

Proposed Residential Development
Trub Road, Rochdale

September 2024

TRANSPORT ASSESSMENT

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REPORT

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1 INTRODUCTION

1.1 Preamble

1.1.1 Eddisons have been instructed by MCI Developments to advise on the traffic and transport issues relating to a planning application for a residential development on land at Trub Road in the Rochdale area of Greater Manchester.

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

1.1.3 This application for the proposed residential development follows a previously approved scheme via Appeal under application ref no: 11/D54610 for a mixed-use development. A subsequent updated mixed-use proposal including housing was applied for in 2015 under application ref no: 15/00312/OUT, but this lapsed in 2018.

1.1.4 Due to the location of the site close to Rochdale, Manchester city centre and Oldham, with all their services and facilities, the proposed development will help deliver much needed housing in a sustainable location, which is well integrated and connected to local facilities and employment opportunities.

1.2 Format of Report

1.2.1 Following this introduction, Section 2 will provide a description of the existing site and local highway network. Section 3 will detail the development proposals, access and servicing.

1.2.2 Section 4 will consider the accessibility of the site by non-car modes, including walking, cycling and public transport.

1.2.3 Section 5 will consider the trip generation and the traffic impact of the proposals on the local highway network, whilst Section 6 will discuss the Travel Plan.

1.2.4 Section 7 will draw together the Report's findings and conclusions.

2 DEVELOPMENT SITE AND PROPOSALS

2.1 Existing Site

2.1.1 The development site is located in the Castleton area of Rochdale approximately 600 metres south of Castleton railway station. The location of the site is shown on **Plan 1**.

2.1.2 The site is currently accessed from Trub Road to the east of the canal bridge.

2.1.3 To the south, the site is bound by the M62 whilst to the west the site is bound by the Manchester to Leeds railway line, between Mills Hill and Castleton railway stations.

2.1.4 To the north, the site is bounded by an area of undeveloped land and Manchester Road and to the east the site is bound by the Rochdale Canal and St. Martins View residential development, accessed via Montrose Street off Trub Road and the A664 Manchester Road.

2.2 Local Highway Network

2.2.1 In the vicinity of the site, Trub Road has a carriageway width of approximately 7.3 metres and footways of around 2 metres on both sides. It is subject to a 30mph speed limit and benefits from street lighting.

2.2.2 Around 100 metres from the site access, Trub Road forms a priority-controlled junction with Manchester Road. Manchester Road runs in a northern/southern direction. To the north it extends through Castleton Moor where it eventually forms a signal controlled crossroad junction with Silk Street and the A58 Bolton Road.

2.2.3 Bolton Road runs west where it connects the site with Heywood.

2.2.4 Manchester Road also forms a junction with the A664 Rochdale Bypass to the north, this runs south where it forms a junction with the A627(M). The A627(M) then connects to Junction 20 of the M62.

2.2.5 The M62 runs east towards the Peak District, connecting the site with Huddersfield. It also runs west where it joins Junction 18 of the M60, connecting the site to Greater Manchester.

2.2.6 It is therefore considered that the site is well connected to the local highway network, and also to the wider motorway network.

3 DEVELOPMENT PROPOSALS

3.1.1 The following paragraphs will describe the development proposals and report on proposed access arrangements and servicing.

3.2 Proposed Development

3.2.1 The proposals will deliver 162 dwellings.

3.2.2 The application seeks full permission, including the main point of vehicular access, which already exists as a priority-controlled junction.

3.2.3 The proposed site layout is shown in **Plan 2**.

3.2.4 Car parking provision will accord with Rochdale's Parking Standards to ensure there is no detrimental impact to the roads surrounding the development.

3.3 Vehicular Access

3.3.1 Vehicular access into the proposed development will be provided via the existing priority controlled T-junction off Manchester Road and an extension to Trub Road, over the Rochdale Canal bridge, as shown in **Plan 3**.

3.3.2 Consultation with Rochdale Borough Council and the developer included the carriageway and footway provision of the access road from Trub Road into the development, including the bridge over the canal.

3.3.3 It has been agreed in principle between the Council and the developer, that due to level differences and restricted bridge width, the access into the site off Trub Road, will consist of a 5.5-metre-wide carriageway, with a 2-metre-wide footway along the southern side of the carriageway.

3.3.4 A 2-metre-wide footway will be provided along the southern side and a 0.5-metre-wide strip along the northern side of the carriageway across the canal bridge, as shown in Plan 3.

- 3.3.5 Additionally, an un-controlled crossing point will be provided to the east of the canal bridge, comprising dropped kerbs and tactile paving, to maintain access between the access road and the canal towpath.

3.4 Internal Highway Layout

- 3.4.1 The internal layout for the proposed development has been designed to accord with the principles contained within Manual for Streets, with the emphasis being on lower vehicle speeds and priority given to pedestrians and cyclists. This includes naturally designed access roads to reduce speeds and encourage a more pedestrian and cyclist friendly environment.

- 3.4.2 A plan to show the internal visibility is presented in **Plan 4**.

3.5 Waste Collection & Servicing

- 3.5.1 The internal access roads have been designed to accommodate waste and delivery vehicles so that they can enter the site, turn around and exit in a forward gear.

- 3.5.2 This will ensure there is no detrimental impact to the public highway and confirm that the site can be serviced without giving rise to any road safety issues.

- 3.5.3 To demonstrate this, a swept path analysis has been undertaken for a refuse vehicle, as shown in **Plan 5**.

- 3.5.4 A further swept path analysis has been undertaken for a fire appliance and is shown in **Plan 6**, thus demonstrating that the site can be accessed in an emergency situation should the need arise.

3.6 Pedestrian and Cycle Access

- 3.6.1 Pedestrian and cycle access will be along Trub Road via the existing Manchester Road junction.

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 The presumption in favour of sustainable development is a central theme running through the framework and transport planning policies are seen as a key element of delivering sustainable development as well as contributing to wider sustainability and health objectives. To achieve these objectives, paragraph 30 states that when making decisions, local authorities should:

‘Support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.’

4.1.3 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.

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

- access on foot;
- access by cycle;
- access by bus; and
- access 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.

- 4.2.2 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.
- 4.2.3 As previously discussed, it is proposed to provide a footway within the site to connect with the existing pedestrian footways of around 2-metres in width, located at the western end of Trub Road, providing direct pedestrian access to the rest of Castleton. Along with a 2-metre-wide footway provided along the southern side and a 0.5-metre-wide strip along the northern side of the carriageway across the canal bridge.
- 4.2.4 To the north of the site and as part of the development, a set of steps have been proposed to connect the site with the canal towpath located on the western side of Rochdale Canal. This towpath runs in a northern direction and connects the site to the centre of Rochdale.
- 4.2.5 The DFT National Travel Survey of 2018 confirms that 80% of all trips less than a mile (1.6km) are carried out on foot.
- 4.2.6 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

- 4.2.7 The Government introduced advice on walking distances in the 2001 revision to Planning Policy Guidance (PPG) 13 Transport, now withdrawn, which advised that *'Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly those under two kilometres.'*

4.2.8 Manual for Streets (MfS) continues the theme of the acceptability of the 2,000 metre distance in paragraph 4.4.1.

4.2.9 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’.

4.2.10 **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

4.2.11 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 85th percentile walk distances:

- All journey purposes – 1,930 metres;
- Commuting – 2,400 metres;
- Shopping – 1,600 metres;
- Personal business – 1,600 metres.

4.2.12 Overall, in Table 5.1, the document states that 1,950 square metres is the 85th percentile distance for walking as the main mode of travel. **Table 4.3** below summarises the various 85th percentile walk distances suggested as guidelines in the WYG Study.

85 th Percentile Walk Distances				Overall Recommended Preferred Max
All Journeys	Commuting	Shopping	Personal	
1,950m	2,100m	1,600m	1,600m	1,950m

Table 4.3 WYG Report/NTS Data Walk Distances

- 4.2.13** In summary, the distance of 1,950 metres, or around 2 kilometres, represents an acceptable maximum walking distance for the majority of land uses.
- 4.2.14** 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.'*
- 4.2.15** A 20-minute walk equates to a walking distance of around 1,600 metres.
- 4.2.16** In light of the above, a pedestrian catchment of 2 kilometres from the centre of the site, using all available pedestrian routes, has been provided in **Plan 7**.
- 4.2.17** The 2,000-metre pedestrian catchment illustrates that the majority of Halton can be accessed, such as the Golden Wok Chinese Takeaway, St. Gabriel's R.C Primary School, Halton Pharmacy, Zeera Indian Restaurant, Well Castleton (Pharmacy), Local Convenience Store, Castleton Post Office, Castleton Health and Leisure CIC, Smallworld Nurseries and Hopwood Hall College.
- 4.2.18** In a recent 2023 YouGov poll, respondents were asked to identify the local amenities they valued the most within a 15 minute walk of their home. The poll results highlight amenities that people consider essential for their day to day lives, such as, grocery stores, healthcare facilities and public transportation. The results of the YouGov Poll are displayed in **Figure 4.1** below:

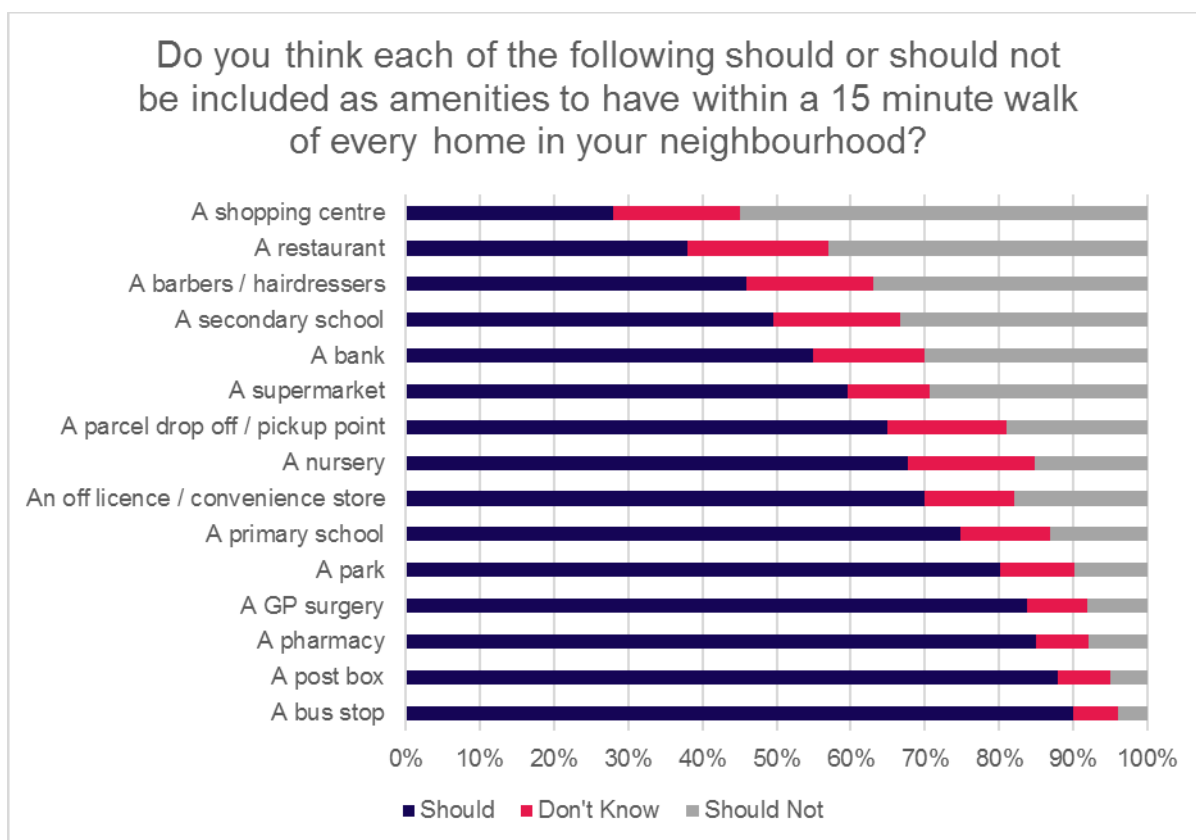


Figure 4.1 YouGov Poll Results (Source YouGov)

4.2.19 Figure 4.1 shows that the majority of respondents, approximately nine in ten, believe that having a bus stop (90%) and a post box (87%) within a short walk of their home is most important. Similarly, a significant proportion of Britons think that medical facilities like a pharmacy (85%) and a GP surgery (83%) should be easily accessible. Less than half of the respondents see the need for a shopping centre (28%), restaurant (38%), or hairdressers (46%) to be located nearby.

4.2.20 Plan 7 provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site. The plan also displays nearby local amenities, as per those identified within the findings of the YouGov poll.

4.2.21 **Table 4.4** below, shows the walking distance from the access point 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?
Golden Wok Chinese Takeaway	400m	1,950m	YES
St. Gabriel's R.C. Primary School	500m	1,950m	YES
Halton Pharmacy	615m	1,950m	YES
Elm street Pre-School	700m	2,000m	YES
Well Castleton (Pharmacy)	750m	1,950m	YES
Local Convenience Store	750m	1,950m	YES
Park	850m	1,950m	YES
Castleton Post Office	1,000m	1,950m	YES
Holyrood Nursery Castleton	1,100m	1,950m	YES
Castleton Health and Leisure CIC	1,400m	1,950m	YES
Smallworld Nurseries	1,400m	1,950m	YES

Table 4.4 Distance from Site to Local Facilities

4.2.22 Based on the review, it is considered that the existing pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and numerous local services and amenities.

4.3 Access by Cycle

4.3.1 An alternative mode of travel to the site could be achieved by bicycle.

4.3.2 Clearly, the new advice contained within the Highway Code, which was updated on 29th January 2022, will improve the safety of vulnerable road users including cyclists, pedestrians, and horse-riders.

- 4.3.3** Most of the new advice relates to where cyclists should position themselves within the lane in various traffic conditions and motorists being required to give cyclists priority in slow moving traffic and locations where there is insufficient room for vehicles to overtake cyclists safely, allowing 1.5-metres for cyclists when overtaking them.
- 4.3.4** The Cycling England document 'Integrating Cycling Into Development Proposals' advises that *'For short trips, [cycle links] can give cyclists significant advantages over car users in terms of convenience and journey time... Most cycle journeys for non-work purposes and those to rail stations are between 0.5 and 2 miles, but many cyclists are willing to cycle much further. For work, a distance of 5 miles should be assumed.'*
- 4.3.5** A distance of 8-kilometres (5-miles) is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 40-minutes based on a leisurely cycle speed of 12-kph and would encompass the whole of Castleton, Heywood, Heywood Distribution Park, Broadfield Industrial Park, Rochdale, Milnrow, Chadderton Fold and Middleton.
- 4.3.6** **Figure 4.2** illustrates the Local Cycle Network in the vicinity of the site.

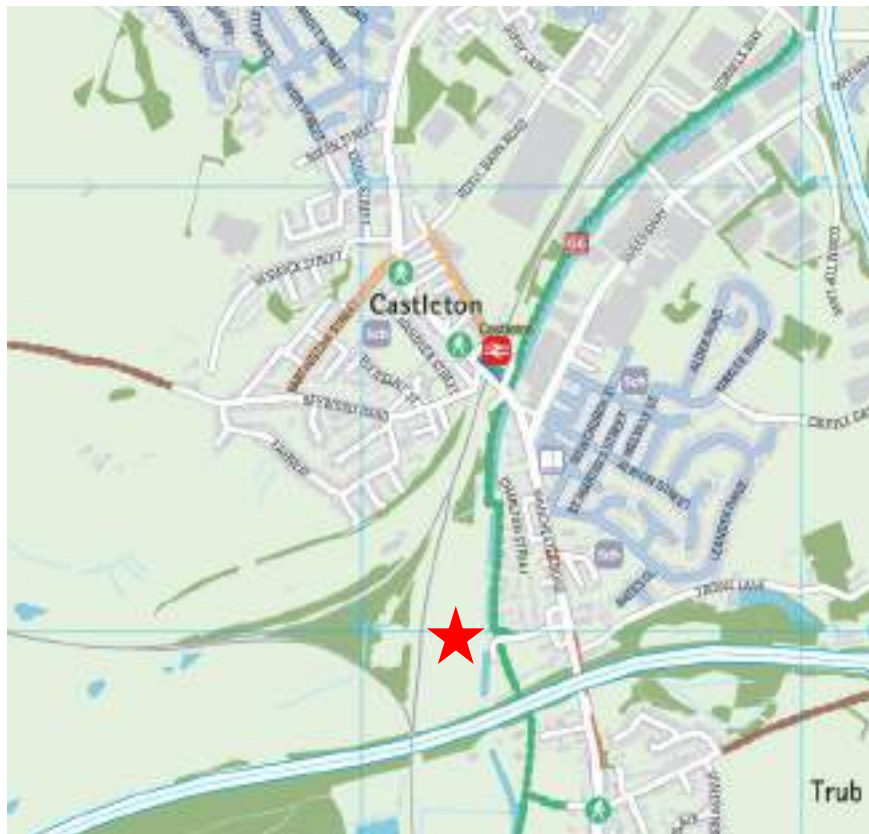


Figure 4.2 – Local Cycle Network

4.3.7 It can be seen in Figure 4.2 that National Cycle Network (NCN) Route 66 passes along the eastern side of the Rochdale canal towpath, along the eastern boundary of the site, running from Manchester city centre to Spurn Head in Yorkshire via Bradford, Leeds, York, Beverley, and Kingston upon Hull.

4.3.8 Furthermore, a section of 'On-road advisory route' passes along Trub Road to connect with sections of on-road cycle routes along the A664 Manchester Road.

4.3.9 The site can, therefore, be considered as being accessible by cycle.

4.4 Access by Bus

4.4.1 An effective public transport system is essential in providing good accessibility for large parts of the population to opportunities for work, education, shopping, leisure, and healthcare in the town and beyond.

4.4.2 The nearest bus stops to the site are located along the A664 Manchester Road approximately 400-metres (around 5-minutes walking time).

4.4.3 These stops consist of a bus stop flag with passing service and timetable information and a steel and glass shelter with seating. All the nearest bus stops to the site are shown on Plan 7.

4.4.4 A summary of the services available from the nearest bus stops from the development site is provided in **Table 4.5** below.

Service No	Route	Monday - Friday			Saturday			Sun
		Pre 08:00	08:00-17:00	Post 17:00	Pre 08:00	08:00-17:00	Post 17:00	
17	Rochdale-Manchester Shudenhill	Every 10 mins	Every 10 mins	Every 15 mins	Every 20 mins	Every 10 mins	Every 15 mins	Every 15 mins
17A	Rochdale-Manchester	1 service	-	-	-	-	-	-
434	Rochdale-Middleton	3 services	Every 60 mins	4 service	2 service	Every 60 mins	3 service	Every 60 mins
881	Chesham Avenue- Oulder Hill Leadership Academy	1 service	1 service	-	-	-	-	-

Table 4.5 – Existing Bus Services Operating in the Vicinity of the Site

4.4.5 In order to demonstrate the level of accessibility some example journey times by bus are presented in **Table 4.6** below.

Destination	Duration
Castleton	2 minutes
Sudden	7 minutes
Highfield Hospital	9 minutes
Rochdale Interchange	16 minutes
Middleton Bus Station	17 minutes
Higher Blackley	25 minutes
Blackley	28 minutes
Manchester Shudehill Interchange	42 minutes

Table 4.6 Example Bus Journey Times from the Site

4.4.6 The above table demonstrates that Castleton is a 2-minute journey, Rochdale is a 16-minute bus journey, Middleton a 17-minute bus journey and Manchester city centre is a 42-minute bus journey from the site. Direct bus services also connect the site with Highfield Hospital (9-minute bus journey).

4.4.7 It is noted that the available bus services provide a choice of how people travel with the services operating from around 04:57 to around 00:17, making travel by public transport a real alternative to travelling by car for all journey purposes and commuting trips, in particular.

4.4.8 It is therefore concluded that the proposed development site is accessible by bus.

4.5 Access by Rail

4.5.1 The nearest railway station to the site is Castleton, which is currently situated approximately 1,000-metres away from the centre of the site. However, due to the proposed connection to the towpath via the development, residents can access Castleton railway station in around 350 metres which equates to a 5-minute walk.

4.5.2 The station comprises of two platforms and is managed by Northern, providing a half-hourly service in each direction between Rochdale and Manchester Victoria, with services continuing via Salford Central to Bolton, Darwen and Blackburn, with alternate trains continuing onwards to Clitheroe.

4.5.3 On Sundays, there are hourly services between Manchester Victoria and Blackburn via Rochdale, Todmorden, Burnley and Accrington. Southbound trains continue beyond Manchester Victoria to Wigan Wallgate and Southport via Atherton.

4.5.4 This provides opportunities for commuting/leisure opportunities from the site via rail as part of a multi-modal journey.

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, with several cycle routes being located within close proximity of the site;
- The services from the bus stops on Manchester Road travelling to destinations such as Rochdale, Middleton and Manchester Shudehill, shows that the proposed development can be considered as highly accessible by bus;
- The site is accessible via rail with Castleton station located approximately 1,000-metres to the north of the site.

4.6.3 In light of the above, it is considered that the site is highly accessible by means of public transport and caters for needs of the development's residents and visitors.

- 4.6.4 As such, this will assist in promoting a choice of travel modes other than the private car, as set out in NPPF. It is also well located in relation to its proximity to a range of local services and amenities, together with education facilities and employment opportunities.

5 TRAFFIC IMPACT ANALYSIS

5.1 Introduction

5.1.1 Having established that the proposed development site is accessible by modes of travel other than the private car, the following section considers the traffic impact of the development proposals on the local highway network.

5.2 Assessment Criteria

5.2.1 Given the proposed 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.

5.3 Traffic Survey Data

5.3.1 In order to assess the impact of the proposed development on the local highway network, traffic surveys were undertaken at the following junctions:

- A664 Manchester Road/Trub Road/Car Dealership
- A664 Manchester Road/Hope Place/A664 Queensway

5.3.2 The surveys were undertaken between 0730 and 0930 hours in the morning and between 1630 and 1830 hours in the evening.

5.3.3 The peak hours were identified as 0745 to 0845 hours and 1630 to 1730 hours, for the AM and PM peaks respectively.

5.3.4 The 2024 surveyed flows for the peak hours converted into Passenger Car Units (PCU's) are shown in **Figures 1** and **2**.

5.4 Growthed Traffic Flows

5.4.1 For the purpose of this Report, it has been assumed that the development would be completed by 2026. Capacity assessments have therefore been undertaken for a design horizon of 2031, representing five years after completion.

5.4.2 This can be considered to be a robust approach.

5.4.3 The 2024 surveyed flows have been growthed to 2026 and 2031 using National Traffic Model (NTM) factors adjusted by using the Trip End Model Program (TEMPro) local growth factors.

5.4.4 The resultant growth factors are shown below:

- 2024 to 2026 AM Peak - 1.0196
- 2024 to 2026 PM Peak - 1.0193
- 2024 to 2031 AM Peak - 1.0829
- 2024 to 2031 PM Peak - 1.0831

5.4.5 The resultant 2026 growthed traffic flows are shown in **Figures 3** and **4** for the AM and PM peak periods.

5.4.6 The resultant 2031 growthed traffic flows are shown in **Figures 5** and **6** for the AM and PM peak periods.

5.5 Committed Development

5.5.1 During the preparation of this TA, consideration has been given to any committed developments in the area that would need to be included. It is considered that there is one committed development to take into account (App Ref no. 23/00431/HYBR).

5.5.2 The proposals consist of 191 residential dwellings with associated landscaping and public open space.

5.5.3 The resultant associated committed development flows are shown in **Figures 7** and **8** for the AM and PM peak periods respectively.

5.6 Base Flows

5.6.1 To establish the 2026 'Without Development' flows, the committed development flows shown in Figures 7 and 8 for the AM and PM peak respectively have been added to the factored 2026 flows shown in Figures 3 and 4.

5.6.2 The resulting 2026 'Without Development' traffic flows are presented in **Figures 9** and **10**.

5.6.3 To establish the 2031 'Without Development' flows, the committed development flows shown in Figures 7 and 8 for the AM and PM peak respectively have been added to the factored 2026 flows shown in Figures 5 and 6.

5.6.4 The resulting 2031 'Without Development' traffic flows are presented in **Figures 11** and **12**.

5.7 Trip Distribution

5.7.1 The directional distribution of the traffic associated with the proposals has been assigned to the local highway network in line with National Census Data for Method of Travel to Work, which is considered to present a reasonable approach.

5.7.2 The resulting traffic assignment for the AM peak period is shown in **Figure 13** whilst the assigned PM peak traffic is shown in **Figure 14**.

5.8 Proposed Trip Generation

5.8.1 As already stated, the proposals relate the provision of 162 residential dwellings.

5.8.2 To establish a suitable trip generation for the proposed residential use, the TRICS database has been analysed. The parameters used to ascertain the vehicular trip rates for the proposed development are as follows:

- Residential, private ownership houses;
- Range between 100 and 300 dwellings;
- Greater London and Republic of Ireland sites excluded;
- Weekday surveys only;

5.8.3 It is expected that the development will be brought forward with all the proposed units as affordable dwellings. Therefore, the use of private-owned houses trip rates represents a robust trip generation forecast.

5.8.4 A summary of these trip rates and the likely level of trips that would occur as a result of the proposed development is included in **Table 5.1**, below, with the TRICS output being provided at **Appendix 1**.

Period	Trip Rate		Trips	
	Arr	Dep	Arr	Dep
AM Peak Hour	0.126	0.329	20	53
PM Peak Hour	0.332	0.156	48	25

Table 5.1 Proposed Development Trip Rates and Trips (162 Units)

5.8.5 As can be seen, the proposed residential development was forecast to generate a total of approximately 73 two-way trips in both the AM and PM peak hours.

5.8.6 As previously discussed, an application for the following uses, was previously granted on appeal under application ref: 11/D54610:

- Up to 199 dwellings (houses and apartments);
- 70 bedroom residential elderly care home
- Up to 55 private retirement flats
- 1,250 sqm. ground floor commercial floorspace (any combination of class A2 (financial and professional services), A3 (cafes/restaurants), B1(a)(offices) and children's day nursery (d1))
- 20,476 sqm. of recreational open space

5.8.7 The above clearly demonstrates that this location, scale of development and proposed mixed land uses was considered to be acceptable to RBC the local planning and highway authority. This report serves to uphold this position.

5.8.8 The resulting traffic flows based on the distribution shown in Figures 13 and 14 are shown in **Figure 15** for the AM peak and **Figure 16** for the PM peak traffic.

5.9 With Development Flows

5.9.1 In order to calculate the 2026 'With Development' flows, the development flows contained within Figures 15 and 16 have been added to the 2026 'Without Development' flows contained within Figures 9 and 10.

5.9.2 The resulting 2026 'With Development' Flows are presented in **Figures 17 and 18** respectively for the AM and PM peak hours.

5.9.3 In order to calculate the 2031 'With Development' flows, the development flows contained within Figures 15 and 16 have been added to the 2031 'Without Development' flows contained within Figures 11 and 12.

5.9.4 The resulting 2031 'With Development' Flows are presented in **Figures 19 and 20** respectively for the AM and PM peak hours.

5.10 Capacity Assessments

5.10.1 Capacity assessments have been undertaken at the following junctions on the local road network;

- A664 Manchester Road/Trub Road/Car Dealership
- A664 Manchester Road/Hope Place/A664 Queensway

A664 Manchester Road/Trub Road/Car Dealership

5.10.2 The site will be accessed via the existing A664 Manchester Road/Trub Road/Car Dealership junction which is priority controlled and so has been assessed using PICADY.

5.10.3 The results for the 2031 'Without Development' and 'With Development' flow scenarios are summarised within **Table 5.2** below with the full results contained within **Appendix 2**.

Arm	2031 'Without Development'				2031 'With Development'			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Q	Max RFC	Q	Max RFC	Q	Max RFC	Q
Car Dealership	0.02	0	0.03	0	0.02	0	0.03	0
A664 Manchester Road (n)	0.08	0	0.06	0	0.14	0	0.18	1
Trub Road (ahead and left)	0.02	0	0.02	0	0.09	0	0.05	0
Trub Road (ahead and right)	0.10	0	0.06	0	0.19	0	0.10	0
A664 Manchester Road (s)	0.04	0	0.02	0	0.04	0	0.02	0

Table 5.2 - Summary of PICADY Results

5.10.4 As can be seen above, the results show the junction is forecast to operate with reserve capacity in both the AM and PM peak hours in the 'Without Development' 2031 flow scenarios.

5.10.5 The results for the 2031 'With Development' assessments show that the junction will operate in a similar manner to the 'Without Development' situation in the AM and PM peak hours.

A664 Manchester Road/Hope Place/Queensway

5.10.6 The A664 Manchester Road/Hope Place/Queensway junction is signal controlled and so has been assessed using LINSIG.

5.10.7 The results for the 2031 'Without Development' and 'With Development' flow scenarios are summarised within **Table 5.3** below with the full results contained within **Appendix 3**.

Arm	2031 'Without Development'				2031 'With Development'			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
A664 Queensway	75.2	13	78.2	13	79.6	15	80.6	15
Manchester Road (North)	71.7	14	59.5	12	70.2	14	60.6	13
Hope Place	0.3	0	0.0	0	0.3	0	0.0	0
Manchester Road	75.8	12	78.9	18	78.7	12	80.1	18

Table 5.3 - Summary of LINSIG Results

5.10.8 As can be seen above, the assessment results show the junction is forecast to operate within its theoretical capacity in the 2031 'Without Development' flow scenario in both the AM and PM peak hours.

5.10.9 The results for the 2031 'With Development' assessments show that the junction will operate in a similar manner to the base 'Without Development' situation in both peak hours.

5.11 Impact Assessment Summary

5.11.1 This section of the Report has considered the impact of the proposal in transport terms.

5.11.2 The TRICS assessment has clearly demonstrated that the impact of the development will be minimal and well below the forecast flows associated with the previously consented development.

5.11.3 The current proposals are significantly smaller in scale to the previously consented scheme.

5.11.4 The results of the capacity assessments have demonstrated that the proposals will not have a material impact or give rise to any highway capacity issues.

- 5.11.5 It is therefore considered that the predicted level of traffic can be accommodated onto the local highway network.
- 5.11.6 In light of the above, it can be assumed that the impact of the proposals on the local highway network would be minimal and in any event, could not be considered to be severe, as is the test set out within the NPPF.

6 PROMOTING SMARTER CHOICES VIA TRAVEL PLANS

6.1 Introduction

6.1.1 To encourage resident and visitor travel to the site by non-car modes, a Travel Plan is proposed.

6.2 Travel Plan

6.2.1 A Framework Travel Plan is included at **Appendix 4**. The objective of the Travel Plan is the delivery of the objectives of National Planning Policy, i.e. to encourage residents to travel by non-car modes of travel. The Travel Plan outlines physical and management measures that are designed to achieve this objective.

6.2.2 The effectiveness of Travel Plans in assisting the use of non-car modes for journeys is intrinsically linked to the accessibility of a given site by means other than the private car.

6.2.3 The proposed development has been demonstrated to benefit from good non-car accessibility and it should, therefore, be expected that the adoption of a Travel Plan would be effective.

7 CONCLUSIONS

- 7.1.1** Eddisons have been instructed by MCI Developments to advise on the traffic and transport issues relating to a planning application for a residential development on land at Trub Road, Castleton.
- 7.1.2** The proposals would provide 162 no. dwellings, formed of 2, 3 and 4-bedroom houses and 1 and 2-bedroom flats, accessed via Trub Road.
- 7.1.3** The proposals are significantly reduced in scale to the consented mixed-use development that was deemed acceptable in highways terms by the local planning authority.
- 7.1.4** A number of conclusions can be drawn from the report, namely:
- 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 area surrounding the site is relatively flat making it highly conducive to cycling, as a sustainable mode of travel.
 - The proposed development is accessible by bus, with existing stops located within easy walking distance providing access to destinations including Rochdale, Middleton and Manchester Shudehill.
 - The proposed access arrangements have been discussed and agreed in principle with Rochdale Borough Council.
 - The impact of the proposals has been assessed using the TRICS database and the capacity assessments undertaken have shown that the proposals will not have a material impact.
 - The provision of a Travel Plan for the site will assist in reducing impact and help to create a wider choice of travel to residents and visitors.
- 7.1.5** It can therefore be concluded that the proposals are acceptable in highway terms.

FIGURES

FIGURE	DESCRIPTION	SCENARIO	CALC
FIGURE 1	2024 SURVEYED FLOWS	AM PEAK	See TA
FIGURE 2	2024 SURVEYED FLOWS	PM PEAK	See TA
FIGURE 3	2026 FACTORED FLOWS	AM PEAK	FIG1xNTM
FIGURE 4	2026 FACTORED FLOWS	PM PEAK	FIG2xNTM
FIGURE 5	2031 FACTORED FLOWS	AM PEAK	FIG1xNTM
FIGURE 6	2031 FACTORED FLOWS	PM PEAK	FIG2xNTM
FIGURE 7	COMMITTED DEVELOPMENT	AM PEAK	See TA
FIGURE 8	COMMITTED DEVELOPMENT	PM PEAK	See TA
FIGURE 9	2026 BASE FLOWS	AM PEAK	FIG3+FIG7
FIGURE 10	2026 BASE FLOWS	PM PEAK	FIG4+FIG8
FIGURE 11	2031 BASE FLOWS	AM PEAK	FIG5+FIG7
FIGURE 12	2031 BASE FLOWS	PM PEAK	FIG6+FIG8
FIGURE 13	TRIP DISTRIBUTION	AM PEAK	See TA
FIGURE 14	TRIP DISTRIBUTION	PM PEAK	See TA
FIGURE 15	DEVELOPMENT FLOWS	AM PEAK	See TA
FIGURE 16	DEVELOPMENT FLOWS	PM PEAK	See TA
FIGURE 17	2026 ASSESSMENT FLOWS	AM PEAK	FIG9+FIG15
FIGURE 18	2026 ASSESSMENT FLOWS	PM PEAK	FIG10+FIG16
FIGURE 19	2031 ASSESSMENT FLOWS	AM PEAK	FIG11+FIG15
FIGURE 20	2031 ASSESSMENT FLOWS	PM PEAK	FIG12+FIG16

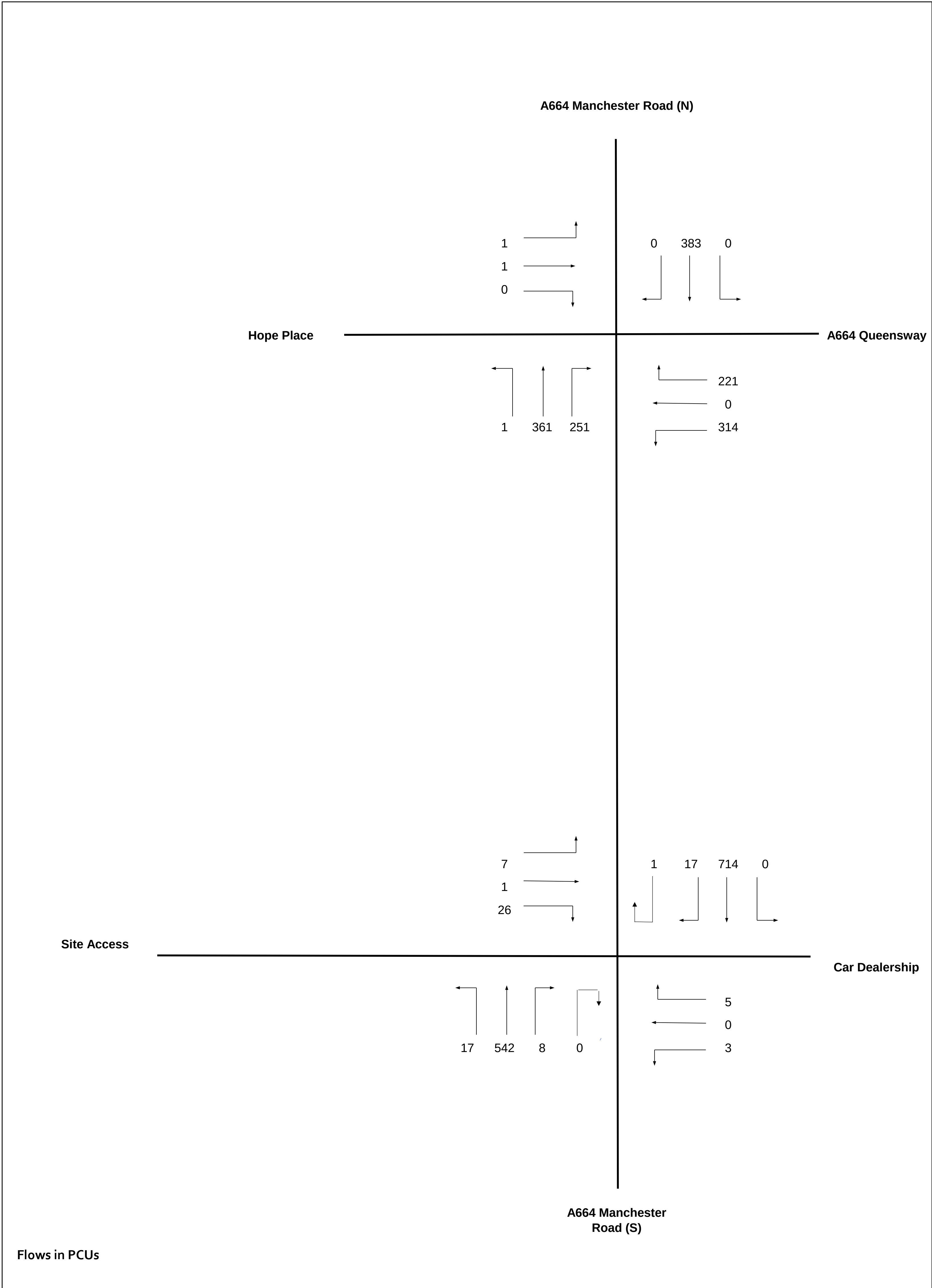


Figure 1 2024 Surveyed Flows - Weekday AM Peak (0745 - 0845)



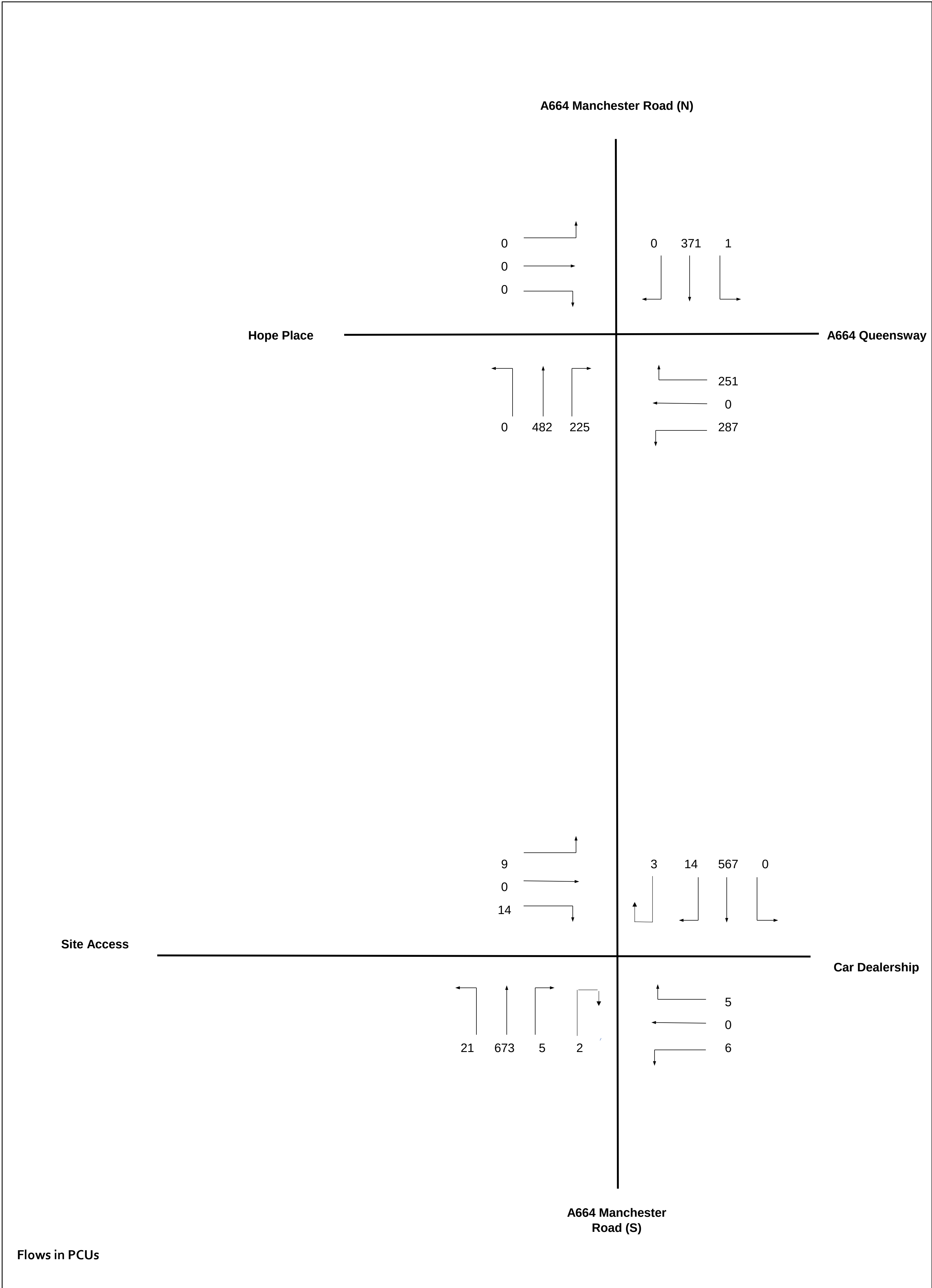


Figure 2 2024 Surveyed Flows - Weekday PM Peak (1630 - 1730)



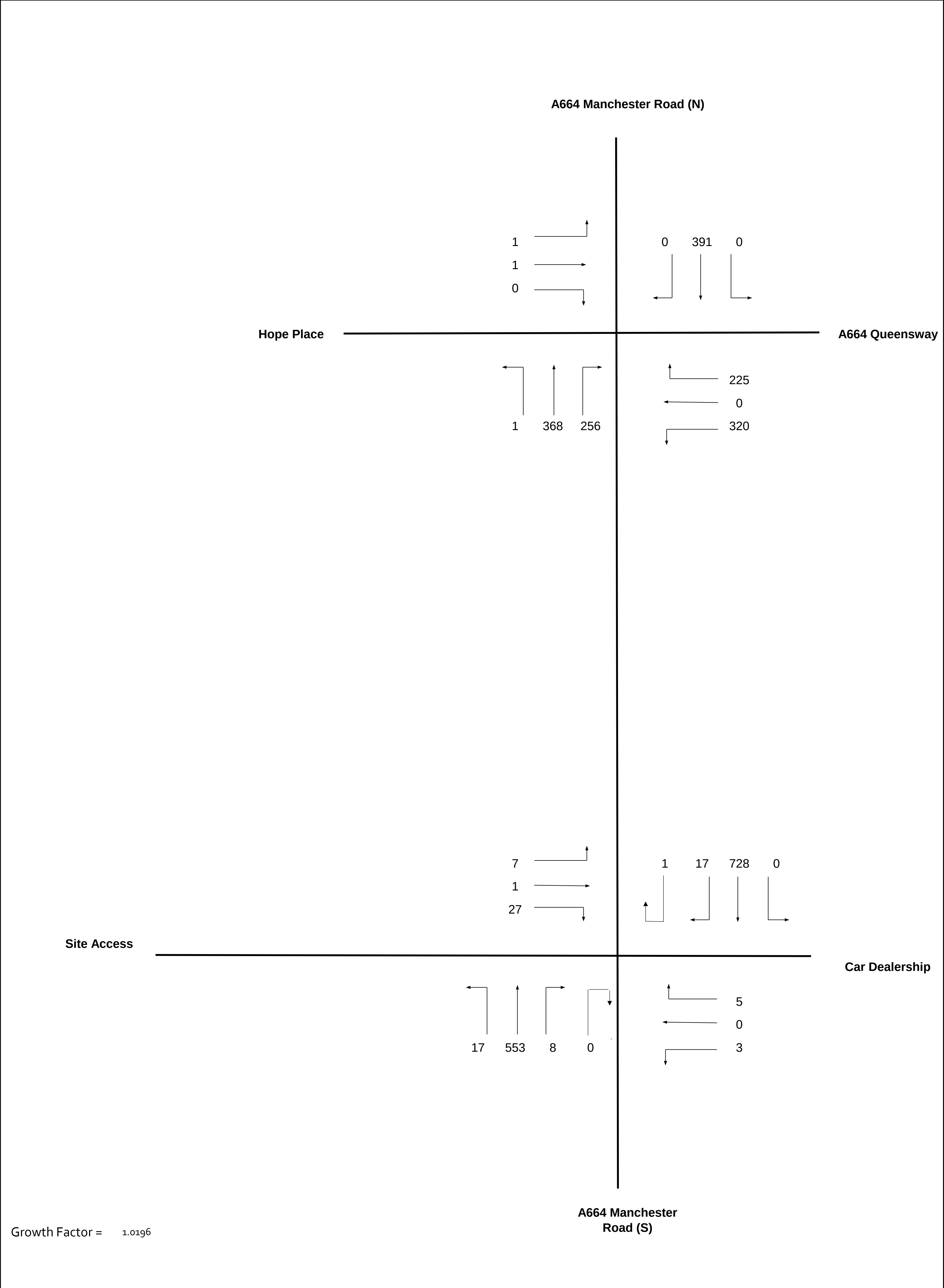


Figure 3 2026 Factored Flows - Weekday AM Peak (0745 - 0845)



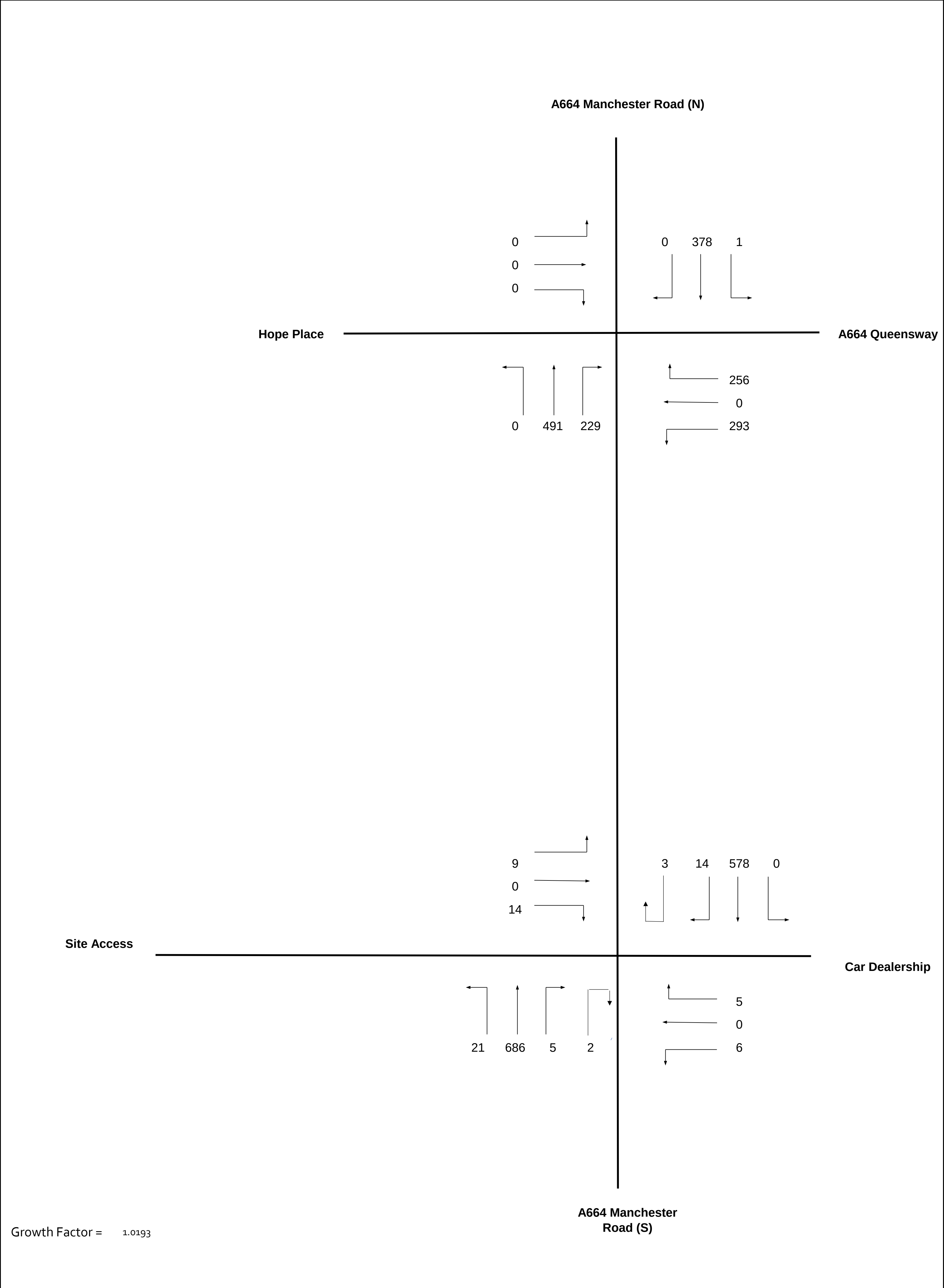


Figure 4 2026 Factored Flows - Weekday PM Peak (1630 - 1730)



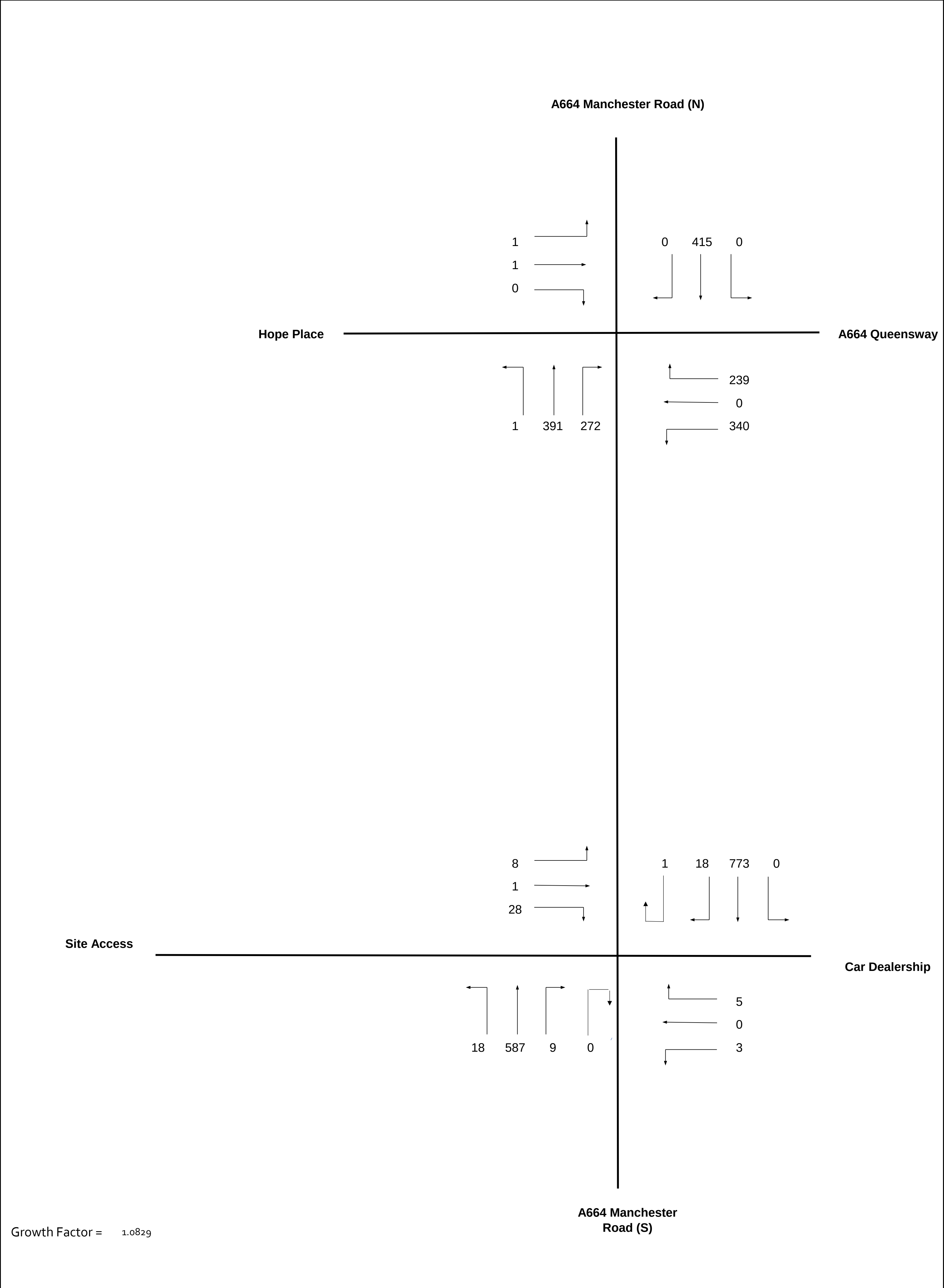


Figure 5 2031 Factored Flows - Weekday AM Peak (0745 - 0845)



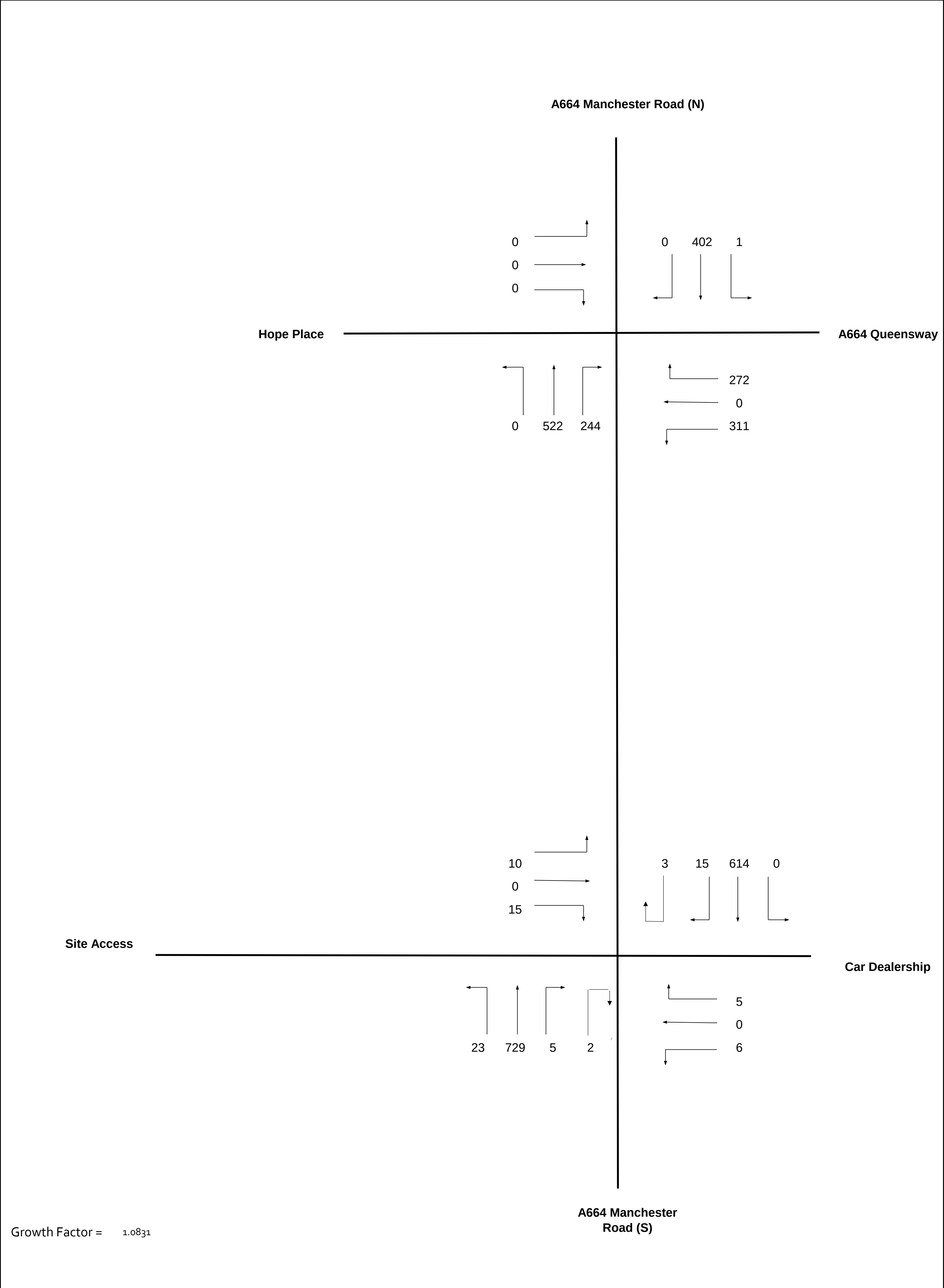


Figure 6 2031 Factored Flows - Weekday PM Peak (1630 - 1730)





Figure 7 Committed Development - Weekday AM



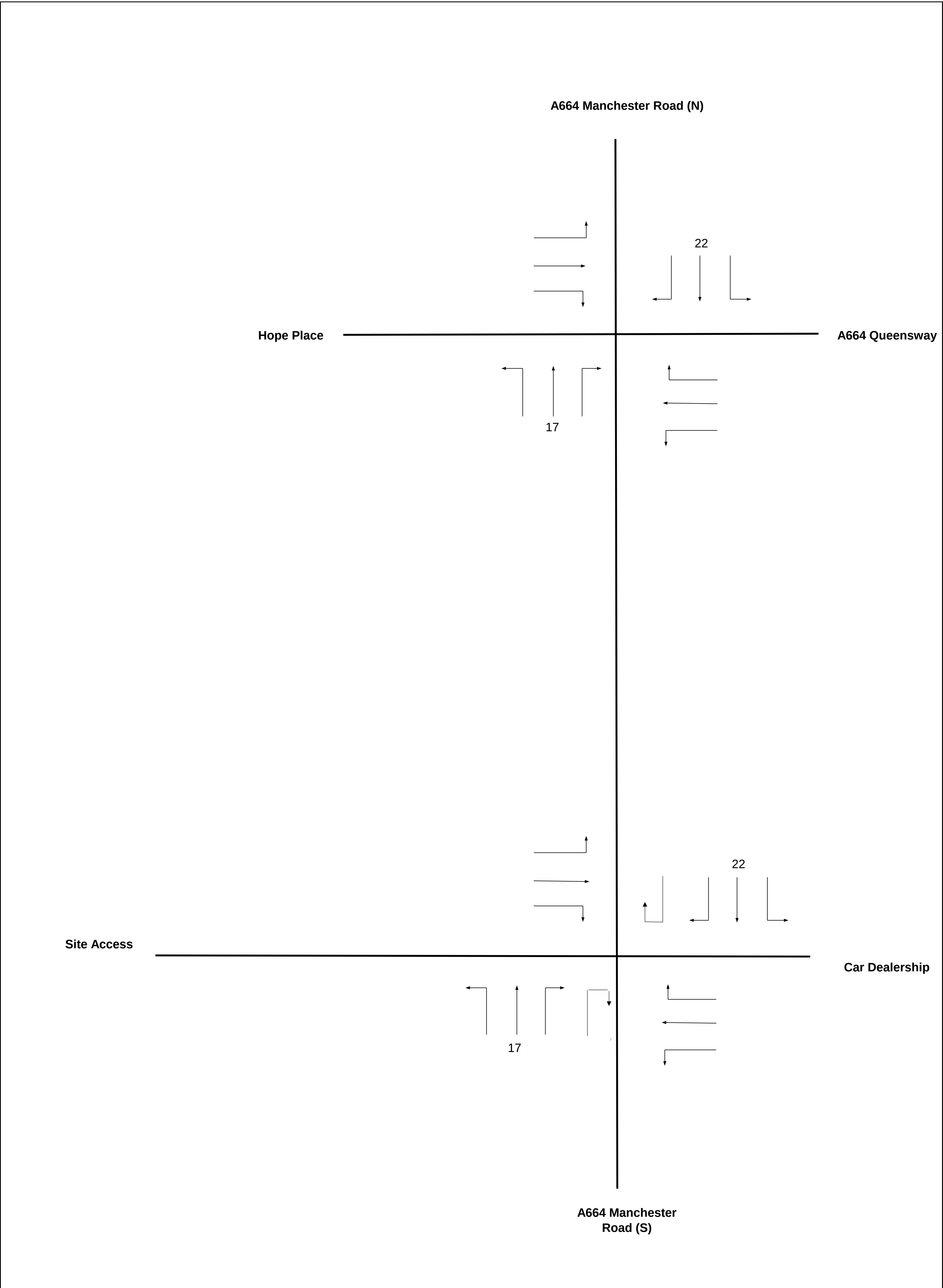


Figure 8 Committed Development - Weekday PM



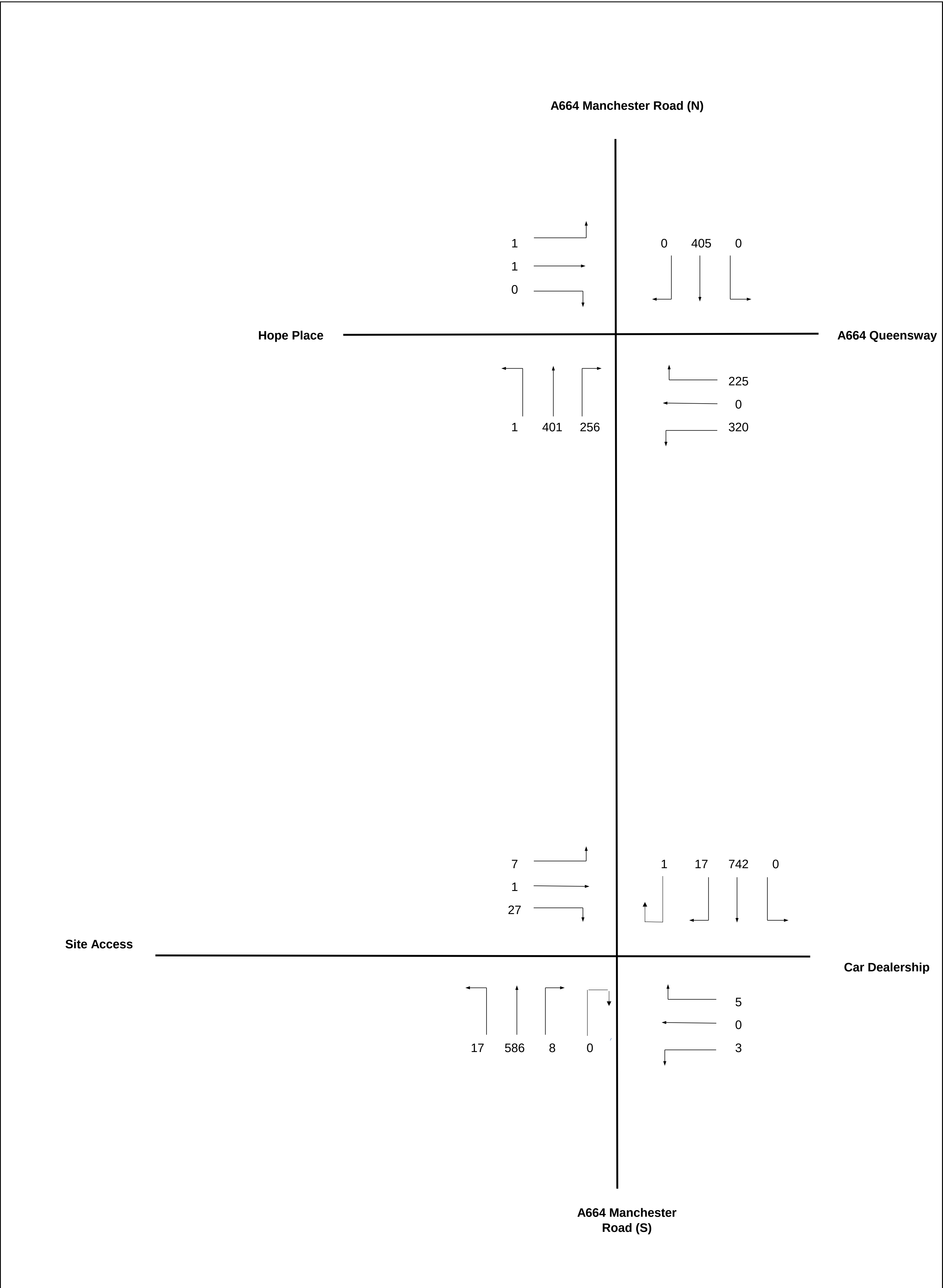


Figure 9 2026 Base Flows - Weekday AM Peak (0745 - 0845)



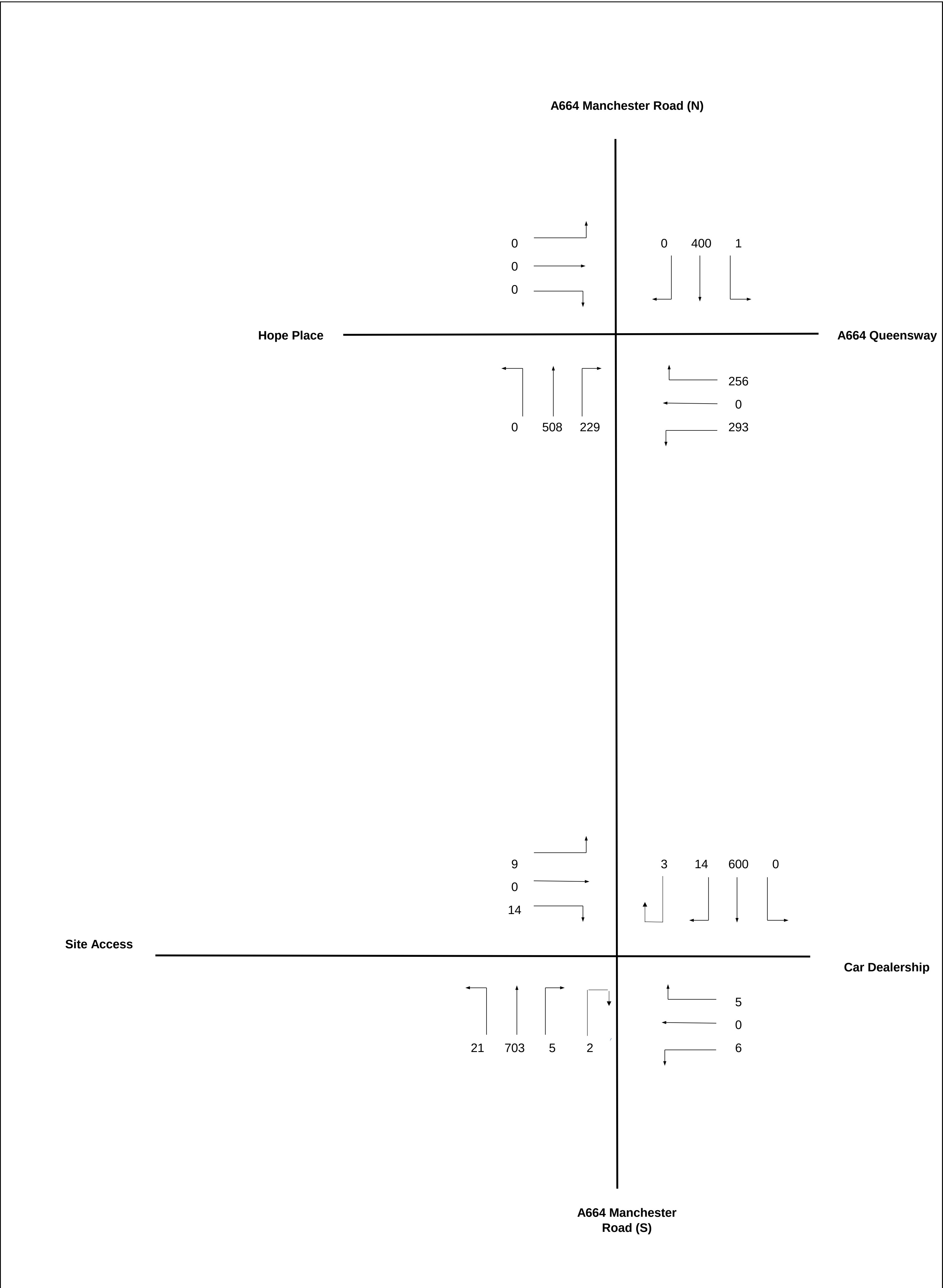


Figure 10 2026 Base Flows - Weekday PM Peak (1630 - 1730)

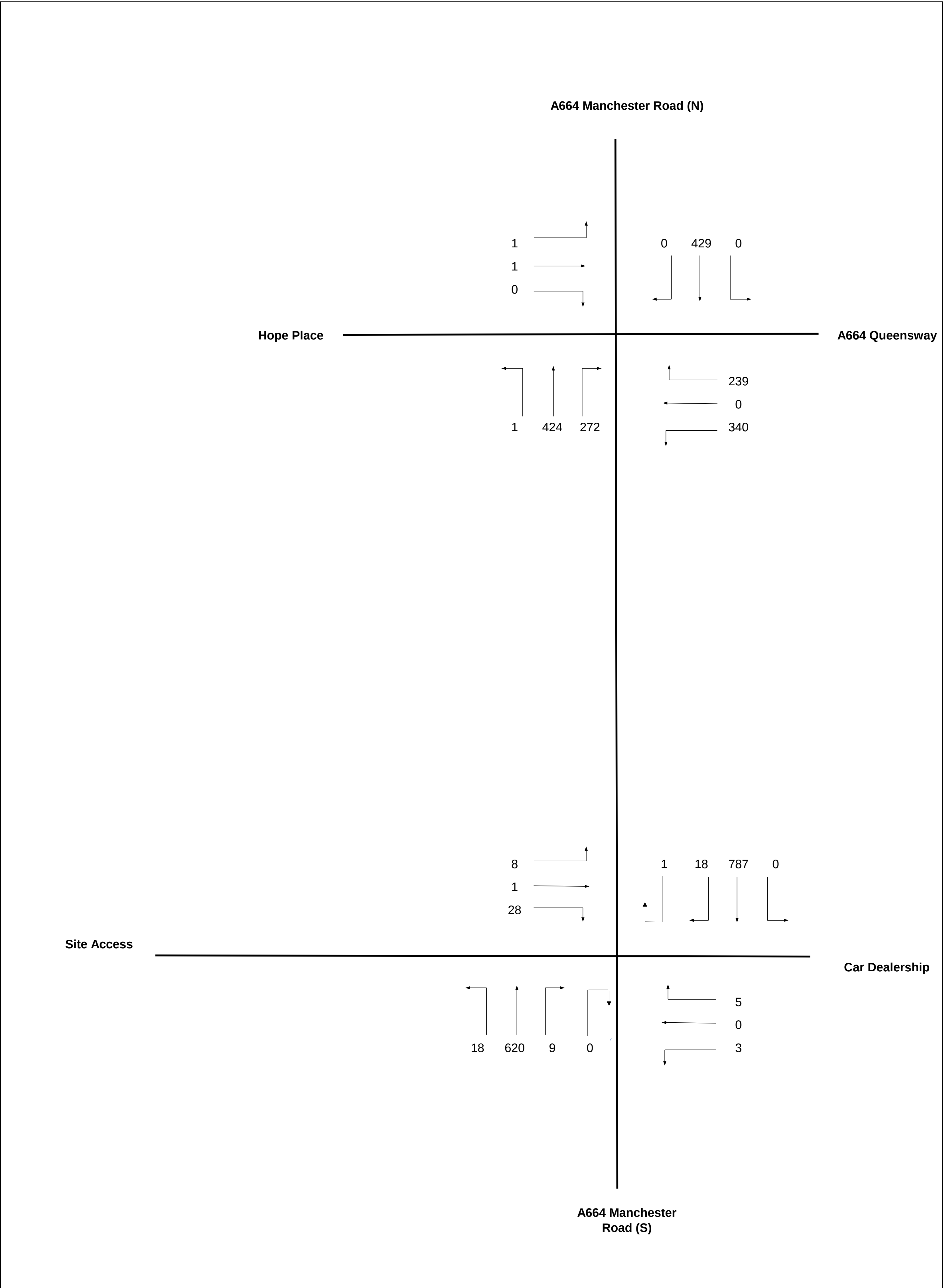


Figure 11 2031 Base Flows - Weekday AM Peak (0745 - 0845)

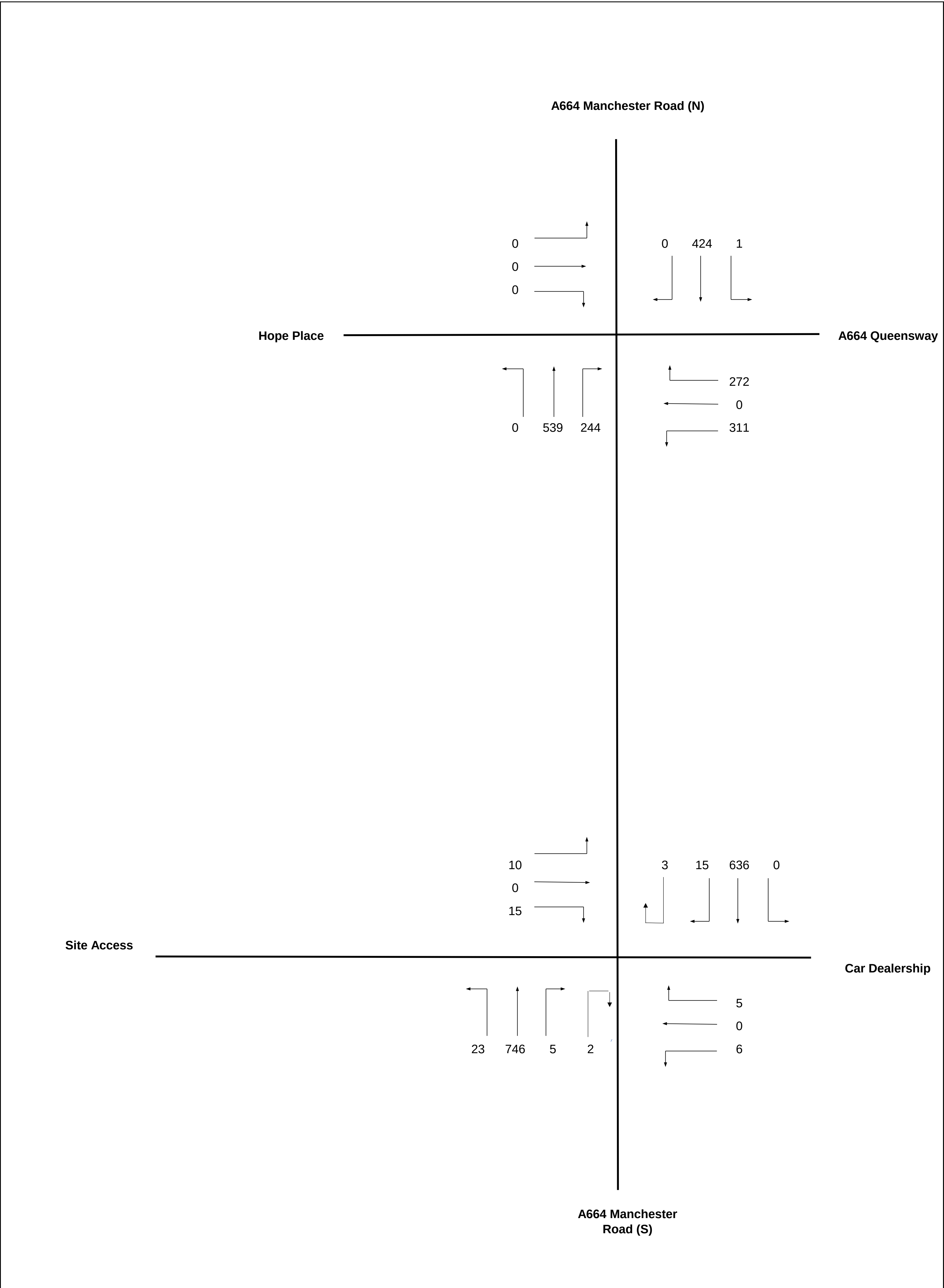


Figure 12 2031 Base Flows - Weekday PM Peak (1630 - 1730)

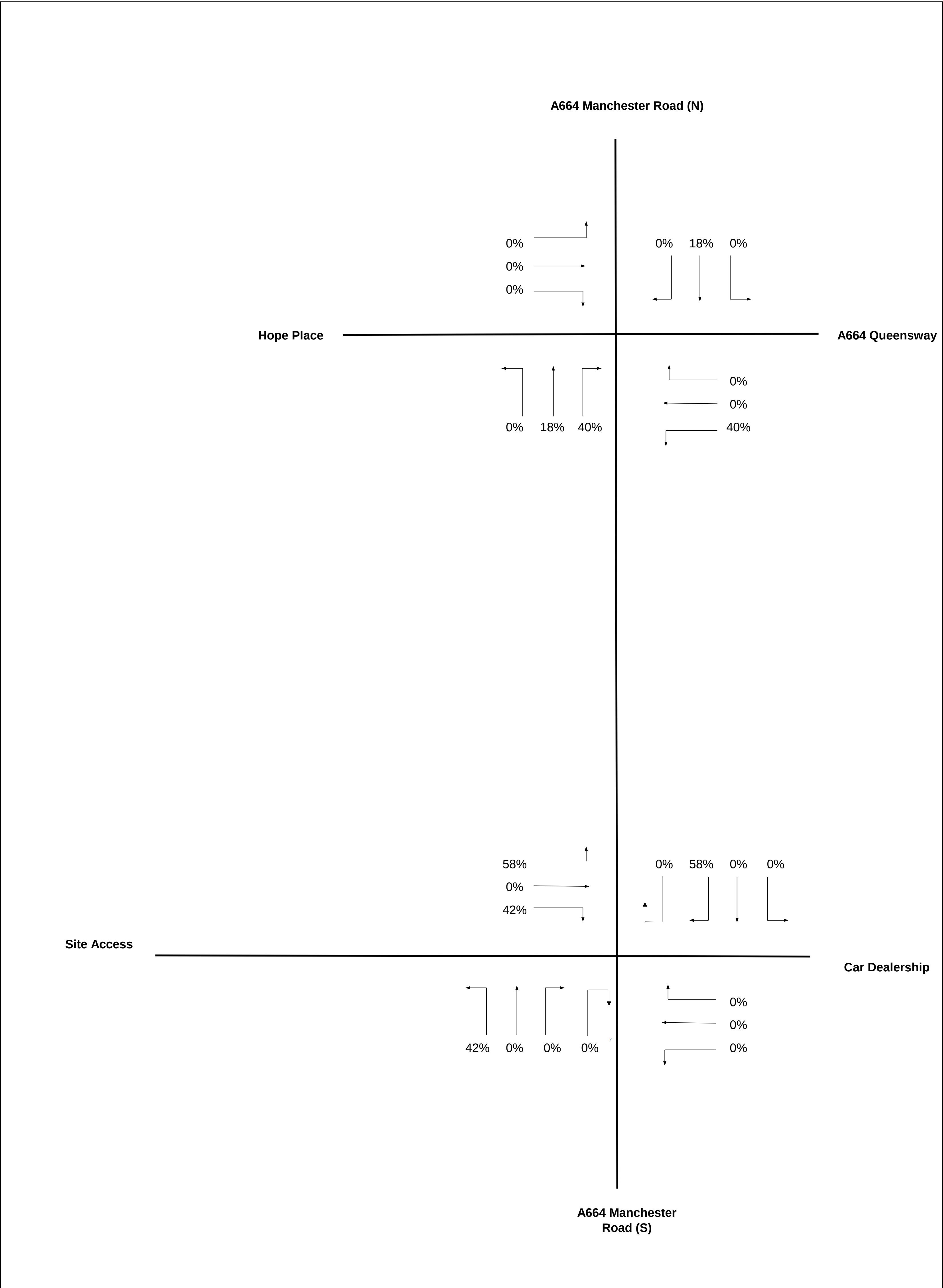


Figure 13 Trip Distribution - AM

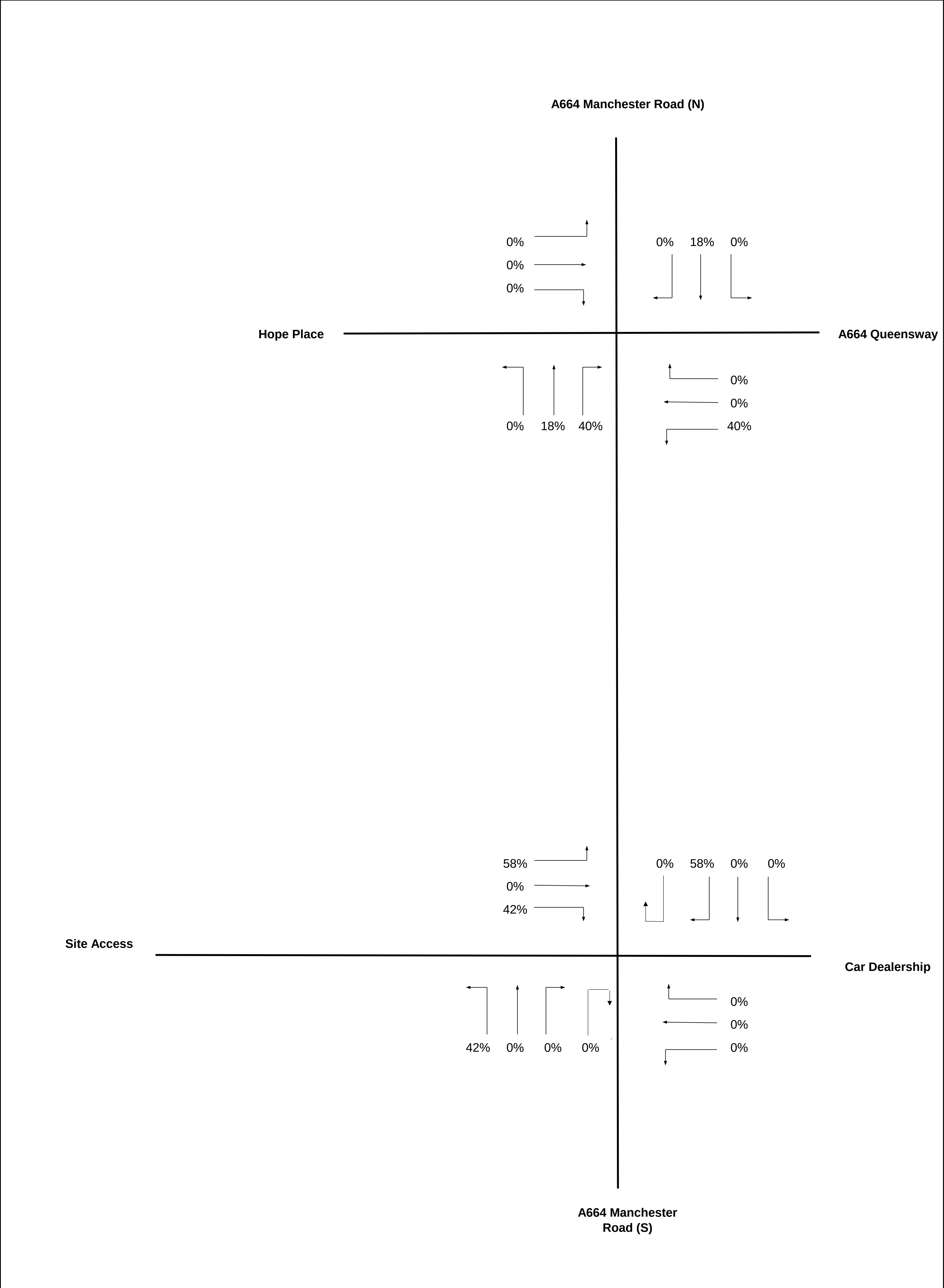


Figure 14 Trip Distribution - PM



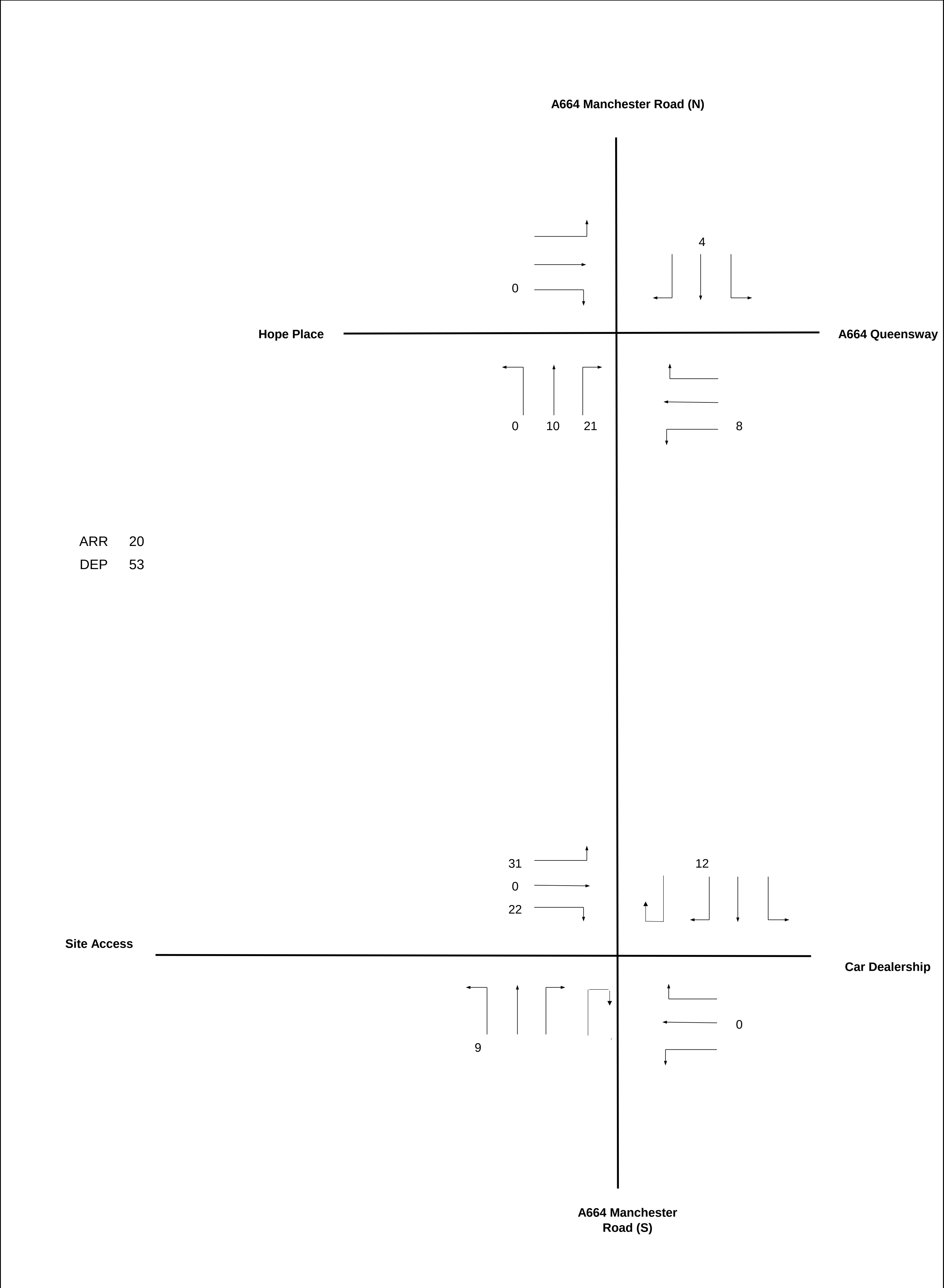


Figure 15 Development Flows - AM

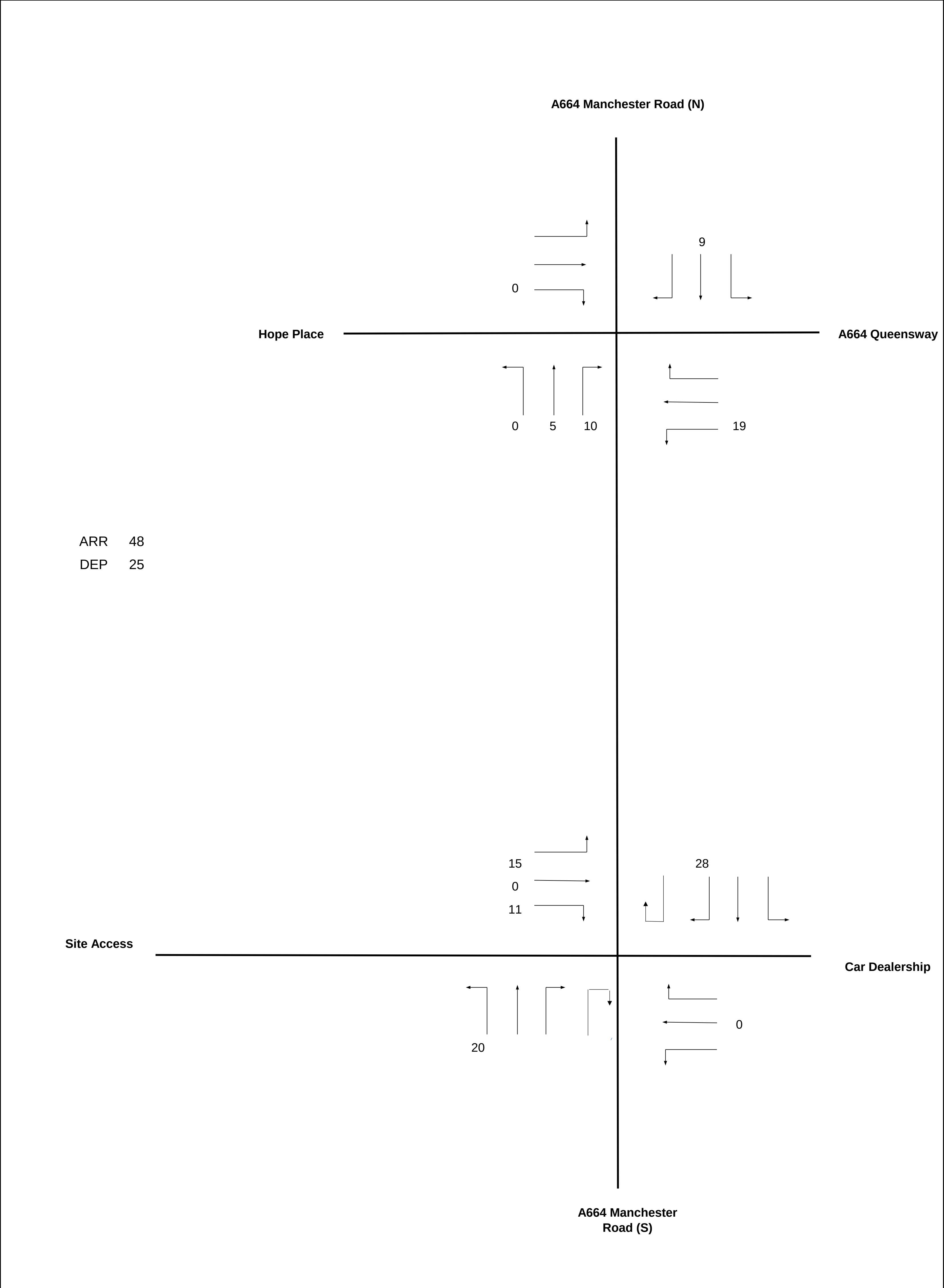


Figure 16 Development Flows - PM



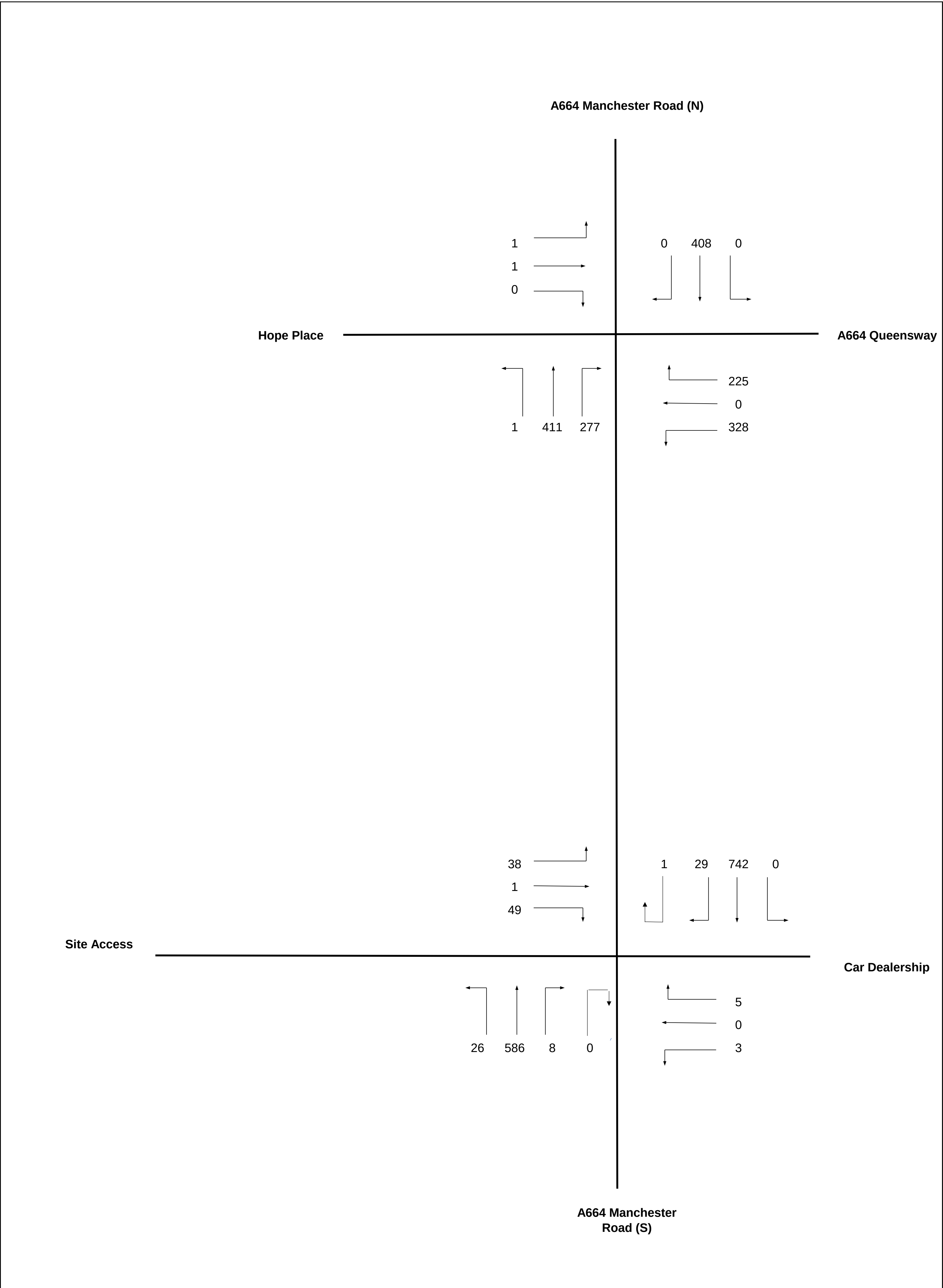


Figure 17 2026 Assessment Flows - Weekday AM Peak (0745 - 0845)



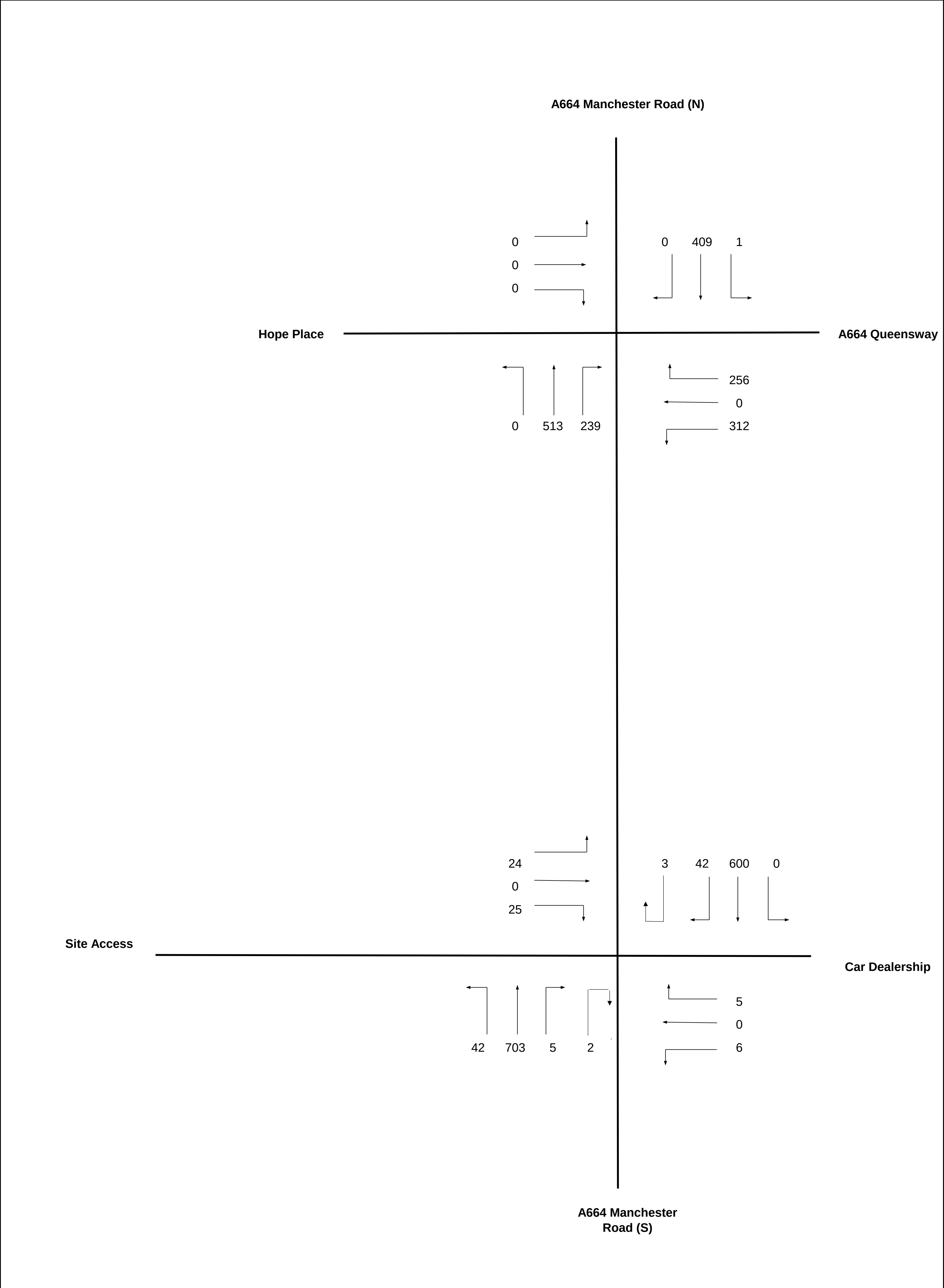


Figure 18 2026 Assessment Flows - Weekday PM Peak (1630 - 1730)

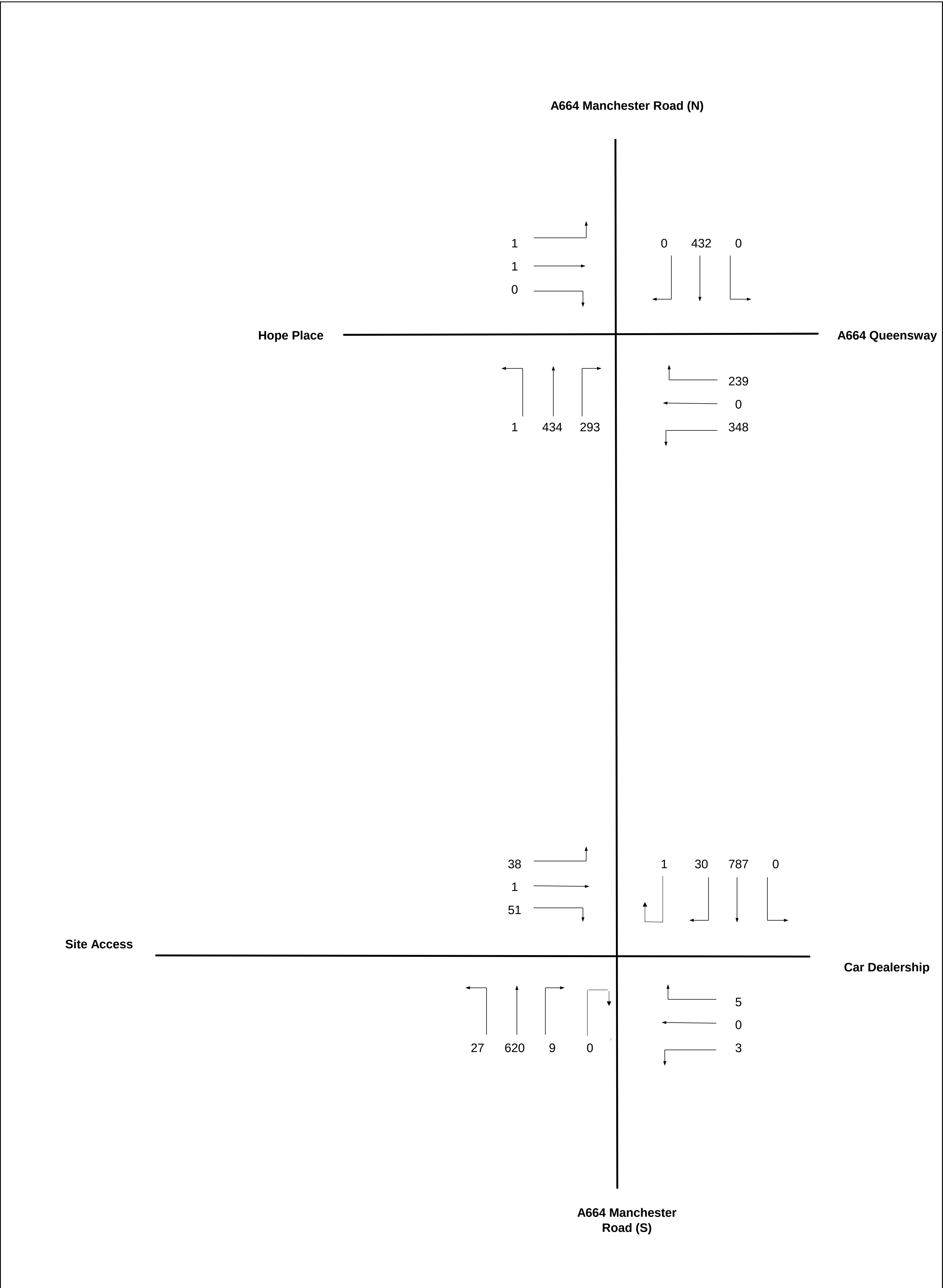


Figure 19 2031 Assessment Flows - Weekday AM Peak (0745 - 0845)



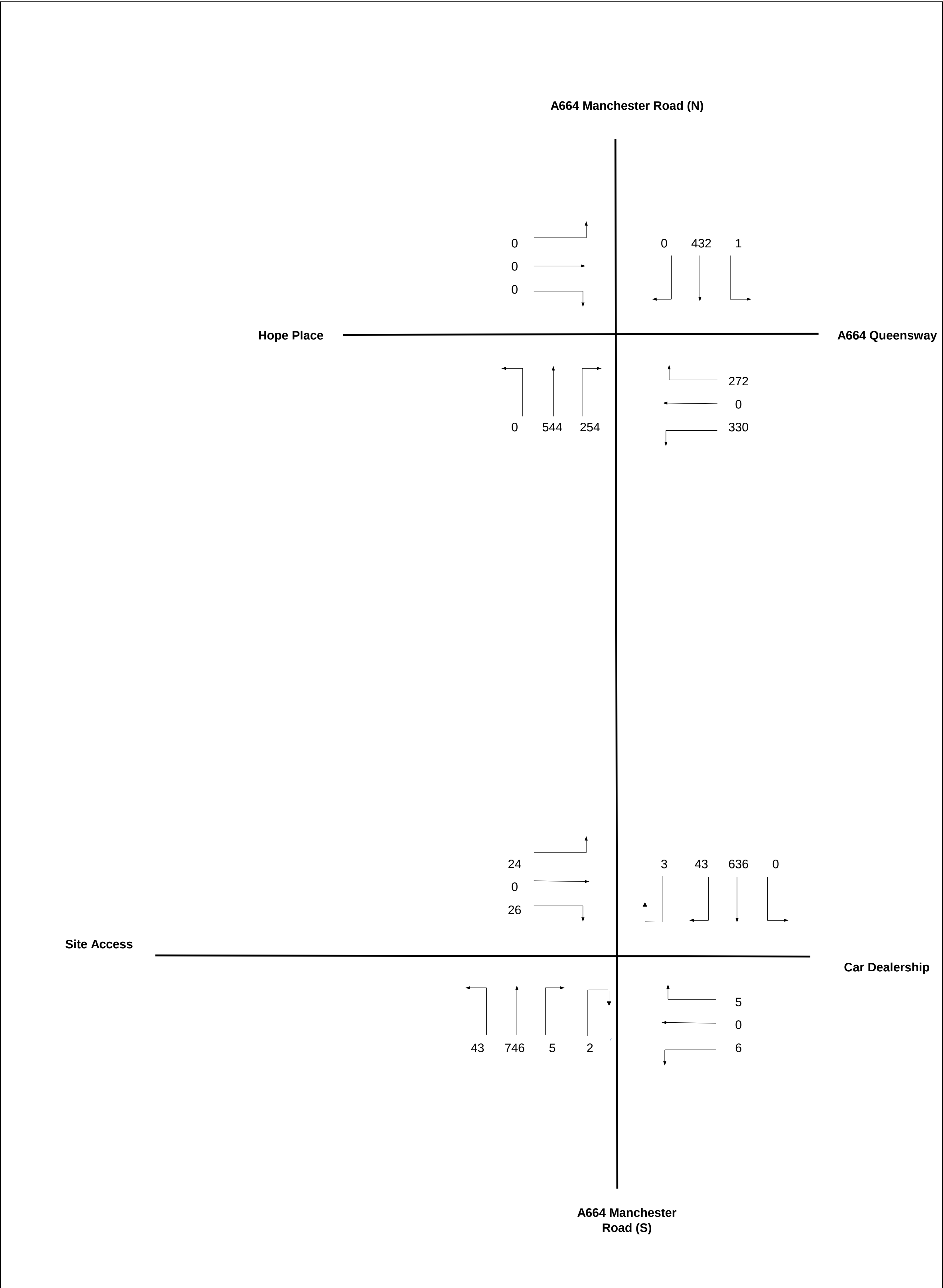
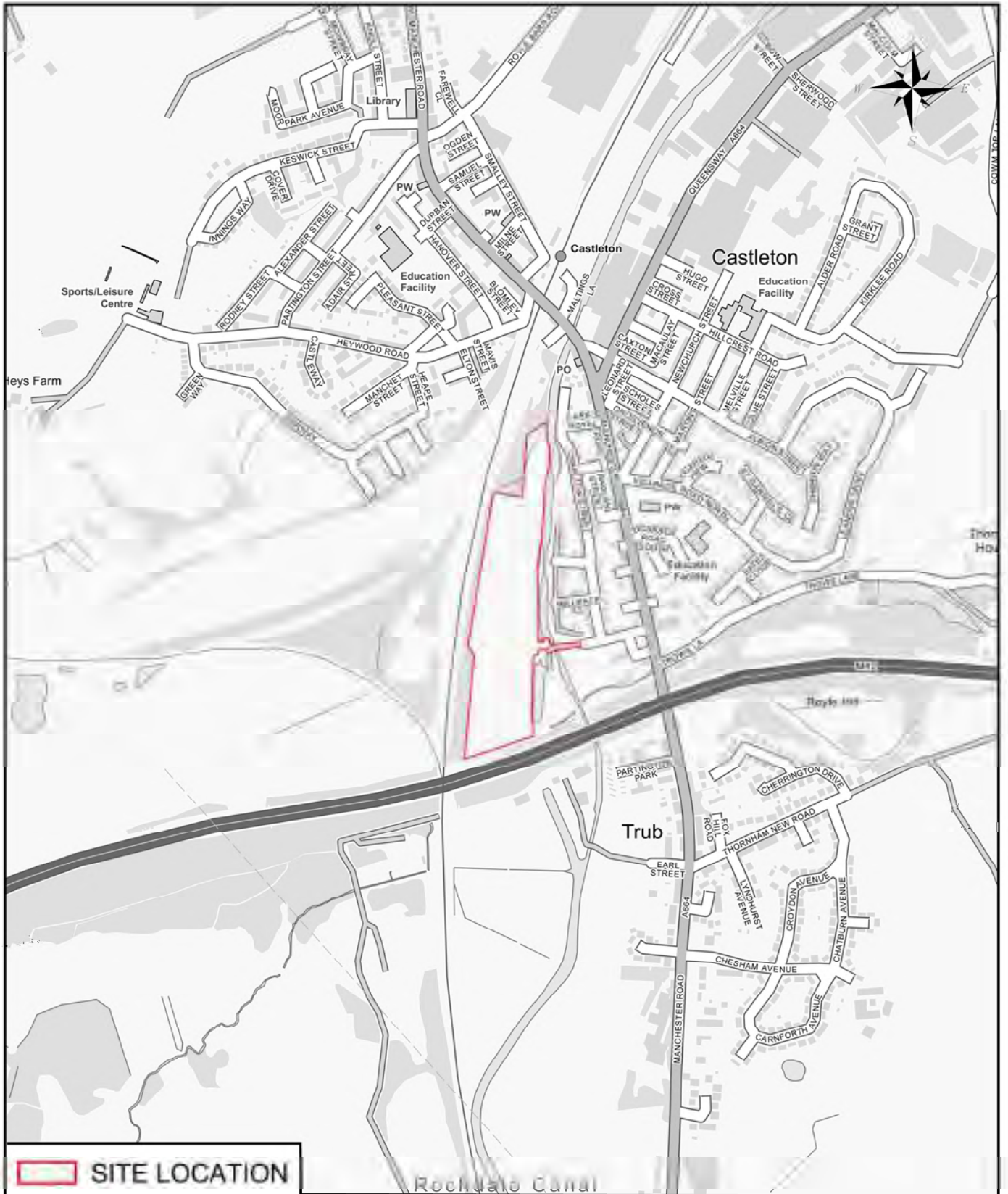


Figure 20 2031 Assessment Flows - Weekday PM Peak (1630 - 1730)

PLANS



 SITE LOCATION

CLIENT:

MCI DEVELOPMENTS

DRAWING TITLE:

TRUB ROAD, ROCHDALE: SITE LOCATION

Eddisons
340 Deansgate
Manchester
M3 4LY

Email: info@croffts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER:

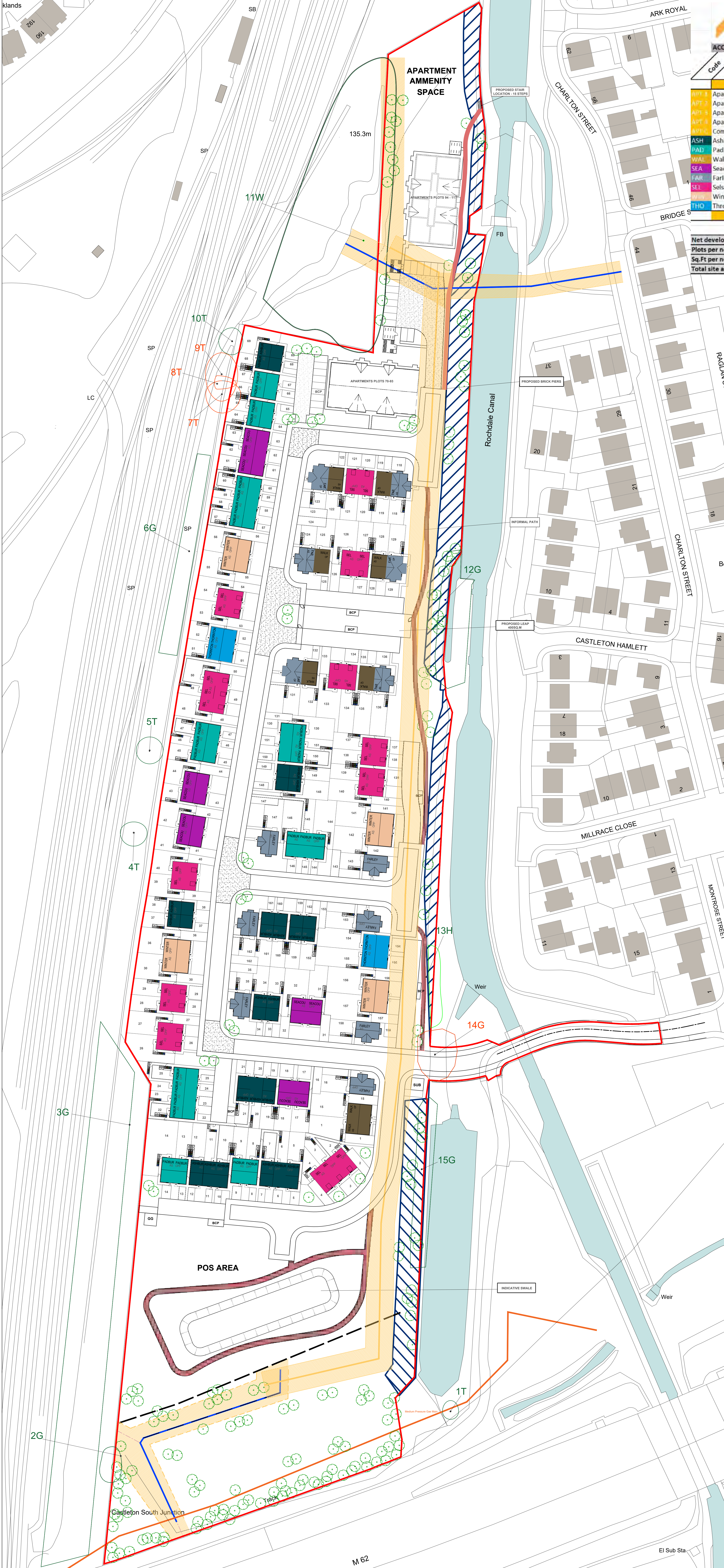
4337-01

REVISION:

-

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Eddisons





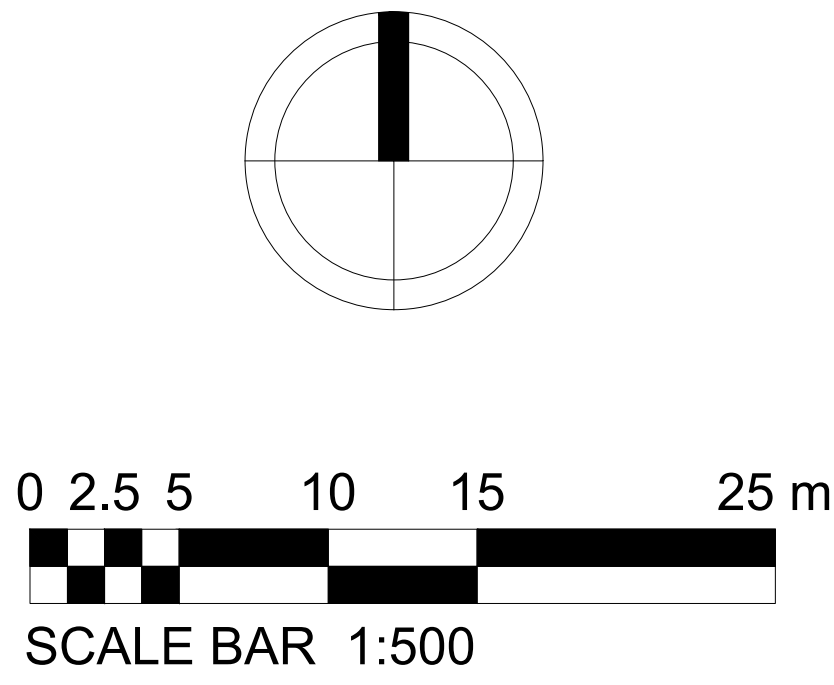
MCI

Trub Farm, Rochdale

ACCOMMODATION SCHEDULE - MCI Developments													
Code	Name	Bed & type	Storey	Parking	Unit Nos	Build Sq/ft	Total Build Sq/ft	Sales Sq/ft	Total Sales Sq/ft	Achieve %			
RP													
Apartment A	1B2P	3	0.5PS	12	553.27	6639	542.4	6509	7%				
Apartment B	1B2P	3	0.5PS	12	570.49	6846	559.3	6712	7%				
Apartment C	2B3P	3	0.5PS	12	662.52	7950	649.5	7794	7%				
Apartment D	2B3P	3	0.5PS	12	701.37	8416	687.6	8251	7%				
Communal Space		3		2	2970	5940	2100	4200					
Ashburn	2B3P	2	1PS	21	778.38	16346	764.7	16059	13%				
Padbury	2B3P	2	1PS	25	778.38	19460	764.7	19118	15%				
Walkham	2B4P	2	2PS	8	873.82	6991	859.78	6878	73%				
Seacourt	3B4P	2	2PS	11	932.95	10262	918.37	10102	7%				
Farley	3B5P	2	2PS	13	1037.42	13486	1020.83	13271	8%				
Selset	3B5P	2.5	2PS	24	1094.14	26259	1088.05	26113	15%				
Winterborne	4B5P	2	2PS	8	1069.09	8553	1053.53	8428	5%				
Thronton	4B5P	2	2PS	4	1077.09	4308	1061.54	4246	2%				
RP Total					162	141457		137681	168%				

Net developable site area	8.6	acre
Plots per net deliverable acre	18.84	
Sq.Ft per net deliverable acre	16,449	
Total site area	12.2	acre

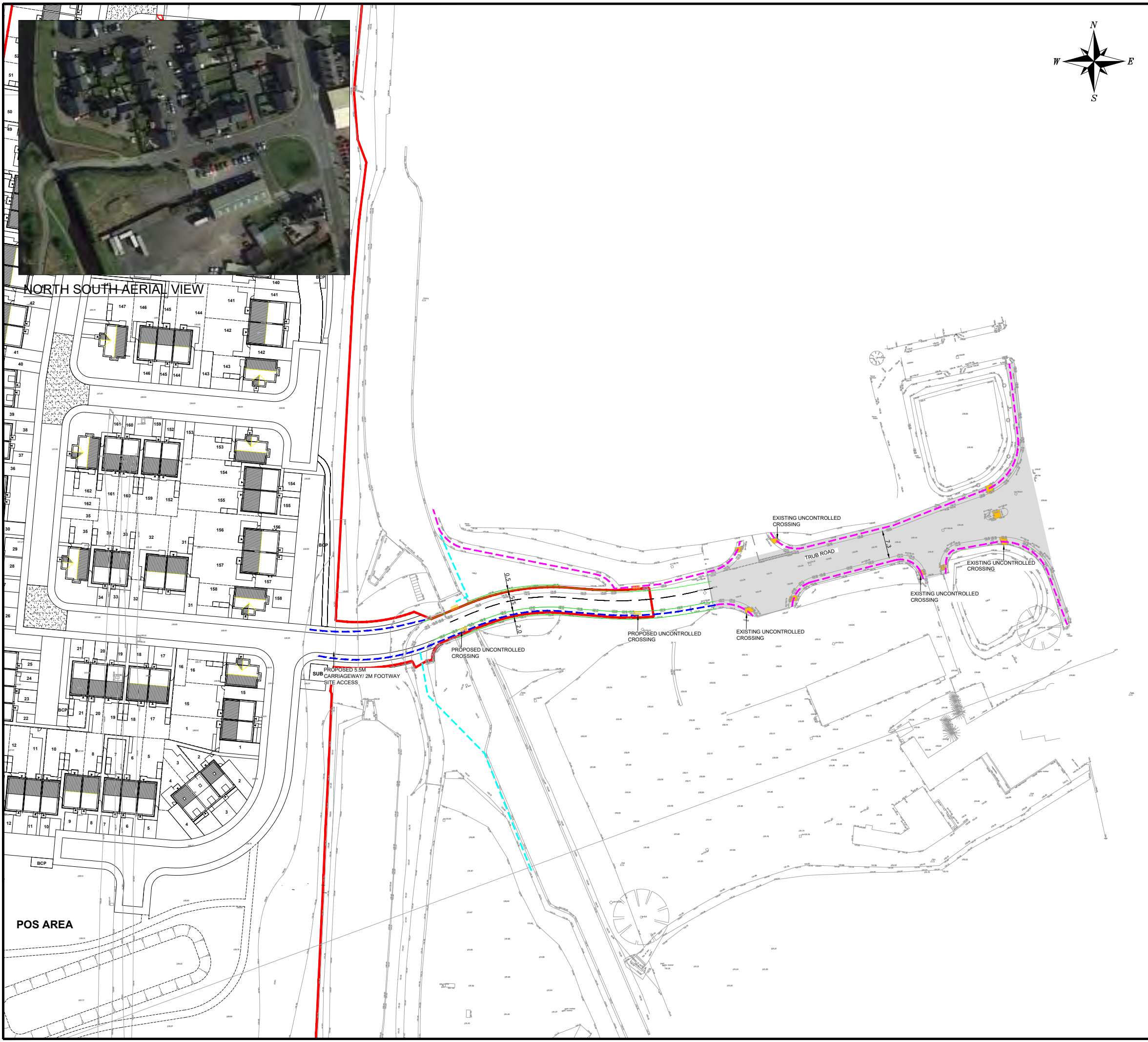
- KEY
- Site Boundary
 - No Build area - 10m offset from the water
 - Tree's to be retained - refer to Arb report
 - Tree's to be removed - refer to Arb report



K	10.09.24	IG	Easement offset amended to 5m either side inline with engineering comments. Tree overlay added.
J	2.9.24	IG	AS OPP references tidied up. Tree survey overlaid onto the layout. Apartment Sq.ft and Sq.m amended.
I	27.08.24	IG	Gravel margin around all plots 150mm. Plot gates 2m back from front of property. Bin and shed flagged areas identified. Total site area added.
H	20.06.24	IG	Plots 1-4 curved, plots 20-21 and 31-32 swapped. LEAP size increased to 400sq.m, connecting path added, red edge amended and blue hatch added, steps to canal added to north of the site and west red boundary amended following land registry drawing. Plots 64-69 rotated and private drive rearranged.
G	5.6.24	IG	Plots 64-69 moved east slightly. Gas governor added and SUDS pond moved.
F	4.6.24	IG	Accommodation schedule updated - Apartments
E	31.05.24	JG	Accommodation schedule updated.
D	21.05.24	IG	Plot gates added, BCP adjusted to suit requirements, turning head added in front of plot 6.
C	8.5.24	IG	Easement added and one plot lost
B	26.4.24	IG	Layout sketched following site visit
A	4.4.24	IG	2 Seacourts added to North of site, title amended + easements added

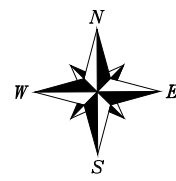
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TITLE					
SITE LAYOUT					
M.C.I. Developments Ltd. 15 Beecham Court, Smithy Brook Road, Wigan, WN3 6PR Tel: 08448871467 Fax: 08448871468 Web: www.mcidevelopments.com Email: admin@mcidevelopments.com					
PROJECT TRUB FARM, ROCHDALE					
DRN BY	IG	SCALE	JOB REF	DRAWING NUMBER	REV
DATE	28.03.24	1:500 @ A0	000	MCI-000-DR-A-500	K

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NORTH SOUTH AERIAL VIEW

POS AREA

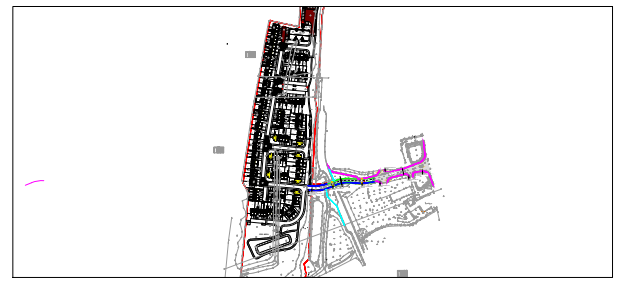


NOTES

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.

- EXISTING FOOTWAY
- EXISTING CANAL PATH
- PROPOSED FOOTWAY
- EXISTING UNCONTROLLED PEDESTRIAN CROSSING
- ADOPTED HIGHWAY

LOCAL AUTHORITY: ROCHDALE COUNCIL
TOTAL AREA OF SITE: 5.18Ha



SITE LAYOUT NTS

A	UPDATED SITE LAYOUT	LB	MR	SEP 24
REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

MCI DEVELOPMENTS

PROJECT:

TRUB ROAD,
ROCHDALE

DRAWING TITLE:

PROPOSED SITE ACCESS
ARRANGEMENT

SCALES:

1:1000 @ A3

DRAWN:	LB	CHECKED:	JC	DATE:	MAR 24
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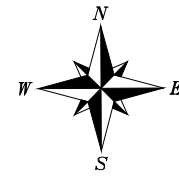
Croft Transport Planning & Design
340 Deansgate
Manchester
M3 4LY

Email: info@croftts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER:	4337-F01	REVISION:	A
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FOR CONTINUATION SEE PLAN 01

PLAN 01 - CONTINUATION

NOTES

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
- VISIBILITY SPLAY

MCI DEVELOPMENTS

TRUB ROAD, ROCHDALE

VISIBILITY PLAN

1:500 @ A1

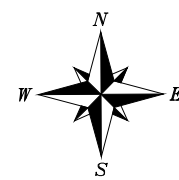
SEP 2024

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340 Deansgate
Manchester
M3 4LY
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

4337-01

Eddisons

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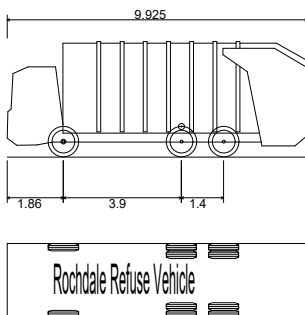
FOR CONTINUATION SEE PLAN 01

PLAN 01 - CONTINUATION

NOTES

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



Rochdale Refuse Vehicle
Overall Length 9.925m
Overall Width 2.450m
Overall Body Height 3.814m
Min Body Ground Clearance 0.365m
Track Width 2.450m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

CLIENT:
MCI DVELOPMENTS

PROJECT:
TRUB ROAD, ROCHDALE

DRAWING TITLE:
**SWEPT PATH ANALYSIS
(REFUSE VEHICLE)**

SCALES:
1:500 @ A1

DRAWN: **SL** CHECKED: **MR** DATE: **SEP 2024**

Eddisons
340 Deansgate
Manchester
M3 4LY
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

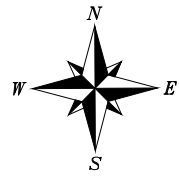
DRAWING NUMBER:
4337-SP01

REVISION:

-

Eddisons

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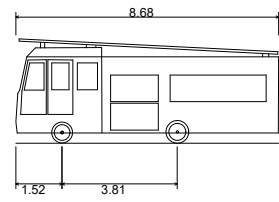
FOR CONTINUATION SEE PLAN 01

PLAN 01 - CONTINUATION

NOTES

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



DB32 Fire Appliance

DB32 Fire Appliance	8.680m
Overall Length	2.190m
Overall Width	3.452m
Overall Body Height	0.377m
Min Body Ground Clearance	2.121m
Max Track Width	6.003m
Lock to lock time	7.910m
Kerb to Kerb Turning Radius	

REV	DETAILS	DRAWN	CHECKED	DATE
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CLIENT: MCI DEVELOPMENTS

PROJECT: TRUB ROAD, ROCHDALE

DRAWING TITLE: SWEPT PATH ANALYSIS (FIRE APPLIANCE)

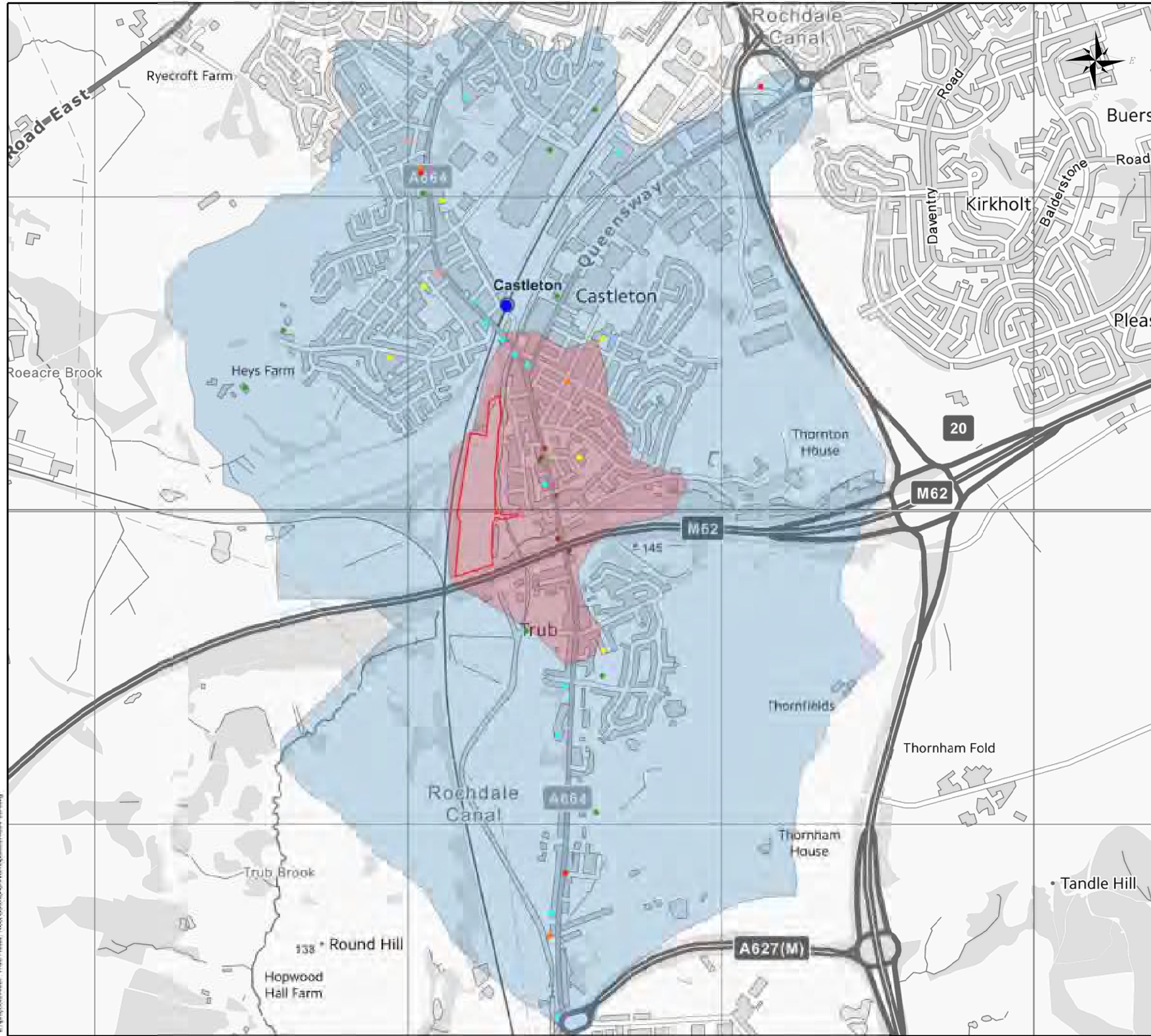
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DRAWN: SL	CHECKED: MR	DATE: SEP 2024
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Eddisons
340 Deansgate
Manchester
M3 4LY
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER: 4337-SP02	REVISION: -
---------------------------	-------------

Eddisons



NOTES

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

MCI DEVELOPMENTS			
TRUB ROAD, ROCHDALE			
800M & 2KM PEDESTRIAN CATCHMENT WITH AMENITIES			
NTS @ A3			
DATE:	RC	MR	APR 24
Eddisons 145 Downgate Warrington CH14 4JY Email: info@eddisons.co.uk Tel: 01925 433700 Web: www.eddisons.co.uk			
4337-03			
Eddisons			

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APPENDICES

APPENDIX 1

TRICS Output

Calculation Reference: AUDIT-851401-180828-0818

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	KC KENT	2 days
	WS WEST SUSSEX	2 days
03	SOUTH WEST	
	DV DEVON	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
11	SCOTLAND	
	FA FALKIRK	1 days

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

Secondary 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: Number of dwellings
Actual Range: 110 to 288 (units:)
Range Selected by User: 100 to 300 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

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	2 days
Tuesday	1 days
Wednesday	3 days
Thursday	2 days
Friday	4 days

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

Selected survey types:

Manual count	12 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	12
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This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3

12 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 1 mile:

1,000 or Less	1 days
1,001 to 5,000	3 days
5,001 to 10,000	1 days
10,001 to 15,000	5 days
15,001 to 20,000	1 days
20,001 to 25,000	1 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	5 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	3 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	9 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	2 days
No	10 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	12 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DH-03-A-02	MIXED HOUSES	DURHAM
	LEAZES LANE		
	BISHOP AUCKLAND		
	ST HELEN AUCKLAND		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of dwellings:	125	
	Survey date: MONDAY	27/03/17	Survey Type: MANUAL
2	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL
3	ES-03-A-03	MIXED HOUSES & FLATS	EAST SUSSEX
	SHEPHAM LANE		
	POLEGATE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	212	
	Survey date: MONDAY	11/07/16	Survey Type: MANUAL
4	ES-03-A-04	MIXED HOUSES & FLATS	EAST SUSSEX
	NEW LYDD ROAD		
	CAMBER		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	134	
	Survey date: FRIDAY	15/07/16	Survey Type: MANUAL
5	FA-03-A-02	MIXED HOUSES	FALKIRK
	ROSEBANK AVENUE & SPRINGFIELD DRIVE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	161	
	Survey date: WEDNESDAY	29/05/13	Survey Type: MANUAL
6	KC-03-A-04	SEMI-DETACHED & TERRACED	KENT
	KILN BARN ROAD		
	AYLESFORD		
	DITTON		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	110	
	Survey date: FRIDAY	22/09/17	Survey Type: MANUAL
7	KC-03-A-07	MIXED HOUSES	KENT
	RECVLVER ROAD		
	HERNE BAY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	288	
	Survey date: WEDNESDAY	27/09/17	Survey Type: MANUAL
8	NE-03-A-03	PRIVATE HOUSES	NORTH EAST LINCOLNSHIRE
	STATION ROAD		
	SCUNTHORPE		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	180	
	Survey date: TUESDAY	20/05/14	Survey Type: MANUAL
9	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

10	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE Edge of Town Residential Zone Total Number of dwellings: 248 Survey date: WEDNESDAY 22/11/17	DETACHED & SEMI-DETACHED	STAFFORDSHIRE	Survey Type: MANUAL
11	WS-03-A-04 HILLS FARM LANE HORSHAM BROADBRIDGE HEATH Edge of Town Residential Zone Total Number of dwellings: 151 Survey date: THURSDAY 11/12/14	MIXED HOUSES	WEST SUSSEX	Survey Type: MANUAL
12	WS-03-A-08 ROUNDSTONE LANE ANGMERING Edge of Town Residential Zone Total Number of dwellings: 180 Survey date: THURSDAY 19/04/18	MIXED HOUSES	WEST SUSSEX	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AN-03-A-06	Ire/Ldn
AN-03-A-08	Ire/Ldn
AN-03-A-09	Ire/Ldn
AR-03-A-01	Ire/Ldn
DL-03-A-03	Ire/Ldn
DL-03-A-06	Ire/Ldn
DN-03-A-05	Ire/Ldn
WA-03-A-04	Ire/Ldn

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 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	12	168	0.076	12	168	0.235	12	168	0.311
08:00 - 09:00	12	168	0.126	12	168	0.329	12	168	0.455
09:00 - 10:00	12	168	0.140	12	168	0.153	12	168	0.293
10:00 - 11:00	12	168	0.130	12	168	0.155	12	168	0.285
11:00 - 12:00	12	168	0.130	12	168	0.153	12	168	0.283
12:00 - 13:00	12	168	0.152	12	168	0.139	12	168	0.291
13:00 - 14:00	12	168	0.167	12	168	0.153	12	168	0.320
14:00 - 15:00	12	168	0.159	12	168	0.169	12	168	0.328
15:00 - 16:00	12	168	0.244	12	168	0.160	12	168	0.404
16:00 - 17:00	12	168	0.239	12	168	0.164	12	168	0.403
17:00 - 18:00	12	168	0.297	12	168	0.156	12	168	0.453
18:00 - 19:00	12	168	0.221	12	168	0.163	12	168	0.384
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.081			2.129			4.210

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.

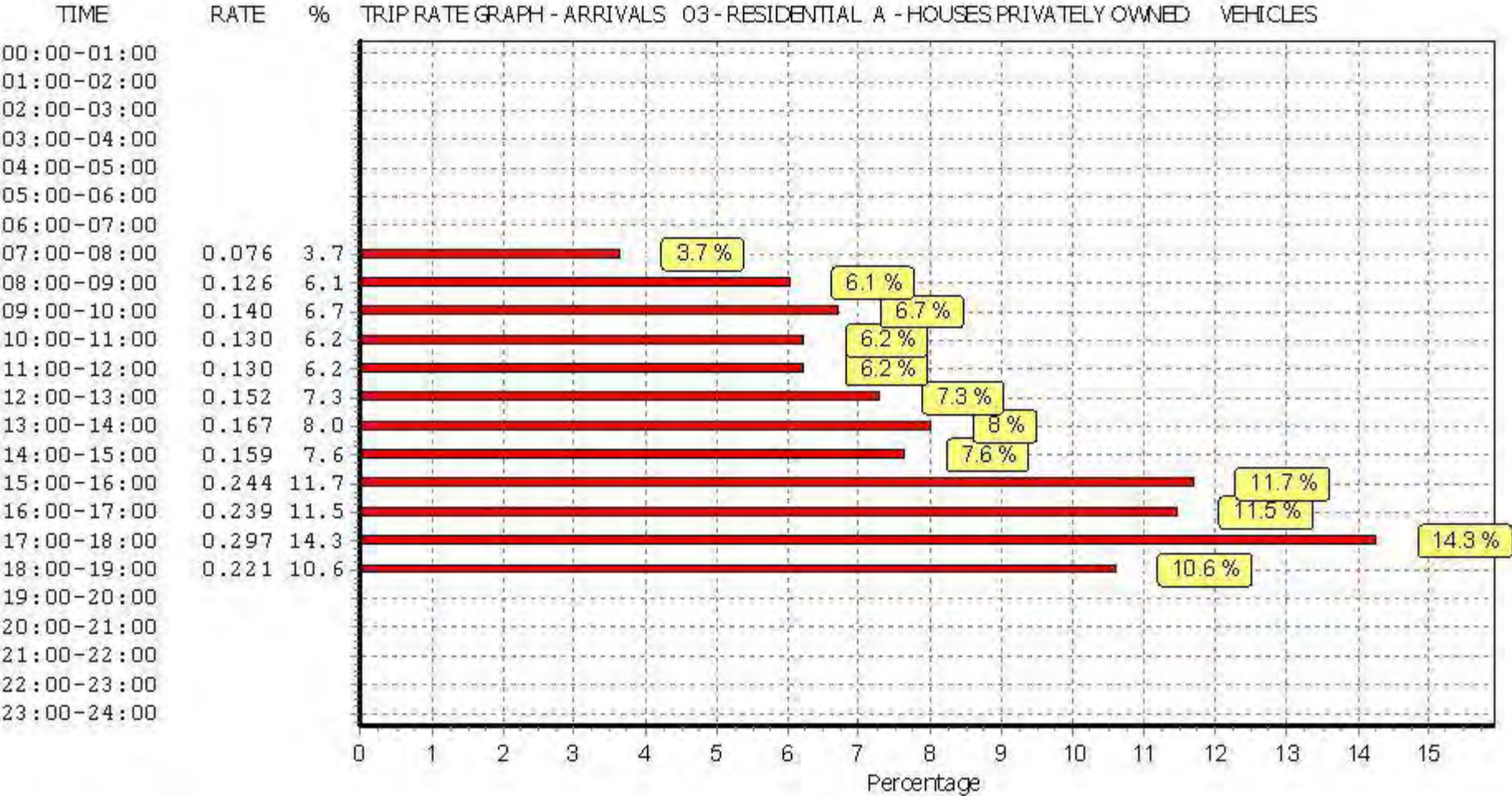
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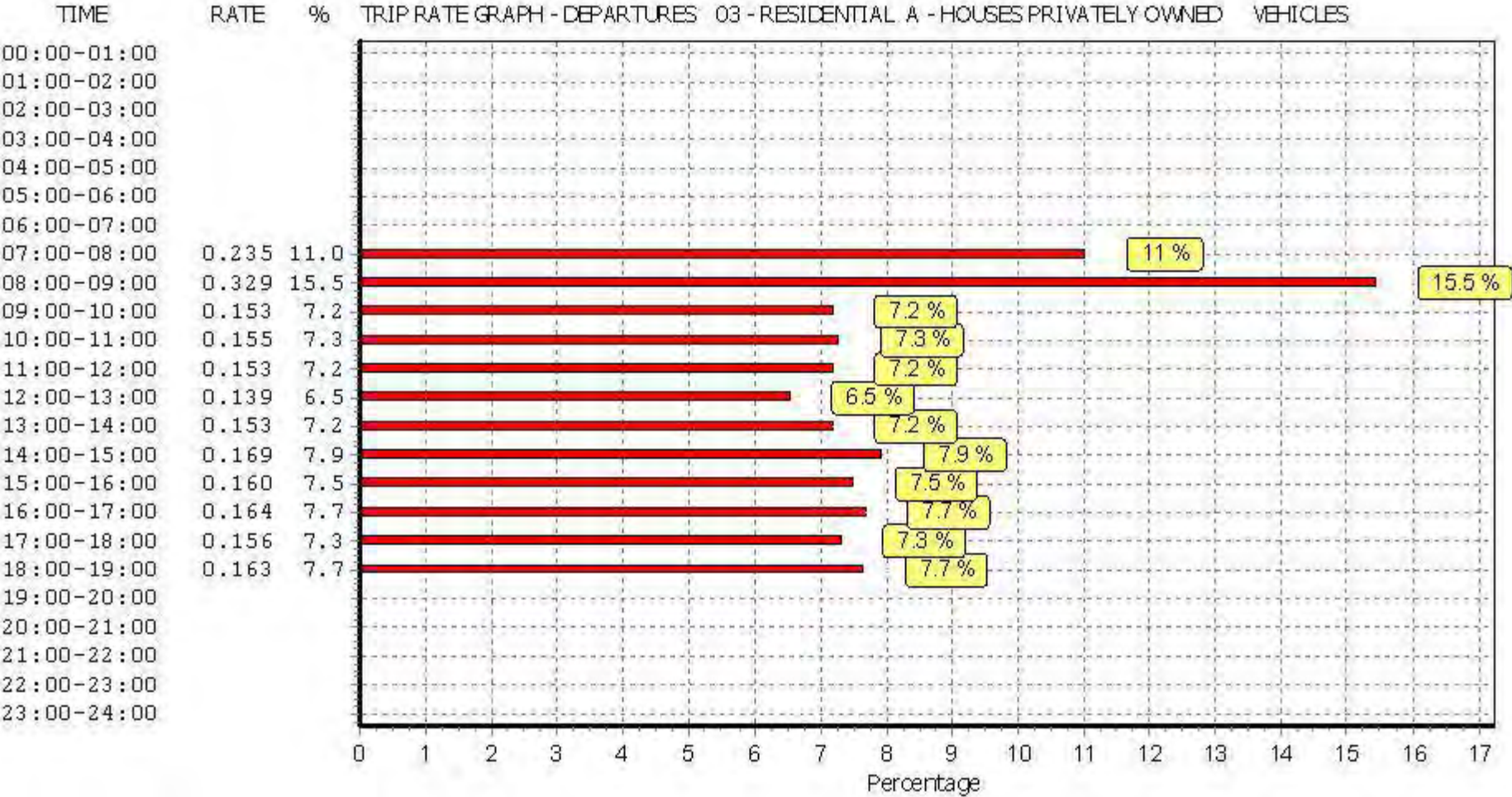
Parameter summary

Trip rate parameter range selected:	110 - 288 (units:)
Survey date range:	01/01/10 - 19/04/18
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	8

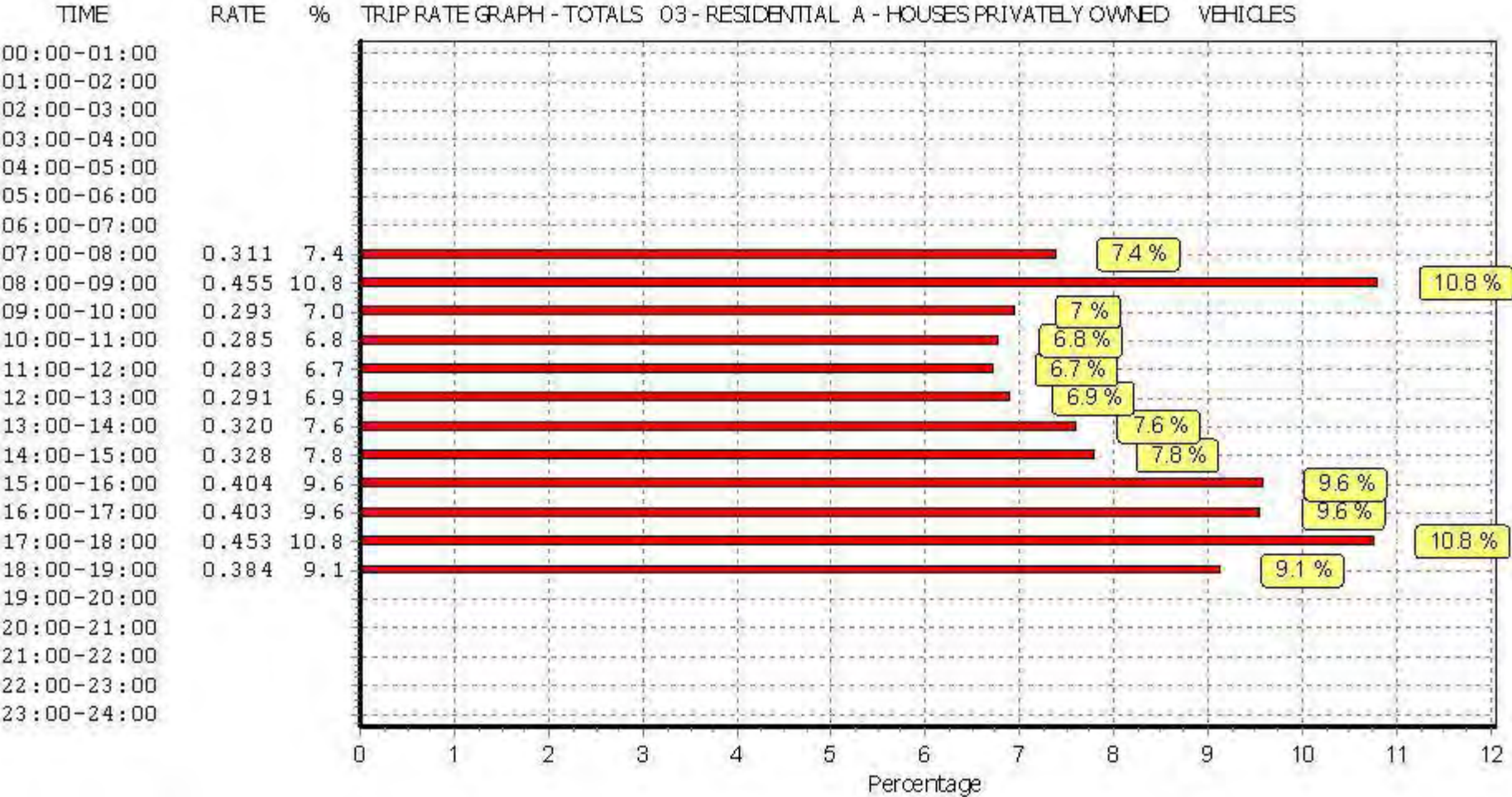
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



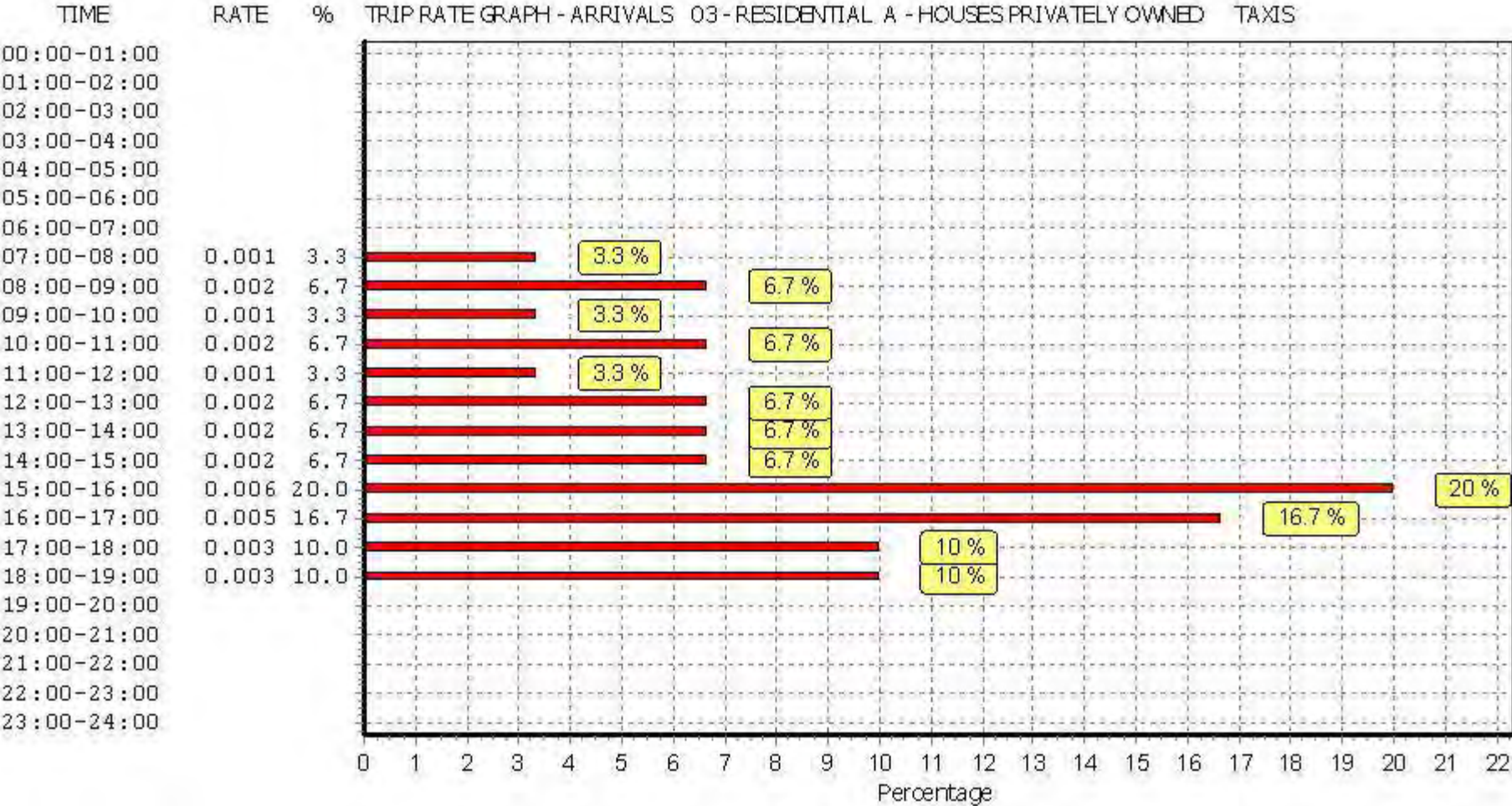
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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

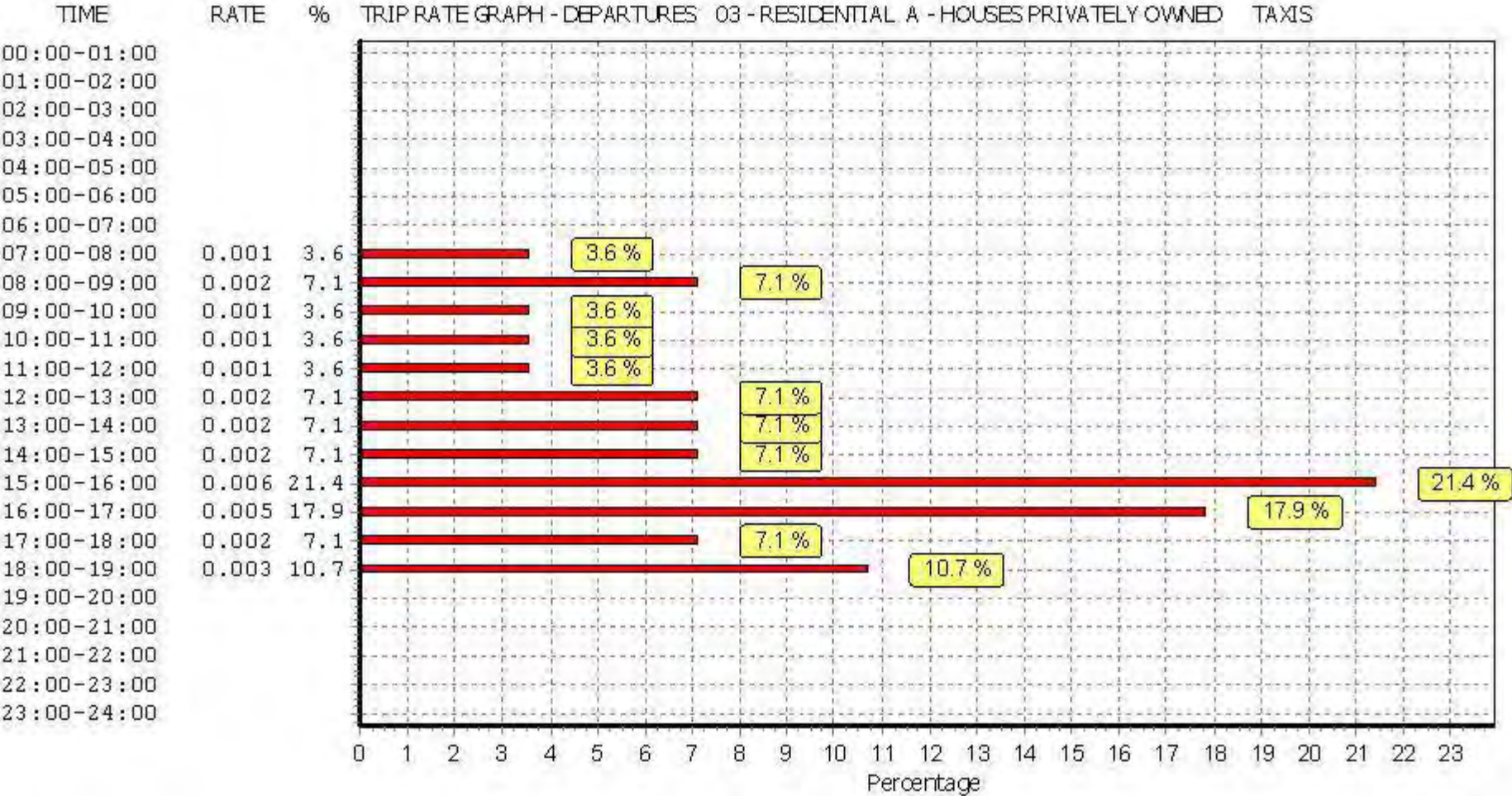
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	168	0.001	12	168	0.001	12	168	0.002
08:00 - 09:00	12	168	0.002	12	168	0.002	12	168	0.004
09:00 - 10:00	12	168	0.001	12	168	0.001	12	168	0.002
10:00 - 11:00	12	168	0.002	12	168	0.001	12	168	0.003
11:00 - 12:00	12	168	0.001	12	168	0.001	12	168	0.002
12:00 - 13:00	12	168	0.002	12	168	0.002	12	168	0.004
13:00 - 14:00	12	168	0.002	12	168	0.002	12	168	0.004
14:00 - 15:00	12	168	0.002	12	168	0.002	12	168	0.004
15:00 - 16:00	12	168	0.006	12	168	0.006	12	168	0.012
16:00 - 17:00	12	168	0.005	12	168	0.005	12	168	0.010
17:00 - 18:00	12	168	0.003	12	168	0.002	12	168	0.005
18:00 - 19:00	12	168	0.003	12	168	0.003	12	168	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	0.030			0.028			0.058		

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.

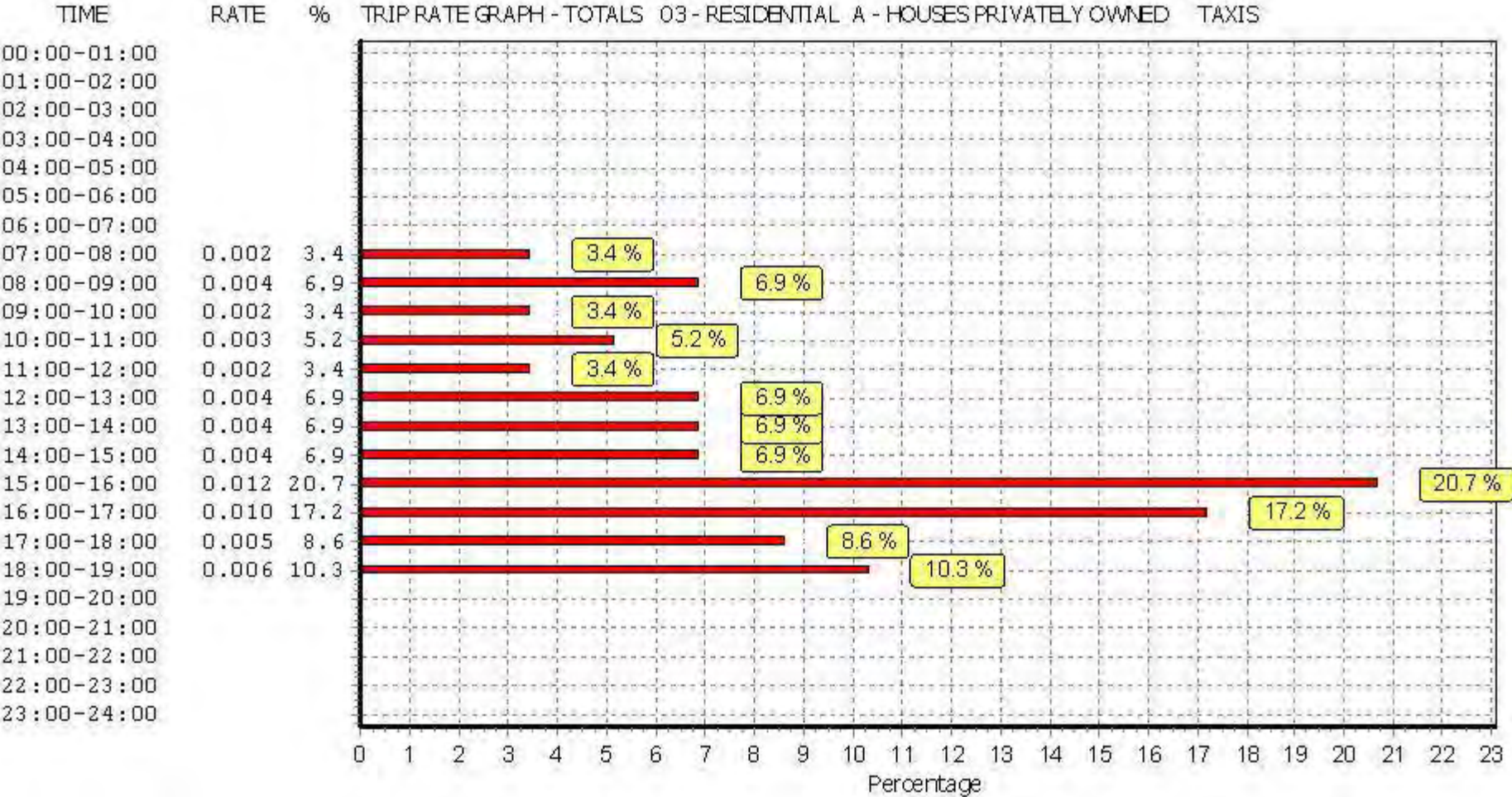
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



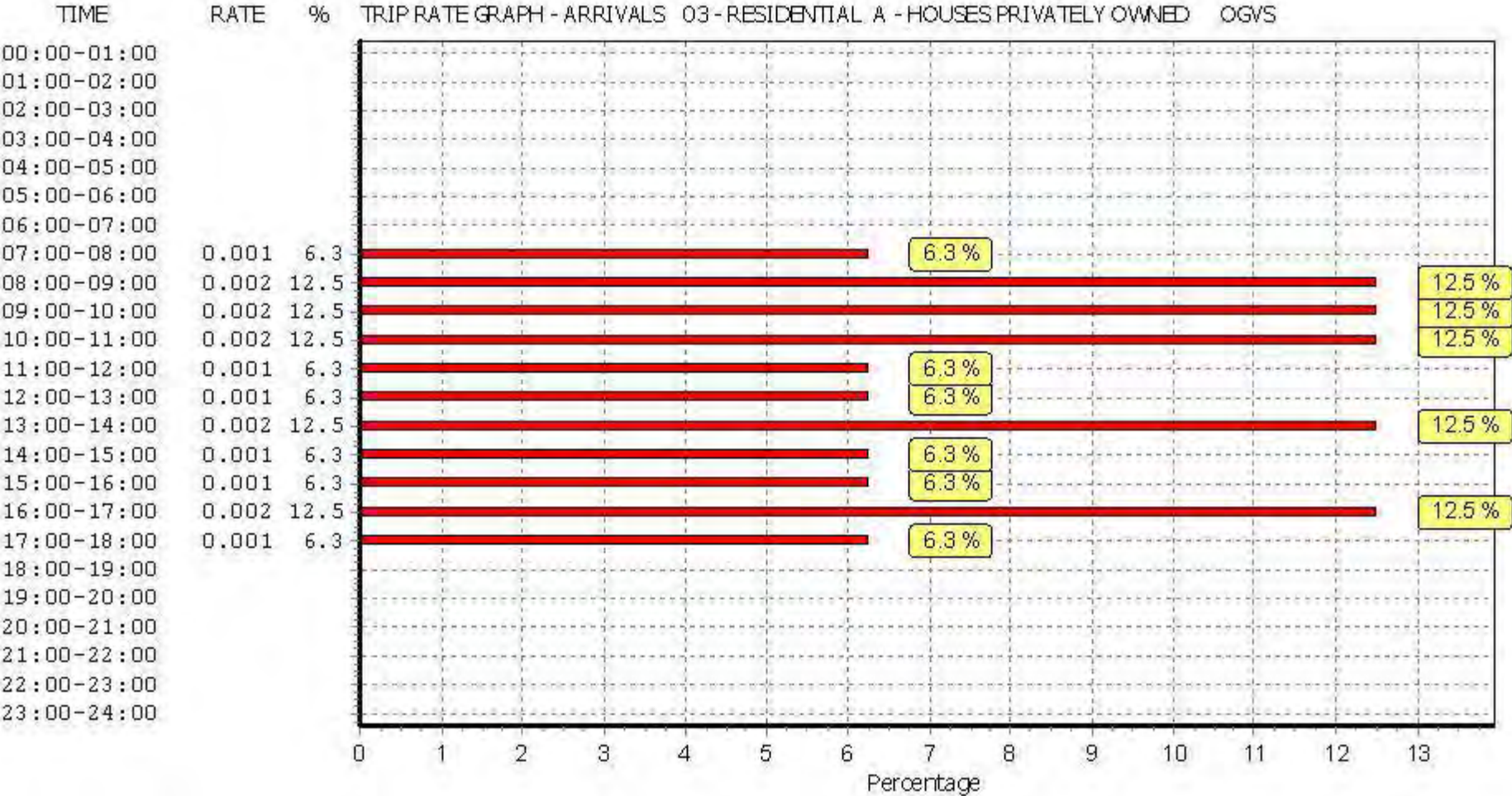
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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

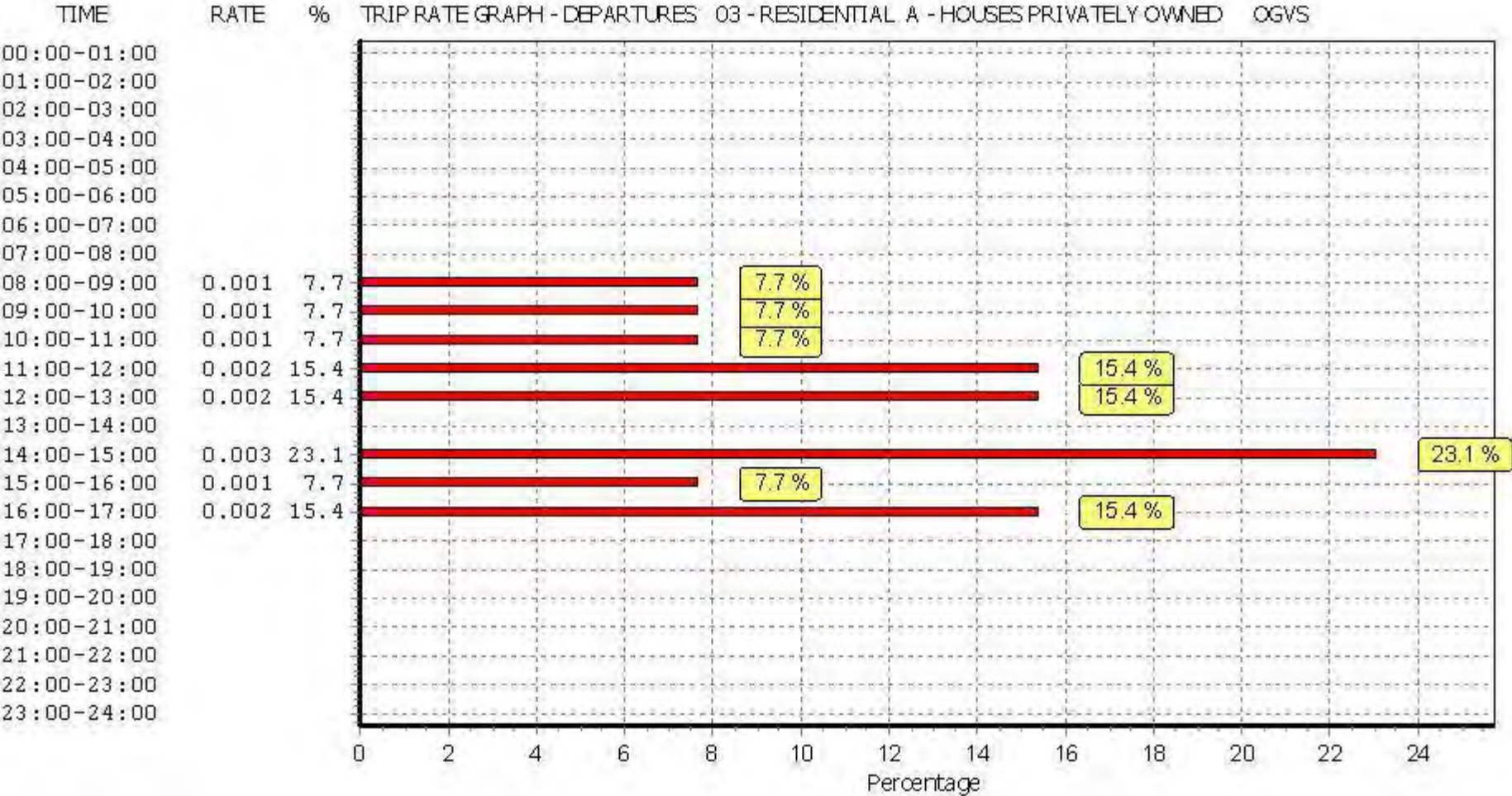
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	168	0.001	12	168	0.000	12	168	0.001
08:00 - 09:00	12	168	0.002	12	168	0.001	12	168	0.003
09:00 - 10:00	12	168	0.002	12	168	0.001	12	168	0.003
10:00 - 11:00	12	168	0.002	12	168	0.001	12	168	0.003
11:00 - 12:00	12	168	0.001	12	168	0.002	12	168	0.003
12:00 - 13:00	12	168	0.001	12	168	0.002	12	168	0.003
13:00 - 14:00	12	168	0.002	12	168	0.000	12	168	0.002
14:00 - 15:00	12	168	0.001	12	168	0.003	12	168	0.004
15:00 - 16:00	12	168	0.001	12	168	0.001	12	168	0.002
16:00 - 17:00	12	168	0.002	12	168	0.002	12	168	0.004
17:00 - 18:00	12	168	0.001	12	168	0.000	12	168	0.001
18:00 - 19:00	12	168	0.000	12	168	0.000	12	168	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	0.016			0.013			0.029		

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.

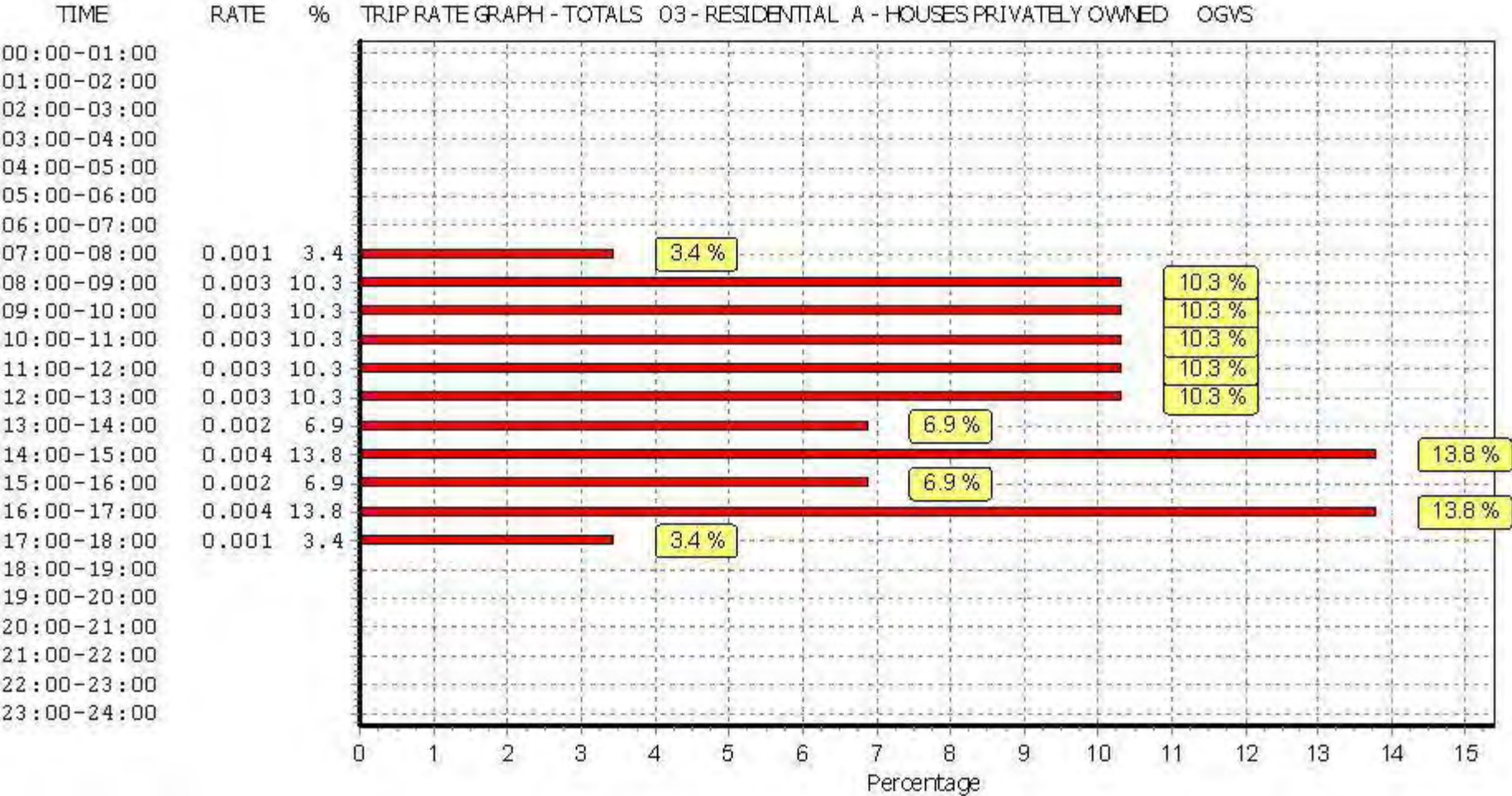
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



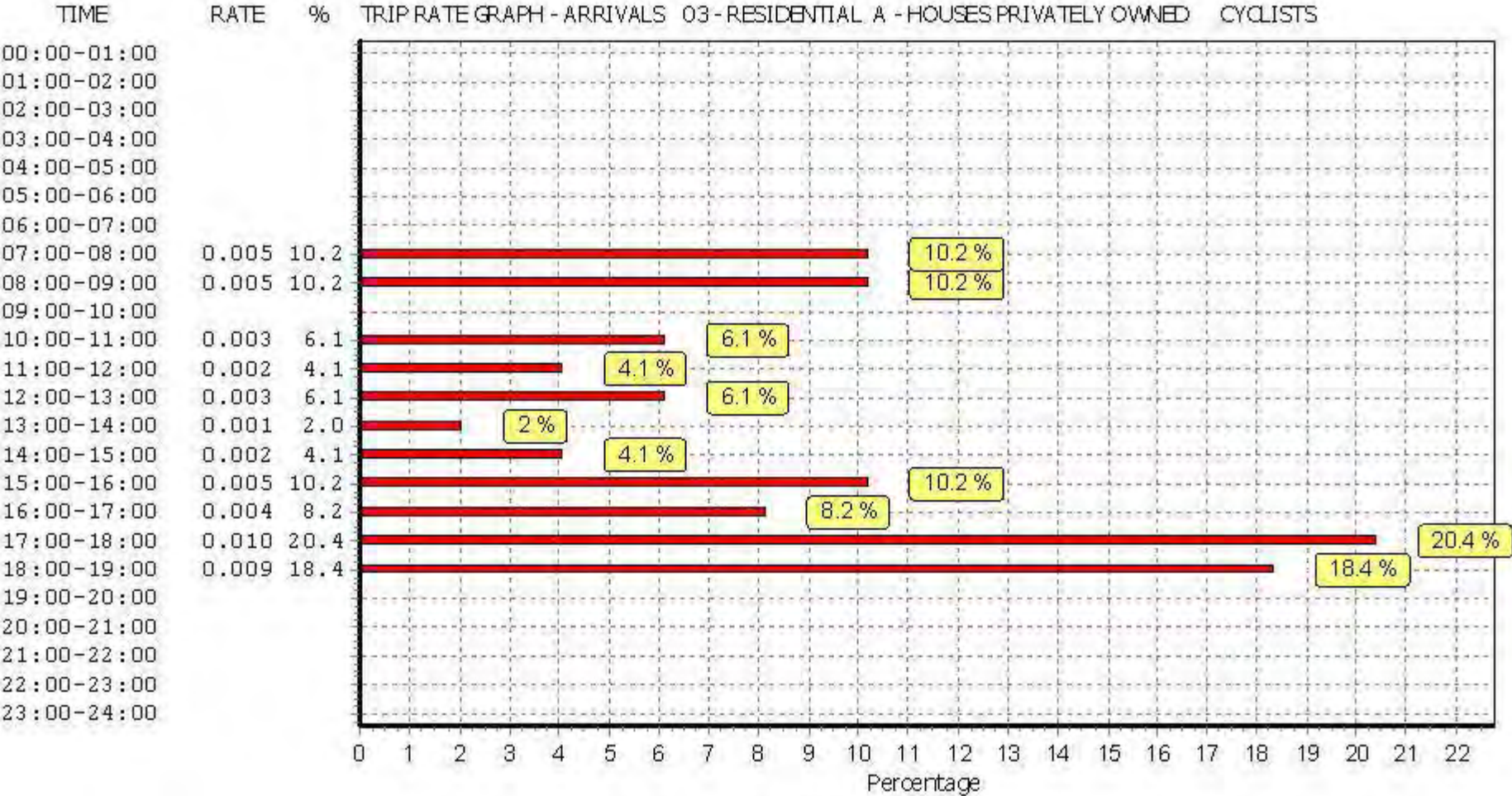
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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

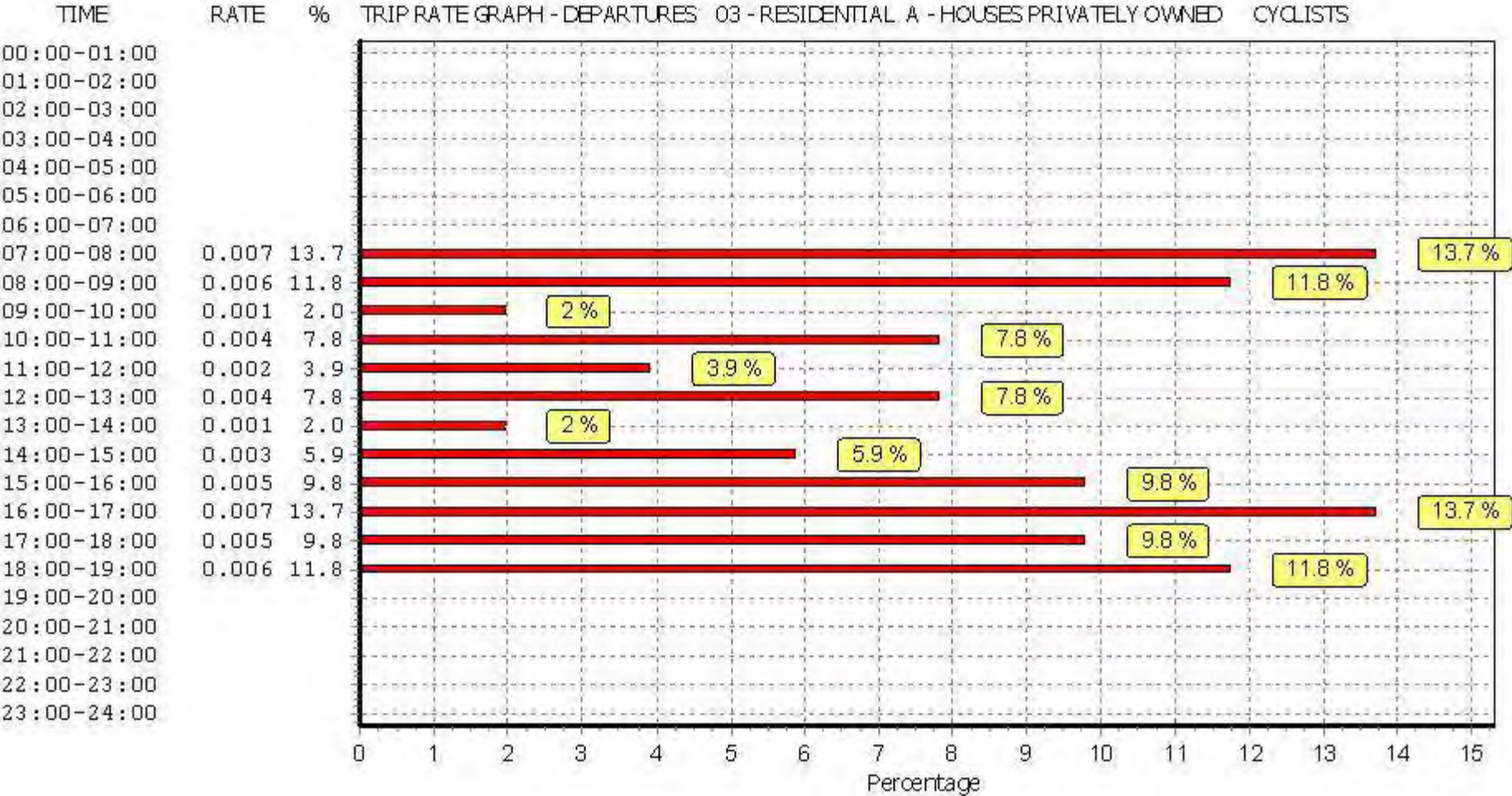
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	168	0.005	12	168	0.007	12	168	0.012
08:00 - 09:00	12	168	0.005	12	168	0.006	12	168	0.011
09:00 - 10:00	12	168	0.000	12	168	0.001	12	168	0.001
10:00 - 11:00	12	168	0.003	12	168	0.004	12	168	0.007
11:00 - 12:00	12	168	0.002	12	168	0.002	12	168	0.004
12:00 - 13:00	12	168	0.003	12	168	0.004	12	168	0.007
13:00 - 14:00	12	168	0.001	12	168	0.001	12	168	0.002
14:00 - 15:00	12	168	0.002	12	168	0.003	12	168	0.005
15:00 - 16:00	12	168	0.005	12	168	0.005	12	168	0.010
16:00 - 17:00	12	168	0.004	12	168	0.007	12	168	0.011
17:00 - 18:00	12	168	0.010	12	168	0.005	12	168	0.015
18:00 - 19:00	12	168	0.009	12	168	0.006	12	168	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	0.049			0.051			0.100		

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.

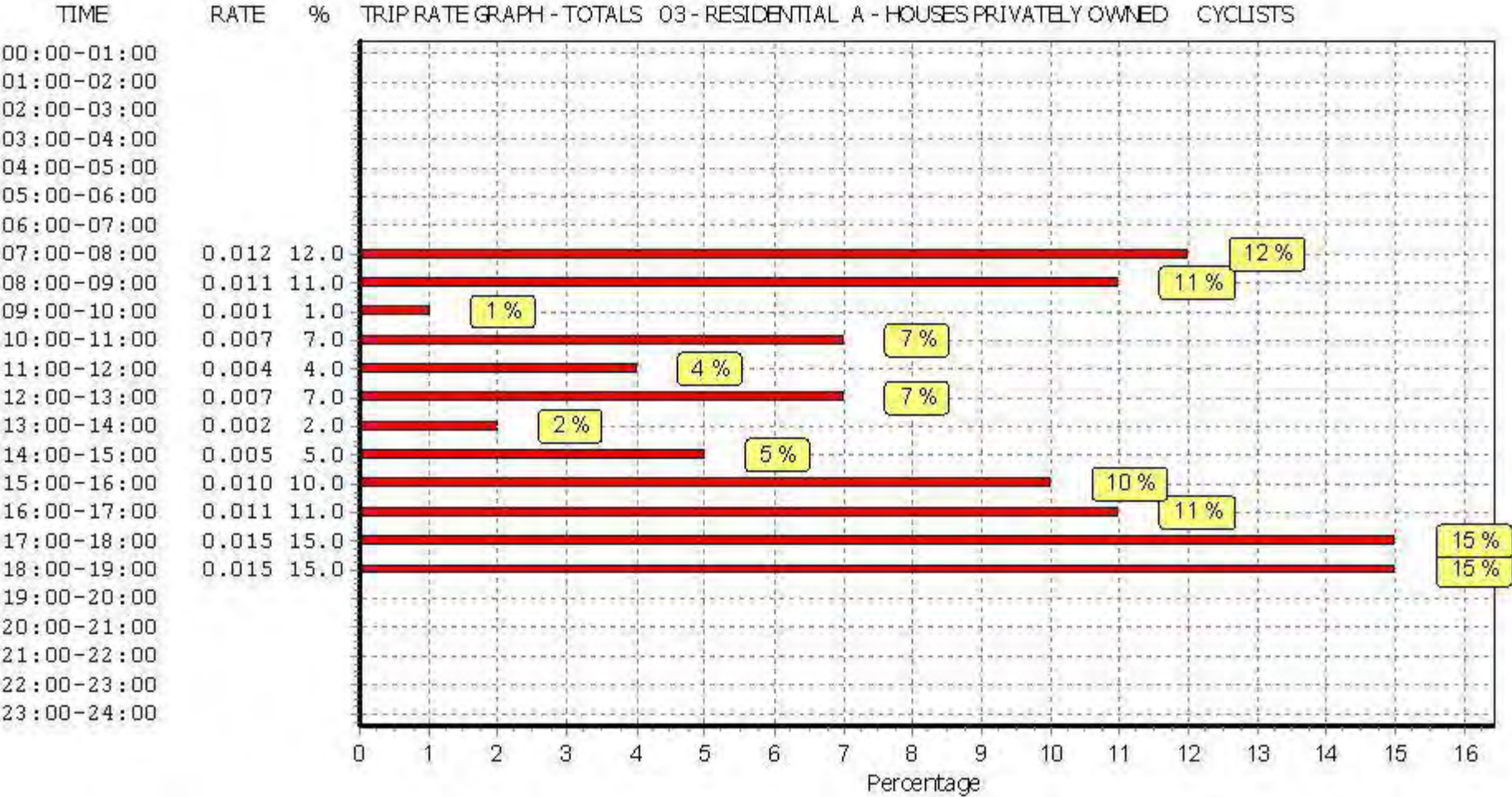
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

APPENDIX 2

PICADY Output

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: A664 (N) - Car Dealership - A664 (S) - Trub Road.j9

Path: Z:\projects\4337 Trub Road, Rochdale\Picady

Report generation date: 03/09/2024 12:47:12

- »2026 Base, AM
- »2026 Base, PM
- »2031 Base, AM
- »2031 Base, PM
- »2026 Base + Dev, AM
- »2026 Base + Dev, PM
- »2031 Base + Dev, AM
- »2031 Base + Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2026 Base										
Stream B-ACD	D1	0.0	9.27	0.02	A	D2	0.0	8.03	0.03	A
Stream A-BCD		0.1	4.12	0.07	A		0.1	4.53	0.05	A
Stream D-AB		0.0	8.06	0.02	A		0.0	7.55	0.02	A
Stream D-BC		0.1	12.06	0.09	B		0.1	12.26	0.05	B
Stream C-ABD		0.0	4.50	0.03	A		0.0	4.07	0.02	A
2031 Base										
Stream B-ACD	D3	0.0	9.71	0.02	A	D4	0.0	8.32	0.03	A
Stream A-BCD		0.2	4.04	0.08	A		0.1	4.46	0.06	A
Stream D-AB		0.0	8.16	0.02	A		0.0	7.71	0.02	A
Stream D-BC		0.1	12.80	0.10	B		0.1	13.00	0.06	B
Stream C-ABD		0.1	4.43	0.04	A		0.0	3.98	0.02	A
2026 Base + Dev										
Stream B-ACD	D5	0.0	9.57	0.02	A	D6	0.0	8.21	0.03	A
Stream A-BCD		0.3	4.24	0.13	A		0.5	4.84	0.17	A
Stream D-AB		0.1	7.90	0.09	A		0.1	7.60	0.05	A
Stream D-BC		0.2	14.42	0.18	B		0.1	13.90	0.10	B
Stream C-ABD		0.0	4.48	0.03	A		0.0	4.04	0.02	A
2031 Base + Dev										
Stream B-ACD	D7	0.0	10.03	0.02	B	D8	0.0	8.51	0.03	A
Stream A-BCD		0.4	4.17	0.14	A		0.6	4.78	0.18	A
Stream D-AB		0.1	8.11	0.09	A		0.1	7.81	0.05	A
Stream D-BC		0.2	15.34	0.19	C		0.1	14.70	0.10	B
Stream C-ABD		0.1	4.41	0.04	A		0.0	3.95	0.02	A

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

File summary

File Description

Title	
Location	
Site number	
Date	23/07/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD\Genna.Woods
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	38.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026 Base	AM	ONE HOUR	07:30	09:00	15
D2	2026 Base	PM	ONE HOUR	16:15	17:45	15
D3	2031 Base	AM	ONE HOUR	07:30	09:00	15
D4	2031 Base	PM	ONE HOUR	16:15	17:45	15
D5	2026 Base + Dev	AM	ONE HOUR	07:30	09:00	15
D6	2026 Base + Dev	PM	ONE HOUR	16:15	17:45	15
D7	2031 Base + Dev	AM	ONE HOUR	07:30	09:00	15
D8	2031 Base + Dev	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026 Base, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.57	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A664 Manchester Road (N)	A664 Manchester Road (N)	Major
B	Car Dealership	Car Dealership	Minor
C	A664 Manchester Road (S)	A664 Manchester Road (S)	Major
D	Trub Road (Site Access)	Trub Road (Site Access)	Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - A664 Manchester Road (N)	11.07			24.7	✓	0.00
C - A664 Manchester Road (S)	11.07			18.7	✓	0.00

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)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Car Dealership	One lane	5.00								82	23
D - Trub Road (Site Access)	One lane plus flare		10.00	8.50	5.10	5.00	5.00	✓	3.00	35	49

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-A	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	Slope for D-C
A-D	588	-	-	-	-	-	-	0.178	0.254	0.178	-	-	-
B-A	619	0.088	0.222	0.222	-	-	-	0.140	0.317	-	0.222	0.222	0.111
B-C	766	0.092	0.231	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	619	0.088	0.222	0.222	-	-	-	0.140	0.317	0.140	-	-	-
B-D, offside lane	619	0.088	0.222	0.222	-	-	-	0.140	0.317	0.140	-	-	-
C-B	585	0.177	0.177	0.252	-	-	-	-	-	-	-	-	-
D-A	615	-	-	-	-	-	-	0.186	-	0.073	-	-	-
D-B, nearside lane	481	0.109	0.109	0.247	-	-	-	0.173	0.173	0.088	-	-	-
D-B, offside lane	581	0.131	0.131	0.298	-	-	-	0.209	0.209	0.082	-	-	-
D-C	581	-	0.131	0.298	0.104	0.209	0.209	0.209	0.209	0.082	-	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026 Base	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	759	100.000
B - Car Dealership		✓	8	100.000
C - A664 Manchester Road (S)		✓	611	100.000
D - Trub Road (Site Access)		✓	35	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	742	17
	B - Car Dealership	5	0	3	0
	C - A664 Manchester Road (S)	586	8	0	17
	D - Trub Road (Site Access)	7	1	27	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A - A664 Manchester Road (N)	571	571
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	460	460
	D - Trub Road (Site Access)	26	26
07:45-08:00	A - A664 Manchester Road (N)	682	682
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	549	549
	D - Trub Road (Site Access)	31	31
08:00-08:15	A - A664 Manchester Road (N)	836	836
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	673	673
	D - Trub Road (Site Access)	39	39
08:15-08:30	A - A664 Manchester Road (N)	836	836
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	673	673
	D - Trub Road (Site Access)	39	39
08:30-08:45	A - A664 Manchester Road (N)	682	682
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	549	549
	D - Trub Road (Site Access)	31	31
08:45-09:00	A - A664 Manchester Road (N)	571	571
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	460	460
	D - Trub Road (Site Access)	26	26

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.02	9.27	0.0	A
A-BCD	0.07	4.12	0.1	A
A-B				
A-C				
D-AB	0.02	8.06	0.0	A
D-BC	0.09	12.08	0.1	B
C-ABD	0.03	4.50	0.0	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	485	0.012	8	0.0	7.517	A
A-BCD	33	908	0.037	33	0.1	4.121	A
A-B	0			0			
A-C	538			538			
D-AB	8	505	0.011	8	0.0	7.215	A
D-BC	21	409	0.051	20	0.1	9.274	A
C-ABD	14	815	0.017	14	0.0	4.495	A
C-D	13			13			
C-A	434			434			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	449	0.016	7	0.0	8.180	A
A-BCD	48	976	0.050	48	0.1	3.886	A
A-B	0			0			
A-C	634			634			
D-AB	7	485	0.014	7	0.0	7.540	A
D-BC	25	375	0.066	25	0.1	10.270	B
C-ABD	19	866	0.022	19	0.0	4.257	A
C-D	15			15			
C-A	515			515			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	397	0.022	9	0.0	9.273	A
A-BCD	79	1073	0.074	79	0.1	3.624	A
A-B	0			0			
A-C	757			757			
D-AB	8	455	0.018	8	0.0	8.058	A
D-BC	30	329	0.092	30	0.1	12.045	B
C-ABD	30	939	0.032	30	0.0	3.964	A
C-D	18			18			
C-A	624			624			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	397	0.022	9	0.0	9.275	A
A-BCD	79	1073	0.074	79	0.1	3.629	A
A-B	0			0			
A-C	757			757			
D-AB	8	455	0.018	8	0.0	8.060	A
D-BC	30	329	0.092	30	0.1	12.056	B
C-ABD	30	939	0.032	30	0.0	3.966	A
C-D	18			18			
C-A	624			624			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	449	0.016	7	0.0	8.164	A
A-BCD	49	976	0.050	49	0.1	3.890	A
A-B	0			0			
A-C	634			634			
D-AB	7	464	0.014	7	0.0	7.546	A
D-BC	25	375	0.066	25	0.1	10.282	B
C-ABD	19	866	0.022	19	0.0	4.257	A
C-D	15			15			
C-A	515			515			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	485	0.012	6	0.0	7.523	A
A-BCD	33	908	0.037	34	0.1	4.124	A
A-B	0			0			
A-C	538			538			
D-AB	6	505	0.011	6	0.0	7.216	A
D-BC	21	409	0.051	21	0.1	9.287	A
C-ABD	14	815	0.017	14	0.0	4.498	A
C-D	13			13			
C-A	434			434			

2026 Base, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2026 Base	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	814	100.000
B - Car Dealership		✓	11	100.000
C - A664 Manchester Road (S)		✓	729	100.000
D - Trub Road (Site Access)		✓	23	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
	A - A664 Manchester Road (N)	0	0	800	14
	B - Car Dealership	5	0	8	0
	C - A664 Manchester Road (S)	703	5	0	21
	D - Trub Road (Site Access)	9	0	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A - A664 Manchester Road (N)	462	462
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	549	549
	D - Trub Road (Site Access)	17	17
16:30-16:45	A - A664 Manchester Road (N)	552	552
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	655	655
	D - Trub Road (Site Access)	21	21
16:45-17:00	A - A664 Manchester Road (N)	676	676
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	803	803
	D - Trub Road (Site Access)	25	25
17:00-17:15	A - A664 Manchester Road (N)	676	676
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	803	803
	D - Trub Road (Site Access)	25	25
17:15-17:30	A - A664 Manchester Road (N)	552	552
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	655	655
	D - Trub Road (Site Access)	21	21
17:30-17:45	A - A664 Manchester Road (N)	462	462
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	549	549
	D - Trub Road (Site Access)	17	17

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	8.03	0.0	A
A-BCD	0.05	4.53	0.1	A
A-B				
A-C				
D-AB	0.02	7.55	0.0	A
D-BC	0.05	12.26	0.1	B
C-ABD	0.02	4.07	0.0	A
C-D				
C-A				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	537	0.015	8	0.0	6.812	A
A-BCD	23	819	0.029	23	0.0	4.528	A
A-B	0			0			
A-C	439			439			
D-AB	7	538	0.013	7	0.0	6.777	A
D-BC	11	387	0.027	10	0.0	9.559	A
C-ABD	10	895	0.011	10	0.0	4.068	A
C-D	16			16			
C-A	524			524			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	506	0.020	10	0.0	7.289	A
A-BCD	33	870	0.038	33	0.1	4.308	A
A-B	0			0			
A-C	519			519			
D-AB	8	517	0.016	8	0.0	7.079	A
D-BC	13	355	0.035	13	0.0	10.533	B
C-ABD	14	961	0.015	14	0.0	3.802	A
C-D	19			19			
C-A	623			623			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	461	0.026	12	0.0	8.033	A
A-BCD	52	943	0.055	52	0.1	4.044	A
A-B	0			0			
A-C	624			624			
D-AB	10	487	0.020	10	0.0	7.545	A
D-BC	15	309	0.050	15	0.1	12.252	B
C-ABD	23	1058	0.021	23	0.0	3.488	A
C-D	23			23			
C-A	757			757			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	461	0.026	12	0.0	8.034	A
A-BCD	52	943	0.055	52	0.1	4.047	A
A-B	0			0			
A-C	624			624			
D-AB	10	487	0.020	10	0.0	7.546	A
D-BC	15	309	0.050	15	0.1	12.257	B
C-ABD	23	1058	0.021	23	0.0	3.488	A
C-D	23			23			
C-A	757			757			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	506	0.020	10	0.0	7.273	A
A-BCD	33	870	0.038	33	0.1	4.309	A
A-B	0			0			
A-C	519			519			
D-AB	8	517	0.016	8	0.0	7.082	A
D-BC	13	355	0.035	13	0.0	10.537	B
C-ABD	14	961	0.015	14	0.0	3.803	A
C-D	19			19			
C-A	623			623			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	537	0.015	8	0.0	6.816	A
A-BCD	24	819	0.029	24	0.0	4.531	A
A-B	0			0			
A-C	439			439			
D-AB	7	538	0.013	7	0.0	6.780	A
D-BC	11	387	0.027	11	0.0	9.588	A
C-ABD	10	895	0.011	10	0.0	4.068	A
C-D	16			16			
C-A	524			524			

2031 Base, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.61	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)
D3	2031 Base	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	805	100.000
B - Car Dealership		✓	8	100.000
C - A664 Manchester Road (S)		✓	647	100.000
D - Trub Road (Site Access)		✓	37	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	787	18
	B - Car Dealership	5	0	3	0
	C - A664 Manchester Road (S)	620	9	0	18
	D - Trub Road (Site Access)	8	1	28	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A - A664 Manchester Road (N)	606	606
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	487	487
	D - Trub Road (Site Access)	28	28
07:45-08:00	A - A664 Manchester Road (N)	724	724
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	582	582
	D - Trub Road (Site Access)	33	33
08:00-08:15	A - A664 Manchester Road (N)	886	886
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	712	712
	D - Trub Road (Site Access)	41	41
08:15-08:30	A - A664 Manchester Road (N)	886	886
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	712	712
	D - Trub Road (Site Access)	41	41
08:30-08:45	A - A664 Manchester Road (N)	724	724
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	582	582
	D - Trub Road (Site Access)	33	33
08:45-09:00	A - A664 Manchester Road (N)	606	606
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	487	487
	D - Trub Road (Site Access)	28	28

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.02	9.71	0.0	A
A-BCD	0.08	4.04	0.2	A
A-B				
A-C				
D-AB	0.02	8.16	0.0	A
D-BC	0.10	12.80	0.1	B
C-ABD	0.04	4.43	0.1	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	474	0.013	8	0.0	7.698	A
A-BCD	37	929	0.040	37	0.1	4.042	A
A-B	0			0			
A-C	569			569			
D-AB	8	504	0.013	8	0.0	7.243	A
D-BC	21	397	0.054	21	0.1	9.581	A
C-ABD	18	830	0.019	18	0.0	4.428	A
C-D	13			13			
C-A	458			458			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	435	0.017	7	0.0	8.422	A
A-BCD	55	1002	0.055	55	0.1	3.807	A
A-B	0			0			
A-C	668			668			
D-AB	8	482	0.016	8	0.0	7.592	A
D-BC	28	382	0.071	28	0.1	10.715	B
C-ABD	23	884	0.026	23	0.0	4.185	A
C-D	18			18			
C-A	543			543			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	380	0.023	9	0.0	9.704	A
A-BCD	92	1106	0.083	92	0.2	3.554	A
A-B	0			0			
A-C	794			794			
D-AB	9	451	0.021	9	0.0	8.155	A
D-BC	31	313	0.100	31	0.1	12.782	B
C-ABD	37	983	0.038	37	0.1	3.891	A
C-D	19			19			
C-A	657			657			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	380	0.023	9	0.0	9.707	A
A-BCD	92	1106	0.083	92	0.2	3.558	A
A-B	0			0			
A-C	794			794			
D-AB	9	451	0.021	9	0.0	8.158	A
D-BC	31	313	0.100	31	0.1	12.796	B
C-ABD	37	983	0.038	37	0.1	3.893	A
C-D	19			19			
C-A	658			658			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	435	0.017	7	0.0	8.426	A ₁
A-BCD	55	1002	0.055	55	0.1	3.810	A ₁
A-B	0			0			
A-C	668			668			
D-AB	8	482	0.016	8	0.0	7.596	A ₁
D-BC	26	362	0.071	26	0.1	10.730	B ₁
C-ABD	23	884	0.026	23	0.0	4.186	A ₁
C-D	16			16			
C-A	543			543			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	474	0.013	6	0.0	7.704	A ₁
A-BCD	38	929	0.041	38	0.1	4.044	A ₁
A-B	0			0			
A-C	568			568			
D-AB	6	504	0.013	6	0.0	7.250	A ₁
D-BC	21	397	0.054	22	0.1	9.597	A ₁
C-ABD	16	830	0.019	16	0.0	4.430	A ₁
C-D	13			13			
C-A	458			458			

2031 Base, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.44	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)
D4	2031 Base	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	651	100.000
B - Car Dealership		✓	11	100.000
C - A664 Manchester Road (S)		✓	774	100.000
D - Trub Road (Site Access)		✓	25	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	636	15
	B - Car Dealership	5	0	6	0
	C - A664 Manchester Road (S)	746	5	0	23
	D - Trub Road (Site Access)	10	0	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A - A664 Manchester Road (N)	490	490
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	583	583
	D - Trub Road (Site Access)	19	19
16:30-16:45	A - A664 Manchester Road (N)	585	585
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	696	696
	D - Trub Road (Site Access)	22	22
16:45-17:00	A - A664 Manchester Road (N)	717	717
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	852	852
	D - Trub Road (Site Access)	28	28
17:00-17:15	A - A664 Manchester Road (N)	717	717
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	852	852
	D - Trub Road (Site Access)	28	28
17:15-17:30	A - A664 Manchester Road (N)	585	585
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	696	696
	D - Trub Road (Site Access)	22	22
17:30-17:45	A - A664 Manchester Road (N)	490	490
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	583	583
	D - Trub Road (Site Access)	19	19

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	8.32	0.0	A
A-BCD	0.06	4.46	0.1	A
A-B				
A-C				
D-AB	0.02	7.71	0.0	A
D-BC	0.06	13.00	0.1	B
C-ABD	0.02	3.98	0.0	A
C-D				
C-A				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	527	0.016	8	0.0	6.940	A
A-BCD	26	834	0.032	26	0.0	4.459	A
A-B	0			0			
A-C	464			464			
D-AB	8	533	0.014	7	0.0	6.855	A
D-BC	11	376	0.030	11	0.0	9.868	A
C-ABD	10	916	0.011	10	0.0	3.976	A
C-D	17			17			
C-A	555			555			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	494	0.020	10	0.0	7.448	A
A-BCD	38	889	0.043	38	0.1	4.235	A
A-B	0			0			
A-C	547			547			
D-AB	9	510	0.018	9	0.0	7.187	A
D-BC	13	342	0.039	13	0.0	10.979	B
C-ABD	15	987	0.015	15	0.0	3.705	A
C-D	20			20			
C-A	660			660			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	445	0.027	12	0.0	8.315	A
A-BCD	60	967	0.062	60	0.1	3.973	A
A-B	0			0			
A-C	657			657			
D-AB	11	479	0.023	11	0.0	7.708	A
D-BC	17	294	0.056	16	0.1	12.991	B
C-ABD	25	1089	0.023	25	0.0	3.386	A
C-D	25			25			
C-A	803			803			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	445	0.027	12	0.0	8.316	A
A-BCD	60	967	0.062	60	0.1	3.975	A
A-B	0			0			
A-C	657			657			
D-AB	11	478	0.023	11	0.0	7.708	A
D-BC	17	294	0.056	17	0.1	12.996	B
C-ABD	25	1089	0.023	25	0.0	3.386	A
C-D	25			25			
C-A	803			803			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	494	0.020	10	0.0	7.453	A
A-BCD	38	889	0.043	38	0.1	4.237	A
A-B	0			0			
A-C	547			547			
D-AB	9	510	0.018	9	0.0	7.191	A
D-BC	13	342	0.039	14	0.0	10.986	B
C-ABD	15	987	0.015	15	0.0	3.709	A
C-D	20			20			
C-A	660			660			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	527	0.016	8	0.0	6.945	A
A-BCD	27	835	0.032	27	0.0	4.463	A
A-B	0			0			
A-C	463			463			
D-AB	8	533	0.014	8	0.0	6.859	A
D-BC	11	376	0.030	11	0.0	9.877	A
C-ABD	10	916	0.011	10	0.0	3.977	A
C-D	17			17			
C-A	555			555			

2026 Base + Dev, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		1.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2026 Base + Dev	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	771	100.000
B - Car Dealership		✓	8	100.000
C - A664 Manchester Road (S)		✓	620	100.000
D - Trub Road (Site Access)		✓	88	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	742	29
	B - Car Dealership	5	0	3	0
	C - A664 Manchester Road (S)	586	8	0	26
	D - Trub Road (Site Access)	38	1	49	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A - A664 Manchester Road (N)	580	580
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	467	467
	D - Trub Road (Site Access)	66	66
07:45-08:00	A - A664 Manchester Road (N)	693	693
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	557	557
	D - Trub Road (Site Access)	79	79
08:00-08:15	A - A664 Manchester Road (N)	849	849
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	683	683
	D - Trub Road (Site Access)	97	97
08:15-08:30	A - A664 Manchester Road (N)	849	849
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	683	683
	D - Trub Road (Site Access)	97	97
08:30-08:45	A - A664 Manchester Road (N)	693	693
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	557	557
	D - Trub Road (Site Access)	79	79
08:45-09:00	A - A664 Manchester Road (N)	580	580
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	467	467
	D - Trub Road (Site Access)	66	66

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.02	9.57	0.0	A
A-BCD	0.13	4.24	0.3	A
A-B				
A-C				
D-AB	0.09	7.90	0.1	A
D-BC	0.18	14.42	0.2	B
C-ABD	0.03	4.48	0.0	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	478	0.013	8	0.0	7.635	A
A-BCD	57	907	0.063	56	0.1	4.237	A
A-B	0			0			
A-C	524			524			
D-AB	29	552	0.053	29	0.1	6.878	A
D-BC	37	380	0.098	37	0.1	10.474	B
C-ABD	14	818	0.017	14	0.0	4.478	A
C-D	19			19			
C-A	434			434			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	440	0.016	7	0.0	8.334	A
A-BCD	83	975	0.085	83	0.2	4.042	A
A-B	0			0			
A-C	610			610			
D-AB	35	530	0.065	35	0.1	7.289	A
D-BC	44	349	0.128	44	0.1	11.838	B
C-ABD	20	870	0.023	20	0.0	4.238	A
C-D	23			23			
C-A	515			515			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	385	0.023	9	0.0	9.566	A
A-BCD	135	1072	0.126	134	0.3	3.848	A
A-B	0			0			
A-C	714			714			
D-AB	42	499	0.085	42	0.1	7.889	A
D-BC	54	304	0.179	54	0.2	14.388	B
C-ABD	31	944	0.033	31	0.0	3.944	A
C-D	28			28			
C-A	624			624			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	385	0.023	9	0.0	9.570	A
A-BCD	135	1072	0.126	135	0.3	3.852	A
A-B	0			0			
A-C	714			714			
D-AB	42	499	0.085	42	0.1	7.898	A
D-BC	54	304	0.179	54	0.2	14.419	B
C-ABD	31	944	0.033	31	0.0	3.945	A
C-D	28			28			
C-A	624			624			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	439	0.016	7	0.0	8.342	A
A-BCD	83	975	0.085	84	0.2	4.047	A
A-B	0			0			
A-C	610			610			
D-AB	35	530	0.065	35	0.1	7.279	A
D-BC	44	349	0.128	45	0.1	11.871	B
C-ABD	20	870	0.023	20	0.0	4.239	A
C-D	23			23			
C-A	515			515			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	478	0.013	6	0.0	7.643	A
A-BCD	57	907	0.063	57	0.1	4.243	A
A-B	0			0			
A-C	523			523			
D-AB	29	552	0.053	29	0.1	6.893	A
D-BC	37	381	0.098	37	0.1	10.507	B
C-ABD	14	818	0.017	14	0.0	4.479	A
C-D	19			19			
C-A	434			434			

2026 Base + Dev, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.87	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)
D6	2026 Base + Dev	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	642	100.000
B - Car Dealership		✓	11	100.000
C - A664 Manchester Road (S)		✓	750	100.000
D - Trub Road (Site Access)		✓	49	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	600	42
	B - Car Dealership	5	0	6	0
	C - A664 Manchester Road (S)	703	5	0	42
	D - Trub Road (Site Access)	24	0	25	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A - A664 Manchester Road (N)	483	483
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	565	565
	D - Trub Road (Site Access)	37	37
16:30-16:45	A - A664 Manchester Road (N)	577	577
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	674	674
	D - Trub Road (Site Access)	44	44
16:45-17:00	A - A664 Manchester Road (N)	707	707
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	826	826
	D - Trub Road (Site Access)	54	54
17:00-17:15	A - A664 Manchester Road (N)	707	707
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	826	826
	D - Trub Road (Site Access)	54	54
17:15-17:30	A - A664 Manchester Road (N)	577	577
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	674	674
	D - Trub Road (Site Access)	44	44
17:30-17:45	A - A664 Manchester Road (N)	483	483
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	565	565
	D - Trub Road (Site Access)	37	37

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	8.21	0.0	A
A-BCD	0.17	4.64	0.5	A
A-B				
A-C				
D-AB	0.05	7.60	0.1	A
D-BC	0.10	13.90	0.1	B
C-ABD	0.02	4.04	0.0	A
C-D				
C-A				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	532	0.016	8	0.0	6.885	A
A-BCD	71	817	0.087	70	0.2	4.824	A
A-B	0			0			
A-C	413			413			
D-AB	18	557	0.032	18	0.0	6.690	A
D-BC	19	385	0.052	19	0.1	10.397	B
C-ABD	10	903	0.011	10	0.0	4.034	A
C-D	31			31			
C-A	523			523			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	498	0.020	10	0.0	7.374	A
A-BCD	100	888	0.116	100	0.3	4.698	A
A-B	0			0			
A-C	477			477			
D-AB	22	534	0.040	22	0.0	7.037	A
D-BC	22	332	0.068	22	0.1	11.629	B
C-ABD	15	971	0.015	15	0.0	3.788	A
C-D	37			37			
C-A	623			623			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	451	0.027	12	0.0	8.208	A
A-BCD	157	940	0.167	156	0.5	4.600	A
A-B	0			0			
A-C	550			550			
D-AB	28	501	0.053	28	0.1	7.598	A
D-BC	28	287	0.096	27	0.1	13.882	B
C-ABD	24	1069	0.022	24	0.0	3.448	A
C-D	45			45			
C-A	757			757			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	451	0.027	12	0.0	8.210	A
A-BCD	157	941	0.167	157	0.5	4.612	A
A-B	0			0			
A-C	550			550			
D-AB	28	501	0.053	28	0.1	7.600	A
D-BC	28	287	0.096	28	0.1	13.899	B
C-ABD	24	1069	0.022	24	0.0	3.448	A
C-D	45			45			
C-A	757			757			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	498	0.020	10	0.0	7.383	A
A-BCD	101	868	0.116	102	0.3	4.715	A
A-B	0			0			
A-C	476			476			
D-AB	22	533	0.040	22	0.0	7.044	A
D-BC	22	332	0.068	23	0.1	11.647	B
C-ABD	15	971	0.015	15	0.0	3.767	A
C-D	37			37			
C-A	622			622			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	531	0.016	8	0.0	6.889	A
A-BCD	71	818	0.087	72	0.2	4.839	A
A-B	0			0			
A-C	412			412			
D-AB	18	557	0.032	18	0.0	6.693	A
D-BC	19	365	0.052	19	0.1	10.413	B
C-ABD	10	903	0.011	10	0.0	4.035	A
C-D	31			31			
C-A	523			523			

2031 Base + Dev, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		1.13	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)
D7	2031 Base + Dev	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	817	100.000
B - Car Dealership		✓	8	100.000
C - A664 Manchester Road (S)		✓	656	100.000
D - Trub Road (Site Access)		✓	90	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	787	30
	B - Car Dealership	5	0	3	0
	C - A664 Manchester Road (S)	620	9	0	27
	D - Trub Road (Site Access)	38	1	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
From	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A - A664 Manchester Road (N)	615	615
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	494	494
	D - Trub Road (Site Access)	68	68
07:45-08:00	A - A664 Manchester Road (N)	734	734
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	590	590
	D - Trub Road (Site Access)	81	81
08:00-08:15	A - A664 Manchester Road (N)	900	900
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	722	722
	D - Trub Road (Site Access)	99	99
08:15-08:30	A - A664 Manchester Road (N)	900	900
	B - Car Dealership	9	9
	C - A664 Manchester Road (S)	722	722
	D - Trub Road (Site Access)	99	99
08:30-08:45	A - A664 Manchester Road (N)	734	734
	B - Car Dealership	7	7
	C - A664 Manchester Road (S)	590	590
	D - Trub Road (Site Access)	81	81
08:45-09:00	A - A664 Manchester Road (N)	615	615
	B - Car Dealership	6	6
	C - A664 Manchester Road (S)	494	494
	D - Trub Road (Site Access)	68	68

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.02	10.03	0.0	B
A-BCD	0.14	4.17	0.4	A
A-B				
A-C				
D-AB	0.09	8.11	0.1	A
D-BC	0.19	15.34	0.2	C
C-ABD	0.04	4.41	0.1	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	487	0.013	8	0.0	7.822	A
A-BCD	82	928	0.087	82	0.1	4.181	A
A-B	0			0			
A-C	553			553			
D-AB	29	544	0.053	29	0.1	6.993	A
D-BC	39	372	0.104	38	0.1	10.789	B
C-ABD	18	833	0.020	18	0.0	4.411	A
C-D	20			20			
C-A	458			458			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	426	0.017	7	0.0	8.608	A
A-BCD	92	1001	0.092	92	0.2	3.989	A
A-B	0			0			
A-C	642			642			
D-AB	35	520	0.067	35	0.1	7.417	A
D-BC	46	339	0.137	46	0.2	12.317	B
C-ABD	24	888	0.026	23	0.0	4.188	A
C-D	24			24			
C-A	543			543			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	388	0.024	9	0.0	10.028	B
A-BCD	154	1105	0.139	153	0.4	3.789	A
A-B	0			0			
A-C	745			745			
D-AB	42	487	0.087	42	0.1	8.102	A
D-BC	57	292	0.194	56	0.2	15.295	C
C-ABD	38	988	0.039	38	0.1	3.872	A
C-D	29			29			
C-A	656			656			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	388	0.024	9	0.0	10.034	B
A-BCD	154	1105	0.140	154	0.4	3.797	A
A-B	0			0			
A-C	745			745			
D-AB	42	487	0.087	42	0.1	8.112	A
D-BC	57	292	0.194	57	0.2	15.338	C
C-ABD	38	988	0.039	38	0.1	3.873	A
C-D	29			29			
C-A	656			656			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	425	0.017	7	0.0	8.618	A
A-BCD	93	1001	0.093	94	0.2	3.975	A
A-B	0			0			
A-C	642			642			
D-AB	35	520	0.067	35	0.1	7.429	A
D-BC	46	339	0.137	47	0.2	12.354	B
C-ABD	24	888	0.027	24	0.0	4.168	A
C-D	24			24			
C-A	543			543			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	466	0.013	6	0.0	7.831	A
A-BCD	63	928	0.068	63	0.1	4.169	A
A-B	0			0			
A-C	552			552			
D-AB	29	543	0.053	29	0.1	7.009	A
D-BC	39	373	0.104	39	0.1	10.807	B
C-ABD	16	833	0.020	16	0.0	4.412	A
C-D	20			20			
C-A	458			458			

2031 Base + Dev, 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	Manchester Road - Car Dealership - Trub Road	Crossroads	Two-way		0.89	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)
D8	2031 Base + Dev	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A664 Manchester Road (N)		✓	879	100.000
B - Car Dealership		✓	11	100.000
C - A664 Manchester Road (S)		✓	794	100.000
D - Trub Road (Site Access)		✓	50	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
	A - A664 Manchester Road (N)	0	0	836	43
	B - Car Dealership	5	0	8	0
	C - A664 Manchester Road (S)	748	5	0	43
	D - Trub Road (Site Access)	24	0	28	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - A664 Manchester Road (N)	B - Car Dealership	C - A664 Manchester Road (S)	D - Trub Road (Site Access)
	A - A664 Manchester Road (N)	0	0	0	0
	B - Car Dealership	0	0	0	0
	C - A664 Manchester Road (S)	0	0	0	0
	D - Trub Road (Site Access)	0	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A - A664 Manchester Road (N)	511	511
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	598	598
	D - Trub Road (Site Access)	38	38
16:30-16:45	A - A664 Manchester Road (N)	610	610
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	714	714
	D - Trub Road (Site Access)	45	45
16:45-17:00	A - A664 Manchester Road (N)	748	748
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	874	874
	D - Trub Road (Site Access)	55	55
17:00-17:15	A - A664 Manchester Road (N)	748	748
	B - Car Dealership	12	12
	C - A664 Manchester Road (S)	874	874
	D - Trub Road (Site Access)	55	55
17:15-17:30	A - A664 Manchester Road (N)	610	610
	B - Car Dealership	10	10
	C - A664 Manchester Road (S)	714	714
	D - Trub Road (Site Access)	45	45
17:30-17:45	A - A664 Manchester Road (N)	511	511
	B - Car Dealership	8	8
	C - A664 Manchester Road (S)	598	598
	D - Trub Road (Site Access)	38	38

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	8.51	0.0	A
A-BCD	0.18	4.78	0.8	A
A-B				
A-C				
D-AB	0.05	7.81	0.1	A
D-BC	0.10	14.70	0.1	B
C-ABD	0.02	3.95	0.0	A
C-D				
C-A				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	522	0.016	8	0.0	7.015	A
A-BCD	76	832	0.092	75	0.2	4.760	A
A-B	0			0			
A-C	435			435			
D-AB	18	548	0.033	18	0.0	6.800	A
D-BC	20	357	0.055	19	0.1	10.672	B
C-ABD	11	924	0.011	10	0.0	3.946	A
C-D	32			32			
C-A	555			555			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	487	0.020	10	0.0	7.559	A
A-BCD	109	887	0.123	109	0.3	4.637	A
A-B	0			0			
A-C	501			501			
D-AB	22	523	0.041	22	0.0	7.189	A
D-BC	23	322	0.073	23	0.1	12.062	B
C-ABD	16	996	0.016	16	0.0	3.673	A
C-D	38			38			
C-A	660			660			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	436	0.028	12	0.0	8.502	A
A-BCD	174	965	0.180	173	0.6	4.557	A
A-B	0			0			
A-C	574			574			
D-AB	26	488	0.054	26	0.1	7.806	A
D-BC	29	274	0.105	28	0.1	14.680	B
C-ABD	26	1101	0.024	26	0.0	3.351	A
C-D	46			46			
C-A	802			802			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	12	436	0.028	12	0.0	8.507	A
A-BCD	175	966	0.181	175	0.6	4.571	A
A-B	0			0			
A-C	573			573			
D-AB	26	488	0.054	26	0.1	7.812	A
D-BC	29	274	0.105	29	0.1	14.702	B
C-ABD	26	1101	0.024	26	0.0	3.354	A
C-D	46			46			
C-A	802			802			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	486	0.020	10	0.0	7.566	A
A-BCD	110	888	0.124	111	0.3	4.854	A
A-B	0			0			
A-C	500			500			
D-AB	22	522	0.041	22	0.0	7.197	A
D-BC	23	322	0.073	24	0.1	12.080	B
C-ABD	16	996	0.016	16	0.0	3.676	A
C-D	38			38			
C-A	660			660			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	522	0.016	8	0.0	7.020	A
A-BCD	77	833	0.092	77	0.2	4.776	A
A-B	0			0			
A-C	434			434			
D-AB	18	547	0.033	18	0.0	6.811	A
D-BC	20	357	0.055	20	0.1	10.691	B
C-ABD	11	924	0.011	11	0.0	3.947	A
C-D	32			32			
C-A	555			555			

APPENDIX 3

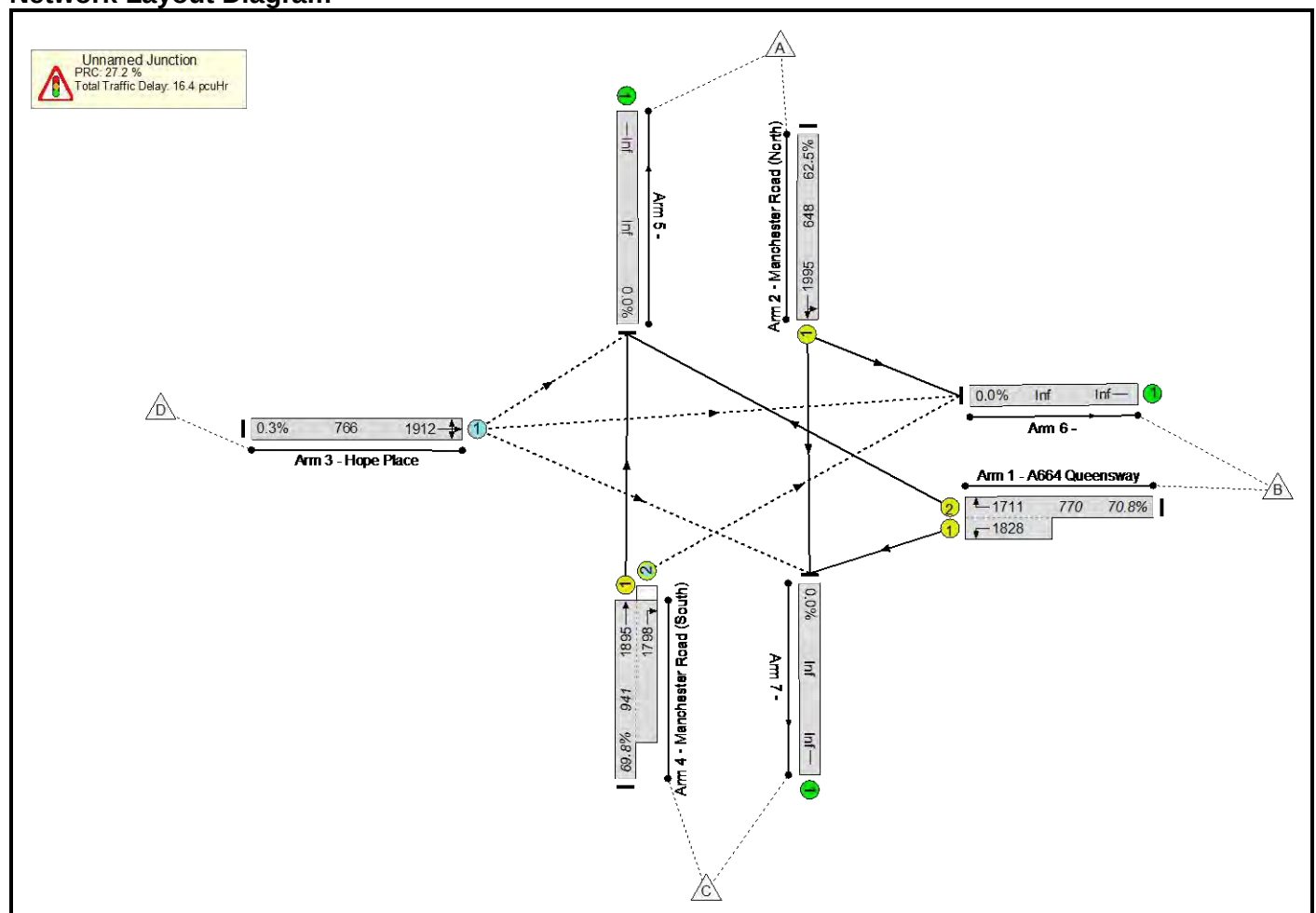
LINSIG Output

Basic Results Summary
Basic Results Summary

User and Project Details

Project:	Trub Road, Rochdale
Title:	
Location:	
Additional detail:	
File name:	Manchester Road - Hope Place - A664 Queensway.lsg3x
Author:	
Company:	
Address:	

Scenario 1: '2026 Base Flows - AM Peak' (FG1: '2026 Base Flows - AM Peak', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



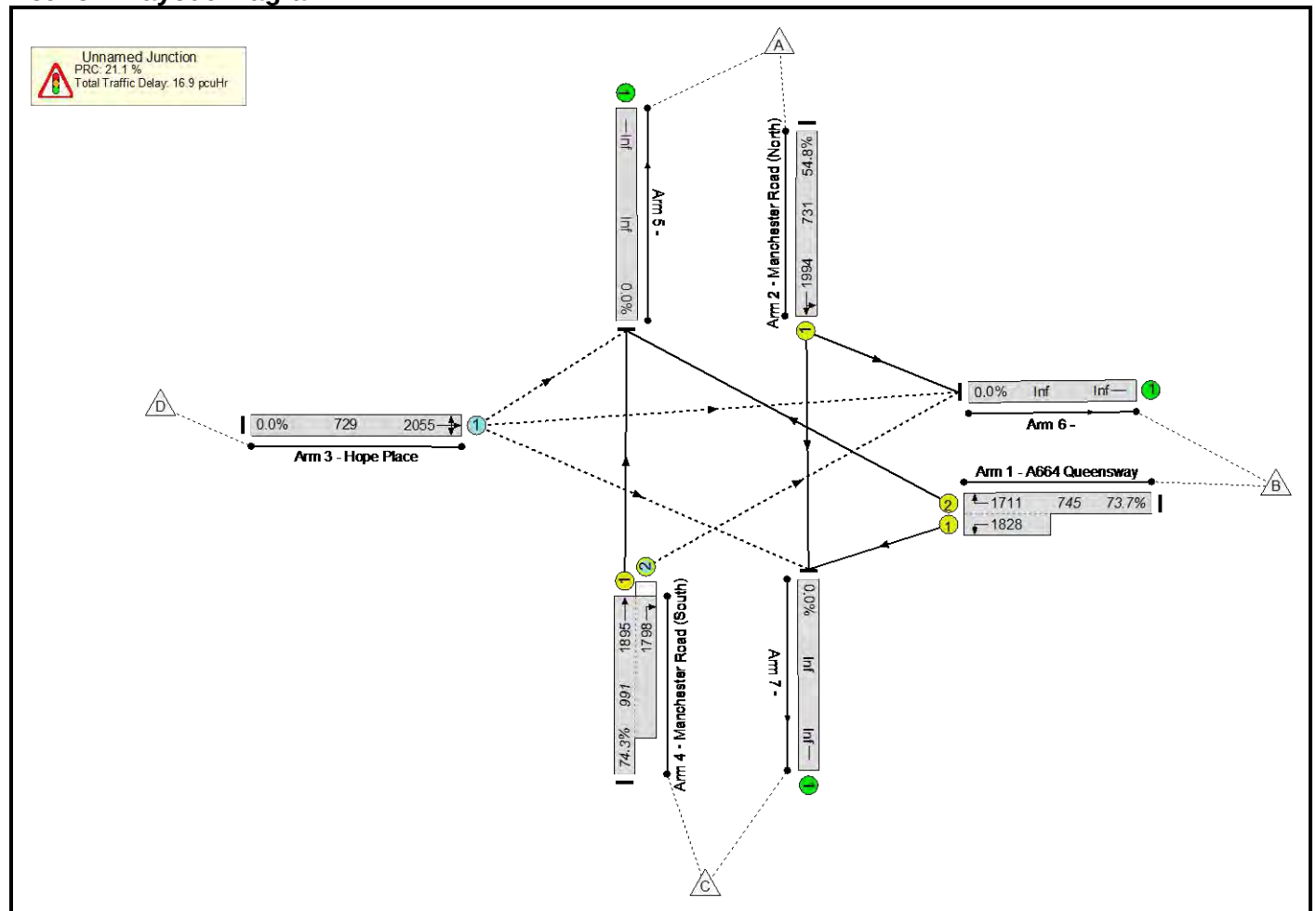
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	70.8%	93	165	0	16.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	70.8%	93	165	0	16.4	-	-
1/2+1/1	A664 Queensway Right Left	U	C D		1	39:42	-	545	1711:1828	770	70.8%	-	-	-	5.9	38.7	11.7
2/1	Manchester Road (North) Left Ahead	U	B		1	38	-	405	1995	648	62.5%	-	-	-	4.7	41.7	12.2
3/1	Hope Place Left Ahead Right	O	-		-	-	-	2	1912	766	0.3%	2	0	0	0.0	7.8	0.0
4/1+4/2	Manchester Road (South) Ahead Right	U+O	A	E	1	50	9	657	1895:1798	941	69.8%	91	165	0	5.9	32.1	10.8
C1 PRC for Signalled Lanes (%): 27.2 PRC Over All Lanes (%): 27.2 Total Delay for Signalled Lanes (pcuHr): 16.40 Total Delay Over All Lanes(pcuHr): 16.41 Cycle Time (s): 120																	

Basic Results Summary

Scenario 2: '2026 Base Flows - PM Peak' (FG2: '2026 Base Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

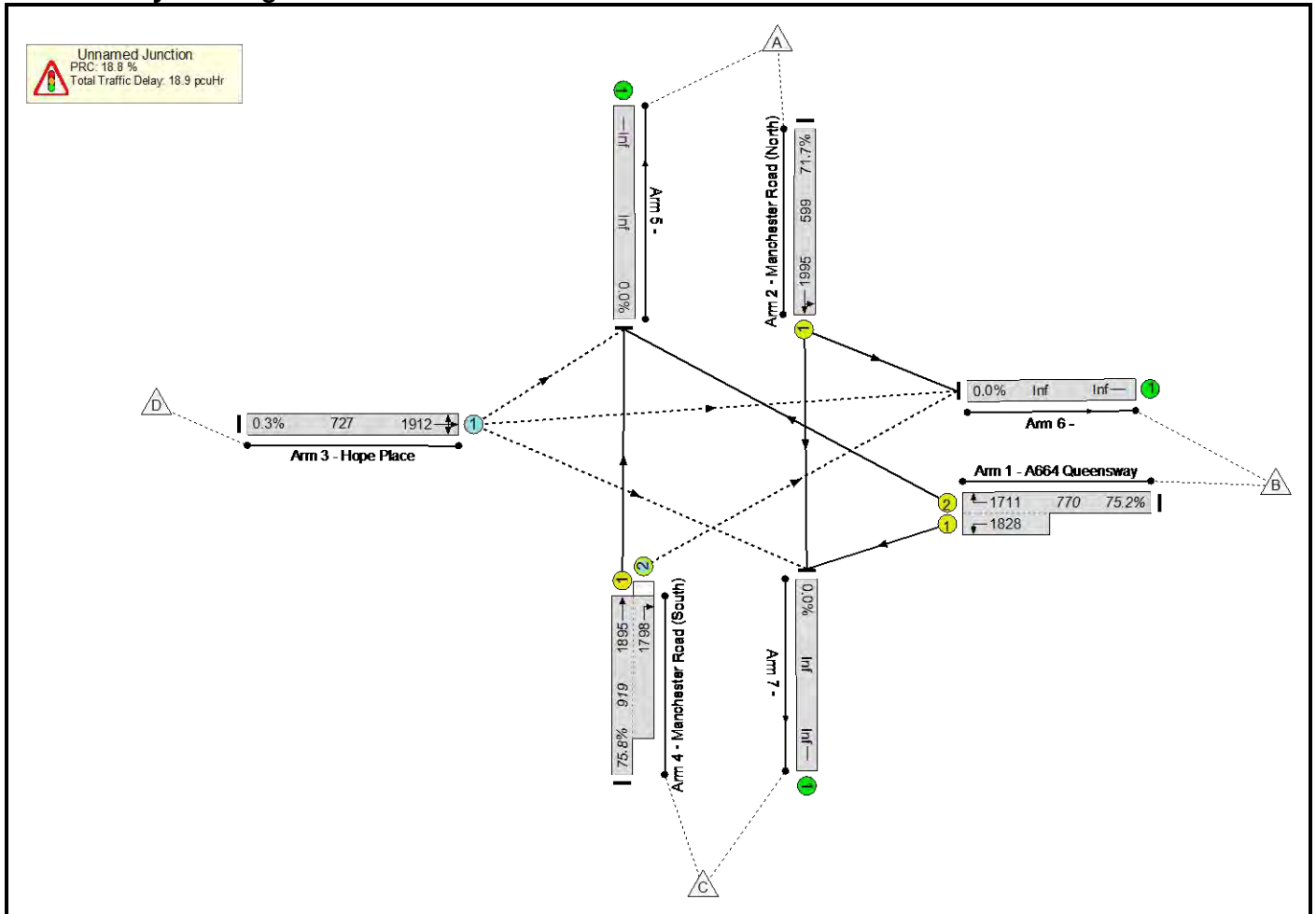


Network Results

Basic Results Summary

Scenario 3: '2031 Base Flows - AM Peak' (FG3: '2031 Base Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

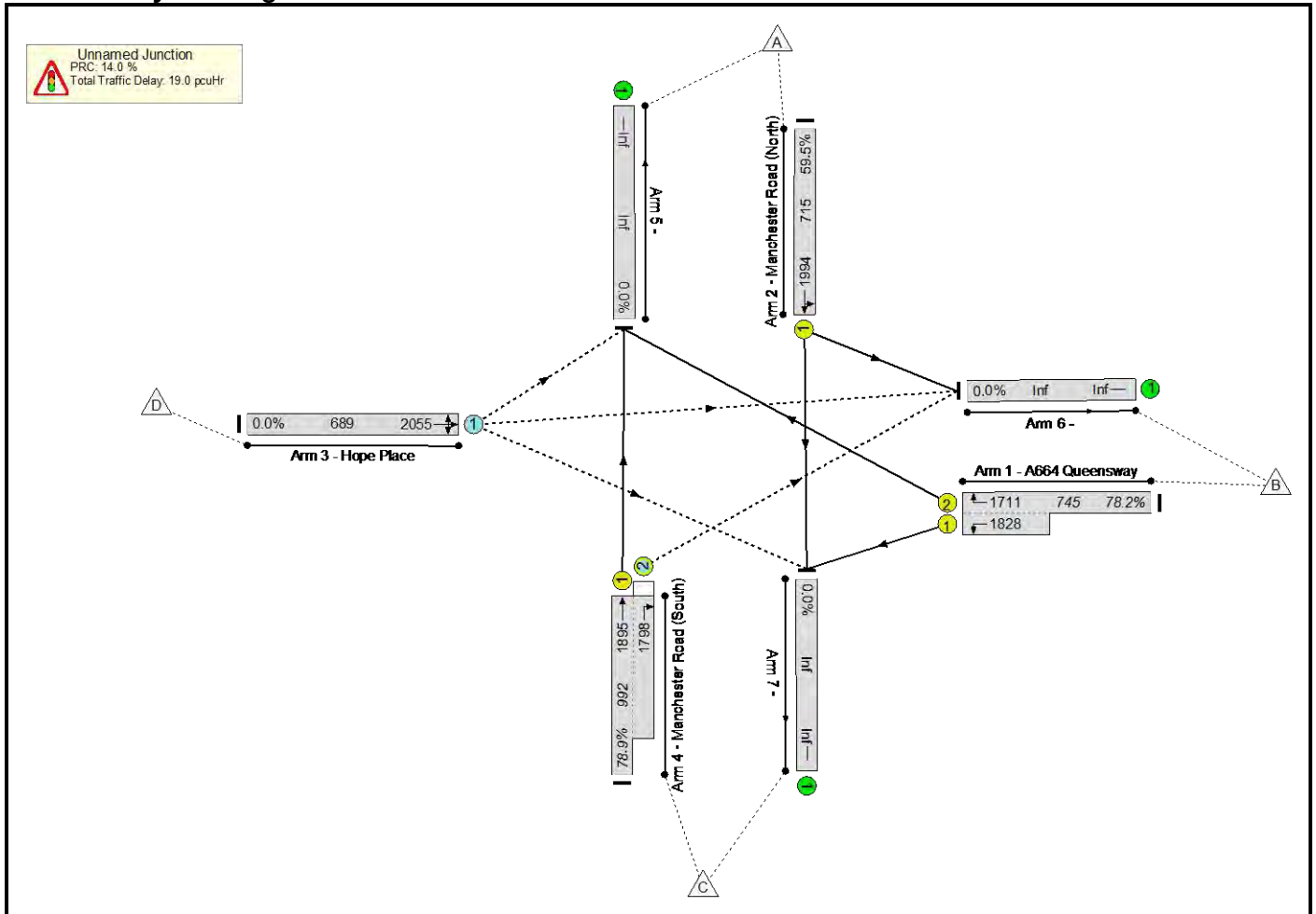


Network Results

Basic Results Summary

Scenario 4: '2031 Base Flows - PM Peak' (FG4: '2031 Base Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

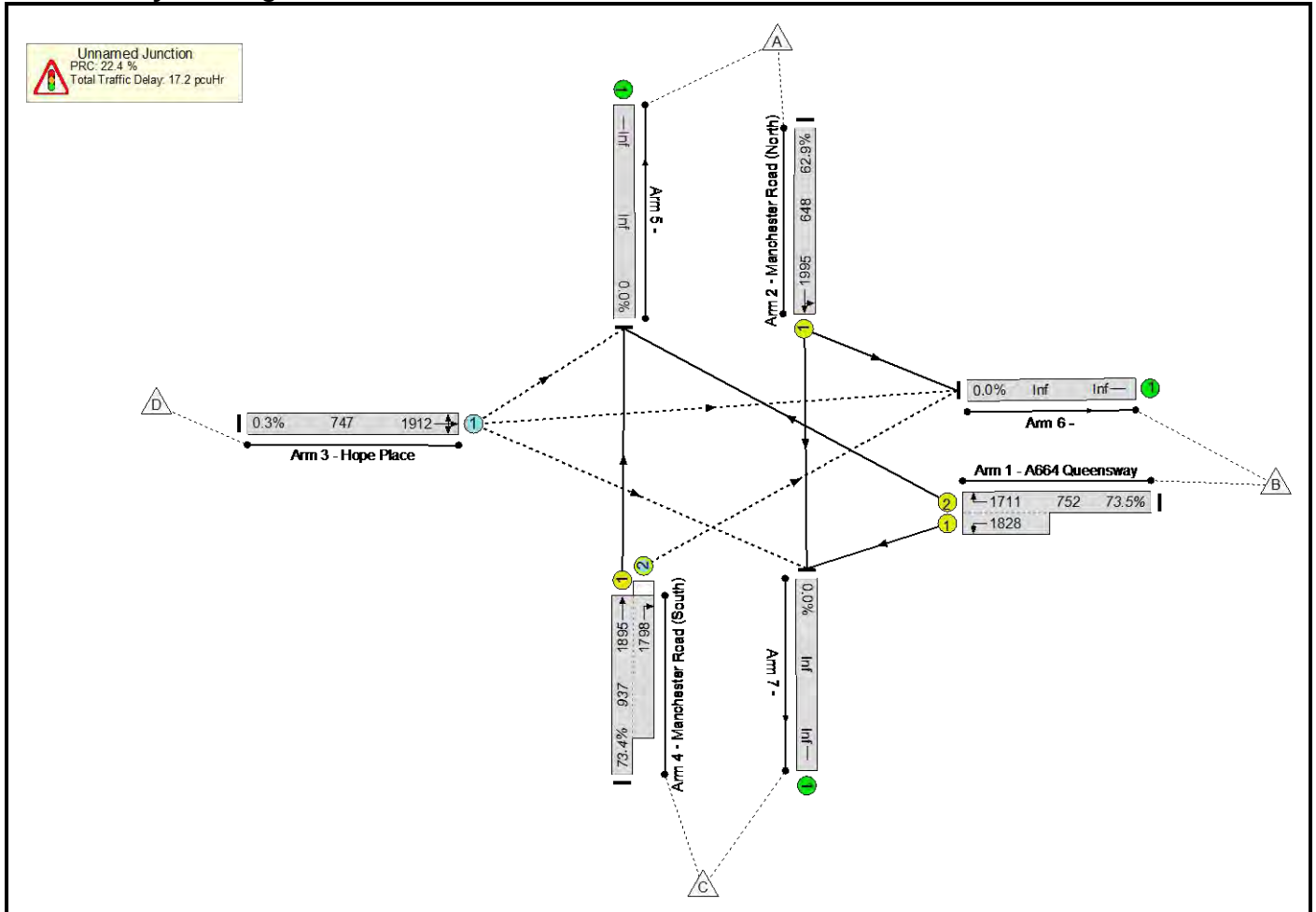


Network Results

Basic Results Summary

Scenario 5: '2026 Base + Dev Flows - AM Peak' (FG5: '2026 Base + Dev Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

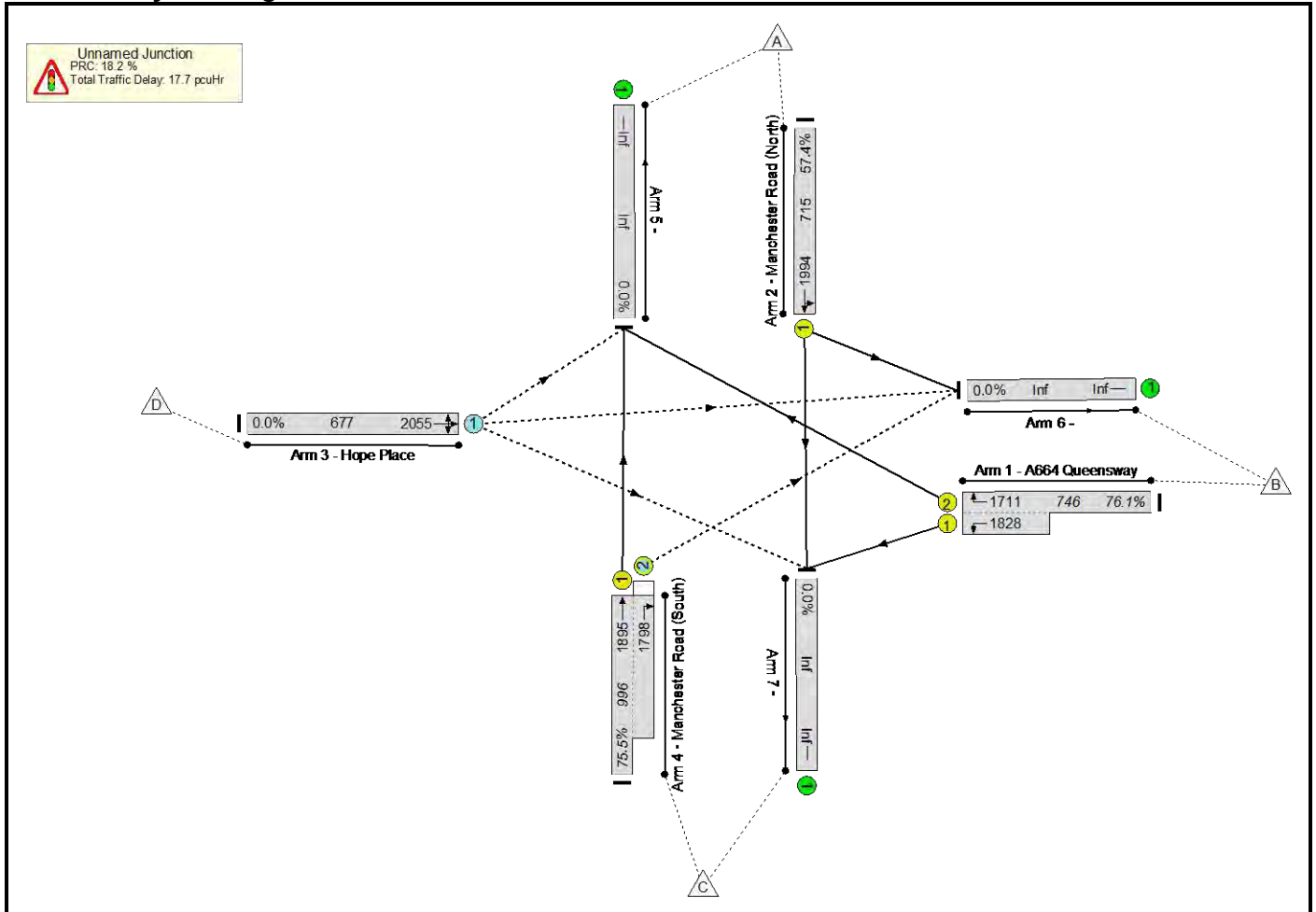


Network Results

Basic Results Summary

Scenario 6: '2026 Base + Dev Flows - PM Peak' (FG6: '2026 Base + Dev Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

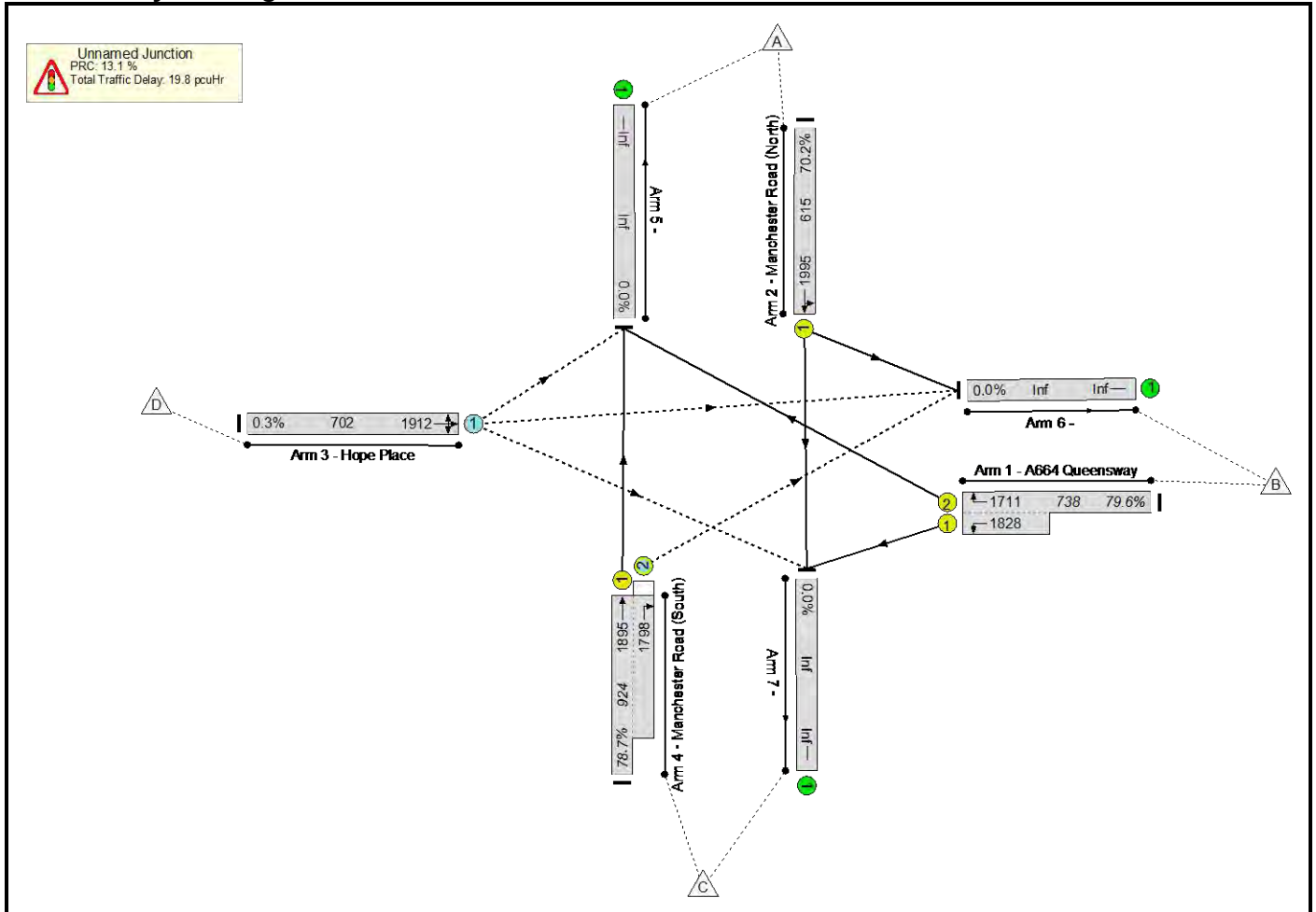


Network Results

Basic Results Summary

Scenario 7: '2031 Base + Dev Flows - AM Peak' (FG7: '2031 Base + Dev Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

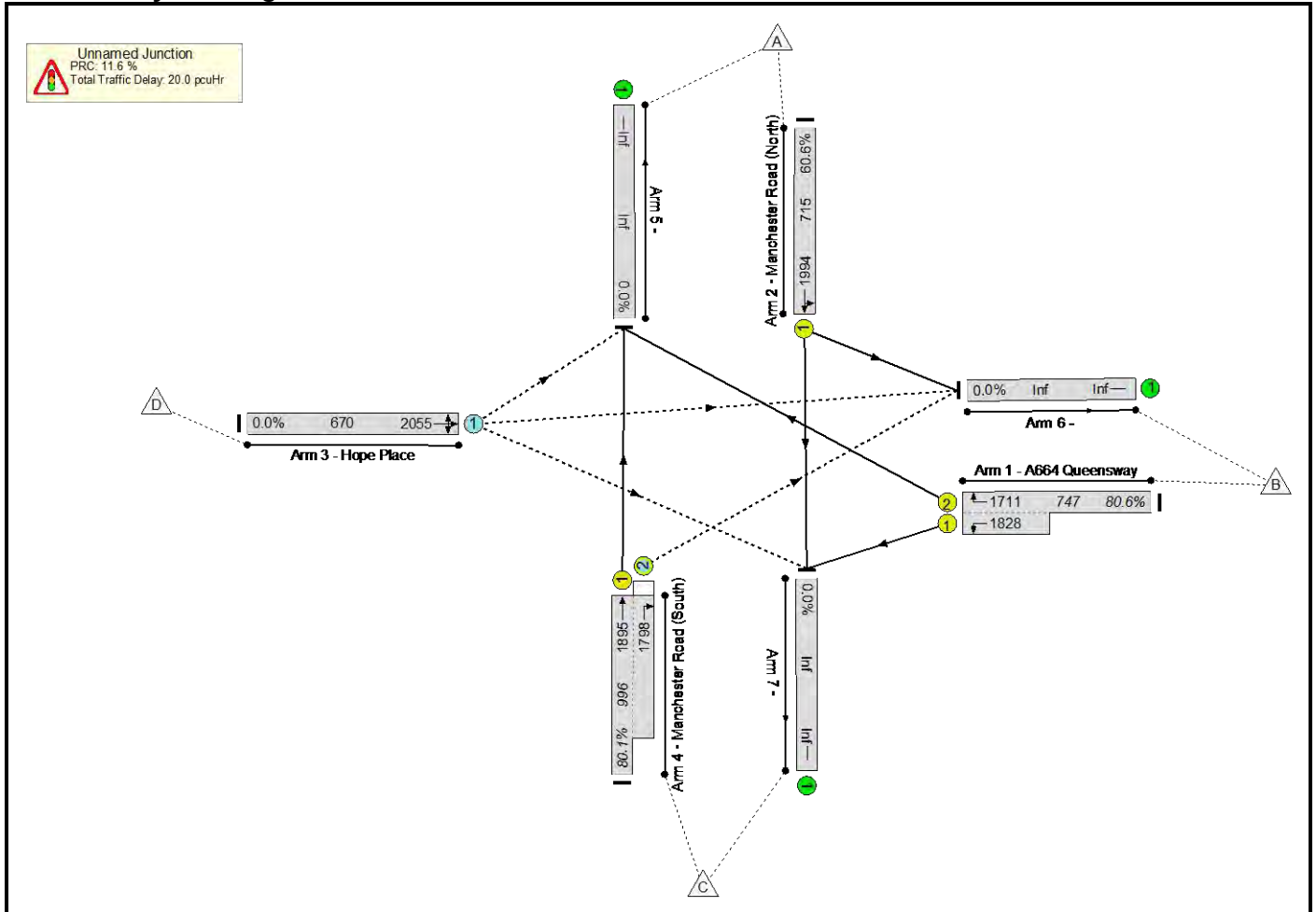


Network Results

Basic Results Summary

Scenario 8: '2031 Base + Dev Flows - PM Peak' (FG8: '2031 Base + Dev Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

APPENDIX 4

Framework Travel Plan

Proposed Residential Development
Trub Road, Rochdale

September 2024

TRAVEL PLAN FRAMEWORK

REPORT

DOCUMENT:	Travel Plan Framework
PROJECT:	Proposed Residential Development, Trub Road, Rochdale
CLIENT:	MCI Developments
JOB NUMBER:	4337
FILE ORIGIN:	Z:\projects\4337 Trub Road, Rochdale\Docs\Reports\4337TP.01.docx

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PLANS (See TA)

1 INTRODUCTION

1.1 Preamble

1.1.1 Eddisons have been instructed by MCI Developments to produce a Framework Travel Plan to assist the Local Planning Authority's determination of a planning application for a residential development at Trub Road in Rochdale.

1.1.2 This document will set out the principal strategies that will be put in place once residents are occupying the dwellings, to encourage sustainable travel to and from the development.

1.1.3 The document will evolve into a formally agreed Full Travel Plan following the occupation of the development.

1.1.4 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) issued a guide on the preparation of such travel plans in April 2009 in a document entitled 'Good Practice Guidelines: Delivering Travel Plans through the Planning Process.

1.2 Site Location

1.2.1 The development site is located in the Castleton area of Rochdale approximately 1,000metres south of Castleton railway station. The location of the site is shown on **Plan 1**.

1.2.2 To the south, the site is bound by the M62 whilst to the west the site is bound by the Manchester to Leeds railway line, between Mills Hill and Castleton railway stations. To the north, the site is bounded by an area of undeveloped land and to the east the site is bound by the Rochdale Canal and St. Martins View residential development, accessed via Montrose Street off Trub Road and the A664 Manchester Road.

1.3 Development Proposals

1.3.1 The proposals refer to the construction of 162 residential dwellings.

1.3.2 The aims of Travel Plan are 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.

1.3.3 This document provides an overarching strategy for the site, outlining targets and initiatives which will be undertaken to encourage travel by more sustainable modes. The Travel Plan will target residents travel to ensure that a fully encompassing travel plan is developed.

1.3.4 This document provides a framework for the preparation of a Full Travel Plan, which is anticipated to be submitted to the local authority within approximately 3-months of the initial resident's travel survey.

1.3.5 The Full Travel Plan will demonstrate the strategy that the developer is taking to assist the wider aims of sustainable transport and should include the following as a minimum:

- Contact details of a Travel Plan Co-ordinator;
- Results from the resident's travel survey;
- Details of cycling, pedestrian and public transport links to and through the site;
- Objectives to achieve;
- SMART targets for non-car modes of travel, considering the baseline data from the survey;
- Action Plan of measures to be introduced and appropriate funding; and
- Details of arrangements for monitoring and review of the Travel Plan.

1.3.6 A Travel Plan is effectively a combination of information, proposals and incentives designed to use most effectively the different means of travel available to residents.

1.3.7 This document will set out the principal strategies of the Travel Plan which will evolve into a formally agreed document once the development is open, and the residents are occupying dwellings.

1.4 Residents Travel (Welcome) Pack

1.4.1 The principal Travel Plan measure will consist of a Residents Travel Pack containing relevant material to promote non-car modes of travel. This will be discussed further in Section 4 of this Plan.

2 TRAVEL PLAN ADMINISTRATION

2.1 Introduction

2.1.1 The administration of the Travel Plan will be the responsibility of the Travel Plan Co-ordinator (TPC) who will be appointed prior to the occupation of the first dwelling.

2.2 Role of Travel Plan Co-ordinator

2.2.1 Essentially the co-ordinator will provide a liaison in implementing the plan with the residents and the local authority.

2.2.2 The TPC will be the first point of contact for residents and other outside organisations in all matters regarding travel. The post of the TPC will continue for a period of 5-years from the first occupation of the development.

2.2.3 The role of the Travel Plan Co-ordinator will also be to develop and manage the Travel Plan for the site.

2.2.4 It is envisaged that the TPC's roles will include;

- A point of contact for any travel-related queries.
- Travel awareness amongst residents.
- Creating a travel database with information of the resident's travel patterns.
- The availability of the most up to date travel information.
- That all residents receive a Welcome Pack, which will contain details of public transport services i.e., timetables and route information as well as advice on walking and cycle routes to the site.
- Administration of the Travel Plan and provide a liaison in implementing the plan with the local authority.
- Promoting the car sharing scheme and other travel plan initiatives.

- Providing their details to the local planning authority and the appropriate local bus companies.

2.2.5 The TPC will become responsible for the travel plan once it has been formally agreed by the local authority and will be the key decision maker on day-to-day matters relating to implementation of the travel plan. Any changes in the personnel of the TPC must be provided to the local authority.

2.2.6 The duties will also include monitoring, reviewing targets and forming action plans to remedy areas where the Travel Plan is not performing.

2.2.7 Annual progress reports will be prepared and submitted to the local authority until the full occupation of the site.

3 ACCESSIBILITY BY NON-CAR MODES

3.1 Introduction

3.1.1 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.

3.1.2 The presumption in favour of sustainable development is a central theme running through the framework and transport planning policies are seen as a key element of delivering sustainable development as well as contributing to wider sustainability and health objectives. To achieve these objectives, paragraph 30 states that when making decisions, local authorities should:

‘Support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.’

3.1.3 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.

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

- access on foot;
- access by cycle;
- access by bus; and
- access by rail.

3.2 Access on Foot

3.2.1 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.

- 3.2.2** 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.
- 3.2.3** As previously discussed, it is proposed to provide a footway within the site to connect with the existing pedestrian footways of around 2-metres in width, located at the western end of Trub Road, providing direct pedestrian access to the rest of Castleton. Along with a 2-metre-wide footway provided along the southern side and a 0.5-metre-wide strip along the northern side of the carriageway across the canal bridge.
- 3.2.4** To the north of the site and as part of the development, a set of steps have been proposed to connect the site with the canal towpath located on the western side of Rochdale Canal. This towpath runs in a northern direction and connects the site to the centre of Rochdale.
- 3.2.5** The DFT National Travel Survey of 2018 confirms that 80% of all trips less than a mile (1.6km) are carried out on foot.
- 3.2.6** 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 3.1**.

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

Table 3.1 IHT 'Providing for Journeys on Foot' Walk Distances

- 3.2.7** The Government introduced advice on walking distances in the 2001 revision to Planning Policy Guidance (PPG) 13 Transport, now withdrawn, which advised that *'Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly those under two kilometres.'*

3.2.8 Manual for Streets (MfS) continues the theme of the acceptability of the 2,000 metre distance in paragraph 4.4.1.

3.2.9 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’.

3.2.10 **Table 3.2** below summarises this guidance in tabular form.

‘Comfortable’ Walk	‘Preferred Maximum’ Walk
800m	2,000m

Table 3.2 Manual for Streets Walk Distances

3.2.11 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 85th percentile walk distances:

- All journey purposes – 1,930 metres;
- Commuting – 2,400 metres;
- Shopping – 1,600 metres;
- Personal business – 1,600 metres.

3.2.12 Overall, in Table 5.1, the document states that 1,950 square metres is the 85th percentile distance for walking as the main mode of travel. **Table 3.3** below summarises the various 85th percentile walk distances suggested as guidelines in the WYG Study.

85 th Percentile Walk Distances				Overall Recommended Preferred Max
All Journeys	Commuting	Shopping	Personal	
1,950m	2,100m	1,600m	1,600m	1,950m

Table 3.3 WYG Report/NTS Data Walk Distances

- 3.2.13** In summary, the distance of 1,950 metres, or around 2 kilometres, represents an acceptable maximum walking distance for the majority of land uses.
- 3.2.14** 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.’*
- 3.2.15** A 20-minute walk equates to a walking distance of around 1,600 metres.
- 3.2.16** In light of the above, a pedestrian catchment of 2 kilometres from the centre of the site, using all available pedestrian routes, has been provided in **Plan 7**.
- 3.2.17** The 2,000-metre pedestrian catchment illustrates that the majority of Halton can be accessed, such as the Golden Wok Chinese Takeaway, St. Gabriel’s R.C Primary School, Halton Pharmacy, Zeera Indian Restaurant, Well Castleton (Pharmacy), Local Convenience Store, Castleton Post Office, Castleton Health and Leisure CIC, Smallworld Nurseries and Hopwood Hall College.
- 3.2.18** In a recent 2023 YouGov poll, respondents were asked to identify the local amenities they valued the most within a 15 minute walk of their home. The poll results highlight amenities that people consider essential for their day to day lives, such as, grocery stores, healthcare facilities and public transportation. The results of the YouGov Poll are displayed in **Figure 3.1** below:

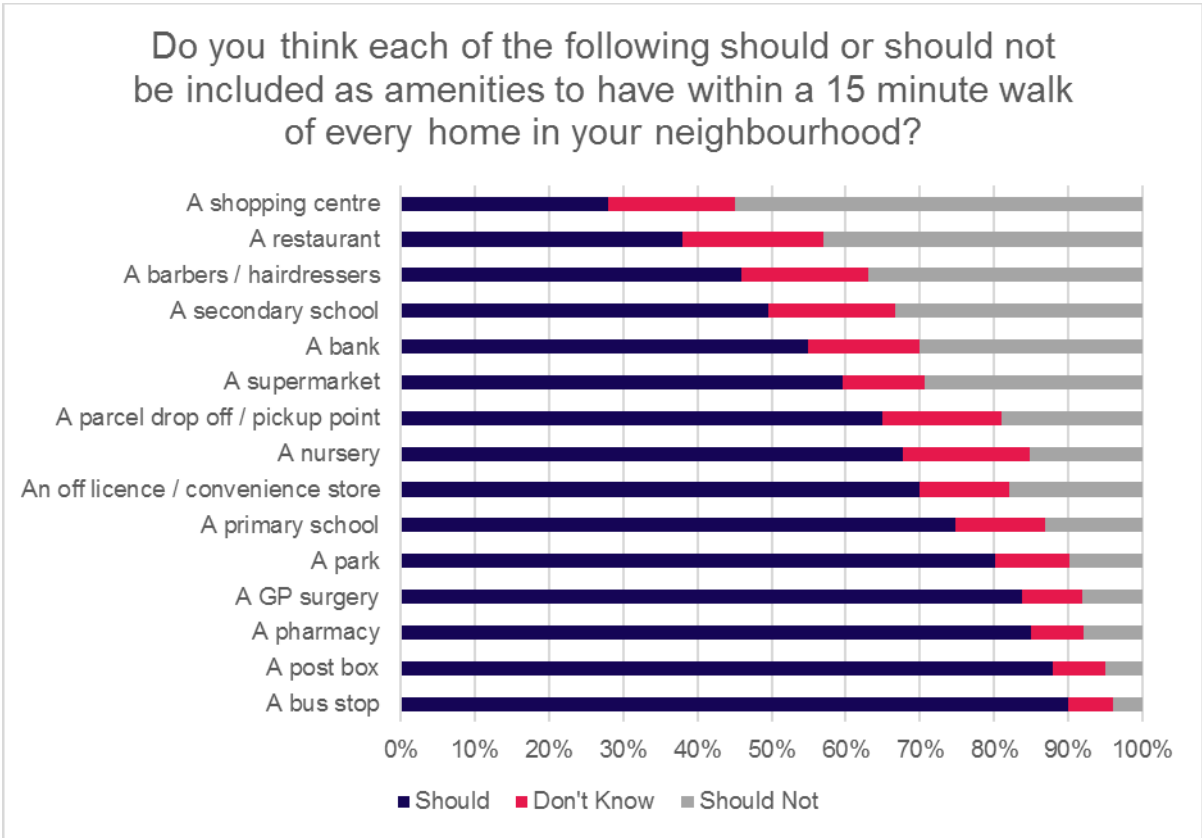


Figure 3.1 YouGov Poll Results (Source YouGov)

- 3.2.19 Figure 3.1 shows that the majority of respondents, approximately nine in ten, believe that having a bus stop (90%) and a post box (87%) within a short walk of their home is most important. Similarly, a significant proportion of Britons think that medical facilities like a pharmacy (85%) and a GP surgery (83%) should be easily accessible. Less than half of the respondents see the need for a shopping centre (28%), restaurant (38%), or hairdressers (46%) to be located nearby.
- 3.2.20 Plan 7 provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site. The plan also displays nearby local amenities, as per those identified within the findings of the YouGov poll.
- 3.2.21 **Table 3.4** below, shows the walking distance from the access point 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?
Golden Wok Chinese Takeaway	400m	1,950m	YES
St. Gabriel's R.C. Primary School	500m	1,950m	YES
Halton Pharmacy	615m	1,950m	YES
Elm street Pre-School	700m	2,000m	YES
Well Castleton (Pharmacy)	750m	1,950m	YES
Local Convenience Store	750m	1,950m	YES
Park	850m	1,950m	YES
Castleton Post Office	1,000m	1,950m	YES
Holyrood Nursery Castleton	1,100m	1,950m	YES
Castleton Health and Leisure CIC	1,400m	1,950m	YES
Smallworld Nurseries	1,400m	1,950m	YES

Table 3.4 Distance from Site to Local Facilities

3.2.22 Based on the review, it is considered that the existing pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and numerous local services and amenities.

3.3 Access by Cycle

3.3.1 An alternative mode of travel to the site could be achieved by bicycle.

3.3.2 Clearly, the new advice contained within the Highway Code, which was updated on 29th January 2022, will improve the safety of vulnerable road users including cyclists, pedestrians, and horse-riders.

- 3.3.3** Most of the new advice relates to where cyclists should position themselves within the lane in various traffic conditions and motorists being required to give cyclists priority in slow moving traffic and locations where there is insufficient room for vehicles to overtake cyclists safely, allowing 1.5-metres for cyclists when overtaking them.
- 3.3.4** The Cycling England document 'Integrating Cycling Into Development Proposals' advises that *'For short trips, [cycle links] can give cyclists significant advantages over car users in terms of convenience and journey time... Most cycle journeys for non-work purposes and those to rail stations are between 0.5 and 2 miles, but many cyclists are willing to cycle much further. For work, a distance of 5 miles should be assumed.'*
- 3.3.5** A distance of 8-kilometres (5-miles) is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 40-minutes based on a leisurely cycle speed of 12-kph and would encompass the whole of Castleton, Heywood, Heywood Distribution Park, Broadfield Industrial Park, Rochdale, Milnrow, Chadderton Fold and Middleton.
- 3.3.6** **Figure 3.2** illustrates the Local Cycle Network in the vicinity of the site.

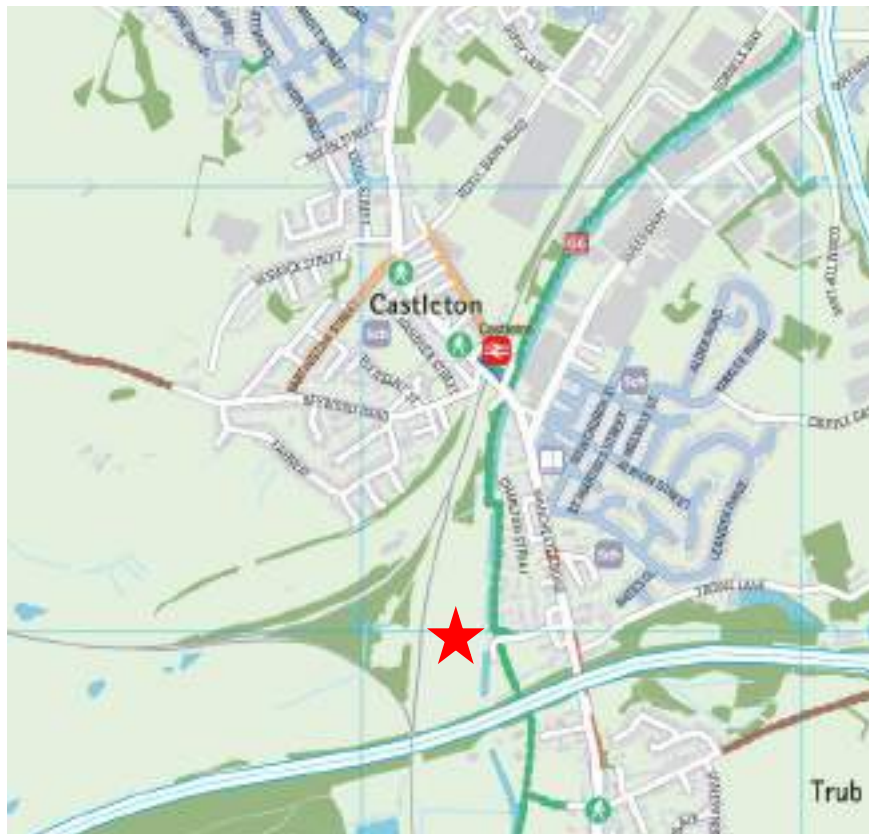


Figure 3.2 – Local Cycle Network

3.3.7 It can be seen in Figure 3.2 that National Cycle Network (NCN) Route 66 passes along the eastern side of the Rochdale canal towpath, along the eastern boundary of the site, running from Manchester city centre to Spurn Head in Yorkshire via Bradford, Leeds, York, Beverley, and Kingston upon Hull.

3.3.8 Furthermore, a section of 'On-road advisory route' passes along Trub Road to connect with sections of on-road cycle routes along the A664 Manchester Road.

3.3.9 The site can, therefore, be considered as being accessible by cycle.

3.4 Access by Bus

3.4.1 An effective public transport system is essential in providing good accessibility for large parts of the population to opportunities for work, education, shopping, leisure, and healthcare in the town and beyond.

3.4.2 The nearest bus stops to the site are located along the A664 Manchester Road approximately 400-metres (around 5-minutes walking time).

3.4.3 These stops consist of a bus stop flag with passing service and timetable information and a steel and glass shelter with seating. All the nearest bus stops to the site are shown on Plan 7.

3.4.4 A summary of the services available from the nearest bus stops from the development site is provided in **Table 3.5** below.

Service No	Route	Monday - Friday			Saturday			Sun
		Pre 08:00	08:00-17:00	Post 17:00	Pre 08:00	08:00-17:00	Post 17:00	
17	Rochdale-Manchester Shudenhill	Every 10 mins	Every 10 mins	Every 15 mins	Every 20 mins	Every 10 mins	Every 15 mins	Every 15 mins
17A	Rochdale-Manchester	1 service	-	-	-	-	-	-
434	Rochdale-Middleton	3 services	Every 60 mins	4 service	2 service	Every 60 mins	3 service	Every 60 mins
881	Chesham Avenue- Oulder Hill Leadership Academy	1 service	1 service	-	-	-	-	-

Table 3.5 – Existing Bus Services Operating in the Vicinity of the Site

3.4.5 In order to demonstrate the level of accessibility some example journey times by bus are presented in **Table 3.6** below.

Destination	Duration
Castleton	2 minutes
Sudden	7 minutes
Highfield Hospital	9 minutes
Rochdale Interchange	16 minutes
Middleton Bus Station	17 minutes
Higher Blackley	25 minutes
Blackley	28 minutes
Manchester Shudehill Interchange	42 minutes

Table 3.6 Example Bus Journey Times from the Site

3.4.6 The above table demonstrates that Castleton is a 2-minute journey, Rochdale is a 16-minute bus journey, Middleton a 17-minute bus journey and Manchester city centre is a 42-minute bus journey from the site. Direct bus services also connect the site with Highfield Hospital (9-minute bus journey).

3.4.7 It is noted that the available bus services provide a choice of how people travel with the services operating from around 04:57 to around 00:17, making travel by public transport a real alternative to travelling by car for all journey purposes and commuting trips, in particular.

3.4.8 It is therefore concluded that the proposed development site is accessible by bus.

3.5 Access by Rail

3.5.1 The nearest railway station to the site is Castleton, which is currently situated approximately 1,000-metres away from the centre of the site. However, due to the proposed connection to the towpath via the development, residents can access Castleton railway station in around 350 metres which equates to a 5-minute walk.

3.5.2 The station comprises of two platforms and is managed by Northern, providing a half-hourly service in each direction between Rochdale and Manchester Victoria, with services continuing via Salford Central to Bolton, Darwen and Blackburn, with alternate trains continuing onwards to Clitheroe.

3.5.3 On Sundays, there are hourly services between Manchester Victoria and Blackburn via Rochdale, Todmorden, Burnley and Accrington. Southbound trains continue beyond Manchester Victoria to Wigan Wallgate and Southport via Atherton.

3.5.4 This provides opportunities for commuting/leisure opportunities from the site via rail as part of a multi-modal journey.

3.6 Accessibility Summary

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

3.6.2 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, with several cycle routes being located within close proximity of the site;
- The services from the bus stops on Manchester Road travelling to destinations such as Rochdale, Middleton and Manchester Shudehill, shows that the proposed development can be considered as highly accessible by bus;
- The site is accessible via rail with Castleton station located approximately 1,000-metres to the north of the site.

3.6.3 In light of the above, it is considered that the site is highly accessible by means of public transport and caters for needs of the development's residents and visitors.

- 3.6.4 As such, this will assist in promoting a choice of travel modes other than the private car, as set out in NPPF. It is also well located in relation to its proximity to a range of local services and amenities, together with education facilities and employment opportunities.

4 MANAGEMENT MEASURES

4.1 Introduction

4.1.1 This section of the Travel Plan describes the measures which will be delivered through the plan:

4.2 Management Measures

- i) Travel Plan Co-ordinator;
- ii) Resident's Travel Survey;
- iii) Resident's Travel Pack;
- iv) Travel awareness and information;
- v) Promotion of Lift Share Scheme;
- vi) Encouraging Walking/Cycling; and
- vii) Establish a Bike Users Club (BUC).

4.2.2 As far as possible, the obligations outlined below are designed to be suitable for review and monitoring. The list, however, is not exhaustive and the Travel Plan Co-ordinator will be free to investigate other potential initiatives.

Travel Plan Co-ordinator

4.2.3 As previously detailed, a TPC will be appointed to manage the day to day running of the Travel Plan and organise residents travel surveys, as set out in Section 2.

4.2.4 It is anticipated that Eddisons will initially act as the TPC for the development. Any changes to the name and contact details of the TPC will be provided to the Travel Plan Officer at the local authority.

4.2.5 The TPC will be responsible for all aspects of the Travel Plan. His or her primary functions will be as follows;

- Liaison with local 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; and
- Maintenance of all necessary systems, data and paperwork.

4.2.6 The TPC will be responsible for the creation of a Travel Plan Steering Group which will include local residents, the local authority and other interested stakeholders. The Steering Group will discuss methods to raise awareness of the plan and also contribute towards local sustainability through the implementation of travel plan measures and initiatives.

Residents Travel Survey

4.2.7 In order to establish the travel modes of residents (once the dwellings are occupied) a Residents Travel Survey will be undertaken.

4.2.8 The survey will be provided to all the residents as part of their 'Welcome Pack' when they purchase a property.

4.2.9 This information will be used to determine which modes of travel will need to be promoted and encouraged the most.

4.2.10 Re-surveys will be used for the Travel Plan monitoring process in order to establish what may be required to further encourage travel by non-car modes.

Residents Travel Plan ‘Welcome Pack’

- 4.2.11 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.
- 4.2.12 The site is well placed for encouraging access on foot or by cycle to a wide range of amenities. Similarly, the existence of high frequency local bus services will encourage the choice of public transport as a primary means of travel for the development.
- 4.2.13 In order to build on these locational advantages, it is recommended that a Travel Pack is developed for the occupants of each new residential unit, prior to the occupation of the first unit.
- 4.2.14 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 in addition to an identification of the location of nearby amenity facilities as part of the information supplied to purchasers.
- 4.2.15 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.
- 4.2.16 Within the Residents 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. The first issue of the Residents Travel Pack will be the responsibility of the TPC.
- 4.2.17 The Residents Travel Pack will be provided to residents on occupancy of the dwellings and, therefore, residents are aware in advance of the Travel Plan and its objectives.

Travel Awareness and Information

- 4.2.18 All residents will be made aware of the existence of the Travel Plan.

- 4.2.19 As mentioned previously, Residents Travel Packs will be issued for new residents moving into the development.
- 4.2.20 Contact details for the TPC will also be provided to residents.
- 4.2.21 Travel Information for residents will be provided for in numerous ways, such as, websites, cycle and walking maps for the surrounding areas. A “Travel” information website could be promoted to provide details of the travel options available to residents.
- 4.2.22 The website could hold information about the Travel Plan and the reasons for it, public transport links, bus timetables and contact information, cycle routes and pedestrian access.
- 4.2.23 The material displayed will be reviewed regularly by the TPC and additional information added when appropriate. This will include general information on the environmental cost/benefits of different modes of transport, the savings made through car sharing etc. All information on display is reviewed to ensure that it remains up to date and relevant.
- 4.2.24 It will be the responsibility of the TPC to ensure that residents are provided with information to allow ease of use of the public transport network.
- 4.2.25 Liaison between the TPC, the local authority and the local public transport operators will be promoted to assist in the wider transport initiatives promoted by the Council.
- 4.2.26 As part of the travel information, employees will also be offered personalised journey planners, which is a free service offered by Traveline.
- 4.2.27 To cater for this, a form will be included within the ‘Travel Pack’ for residents to request a personalised journey planning session. The residents will complete the form including a start and end point of their journey and this can be either sent to Traveline or completed by the TPC on their behalf.
- 4.2.28 Some residents will of course be able to do this for themselves providing they have access to a computer.

4.2.29 Some helpful websites to aid residents which will also be included in the Travel Pack to assist planning their travel are:

- www.tfgm.com;
- www.travelline.org.uk;
- www.nationalrail.co.uk;
- www.walkit.com;
- www.sustrans.org.uk.

4.2.30 The above list is a guideline as to the kind of information available but clearly, the TPC will be able to investigate other useful sources of travel information such as walking and cycling maps which are available on TfGM's website.

4.2.31 The Travel Plan will ensure that all residents are aware of the facilities available to encourage and facilitate walking and cycling and will publicise National events such as Walk to Work month and Bike Week.

4.2.32 In addition to the above, information on existing key local services and publicity material from TfGM's website and Traveline will be included.

Promotion of Car Sharing Scheme

4.2.33 Car sharing represents a relatively convenient alternative form of travel and significant potential exists to reduce the total private mileage and car parking demand of residents by promoting car sharing.

4.2.34 The TPC will promote the use of car sharing and encourage residents to register on the Car Share website.

4.2.35 This is a recognised website which allows users to register their details; where they are travelling to in the area; and if they are offering a lift or need a lift to their destination.

4.2.36 In addition, leaflet drops will be used to communicate information to residents and make them aware of any initiatives being undertaken.

- 4.2.37 The car share scheme matches up car drivers and passengers who travel on similar routes at similar times. There is no fee for registering or using the website. This proposal has the advantage of the 'pool' of potential car shares being able to also include existing residents in the area, that may share a route for journey to work with residents of the development.
- 4.2.38 The car share scheme will be promoted by the TPC through a variety of means including for example sales literature, welcome packs, online resources.
- 4.2.39 Car sharers do not necessarily need to work for the same company, or even be based in the same building. In order to maximise this potential, the strategy is that, from initial occupation:
- The established and successful car share scheme is to be promoted to residents,
 - Information about this scheme is to be included in Welcome/Induction packs,
 - The benefits of car sharing are to be highlighted in the Welcome/Induction pack.
- 4.2.40 Nationally organised events such as 'Green Travel Week' or 'In Town Without My Car Days' etc will also be promoted.
- 4.2.41 These measures will be used to raise awareness and will ensure that the car share scheme is available to and known by all those travelling to/from the site.

Encouraging Walking/Cycling

- 4.2.42 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.
- 4.2.43 Local and National campaigns for walking and cycling will also be promoted by the Travel Plan Co-Ordinator
- 4.2.44 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.

Establish a Bike Users Club (BUC)

- 4.2.45 The Travel Pack will include information on any cycle user groups operating in the vicinity of the site as well as information on cycle routes and facilities in the area.
- 4.2.46 In addition to the above, the Travel Plan Co-ordinator could set up a 'Cyclist Forum' for regular cyclists. This will be an effective way to monitor cyclist provision and facilities and could extend to organising group rides in the area and rides along recognised routes to promote cycling to others.
- 4.2.47 The Travel Pack will also include contacts details of local authority officers for any residents wishing to investigate setting up new user groups, and to ensure residents input into the further development of local cycling strategies.
- 4.2.48 The Travel Plan Co-ordinator will also investigate providing information regarding free on-road cycle training and maintenance classes for adults.

5 TRAVEL PLAN TARGETS

5.1 Introduction

5.1.1 This section of the Travel Plan will provide details of the draft 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, measured and time orientated.

5.2 Baseline Targets

5.2.1 In order to set the targets, further information (e.g., 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).

5.2.2 Despite this it is recognised that measurable and achievable targets need to be set for sustainable modes to encourage their use.

5.2.3 Based on our experience draft targets for the developments model split have been proposed as follows;

- Car Driver - Reduction of 5%
- Car Passenger - Increase of 2%
- Public Transport - Increase of 1%.
- Bicycle - Increase of 1%.
- Walking - Increase of 1%.

5.2.4 These draft targets will be revised and agreed with the local authority and included in the Full Travel Plan for the development within approximately 3-months of the completion of the first resident travel survey which will be undertaken at approximately 50% occupancy of the development.

5.3 Potential Targets

5.3.1 Targets which according to the DfT may potentially also be included in the Full 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, membership and use of car clubs, registration and participation in 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.

6 TRAVEL PLAN MONITORING

6.1 Introduction

6.1.1 It is important that monitoring data gathered through the travel plan is collected in such a way as to provide a clear indication of how successful the travel plan has been in minimising single occupancy car journeys and encouraging sustainable travel patterns. Therefore, the following monitoring will be provided as part of the Travel Plan for the site in line with DfT best practice;

- A full Residents travel survey: A travel survey will be distributed to all residents. This will ask questions about how they currently travel to and from the site, how they would prefer to travel to and from the site, any travel or transport issues they are encountering, and their attitudes towards sustainable travel.
- Snapshot Residents travel survey: The snap-shot survey will solely provide modal split data for the development site and will enable the TPC to gauge whether the objectives of the Travel Plan are being achieved.

6.2 Frequency of Monitoring

6.2.1 The full residential travel survey will be conducted once every two years until full occupation and the snap-shot survey will be undertaken annually with the results reported to the local authority in the form of a monitoring report (annual progress report). The initial survey will be undertaken when the development reaches 50% occupancy and will be used to inform baseline travel data and targets.

6.2.2 The TPC will endeavour to undertake the surveys at the same time every year to allow for comparison without seasonal influences on travel patterns.

6.3 Monitoring Reporting and Review

6.3.1 Information gathered as part of the continuous monitoring process will be made available to the local authority to assist the assessment of on-going modal split.

6.3.2 Future strategies for further delivering plan objectives can be considered in partnership with Travel Plan Officers.

6.3.3 The monitoring and assessment of the 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.

6.3.4 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 local authority officers.

6.3.5 The monitoring measures outlined below incorporate both the collection of general feedback and correspondence following the opening of the development.

6.3.6 Actions are:

- Seek regular feedback from bus operators to establish the perceived level of demand for local bus services;
- Monitor the take-up of the car sharing scheme; and
- Record comments received from residents relating to the operation and implications of the Plan.

6.3.7 Information gathered through the monitoring process will be recorded for the input to the annual progress report. The information will be sent to the local authority at regular intervals.

6.4 Action Plan

6.4.1 The initial timetable for the implementation and provision for monitoring and review is provided **Table 6.1** below:

Action	Target Date	Indicator/Measured by	Responsibility
Appointment of Travel Plan Coordinator (TPC)	TPC appointed 3 months prior to first occupation of site	Appointment of TPC by target date	Developer
Production of Residents Travel Pack	Upon Occupation	Distribution of Resident's Travel Pack	TPC
Undertake initial travel surveys	Within 6 months of reaching 50% occupation.	Receipt of survey results	TPC
Agree Travel Plan Targets	Within 3 months of initial travel survey undertaken	Receipt of written agreements of target	TPC
Adoption and Launch of Full Travel Plan	Within 1 month of agreement of targets	Sign off of Full Travel Plan	TPC
Establish a Travel Plan Steering Group	Within 1 months of the adoption and launch of the Travel Plan	Appointment of Steering Group	TPC
Annual monitoring and review.	Annually until full occupancy.	Receipt of written agreements of annual monitoring report	TPC

Table 6.1 – Travel Plan Framework Timescales

6.4.2 The table above sets out the key tasks that will need to be undertaken by the TPC as part of the Travel Plan including guidance as to timescales for the tasks to be undertaken.

6.5 Remedial Measures

6.5.1 The Snapshot and Full Travel Surveys will be vital in indicating whether remedial measures need to be introduced at the site. Remedial measures will be triggered if the travel plan targets do not appear to be on track to be met within the prescribed timescales and the travel plan fails to progress towards meeting its targets between two consecutive monitoring surveys.

6.5.2 The type of remedial measures introduced will be dependent on the results of the surveys, but these could include the following;

- Review surveys to establish measures most likely to encourage residents to alter their travel habits in favour of sustainable modes.
- Revisions to the Travel Plan Measures.

7 CONCLUSIONS

- 7.1.1** This Travel Plan has detailed the proposals associated with the residential development at Trub Road in Castleton 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 provides the details of sustainable modes of transport which 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's Travel Survey will be undertaken to establish travel modes of residents and following this, specific targets will be set and agreed with the local authority.
- 7.1.8** The Travel Plan Co-ordinator will be responsible for monitoring the success of the plan.

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