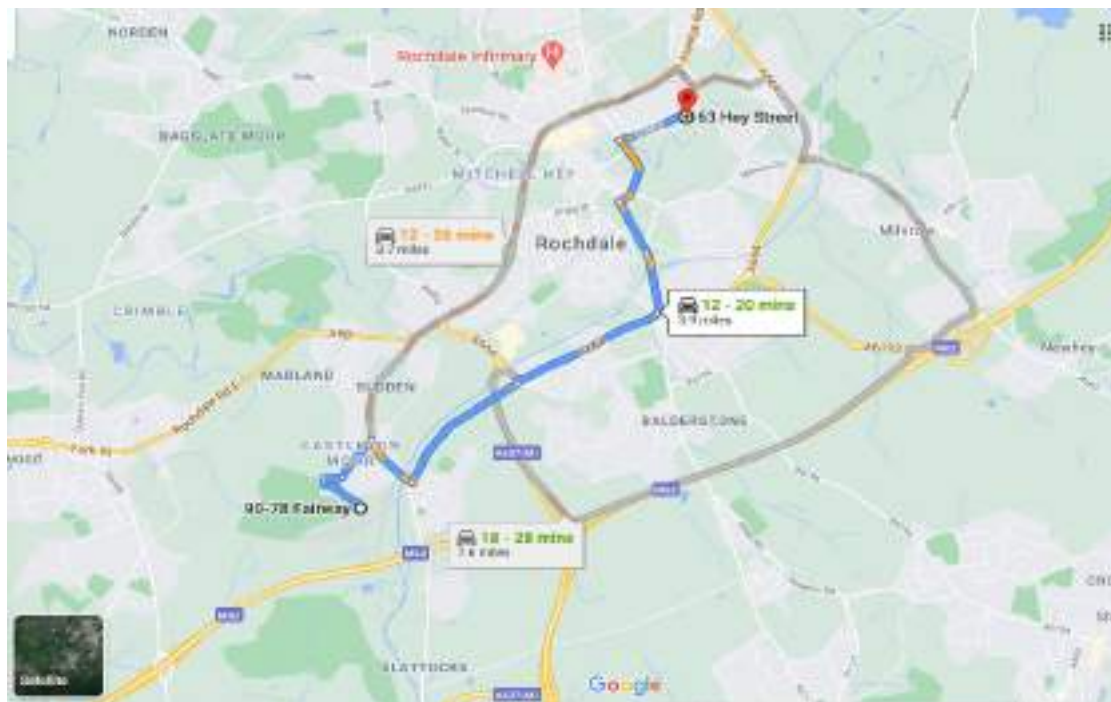
Rochdale 018 - Manchester Road (N)



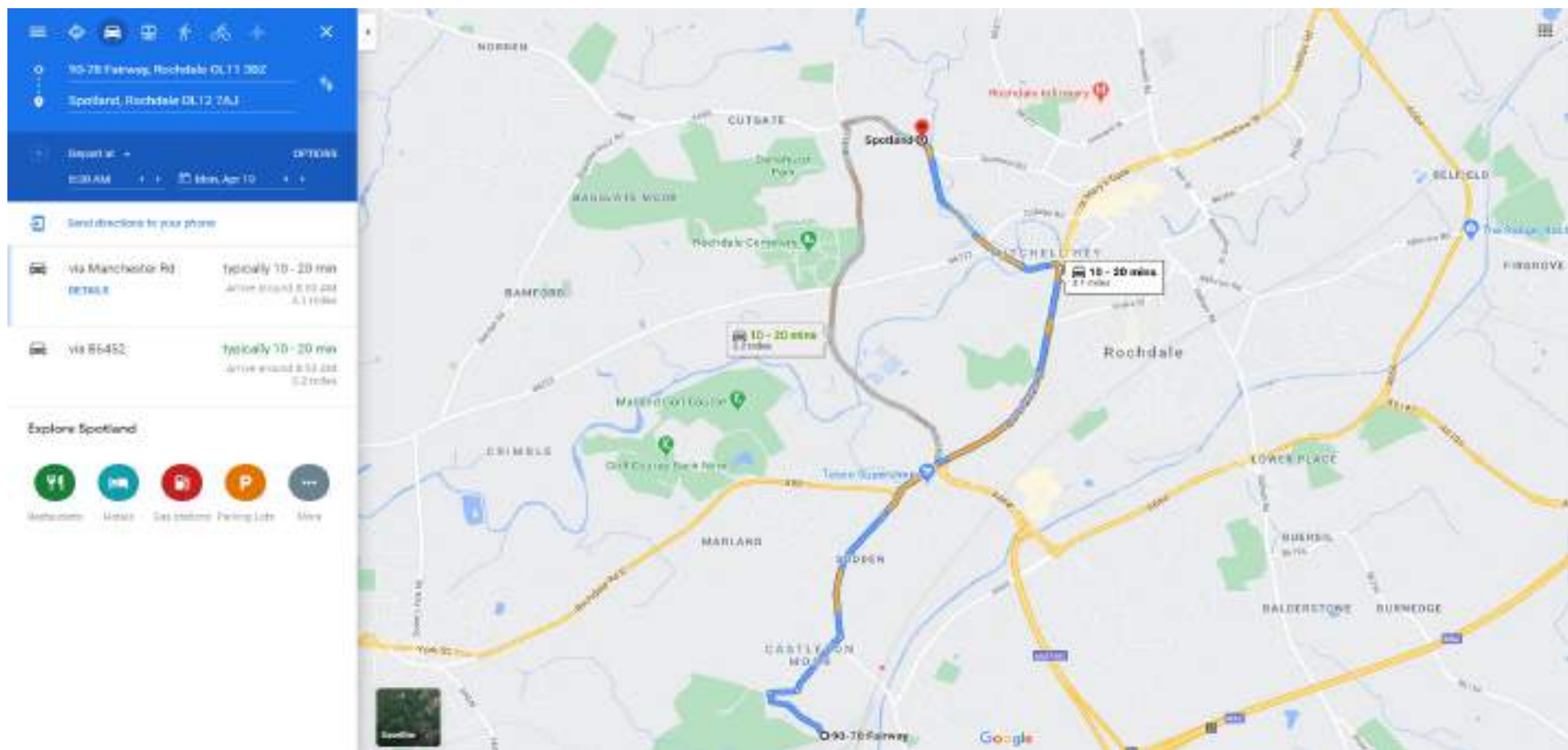
Rochdale 024 - Manchester Road (S)



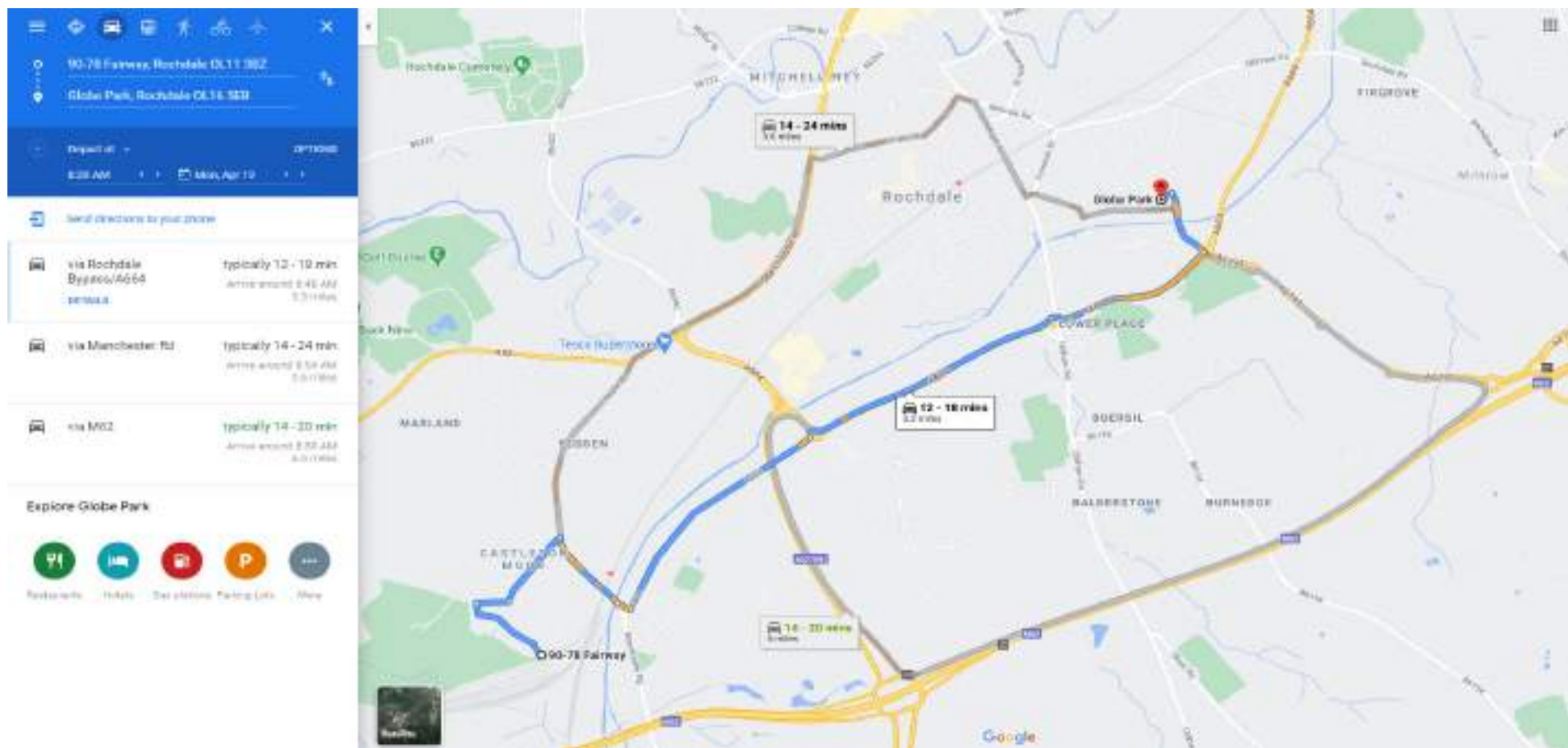
Trafford - Queensway



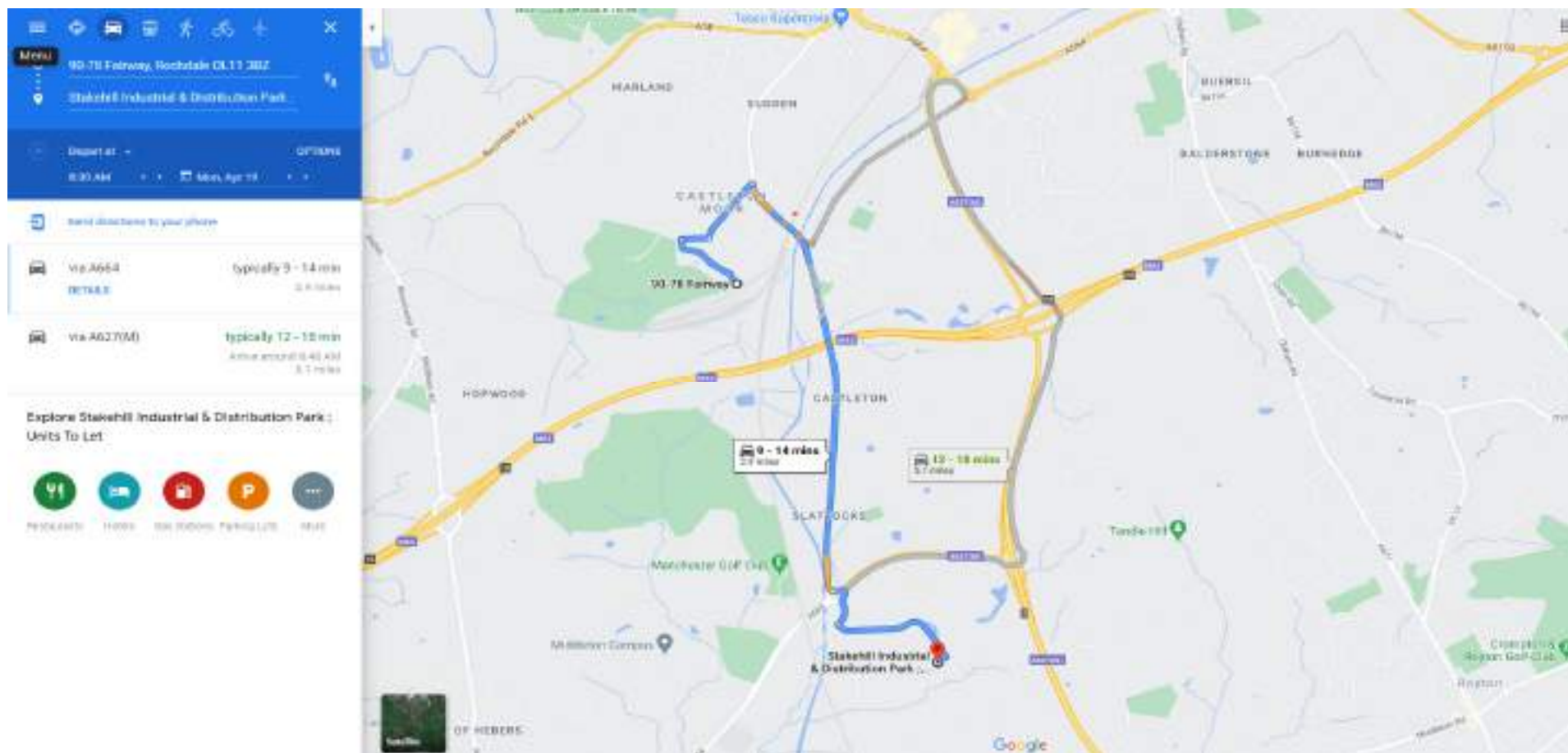
Rochdale 008 - Manchester Road (N)/Queensway



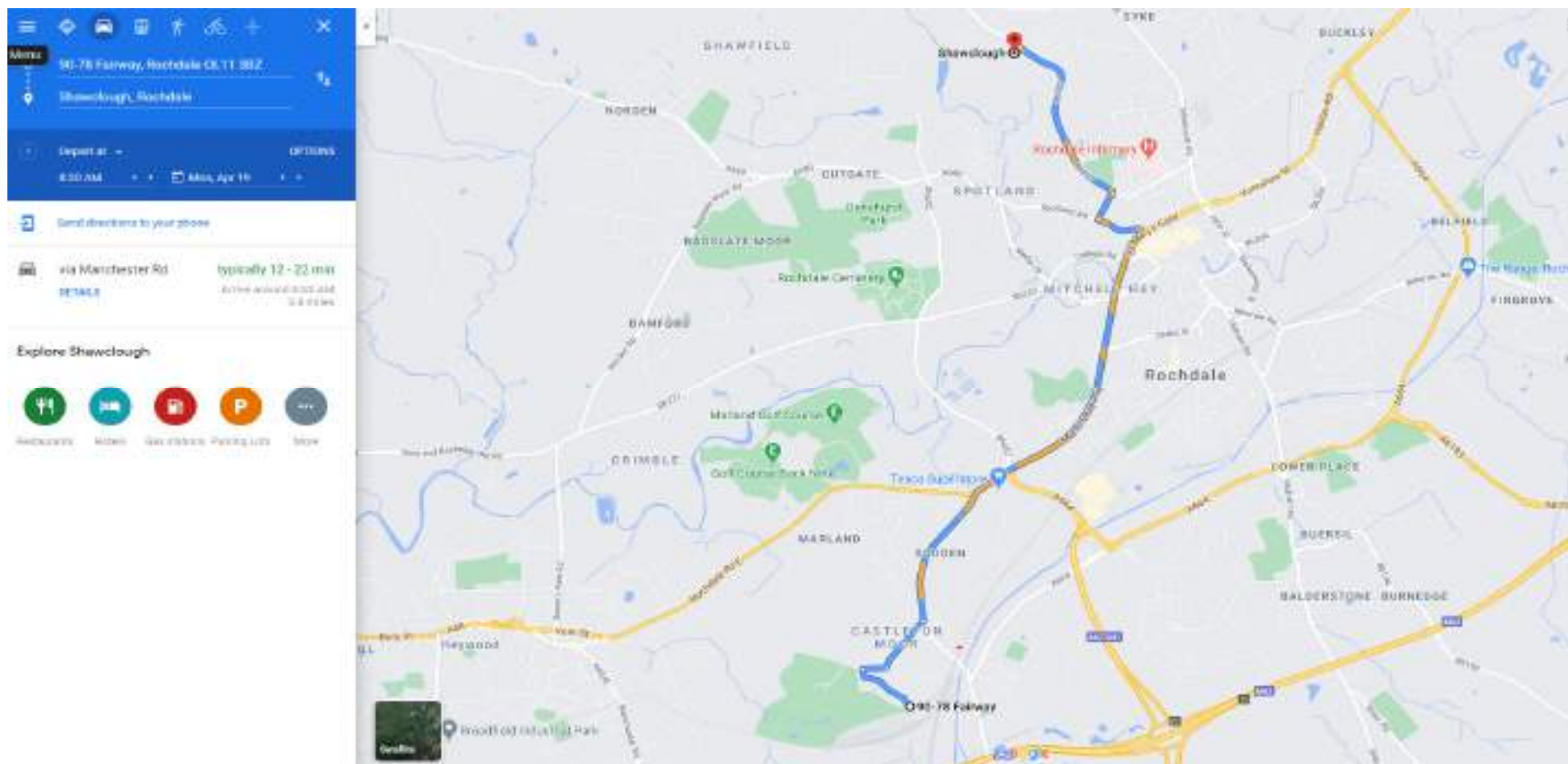
Rochdale 009 - Manchester Road (N)



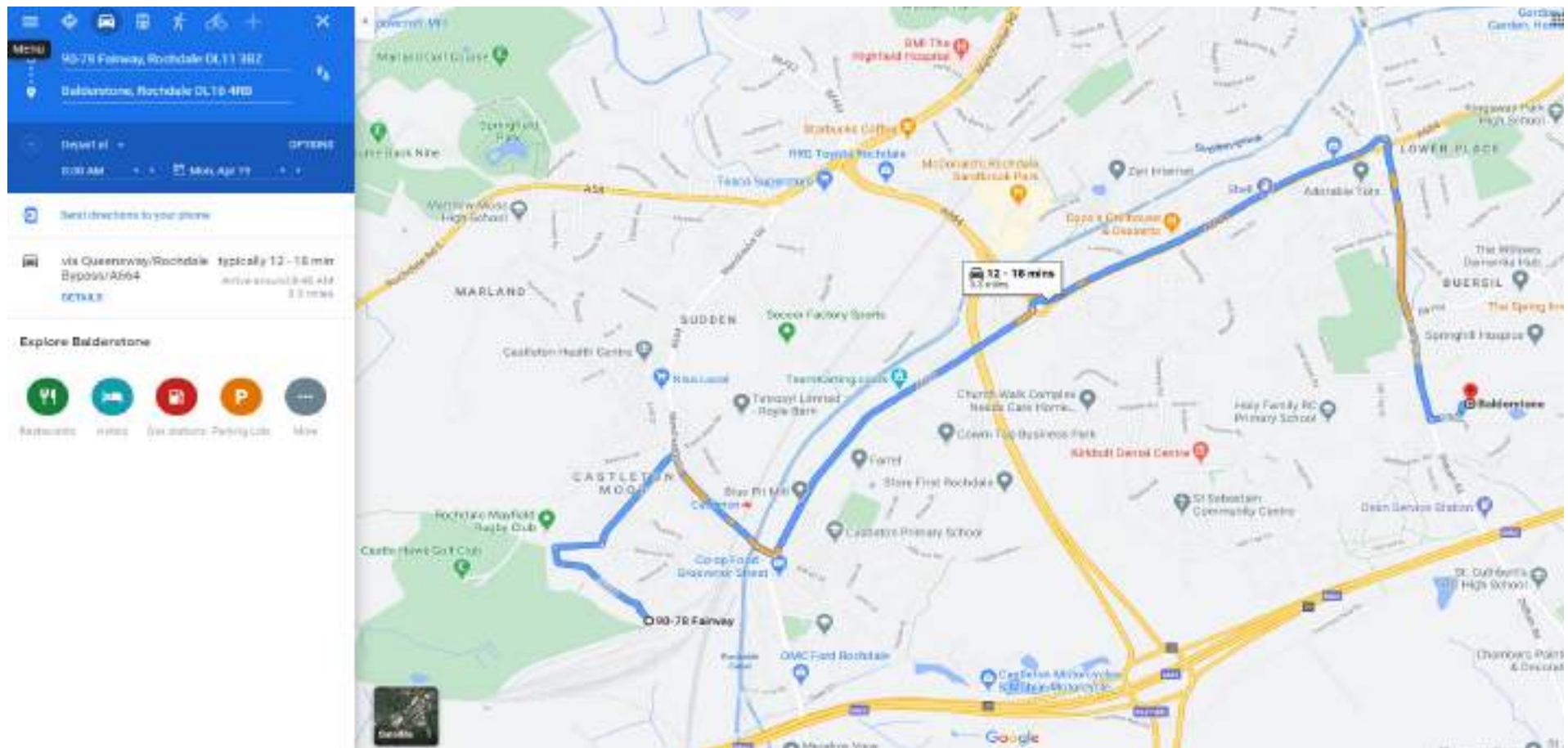
Rochdale 012 - Manchester Road (N) / Queensway



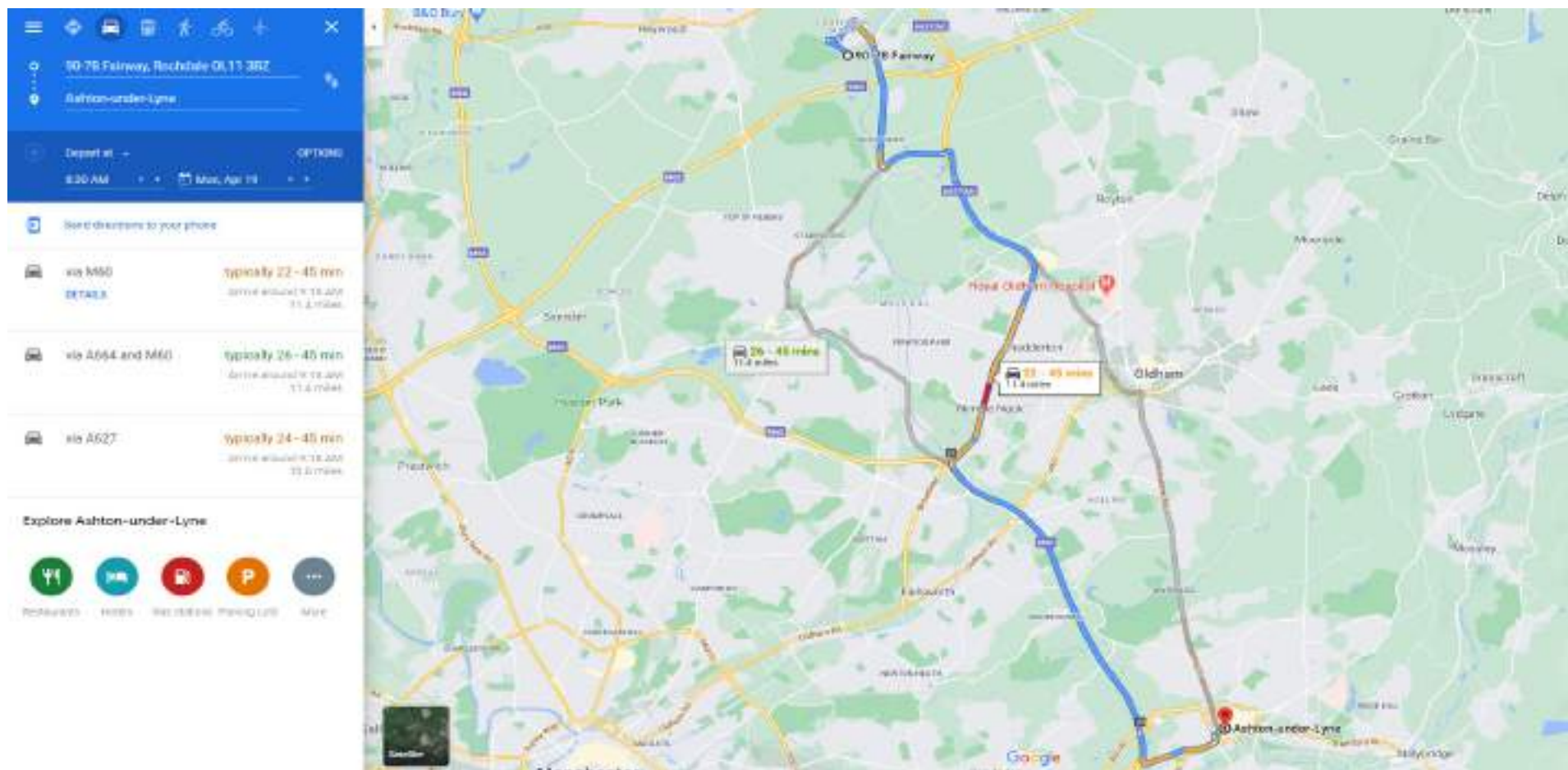
Rochdale 021- Manchester Road (S)



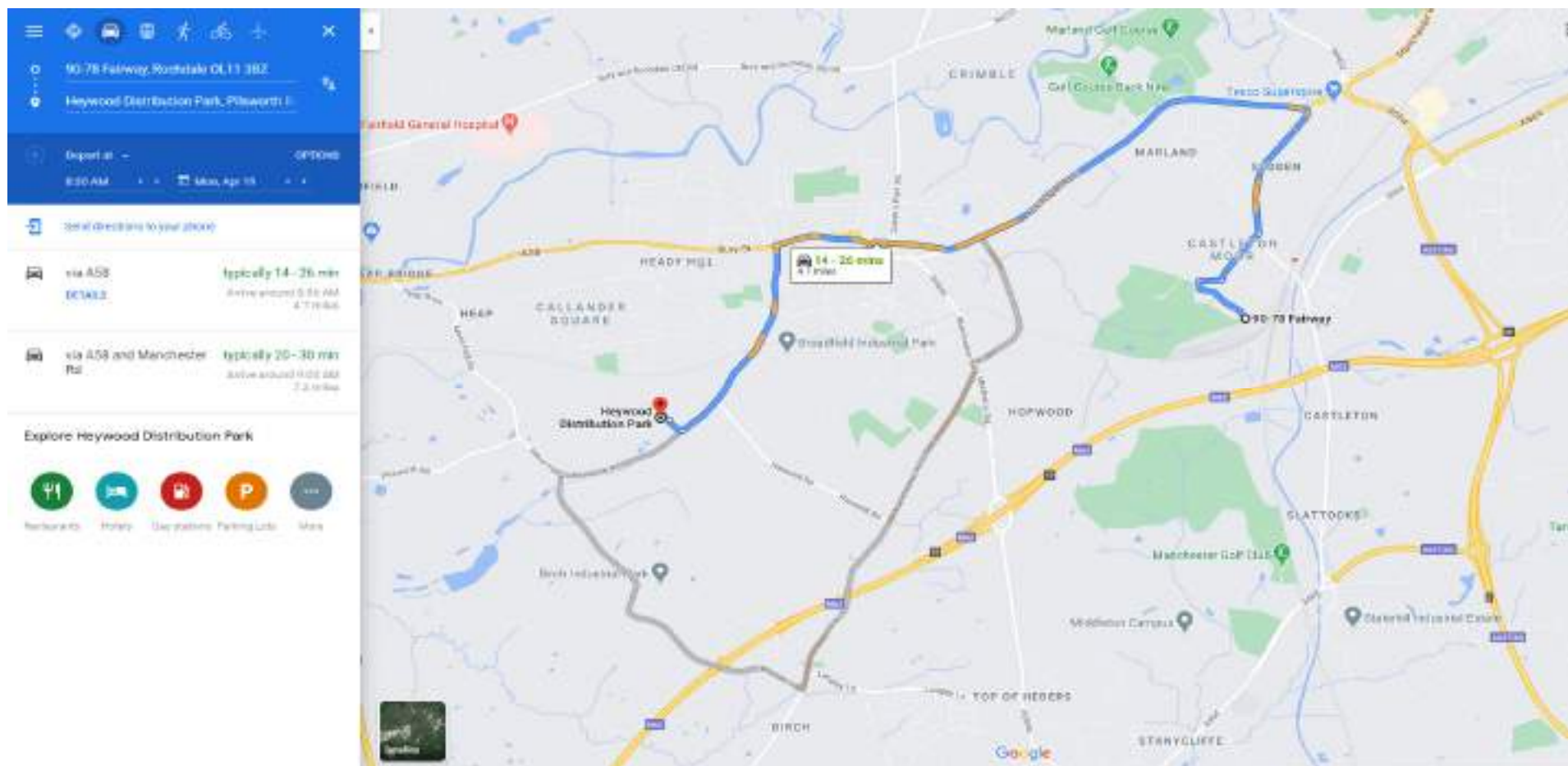
Rochdale 005- Manchester Road (N)



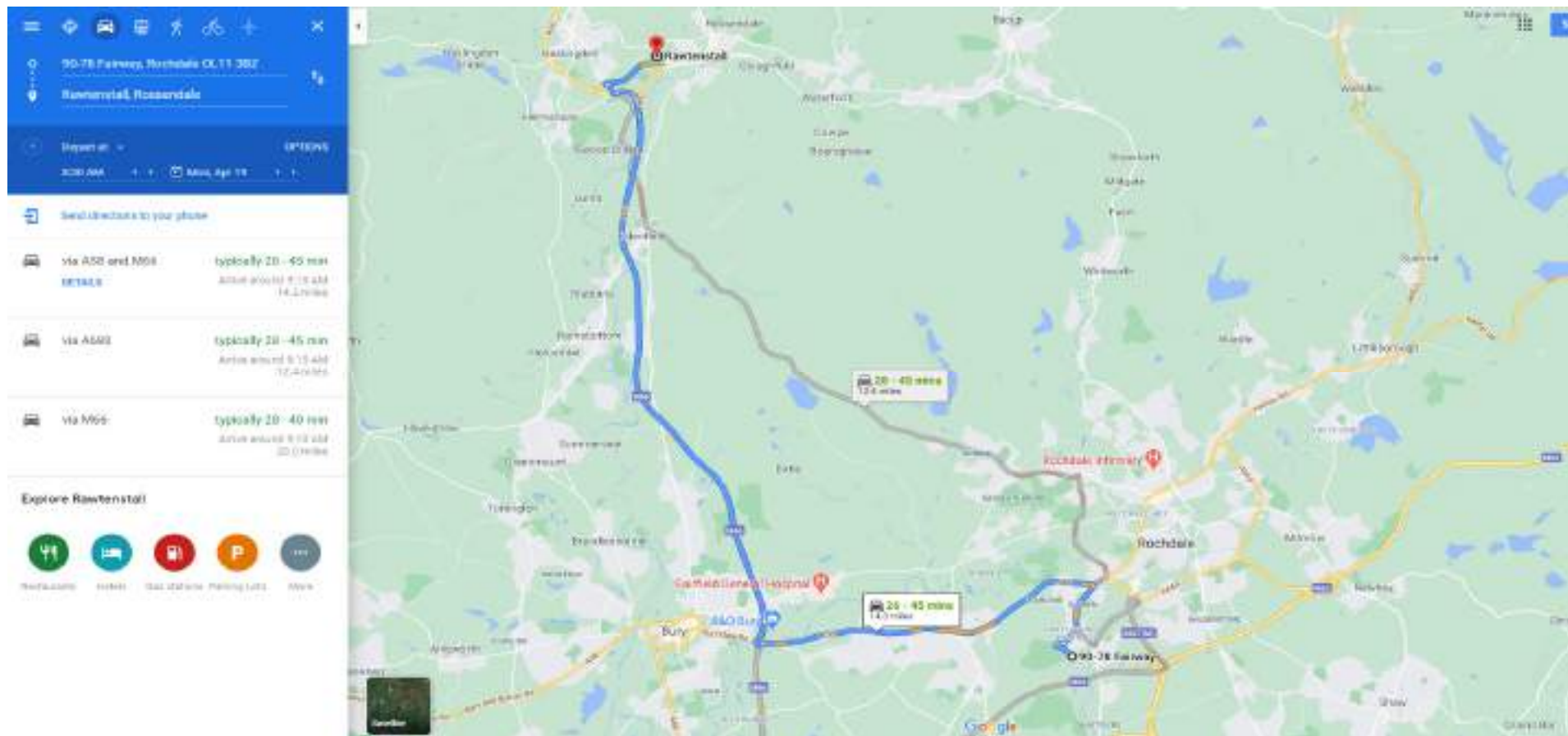
Rochdale 016- Queensway



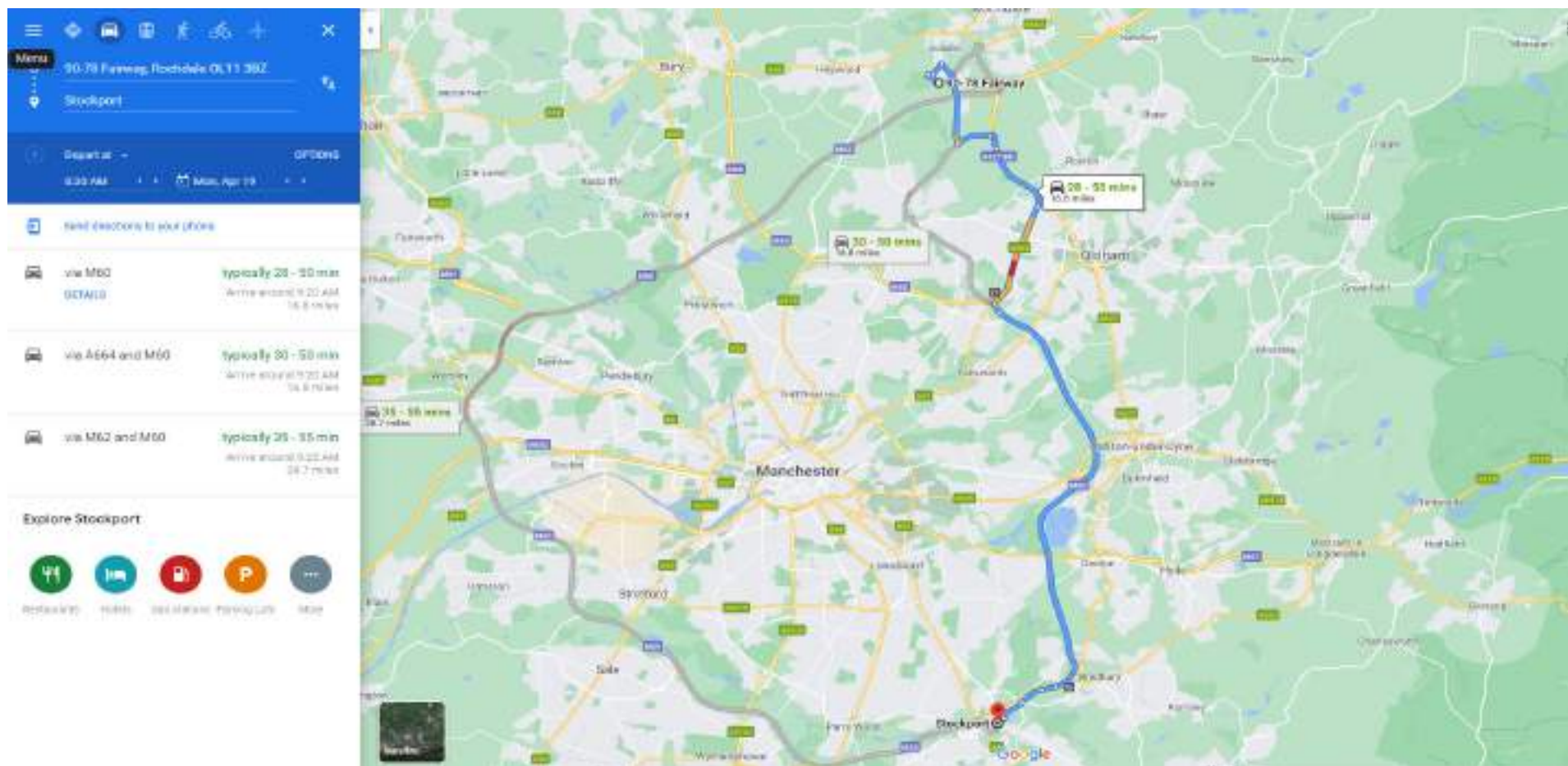
Tameside - Manchester Road (S)



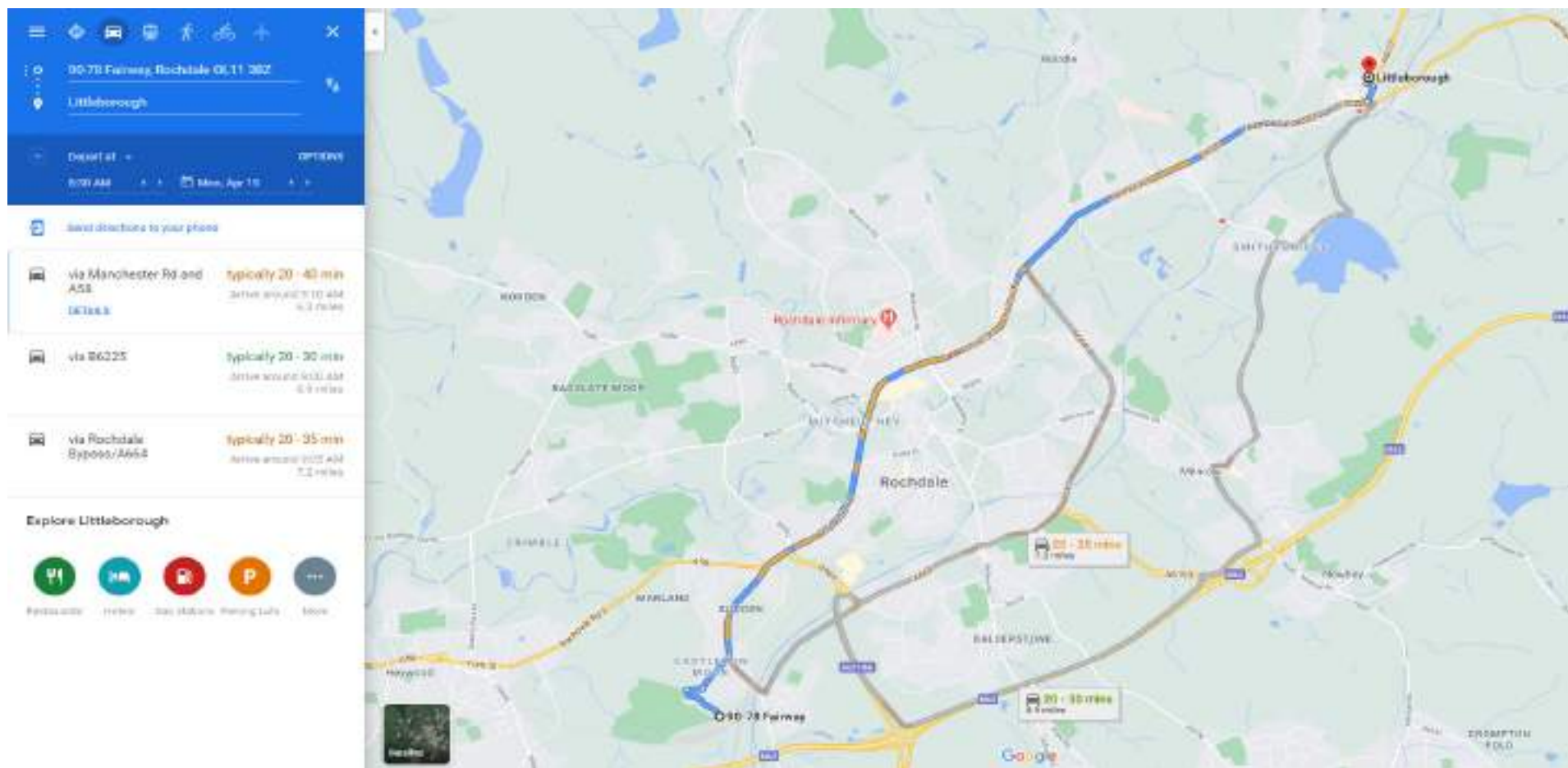
Rochdale 019 - Manchester Road (N)



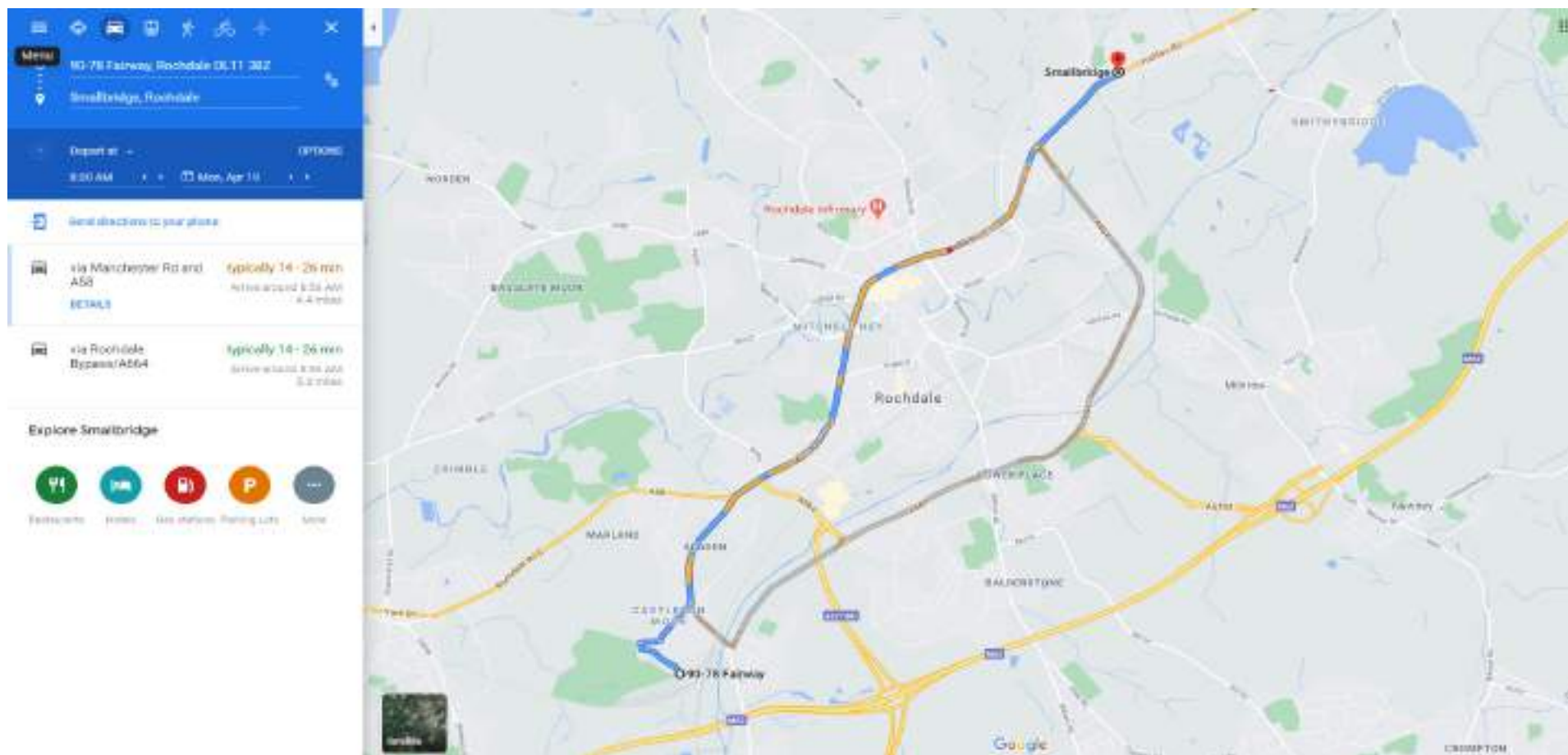
Rossendale - Manchester Road (N)



Stockport - Manchester Road (S)



Rochdale 001 - Manchester Road (N) / Queensway



Rochdale 004 - Manchester Road (N) / Queensway



## APPENDIX 4

PICADY Output: A664 Manchester Road/Heywood Road

| Junctions 9                                                                                                                                                      |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| PICADY 9 - Priority Intersection Module                                                                                                                          |  |  |  |  |  |  |  |
| Version: 9.5.2.1013<br>© Copyright TRL Limited, 2019                                                                                                             |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>+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:** Heywood Road\_Manchester Road V5.j9  
**Path:** Z:\projects\3334 Castleton, Corus Railway Sidings\Picady  
**Report generation date:** 03/11/2023 11:23:16

»2019 Surveyed Flows, AM  
 »2019 Surveyed Flows, PM  
 »2025 Base Flows, AM  
 »2025 Base Flows, PM  
 »2025 With Dev Flows, AM  
 »2025 With Dev Flows, PM

#### Summary of junction performance

|                     | AM          |           |      |     | PM          |           |      |     |
|---------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                     | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| 2019 Surveyed Flows |             |           |      |     |             |           |      |     |
| Stream B-AC         | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| Stream C-B          | 0.2         | 9.50      | 0.14 | A   | 0.1         | 10.04     | 0.12 | B   |
| 2025 Base Flows     |             |           |      |     |             |           |      |     |
| Stream B-AC         | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| Stream C-B          | 0.2         | 10.23     | 0.16 | B   | 0.2         | 10.74     | 0.13 | B   |
| 2025 With Dev Flows |             |           |      |     |             |           |      |     |
| Stream B-AC         | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| Stream C-B          | 0.2         | 10.33     | 0.16 | B   | 0.2         | 11.06     | 0.14 | B   |

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

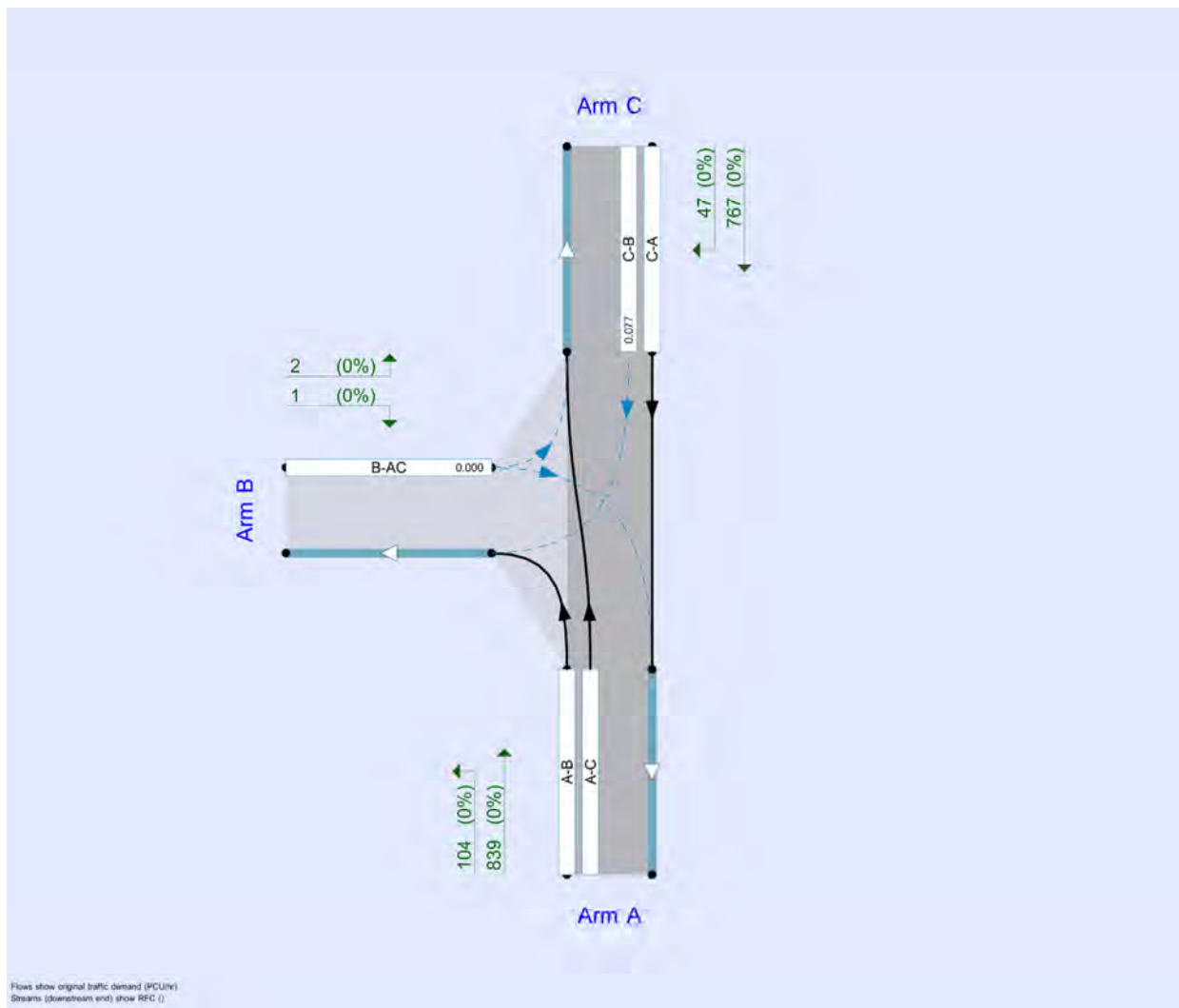
#### File summary

##### File Description

|             |                           |
|-------------|---------------------------|
| Title       | Castleton Railway Sidings |
| Location    |                           |
| Site number | 3334                      |
| Date        | 15/04/2021                |
| Version     |                           |
| Status      | (new file)                |
| Identifier  |                           |
| Client      |                           |
| Jobnumber   |                           |
| Enumerator  | EDD\George.Monks          |
| Description |                           |

#### Units

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



The junction diagram reflects the last run of Junctions.

### Analysis Options

| Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queueing delay | Calculate residual capacity | 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 | 2019 Surveyed Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D2 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D3 | 2025 Base Flows     | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D4 | 2025 Base Flows     | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D5 | 2025 With Dev Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

### Analysis Set Details

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

# 2019 Surveyed Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.38               | A            |

### Junction Network Options

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

## Arms

### Arms

| Arm | Name                     | Description | Arm type |
|-----|--------------------------|-------------|----------|
| A   | A664 Manchester Road (S) |             | Major    |
| B   | Heywood Road             |             | Minor    |
| C   | A664 Manchester Road (M) |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Width for right turn (m) | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|-----|--------------------------|----------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 6.00                     |                            | ✓                  | 2.20                     | 100.0                         |         | -                    |

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

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|-----|----------------|----------------|------------------------|-------------------------|
| B   | One lane       | 3.10           | 14                     | 11                      |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|--------|--------------------|---------------|---------------|---------------|---------------|
| B-A    | 492                | 0.090         | 0.227         | 0.143         | 0.324         |
| B-C    | 637                | 0.098         | 0.247         | -             | -             |
| C-B    | 632                | 0.245         | 0.245         | -             | -             |

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 | 2019 Surveyed Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 701                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |

|   |  |          |   |     |         |
|---|--|----------|---|-----|---------|
| C |  | ONE HOUR | ✓ | 733 | 100.000 |
|---|--|----------|---|-----|---------|

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |
|------|----|-----|----|-----|
|      | A  | B   | C  |     |
| From | A  | 0   | 94 | 607 |
|      | B  | 1   | 0  | 2   |
|      | C  | 675 | 58 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | A  | B | C |   |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 619                     | 929                           |
| C-B    | 0.14    | 9.50          | 0.2             | A       | 53                      | 80                            |
| A-B    |         |               |                 |         | 86                      | 129                           |
| A-C    |         |               |                 |         | 557                     | 835                           |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 377               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 508                   | 127                     |                   |       | 508                 |                   |                 |           |                               |
| C-B    | 44                    | 11                      | 503               | 0.087 | 43                  | 0.0               | 0.1             | 7.830     | A                             |
| A-B    | 71                    | 18                      |                   |       | 71                  |                   |                 |           |                               |
| A-C    | 457                   | 114                     |                   |       | 457                 |                   |                 |           |                               |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 339               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 607                   | 152                     |                   |       | 607                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 478               | 0.109 | 52                  | 0.1               | 0.1             | 8.457     | A                             |
| A-B    | 85                    | 21                      |                   |       | 85                  |                   |                 |           |                               |
| A-C    | 546                   | 136                     |                   |       | 546                 |                   |                 |           |                               |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 284               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 743                   | 186                     |                   |       | 743                 |                   |                 |           |                               |
| C-B    | 64                    | 16                      | 443               | 0.144 | 64                  | 0.1               | 0.2             | 9.489     | A                             |
| A-B    | 103                   | 26                      |                   |       | 103                 |                   |                 |           |                               |
| A-C    | 668                   | 167                     |                   |       | 668                 |                   |                 |           |                               |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-----|---------------------|-------------------|-----------------|-----------|-------------------------------|
|        |                       |                         |                   |     |                     |                   |                 |           |                               |

|      |     |     |     |       |     |     |     |       |   |
|------|-----|-----|-----|-------|-----|-----|-----|-------|---|
| B-AC | 0   | 0   | 284 | 0.000 | 0   | 0.0 | 0.0 | 0.000 | A |
| C-A  | 743 | 186 |     |       | 743 |     |     |       |   |
| C-B  | 64  | 16  | 443 | 0.144 | 64  | 0.2 | 0.2 | 9.496 | A |
| A-B  | 103 | 26  |     |       | 103 |     |     |       |   |
| A-C  | 668 | 167 |     |       | 668 |     |     |       |   |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 339               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 607                   | 152                     |                   |       | 607                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 478               | 0.109 | 52                  | 0.2               | 0.1             | 8.469     | A                             |
| A-B    | 85                    | 21                      |                   |       | 85                  |                   |                 |           |                               |
| A-C    | 546                   | 136                     |                   |       | 546                 |                   |                 |           |                               |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 376               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 508                   | 127                     |                   |       | 508                 |                   |                 |           |                               |
| C-B    | 44                    | 11                      | 503               | 0.087 | 44                  | 0.1               | 0.1             | 7.846     | A                             |
| A-B    | 71                    | 18                      |                   |       | 71                  |                   |                 |           |                               |
| A-C    | 457                   | 114                     |                   |       | 457                 |                   |                 |           |                               |

# 2019 Surveyed Flows , PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.28               | 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 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 835                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |
| C   |            | ONE HOUR     | ✓            | 726                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|  | To |     |    |     |
|--|----|-----|----|-----|
|  |    | A   | B  | C   |
|  | A  | 0   | 65 | 770 |
|  | B  | 1   | 0  | 2   |
|  | C  | 682 | 44 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|  | To |   |   |   |
|--|----|---|---|---|
|  |    | A | B | C |
|  | A  | 0 | 0 | 0 |
|  | B  | 0 | 0 | 0 |
|  | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 626                     | 939                           |
| C-B    | 0.12    | 10.04         | 0.1             | B       | 40                      | 61                            |
| A-B    |         |               |                 |         | 60                      | 89                            |

|     |  |  |  |  |     |      |
|-----|--|--|--|--|-----|------|
| A-C |  |  |  |  | 707 | 1060 |
|-----|--|--|--|--|-----|------|

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 350               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 513                   | 128                     |                   |       | 513                 |                   |                 |           |                               |
| C-B    | 33                    | 8                       | 478               | 0.069 | 33                  | 0.0               | 0.1             | 8.082     | A                             |
| A-B    | 49                    | 12                      |                   |       | 49                  |                   |                 |           |                               |
| A-C    | 580                   | 145                     |                   |       | 580                 |                   |                 |           |                               |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 307               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 613                   | 153                     |                   |       | 613                 |                   |                 |           |                               |
| C-B    | 40                    | 10                      | 448               | 0.088 | 39                  | 0.1               | 0.1             | 8.807     | A                             |
| A-B    | 58                    | 15                      |                   |       | 58                  |                   |                 |           |                               |
| A-C    | 692                   | 173                     |                   |       | 692                 |                   |                 |           |                               |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 243               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 751                   | 188                     |                   |       | 751                 |                   |                 |           |                               |
| C-B    | 48                    | 12                      | 407               | 0.119 | 48                  | 0.1               | 0.1             | 10.037    | B                             |
| A-B    | 72                    | 18                      |                   |       | 72                  |                   |                 |           |                               |
| A-C    | 848                   | 212                     |                   |       | 848                 |                   |                 |           |                               |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 243               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 751                   | 188                     |                   |       | 751                 |                   |                 |           |                               |
| C-B    | 48                    | 12                      | 407               | 0.119 | 48                  | 0.1               | 0.1             | 10.045    | B                             |
| A-B    | 72                    | 18                      |                   |       | 72                  |                   |                 |           |                               |
| A-C    | 848                   | 212                     |                   |       | 848                 |                   |                 |           |                               |

#### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 307               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 613                   | 153                     |                   |       | 613                 |                   |                 |           |                               |
| C-B    | 40                    | 10                      | 448               | 0.088 | 40                  | 0.1               | 0.1             | 8.817     | A                             |
| A-B    | 58                    | 15                      |                   |       | 58                  |                   |                 |           |                               |
| A-C    | 692                   | 173                     |                   |       | 692                 |                   |                 |           |                               |

#### 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 350               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 513                   | 128                     |                   |       | 513                 |                   |                 |           |                               |
| C-B    | 33                    | 8                       | 478               | 0.069 | 33                  | 0.1               | 0.1             | 8.097     | A                             |
| A-B    | 49                    | 12                      |                   |       | 49                  |                   |                 |           |                               |
| A-C    | 580                   | 145                     |                   |       | 580                 |                   |                 |           |                               |

# 2025 Base Flows , AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.40               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name   | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-----------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | 2025 Base Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 784                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |
| C   |            | ONE HOUR     | ✓            | 799                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0   | 101 | 683 |
|      | B  | 1   | 0   | 2   |
|      | C  | 737 | 62  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 676                     | 1014                          |
| C-B    | 0.16    | 10.23         | 0.2             | B       | 57                      | 85                            |
| A-B    |         |               |                 |         | 93                      | 139                           |
| A-C    |         |               |                 |         | 627                     | 940                           |

## Main Results for each time segment

## 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 355               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 555                   | 139                     |                   |       | 555                 |                   |                 |           |                               |
| C-B    | 47                    | 12                      | 487               | 0.096 | 46                  | 0.0               | 0.1             | 8.162     | A                             |
| A-B    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| A-C    | 514                   | 129                     |                   |       | 514                 |                   |                 |           |                               |

## 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 313               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 663                   | 166                     |                   |       | 663                 |                   |                 |           |                               |
| C-B    | 56                    | 14                      | 459               | 0.121 | 56                  | 0.1               | 0.1             | 8.923     | A                             |
| A-B    | 91                    | 23                      |                   |       | 91                  |                   |                 |           |                               |
| A-C    | 614                   | 154                     |                   |       | 614                 |                   |                 |           |                               |

## 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 249               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 811                   | 203                     |                   |       | 811                 |                   |                 |           |                               |
| C-B    | 68                    | 17                      | 421               | 0.162 | 68                  | 0.1               | 0.2             | 10.216    | B                             |
| A-B    | 111                   | 28                      |                   |       | 111                 |                   |                 |           |                               |
| A-C    | 752                   | 188                     |                   |       | 752                 |                   |                 |           |                               |

## 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 249               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 811                   | 203                     |                   |       | 811                 |                   |                 |           |                               |
| C-B    | 68                    | 17                      | 421               | 0.162 | 68                  | 0.2               | 0.2             | 10.228    | B                             |
| A-B    | 111                   | 28                      |                   |       | 111                 |                   |                 |           |                               |
| A-C    | 752                   | 188                     |                   |       | 752                 |                   |                 |           |                               |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 312               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 663                   | 166                     |                   |       | 663                 |                   |                 |           |                               |
| C-B    | 56                    | 14                      | 459               | 0.121 | 56                  | 0.2               | 0.1             | 8.939     | A                             |
| A-B    | 91                    | 23                      |                   |       | 91                  |                   |                 |           |                               |
| A-C    | 614                   | 154                     |                   |       | 614                 |                   |                 |           |                               |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 355               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 555                   | 139                     |                   |       | 555                 |                   |                 |           |                               |
| C-B    | 47                    | 12                      | 487               | 0.096 | 47                  | 0.1               | 0.1             | 8.181     | A                             |
| A-B    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| A-C    | 514                   | 129                     |                   |       | 514                 |                   |                 |           |                               |

# 2025 Base Flows , PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.30               | 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 | 2025 Base Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 908                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |
| C   |            | ONE HOUR     | ✓            | 797                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |
|------|----|-----|----|-----|
|      |    | A   | B  | C   |
| From | A  | 0   | 69 | 839 |
|      | B  | 1   | 0  | 2   |
|      | C  | 750 | 47 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 688                     | 1032                          |
| C-B    | 0.13    | 10.74         | 0.2             | B       | 43                      | 65                            |
| A-B    |         |               |                 |         | 63                      | 95                            |
| A-C    |         |               |                 |         | 770                     | 1155                          |

## Main Results for each time segment

## 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 330               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 565                   | 141                     |                   |       | 565                 |                   |                 |           |                               |
| C-B    | 35                    | 9                       | 465               | 0.076 | 35                  | 0.0               | 0.1             | 8.385     | A                             |
| A-B    | 52                    | 13                      |                   |       | 52                  |                   |                 |           |                               |
| A-C    | 632                   | 158                     |                   |       | 632                 |                   |                 |           |                               |

## 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 282               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 674                   | 169                     |                   |       | 674                 |                   |                 |           |                               |
| C-B    | 42                    | 11                      | 432               | 0.098 | 42                  | 0.1               | 0.1             | 9.241     | A                             |
| A-B    | 62                    | 16                      |                   |       | 62                  |                   |                 |           |                               |
| A-C    | 754                   | 189                     |                   |       | 754                 |                   |                 |           |                               |

## 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 209               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 826                   | 206                     |                   |       | 826                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 387               | 0.134 | 52                  | 0.1               | 0.2             | 10.734    | B                             |
| A-B    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| A-C    | 924                   | 231                     |                   |       | 924                 |                   |                 |           |                               |

## 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 209               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 826                   | 206                     |                   |       | 826                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 387               | 0.134 | 52                  | 0.2               | 0.2             | 10.744    | B                             |
| A-B    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| A-C    | 924                   | 231                     |                   |       | 924                 |                   |                 |           |                               |

## 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 281               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 674                   | 169                     |                   |       | 674                 |                   |                 |           |                               |
| C-B    | 42                    | 11                      | 432               | 0.098 | 42                  | 0.2               | 0.1             | 9.253     | A                             |
| A-B    | 62                    | 16                      |                   |       | 62                  |                   |                 |           |                               |
| A-C    | 754                   | 189                     |                   |       | 754                 |                   |                 |           |                               |

## 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 330               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 565                   | 141                     |                   |       | 565                 |                   |                 |           |                               |
| C-B    | 35                    | 9                       | 465               | 0.076 | 35                  | 0.1               | 0.1             | 8.401     | A                             |
| A-B    | 52                    | 13                      |                   |       | 52                  |                   |                 |           |                               |
| A-C    | 632                   | 158                     |                   |       | 632                 |                   |                 |           |                               |

# 2025 With Dev Flows , AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.39               | 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 |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D5 | 2025 With Dev Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 797                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |
| C   |            | ONE HOUR     | ✓            | 836                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
| From |    | A   | B   | C   |
|      | A  | 0   | 114 | 683 |
|      | B  | 1   | 0   | 2   |
|      | C  | 774 | 62  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
| From |    | A | B | C |
|      | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 710                     | 1065                          |
| C-B    | 0.16    | 10.33         | 0.2             | B       | 57                      | 85                            |
| A-B    |         |               |                 |         | 105                     | 157                           |

|     |  |  |  |  |     |     |
|-----|--|--|--|--|-----|-----|
| A-C |  |  |  |  | 627 | 940 |
|-----|--|--|--|--|-----|-----|

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 351               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 583                   | 146                     |                   |       | 583                 |                   |                 |           |                               |
| C-B    | 47                    | 12                      | 485               | 0.096 | 46                  | 0.0               | 0.1             | 8.207     | A                             |
| A-B    | 86                    | 21                      |                   |       | 86                  |                   |                 |           |                               |
| A-C    | 514                   | 129                     |                   |       | 514                 |                   |                 |           |                               |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 307               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |
| C-B    | 56                    | 14                      | 456               | 0.122 | 56                  | 0.1               | 0.1             | 8.987     | A                             |
| A-B    | 102                   | 26                      |                   |       | 102                 |                   |                 |           |                               |
| A-C    | 614                   | 154                     |                   |       | 614                 |                   |                 |           |                               |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 242               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 852                   | 213                     |                   |       | 852                 |                   |                 |           |                               |
| C-B    | 68                    | 17                      | 417               | 0.164 | 68                  | 0.1               | 0.2             | 10.319    | B                             |
| A-B    | 126                   | 31                      |                   |       | 126                 |                   |                 |           |                               |
| A-C    | 752                   | 188                     |                   |       | 752                 |                   |                 |           |                               |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 242               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 852                   | 213                     |                   |       | 852                 |                   |                 |           |                               |
| C-B    | 68                    | 17                      | 417               | 0.164 | 68                  | 0.2               | 0.2             | 10.331    | B                             |
| A-B    | 126                   | 31                      |                   |       | 126                 |                   |                 |           |                               |
| A-C    | 752                   | 188                     |                   |       | 752                 |                   |                 |           |                               |

#### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 307               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |
| C-B    | 56                    | 14                      | 456               | 0.122 | 56                  | 0.2               | 0.1             | 9.002     | A                             |
| A-B    | 102                   | 26                      |                   |       | 102                 |                   |                 |           |                               |
| A-C    | 614                   | 154                     |                   |       | 614                 |                   |                 |           |                               |

#### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 351               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 583                   | 146                     |                   |       | 583                 |                   |                 |           |                               |
| C-B    | 47                    | 12                      | 485               | 0.096 | 47                  | 0.1               | 0.1             | 8.228     | A                             |
| A-B    | 86                    | 21                      |                   |       | 86                  |                   |                 |           |                               |
| A-C    | 514                   | 129                     |                   |       | 514                 |                   |                 |           |                               |

# 2025 With Dev Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 0.30               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 943                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 3                       | 100.000            |
| C   |            | ONE HOUR     | ✓            | 814                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|  | To     |     |     |     |
|--|--------|-----|-----|-----|
|  |        | A   | B   | C   |
|  | From A | 0   | 104 | 839 |
|  | From B | 1   | 0   | 2   |
|  | From C | 767 | 47  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|  | To     |   |   |   |
|--|--------|---|---|---|
|  |        | A | B | C |
|  | From A | 0 | 0 | 0 |
|  | From B | 0 | 0 | 0 |
|  | From C | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-A    |         |               |                 |         | 704                     | 1056                          |
| C-B    | 0.14    | 11.06         | 0.2             | B       | 43                      | 65                            |
| A-B    |         |               |                 |         | 95                      | 143                           |
|        |         |               |                 |         |                         |                               |

|     |  |  |  |  |     |      |
|-----|--|--|--|--|-----|------|
| A-C |  |  |  |  | 770 | 1155 |
|-----|--|--|--|--|-----|------|

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 326               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 577                   | 144                     |                   |       | 577                 |                   |                 |           |                               |
| C-B    | 35                    | 9                       | 458               | 0.077 | 35                  | 0.0               | 0.1             | 8.519     | A                             |
| A-B    | 78                    | 20                      |                   |       | 78                  |                   |                 |           |                               |
| A-C    | 632                   | 158                     |                   |       | 632                 |                   |                 |           |                               |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 276               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 690                   | 172                     |                   |       | 690                 |                   |                 |           |                               |
| C-B    | 42                    | 11                      | 424               | 0.100 | 42                  | 0.1               | 0.1             | 9.427     | A                             |
| A-B    | 93                    | 23                      |                   |       | 93                  |                   |                 |           |                               |
| A-C    | 754                   | 189                     |                   |       | 754                 |                   |                 |           |                               |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 202               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 844                   | 211                     |                   |       | 844                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 378               | 0.137 | 52                  | 0.1               | 0.2             | 11.041    | B                             |
| A-B    | 115                   | 29                      |                   |       | 115                 |                   |                 |           |                               |
| A-C    | 924                   | 231                     |                   |       | 924                 |                   |                 |           |                               |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 202               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 844                   | 211                     |                   |       | 844                 |                   |                 |           |                               |
| C-B    | 52                    | 13                      | 378               | 0.137 | 52                  | 0.2               | 0.2             | 11.055    | B                             |
| A-B    | 115                   | 29                      |                   |       | 115                 |                   |                 |           |                               |
| A-C    | 924                   | 231                     |                   |       | 924                 |                   |                 |           |                               |

#### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 276               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 690                   | 172                     |                   |       | 690                 |                   |                 |           |                               |
| C-B    | 42                    | 11                      | 424               | 0.100 | 42                  | 0.2               | 0.1             | 9.440     | A                             |
| A-B    | 93                    | 23                      |                   |       | 93                  |                   |                 |           |                               |
| A-C    | 754                   | 189                     |                   |       | 754                 |                   |                 |           |                               |

#### 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 0                     | 0                       | 326               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |
| C-A    | 577                   | 144                     |                   |       | 577                 |                   |                 |           |                               |
| C-B    | 35                    | 9                       | 458               | 0.077 | 35                  | 0.1               | 0.1             | 8.529     | A                             |
| A-B    | 78                    | 20                      |                   |       | 78                  |                   |                 |           |                               |
| A-C    | 632                   | 158                     |                   |       | 632                 |                   |                 |           |                               |

## APPENDIX 5

PICADY Output: A664 Manchester Road/Durban Street

| Junctions 9                                                                                                                                                      |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| PICADY 9 - Priority Intersection Module                                                                                                                          |  |  |  |  |  |  |  |
| Version: 9.5.2.1013<br>© Copyright TRL Limited, 2019                                                                                                             |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>+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:** Manchester Road\_Durban Street V4.j9  
**Path:** Z:\projects\3334 Castleton, Corus Railway Sidings\Picady  
**Report generation date:** 03/11/2023 11:26:48

- »Existing Layout - 2019 Surveyed Flows, AM
- »Existing Layout - 2019 Surveyed Flows, PM
- »Existing Layout - 2025 Base Flows, AM
- »Existing Layout - 2025 Base Flows, PM
- »Existing Layout - 2025 With Dev Flows, AM
- »Existing Layout - 2025 With Dev Flows, PM

#### Summary of junction performance

|                                       | AM          |           |      |     | PM          |           |      |     |
|---------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                       | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2019 Surveyed Flows |             |           |      |     |             |           |      |     |
| Stream B-AC                           | 0.9         | 24.86     | 0.48 | C   | 0.5         | 21.46     | 0.34 | C   |
| Stream C-AB                           | 0.2         | 7.92      | 0.19 | A   | 0.1         | 8.27      | 0.11 | A   |
| Existing Layout - 2025 Base Flows     |             |           |      |     |             |           |      |     |
| Stream B-AC                           | 1.4         | 35.81     | 0.59 | E   | 0.7         | 27.85     | 0.41 | D   |
| Stream C-AB                           | 0.3         | 8.35      | 0.22 | A   | 0.1         | 8.71      | 0.13 | A   |
| Existing Layout - 2025 With Dev Flows |             |           |      |     |             |           |      |     |
| Stream B-AC                           | 1.5         | 40.21     | 0.62 | E   | 0.8         | 31.93     | 0.45 | D   |
| Stream C-AB                           | 0.4         | 8.46      | 0.24 | A   | 0.3         | 9.15      | 0.21 | A   |

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

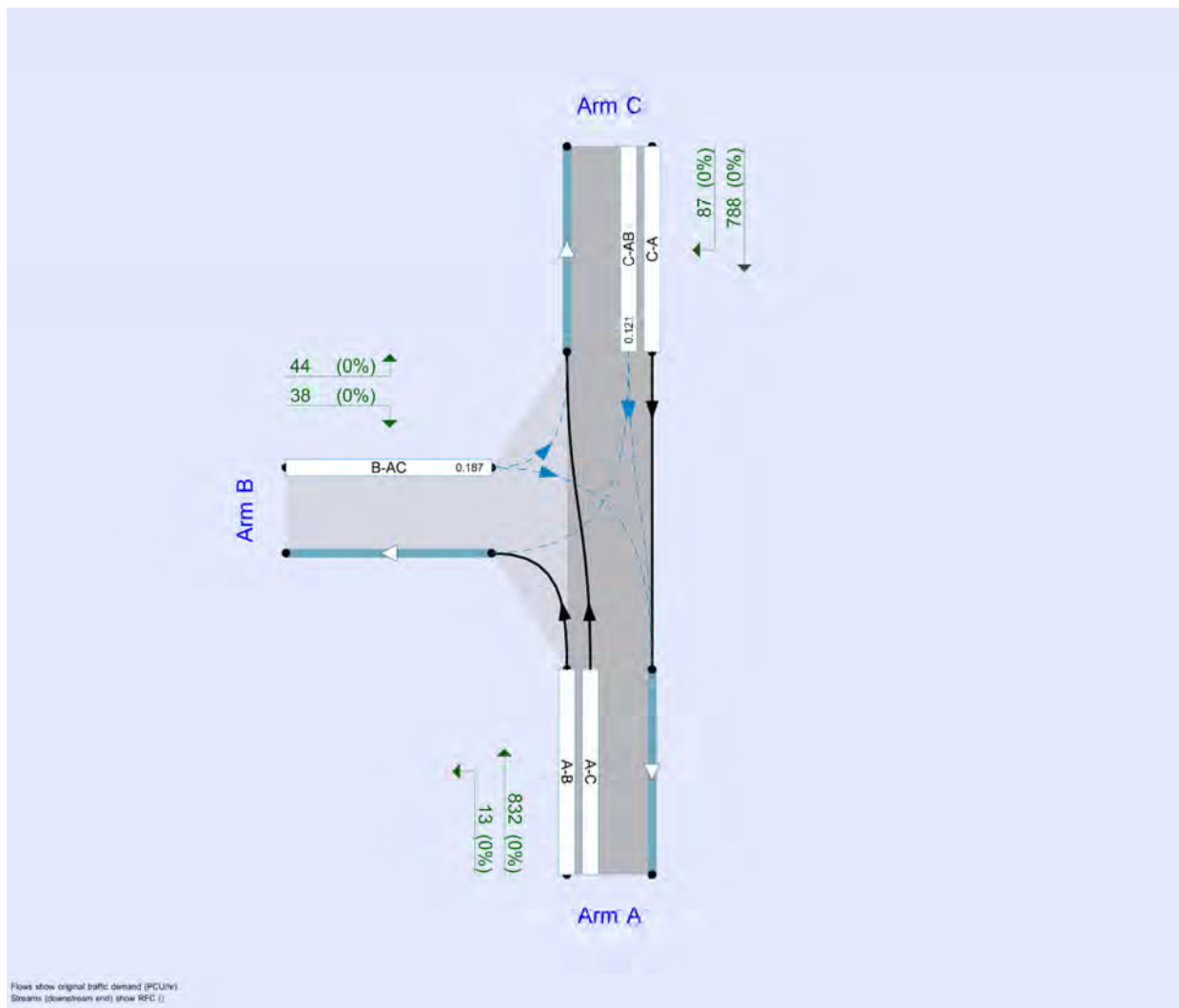
#### File summary

##### File Description

|             |                                  |
|-------------|----------------------------------|
| Title       | Corus Railway Station, Castleton |
| Location    |                                  |
| Site number | 3334                             |
| Date        | 16/04/2021                       |
| Version     |                                  |
| Status      | TIA                              |
| Identifier  |                                  |
| Client      |                                  |
| Jobnumber   |                                  |
| Enumerator  | EDD\George.Monks                 |
| Description |                                  |

#### Units

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



The junction diagram reflects the last run of Junctions.

### Analysis Options

| Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queueing delay | Calculate residual capacity | 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 | 2019 Surveyed Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D2 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D3 | 2025 Base Flows     | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D4 | 2025 Base Flows     | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D5 | 2025 With Dev Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

### Analysis Set Details

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

# Existing Layout - 2019 Surveyed Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 2.53               | A            |

### Junction Network Options

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

## Arms

### Arms

| Arm | Name                | Description | Arm type |
|-----|---------------------|-------------|----------|
| A   | Manchester Road (S) |             | Major    |
| B   | Durban Street       |             | Minor    |
| C   | Manchester Road (N) |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Width for right turn (m) | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|-----|--------------------------|----------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 6.00                     |                            | ✓                  | 2.20                     | 250.0                         | ✓       | 2.00                 |

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

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|-----|----------------|----------------|------------------------|-------------------------|
| B   | One lane       | 3.00           | 19                     | 16                      |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|--------|--------------------|---------------|---------------|---------------|---------------|
| B-A    | 492                | 0.090         | 0.226         | 0.142         | 0.323         |
| B-C    | 634                | 0.097         | 0.246         | -             | -             |
| C-B    | 719                | 0.278         | 0.278         | -             | -             |

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 | 2019 Surveyed Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 600                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 122                     | 100.000            |

|   |  |          |   |     |         |
|---|--|----------|---|-----|---------|
| C |  | ONE HOUR | ✓ | 778 | 100.000 |
|---|--|----------|---|-----|---------|

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |
|------|----|-----|----|-----|
|      | A  | B   | C  |     |
| From | A  | 0   | 22 | 578 |
|      | B  | 65  | 0  | 57  |
|      | C  | 685 | 93 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      | A  | B | C |   |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.48    | 24.86         | 0.9             | C       | 112                     | 168                           |
| C-AB   | 0.19    | 7.92          | 0.2             | A       | 88                      | 132                           |
| C-A    |         |               |                 |         | 626                     | 939                           |
| A-B    |         |               |                 |         | 20                      | 30                            |
| A-C    |         |               |                 |         | 530                     | 796                           |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 92                    | 23                      | 372               | 0.247 | 91                  | 0.0               | 0.3             | 12.758    | B                             |
| C-AB   | 71                    | 18                      | 600               | 0.118 | 70                  | 0.0               | 0.1             | 6.787     | A                             |
| C-A    | 515                   | 129                     |                   |       | 515                 |                   |                 |           |                               |
| A-B    | 17                    | 4                       |                   |       | 17                  |                   |                 |           |                               |
| A-C    | 435                   | 109                     |                   |       | 435                 |                   |                 |           |                               |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 110                   | 27                      | 334               | 0.329 | 109                 | 0.3               | 0.5             | 15.976    | C                             |
| C-AB   | 86                    | 21                      | 582               | 0.147 | 85                  | 0.1               | 0.2             | 7.250     | A                             |
| C-A    | 614                   | 153                     |                   |       | 614                 |                   |                 |           |                               |
| A-B    | 20                    | 5                       |                   |       | 20                  |                   |                 |           |                               |
| A-C    | 520                   | 130                     |                   |       | 520                 |                   |                 |           |                               |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 134                   | 34                      | 279               | 0.482 | 133                 | 0.5               | 0.9             | 24.350    | C                             |
| C-AB   | 108                   | 27                      | 562               | 0.191 | 107                 | 0.2               | 0.2             | 7.908     | A                             |
| C-A    | 749                   | 187                     |                   |       | 749                 |                   |                 |           |                               |
| A-B    | 24                    | 6                       |                   |       | 24                  |                   |                 |           |                               |
| A-C    | 636                   | 159                     |                   |       | 636                 |                   |                 |           |                               |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-----|---------------------|-------------------|-----------------|-----------|-------------------------------|
|        |                       |                         |                   |     |                     |                   |                 |           |                               |

|      |     |     |     |       |     |     |     |        |   |
|------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| B-AC | 134 | 34  | 279 | 0.482 | 134 | 0.9 | 0.9 | 24.861 | C |
| C-AB | 108 | 27  | 562 | 0.191 | 108 | 0.2 | 0.2 | 7.917  | A |
| C-A  | 749 | 187 |     |       | 749 |     |     |        |   |
| A-B  | 24  | 6   |     |       | 24  |     |     |        |   |
| A-C  | 636 | 159 |     |       | 636 |     |     |        |   |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 110                   | 27                      | 334               | 0.329 | 111                 | 0.9               | 0.5             | 16.304    | C                             |
| C-AB   | 86                    | 21                      | 582               | 0.147 | 86                  | 0.2               | 0.2             | 7.264     | A                             |
| C-A    | 614                   | 153                     |                   |       | 614                 |                   |                 |           |                               |
| A-B    | 20                    | 5                       |                   |       | 20                  |                   |                 |           |                               |
| A-C    | 520                   | 130                     |                   |       | 520                 |                   |                 |           |                               |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 92                    | 23                      | 371               | 0.247 | 93                  | 0.5               | 0.3             | 12.943    | B                             |
| C-AB   | 71                    | 18                      | 600               | 0.118 | 71                  | 0.2               | 0.1             | 6.805     | A                             |
| C-A    | 515                   | 129                     |                   |       | 515                 |                   |                 |           |                               |
| A-B    | 17                    | 4                       |                   |       | 17                  |                   |                 |           |                               |
| A-C    | 435                   | 109                     |                   |       | 435                 |                   |                 |           |                               |

# Existing Layout - 2019 Surveyed Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 1.29               | 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 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 775                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 77                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 752                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |
|------|----|-----|----|-----|
|      |    | A   | B  | C   |
| From | A  | 0   | 12 | 763 |
|      | B  | 36  | 0  | 41  |
|      | C  | 702 | 50 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.34    | 21.46         | 0.5             | C       | 71                      | 106                           |
| C-AB   | 0.11    | 8.27          | 0.1             | A       | 46                      | 70                            |
| C-A    |         |               |                 |         | 644                     | 965                           |
| A-B    |         |               |                 |         | 11                      | 17                            |

|     |  |  |  |  |     |      |
|-----|--|--|--|--|-----|------|
| A-C |  |  |  |  | 700 | 1050 |
|-----|--|--|--|--|-----|------|

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 58                    | 14                      | 358               | 0.162 | 57                  | 0.0               | 0.2             | 11.934    | B                             |
| C-AB   | 38                    | 9                       | 559               | 0.068 | 38                  | 0.0               | 0.1             | 6.905     | A                             |
| C-A    | 528                   | 132                     |                   |       | 528                 |                   |                 |           |                               |
| A-B    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| A-C    | 574                   | 144                     |                   |       | 574                 |                   |                 |           |                               |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 69                    | 17                      | 315               | 0.219 | 69                  | 0.2               | 0.3             | 14.584    | B                             |
| C-AB   | 45                    | 11                      | 529               | 0.086 | 45                  | 0.1               | 0.1             | 7.436     | A                             |
| C-A    | 631                   | 158                     |                   |       | 631                 |                   |                 |           |                               |
| A-B    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| A-C    | 686                   | 171                     |                   |       | 686                 |                   |                 |           |                               |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 85                    | 21                      | 252               | 0.336 | 84                  | 0.3               | 0.5             | 21.265    | C                             |
| C-AB   | 56                    | 14                      | 491               | 0.114 | 56                  | 0.1               | 0.1             | 8.270     | A                             |
| C-A    | 772                   | 193                     |                   |       | 772                 |                   |                 |           |                               |
| A-B    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| A-C    | 840                   | 210                     |                   |       | 840                 |                   |                 |           |                               |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 85                    | 21                      | 252               | 0.336 | 85                  | 0.5               | 0.5             | 21.465    | C                             |
| C-AB   | 56                    | 14                      | 491               | 0.114 | 56                  | 0.1               | 0.1             | 8.275     | A                             |
| C-A    | 772                   | 193                     |                   |       | 772                 |                   |                 |           |                               |
| A-B    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| A-C    | 840                   | 210                     |                   |       | 840                 |                   |                 |           |                               |

#### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 69                    | 17                      | 315               | 0.220 | 70                  | 0.5               | 0.3             | 14.730    | B                             |
| C-AB   | 45                    | 11                      | 529               | 0.086 | 45                  | 0.1               | 0.1             | 7.444     | A                             |
| C-A    | 631                   | 158                     |                   |       | 631                 |                   |                 |           |                               |
| A-B    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| A-C    | 686                   | 171                     |                   |       | 686                 |                   |                 |           |                               |

#### 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 58                    | 14                      | 358               | 0.162 | 58                  | 0.3               | 0.2             | 12.026    | B                             |
| C-AB   | 38                    | 9                       | 559               | 0.068 | 38                  | 0.1               | 0.1             | 6.912     | A                             |
| C-A    | 528                   | 132                     |                   |       | 528                 |                   |                 |           |                               |
| A-B    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| A-C    | 574                   | 144                     |                   |       | 574                 |                   |                 |           |                               |

# Existing Layout - 2025 Base Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 3.36               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name   | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-----------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | 2025 Base Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 676                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 131                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 847                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0   | 24  | 652 |
|      | B  | 70  | 0   | 61  |
|      | C  | 747 | 100 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.59    | 35.81         | 1.4             | E       | 120                     | 180                           |
| C-AB   | 0.22    | 8.35          | 0.3             | A       | 96                      | 144                           |
| C-A    |         |               |                 |         | 681                     | 1022                          |
| A-B    |         |               |                 |         | 22                      | 33                            |
| A-C    |         |               |                 |         | 598                     | 897                           |

## Main Results for each time segment

## 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 99                    | 25                      | 350               | 0.282 | 97                  | 0.0               | 0.4             | 14.148    | B                             |
| C-AB   | 77                    | 19                      | 587               | 0.130 | 76                  | 0.0               | 0.2             | 7.043     | A                             |
| C-A    | 561                   | 140                     |                   |       | 561                 |                   |                 |           |                               |
| A-B    | 18                    | 5                       |                   |       | 18                  |                   |                 |           |                               |
| A-C    | 491                   | 123                     |                   |       | 491                 |                   |                 |           |                               |

## 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 118                   | 29                      | 307               | 0.383 | 117                 | 0.4               | 0.6             | 18.834    | C                             |
| C-AB   | 93                    | 23                      | 567               | 0.164 | 93                  | 0.2               | 0.2             | 7.580     | A                             |
| C-A    | 669                   | 167                     |                   |       | 669                 |                   |                 |           |                               |
| A-B    | 22                    | 5                       |                   |       | 22                  |                   |                 |           |                               |
| A-C    | 586                   | 147                     |                   |       | 586                 |                   |                 |           |                               |

## 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 144                   | 36                      | 244               | 0.591 | 141                 | 0.6               | 1.3             | 34.115    | D                             |
| C-AB   | 118                   | 30                      | 550               | 0.215 | 118                 | 0.2               | 0.3             | 8.337     | A                             |
| C-A    | 814                   | 204                     |                   |       | 814                 |                   |                 |           |                               |
| A-B    | 26                    | 7                       |                   |       | 26                  |                   |                 |           |                               |
| A-C    | 718                   | 179                     |                   |       | 718                 |                   |                 |           |                               |

## 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 144                   | 36                      | 244               | 0.591 | 144                 | 1.3               | 1.4             | 35.811    | E                             |
| C-AB   | 118                   | 30                      | 550               | 0.215 | 118                 | 0.3               | 0.3             | 8.351     | A                             |
| C-A    | 814                   | 204                     |                   |       | 814                 |                   |                 |           |                               |
| A-B    | 26                    | 7                       |                   |       | 26                  |                   |                 |           |                               |
| A-C    | 718                   | 179                     |                   |       | 718                 |                   |                 |           |                               |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 118                   | 29                      | 307               | 0.384 | 121                 | 1.4               | 0.6             | 19.614    | C                             |
| C-AB   | 93                    | 23                      | 567               | 0.164 | 93                  | 0.3               | 0.2             | 7.598     | A                             |
| C-A    | 669                   | 167                     |                   |       | 669                 |                   |                 |           |                               |
| A-B    | 22                    | 5                       |                   |       | 22                  |                   |                 |           |                               |
| A-C    | 586                   | 147                     |                   |       | 586                 |                   |                 |           |                               |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 99                    | 25                      | 350               | 0.282 | 100                 | 0.6               | 0.4             | 14.442    | B                             |
| C-AB   | 77                    | 19                      | 587               | 0.130 | 77                  | 0.2               | 0.2             | 7.065     | A                             |
| C-A    | 561                   | 140                     |                   |       | 561                 |                   |                 |           |                               |
| A-B    | 18                    | 5                       |                   |       | 18                  |                   |                 |           |                               |
| A-C    | 491                   | 123                     |                   |       | 491                 |                   |                 |           |                               |

# Existing Layout - 2025 Base Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 1.57               | 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 | 2025 Base Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 845                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 82                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 825                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |     |
|------|----|-----|----|-----|
|      |    | A   | B  | C   |
| From | A  | 0   | 13 | 832 |
|      | B  | 38  | 0  | 44  |
|      | C  | 772 | 53 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.41    | 27.85         | 0.7             | D       | 75                      | 113                           |
| C-AB   | 0.13    | 8.71          | 0.1             | A       | 49                      | 74                            |
| C-A    |         |               |                 |         | 708                     | 1061                          |
| A-B    |         |               |                 |         | 12                      | 18                            |
| A-C    |         |               |                 |         | 763                     | 1145                          |

## Main Results for each time segment

## 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 62                    | 15                      | 339               | 0.182 | 61                  | 0.0               | 0.2             | 12.907    | B                             |
| C-AB   | 40                    | 10                      | 545               | 0.074 | 40                  | 0.0               | 0.1             | 7.125     | A                             |
| C-A    | 581                   | 145                     |                   |       | 581                 |                   |                 |           |                               |
| A-B    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| A-C    | 626                   | 157                     |                   |       | 626                 |                   |                 |           |                               |

## 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 74                    | 18                      | 291               | 0.253 | 73                  | 0.2               | 0.3             | 16.489    | C                             |
| C-AB   | 48                    | 12                      | 513               | 0.094 | 48                  | 0.1               | 0.1             | 7.736     | A                             |
| C-A    | 693                   | 173                     |                   |       | 693                 |                   |                 |           |                               |
| A-B    | 12                    | 3                       |                   |       | 12                  |                   |                 |           |                               |
| A-C    | 748                   | 187                     |                   |       | 748                 |                   |                 |           |                               |

## 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 90                    | 23                      | 219               | 0.411 | 89                  | 0.3               | 0.7             | 27.326    | D                             |
| C-AB   | 60                    | 15                      | 473               | 0.127 | 60                  | 0.1               | 0.1             | 8.701     | A                             |
| C-A    | 848                   | 212                     |                   |       | 848                 |                   |                 |           |                               |
| A-B    | 14                    | 4                       |                   |       | 14                  |                   |                 |           |                               |
| A-C    | 916                   | 229                     |                   |       | 916                 |                   |                 |           |                               |

## 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 90                    | 23                      | 219               | 0.412 | 90                  | 0.7               | 0.7             | 27.851    | D                             |
| C-AB   | 60                    | 15                      | 473               | 0.127 | 60                  | 0.1               | 0.1             | 8.711     | A                             |
| C-A    | 848                   | 212                     |                   |       | 848                 |                   |                 |           |                               |
| A-B    | 14                    | 4                       |                   |       | 14                  |                   |                 |           |                               |
| A-C    | 916                   | 229                     |                   |       | 916                 |                   |                 |           |                               |

## 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 74                    | 18                      | 291               | 0.253 | 75                  | 0.7               | 0.3             | 16.768    | C                             |
| C-AB   | 48                    | 12                      | 513               | 0.094 | 48                  | 0.1               | 0.1             | 7.747     | A                             |
| C-A    | 693                   | 173                     |                   |       | 693                 |                   |                 |           |                               |
| A-B    | 12                    | 3                       |                   |       | 12                  |                   |                 |           |                               |
| A-C    | 748                   | 187                     |                   |       | 748                 |                   |                 |           |                               |

## 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 62                    | 15                      | 339               | 0.182 | 62                  | 0.3               | 0.2             | 13.036    | B                             |
| C-AB   | 40                    | 10                      | 545               | 0.074 | 40                  | 0.1               | 0.1             | 7.139     | A                             |
| C-A    | 581                   | 145                     |                   |       | 581                 |                   |                 |           |                               |
| A-B    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| A-C    | 626                   | 157                     |                   |       | 626                 |                   |                 |           |                               |

# Existing Layout - 2025 With Dev Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 3.69               | 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 |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D5 | 2025 With Dev Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 676                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 131                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 897                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0   | 24  | 652 |
|      | B  | 70  | 0   | 61  |
|      | C  | 784 | 113 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |
|------|----|---|---|---|
|      |    | A | B | C |
| From | A  | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.62    | 40.21         | 1.5             | E       | 120                     | 180                           |
| C-AB   | 0.24    | 8.46          | 0.4             | A       | 110                     | 165                           |
| C-A    |         |               |                 |         | 713                     | 1070                          |
| A-B    |         |               |                 |         | 22                      | 33                            |

|     |  |  |  |  |     |     |
|-----|--|--|--|--|-----|-----|
| A-C |  |  |  |  | 598 | 897 |
|-----|--|--|--|--|-----|-----|

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 99                    | 25                      | 344               | 0.287 | 97                  | 0.0               | 0.4             | 14.500    | B                             |
| C-AB   | 87                    | 22                      | 590               | 0.147 | 86                  | 0.0               | 0.2             | 7.141     | A                             |
| C-A    | 588                   | 147                     |                   |       | 588                 |                   |                 |           |                               |
| A-B    | 18                    | 5                       |                   |       | 18                  |                   |                 |           |                               |
| A-C    | 491                   | 123                     |                   |       | 491                 |                   |                 |           |                               |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 118                   | 29                      | 299               | 0.394 | 117                 | 0.4               | 0.6             | 19.651    | C                             |
| C-AB   | 106                   | 27                      | 574               | 0.185 | 106                 | 0.2               | 0.2             | 7.693     | A                             |
| C-A    | 700                   | 175                     |                   |       | 700                 |                   |                 |           |                               |
| A-B    | 22                    | 5                       |                   |       | 22                  |                   |                 |           |                               |
| A-C    | 586                   | 147                     |                   |       | 586                 |                   |                 |           |                               |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 144                   | 36                      | 233               | 0.619 | 141                 | 0.6               | 1.5             | 37.820    | E                             |
| C-AB   | 137                   | 34                      | 563               | 0.243 | 136                 | 0.2               | 0.3             | 8.442     | A                             |
| C-A    | 851                   | 213                     |                   |       | 851                 |                   |                 |           |                               |
| A-B    | 26                    | 7                       |                   |       | 26                  |                   |                 |           |                               |
| A-C    | 718                   | 179                     |                   |       | 718                 |                   |                 |           |                               |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 144                   | 36                      | 233               | 0.620 | 144                 | 1.5               | 1.5             | 40.206    | E                             |
| C-AB   | 137                   | 34                      | 563               | 0.243 | 137                 | 0.3               | 0.4             | 8.461     | A                             |
| C-A    | 851                   | 213                     |                   |       | 851                 |                   |                 |           |                               |
| A-B    | 26                    | 7                       |                   |       | 26                  |                   |                 |           |                               |
| A-C    | 718                   | 179                     |                   |       | 718                 |                   |                 |           |                               |

#### 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 118                   | 29                      | 299               | 0.394 | 121                 | 1.5               | 0.7             | 20.637    | C                             |
| C-AB   | 106                   | 27                      | 574               | 0.185 | 106                 | 0.4               | 0.2             | 7.716     | A                             |
| C-A    | 700                   | 175                     |                   |       | 700                 |                   |                 |           |                               |
| A-B    | 22                    | 5                       |                   |       | 22                  |                   |                 |           |                               |
| A-C    | 586                   | 147                     |                   |       | 586                 |                   |                 |           |                               |

#### 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 99                    | 25                      | 344               | 0.287 | 100                 | 0.7               | 0.4             | 14.822    | B                             |
| C-AB   | 87                    | 22                      | 590               | 0.147 | 87                  | 0.2               | 0.2             | 7.168     | A                             |
| C-A    | 588                   | 147                     |                   |       | 588                 |                   |                 |           |                               |
| A-B    | 18                    | 5                       |                   |       | 18                  |                   |                 |           |                               |
| A-C    | 491                   | 123                     |                   |       | 491                 |                   |                 |           |                               |

# Existing Layout - 2025 With Dev Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | T-Junction    | Two-way              |                       | 1.92               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 845                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 82                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 875                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|  | To |     |    |     |
|--|----|-----|----|-----|
|  |    | A   | B  | C   |
|  | A  | 0   | 13 | 832 |
|  | B  | 38  | 0  | 44  |
|  | C  | 788 | 87 | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|  | To |   |   |   |
|--|----|---|---|---|
|  |    | A | B | C |
|  | A  | 0 | 0 | 0 |
|  | B  | 0 | 0 | 0 |
|  | C  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-AC   | 0.45    | 31.93         | 0.8             | D       | 75                      | 113                           |
| C-AB   | 0.21    | 9.15          | 0.3             | A       | 84                      | 125                           |
| C-A    |         |               |                 |         | 719                     | 1079                          |
| A-B    |         |               |                 |         | 12                      | 18                            |

|     |  |  |  |  |     |      |
|-----|--|--|--|--|-----|------|
| A-C |  |  |  |  | 763 | 1145 |
|-----|--|--|--|--|-----|------|

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 62                    | 15                      | 331               | 0.187 | 61                  | 0.0               | 0.2             | 13.305    | B                             |
| C-AB   | 67                    | 17                      | 550               | 0.121 | 66                  | 0.0               | 0.1             | 7.426     | A                             |
| C-A    | 592                   | 148                     |                   |       | 592                 |                   |                 |           |                               |
| A-B    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| A-C    | 626                   | 157                     |                   |       | 626                 |                   |                 |           |                               |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 74                    | 18                      | 280               | 0.263 | 73                  | 0.2               | 0.3             | 17.377    | C                             |
| C-AB   | 81                    | 20                      | 524               | 0.154 | 81                  | 0.1               | 0.2             | 8.119     | A                             |
| C-A    | 706                   | 176                     |                   |       | 706                 |                   |                 |           |                               |
| A-B    | 12                    | 3                       |                   |       | 12                  |                   |                 |           |                               |
| A-C    | 748                   | 187                     |                   |       | 748                 |                   |                 |           |                               |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 90                    | 23                      | 203               | 0.445 | 89                  | 0.3               | 0.8             | 31.100    | D                             |
| C-AB   | 104                   | 26                      | 497               | 0.208 | 103                 | 0.2               | 0.3             | 9.131     | A                             |
| C-A    | 860                   | 215                     |                   |       | 860                 |                   |                 |           |                               |
| A-B    | 14                    | 4                       |                   |       | 14                  |                   |                 |           |                               |
| A-C    | 916                   | 229                     |                   |       | 916                 |                   |                 |           |                               |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 90                    | 23                      | 203               | 0.445 | 90                  | 0.8               | 0.8             | 31.930    | D                             |
| C-AB   | 104                   | 26                      | 497               | 0.208 | 104                 | 0.3               | 0.3             | 9.146     | A                             |
| C-A    | 860                   | 215                     |                   |       | 860                 |                   |                 |           |                               |
| A-B    | 14                    | 4                       |                   |       | 14                  |                   |                 |           |                               |
| A-C    | 916                   | 229                     |                   |       | 916                 |                   |                 |           |                               |

#### 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 74                    | 18                      | 280               | 0.263 | 75                  | 0.8               | 0.4             | 17.750    | C                             |
| C-AB   | 81                    | 20                      | 524               | 0.154 | 81                  | 0.3               | 0.2             | 8.137     | A                             |
| C-A    | 706                   | 176                     |                   |       | 706                 |                   |                 |           |                               |
| A-B    | 12                    | 3                       |                   |       | 12                  |                   |                 |           |                               |
| A-C    | 748                   | 187                     |                   |       | 748                 |                   |                 |           |                               |

#### 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-AC   | 62                    | 15                      | 330               | 0.187 | 62                  | 0.4               | 0.2             | 13.458    | B                             |
| C-AB   | 67                    | 17                      | 550               | 0.121 | 67                  | 0.2               | 0.1             | 7.447     | A                             |
| C-A    | 592                   | 148                     |                   |       | 592                 |                   |                 |           |                               |
| A-B    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| A-C    | 626                   | 157                     |                   |       | 626                 |                   |                 |           |                               |

## APPENDIX 6

PICADY Output: A664 Manchester Road/Royal Barn  
Road/Partington Street

| Junctions 9                                                                                                                                                      |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| PICADY 9 - Priority Intersection Module                                                                                                                          |  |  |  |  |  |  |  |
| Version: 9.5.2.1013<br>© Copyright TRL Limited, 2019                                                                                                             |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>+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: Manchester Road\_Partington Road\_Royle Barn Road V4.j9  
 Path: Z:\projects\3334 Castleton, Corus Railway Sidings\Picady  
 Report generation date: 03/11/2023 11:17:55

- »Existing Layout - 2019 Surveyed Flows, AM
- »Existing Layout - 2019 Surveyed Flows, PM
- »Existing Layout - 2025 Base Flows, AM
- »Existing Layout - 2025 Base Flows, PM
- »Existing Layout - 2025 With Dev Flows, AM
- »Existing Layout - 2025 With Dev Flows, PM

#### Summary of junction performance

|                                       | AM          |           |      |     | PM          |           |      |     |
|---------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                       | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Existing Layout - 2019 Surveyed Flows |             |           |      |     |             |           |      |     |
| Stream B-ACD                          | 0.6         | 15.74     | 0.38 | C   | 0.5         | 15.90     | 0.33 | C   |
| Stream AB-CD                          | 0.2         | 7.60      | 0.15 | A   | 0.4         | 7.74      | 0.25 | A   |
| Stream D-ABC                          | 0.3         | 11.90     | 0.26 | B   | 0.8         | 14.40     | 0.44 | B   |
| Stream CD-B                           | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| Existing Layout - 2025 Base Flows     |             |           |      |     |             |           |      |     |
| Stream B-ACD                          | 0.8         | 19.84     | 0.45 | C   | 0.6         | 19.90     | 0.39 | C   |
| Stream AB-CD                          | 0.2         | 7.94      | 0.17 | A   | 0.4         | 8.05      | 0.28 | A   |
| Stream D-ABC                          | 0.4         | 13.44     | 0.30 | B   | 1.0         | 17.10     | 0.50 | C   |
| Stream CD-B                           | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |
| Existing Layout - 2025 With Dev Flows |             |           |      |     |             |           |      |     |
| Stream B-ACD                          | 2.2         | 36.69     | 0.70 | E   | 1.2         | 28.23     | 0.54 | D   |
| Stream AB-CD                          | 0.2         | 8.04      | 0.18 | A   | 0.5         | 8.19      | 0.29 | A   |
| Stream D-ABC                          | 0.4         | 13.91     | 0.31 | B   | 1.1         | 18.40     | 0.52 | C   |
| Stream CD-B                           | 0.0         | 0.00      | 0.00 | A   | 0.0         | 0.00      | 0.00 | A   |

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

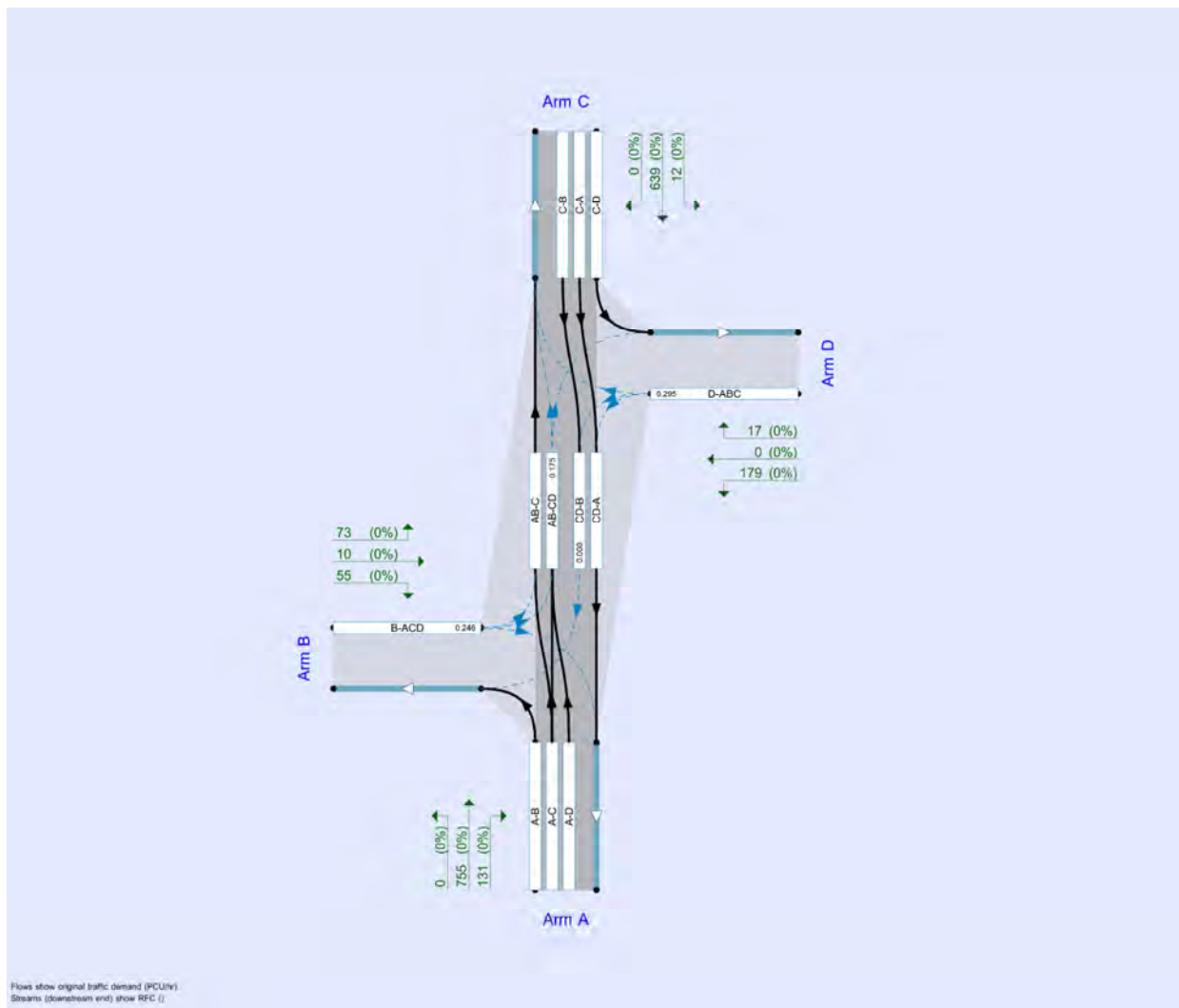
#### File summary

##### File Description

|             |                                  |
|-------------|----------------------------------|
| Title       | Corus Railway Sidings, Castleton |
| Location    |                                  |
| Site number | 3334                             |
| Date        | 16/04/2021                       |
| Version     |                                  |
| Status      | (new file)                       |
| Identifier  |                                  |
| Client      |                                  |
| Jobnumber   |                                  |
| Enumerator  | EDD\George.Monks                 |
| 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 | 2019 Surveyed Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D2 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D3 | 2025 Base Flows     | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D4 | 2025 Base Flows     | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |
| D5 | 2025 With Dev Flows | AM               | ONE HOUR             | 08:00              | 09:30               | 15                        | ✓                 |
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

### Analysis Set Details

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

# Existing Layout - 2019 Surveyed Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 1.27               | A            |

### Junction Network Options

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

## Arms

### Arms

| Arm | Name                | Description | Arm type |
|-----|---------------------|-------------|----------|
| A   | Manchester Road (S) |             | Major    |
| B   | Partington Street   |             | Minor    |
| C   | Manchester Road (N) |             | Major    |
| D   | Royle Barn Road     |             | Minor    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Width for right turn (m) | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|-----|--------------------------|----------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| A   | 6.00                     |                            | ✓                  | 3.00                     | 200.0                         | ✓       | 2.00                 |
| C   | 6.00                     |                            | ✓                  | 3.00                     | 80.0                          |         | -                    |

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

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|-----|----------------|----------------|------------------------|-------------------------|
| B   | One lane       | 5.00           | 44                     | 12                      |
| D   | One lane       | 3.50           | 37                     | 17                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-C | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-A | Slope for D-B |
|--------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| AB-D   | 750                | -             | -             | -             | -             | -             | 0.291         | 0.291         | 0.291         | -             | -             |
| B-A    | 597                | 0.109         | 0.275         | 0.275         | -             | -             | 0.173         | 0.393         | -             | 0.173         | 0.393         |
| B-CD   | 758                | 0.116         | 0.294         | 0.294         | -             | -             | -             | -             | -             | -             | -             |
| CD-B   | 674                | 0.261         | 0.261         | 0.261         | -             | -             | -             | -             | -             | -             | -             |
| D-AB   | 666                | -             | -             | -             | -             | -             | 0.258         | 0.258         | 0.102         | -             | -             |
| D-C    | 523                | -             | 0.151         | 0.344         | 0.151         | 0.344         | 0.241         | 0.241         | 0.095         | -             | -             |

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 | 2019 Surveyed Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 629                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 126                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 650                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 96                      | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |    |
|------|----|-----|---|-----|----|
|      |    | A   | B | C   | D  |
| From | A  | 0   | 0 | 560 | 69 |
|      | B  | 61  | 0 | 60  | 5  |
|      | C  | 636 | 0 | 0   | 14 |
|      | D  | 81  | 0 | 15  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | A | B | C | D |
| From | A  | 0 | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 | 0 |
|      | D  | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.38    | 15.74         | 0.6             | C       | 116                     | 173                           |
| A-B    |         |               |                 |         | 0                       | 0                             |
| A-C    |         |               |                 |         | 514                     | 771                           |
| A-D    |         |               |                 |         | 63                      | 95                            |
| AB-CD  | 0.15    | 7.60          | 0.2             | A       | 69                      | 104                           |
| AB-C   |         |               |                 |         | 568                     | 852                           |
| D-ABC  | 0.26    | 11.90         | 0.3             | B       | 88                      | 132                           |
| C-D    |         |               |                 |         | 13                      | 19                            |
| C-A    |         |               |                 |         | 584                     | 875                           |
| C-B    |         |               |                 |         | 0                       | 0                             |
| CD-A   |         |               |                 |         | 658                     | 987                           |
| CD-B   | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 95                    | 24                      | 470               | 0.202 | 94                  | 0.0               | 0.2             | 9.554     | A                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 422                   | 105                     |                   |       | 422                 |                   |                 |           |                               |
| A-D    | 52                    | 13                      |                   |       | 52                  |                   |                 |           |                               |
| AB-CD  | 56                    | 14                      | 612               | 0.092 | 56                  | 0.0               | 0.1             | 6.471     | A                             |
| AB-C   | 466                   | 116                     |                   |       | 466                 |                   |                 |           |                               |
| D-ABC  | 72                    | 18                      | 488               | 0.148 | 72                  | 0.0               | 0.2             | 8.640     | A                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 479                   | 120                     |                   |       | 479                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |

|      |     |     |     |       |     |     |     |       |   |
|------|-----|-----|-----|-------|-----|-----|-----|-------|---|
| CD-A | 539 | 135 |     |       | 539 |     |     |       |   |
| CD-B | 0   | 0   | 551 | 0.000 | 0   | 0.0 | 0.0 | 0.000 | A |

## 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 113                   | 28                      | 428               | 0.265 | 113                 | 0.2               | 0.4             | 11.416    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 503                   | 126                     |                   |       | 503                 |                   |                 |           |                               |
| A-D    | 62                    | 16                      |                   |       | 62                  |                   |                 |           |                               |
| AB-CD  | 67                    | 17                      | 587               | 0.115 | 67                  | 0.1               | 0.1             | 6.918     | A                             |
| AB-C   | 556                   | 139                     |                   |       | 556                 |                   |                 |           |                               |
| D-ABC  | 86                    | 22                      | 455               | 0.189 | 86                  | 0.2               | 0.2             | 9.739     | A                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 572                   | 143                     |                   |       | 572                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 644                   | 161                     |                   |       | 644                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 527               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 139                   | 35                      | 367               | 0.378 | 138                 | 0.4               | 0.6             | 15.616    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 617                   | 154                     |                   |       | 617                 |                   |                 |           |                               |
| A-D    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| AB-CD  | 84                    | 21                      | 557               | 0.150 | 84                  | 0.1               | 0.2             | 7.599     | A                             |
| AB-C   | 680                   | 170                     |                   |       | 680                 |                   |                 |           |                               |
| D-ABC  | 106                   | 26                      | 408               | 0.259 | 105                 | 0.2               | 0.3             | 11.865    | B                             |
| C-D    | 15                    | 4                       |                   |       | 15                  |                   |                 |           |                               |
| C-A    | 700                   | 175                     |                   |       | 700                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 789                   | 197                     |                   |       | 789                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 493               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 139                   | 35                      | 367               | 0.378 | 139                 | 0.6               | 0.6             | 15.742    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 617                   | 154                     |                   |       | 617                 |                   |                 |           |                               |
| A-D    | 76                    | 19                      |                   |       | 76                  |                   |                 |           |                               |
| AB-CD  | 84                    | 21                      | 557               | 0.150 | 84                  | 0.2               | 0.2             | 7.604     | A                             |
| AB-C   | 680                   | 170                     |                   |       | 680                 |                   |                 |           |                               |
| D-ABC  | 106                   | 26                      | 408               | 0.259 | 106                 | 0.3               | 0.3             | 11.903    | B                             |
| C-D    | 15                    | 4                       |                   |       | 15                  |                   |                 |           |                               |
| C-A    | 700                   | 175                     |                   |       | 700                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 789                   | 197                     |                   |       | 789                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 493               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 113                   | 28                      | 428               | 0.265 | 114                 | 0.6               | 0.4             | 11.518    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 503                   | 126                     |                   |       | 503                 |                   |                 |           |                               |
| A-D    | 62                    | 16                      |                   |       | 62                  |                   |                 |           |                               |
| AB-CD  | 67                    | 17                      | 587               | 0.115 | 68                  | 0.2               | 0.1             | 6.927     | A                             |
| AB-C   | 557                   | 139                     |                   |       | 557                 |                   |                 |           |                               |
| D-ABC  | 86                    | 22                      | 455               | 0.190 | 87                  | 0.3               | 0.2             | 9.778     | A                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 572                   | 143                     |                   |       | 572                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 645                   | 161                     |                   |       | 645                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 527               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 95                    | 24                      | 470               | 0.202 | 95                  | 0.4               | 0.3             | 9.630     | A                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |       |   |
|-------|-----|-----|-----|-------|-----|-----|-----|-------|---|
| A-C   | 422 | 105 |     |       | 422 |     |     |       |   |
| A-D   | 52  | 13  |     |       | 52  |     |     |       |   |
| AB-CD | 56  | 14  | 612 | 0.092 | 56  | 0.1 | 0.1 | 6.482 | A |
| AB-C  | 467 | 117 |     |       | 467 |     |     |       |   |
| D-ABC | 72  | 18  | 487 | 0.148 | 73  | 0.2 | 0.2 | 8.682 | A |
| C-D   | 11  | 3   |     |       | 11  |     |     |       |   |
| C-A   | 479 | 120 |     |       | 479 |     |     |       |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |       |   |
| CD-A  | 540 | 135 |     |       | 540 |     |     |       |   |
| CD-B  | 0   | 0   | 551 | 0.000 | 0   | 0.0 | 0.0 | 0.000 | A |

# Existing Layout - 2019 Surveyed Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 1.61               | 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 | 2019 Surveyed Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 814                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 99                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 561                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 180                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      |   | To  |   |     |     |
|------|---|-----|---|-----|-----|
|      |   | A   | B | C   | D   |
| From | A | 0   | 0 | 691 | 123 |
|      | B | 36  | 0 | 55  | 8   |
|      | C | 550 | 0 | 0   | 11  |
|      | D | 164 | 0 | 16  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      |   | To |   |   |   |
|------|---|----|---|---|---|
|      |   | A  | B | C | D |
| From | A | 0  | 0 | 0 | 0 |
|      | B | 0  | 0 | 0 | 0 |
|      | C | 0  | 0 | 0 | 0 |
|      | D | 0  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.33    | 15.90         | 0.5             | C       | 91                      | 136                           |

|       |      |       |     |   |     |      |
|-------|------|-------|-----|---|-----|------|
| A-B   |      |       |     |   | 0   | 0    |
| A-C   |      |       |     |   | 634 | 951  |
| A-D   |      |       |     |   | 113 | 169  |
| AB-CD | 0.25 | 7.74  | 0.4 | A | 127 | 191  |
| AB-C  |      |       |     |   | 678 | 1016 |
| D-ABC | 0.44 | 14.40 | 0.8 | B | 165 | 248  |
| C-D   |      |       |     |   | 10  | 15   |
| C-A   |      |       |     |   | 505 | 757  |
| C-B   |      |       |     |   | 0   | 0    |
| CD-A  |      |       |     |   | 655 | 982  |
| CD-B  | 0.00 | 0.00  | 0.0 | A | 0   | 0    |

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 75                    | 19                      | 458               | 0.163 | 74                  | 0.0               | 0.2             | 9.353     | A                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 520                   | 130                     |                   |       | 520                 |                   |                 |           |                               |
| A-D    | 93                    | 23                      |                   |       | 93                  |                   |                 |           |                               |
| AB-CD  | 101                   | 25                      | 641               | 0.157 | 100                 | 0.0               | 0.2             | 6.647     | A                             |
| AB-C   | 559                   | 140                     |                   |       | 559                 |                   |                 |           |                               |
| D-ABC  | 136                   | 34                      | 520               | 0.261 | 134                 | 0.0               | 0.3             | 9.302     | A                             |
| C-D    | 8                     | 2                       |                   |       | 8                   |                   |                 |           |                               |
| C-A    | 414                   | 104                     |                   |       | 414                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 536                   | 134                     |                   |       | 536                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 514               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 89                    | 22                      | 408               | 0.218 | 89                  | 0.2               | 0.3             | 11.248    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 621                   | 155                     |                   |       | 621                 |                   |                 |           |                               |
| A-D    | 111                   | 28                      |                   |       | 111                 |                   |                 |           |                               |
| AB-CD  | 123                   | 31                      | 629               | 0.195 | 122                 | 0.2               | 0.2             | 7.106     | A                             |
| AB-C   | 665                   | 166                     |                   |       | 665                 |                   |                 |           |                               |
| D-ABC  | 162                   | 40                      | 491               | 0.329 | 161                 | 0.3               | 0.5             | 10.890    | B                             |
| C-D    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| C-A    | 494                   | 124                     |                   |       | 494                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 641                   | 160                     |                   |       | 641                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 483               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 109                   | 27                      | 335               | 0.325 | 108                 | 0.3               | 0.5             | 15.788    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 761                   | 190                     |                   |       | 761                 |                   |                 |           |                               |
| A-D    | 135                   | 34                      |                   |       | 135                 |                   |                 |           |                               |
| AB-CD  | 157                   | 39                      | 623               | 0.253 | 157                 | 0.2               | 0.4             | 7.724     | A                             |
| AB-C   | 808                   | 202                     |                   |       | 808                 |                   |                 |           |                               |
| D-ABC  | 198                   | 50                      | 448               | 0.442 | 197                 | 0.5               | 0.8             | 14.273    | B                             |
| C-D    | 12                    | 3                       |                   |       | 12                  |                   |                 |           |                               |
| C-A    | 606                   | 151                     |                   |       | 606                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 785                   | 196                     |                   |       | 785                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 440               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 109                   | 27                      | 335               | 0.325 | 109                 | 0.5               | 0.5             | 15.902    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 761                   | 190                     |                   |       | 761                 |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |        |   |
|-------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| A-D   | 135 | 34  |     |       | 135 |     |     |        |   |
| AB-CD | 158 | 39  | 623 | 0.253 | 157 | 0.4 | 0.4 | 7.738  | A |
| AB-C  | 808 | 202 |     |       | 808 |     |     |        |   |
| D-ABC | 198 | 50  | 448 | 0.442 | 198 | 0.8 | 0.8 | 14.403 | B |
| C-D   | 12  | 3   |     |       | 12  |     |     |        |   |
| C-A   | 606 | 151 |     |       | 606 |     |     |        |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |        |   |
| CD-A  | 786 | 197 |     |       | 786 |     |     |        |   |
| CD-B  | 0   | 0   | 440 | 0.000 | 0   | 0.0 | 0.0 | 0.000  | A |

## 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 89                    | 22                      | 408               | 0.218 | 90                  | 0.5               | 0.3             | 11.331    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 621                   | 155                     |                   |       | 621                 |                   |                 |           |                               |
| A-D    | 111                   | 28                      |                   |       | 111                 |                   |                 |           |                               |
| AB-CD  | 123                   | 31                      | 629               | 0.195 | 123                 | 0.4               | 0.3             | 7.128     | A                             |
| AB-C   | 666                   | 167                     |                   |       | 666                 |                   |                 |           |                               |
| D-ABC  | 162                   | 40                      | 491               | 0.329 | 163                 | 0.8               | 0.5             | 11.007    | B                             |
| C-D    | 10                    | 2                       |                   |       | 10                  |                   |                 |           |                               |
| C-A    | 494                   | 124                     |                   |       | 494                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 643                   | 161                     |                   |       | 643                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 483               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 75                    | 19                      | 458               | 0.163 | 75                  | 0.3               | 0.2             | 9.414     | A                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 520                   | 130                     |                   |       | 520                 |                   |                 |           |                               |
| A-D    | 93                    | 23                      |                   |       | 93                  |                   |                 |           |                               |
| AB-CD  | 101                   | 25                      | 641               | 0.157 | 101                 | 0.3               | 0.2             | 6.670     | A                             |
| AB-C   | 560                   | 140                     |                   |       | 560                 |                   |                 |           |                               |
| D-ABC  | 136                   | 34                      | 520               | 0.261 | 136                 | 0.5               | 0.4             | 9.400     | A                             |
| C-D    | 8                     | 2                       |                   |       | 8                   |                   |                 |           |                               |
| C-A    | 414                   | 104                     |                   |       | 414                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 538                   | 135                     |                   |       | 538                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 514               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

# Existing Layout - 2025 Base Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 1.46               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name   | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-----------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | 2025 Base Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 706                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 134                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 710                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 103                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |    |
|------|----|-----|---|-----|----|
|      |    | A   | B | C   | D  |
| From | A  | 0   | 0 | 632 | 74 |
|      | B  | 65  | 0 | 64  | 5  |
|      | C  | 695 | 0 | 0   | 15 |
|      | D  | 87  | 0 | 16  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | A | B | C | D |
| From | A  | 0 | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 | 0 |
|      | D  | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.45    | 19.84         | 0.8             | C       | 123                     | 184                           |
| A-B    |         |               |                 |         | 0                       | 0                             |

|       |      |       |     |   |     |      |
|-------|------|-------|-----|---|-----|------|
| A-C   |      |       |     |   | 580 | 870  |
| A-D   |      |       |     |   | 68  | 102  |
| AB-CD | 0.17 | 7.94  | 0.2 | A | 74  | 111  |
| AB-C  |      |       |     |   | 637 | 955  |
| D-ABC | 0.30 | 13.44 | 0.4 | B | 95  | 142  |
| C-D   |      |       |     |   | 14  | 21   |
| C-A   |      |       |     |   | 638 | 957  |
| C-B   |      |       |     |   | 0   | 0    |
| CD-A  |      |       |     |   | 717 | 1076 |
| CD-B  | 0.00 | 0.00  | 0.0 | A | 0   | 0    |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 101                   | 25                      | 446               | 0.226 | 100                 | 0.0               | 0.3             | 10.375    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 476                   | 119                     |                   |       | 476                 |                   |                 |           |                               |
| A-D    | 56                    | 14                      |                   |       | 56                  |                   |                 |           |                               |
| AB-CD  | 60                    | 15                      | 600               | 0.100 | 60                  | 0.0               | 0.1             | 6.657     | A                             |
| AB-C   | 523                   | 131                     |                   |       | 523                 |                   |                 |           |                               |
| D-ABC  | 78                    | 19                      | 472               | 0.164 | 77                  | 0.0               | 0.2             | 9.088     | A                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 523                   | 131                     |                   |       | 523                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 588                   | 147                     |                   |       | 588                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 535               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 120                   | 30                      | 398               | 0.303 | 120                 | 0.3               | 0.4             | 12.916    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 67                    | 17                      |                   |       | 67                  |                   |                 |           |                               |
| AB-CD  | 72                    | 18                      | 574               | 0.126 | 72                  | 0.1               | 0.1             | 7.166     | A                             |
| AB-C   | 624                   | 156                     |                   |       | 624                 |                   |                 |           |                               |
| D-ABC  | 93                    | 23                      | 436               | 0.212 | 92                  | 0.2               | 0.3             | 10.468    | B                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 625                   | 156                     |                   |       | 625                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 703                   | 176                     |                   |       | 703                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 508               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 148                   | 37                      | 329               | 0.449 | 146                 | 0.4               | 0.8             | 19.516    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |
| A-D    | 81                    | 20                      |                   |       | 81                  |                   |                 |           |                               |
| AB-CD  | 90                    | 23                      | 544               | 0.166 | 90                  | 0.1               | 0.2             | 7.932     | A                             |
| AB-C   | 762                   | 191                     |                   |       | 762                 |                   |                 |           |                               |
| D-ABC  | 113                   | 28                      | 381               | 0.297 | 113                 | 0.3               | 0.4             | 13.377    | B                             |
| C-D    | 17                    | 4                       |                   |       | 17                  |                   |                 |           |                               |
| C-A    | 765                   | 191                     |                   |       | 765                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 860                   | 215                     |                   |       | 860                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 471               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 148                   | 37                      | 329               | 0.449 | 147                 | 0.8               | 0.8             | 19.842    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |
| A-D    | 81                    | 20                      |                   |       | 81                  |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |        |   |
|-------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| AB-CD | 91  | 23  | 544 | 0.166 | 91  | 0.2 | 0.2 | 7.939  | A |
| AB-C  | 763 | 191 |     |       | 763 |     |     |        |   |
| D-ABC | 113 | 28  | 381 | 0.297 | 113 | 0.4 | 0.4 | 13.439 | B |
| C-D   | 17  | 4   |     |       | 17  |     |     |        |   |
| C-A   | 765 | 191 |     |       | 765 |     |     |        |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |        |   |
| CD-A  | 861 | 215 |     |       | 861 |     |     |        |   |
| CD-B  | 0   | 0   | 471 | 0.000 | 0   | 0.0 | 0.0 | 0.000  | A |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 120                   | 30                      | 398               | 0.303 | 122                 | 0.8               | 0.4             | 13.107    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 67                    | 17                      |                   |       | 67                  |                   |                 |           |                               |
| AB-CD  | 72                    | 18                      | 574               | 0.126 | 73                  | 0.2               | 0.1             | 7.180     | A                             |
| AB-C   | 625                   | 156                     |                   |       | 625                 |                   |                 |           |                               |
| D-ABC  | 93                    | 23                      | 436               | 0.212 | 93                  | 0.4               | 0.3             | 10.526    | B                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 625                   | 156                     |                   |       | 625                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 703                   | 176                     |                   |       | 703                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 508               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 101                   | 25                      | 445               | 0.226 | 101                 | 0.4               | 0.3             | 10.484    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 476                   | 119                     |                   |       | 476                 |                   |                 |           |                               |
| A-D    | 56                    | 14                      |                   |       | 56                  |                   |                 |           |                               |
| AB-CD  | 60                    | 15                      | 600               | 0.100 | 60                  | 0.1               | 0.1             | 6.674     | A                             |
| AB-C   | 524                   | 131                     |                   |       | 524                 |                   |                 |           |                               |
| D-ABC  | 78                    | 19                      | 472               | 0.164 | 78                  | 0.3               | 0.2             | 9.141     | A                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 523                   | 131                     |                   |       | 523                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 589                   | 147                     |                   |       | 589                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 535               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

# Existing Layout - 2025 Base Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 1.87               | 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 | 2025 Base Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 886                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 106                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 621                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 192                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      |    | A   | B | C   | D   |
| From | A  | 0   | 0 | 755 | 131 |
|      | B  | 38  | 0 | 59  | 9   |
|      | C  | 609 | 0 | 0   | 12  |
|      | D  | 175 | 0 | 17  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | A | B | C | D |
| From | A  | 0 | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 | 0 |
|      | D  | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.39    | 19.90         | 0.6             | C       | 97                      | 146                           |
| A-B    |         |               |                 |         | 0                       | 0                             |

|       |      |       |     |   |     |      |
|-------|------|-------|-----|---|-----|------|
| A-C   |      |       |     |   | 693 | 1039 |
| A-D   |      |       |     |   | 120 | 180  |
| AB-CD | 0.28 | 8.05  | 0.4 | A | 138 | 208  |
| AB-C  |      |       |     |   | 737 | 1105 |
| D-ABC | 0.50 | 17.10 | 1.0 | C | 176 | 264  |
| C-D   |      |       |     |   | 11  | 17   |
| C-A   |      |       |     |   | 559 | 838  |
| C-B   |      |       |     |   | 0   | 0    |
| CD-A  |      |       |     |   | 719 | 1079 |
| CD-B  | 0.00 | 0.00  | 0.0 | A | 0   | 0    |

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 80                    | 20                      | 436               | 0.183 | 79                  | 0.0               | 0.2             | 10.045    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 99                    | 25                      |                   |       | 99                  |                   |                 |           |                               |
| AB-CD  | 108                   | 27                      | 632               | 0.172 | 108                 | 0.0               | 0.2             | 6.855     | A                             |
| AB-C   | 609                   | 152                     |                   |       | 609                 |                   |                 |           |                               |
| D-ABC  | 145                   | 36                      | 505               | 0.286 | 143                 | 0.0               | 0.4             | 9.896     | A                             |
| C-D    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| C-A    | 458                   | 115                     |                   |       | 458                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 589                   | 147                     |                   |       | 589                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 500               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 95                    | 24                      | 381               | 0.250 | 95                  | 0.2               | 0.3             | 12.557    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 679                   | 170                     |                   |       | 679                 |                   |                 |           |                               |
| A-D    | 118                   | 29                      |                   |       | 118                 |                   |                 |           |                               |
| AB-CD  | 133                   | 33                      | 621               | 0.214 | 133                 | 0.2               | 0.3             | 7.367     | A                             |
| AB-C   | 724                   | 181                     |                   |       | 724                 |                   |                 |           |                               |
| D-ABC  | 173                   | 43                      | 473               | 0.365 | 172                 | 0.4               | 0.6             | 11.941    | B                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 547                   | 137                     |                   |       | 547                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 704                   | 176                     |                   |       | 704                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 466               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 117                   | 29                      | 298               | 0.392 | 116                 | 0.3               | 0.6             | 19.634    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 831                   | 208                     |                   |       | 831                 |                   |                 |           |                               |
| A-D    | 144                   | 36                      |                   |       | 144                 |                   |                 |           |                               |
| AB-CD  | 174                   | 43                      | 621               | 0.279 | 173                 | 0.3               | 0.4             | 8.029     | A                             |
| AB-C   | 876                   | 219                     |                   |       | 876                 |                   |                 |           |                               |
| D-ABC  | 211                   | 53                      | 422               | 0.501 | 210                 | 0.6               | 1.0             | 16.847    | C                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 671                   | 168                     |                   |       | 671                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 862                   | 215                     |                   |       | 862                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 419               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 117                   | 29                      | 297               | 0.392 | 117                 | 0.6               | 0.6             | 19.901    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 831                   | 208                     |                   |       | 831                 |                   |                 |           |                               |
| A-D    | 144                   | 36                      |                   |       | 144                 |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |        |   |
|-------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| AB-CD | 174 | 43  | 621 | 0.280 | 174 | 0.4 | 0.4 | 8.050  | A |
| AB-C  | 877 | 219 |     |       | 877 |     |     |        |   |
| D-ABC | 211 | 53  | 422 | 0.501 | 211 | 1.0 | 1.0 | 17.103 | C |
| C-D   | 13  | 3   |     |       | 13  |     |     |        |   |
| C-A   | 671 | 168 |     |       | 671 |     |     |        |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |        |   |
| CD-A  | 863 | 216 |     |       | 863 |     |     |        |   |
| CD-B  | 0   | 0   | 419 | 0.000 | 0   | 0.0 | 0.0 | 0.000  | A |

## 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 95                    | 24                      | 381               | 0.250 | 96                  | 0.6               | 0.3             | 12.713    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 679                   | 170                     |                   |       | 679                 |                   |                 |           |                               |
| A-D    | 118                   | 29                      |                   |       | 118                 |                   |                 |           |                               |
| AB-CD  | 133                   | 33                      | 621               | 0.214 | 134                 | 0.4               | 0.3             | 7.396     | A                             |
| AB-C   | 725                   | 181                     |                   |       | 725                 |                   |                 |           |                               |
| D-ABC  | 173                   | 43                      | 473               | 0.365 | 174                 | 1.0               | 0.6             | 12.129    | B                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 547                   | 137                     |                   |       | 547                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 706                   | 177                     |                   |       | 706                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 466               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 80                    | 20                      | 436               | 0.183 | 80                  | 0.3               | 0.2             | 10.128    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 99                    | 25                      |                   |       | 99                  |                   |                 |           |                               |
| AB-CD  | 109                   | 27                      | 632               | 0.172 | 109                 | 0.3               | 0.2             | 6.886     | A                             |
| AB-C   | 610                   | 152                     |                   |       | 610                 |                   |                 |           |                               |
| D-ABC  | 145                   | 36                      | 505               | 0.286 | 145                 | 0.6               | 0.4             | 10.025    | B                             |
| C-D    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| C-A    | 458                   | 115                     |                   |       | 458                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 591                   | 148                     |                   |       | 591                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 500               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

# Existing Layout - 2025 With Dev Flows, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 2.91               | 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 |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D5 | 2025 With Dev Flows | 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)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 706                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 207                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 722                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 104                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      |   | To  |   |     |    |
|------|---|-----|---|-----|----|
|      |   | A   | B | C   | D  |
| From | A | 0   | 0 | 632 | 74 |
|      | B | 102 | 0 | 96  | 9  |
|      | C | 707 | 0 | 0   | 15 |
|      | D | 88  | 0 | 16  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      |   | To |   |   |   |
|------|---|----|---|---|---|
|      |   | A  | B | C | D |
| From | A | 0  | 0 | 0 | 0 |
|      | B | 0  | 0 | 0 | 0 |
|      | C | 0  | 0 | 0 | 0 |
|      | D | 0  | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.70    | 36.69         | 2.2             | E       | 190                     | 285                           |

|       |      |       |     |   |     |      |
|-------|------|-------|-----|---|-----|------|
| A-B   |      |       |     |   | 0   | 0    |
| A-C   |      |       |     |   | 580 | 870  |
| A-D   |      |       |     |   | 68  | 102  |
| AB-CD | 0.18 | 8.04  | 0.2 | A | 78  | 117  |
| AB-C  |      |       |     |   | 666 | 999  |
| D-ABC | 0.31 | 13.91 | 0.4 | B | 95  | 143  |
| C-D   |      |       |     |   | 14  | 21   |
| C-A   |      |       |     |   | 649 | 973  |
| C-B   |      |       |     |   | 0   | 0    |
| CD-A  |      |       |     |   | 729 | 1094 |
| CD-B  | 0.00 | 0.00  | 0.0 | A | 0   | 0    |

### Main Results for each time segment

#### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 156                   | 39                      | 442               | 0.352 | 154                 | 0.0               | 0.5             | 12.382    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 476                   | 119                     |                   |       | 476                 |                   |                 |           |                               |
| A-D    | 56                    | 14                      |                   |       | 56                  |                   |                 |           |                               |
| AB-CD  | 63                    | 16                      | 598               | 0.105 | 63                  | 0.0               | 0.1             | 6.718     | A                             |
| AB-C   | 546                   | 137                     |                   |       | 546                 |                   |                 |           |                               |
| D-ABC  | 78                    | 20                      | 468               | 0.167 | 78                  | 0.0               | 0.2             | 9.193     | A                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 532                   | 133                     |                   |       | 532                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 598                   | 149                     |                   |       | 598                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 535               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 186                   | 47                      | 394               | 0.472 | 185                 | 0.5               | 0.9             | 17.059    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 67                    | 17                      |                   |       | 67                  |                   |                 |           |                               |
| AB-CD  | 76                    | 19                      | 573               | 0.133 | 76                  | 0.1               | 0.2             | 7.243     | A                             |
| AB-C   | 652                   | 163                     |                   |       | 652                 |                   |                 |           |                               |
| D-ABC  | 93                    | 23                      | 431               | 0.217 | 93                  | 0.2               | 0.3             | 10.652    | B                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 636                   | 159                     |                   |       | 636                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 714                   | 179                     |                   |       | 714                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 508               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:30 - 08:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 228                   | 57                      | 324               | 0.702 | 223                 | 0.9               | 2.1             | 33.923    | D                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |
| A-D    | 81                    | 20                      |                   |       | 81                  |                   |                 |           |                               |
| AB-CD  | 96                    | 24                      | 544               | 0.176 | 95                  | 0.2               | 0.2             | 8.026     | A                             |
| AB-C   | 795                   | 199                     |                   |       | 795                 |                   |                 |           |                               |
| D-ABC  | 115                   | 29                      | 374               | 0.306 | 114                 | 0.3               | 0.4             | 13.825    | B                             |
| C-D    | 17                    | 4                       |                   |       | 17                  |                   |                 |           |                               |
| C-A    | 778                   | 195                     |                   |       | 778                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 875                   | 219                     |                   |       | 875                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 471               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 08:45 - 09:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 228                   | 57                      | 324               | 0.703 | 227                 | 2.1               | 2.2             | 36.691    | E                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 696                   | 174                     |                   |       | 696                 |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |        |   |
|-------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| A-D   | 81  | 20  |     |       | 81  |     |     |        |   |
| AB-CD | 96  | 24  | 544 | 0.176 | 96  | 0.2 | 0.2 | 8.036  | A |
| AB-C  | 797 | 199 |     |       | 797 |     |     |        |   |
| D-ABC | 115 | 29  | 373 | 0.307 | 114 | 0.4 | 0.4 | 13.908 | B |
| C-D   | 17  | 4   |     |       | 17  |     |     |        |   |
| C-A   | 778 | 195 |     |       | 778 |     |     |        |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |        |   |
| CD-A  | 875 | 219 |     |       | 875 |     |     |        |   |
| CD-B  | 0   | 0   | 471 | 0.000 | 0   | 0.0 | 0.0 | 0.000  | A |

## 09:00 - 09:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 186                   | 47                      | 394               | 0.472 | 191                 | 2.2               | 0.9             | 18.148    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 67                    | 17                      |                   |       | 67                  |                   |                 |           |                               |
| AB-CD  | 76                    | 19                      | 573               | 0.133 | 77                  | 0.2               | 0.2             | 7.256     | A                             |
| AB-C   | 655                   | 164                     |                   |       | 655                 |                   |                 |           |                               |
| D-ABC  | 93                    | 23                      | 430               | 0.217 | 94                  | 0.4               | 0.3             | 10.721    | B                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 636                   | 159                     |                   |       | 636                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 715                   | 179                     |                   |       | 715                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 508               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 09:15 - 09:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 156                   | 39                      | 442               | 0.352 | 157                 | 0.9               | 0.6             | 12.699    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 476                   | 119                     |                   |       | 476                 |                   |                 |           |                               |
| A-D    | 56                    | 14                      |                   |       | 56                  |                   |                 |           |                               |
| AB-CD  | 63                    | 16                      | 598               | 0.106 | 63                  | 0.2               | 0.1             | 6.736     | A                             |
| AB-C   | 548                   | 137                     |                   |       | 548                 |                   |                 |           |                               |
| D-ABC  | 78                    | 20                      | 468               | 0.167 | 79                  | 0.3               | 0.2             | 9.250     | A                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 532                   | 133                     |                   |       | 532                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 599                   | 150                     |                   |       | 599                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 535               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

# Existing Layout - 2025 With Dev Flows, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type      | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|--------------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Left-Right Stagger | Two-way              |                       | 2.39               | A            |

### Junction Network Options

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name       | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D6 | 2025 With Dev Flows | PM               | ONE HOUR             | 17:00              | 18:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 886                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 138                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 651                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 196                     | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |   |     |     |
|------|----|-----|---|-----|-----|
|      |    | A   | B | C   | D   |
| From | A  | 0   | 0 | 755 | 131 |
|      | B  | 55  | 0 | 73  | 10  |
|      | C  | 639 | 0 | 0   | 12  |
|      | D  | 179 | 0 | 17  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |   |   |   |   |
|------|----|---|---|---|---|
|      |    | A | B | C | D |
| From | A  | 0 | 0 | 0 | 0 |
|      | B  | 0 | 0 | 0 | 0 |
|      | C  | 0 | 0 | 0 | 0 |
|      | D  | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.54    | 28.23         | 1.2             | D       | 127                     | 190                           |

|       |      |       |     |   |     |      |
|-------|------|-------|-----|---|-----|------|
| A-B   |      |       |     |   | 0   | 0    |
| A-C   |      |       |     |   | 693 | 1039 |
| A-D   |      |       |     |   | 120 | 180  |
| AB-CD | 0.29 | 8.19  | 0.5 | A | 140 | 210  |
| AB-C  |      |       |     |   | 749 | 1123 |
| D-ABC | 0.52 | 18.40 | 1.1 | C | 180 | 270  |
| C-D   |      |       |     |   | 11  | 17   |
| C-A   |      |       |     |   | 586 | 880  |
| C-B   |      |       |     |   | 0   | 0    |
| CD-A  |      |       |     |   | 750 | 1126 |
| CD-B  | 0.00 | 0.00  | 0.0 | A | 0   | 0    |

### Main Results for each time segment

#### 17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 104                   | 26                      | 423               | 0.246 | 103                 | 0.0               | 0.3             | 11.209    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 99                    | 25                      |                   |       | 99                  |                   |                 |           |                               |
| AB-CD  | 109                   | 27                      | 626               | 0.175 | 109                 | 0.0               | 0.2             | 6.939     | A                             |
| AB-C   | 619                   | 155                     |                   |       | 619                 |                   |                 |           |                               |
| D-ABC  | 148                   | 37                      | 499               | 0.295 | 146                 | 0.0               | 0.4             | 10.138    | B                             |
| C-D    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| C-A    | 481                   | 120                     |                   |       | 481                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 614                   | 154                     |                   |       | 614                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 500               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 124                   | 31                      | 365               | 0.340 | 123                 | 0.3               | 0.5             | 14.825    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 679                   | 170                     |                   |       | 679                 |                   |                 |           |                               |
| A-D    | 118                   | 29                      |                   |       | 118                 |                   |                 |           |                               |
| AB-CD  | 134                   | 34                      | 615               | 0.219 | 134                 | 0.2               | 0.3             | 7.479     | A                             |
| AB-C   | 736                   | 184                     |                   |       | 736                 |                   |                 |           |                               |
| D-ABC  | 176                   | 44                      | 465               | 0.379 | 175                 | 0.4               | 0.6             | 12.386    | B                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 574                   | 144                     |                   |       | 574                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 735                   | 184                     |                   |       | 735                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 466               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 152                   | 38                      | 279               | 0.544 | 149                 | 0.5               | 1.1             | 27.233    | D                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 831                   | 208                     |                   |       | 831                 |                   |                 |           |                               |
| A-D    | 144                   | 36                      |                   |       | 144                 |                   |                 |           |                               |
| AB-CD  | 176                   | 44                      | 616               | 0.286 | 176                 | 0.3               | 0.4             | 8.170     | A                             |
| AB-C   | 889                   | 222                     |                   |       | 889                 |                   |                 |           |                               |
| D-ABC  | 216                   | 54                      | 411               | 0.525 | 214                 | 0.6               | 1.1             | 18.116    | C                             |
| C-D    | 13                    | 3                       |                   |       | 13                  |                   |                 |           |                               |
| C-A    | 704                   | 176                     |                   |       | 704                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 899                   | 225                     |                   |       | 899                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 419               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

#### 17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 152                   | 38                      | 279               | 0.545 | 152                 | 1.1               | 1.2             | 28.229    | D                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 831                   | 208                     |                   |       | 831                 |                   |                 |           |                               |

|       |     |     |     |       |     |     |     |        |   |
|-------|-----|-----|-----|-------|-----|-----|-----|--------|---|
| A-D   | 144 | 36  |     |       | 144 |     |     |        |   |
| AB-CD | 177 | 44  | 616 | 0.287 | 177 | 0.4 | 0.5 | 8.193  | A |
| AB-C  | 890 | 223 |     |       | 890 |     |     |        |   |
| D-ABC | 216 | 54  | 411 | 0.525 | 216 | 1.1 | 1.1 | 18.396 | C |
| C-D   | 13  | 3   |     |       | 13  |     |     |        |   |
| C-A   | 704 | 176 |     |       | 704 |     |     |        |   |
| C-B   | 0   | 0   |     |       | 0   |     |     |        |   |
| CD-A  | 901 | 225 |     |       | 901 |     |     |        |   |
| CD-B  | 0   | 0   | 419 | 0.000 | 0   | 0.0 | 0.0 | 0.000  | A |

## 18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 124                   | 31                      | 365               | 0.340 | 127                 | 1.2               | 0.5             | 15.250    | C                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 679                   | 170                     |                   |       | 679                 |                   |                 |           |                               |
| A-D    | 118                   | 29                      |                   |       | 118                 |                   |                 |           |                               |
| AB-CD  | 135                   | 34                      | 616               | 0.219 | 135                 | 0.5               | 0.3             | 7.507     | A                             |
| AB-C   | 738                   | 184                     |                   |       | 738                 |                   |                 |           |                               |
| D-ABC  | 176                   | 44                      | 465               | 0.379 | 178                 | 1.1               | 0.6             | 12.620    | B                             |
| C-D    | 11                    | 3                       |                   |       | 11                  |                   |                 |           |                               |
| C-A    | 574                   | 144                     |                   |       | 574                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 737                   | 184                     |                   |       | 737                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 466               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## 18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC   | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD  | 104                   | 26                      | 422               | 0.246 | 105                 | 0.5               | 0.3             | 11.364    | B                             |
| A-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| A-C    | 568                   | 142                     |                   |       | 568                 |                   |                 |           |                               |
| A-D    | 99                    | 25                      |                   |       | 99                  |                   |                 |           |                               |
| AB-CD  | 110                   | 27                      | 627               | 0.175 | 110                 | 0.3               | 0.2             | 6.974     | A                             |
| AB-C   | 620                   | 155                     |                   |       | 620                 |                   |                 |           |                               |
| D-ABC  | 148                   | 37                      | 499               | 0.296 | 148                 | 0.6               | 0.4             | 10.284    | B                             |
| C-D    | 9                     | 2                       |                   |       | 9                   |                   |                 |           |                               |
| C-A    | 481                   | 120                     |                   |       | 481                 |                   |                 |           |                               |
| C-B    | 0                     | 0                       |                   |       | 0                   |                   |                 |           |                               |
| CD-A   | 617                   | 154                     |                   |       | 617                 |                   |                 |           |                               |
| CD-B   | 0                     | 0                       | 500               | 0.000 | 0                   | 0.0               | 0.0             | 0.000     | A                             |

## APPENDIX 7

### M62 Junctions 19 & 20 STATS19 Accident Data

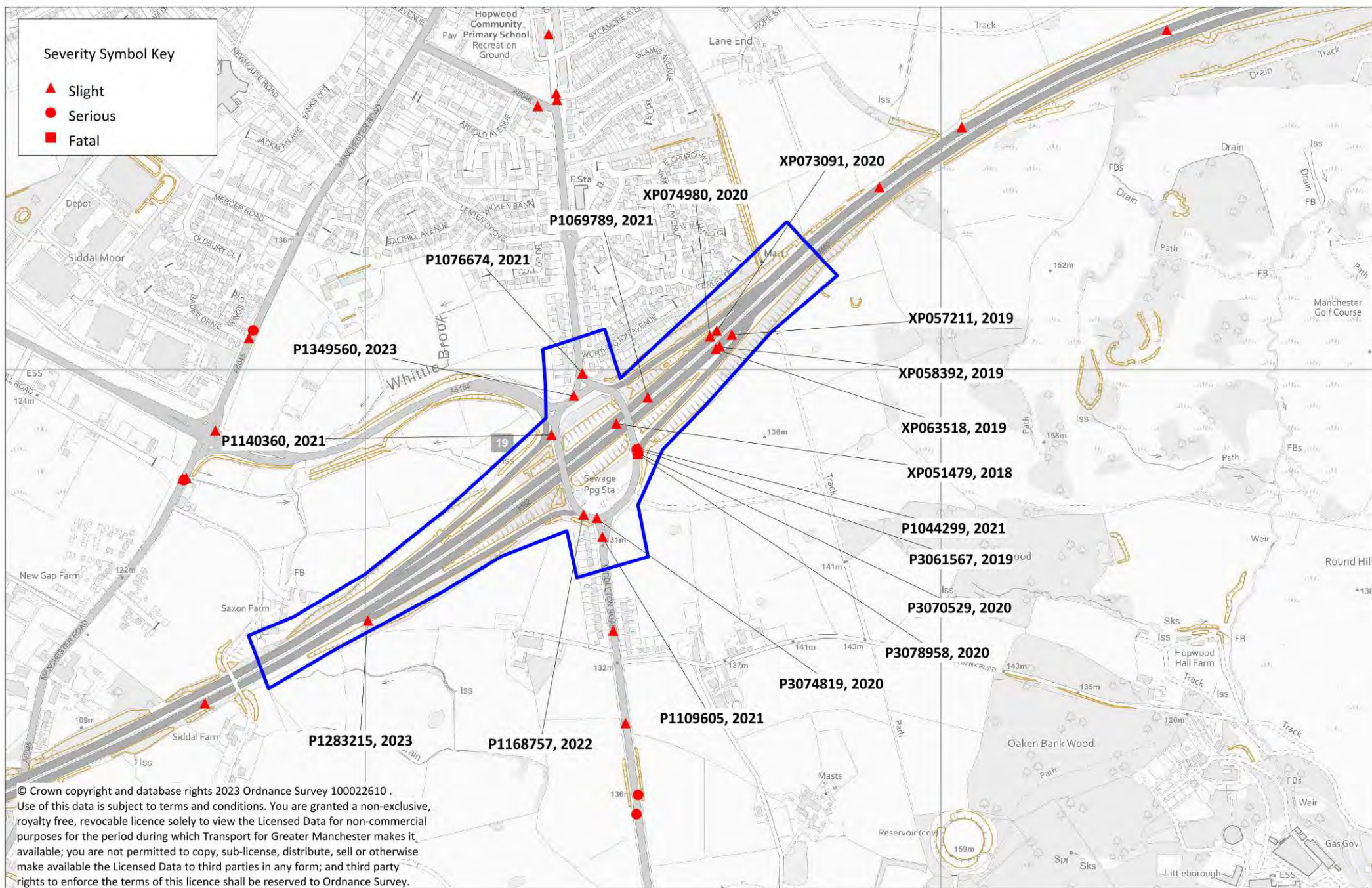
# TRANSPORT FOR GREATER MANCHESTER



Traffic Accident Data for

## **Eddisons**

**Reported Road Injury Accidents in the Specified Area of  
M62 Junction 19, Rochdale.  
01/09/2018 to 31/08/2023**



# TRANSPORT FOR GREATER MANCHESTER



## Reported Road Injury Accidents in Specified Area of M62 Junction 19, Rochdale. 01/09/2018 to 31/08/2023

| Injury<br>Accidents | Sep -<br>Dec<br>2018 | 2019 | 2020 | 2021 | 2022 | Jan -<br>Aug<br>2023 | Total |
|---------------------|----------------------|------|------|------|------|----------------------|-------|
| Fatal               | 0                    | 0    | 0    | 0    | 0    | 0                    | 0     |
| Serious             | 0                    | 1    | 1    | 0    | 0    | 0                    | 2     |
| Slight              | 1                    | 3    | 4    | 5    | 1    | 2                    | 16    |
| Total               | 1                    | 4    | 5    | 5    | 1    | 2                    | 18    |

# Standard Totals Report : Reported Injury Accidents in Specified Area of M62 Junction 19, Rochdale, 01/09/2018 to 31/08/2023

## Accidents

|                        |           |
|------------------------|-----------|
| Serious                | 2         |
| Slight                 | 16        |
| <b>Total Accidents</b> | <b>18</b> |

## Casualties Broken Down By Type

| Car (Driver) | 0-15     | 16+       | Total     |
|--------------|----------|-----------|-----------|
| Slight       | 0        | 17        | 17        |
| <b>Total</b> | <b>0</b> | <b>17</b> | <b>17</b> |

| Car (Passenger) | 0-15     | 16+       | Total     |
|-----------------|----------|-----------|-----------|
| Serious         | 1        | 0         | 1         |
| Slight          | 2        | 10        | 12        |
| <b>Total</b>    | <b>3</b> | <b>10</b> | <b>13</b> |

| TWPV (Rider) | 0-15     | 16+      | Total    |
|--------------|----------|----------|----------|
| Slight       | 0        | 1        | 1        |
| <b>Total</b> | <b>0</b> | <b>1</b> | <b>1</b> |

| Cyclist (Rider) | 0-15     | 16+       | Total     |
|-----------------|----------|-----------|-----------|
| Serious         | 0        | 1         | 1         |
| Slight          | 0        | 2         | 2         |
| <b>Total</b>    | <b>0</b> | <b>3</b>  | <b>3</b>  |
| <b>Total</b>    | <b>3</b> | <b>31</b> | <b>34</b> |

## Casualties By Age and Sex

| Severity                | 0 - 15   | 16 - 59   | 60 - 69  | 70 +     | Total     |
|-------------------------|----------|-----------|----------|----------|-----------|
| Serious                 |          |           |          |          |           |
| Male                    | 0        | 1         | 0        | 0        | 1         |
| Female                  | 1        | 0         | 0        | 0        | 1         |
| <b>Total</b>            | <b>1</b> | <b>1</b>  | <b>0</b> | <b>0</b> | <b>2</b>  |
| Slight                  |          |           |          |          |           |
| Male                    | 2        | 21        | 0        | 1        | 24        |
| Female                  | 0        | 6         | 1        | 1        | 8         |
| <b>Total</b>            | <b>2</b> | <b>27</b> | <b>1</b> | <b>2</b> | <b>32</b> |
| <b>Total Casualties</b> | <b>3</b> | <b>28</b> | <b>1</b> | <b>2</b> | <b>34</b> |

## Casualties By Age and Class

| Severity                | 0 - 15   | 16 - 59   | 60 - 69  | 70 +     | Total     |
|-------------------------|----------|-----------|----------|----------|-----------|
| Serious                 |          |           |          |          |           |
| Driver or rider         | 0        | 1         | 0        | 0        | 1         |
| Veh or pillion pas      | 1        | 0         | 0        | 0        | 1         |
| <b>Total</b>            | <b>1</b> | <b>1</b>  | <b>0</b> | <b>0</b> | <b>2</b>  |
| Slight                  |          |           |          |          |           |
| Driver or rider         | 0        | 18        | 1        | 1        | 20        |
| Veh or pillion pas      | 2        | 9         | 0        | 1        | 12        |
| <b>Total</b>            | <b>2</b> | <b>27</b> | <b>1</b> | <b>2</b> | <b>32</b> |
| <b>Total Casualties</b> | <b>3</b> | <b>28</b> | <b>1</b> | <b>2</b> | <b>34</b> |

## Cyclist (Rider and Pillion) and Pedestrian Casualties By Age

| Severity                | 0 - 15   | 16 - 59  | 60 - 69  | 70 +     | Total    |
|-------------------------|----------|----------|----------|----------|----------|
| Serious                 | 0        | 1        | 0        | 0        | 1        |
| Slight                  | 0        | 2        | 0        | 0        | 2        |
| <b>Total Casualties</b> | <b>0</b> | <b>3</b> | <b>0</b> | <b>0</b> | <b>3</b> |

# Standard Report - Reported Injury Accidents in Specified Area of M62 Junction 19, Rochdale, 01/09/2018 to 31/08/2023

This printout has been generated from the Transport for Greater Manchester's database of road traffic accident records using the query system, GMAXI.

The road traffic accident database contains STATS19 data supplied by Greater Manchester Police and further validated by the Highways Forecasting and Analytical Services (HFAS) section of Transport for Greater Manchester. It is maintained by HFAS on behalf of the ten District Councils in Greater Manchester.

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|                                                                                                                               |  |                       |  |                          |  |                      |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|-----------------------|--|--------------------------|--|----------------------|------------------------|--|------------------|------------------------|--|--|--|------------------|--|--|--|--|
| Accident Reference Number: P1283215                                                                                           |  |                       |  | Day: Saturday            |  | Contributory Factors |                        |  | Date: 04/03/2023 |                        |  |  |  | Time: 21:15      |  |  |  |  |
| Place Reported: Scene                                                                                                         |  |                       |  | District: Rochdale       |  | Factor Conf Ref      |                        |  | Vehicle Details  |                        |  |  |  | Casualty Details |  |  |  |  |
| Location: M62 On-slip Road 30 metres SW Of M62 SW-bound, Marker Post 60.5                                                     |  |                       |  | DDrugs VLike V1          |  |                      | Type Move From To Skid |  |                  | Type Sex Age Sev Pupil |  |  |  |                  |  |  |  |  |
| Description: Both Vehs Trav Sw-bd M62 On-slip Road, V1 (Intoxicated) O/takes V2 On Its O/s, N/s Of V1 Collides With O/s Of V2 |  |                       |  | DAggre VLike V1          |  |                      | Car O/Tkg NE SW S&O    |  |                  | 1 Drv M 19 Slight Un   |  |  |  |                  |  |  |  |  |
| Locational Details                                                                                                            |  |                       |  | Conditions               |  | Accident Details     |                        |  | Car Ahead NE SW  |                        |  |  |  |                  |  |  |  |  |
| Road: M62                                                                                                                     |  | Junction Details:     |  | Road Surface: Dry        |  | Severity: Slight     |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
| OSGR: 386003 408563                                                                                                           |  | Junction Control: n/a |  | Light Conditions: Dark   |  | No. of Vehicles: 2   |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
| Speed Limit: 70                                                                                                               |  | Ped Crossing:         |  | Weather Conditions: Fine |  | No. of Casualties: 1 |                        |  |                  |                        |  |  |  |                  |  |  |  |  |

|                                                                                                                                              |  |                        |  |                          |  |                      |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|--------------------------|--|----------------------|------------------------|--|------------------|------------------------|--|--|--|------------------|--|--|--|--|
| Accident Reference Number: P1140360                                                                                                          |  |                        |  | Day: Wednesday           |  | Contributory Factors |                        |  | Date: 15/12/2021 |                        |  |  |  | Time: 17:20      |  |  |  |  |
| Place Reported: Self                                                                                                                         |  |                        |  | District: Rochdale       |  | Factor Conf Ref      |                        |  | Vehicle Details  |                        |  |  |  | Casualty Details |  |  |  |  |
| Location: M62 Off-slip Road at junction with Heywood Interchange Roundabout                                                                  |  |                        |  |                          |  |                      | Type Move From To Skid |  |                  | Type Sex Age Sev Pupil |  |  |  |                  |  |  |  |  |
| Description: Both Vehs Trav Ne-bd M62 Off-slip Rd. V1 Slows Approaching Rdabt, V2 (LGV) Trav Behind & Front Collides With Rear Of V1. V2 Fts |  |                        |  |                          |  |                      | Car Stopg SW NE        |  |                  | 1 Drv F 42 Slight Un   |  |  |  |                  |  |  |  |  |
|                                                                                                                                              |  |                        |  |                          |  |                      | LGV Ahead SW NE        |  |                  |                        |  |  |  |                  |  |  |  |  |
| Locational Details                                                                                                                           |  |                        |  | Conditions               |  | Accident Details     |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
| Road: M62/A6046                                                                                                                              |  | Junction Details: Rdbt |  | Road Surface: Dry        |  | Severity: Slight     |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
| OSGR: 386322 408886                                                                                                                          |  | Junction Control: GW   |  | Light Conditions: Dark   |  | No. of Vehicles: 2   |                        |  |                  |                        |  |  |  |                  |  |  |  |  |
| Speed Limit: 70                                                                                                                              |  | Ped Crossing:          |  | Weather Conditions: Fine |  | No. of Casualties: 1 |                        |  |                  |                        |  |  |  |                  |  |  |  |  |

|                                                                                                                                                                          |  |  |  |                    |  |                      |  |  |                  |  |  |     |  |             |                 |  |  |  |  |                  |  |  |  |  |      |  |  |  |  |    |  |  |  |  |      |  |  |  |  |      |  |  |  |  |     |  |  |  |  |     |  |  |  |  |     |  |  |  |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  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| Place Reported: Else                                                                                                                                                     |  |  |  | District: Rochdale |  | Factor               |  |  | Conf             |  |  | Ref |  |             | Vehicle Details |  |  |  |  | Casualty Details |  |  |  |  |      |  |  |  |  |    |  |  |  |  |      |  |  |  |  |      |  |  |  |  |     |  |  |  |  |     |  |  |  |  |     |  |  |  |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  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| Location: Heywood Interchange Roundabout at junction with Middleton Road                                                                                                 |  |  |  |                    |  |                      |  |  |                  |  |  |     |  |             | Type            |  |  |  |  | Move             |  |  |  |  | From |  |  |  |  | To |  |  |  |  | Skid |  |  |  |  | Type |  |  |  |  | Sex |  |  |  |  | Age |  |  |  |  | Sev |  |  |  |  | Pupil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  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V1 Fts |  |  |  |                    |  |                      |  |  |                  |  |  |     |  |             | Car             |  |  |  |  | Ahead            |  |  |  |  | W    |  |  |  |  | N  |  |  |  |  |      |  |  |  |  |      |  |  |  |  |     |  |  |  |  |     |  |  |  |  |     |  |  |  |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  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|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
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| Accident Reference Number: P1109605                                                                                                                                           |           |        |                        | Day: Tuesday       |                     | Contributory Factors |                    |         | Date: 22/06/2021 |  |  |     |  | Time: 10:55 |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Place Reported: Self                                                                                                                                                          |           |        |                        | District: Rochdale |                     | Factor               |                    |         | Conf             |  |  | Ref |  |             | Vehicle Details |        |       |      |     | Casualty Details |       |     |         |        |       |        |  |
| Location: Middleton Road 30 metres S Of Heywood Interchange Roundabout                                                                                                        |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Type   | Move  | From | To  | Skid             | Type  | Sex | Age     | Sev    | Pupil |        |  |
| Description: Both Vehs Trav N Middleton Rd, V2 Slows Approaching Heywood Interchange Rdabt, V1 Trav Behind & Collides With Rear Of V2                                         |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Car    | Ahead | S    | N   |                  | 1 Drv | M   | 49      | Slight | Un    |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Car    | Stopg | S    | N   |                  | 2 Pas | F   | 40      | Slight | Un    |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 |        |       |      |     |                  | 3 Pas | M   | 19      | Slight | Un    |        |  |
| Locational Details                                                                                                                                                            |           |        |                        | Conditions         |                     |                      | Accident Details   |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Road:                                                                                                                                                                         | A6046     |        | Junction Details:      |                    | Road Surface:       | Dry                  | Severity:          | Slight  |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| OSGR:                                                                                                                                                                         | 386411    | 408708 | Junction Control: n/a  |                    | Light Conditions:   | Light                | No. of Vehicles:   | 2       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Speed Limit:                                                                                                                                                                  | 40        |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 | No. of Casualties: | 3       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Accident Reference Number: XP051479                                                                                                                                           |           |        |                        | Day: Wednesday     |                     | Contributory Factors |                    |         | Date: 21/11/2018 |  |  |     |  | Time: 16:55 |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Place Reported: Else                                                                                                                                                          |           |        |                        | District: Rochdale |                     | Factor               |                    |         | Conf             |  |  | Ref |  |             | Vehicle Details |        |       |      |     | Casualty Details |       |     |         |        |       |        |  |
| Location: M62 NE-Bound, Marker Post 61.1                                                                                                                                      |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Type   | Move  | From | To  | Skid             | Type  | Sex | Age     | Sev    | Pupil |        |  |
| Description: Both Vehs Trav Ne-bd M62, V2 (Taxi) In Third Lane In Heavy Traffic When V1 (MGV) Tried To Get Into Lane 3 But Collides V2. V1 FTS                                |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | MGV    | chInR | SW   | NE  |                  | 1 Drv | M   | 32      | Slight |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Taxi   | Ahead | SW   | NE  |                  |       |     |         |        |       |        |  |
| Locational Details                                                                                                                                                            |           |        |                        | Conditions         |                     |                      | Accident Details   |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Road:                                                                                                                                                                         | M62       |        | Junction Details:      |                    | Road Surface:       | Dry                  | Severity:          | Slight  |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| OSGR:                                                                                                                                                                         | 386435    | 408906 | Junction Control: n/a  |                    | Light Conditions:   | Light                | No. of Vehicles:   | 2       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Speed Limit:                                                                                                                                                                  | 70        |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 | No. of Casualties: | 1       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Accident Reference Number: P3061567                                                                                                                                           |           |        |                        | Day: Sunday        |                     | Contributory Factors |                    |         | Date: 15/09/2019 |  |  |     |  | Time: 01:05 |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Place Reported: Scene                                                                                                                                                         |           |        |                        | District: Rochdale |                     | Factor               |                    |         | Conf             |  |  | Ref |  |             | Vehicle Details |        |       |      |     | Casualty Details |       |     |         |        |       |        |  |
| Location: Heywood Interchange Roundabout at junction with M62 Off-slip Road                                                                                                   |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Type   | Move  | From | To  | Skid             | Type  | Sex | Age     | Sev    | Pupil |        |  |
| Description: V2 Trav S Heywood Interchange Rdabt, V1 Trav Sw M62 Off-slip Rd Enters Rdabt, V1 Fails To Give Way, Rear Of V1 Collides With Front Of V2                         |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | DGWor  | VLike | V1   |     |                  | 1 Drv | M   | 43      | Slight |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | DSpee  | VLike | V1   | Car | Ahead            | NE    | SW  | 3 Pas   | M      | 6     | Slight |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | DSpee  | VLike | V2   |     |                  | 4 Pas | M   | 2       | Slight |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | DFLook | VLike | V1   |     |                  | 5 Pas | M   | 40      | Slight |       |        |  |
| Locational Details                                                                                                                                                            |           |        |                        | Conditions         |                     |                      | Accident Details   |         |                  |  |  |     |  |             |                 | Car    | Ahead | N    | S   | 6 Pas            | F     | 15  | Serious |        |       |        |  |
| Road:                                                                                                                                                                         | A6046/M62 |        | Junction Details: Rdbt |                    | Road Surface:       | Dry                  | Severity:          | Serious |                  |  |  |     |  |             |                 |        |       |      |     | 2 Drv            | M     | 54  | Slight  |        |       |        |  |
| OSGR:                                                                                                                                                                         | 386471    | 408861 | Junction Control: GW   |                    | Light Conditions:   | Dark                 | No. of Vehicles:   | 2       |                  |  |  |     |  |             |                 |        |       |      |     | 7 Pas            | M     | 24  | Slight  |        |       |        |  |
| Speed Limit:                                                                                                                                                                  | 40        |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 | No. of Casualties: | 8       |                  |  |  |     |  |             |                 |        |       |      |     | 8 Pas            | M     | 24  | Slight  |        |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Accident Reference Number: P3078958                                                                                                                                           |           |        |                        | Day: Tuesday       |                     | Contributory Factors |                    |         | Date: 15/12/2020 |  |  |     |  | Time: 11:30 |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Place Reported: Scene                                                                                                                                                         |           |        |                        | District: Rochdale |                     | Factor               |                    |         | Conf             |  |  | Ref |  |             | Vehicle Details |        |       |      |     | Casualty Details |       |     |         |        |       |        |  |
| Location: Heywood Interchange at junction with M62 Off-slip Road                                                                                                              |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | Type   | Move  | From | To  | Skid             | Type  | Sex | Age     | Sev    | Pupil |        |  |
| Description: V1 Trav W Exits M62 Off-slip Rd Enters Heywood Interchange Rdabt, V2 (Pedal Cycle) Trav S-bd On Rdabt, Driver Of V1 Affects By Dazzling Sun & O/s Hits N/s Of V2 |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | DSun   | VLike | V1   | Car | Ahead            | E     | W   |         |        |       |        |  |
|                                                                                                                                                                               |           |        |                        |                    |                     |                      |                    |         |                  |  |  |     |  |             |                 | p/c    | Ahead | N    | S   |                  | 1 Rid | M   | 51      | Slight |       |        |  |
| Locational Details                                                                                                                                                            |           |        |                        | Conditions         |                     |                      | Accident Details   |         |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Road:                                                                                                                                                                         | A6046/M62 |        | Junction Details: Rdbt |                    | Road Surface:       | Wet                  | Severity:          | Slight  |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| OSGR:                                                                                                                                                                         | 386472    | 408853 | Junction Control: GW   |                    | Light Conditions:   | Light                | No. of Vehicles:   | 2       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |
| Speed Limit:                                                                                                                                                                  | 30        |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 | No. of Casualties: | 1       |                  |  |  |     |  |             |                 |        |       |      |     |                  |       |     |         |        |       |        |  |

|                                                                                                                                                         |               |                   |                           |                     |       |                             |             |                |                         |       |            |                         |            |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------|---------------------------|---------------------|-------|-----------------------------|-------------|----------------|-------------------------|-------|------------|-------------------------|------------|----------------------|
| <b>Accident Reference Number:</b> P3070529                                                                                                              |               |                   | <b>Day:</b> Tuesday       |                     |       | <b>Contributory Factors</b> |             |                | <b>Date:</b> 18/02/2020 |       |            | <b>Time:</b> 18:45      |            |                      |
| <b>Place Reported:</b> Else                                                                                                                             |               |                   | <b>District:</b> Rochdale |                     |       | <b>Factor Conf Ref</b>      |             |                | <b>Vehicle Details</b>  |       |            | <b>Casualty Details</b> |            |                      |
| <b>Location:</b> Middleton Road Heywood Interchange at junction with M62 SW-bound Exit Slip Road                                                        |               |                   |                           |                     |       | <b>Type</b>                 | <b>Move</b> | <b>From To</b> | <b>Skid</b>             |       |            | <b>Type</b>             | <b>Sex</b> | <b>Age Sev Pupil</b> |
| <b>Description:</b> V2 (Pedal Cycle) Trav S Middleton Rd Rdabt, V1 Trav Sw-bd M62 Exit Slip Road Enters Rdabt & Collides Rear Of V2                     |               |                   |                           |                     |       | DJnOvr                      | Poss        | V1             |                         |       |            |                         |            |                      |
|                                                                                                                                                         |               |                   |                           |                     |       | DTurn                       | Poss        | V1             | Car                     | Ahead | NE S       |                         |            |                      |
|                                                                                                                                                         |               |                   |                           |                     |       | DPanic                      | Poss        | V1             | p/c                     | Ahead | N S        | 1 Rid                   | M          | 30 Serious           |
| <b>Locational Details</b>                                                                                                                               |               |                   | <b>Conditions</b>         |                     |       | <b>Accident Details</b>     |             |                |                         |       |            |                         |            |                      |
| Road:                                                                                                                                                   | A6046/M62     | Junction Details: | Rdbt                      | Road Surface:       | Dry   | Severity:                   |             | Serious        |                         |       |            |                         |            |                      |
| OSGR:                                                                                                                                                   | 386473 408854 | Junction Control: | GW                        | Light Conditions:   | Dark  | No. of Vehicles:            |             | 2              |                         |       |            |                         |            |                      |
| Speed Limit:                                                                                                                                            | 40            | Ped Crossing:     |                           | Weather Conditions: | Fine  | No. of Casualties:          |             | 1              |                         |       |            |                         |            |                      |
| <b>Accident Reference Number:</b> P1044299                                                                                                              |               |                   | <b>Day:</b> Monday        |                     |       | <b>Contributory Factors</b> |             |                | <b>Date:</b> 26/04/2021 |       |            | <b>Time:</b> 16:29      |            |                      |
| <b>Place Reported:</b> Self                                                                                                                             |               |                   | <b>District:</b> Rochdale |                     |       | <b>Factor Conf Ref</b>      |             |                | <b>Vehicle Details</b>  |       |            | <b>Casualty Details</b> |            |                      |
| <b>Location:</b> M62 Off-slip Road at junction with Heywood Interchange Roundabout                                                                      |               |                   |                           |                     |       | <b>Type</b>                 | <b>Move</b> | <b>From To</b> | <b>Skid</b>             |       |            | <b>Type</b>             | <b>Sex</b> | <b>Age Sev Pupil</b> |
| <b>Description:</b> Both Vehs Trav Sw M62 Off-slip Rd, V2 Waiting To Pull Out Onto Rdabt, V1 Collides With Rear Of V2                                   |               |                   |                           |                     |       | Car                         | Ahead       | NE SW          |                         |       |            |                         |            |                      |
|                                                                                                                                                         |               |                   |                           |                     |       | Car                         | Stopg       | NE SW          |                         |       |            | 1 Drv                   | F          | 65 Slight Un         |
| <b>Locational Details</b>                                                                                                                               |               |                   | <b>Conditions</b>         |                     |       | <b>Accident Details</b>     |             |                |                         |       |            |                         |            |                      |
| Road:                                                                                                                                                   | M62/A6046     | Junction Details: | Rdbt                      | Road Surface:       | Dry   | Severity:                   |             | Slight         |                         |       |            |                         |            |                      |
| OSGR:                                                                                                                                                   | 386474 408863 | Junction Control: | GW                        | Light Conditions:   | Light | No. of Vehicles:            |             | 2              |                         |       |            |                         |            |                      |
| Speed Limit:                                                                                                                                            | 70            | Ped Crossing:     |                           | Weather Conditions: | Othr  | No. of Casualties:          |             | 1              |                         |       |            |                         |            |                      |
| <b>Accident Reference Number:</b> P1069789                                                                                                              |               |                   | <b>Day:</b> Sunday        |                     |       | <b>Contributory Factors</b> |             |                | <b>Date:</b> 25/07/2021 |       |            | <b>Time:</b> 11:00      |            |                      |
| <b>Place Reported:</b> Scene                                                                                                                            |               |                   | <b>District:</b> Rochdale |                     |       | <b>Factor Conf Ref</b>      |             |                | <b>Vehicle Details</b>  |       |            | <b>Casualty Details</b> |            |                      |
| <b>Location:</b> M62 NE-Bound, Marker Post 61.1                                                                                                         |               |                   |                           |                     |       | <b>Type</b>                 | <b>Move</b> | <b>From To</b> | <b>Skid</b>             |       |            | <b>Type</b>             | <b>Sex</b> | <b>Age Sev Pupil</b> |
| <b>Description:</b> V1 (Motorcycle) Trav Ne-bd M62, Rider's Protective Coat Which Is Around His Waist Gets Caught In Rear Wheel & Throws Rider Off Bike |               |                   |                           |                     |       | Other                       | VLike       | C1             | m/cl                    | Ahead | SW NE Skid | 1 Rid                   | M          | 24 Slight Un         |
| <b>Locational Details</b>                                                                                                                               |               |                   | <b>Conditions</b>         |                     |       | <b>Accident Details</b>     |             |                |                         |       |            |                         |            |                      |
| Road:                                                                                                                                                   | M62           | Junction Details: |                           | Road Surface:       | Dry   | Severity:                   |             | Slight         |                         |       |            |                         |            |                      |
| OSGR:                                                                                                                                                   | 386490 408951 | Junction Control: | n/a                       | Light Conditions:   | Light | No. of Vehicles:            |             | 1              |                         |       |            |                         |            |                      |
| Speed Limit:                                                                                                                                            | 70            | Ped Crossing:     |                           | Weather Conditions: | Fine  | No. of Casualties:          |             | 1              |                         |       |            |                         |            |                      |
| <b>Accident Reference Number:</b> XP074980                                                                                                              |               |                   | <b>Day:</b> Monday        |                     |       | <b>Contributory Factors</b> |             |                | <b>Date:</b> 14/09/2020 |       |            | <b>Time:</b> 00:21      |            |                      |
| <b>Place Reported:</b> Scene                                                                                                                            |               |                   | <b>District:</b> Rochdale |                     |       | <b>Factor Conf Ref</b>      |             |                | <b>Vehicle Details</b>  |       |            | <b>Casualty Details</b> |            |                      |
| <b>Location:</b> M62 NE-bound, Marker Post 61.3                                                                                                         |               |                   |                           |                     |       | <b>Type</b>                 | <b>Move</b> | <b>From To</b> | <b>Skid</b>             |       |            | <b>Type</b>             | <b>Sex</b> | <b>Age Sev Pupil</b> |
| <b>Description:</b> Both Vehs Trav Ne-bd M62 In Lane 2, N/s Of V1 Collides With Rear O/s Of V2                                                          |               |                   |                           |                     |       | DTired                      | Poss        | V1             | Car                     | Ahead | SW NE      | 1 Drv                   | M          | 38 Slight            |
|                                                                                                                                                         |               |                   |                           |                     |       | DFLook                      | Poss        | V1             | Car                     | Ahead | SW NE      | 2 Drv                   | M          | 85 Slight            |
| <b>Locational Details</b>                                                                                                                               |               |                   | <b>Conditions</b>         |                     |       | <b>Accident Details</b>     |             |                |                         |       |            |                         |            |                      |
| Road:                                                                                                                                                   | M62           | Junction Details: |                           | Road Surface:       | Dry   | Severity:                   |             | Slight         |                         |       |            |                         |            |                      |
| OSGR:                                                                                                                                                   | 386598 409057 | Junction Control: | n/a                       | Light Conditions:   | Dark  | No. of Vehicles:            |             | 2              |                         |       |            |                         |            |                      |
| Speed Limit:                                                                                                                                            | 70            | Ped Crossing:     |                           | Weather Conditions: | Fine  | No. of Casualties:          |             | 3              |                         |       |            |                         |            |                      |

|                                                                                                                                                        |        |        |                       |                    |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-----------------------|--------------------|---------------------|----------------------|--|--------------------|------------------------|--------|--|--|--|------------------------|--|--|--|--|
| Accident Reference Number: XP063518                                                                                                                    |        |        |                       | Day: Wednesday     |                     | Contributory Factors |  |                    | Date: 16/10/2019       |        |  |  |  | Time: 12:50            |  |  |  |  |
| Place Reported: Scene                                                                                                                                  |        |        |                       | District: Rochdale |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Location: M62 SW-bound (Towards Junction 19), Marker Post 61.3                                                                                         |        |        |                       |                    |                     | Factor Conf Ref      |  |                    | Vehicle Details        |        |  |  |  | Casualty Details       |  |  |  |  |
| Description: Both Vehs Trav Sw-bd M62, V1 Attempts To Change Lane To Right Into Lane 4 Which Is Occupied By V2, V2 Swerves & Collides With N/s Barrier |        |        |                       |                    |                     | DTurn Poss V1        |  |                    | Type Move From To Skid |        |  |  |  | Type Sex Age Sev Pupil |  |  |  |  |
|                                                                                                                                                        |        |        |                       |                    |                     | DJudge Poss V1       |  |                    | Car chInR NE SW        |        |  |  |  | 1 Drv M 31 Slight      |  |  |  |  |
|                                                                                                                                                        |        |        |                       |                    |                     |                      |  |                    | Car Ahead NE SW        |        |  |  |  |                        |  |  |  |  |
| Locational Details                                                                                                                                     |        |        |                       | Conditions         |                     | Accident Details     |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Road:                                                                                                                                                  | M62    |        | Junction Details:     |                    | Road Surface:       | Dry                  |  | Severity:          |                        | Slight |  |  |  |                        |  |  |  |  |
| OSGR:                                                                                                                                                  | 386608 | 409035 | Junction Control: n/a |                    | Light Conditions:   | Light                |  | No. of Vehicles:   |                        | 2      |  |  |  |                        |  |  |  |  |
| Speed Limit:                                                                                                                                           | 70     |        | Ped Crossing:         |                    | Weather Conditions: | Fine                 |  | No. of Casualties: |                        | 1      |  |  |  |                        |  |  |  |  |

|                                                                                                                                                                                 |        |        |                       |                    |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-----------------------|--------------------|---------------------|----------------------|--|--------------------|------------------------|--------|--|--|--|------------------------|--|--|--|--|
| Accident Reference Number: XP073091                                                                                                                                             |        |        |                       | Day: Tuesday       |                     | Contributory Factors |  |                    | Date: 07/07/2020       |        |  |  |  | Time: 10:00            |  |  |  |  |
| Place Reported: Scene                                                                                                                                                           |        |        |                       | District: Rochdale |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Location: M62 NE-bound Junction 19, 60 metres SW Of M62 On-slip Road, Marker Post 61.3                                                                                          |        |        |                       |                    |                     | Factor Conf Ref      |  |                    | Vehicle Details        |        |  |  |  | Casualty Details       |  |  |  |  |
| Description: All Vehs Trav Ne-bd M62 Slippery Road, V1 In Lane 3, V2 In Lane 1, V3 In Lane 2. V1 Aquaplanes Into Central Reservation Across Into Lane 1 & Collides With V2 & V3 |        |        |                       |                    |                     | Slip VLike V1        |  |                    | Type Move From To Skid |        |  |  |  | Type Sex Age Sev Pupil |  |  |  |  |
|                                                                                                                                                                                 |        |        |                       |                    |                     | DRain VLike V1       |  |                    | Car Ahead SW NE        |        |  |  |  | 1 Drv M 27 Slight      |  |  |  |  |
|                                                                                                                                                                                 |        |        |                       |                    |                     | DPanic Poss V1       |  |                    |                        |        |  |  |  | 5 Pas F 52 Slight      |  |  |  |  |
|                                                                                                                                                                                 |        |        |                       |                    |                     |                      |  |                    | Car Ahead SW NE        |        |  |  |  | 2 Drv M 50 Slight      |  |  |  |  |
|                                                                                                                                                                                 |        |        |                       |                    |                     |                      |  |                    | Car Ahead SW NE        |        |  |  |  | 3 Drv M 55 Slight      |  |  |  |  |
|                                                                                                                                                                                 |        |        |                       |                    |                     |                      |  |                    |                        |        |  |  |  | 4 Pas F 29 Slight      |  |  |  |  |
| Locational Details                                                                                                                                                              |        |        |                       | Conditions         |                     | Accident Details     |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Road:                                                                                                                                                                           | M62    |        | Junction Details:     |                    | Road Surface:       | Wet                  |  | Severity:          |                        | Slight |  |  |  |                        |  |  |  |  |
| OSGR:                                                                                                                                                                           | 386610 | 409067 | Junction Control: n/a |                    | Light Conditions:   | Light                |  | No. of Vehicles:   |                        | 3      |  |  |  |                        |  |  |  |  |
| Speed Limit:                                                                                                                                                                    | 70     |        | Ped Crossing:         |                    | Weather Conditions: | R&W                  |  | No. of Casualties: |                        | 5      |  |  |  |                        |  |  |  |  |

|                                                                                                   |        |        |                       |                    |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
|---------------------------------------------------------------------------------------------------|--------|--------|-----------------------|--------------------|---------------------|----------------------|--|--------------------|------------------------|--------|--|--|--|------------------------|--|--|--|--|
| Accident Reference Number: XP058392                                                               |        |        |                       | Day: Tuesday       |                     | Contributory Factors |  |                    | Date: 04/06/2019       |        |  |  |  | Time: 13:30            |  |  |  |  |
| Place Reported: Else                                                                              |        |        |                       | District: Rochdale |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Location: M62 SW-bound, Marker Post 61.3                                                          |        |        |                       |                    |                     | Factor Conf Ref      |  |                    | Vehicle Details        |        |  |  |  | Casualty Details       |  |  |  |  |
| Description: All Vehs Trav Sw-bd M62, V1 Collides With Rear Of V2, V2 Then Shunts Into Rear Of V3 |        |        |                       |                    |                     |                      |  |                    | Type Move From To Skid |        |  |  |  | Type Sex Age Sev Pupil |  |  |  |  |
|                                                                                                   |        |        |                       |                    |                     |                      |  |                    | Car Ahead NE SW        |        |  |  |  | 1 Drv M 29 Slight      |  |  |  |  |
|                                                                                                   |        |        |                       |                    |                     |                      |  |                    | Car Ahead NE SW        |        |  |  |  |                        |  |  |  |  |
|                                                                                                   |        |        |                       |                    |                     |                      |  |                    | Car Ahead NE SW        |        |  |  |  |                        |  |  |  |  |
| Locational Details                                                                                |        |        |                       | Conditions         |                     | Accident Details     |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Road:                                                                                             | M62    |        | Junction Details:     |                    | Road Surface:       | Dry                  |  | Severity:          |                        | Slight |  |  |  |                        |  |  |  |  |
| OSGR:                                                                                             | 386615 | 409040 | Junction Control: n/a |                    | Light Conditions:   | Light                |  | No. of Vehicles:   |                        | 3      |  |  |  |                        |  |  |  |  |
| Speed Limit:                                                                                      | 70     |        | Ped Crossing:         |                    | Weather Conditions: | Fine                 |  | No. of Casualties: |                        | 1      |  |  |  |                        |  |  |  |  |

|                                                                                                                          |         |        |                        |                    |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------|---------|--------|------------------------|--------------------|---------------------|----------------------|--|--------------------|------------------------|--------|--|--|--|------------------------|--|--|--|--|
| Accident Reference Number: XP057211                                                                                      |         |        |                        | Day: Thursday      |                     | Contributory Factors |  |                    | Date: 16/05/2019       |        |  |  |  | Time: 09:11            |  |  |  |  |
| Place Reported: Scene                                                                                                    |         |        |                        | District: Rochdale |                     |                      |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Location: M62 Westbound at junction with Off-slip Road Jct 19, Mp 61.3                                                   |         |        |                        |                    |                     | Factor Conf Ref      |  |                    | Vehicle Details        |        |  |  |  | Casualty Details       |  |  |  |  |
| Description: All Vehs Trav W-bd M62, V1 (MGV) Moves Lane To Left & Collides With V2 Which Spins Into V3 Who Then Hits V4 |         |        |                        |                    |                     | DFLook VLike V1      |  |                    | Type Move From To Skid |        |  |  |  | Type Sex Age Sev Pupil |  |  |  |  |
|                                                                                                                          |         |        |                        |                    |                     |                      |  |                    | MGV chInL E W          |        |  |  |  |                        |  |  |  |  |
|                                                                                                                          |         |        |                        |                    |                     |                      |  |                    | Car Ahead E W Skid     |        |  |  |  | 2 Pas F 48 Slight      |  |  |  |  |
|                                                                                                                          |         |        |                        |                    |                     |                      |  |                    | Car Ahead E W          |        |  |  |  |                        |  |  |  |  |
|                                                                                                                          |         |        |                        |                    |                     |                      |  |                    | Car Ahead E W Skid     |        |  |  |  | 1 Drv M 30 Slight      |  |  |  |  |
| Locational Details                                                                                                       |         |        |                        | Conditions         |                     | Accident Details     |  |                    |                        |        |  |  |  |                        |  |  |  |  |
| Road:                                                                                                                    | M62/M62 |        | Junction Details: Slip |                    | Road Surface:       | Dry                  |  | Severity:          |                        | Slight |  |  |  |                        |  |  |  |  |
| OSGR:                                                                                                                    | 386636  | 409060 | Junction Control: GW   |                    | Light Conditions:   | Light                |  | No. of Vehicles:   |                        | 4      |  |  |  |                        |  |  |  |  |
| Speed Limit:                                                                                                             | 70      |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 |  | No. of Casualties: |                        | 2      |  |  |  |                        |  |  |  |  |

## Abbreviations used in GMAXI Reports for New Contributory Factors - 2005/06

**WARNING:** Please note that -

Codes 101 to 999 only relate to accidents from 1 April 2005. - New National Factors introduced by DfT

Codes 1001 to 1154 relate to accidents from 1 April 1999 to 31 March 2005 only. - Local Factors introduced

Accidents before 1 April 1999 do not have contributory factors attached.

| Code | ContribFactor1Name                                        | ContribFactor1Abb |
|------|-----------------------------------------------------------|-------------------|
| 0    | None                                                      |                   |
| 101  | Poor or defective road surface                            | Surf              |
| 102  | Deposit on road (eg oil, mud, chippings)                  | Dposit            |
| 103  | Slippery road (due to weather)                            | Slip              |
| 104  | Inadequate/masked signs or road markings                  | Mark              |
| 105  | Defective traffic signals                                 | DefATS            |
| 106  | Traffic calming (eg speed cushions, road humps, chicanes) | TCalm             |
| 107  | Temporary road layout (eg contraflow)                     | TmpRd             |
| 108  | Road layout (eg bend, hill, narrow carriageway)           | RdLay             |
| 109  | Animal or object in carriageway                           | ObjInC            |
| 201  | Tyres illegal, defective or under inflated                | VTyres            |
| 202  | Defective lights or indicators                            | VLight            |
| 203  | Defective brakes                                          | VBrake            |
| 204  | Defective steering or suspension                          | VSteer            |
| 205  | Defective or missing mirrors                              | VMirr             |
| 206  | Overloaded or poorly loaded vehicle or trailer            | VLoad             |
| 301  | Disobeyed automatic traffic signal                        | DATS              |
| 302  | Disobeyed Give Way or Stop sign or markings               | DGWorS            |
| 303  | Disobeyed double white line                               | DWhite            |
| 304  | Disobeyed pedestrian crossing facility                    | DPedX             |
| 305  | Illegal turn or direction of travel                       | DITurn            |
| 306  | Exceeding speed limit                                     | DSpeed            |
| 307  | Travelling too fast for conditions                        | DFast             |
| 308  | Following too close                                       | DTgate            |
| 309  | Vehicle travelling along pavement                         | DPave             |
| 310  | Cyclist entering road from pavement                       | DCPave            |
| 401  | Junction overshoot                                        | DJnOvr            |
| 402  | Junction restart                                          | DJnRst            |
| 403  | Poor turn or manoeuvre                                    | DTurn             |
| 404  | Failed to signal/misleading signal                        | DSign             |
| 405  | Failed to look properly                                   | DFLook            |
| 406  | Failed to judge other person's path or speed              | DJudge            |
| 407  | Passing too close to cyclist, horse rider or pedestrian   | DClose            |
| 408  | Sudden braking                                            | DBrake            |
| 409  | Swerved                                                   | DSwerv            |
| 410  | Loss of control                                           | DLossC            |
| 501  | Impaired by alcohol                                       | DAlcoh            |
| 502  | Impaired by drugs (illicit or medicinal)                  | DDrugs            |
| 503  | Fatigue                                                   | DTired            |
| 504  | Uncorrected, defective eyesight                           | DEye              |
| 505  | Illness or disability, mental or physical                 | DIllns            |
| 506  | Not displaying lights at night or in poor visibility      | DNoLit            |
| 507  | Cyclist wearing dark clothing at night                    | DCDark            |
| 508  | Driver using mobile phone                                 | DMobPh            |
| 509  | Distraction in vehicle                                    | DDisIn            |
| 510  | Distraction outside vehicle                               | DDisOu            |
| 601  | Aggressive driving                                        | DAggre            |
| 602  | Careless/reckless/in a hurry                              | DCare             |

|      |                                                             |        |
|------|-------------------------------------------------------------|--------|
| 603  | Nervous/uncertain/panic                                     | DPanic |
| 604  | Driving too slow or conditions or slow vehicle (eg tractor) | DSlow  |
| 605  | Learner or inexperienced driver/rider                       | DLearn |
| 606  | Inexperience of driving on the left                         | DInDrL |
| 607  | Inexperience with type of vehicle                           | DInVeh |
| 701  | Stationary or parked vehicle(s)                             | DStat  |
| 702  | Vegetation                                                  | DVeg   |
| 703  | Road layout (eg bend, winding road, hill crest)             | DRdLay |
| 704  | Buildings, road signs, street furniture                     | DBuild |
| 705  | Dazzling headlights                                         | DHLigt |
| 706  | Dazzling sun                                                | DSun   |
| 707  | Rain, sleet, snow, or fog                                   | DRain  |
| 708  | Spray from other vehicles                                   | DFog   |
| 709  | Visor or windscreen dirty or scratched                      | DSpray |
| 710  | Vehicle blind spot                                          | DWscrn |
| 801  | Crossed road masked by stationary or parked vehicle         | PXMask |
| 802  | Failed to look properly                                     | PFLook |
| 803  | Failed to judge vehicle's path or speed                     | PJudge |
| 804  | Wrong use of pedestrian crossing facility                   | PPedX  |
| 805  | Dangerous action in carriageway (eg playing)                | PDange |
| 806  | Impaired by alcohol                                         | PAIcoh |
| 807  | Impaired by drugs (illicit or medicinal)                    | PDrugs |
| 808  | Careless/reckless/in a hurry                                | PCare  |
| 809  | Pedestrian wearing dark clothing at night                   | PCloth |
| 810  | Disability or illness, mental or physical                   | PIllns |
| 901  | Stolen vehicle                                              | StoVeh |
| 902  | Vehicle in course of crime                                  | VCrime |
| 903  | Emergency vehicle on call                                   | EmVeh  |
| 904  | Vehicle door opened or closed negligently                   | VDoor  |
| 999  | Other                                                       | Other  |
| 1001 | Failed to stop (mandatory sign)                             | Fstop  |
| 1002 | Failed to give way                                          | Fgive  |
| 1003 | Failed to avoid pedestrian (pedestrian not to blame)        | FAPed  |
| 1004 | Failed to avoid vehicle or object in carriageway            | FAObj  |
| 1005 | Failure to signal/misleading signal                         | Fsig   |
| 1006 | Loss of control of vehicle                                  | Loss   |
| 1007 | Pedestrian entered carriageway without due care             | Ped    |
| 1008 | Passenger fell in or near PSV                               | Pfell  |
| 1009 | Swerved to avoid object in carriageway                      | Swerv  |
| 1010 | Sudden braking                                              | Brake  |
| 1011 | Poor turn/manoeuvre                                         | Turn   |
| 1012 | Poor overtaking                                             | Over   |
| 1013 | Drove wrong way (e.g. 1-way street)                         | 1Way   |
| 1014 | Opening door carelessly                                     | Door   |
| 1015 | Other                                                       | Other  |
| 1101 | Impairment alcohol                                          | Alcoh  |
| 1102 | Impairment drugs                                            | Drugs  |
| 1103 | Impairment fatigue                                          | Tired  |
| 1104 | Impairment illness                                          | Ill    |
| 1105 | Distraction stress/emotional state of mind                  | Stress |
| 1106 | Distraction physical in/on vehicle                          | DPhIn  |
| 1107 | Distraction physical outside vehicle                        | DPhOut |
| 1108 | Behaviour panic                                             | Panic  |
| 1109 | Behaviour careless/thoughtless/reckless                     | Care   |
| 1110 | Behaviour nervous/uncertain                                 | Nerve  |
| 1111 | Behaviour in a hurry                                        | Hurry  |

|      |                                                  |        |
|------|--------------------------------------------------|--------|
| 1112 | Failure to judge other person's path or speed    | Fjudg  |
| 1113 | Disability                                       | Disab  |
| 1114 | Failed to look                                   | F2look |
| 1115 | Looked but did not see                           | Nsee   |
| 1116 | Inattention                                      | Inatt  |
| 1117 | Person hit wore dark or inconspicuous clothing   | Cloth  |
| 1118 | Other (Personal details)                         | Pother |
| 1119 | Crossed from behind parked vehicle etc           | Cross  |
| 1120 | Ignored lights at crossing                       | Xlight |
| 1121 | Excessive Speed                                  | Speed  |
| 1122 | Following too close                              | Tgate  |
| 1123 | Inexperience of driving                          | InDri  |
| 1124 | Inexperience of vehicle                          | InVeh  |
| 1125 | Interaction or competition with other road users | Users  |
| 1126 | Aggressive driving                               | Aggr   |
| 1127 | Lack of judgement of own path                    | Judge  |
| 1128 | Tyres wrong pressure                             | Press  |
| 1129 | Tyres deflation before impact                    | Deflat |
| 1130 | Tyres worn/insufficient tread                    | Tread  |
| 1131 | Defective lights or signals                      | Signal |
| 1132 | Defective brakes                                 | Brakes |
| 1133 | Other (Vehicle defects)                          | Vother |
| 1134 | Site details poor road surface                   | Surf   |
| 1135 | Site details poor/no street lighting             | Lightg |
| 1136 | Site details inadequate signing                  | Sign   |
| 1137 | Site details steep hill                          | Hill   |
| 1138 | Site details narrow road                         | Narr   |
| 1139 | Site details bend/winding road                   | Rbend  |
| 1140 | Site details roadworks                           | Works  |
| 1141 | Slippery road                                    | Slip   |
| 1142 | High winds                                       | Winds  |
| 1143 | Earlier accident                                 | Earli  |
| 1144 | Other (Local conditions)                         | Lother |
| 1145 | View windows obscured                            | Obs    |
| 1146 | View glare from sun                              | Glare  |
| 1147 | View glare from headlights                       | Head   |
| 1148 | Surroundings bend/winding road                   | Bend   |
| 1149 | Surroundings stationary parked vehicle           | Stat   |
| 1150 | Surroundings moving vehicle                      | Move   |
| 1151 | Surroundings buildings, fences, vegetation etc   | Fence  |
| 1152 | Weather (e.g. mist or sleet)                     | Weath  |
| 1153 | Failed to see pedestrian or vehicle in blindspot | Blind  |
| 1154 | Animal out of control                            | Animal |
| 9999 | GMP Out of Range                                 | OoR    |

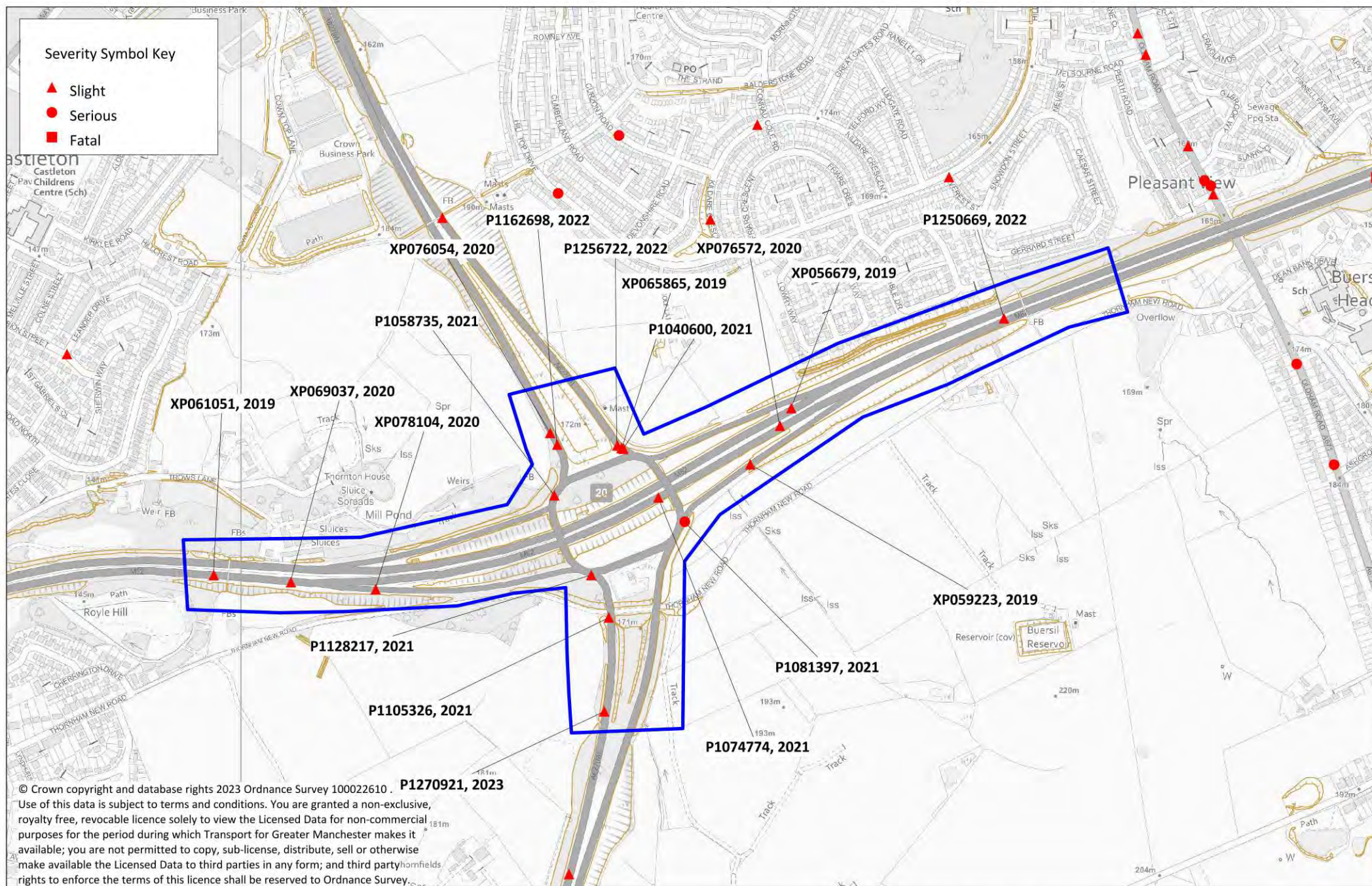
# TRANSPORT FOR GREATER MANCHESTER



Traffic Accident Data for

## **Eddisons**

**Reported Road Injury Accidents in the Specified Area of  
M62 Junction 20, Rochdale.  
01/09/2018 to 31/08/2023**



# TRANSPORT FOR GREATER MANCHESTER



## Reported Road Injury Accidents in Specified Area of M62 Junction 20, Rochdale. 01/09/2018 to 31/08/2023

| Injury Accidents | Sep - Dec 2018 | 2019 | 2020 | 2021 | 2022 | Jan - Aug 2023 | Total |
|------------------|----------------|------|------|------|------|----------------|-------|
| Fatal            | 0              | 0    | 0    | 0    | 0    | 0              | 0     |
| Serious          | 0              | 0    | 0    | 1    | 0    | 0              | 1     |
| Slight           | 0              | 4    | 4    | 5    | 3    | 1              | 17    |
| Total            | 0              | 4    | 4    | 6    | 3    | 1              | 18    |

# Standard Totals Report : Reported Injury Accidents in Specified Area of M62 Junction 20, Rochdale, 01/09/2018 to 31/08/2023

## Accidents

|                        |           |
|------------------------|-----------|
| Serious                | 1         |
| Slight                 | 17        |
| <b>Total Accidents</b> | <b>18</b> |

## Casualties By Age and Sex

| Severity                | 0 - 15   | 16 - 59   | 60 - 69  | 70 +     | Total     |
|-------------------------|----------|-----------|----------|----------|-----------|
| Serious                 |          |           |          |          |           |
| Male                    | 0        | 1         | 0        | 0        | 1         |
| <b>Total</b>            | <b>0</b> | <b>1</b>  | <b>0</b> | <b>0</b> | <b>1</b>  |
| Slight                  |          |           |          |          |           |
| Male                    | 0        | 14        | 1        | 0        | 15        |
| Female                  | 0        | 6         | 1        | 0        | 7         |
| <b>Total</b>            | <b>0</b> | <b>20</b> | <b>2</b> | <b>0</b> | <b>22</b> |
| <b>Total Casualties</b> | <b>0</b> | <b>21</b> | <b>2</b> | <b>0</b> | <b>23</b> |

## Casualties By Age and Class

| Severity                | 0 - 15   | 16 - 59   | 60 - 69  | 70 +     | Total     |
|-------------------------|----------|-----------|----------|----------|-----------|
| Serious                 |          |           |          |          |           |
| Veh or pillion pas      | 0        | 1         | 0        | 0        | 1         |
| <b>Total</b>            | <b>0</b> | <b>1</b>  | <b>0</b> | <b>0</b> | <b>1</b>  |
| Slight                  |          |           |          |          |           |
| Driver or rider         | 0        | 18        | 1        | 0        | 19        |
| Veh or pillion pas      | 0        | 2         | 1        | 0        | 3         |
| <b>Total</b>            | <b>0</b> | <b>20</b> | <b>2</b> | <b>0</b> | <b>22</b> |
| <b>Total Casualties</b> | <b>0</b> | <b>21</b> | <b>2</b> | <b>0</b> | <b>23</b> |

## Casualties Broken Down By Type

| Car (Driver)      | 0-15     | 16+       | Total     |
|-------------------|----------|-----------|-----------|
| Slight            | 0        | 14        | 14        |
| <b>Total</b>      | <b>0</b> | <b>14</b> | <b>14</b> |
| Car (Passenger)   | 0-15     | 16+       | Total     |
| Serious           | 0        | 1         | 1         |
| Slight            | 0        | 2         | 2         |
| <b>Total</b>      | <b>0</b> | <b>3</b>  | <b>3</b>  |
| TWPV (Rider)      | 0-15     | 16+       | Total     |
| Slight            | 0        | 1         | 1         |
| <b>Total</b>      | <b>0</b> | <b>1</b>  | <b>1</b>  |
| Other (Driver)    | 0-15     | 16+       | Total     |
| Slight            | 0        | 4         | 4         |
| <b>Total</b>      | <b>0</b> | <b>4</b>  | <b>4</b>  |
| Other (Passenger) | 0-15     | 16+       | Total     |
| Slight            | 0        | 1         | 1         |
| <b>Total</b>      | <b>0</b> | <b>1</b>  | <b>1</b>  |
| <b>Total</b>      | <b>0</b> | <b>23</b> | <b>23</b> |

# Standard Report - Reported Injury Accidents in Specified Area of M62 Junction 20, Rochdale, 01/09/2018 to 31/08/2023

This printout has been generated from the Transport for Greater Manchester's database of road traffic accident records using the query system, GMAXI.

The road traffic accident database contains STATS19 data supplied by Greater Manchester Police and further validated by the Highways Forecasting and Analytical Services (HFAS) section of Transport for Greater Manchester. It is maintained by HFAS on behalf of the ten District Councils in Greater Manchester.

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|                                                                           |        |                   |                       |                     |      |                      |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
|---------------------------------------------------------------------------|--------|-------------------|-----------------------|---------------------|------|----------------------|--------|--|------------------|------|-------|------|----|------------------|-------|-----|-----|--------|-------|
| Accident Reference Number: XP061051                                       |        |                   |                       | Day: Thursday       |      | Contributory Factors |        |  | Date: 29/08/2019 |      |       |      |    | Time: 21:40      |       |     |     |        |       |
| Place Reported: Scene                                                     |        |                   |                       | District: Rochdale  |      | Factor Conf Ref      |        |  | Vehicle Details  |      |       |      |    | Casualty Details |       |     |     |        |       |
| Location: M62 Westbound, Marker Post 63.9 (Near To Junction 20)           |        |                   |                       |                     |      |                      |        |  |                  | Type | Move  | From | To | Skid             | Type  | Sex | Age | Sev    | Pupil |
| Description: Both Vehs Trav W-bd M62, V1 Collides With Rear Of V2. V1 Fts |        |                   |                       |                     |      |                      |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
| Locational Details                                                        |        |                   |                       | Conditions          |      | Accident Details     |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
| Road:                                                                     | M62    | Junction Details: |                       | Road Surface:       | Dry  | Severity:            | Slight |  |                  | Car  | Ahead | E    | W  |                  | 1 Drv | M   | 40  | Slight |       |
| OSGR:                                                                     | 388953 | 409935            | Junction Control: n/a | Light Conditions:   | Dark | No. of Vehicles:     | 2      |  |                  | Car  | Ahead | E    | W  |                  |       |     |     |        |       |
| Speed Limit:                                                              | 70     | Ped Crossing:     |                       | Weather Conditions: | Fine | No. of Casualties:   | 1      |  |                  |      |       |      |    |                  |       |     |     |        |       |

|                                                                                                |        |                   |                       |                     |      |                      |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
|------------------------------------------------------------------------------------------------|--------|-------------------|-----------------------|---------------------|------|----------------------|--------|--|------------------|------|-------|------|----|------------------|-------|-----|-----|--------|-------|
| Accident Reference Number: XP069037                                                            |        |                   |                       | Day: Thursday       |      | Contributory Factors |        |  | Date: 13/02/2020 |      |       |      |    | Time: 05:31      |       |     |     |        |       |
| Place Reported: Else                                                                           |        |                   |                       | District: Rochdale  |      | Factor Conf Ref      |        |  | Vehicle Details  |      |       |      |    | Casualty Details |       |     |     |        |       |
| Location: M62 Westbound 30 metres W Of M62 On-slip Road                                        |        |                   |                       |                     |      |                      |        |  |                  | Type | Move  | From | To | Skid             | Type  | Sex | Age | Sev    | Pupil |
| Description: Both Vehs Trav W-bd M62, V1 (MGV) Changes Lane & Collides With Rear Of V2. V1 Fts |        |                   |                       |                     |      |                      |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
| Locational Details                                                                             |        |                   |                       | Conditions          |      | Accident Details     |        |  |                  |      |       |      |    |                  |       |     |     |        |       |
| Road:                                                                                          | M62    | Junction Details: |                       | Road Surface:       | Wet  | Severity:            | Slight |  |                  | MGV  | Ahead | E    | W  |                  | 1 Drv | M   | 34  | Slight |       |
| OSGR:                                                                                          | 389087 | 409922            | Junction Control: n/a | Light Conditions:   | Dark | No. of Vehicles:     | 2      |  |                  | Car  | Ahead | E    | W  |                  |       |     |     |        |       |
| Speed Limit:                                                                                   | 70     | Ped Crossing:     |                       | Weather Conditions: | Rain | No. of Casualties:   | 1      |  |                  |      |       |      |    |                  |       |     |     |        |       |

|                                                                                                                                     |         |        |                   |                           |      |                                      |                 |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------|---------|--------|-------------------|---------------------------|------|--------------------------------------|-----------------|--------------------|-------------------------|-----------------------------------------------------------|--|--|-------------------------|-----------------------------------------------------------|--|--|--|--|
| <b>Accident Reference Number:</b> XP078104                                                                                          |         |        |                   | <b>Day:</b> Saturday      |      | <b>Contributory Factors</b>          |                 |                    | <b>Date:</b> 05/12/2020 |                                                           |  |  | <b>Time:</b> 18:42      |                                                           |  |  |  |  |
| <b>Place Reported:</b> Scene                                                                                                        |         |        |                   | <b>District:</b> Rochdale |      | <b>Factor</b> <b>Conf</b> <b>Ref</b> |                 |                    | <b>Vehicle Details</b>  |                                                           |  |  | <b>Casualty Details</b> |                                                           |  |  |  |  |
| <b>Location:</b> M62 On-slip Road at junction with M62 Westbound Carriageway, Marker Post 64.2                                      |         |        |                   |                           |      |                                      | DDisIn VLike V1 |                    |                         | <b>Type</b> <b>Move</b> <b>From</b> <b>To</b> <b>Skid</b> |  |  |                         | <b>Type</b> <b>Sex</b> <b>Age</b> <b>Sev</b> <b>Pupil</b> |  |  |  |  |
| <b>Description:</b> Both Vehs Trav W-bd M62 On-slip Road, V1 (Distraction In Veh) Fails To Look Properly & Collides With Rear Of V2 |         |        |                   |                           |      |                                      | DFLook VLike V1 |                    |                         | Car Ahead E W<br>Car Ahead E W                            |  |  |                         | 1 Drv F 27 Slight                                         |  |  |  |  |
| <b>Locational Details</b>                                                                                                           |         |        |                   | <b>Conditions</b>         |      | <b>Accident Details</b>              |                 |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
| Road:                                                                                                                               | M62/M62 |        | Junction Details: |                           | Slip | Road Surface:                        | Dry             | Severity:          | Slight                  |                                                           |  |  |                         |                                                           |  |  |  |  |
| OSGR:                                                                                                                               | 389235  | 409910 | Junction Control: |                           | GW   | Light Conditions:                    | Dark            | No. of Vehicles:   | 2                       |                                                           |  |  |                         |                                                           |  |  |  |  |
| Speed Limit:                                                                                                                        | 70      |        | Ped Crossing:     |                           |      | Weather Conditions:                  | Fine            | No. of Casualties: | 1                       |                                                           |  |  |                         |                                                           |  |  |  |  |

|                                                                                                                                                    |         |        |                   |                           |     |                                      |                |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|-------------------|---------------------------|-----|--------------------------------------|----------------|--------------------|-------------------------|-----------------------------------------------------------|--|--|-------------------------|-----------------------------------------------------------|--|--|--|--|
| <b>Accident Reference Number:</b> XP076054                                                                                                         |         |        |                   | <b>Day:</b> Tuesday       |     | <b>Contributory Factors</b>          |                |                    | <b>Date:</b> 13/10/2020 |                                                           |  |  | <b>Time:</b> 14:30      |                                                           |  |  |  |  |
| <b>Place Reported:</b> Scene                                                                                                                       |         |        |                   | <b>District:</b> Rochdale |     | <b>Factor</b> <b>Conf</b> <b>Ref</b> |                |                    | <b>Vehicle Details</b>  |                                                           |  |  | <b>Casualty Details</b> |                                                           |  |  |  |  |
| <b>Location:</b> A627(M) 85 metres NW Of Thornham Interchange                                                                                      |         |        |                   |                           |     |                                      | Slip VLike V1  |                    |                         | <b>Type</b> <b>Move</b> <b>From</b> <b>To</b> <b>Skid</b> |  |  |                         | <b>Type</b> <b>Sex</b> <b>Age</b> <b>Sev</b> <b>Pupil</b> |  |  |  |  |
| <b>Description:</b> V2 Is Parked On Hard Shoulder. V1 Trav Nw A627(M) Loses Control As Result Of Weather Conditions & N/s Collides With Rear Of V2 |         |        |                   |                           |     |                                      | RdLay VLike V1 |                    |                         | Car Lbend SE NW<br>othr Parkd Pk Pk                       |  |  |                         | 1 Drv M 40 Slight                                         |  |  |  |  |
| <b>Locational Details</b>                                                                                                                          |         |        |                   | <b>Conditions</b>         |     | <b>Accident Details</b>              |                |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
| Road:                                                                                                                                              | A627(M) |        | Junction Details: |                           |     | Road Surface:                        | Wet            | Severity:          | Slight                  |                                                           |  |  |                         |                                                           |  |  |  |  |
| OSGR:                                                                                                                                              | 389539  | 410183 | Junction Control: |                           | n/a | Light Conditions:                    | Light          | No. of Vehicles:   | 2                       |                                                           |  |  |                         |                                                           |  |  |  |  |
| Speed Limit:                                                                                                                                       | 70      |        | Ped Crossing:     |                           |     | Weather Conditions:                  | Fine           | No. of Casualties: | 1                       |                                                           |  |  |                         |                                                           |  |  |  |  |

|                                                                                                                   |             |        |                   |                           |      |                                      |       |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------|-------------|--------|-------------------|---------------------------|------|--------------------------------------|-------|--------------------|-------------------------|-----------------------------------------------------------|--|--|-------------------------|-----------------------------------------------------------|--|--|--|--|
| <b>Accident Reference Number:</b> P1058735                                                                        |             |        |                   | <b>Day:</b> Sunday        |      | <b>Contributory Factors</b>          |       |                    | <b>Date:</b> 30/05/2021 |                                                           |  |  | <b>Time:</b> 14:30      |                                                           |  |  |  |  |
| <b>Place Reported:</b> Else                                                                                       |             |        |                   | <b>District:</b> Rochdale |      | <b>Factor</b> <b>Conf</b> <b>Ref</b> |       |                    | <b>Vehicle Details</b>  |                                                           |  |  | <b>Casualty Details</b> |                                                           |  |  |  |  |
| <b>Location:</b> Thornham Interchange Roundabout 20 metres NE Of M62 Eastbound Off-slip Road                      |             |        |                   |                           |      |                                      |       |                    |                         | <b>Type</b> <b>Move</b> <b>From</b> <b>To</b> <b>Skid</b> |  |  |                         | <b>Type</b> <b>Sex</b> <b>Age</b> <b>Sev</b> <b>Pupil</b> |  |  |  |  |
| <b>Description:</b> Both Vehs Trav Ne Thornham Interchange Rdabt, V2 Trav Behind & Front Collides With Rear Of V1 |             |        |                   |                           |      |                                      |       |                    |                         | Car Ahead SW NE<br>Car Ahead SW NE                        |  |  |                         | 1 Drv F 30 Slight Un                                      |  |  |  |  |
| <b>Locational Details</b>                                                                                         |             |        |                   | <b>Conditions</b>         |      | <b>Accident Details</b>              |       |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
| Road:                                                                                                             | A627(M)/M62 |        | Junction Details: |                           | Rdbt | Road Surface:                        | Dry   | Severity:          | Slight                  |                                                           |  |  |                         |                                                           |  |  |  |  |
| OSGR:                                                                                                             | 389547      | 410074 | Junction Control: |                           | TS   | Light Conditions:                    | Light | No. of Vehicles:   | 2                       |                                                           |  |  |                         |                                                           |  |  |  |  |
| Speed Limit:                                                                                                      | 70          |        | Ped Crossing:     |                           |      | Weather Conditions:                  | Fine  | No. of Casualties: | 1                       |                                                           |  |  |                         |                                                           |  |  |  |  |

|                                                                                                                                            |         |        |                   |                           |     |                                      |      |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|-------------------|---------------------------|-----|--------------------------------------|------|--------------------|-------------------------|-----------------------------------------------------------|--|--|-------------------------|-----------------------------------------------------------|--|--|--|--|
| <b>Accident Reference Number:</b> P1162698                                                                                                 |         |        |                   | <b>Day:</b> Monday        |     | <b>Contributory Factors</b>          |      |                    | <b>Date:</b> 14/03/2022 |                                                           |  |  | <b>Time:</b> 22:40      |                                                           |  |  |  |  |
| <b>Place Reported:</b> Self                                                                                                                |         |        |                   | <b>District:</b> Rochdale |     | <b>Factor</b> <b>Conf</b> <b>Ref</b> |      |                    | <b>Vehicle Details</b>  |                                                           |  |  | <b>Casualty Details</b> |                                                           |  |  |  |  |
| <b>Location:</b> A627(M) Northbound 60 metres N Of M62 Junction 20 Roundabout                                                              |         |        |                   |                           |     |                                      |      |                    |                         | <b>Type</b> <b>Move</b> <b>From</b> <b>To</b> <b>Skid</b> |  |  |                         | <b>Type</b> <b>Sex</b> <b>Age</b> <b>Sev</b> <b>Pupil</b> |  |  |  |  |
| <b>Description:</b> Both Vehs Trav N-bd A637(M) Twds Rochdale. V2 Trav On Left Lane, V1 (MGV) Trav Behind & Front Collides With Rear Of V2 |         |        |                   |                           |     |                                      |      |                    |                         | MGV Ahead S N<br>Car Ahead S N                            |  |  |                         | 1 Drv M 36 Slight Un                                      |  |  |  |  |
| <b>Locational Details</b>                                                                                                                  |         |        |                   | <b>Conditions</b>         |     | <b>Accident Details</b>              |      |                    |                         |                                                           |  |  |                         |                                                           |  |  |  |  |
| Road:                                                                                                                                      | A627(M) |        | Junction Details: |                           |     | Road Surface:                        | Dry  | Severity:          | Slight                  |                                                           |  |  |                         |                                                           |  |  |  |  |
| OSGR:                                                                                                                                      | 389552  | 410162 | Junction Control: |                           | n/a | Light Conditions:                    | Dark | No. of Vehicles:   | 2                       |                                                           |  |  |                         |                                                           |  |  |  |  |
| Speed Limit:                                                                                                                               | 30      |        | Ped Crossing:     |                           |     | Weather Conditions:                  | Fine | No. of Casualties: | 1                       |                                                           |  |  |                         |                                                           |  |  |  |  |

|                                                                                                                                                                      |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------------|--|----------------------|--|----------------------|------------------|--|------------------|-----|--|-------------|-----------------|-------------|-----------------|--|-----|------------------|-------|------------------|--|-------|--|-------|--|--|---|--|----|--|--|---|--|-------|--|--|-------|--|-------|--|--|---|--|-----|--|--|----|--|--------|--|--|--------|--|--------|--|--|----|--|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Accident Reference Number: P1128217                                                                                                                                  |  |  |  | Day: Tuesday             |  | Contributory Factors |  |                      | Date: 23/11/2021 |  |                  |     |  | Time: 14:00 |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Place Reported: Self                                                                                                                                                 |  |  |  | District: Rochdale       |  | Factor               |  |                      | Conf             |  |                  | Ref |  |             | Vehicle Details |             |                 |  |     | Casualty Details |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Location: A627(M) at junction with Thornham Interchange Roundabout                                                                                                   |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Type        |                 |  |     |                  | Move  |                  |  |       |  | From  |  |  |   |  | To |  |  |   |  | Skid  |  |  |       |  | Type  |  |  |   |  | Sex |  |  |    |  | Age    |  |  |        |  | Sev    |  |  |    |  | Pupil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Description: Both Vehs Trav N A627(M). V1 Approaching Rdabt, At Last Minute V2 Decides To Trav W-bd Onto M62 On-slip Road, O/s Of V2 Collides With N/s Of V1. V2 Fts |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 |             |                 |  | Car |                  |       |                  |  | Ahead |  |       |  |  | S |  |    |  |  | N |  |       |  |  | 1 Drv |  |       |  |  | F |  |     |  |  | 50 |  |        |  |  | Slight |  |        |  |  | Un |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Locational Details                                                                                                                                                   |  |  |  | Conditions               |  |                      |  | Accident Details     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  | Car   |                  |  |       |  | TurnL |  |  |   |  | S  |  |  |   |  | W     |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Road: A627(M)/A627(M) Junction Details: Rdbt                                                                                                                         |  |  |  | Road Surface: Dry        |  |                      |  | Severity: Slight     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OSGR: 389611 409935 Junction Control: TS                                                                                                                             |  |  |  | Light Conditions: Light  |  |                      |  | No. of Vehicles: 2   |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Speed Limit: 70 Ped Crossing:                                                                                                                                        |  |  |  | Weather Conditions: Fine |  |                      |  | No. of Casualties: 1 |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Accident Reference Number: P1270921                                                                                                                                  |  |  |  | Day: Monday              |  |                      |  | Contributory Factors |                  |  | Date: 23/01/2023 |     |  |             |                 | Time: 18:30 |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Place Reported: Self                                                                                                                                                 |  |  |  | District: Rochdale       |  |                      |  | Factor               |                  |  | Conf             |     |  | Ref         |                 |             | Vehicle Details |  |     |                  |       | Casualty Details |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Location: A627(M) Northbound, Marker Post 3.8                                                                                                                        |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Type        |                 |  |     |                  | Move  |                  |  |       |  | From  |  |  |   |  | To |  |  |   |  | Skid  |  |  |       |  | Type  |  |  |   |  | Sex |  |  |    |  | Age    |  |  |        |  | Sev    |  |  |    |  | Pupil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Description: Both Vehs Trav N A627 (M), V2 Waiting To Go Ahead But Held Up, V1 Fails To Stop & Front Collides With Rear Of V2                                        |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Car         |                 |  |     |                  | Ahead |                  |  |       |  | S     |  |  |   |  | N  |  |  |   |  | 1 Drv |  |  |       |  | F     |  |  |   |  | 32  |  |  |    |  | Slight |  |  |        |  | Un     |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Locational Details                                                                                                                                                   |  |  |  | Conditions               |  |                      |  | Accident Details     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  | Car   |                  |  |       |  | Waitg |  |  |   |  | S  |  |  |   |  | N     |  |  |       |  | 1 Drv |  |  |   |  | F   |  |  |    |  | 32     |  |  |        |  | Slight |  |  |    |  | Un    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Road: A627(M) Junction Details:                                                                                                                                      |  |  |  | Road Surface: Dry        |  |                      |  | Severity: Slight     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OSGR: 389634 409697 Junction Control: n/a                                                                                                                            |  |  |  | Light Conditions: Dark   |  |                      |  | No. of Vehicles: 2   |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Speed Limit: 70 Ped Crossing:                                                                                                                                        |  |  |  | Weather Conditions: Fine |  |                      |  | No. of Casualties: 1 |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Accident Reference Number: P1105326                                                                                                                                  |  |  |  | Day: Tuesday             |  |                      |  | Contributory Factors |                  |  | Date: 02/11/2021 |     |  |             |                 | Time: 05:20 |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Place Reported: Else                                                                                                                                                 |  |  |  | District: Rochdale       |  |                      |  | Factor               |                  |  | Conf             |     |  | Ref         |                 |             | Vehicle Details |  |     |                  |       | Casualty Details |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Location: A627(M) 80 metres S Of Thornham Interchange                                                                                                                |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Type        |                 |  |     |                  | Move  |                  |  |       |  | From  |  |  |   |  | To |  |  |   |  | Skid  |  |  |       |  | Type  |  |  |   |  | Sex |  |  |    |  | Age    |  |  |        |  | Sev    |  |  |    |  | Pupil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Description: Both Vehs Trav Nw A627 Approaching Thornham Interchange Rdabt, Front Of V1 Collides With Rear Of V2 (Motorcycle), Causes Rider To Be Dismounted         |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Car         |                 |  |     |                  | Lbend |                  |  |       |  | S     |  |  |   |  | NW |  |  |   |  | 1 Rid |  |  |       |  | M     |  |  |   |  | 61  |  |  |    |  | Slight |  |  |        |  | Un     |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Locational Details                                                                                                                                                   |  |  |  | Conditions               |  |                      |  | Accident Details     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  | m/cl  |                  |  |       |  | Lbend |  |  |   |  | S  |  |  |   |  | NW    |  |  |       |  | 1 Rid |  |  |   |  | M   |  |  |    |  | 61     |  |  |        |  | Slight |  |  |    |  | Un    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Road: A627(M) Junction Details:                                                                                                                                      |  |  |  | Road Surface: Wet        |  |                      |  | Severity: Slight     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OSGR: 389642 409861 Junction Control: n/a                                                                                                                            |  |  |  | Light Conditions: Dark   |  |                      |  | No. of Vehicles: 2   |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Speed Limit: 70 Ped Crossing:                                                                                                                                        |  |  |  | Weather Conditions: Rain |  |                      |  | No. of Casualties: 1 |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Accident Reference Number: P1256722                                                                                                                                  |  |  |  | Day: Thursday            |  |                      |  | Contributory Factors |                  |  | Date: 22/12/2022 |     |  |             |                 | Time: 22:00 |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Place Reported: Scene                                                                                                                                                |  |  |  | District: Rochdale       |  |                      |  | Factor               |                  |  | Conf             |     |  | Ref         |                 |             | Vehicle Details |  |     |                  |       | Casualty Details |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Location: A627(M) 22 metres NW Of Thornham Interchange Roundabout                                                                                                    |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Type        |                 |  |     |                  | Move  |                  |  |       |  | From  |  |  |   |  | To |  |  |   |  | Skid  |  |  |       |  | Type  |  |  |   |  | Sex |  |  |    |  | Age    |  |  |        |  | Sev    |  |  |    |  | Pupil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Description: All Vehs Trav Se A627(M) Appr Rdabt, Front Of V1 Collides With Rear Of V2 & V3                                                                          |  |  |  |                          |  |                      |  |                      |                  |  |                  |     |  |             |                 | Car         |                 |  |     |                  | Ahead |                  |  |       |  | NW    |  |  |   |  | SE |  |  |   |  | O/tn  |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Locational Details                                                                                                                                                   |  |  |  | Conditions               |  |                      |  | Accident Details     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  | Car   |                  |  |       |  | Ahead |  |  |   |  | NW |  |  |   |  | SE    |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Road: A627(M) Junction Details:                                                                                                                                      |  |  |  | Road Surface: Dry        |  |                      |  | Severity: Slight     |                  |  |                  |     |  |             |                 |             |                 |  |     |                  | Car   |                  |  |       |  | Ahead |  |  |   |  | NW |  |  |   |  | SE    |  |  |       |  | 1 Drv |  |  |   |  | M   |  |  |    |  | 36     |  |  |        |  | Slight |  |  |    |  | Un    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OSGR: 389656 410161 Junction Control: n/a                                                                                                                            |  |  |  | Light Conditions: Dark   |  |                      |  | No. of Vehicles: 3   |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Speed Limit: 70 Ped Crossing:                                                                                                                                        |  |  |  | Weather Conditions: Fine |  |                      |  | No. of Casualties: 1 |                  |  |                  |     |  |             |                 |             |                 |  |     |                  |       |                  |  |       |  |       |  |  |   |  |    |  |  |   |  |       |  |  |       |  |       |  |  |   |  |     |  |  |    |  |        |  |  |        |  |        |  |  |    |  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|------------------------|--------------------|---------------------|----------------------|--------|--------------------|------------------|------|-------|------|----|-------------|------------------|-------|-----|-----|---------|----|
| Accident Reference Number: XP065865                                                                                                                                                  |                 |        |                        | Day: Saturday      |                     | Contributory Factors |        |                    | Date: 07/12/2019 |      |       |      |    | Time: 03:35 |                  |       |     |     |         |    |
| Place Reported: Scene                                                                                                                                                                |                 |        |                        | District: Rochdale |                     |                      |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Location: A627(M) Off-slip Road 10 metres NW Of Thornham Interchange Roundabout, Junction 20                                                                                         |                 |        |                        |                    |                     |                      | Factor | Conf               | Ref              | Type | Move  | From | To | Skid        | Casualty Details |       |     |     |         |    |
| Description: Both Vehs Trav Se-bd A627(M) Off-slip Road Towards M62, V2 Stops At Lights, V1 (Drunken Driver) Loses Control & Collides Rear Of V2                                     |                 |        |                        |                    |                     |                      | DAlcoh | VLike              | V1               |      |       |      |    |             | Type             | Sex   | Age | Sev | Pupil   |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | DFLook | VLike              | V1               | Car  | Ahead | NW   | SE |             |                  | 1 Drv | F   | 35  | Slight  |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | DLoss  | VLike              | V1               | Car  | Waitg | NW   | SE |             |                  | 2 Drv | M   | 28  | Slight  |    |
| Locational Details                                                                                                                                                                   |                 |        |                        | Conditions         |                     | Accident Details     |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Road:                                                                                                                                                                                | A627(M)/A627(M) |        | Junction Details: Rdbt |                    | Road Surface:       | Wet                  |        | Severity:          | Slight           |      |       |      |    |             |                  |       |     |     |         |    |
| OSGR:                                                                                                                                                                                | 389664          | 410156 | Junction Control: TS   |                    | Light Conditions:   | Dark                 |        | No. of Vehicles:   | 2                |      |       |      |    |             |                  |       |     |     |         |    |
| Speed Limit:                                                                                                                                                                         | 70              |        | Ped Crossing:          |                    | Weather Conditions: | Rain                 |        | No. of Casualties: | 2                |      |       |      |    |             |                  |       |     |     |         |    |
| Accident Reference Number: P1040600                                                                                                                                                  |                 |        |                        | Day: Monday        |                     | Contributory Factors |        |                    | Date: 19/04/2021 |      |       |      |    | Time: 10:44 |                  |       |     |     |         |    |
| Place Reported: Scene                                                                                                                                                                |                 |        |                        | District: Rochdale |                     |                      |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Location: A627M at junction with Thornham Interchange Roundabout                                                                                                                     |                 |        |                        |                    |                     |                      | Factor | Conf               | Ref              | Type | Move  | From | To | Skid        | Casualty Details |       |     |     |         |    |
| Description: Both Vehs Trav S A627(M) Towards Thornham Interchange Rdabt, V2 Staty At Red Ats, V1 Fails To See & N/s Collides With Rear N/s Bumper & Wing Mirror Of V2               |                 |        |                        |                    |                     |                      |        |                    |                  |      |       |      |    |             | Type             | Sex   | Age | Sev | Pupil   |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | Car    | Ahead              | N                | S    |       |      |    |             |                  |       |     |     |         |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | Car    | Ahead              | N                | S    |       |      |    |             |                  | 1 Drv | M   | 54  | Slight  | Un |
| Locational Details                                                                                                                                                                   |                 |        |                        | Conditions         |                     | Accident Details     |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Road:                                                                                                                                                                                | A627(M)/A627(M) |        | Junction Details: Rdbt |                    | Road Surface:       | Dry                  |        | Severity:          | Slight           |      |       |      |    |             |                  |       |     |     |         |    |
| OSGR:                                                                                                                                                                                | 389667          | 410155 | Junction Control: TS   |                    | Light Conditions:   | Light                |        | No. of Vehicles:   | 2                |      |       |      |    |             |                  |       |     |     |         |    |
| Speed Limit:                                                                                                                                                                         | 70              |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 |        | No. of Casualties: | 1                |      |       |      |    |             |                  |       |     |     |         |    |
| Accident Reference Number: P1074774                                                                                                                                                  |                 |        |                        | Day: Sunday        |                     | Contributory Factors |        |                    | Date: 08/08/2021 |      |       |      |    | Time: 09:15 |                  |       |     |     |         |    |
| Place Reported: Scene                                                                                                                                                                |                 |        |                        | District: Rochdale |                     |                      |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Location: M62 Westbound, Marker Post 64.7                                                                                                                                            |                 |        |                        |                    |                     |                      | Factor | Conf               | Ref              | Type | Move  | From | To | Skid        | Casualty Details |       |     |     |         |    |
| Description: Both Vehs Trav W-bd M62. V1 In La 3 & V2 (LGV) In La 2. V1 Hits Patch Of Standing Water, Driver Loses Control & N/s Hits O/s Of V2. V2 Loses Control & Hits N/s Barrier |                 |        |                        |                    |                     |                      | Slip   | Poss               | V1               |      |       |      |    |             | Type             | Sex   | Age | Sev | Pupil   |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | Car    | Ahead              | E                | W    | Skid  |      |    |             |                  |       |     |     |         |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | LGV    | Ahead              | E                | W    | Skid  |      |    |             |                  | 1 Drv | M   | 40  | Slight  | Un |
| Locational Details                                                                                                                                                                   |                 |        |                        | Conditions         |                     | Accident Details     |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Road:                                                                                                                                                                                | M62             |        | Junction Details:      |                    | Road Surface:       | Wet                  |        | Severity:          | Slight           |      |       |      |    |             |                  |       |     |     |         |    |
| OSGR:                                                                                                                                                                                | 389728          | 410070 | Junction Control: n/a  |                    | Light Conditions:   | Light                |        | No. of Vehicles:   | 2                |      |       |      |    |             |                  |       |     |     |         |    |
| Speed Limit:                                                                                                                                                                         | 70              |        | Ped Crossing:          |                    | Weather Conditions: | Rain                 |        | No. of Casualties: | 1                |      |       |      |    |             |                  |       |     |     |         |    |
| Accident Reference Number: P1081397                                                                                                                                                  |                 |        |                        | Day: Friday        |                     | Contributory Factors |        |                    | Date: 27/08/2021 |      |       |      |    | Time: 00:15 |                  |       |     |     |         |    |
| Place Reported: Scene                                                                                                                                                                |                 |        |                        | District: Rochdale |                     |                      |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Location: Thornham Interchange at junction with M62 Off-slip Road                                                                                                                    |                 |        |                        |                    |                     |                      | Factor | Conf               | Ref              | Type | Move  | From | To | Skid        | Casualty Details |       |     |     |         |    |
| Description: V1 Trav Sw M62 Off-slip Enters Thornhall Interchange Rdabt, V1 Loses Control As It Attempts To Negotiate Exit On Rdabt & Front Collides With N/s Barriers               |                 |        |                        |                    |                     |                      | DTurn  | VLike              | V1               |      |       |      |    |             | Type             | Sex   | Age | Sev | Pupil   |    |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      | DLoss  | VLike              | V1               | Car  | Ahead | NE   | S  |             |                  | 1 Drv | M   | 18  | Slight  | Un |
|                                                                                                                                                                                      |                 |        |                        |                    |                     |                      |        |                    |                  |      |       |      |    |             |                  | 2 Pas | M   | 19  | Serious | Un |
| Locational Details                                                                                                                                                                   |                 |        |                        | Conditions         |                     | Accident Details     |        |                    |                  |      |       |      |    |             |                  |       |     |     |         |    |
| Road:                                                                                                                                                                                | M62/A627(M)     |        | Junction Details: Rdbt |                    | Road Surface:       | Dry                  |        | Severity:          | Serious          |      |       |      |    |             |                  |       |     |     |         |    |
| OSGR:                                                                                                                                                                                | 389774          | 410028 | Junction Control: TS   |                    | Light Conditions:   | Dark                 |        | No. of Vehicles:   | 1                |      |       |      |    |             |                  |       |     |     |         |    |
| Speed Limit:                                                                                                                                                                         | 70              |        | Ped Crossing:          |                    | Weather Conditions: | Fine                 |        | No. of Casualties: | 2                |      |       |      |    |             |                  |       |     |     |         |    |

|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        |                  |       |      |    |      |                  |     |     |        |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|------------------------|--------------------|---------------------|------------------------------------|--------------------|--------|------------------|-------|------|----|------|------------------|-----|-----|--------|-------|
| Accident Reference Number: XP059223                                                                                                                                                      |         |        |                        | Day: Friday        |                     | Contributory Factors               |                    |        | Date: 12/07/2019 |       |      |    |      | Time: 16:40      |     |     |        |       |
| Place Reported: Scene                                                                                                                                                                    |         |        |                        | District: Rochdale |                     |                                    |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Location: M62 SW-bound Off-slip Road (Junction 20), marker post 64.8                                                                                                                     |         |        |                        |                    |                     | Factor Conf Ref<br>VBrake Poss V1  |                    |        | Vehicle Details  |       |      |    |      | Casualty Details |     |     |        |       |
| Description: All Vehs Trav Sw-bd M62 On Exit Slip Road, V2 Staty In Queue Of Traffic, V1 Collides With Rear Of V2, V2 Then Collides With Rear Of V3                                      |         |        |                        |                    |                     |                                    |                    |        | Type             | Move  | From | To | Skid | Type             | Sex | Age | Sev    | Pupil |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | NE   | SW | Skid | 1 Pas            | F   | 67  | Slight |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Waitg | NE   | SW | Skid |                  |     |     |        |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Waitg | NE   | SW |      |                  |     |     |        |       |
| Locational Details                                                                                                                                                                       |         |        |                        | Conditions         |                     | Accident Details                   |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Road:                                                                                                                                                                                    | M62     |        | Junction Details:      |                    | Road Surface:       | Dry                                | Severity:          | Slight |                  |       |      |    |      |                  |     |     |        |       |
| OSGR:                                                                                                                                                                                    | 389888  | 410128 | Junction Control: n/a  |                    | Light Conditions:   | Light                              | No. of Vehicles:   | 3      |                  |       |      |    |      |                  |     |     |        |       |
| Speed Limit:                                                                                                                                                                             | 70      |        | Ped Crossing:          |                    | Weather Conditions: | Fine                               | No. of Casualties: | 1      |                  |       |      |    |      |                  |     |     |        |       |
| Accident Reference Number: XP076572                                                                                                                                                      |         |        |                        | Day: Monday        |                     | Contributory Factors               |                    |        | Date: 26/10/2020 |       |      |    |      | Time: 08:26      |     |     |        |       |
| Place Reported: Scene                                                                                                                                                                    |         |        |                        | District: Rochdale |                     |                                    |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Location: M62 SW-bound, Marker Post 64.9                                                                                                                                                 |         |        |                        |                    |                     | Factor Conf Ref<br>DFog Poss V1    |                    |        | Vehicle Details  |       |      |    |      | Casualty Details |     |     |        |       |
| Description: All Vehs Trav Sw-bd M62 In Torrential Rain. V4 Slows In Lane 2 As Result Of Traffic, As Does V3 In Lane 2. V2 Brakes But Hits Rear Of V3 & Then Rear Of V4. V1 Then Hits V2 |         |        |                        |                    |                     | DFog Poss V2                       |                    |        | Type             | Move  | From | To | Skid | Type             | Sex | Age | Sev    | Pupil |
|                                                                                                                                                                                          |         |        |                        |                    |                     | DFast Poss V1                      |                    |        | Car              | Ahead | NE   | SW |      | 1 Drv            | M   | 57  | Slight |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     | DFast Poss V2                      |                    |        | Car              | Ahead | NE   | SW |      |                  |     |     |        |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | NE   | SW |      |                  |     |     |        |       |
| Locational Details                                                                                                                                                                       |         |        |                        | Conditions         |                     | Accident Details                   |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Road:                                                                                                                                                                                    | M62     |        | Junction Details:      |                    | Road Surface:       | Wet                                | Severity:          | Slight |                  |       |      |    |      |                  |     |     |        |       |
| OSGR:                                                                                                                                                                                    | 389940  | 410195 | Junction Control: n/a  |                    | Light Conditions:   | Light                              | No. of Vehicles:   | 4      |                  |       |      |    |      |                  |     |     |        |       |
| Speed Limit:                                                                                                                                                                             | 70      |        | Ped Crossing:          |                    | Weather Conditions: | R&W                                | No. of Casualties: | 1      |                  |       |      |    |      |                  |     |     |        |       |
| Accident Reference Number: XP056679                                                                                                                                                      |         |        |                        | Day: Saturday      |                     | Contributory Factors               |                    |        | Date: 11/05/2019 |       |      |    |      | Time: 11:55      |     |     |        |       |
| Place Reported: Scene                                                                                                                                                                    |         |        |                        | District: Rochdale |                     |                                    |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Location: M62 NE-bound at junction with M62 On-slip Road Marker Post 65.0                                                                                                                |         |        |                        |                    |                     | Factor Conf Ref<br>DFLook VLike V1 |                    |        | Vehicle Details  |       |      |    |      | Casualty Details |     |     |        |       |
| Description: V1 Trav Ne-bd M62, Driver Fails To Look Properly, Loses Control Left Carriageway O/s & Collides Central Crash Barrier                                                       |         |        |                        |                    |                     | DLoss VLike V1                     |                    |        | Type             | Move  | From | To | Skid | Type             | Sex | Age | Sev    | Pupil |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Lbend | SW   | NE | Skid | 1 Pas            | F   | 30  | Slight |       |
| Locational Details                                                                                                                                                                       |         |        |                        | Conditions         |                     | Accident Details                   |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Road:                                                                                                                                                                                    | M62/M62 |        | Junction Details: Slip |                    | Road Surface:       | Dry                                | Severity:          | Slight |                  |       |      |    |      |                  |     |     |        |       |
| OSGR:                                                                                                                                                                                    | 389960  | 410226 | Junction Control: GW   |                    | Light Conditions:   | Light                              | No. of Vehicles:   | 1      |                  |       |      |    |      |                  |     |     |        |       |
| Speed Limit:                                                                                                                                                                             | 70      |        | Ped Crossing:          |                    | Weather Conditions: | Fine                               | No. of Casualties: | 1      |                  |       |      |    |      |                  |     |     |        |       |
| Accident Reference Number: P1250669                                                                                                                                                      |         |        |                        | Day: Wednesday     |                     | Contributory Factors               |                    |        | Date: 07/12/2022 |       |      |    |      | Time: 06:48      |     |     |        |       |
| Place Reported: Scene                                                                                                                                                                    |         |        |                        | District: Rochdale |                     |                                    |                    |        |                  |       |      |    |      |                  |     |     |        |       |
| Location: M62 Westbound, Marker Post 65.4                                                                                                                                                |         |        |                        |                    |                     | Factor Conf Ref                    |                    |        | Vehicle Details  |       |      |    |      | Casualty Details |     |     |        |       |
| Description: All Vehs Trav W-bd M62, V1 Brakes, V3 Brakes, V2(LGV), V5 & V6 Swerve Past V3 To O/s, V7 Passes V3 & Hits V6, V4 (LGV) Passes V3 & Hits V5 (LGV)                            |         |        |                        |                    |                     |                                    |                    |        | Type             | Move  | From | To | Skid | Type             | Sex | Age | Sev    | Pupil |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | E    | W  |      | 1 Drv            | M   | 29  | Slight | Un    |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | LGV              | Ahead | E    | W  |      |                  |     |     |        |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | E    | W  |      |                  |     |     |        |       |
| Road:                                                                                                                                                                                    | M62     |        | Junction Details:      |                    | Road Surface:       | Dry                                | Severity:          | Slight | LGV              | Ahead | E    | W  |      | 2 Drv            | M   | 35  | Slight | Un    |
| OSGR:                                                                                                                                                                                    | 390331  | 410382 | Junction Control: n/a  |                    | Light Conditions:   | Dark                               | No. of Vehicles:   | 7      |                  |       |      |    |      | 3 Pas            | M   | 35  | Slight | Un    |
| Speed Limit:                                                                                                                                                                             | 70      |        | Ped Crossing:          |                    | Weather Conditions: | Fine                               | No. of Casualties: | 4      |                  |       |      |    |      | 4 Drv            | M   | 38  | Slight | Un    |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | LGV              | Ahead | E    | W  |      |                  |     |     |        |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | E    | W  |      |                  |     |     |        |       |
|                                                                                                                                                                                          |         |        |                        |                    |                     |                                    |                    |        | Car              | Ahead | E    | W  |      |                  |     |     |        |       |

## Abbreviations used in GMAXI Reports for New Contributory Factors - 2005/06

**WARNING: Please note that -**

**Codes 101 to 999 only relate to accidents from 1 April 2005. - New National Factors introduced by DfT**

**Codes 1001 to 1154 relate to accidents from 1 April 1999 to 31 March 2005 only. - Local Factors introduced**

**Accidents before 1 April 1999 do not have contributory factors attached.**

| Code | ContribFactor1Name                                        | ContribFactor1Abb |
|------|-----------------------------------------------------------|-------------------|
| 0    | None                                                      |                   |
| 101  | Poor or defective road surface                            | Surf              |
| 102  | Deposit on road (eg oil, mud, chippings)                  | Dposit            |
| 103  | Slippery road (due to weather)                            | Slip              |
| 104  | Inadequate/masked signs or road markings                  | Mark              |
| 105  | Defective traffic signals                                 | DefATS            |
| 106  | Traffic calming (eg speed cushions, road humps, chicanes) | TCalm             |
| 107  | Temporary road layout (eg contraflow)                     | TmpRd             |
| 108  | Road layout (eg bend, hill, narrow carriageway)           | RdLay             |
| 109  | Animal or object in carriageway                           | ObjInC            |
| 201  | Tyres illegal, defective or under inflated                | VTyres            |
| 202  | Defective lights or indicators                            | VLight            |
| 203  | Defective brakes                                          | VBrake            |
| 204  | Defective steering or suspension                          | VSteer            |
| 205  | Defective or missing mirrors                              | VMirr             |
| 206  | Overloaded or poorly loaded vehicle or trailer            | VLoad             |
| 301  | Disobeyed automatic traffic signal                        | DATS              |
| 302  | Disobeyed Give Way or Stop sign or markings               | DGWorS            |
| 303  | Disobeyed double white line                               | DWhite            |
| 304  | Disobeyed pedestrian crossing facility                    | DPedX             |
| 305  | Illegal turn or direction of travel                       | DITurn            |
| 306  | Exceeding speed limit                                     | DSpeed            |
| 307  | Travelling too fast for conditions                        | DFast             |
| 308  | Following too close                                       | DTgate            |
| 309  | Vehicle travelling along pavement                         | DPave             |
| 310  | Cyclist entering road from pavement                       | DCPave            |
| 401  | Junction overshoot                                        | DJnOvr            |
| 402  | Junction restart                                          | DJnRst            |
| 403  | Poor turn or manoeuvre                                    | DTurn             |
| 404  | Failed to signal/misleading signal                        | DSign             |
| 405  | Failed to look properly                                   | DFLook            |
| 406  | Failed to judge other person's path or speed              | DJudge            |
| 407  | Passing too close to cyclist, horse rider or pedestrian   | DClose            |
| 408  | Sudden braking                                            | DBrake            |
| 409  | Swerved                                                   | DSwerv            |
| 410  | Loss of control                                           | DLossC            |
| 501  | Impaired by alcohol                                       | DAlcoh            |
| 502  | Impaired by drugs (illicit or medicinal)                  | DDrugs            |
| 503  | Fatigue                                                   | DTired            |
| 504  | Uncorrected, defective eyesight                           | DEye              |
| 505  | Illness or disability, mental or physical                 | DIllns            |
| 506  | Not displaying lights at night or in poor visibility      | DNoLit            |
| 507  | Cyclist wearing dark clothing at night                    | DCDark            |
| 508  | Driver using mobile phone                                 | DMobPh            |
| 509  | Distraction in vehicle                                    | DDisIn            |
| 510  | Distraction outside vehicle                               | DDisOu            |
| 601  | Aggressive driving                                        | DAggre            |
| 602  | Careless/reckless/in a hurry                              | DCare             |

|      |                                                             |        |
|------|-------------------------------------------------------------|--------|
| 603  | Nervous/uncertain/panic                                     | DPanic |
| 604  | Driving too slow or conditions or slow vehicle (eg tractor) | DSlow  |
| 605  | Learner or inexperienced driver/rider                       | DLearn |
| 606  | Inexperience of driving on the left                         | DInDrL |
| 607  | Inexperience with type of vehicle                           | DInVeh |
| 701  | Stationary or parked vehicle(s)                             | DStat  |
| 702  | Vegetation                                                  | DVeg   |
| 703  | Road layout (eg bend, winding road, hill crest)             | DRdLay |
| 704  | Buildings, road signs, street furniture                     | DBuild |
| 705  | Dazzling headlights                                         | DHLigt |
| 706  | Dazzling sun                                                | DSun   |
| 707  | Rain, sleet, snow, or fog                                   | DRain  |
| 708  | Spray from other vehicles                                   | DFog   |
| 709  | Visor or windscreen dirty or scratched                      | DSpray |
| 710  | Vehicle blind spot                                          | DWscrn |
| 801  | Crossed road masked by stationary or parked vehicle         | PXMask |
| 802  | Failed to look properly                                     | PFLook |
| 803  | Failed to judge vehicle's path or speed                     | PJudge |
| 804  | Wrong use of pedestrian crossing facility                   | PPedX  |
| 805  | Dangerous action in carriageway (eg playing)                | PDange |
| 806  | Impaired by alcohol                                         | PAIcoh |
| 807  | Impaired by drugs (illicit or medicinal)                    | PDrugs |
| 808  | Careless/reckless/in a hurry                                | PCare  |
| 809  | Pedestrian wearing dark clothing at night                   | PCloth |
| 810  | Disability or illness, mental or physical                   | PIllns |
| 901  | Stolen vehicle                                              | StoVeh |
| 902  | Vehicle in course of crime                                  | VCrime |
| 903  | Emergency vehicle on call                                   | EmVeh  |
| 904  | Vehicle door opened or closed negligently                   | VDoor  |
| 999  | Other                                                       | Other  |
| 1001 | Failed to stop (mandatory sign)                             | Fstop  |
| 1002 | Failed to give way                                          | Fgive  |
| 1003 | Failed to avoid pedestrian (pedestrian not to blame)        | FAPed  |
| 1004 | Failed to avoid vehicle or object in carriageway            | FAObj  |
| 1005 | Failure to signal/misleading signal                         | Fsig   |
| 1006 | Loss of control of vehicle                                  | Loss   |
| 1007 | Pedestrian entered carriageway without due care             | Ped    |
| 1008 | Passenger fell in or near PSV                               | Pfell  |
| 1009 | Swerved to avoid object in carriageway                      | Swerv  |
| 1010 | Sudden braking                                              | Brake  |
| 1011 | Poor turn/manoeuvre                                         | Turn   |
| 1012 | Poor overtaking                                             | Over   |
| 1013 | Drove wrong way (e.g. 1-way street)                         | 1Way   |
| 1014 | Opening door carelessly                                     | Door   |
| 1015 | Other                                                       | Other  |
| 1101 | Impairment alcohol                                          | Alcoh  |
| 1102 | Impairment drugs                                            | Drugs  |
| 1103 | Impairment fatigue                                          | Tired  |
| 1104 | Impairment illness                                          | Ill    |
| 1105 | Distraction stress/emotional state of mind                  | Stress |
| 1106 | Distraction physical in/on vehicle                          | DPhIn  |
| 1107 | Distraction physical outside vehicle                        | DPhOut |
| 1108 | Behaviour panic                                             | Panic  |
| 1109 | Behaviour careless/thoughtless/reckless                     | Care   |
| 1110 | Behaviour nervous/uncertain                                 | Nerve  |
| 1111 | Behaviour in a hurry                                        | Hurry  |

|      |                                                  |        |
|------|--------------------------------------------------|--------|
| 1112 | Failure to judge other person's path or speed    | Fjudg  |
| 1113 | Disability                                       | Disab  |
| 1114 | Failed to look                                   | F2look |
| 1115 | Looked but did not see                           | Nsee   |
| 1116 | Inattention                                      | Inatt  |
| 1117 | Person hit wore dark or inconspicuous clothing   | Cloth  |
| 1118 | Other (Personal details)                         | Pother |
| 1119 | Crossed from behind parked vehicle etc           | Cross  |
| 1120 | Ignored lights at crossing                       | Xlight |
| 1121 | Excessive Speed                                  | Speed  |
| 1122 | Following too close                              | Tgate  |
| 1123 | Inexperience of driving                          | InDri  |
| 1124 | Inexperience of vehicle                          | InVeh  |
| 1125 | Interaction or competition with other road users | Users  |
| 1126 | Aggressive driving                               | Aggr   |
| 1127 | Lack of judgement of own path                    | Judge  |
| 1128 | Tyres wrong pressure                             | Press  |
| 1129 | Tyres deflation before impact                    | Deflat |
| 1130 | Tyres worn/insufficient tread                    | Tread  |
| 1131 | Defective lights or signals                      | Signal |
| 1132 | Defective brakes                                 | Brakes |
| 1133 | Other (Vehicle defects)                          | Vother |
| 1134 | Site details poor road surface                   | Surf   |
| 1135 | Site details poor/no street lighting             | Lightg |
| 1136 | Site details inadequate signing                  | Sign   |
| 1137 | Site details steep hill                          | Hill   |
| 1138 | Site details narrow road                         | Narr   |
| 1139 | Site details bend/winding road                   | Rbend  |
| 1140 | Site details roadworks                           | Works  |
| 1141 | Slippery road                                    | Slip   |
| 1142 | High winds                                       | Winds  |
| 1143 | Earlier accident                                 | Earli  |
| 1144 | Other (Local conditions)                         | Lother |
| 1145 | View windows obscured                            | Obs    |
| 1146 | View glare from sun                              | Glare  |
| 1147 | View glare from headlights                       | Head   |
| 1148 | Surroundings bend/winding road                   | Bend   |
| 1149 | Surroundings stationary parked vehicle           | Stat   |
| 1150 | Surroundings moving vehicle                      | Move   |
| 1151 | Surroundings buildings, fences, vegetation etc   | Fence  |
| 1152 | Weather (e.g. mist or sleet)                     | Weath  |
| 1153 | Failed to see pedestrian or vehicle in blindspot | Blind  |
| 1154 | Animal out of control                            | Animal |
| 9999 | GMP Out of Range                                 | OoR    |

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