

Land at Barnhill Street/Raby Street, Moss Side

July 2025

TRANSPORT ASSESSMENT

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REPORT

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CONTENTS

1	INTRODUCTION	1
1.1	Preamble	1
2	DEVELOPMENT SITE AND PROPOSALS	2
2.1	Existing Site	2
2.2	Development Proposals.....	4
3	TRANSPORT PLANNING POLICY	6
3.1	Introduction.....	6
3.2	National Policy	6
3.3	Local Policy.....	10
3.4	National and Local Policy Summary.....	17
4	ACCESSIBILITY BY NON-CAR MODES	18
4.1	Introduction.....	18
4.2	Access on Foot.....	19
4.3	Access by Cycle	23
4.4	Access by Bus	26
4.5	Accessibility by Metrolink	28
4.6	Accessibility by Rail.....	29
4.7	Accessibility Summary	29
5	PROMOTING SMATER CHOICES VIA TRAVEL PLANS	30
5.1	Introduction.....	30
5.2	Travel Plan	30
6	TRAFFIC IMPACT ANALYSIS	31
6.1	Introduction.....	31
6.2	Assessment Criteria.....	31
6.3	Surveyed Traffic Flows	31

6.4 Growthed Flows.....32

6.5 Proposed Development 33

6.6 Trip Distribution and Assignment.....35

6.7 Changes in Traffic 36

6.8 Capacity Assessments 38

6.9 Car Parking 39

7 CONCLUSIONS 42

PLANS

Plan 1	Site Location
Plan 2	Proposed Site Layout
Plan 3	Proposed Highway Works
Plan 4	2km Pedestrian Catchment

FIGURES

APPENDICES

Appendix 1	Swept Path Analysis
Appendix 2	Framework Travel Plan
Appendix 3	Survey Data
Appendix 4	TRICS Output – Proposed Apartments
Appendix 5	TRICS Output – Proposed Houses
Appendix 6	PICADY Output the Moss Lane East/ Barnhill Street Priority Junction

1 INTRODUCTION

1.1 Preamble

1.1.1 Eddisons has been instructed by MSV / Caddick to advise on the traffic and transport issues relating to a planning application for a residential development on land at Barnhill Street/Raby Street, Moss Side.

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

1.1.3 Following this introduction, Section 2 provides a description of the existing site and the development proposals, whilst Section 3 provides an assessment of the accessibility of the site by non-car modes including public transport.

1.1.4 Section 4 discusses the traffic impact of the proposed development, whilst Section 5 draws together the conclusions to this report.

2 DEVELOPMENT SITE AND PROPOSALS

2.1 Existing Site

- 2.1.1** The site is located in Moss Side within an existing street network. The location of the site is shown on **Plan 1**.
- 2.1.2** The site is bound by Moss Lane East to the north, Barnhill Street to the east, Raby Street to the south and Princess Road to the west.
- 2.1.3** Barnhill Street extends in a north-south direction. It has a speed limit of 20mph, has footways on both sides and benefits from street lighting. Along the site frontage, no parking restrictions exist along its western side, whilst single yellow lines are in situ along the eastern side (albeit there is an absence of signage along the route). Existing levels of on-street parking are generally limited (see Image 1, below).



Image 1 Existing On-Street Parking along Barnhill Street (date: March, 2025)

- 2.1.4 At its northern end, Barnhill Street forms a priority junction with the B5219 Moss Lane East. Around 130m to the south, it forms the major arm of a priority-controlled crossroads with Raby Street. From here, it continues for a further 160m where it meets Great Western Street.
- 2.1.5 Around 75m west of Barnhill Street, Great Western Street forms a signalised junction with the A5103 Princess Road, whilst to the east of Barnhill Street, it extends as far as the B5117 Wilmslow Road.
- 2.1.6 Raby Street extends between Princess Street at its western end and Moss Lane East at its eastern end. The section between Princess Road and Barnhill Street is one-way eastbound. The remaining section of Raby Street is two-way and includes a priority-controlled crossroads with Westwood Street along its length.
- 2.1.7 From here, Westwood Street extends southwards as far as Great Western Street and north-eastwards as far as Moss Lane East.
- 2.1.8 At its junction with Westwood Street, Moss Lane East extends in a broadly north-westerly/south-easterly direction. A short distance southwards, it forms a junction with Raby Street, before continuing eastwards as far as the B5117, forming a signalised junction with Upper Lloyd Street en route.
- 2.1.9 Circa 200m northwards of Westwood Street, Moss Lane East forms a signalised junction with Princess Road. The section of Princess Road adjacent to the site includes a bus layby and parking layby, with parking restrictions '*Mon-Fri, 10am-4pm, 2 Hours, No return within 1 hour*'; by reference to Image 2, the on-street parking is generally not fully utilised.



Image 2 Existing On-Street Parking along Princess Road (date: March, 2025)

2.1.10 From here, Princess Road heads north to Manchester city centre and southwards towards West Didsbury.

2.2 Development Proposals

2.2.1 The proposals would provide a total of 212 dwellings comprising of 205 apartments and 7 houses. The proposed site layout is shown at **Plan 2**.

2.2.2 The units will be served via the existing road network adjacent to the site.

2.2.3 Two vehicular access points will be provided along Barnhill Street. Pedestrian access will also be available from Barnhill Street, adjacent to the vehicular access points, and additional pedestrian access will be available from Princess Road and Raby Street.

2.2.4 The proposed highway works are shown at **Plan 3**.

- 2.2.5** A total of 56 spaces are proposed for the apartments, which includes 4 spaces for the mobility impaired; 20% of these will be electric vehicle (EV points). 1 space will be provided for each of the 7 houses, i.e. 7 spaces in total, with each being an EV point.
- 2.2.6** As part of the proposals, a Car Club will also be promoted.
- 2.2.7** In addition, cycle parking will be provided at 150%.
- 2.2.8** As will be detailed in the following section of the report, the site is highly accessible by non-car modes and will cater for needs of the development's residents and assist in promoting a choice of travel modes other than the private car. This will clearly reduce the reliance on the private car.
- 2.2.9** In order to advise the highway authority, a swept path analysis of a refuse vehicle manoeuvring within the proposed car park has been undertaken and is included at **Appendix 1**.

3 TRANSPORT PLANNING POLICY

3.1 Introduction

3.1.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies and is a relevant material consideration. The Planning Practice Guidance provides further detail on how the NPPF should be applied.

3.1.2 Local transport planning policy has been taken from the Greater Manchester Transport Strategy 2040, which covers the period up to 2040 and the Adopted Manchester City Council Core Strategy which covers the period up to 2027.

3.1.3 This section will briefly outline the pertinent policies relating to the proposed development.

3.2 National Policy

National Planning Policy Framework

3.2.1 The latest version of the NPPF was published in December 2024. The presumption in favour of sustainable development is a central theme running through the NPPF, which states at paragraph 109 that:

“Transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve:

- a) making transport considerations an important part of early engagement with local communities;*
- b) ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places;*
- c) understanding and addressing the potential impacts of development on transport networks;*

- d) *realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example in relation to the scale, location or density of development that can be accommodated;*
- e) *identifying and pursuing opportunities to promote walking, cycling and public transport use; and identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.”*

3.2.2 Paragraph 110 of the NPPF states:

'The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.'

3.2.3 Similarly, paragraph 115 of the NPPF states that:

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

- a) *sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
- b) *safe and suitable access to the site can be achieved for all users;*
- c) *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code⁴⁸; and*

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach.”

3.2.4 It is worth noting that policies 110 and 115 are referred to within footnote 9 of paragraph 11, which states *‘Plans and decisions should apply a presumption in favour of sustainable development’* and that *‘For decision-taking this means... where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date⁸, granting permission unless:’*

‘ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole, having particular regard to key policies for directing development to sustainable locations, making effective use of land, securing well-designed places and providing affordable homes, individually or in combination⁹.’

3.2.5 As will be demonstrated within this Transport Assessment, the proposed development accords with the policy tests contained within paragraphs 110 and 115.

3.2.6 Paragraph 116 concludes that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.”

3.2.7 Paragraph 117 continues by advising:

“Within this context, applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

3.2.8 Paragraph 118 advises that:

“All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored.”

3.2.9 As will be demonstrated within this document, the proposed development accords with the aims and objections of the NPPF.

Planning Practice Guidance

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

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

3.2.12 It also clarifies the process for establishing a scope for the assessment, and what the document should contain. The guidance has been considered in the preparation of this TA and the scope discussed with Manchester City Council

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

The National Model Design Code

3.2.14 With regards to accessibility and car dependency, the Ministry of Housing, Communities & Local Government 'National Model Design Code, Part 2' (2021) states:

'24. Access to public transport is key to providing people with choice for everyday journeys beyond the immediate neighbourhood, such as to town centres, schools and employment locations. Good access to public transport helps reduce reliance on the private car.'

25. A site or location has good public transport accessibility when dwellings have a public transport stop within walking distance.'

3.2.15 It adds that 'accessibility to public transport may be linked to other coding on mix of uses, local amenities, housing types, densities, and parking arrangements.' Clearly, there is a link between accessibility, a reduction in reliance on the private car and planned parking arrangements.

3.3 Local Policy

Greater Manchester Transport Strategy 2040

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

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

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

3.3.3 The above measures and additional initiatives have also been provided in greater detail in the accompanying Interim Framework Travel Plan.

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

- Reducing the need to travel;
- Reducing the need to travel by car, and the distance travelled;
- Maximising accessibility by sustainable modes;

- Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;
- Maximising opportunities to provide additional public transport; and
- Designing to encourage active travel.

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

Manchester Core Strategy 2012-2027

3.3.6 Manchester's Core Strategy was adopted on 11th July 2012. The Core Strategy sets out the long-term strategic policies for Manchester's future development and forms the framework that planning applications are assessed against. The Manchester Core Strategy promotes similar principles to the NPPF.

3.3.7 Policy DM 1 'Development Management' states that '*All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document*', which includes '*vehicular access and car parking*.'

3.3.8 The core strategy also contains three specific 'Transport' policies, comprising:

- Policy T1 - Sustainable Transport;
- Policy T2 - Accessible areas of opportunity and need; and
- Policy T3 - Strategic Integration.

3.3.9 Policy T1 focuses on sustainable transport and seeks '*to deliver a sustainable, high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking, to support the needs of residents and businesses and to prepare for carbon free modes of transport*.'

3.3.10 The accessibility of the site would encourage residents and visitors of the proposed development to travel by sustainable modes.

3.3.11 Policy T2 of the Manchester Core Strategy states:

'The Council will actively manage the pattern of development to ensure that new development: -

Is located to ensure good access to the City's main economic drivers, including the Regional Centre, the Oxford Road Universities and Hospitals and the Airport and to ensure good national and international connections

Is easily accessible by walking, cycling and public transport; connecting residents to jobs, centres, health, leisure, open space and educational opportunities.'

3.3.12 Para 11.17 advises that *'The Council recognises that parking is an essential facility for many developments, but will ensure that the level of parking complements its commitment to sustainable transport, through reducing emissions and congestion. The car parking standards in appendix B are maximums and the cycle and disabled car parking are minimums however the Council will consider whether there are any circumstances, related either to the site or the operation of the development, which warrant an alternative level of parking. This assessment should consider issues including the accessibility of the location and the potential for nearby uses to share facilities.'*

3.3.13 However, reference to Appendix B confirms that no standards are provided for residential development.

3.3.14 This report will demonstrate that the site is located close to major employment, leisure and educational facilities, which are accessible by sustainable modes of transport.

3.3.15 Policy T3 concerns the strategic integration of developments within the sustainable transport network.

3.3.16 The proposed development would not prejudice the implementation of any of the strategic integration projects.

Manchester Residential Design Guide

- 3.3.17** Manchester City Council does not have rigid parking standards for residential development. The Residential Design Guide states that *'there is no 'one size fits all' approach to car parking and it should be considered on a site by site basis'.*
- 3.3.18** The guide does suggest that *'In accordance with the 'comply or justify' approach of this document, the following standards are required... Outside City Centre - new apartment development will be expected to provide 100% parking provision as a starting point'*, but includes the caveats that *'reduced on site provision may be justified on the basis of... demonstrating that provision of full parking provision will unacceptably comprise the development's active frontages and relationship with the street, and evidence that alternative parking solutions cannot be viably accommodated'* and that *'Provision of robust research and market evidence to demonstrate that lower levels of car parking demand will be appropriate for a particular scheme'.*

Places for Everyone

- 3.3.19** Places for Everyone is a long-term plan of nine Greater Manchester districts for jobs, new homes, and sustainable growth. It was adopted on 21 March, 2024.
- 3.3.20** Policy JP-Strat14 'A Sustainable and Integrated Transport Network' confirms that *'The transport network will be improved so that half of all daily trips can be made by public transport, cycling and walking, especially those shorter journeys around neighbourhoods.'*
- 3.3.21** It goes on to state that:
- 'New development will have a significant role in delivering our future sustainable and integrated transport network in order to reduce car dependency and increase levels of walking, cycling and public transport.'*
- 3.3.22** Policy JP-S1 concerns 'Sustainable Development' and confirms at paragraph 5.5 that *'Greater Manchester's Vision is to be at the forefront of action on climate change and to make its fair contribution to international commitments by becoming a carbon neutral city region by 2038.'*

- 3.3.23** Paragraph 5.6 sets out a number of measures that are needed in order to meet the carbon commitments, including:

‘Enable sustainable choices for travel and decarbonise transport;’

- 3.3.24** Policy JP-S2 ‘Carbon and Energy’ states that ‘The aim of delivering a carbon neutral Greater Manchester no later than 2038, with a dramatic reduction in greenhouse gas emissions, will be supported through a range of measures including:

‘5. b. Incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations, unless superseded by relevant Local Plan policies, to future proof for the likely long-term demand, taking account of the potential maximum energy demand for the site.’

- 3.3.25** Policy JP-C1 ‘An Integrated Network’ sets out a range of measures ‘to help deliver an accessible, low carbon Greater Manchester with world-class connectivity.’ This includes:

‘1 Delivering a pattern of development that minimises both the need to travel and the distance travelled by unsustainable modes to jobs, housing and other key services, including healthcare, education, retail, recreation and leisure facilities, green space and green infrastructure;’

‘3 Locating and designing development, to deliver a significant increase in the proportion of trips that can be made by walking, cycling and public transport;’

- 3.3.26** Policy JP-C7 ‘Transport Requirements of New Development’ requires ‘new development to be located and designed to enable and encourage walking, cycling and public transport use, to reduce the negative effects of car dependency, and help deliver high quality, attractive, liveable and sustainable environments.’

- 3.3.27** Policy JP-C7 states that, with regard to parking infrastructure, this would be done by:

‘9 Incorporating enough secure and covered cycle parking to meet long-term demand from occupiers and visitors in a convenient location that helps to maximise its use’

'10 Promoting alternatives to car ownership, such as the use of ULEV car clubs rather than the provision of private car parking spaces'

3.3.28 Policy JP-C8 concerns 'Transport Requirements of New Developments' and states *'We will require new development to be located and designed to enable and encourage walking, cycling and public transport use, to reduce the negative effects of car dependency, and help deliver high quality, attractive, liveable and sustainable environments.'*

3.3.29 It then sets out a number of measures to achieve this, including:

'Connectivity and Walking

- 1. Prioritising new and enhanced walking, cycling and public transport routes and stops, through and around the site. These routes should:*
 - 2. be direct, safe and convenient;*
 - 3. connect to nearby facilities, employment areas, public transport stops; and*
 - 4. improve the coverage, quality and integration of the wider walking and cycling infrastructure and public transport provision;*

Ensuring that the layout, design and landscaping of development prioritises the provision of safe, secure and attractive access to local services and facilities for pedestrians, cyclists and people with a disability;

'Parking Infrastructure

- 9. Incorporating enough secure and covered cycle parking to meet long-term demand from occupiers and visitors in a convenient location that helps to maximise its use,'*

'Promoting alternatives to car ownership, such as the use of ULEV car clubs rather than the provision of private car parking spaces;'

3.4 National and Local Policy Summary

- 3.4.1** As will be demonstrated within this Transport Assessment, the site is situated in a highly accessible area with a range of sustainable travel modes within close proximity, providing justification for the proposed levels of car parking.
- 3.4.2** As such, the proposals conform to the aims and aspirations of national and local planning policy.

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.

4.1.3 The NPPF confirms that *‘Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes’* though it is recognised that *‘opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.’*

4.1.4 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.

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

- accessibility on foot;
- accessibility by cycle;
- accessibility by bus;
- accessibility by Metrolink; and
- accessibility by train.

4.2 Access on Foot

- 4.2.1 It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.
- 4.2.2 Existing footways are provided along Moss Lane East, Barnhill Street, Raby Street and Princess Road. These link to the wider pedestrian network.
- 4.2.3 This provision provides links to a comprehensive network of routes within Moss Side and further, which provide safe pedestrian movement to the local amenities and facilities provided in the area. Dropped kerbs and tactile paving are provided at all key junctions between the application site and the day-to-day amenities within Moss Side.
- 4.2.4 The DFT National Travel Survey of 2022 confirms that 83% of all trips less than a mile (1.6km) are carried out on foot.
- 4.2.5 The Institute of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot', provides information on acceptable walking distances. Table 3.2 of that document 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

4.2.6 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.'*

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

4.2.8 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

4.2.9 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;
- Education – 3,200 or 4,800 metres;
- Personal business – 1,600 metres.

- 4.2.10** Overall, in Table 5.1 of that document it states that 1,950 square metres is the 85th percentile distance for walking as the main mode of travel. Table 4.4 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 4.4 WYG Report/NTS Data Walk Distances

- 4.2.11** In summary, the distance of 1,950 metres, or around 2km, represents an acceptable maximum walking distance for the majority of land uses.
- 4.2.12** A 20-minute walk equates to a walking distance of around 1,600 metres.
- 4.2.13** In light of the above, a pedestrian catchment of 2km and 800m from the centre of the site, using all usable pedestrian routes, has been provided in **Plan 4**.
- 4.2.14** The 800-metre pedestrian catchment encompasses the surrounding area of the site including Moss Side, Hulme and a small part of Whalley Range, including the nearest bus stops to the site along Princess Road and Moss Lane East, local convenience stores and various educational facilities.
- 4.2.15** The 2km pedestrian catchment stretches further into areas such as Old Trafford, Rusholme and into the City Centre, including the university campus, train and tram stops, several cafés, a foodstore, health centres and open green spaces. Clearly, this represents a key destination for potential employment, retail and leisure trips.
- 4.2.16** 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 Table 4.5 below.

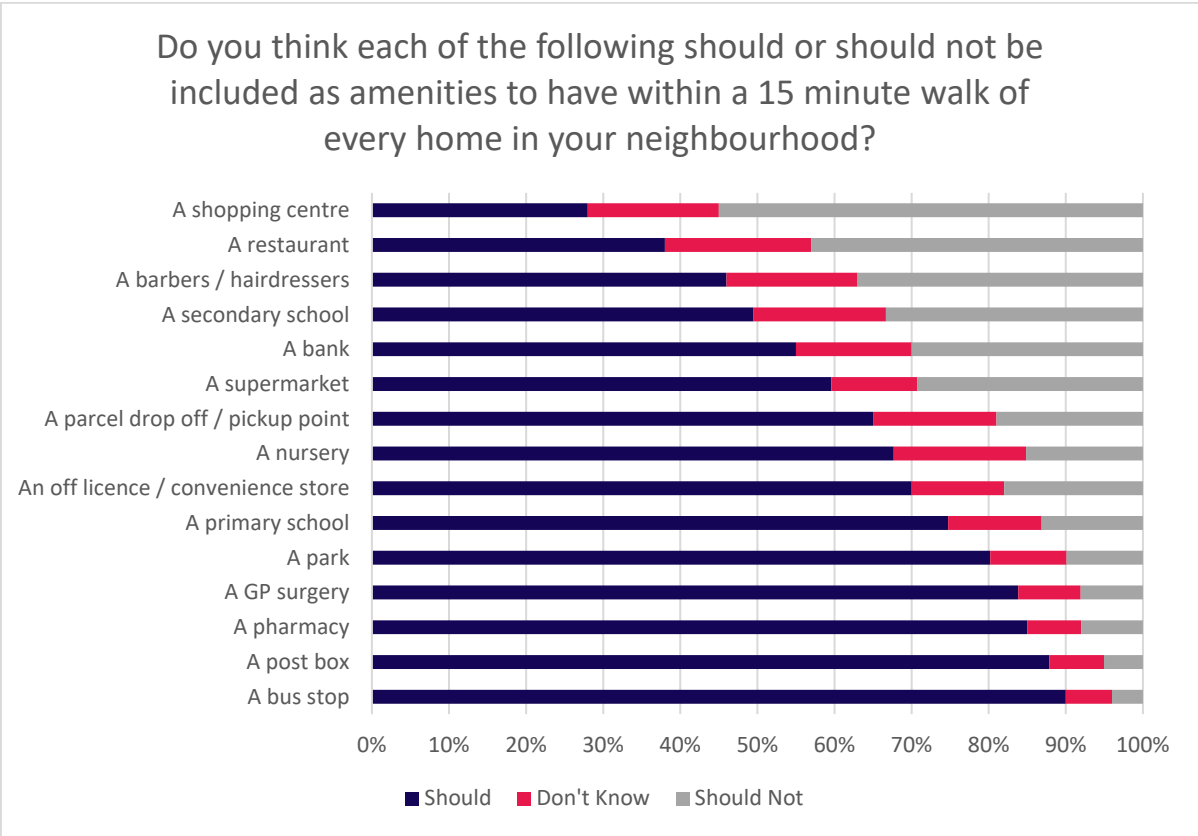


Table 4.5 YouGov Poll Results (Source YouGov)

- 4.2.17 Table 4.5 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.
- 4.2.18 As can be seen in Plan 4, the site is located in close proximity to a number of a local amenities, including a bus stop, a post box, a pharmacy / GP surgery, and a local convenience store.
- 4.2.19 Table 4.6, below, shows the walking distance from the centre point of site 1 and 2 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?
Princess Road Bus Stop	30m	1,600m	YES
Moss Side Park	150m	1,600m	YES
The Wellington Medical Centre	190m	1,600m	YES
Princess Road Post Office	380m	1,600m	YES
ASDA	390m	1,600m	YES
Moss Side Leisure Centre	465m	1,600m	YES
KFC	510m	1,600m	YES
Great Western Off-Licence	625m	1,600m	YES
Moss Side Health Centre	665m	1,600m	YES
Webster Primary School	750m	3,200m	YES
Manchester Academy High School	900m	3,200m	YES
Whitworth Park	1,050m	1,600m	YES
The Ducie Arms	1,265m	1,600m	YES

Table 4.6 Distance from Site to Local Facilities

4.2.20 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 Advice in the recently updated Highway Code seeks to improve the safety of vulnerable road users including cyclists, pedestrians, and horse-riders. 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.
- 4.3.3 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.'*
- 4.3.4 A distance of 8km (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 areas including Manchester, Salford and Trafford Park.
- 4.3.5 The closest cycle route to the proposed site is National Cycle Route 6, which is around 160 metres to the west, travelling along Quinney Crescent down towards Alexandra Park.
- 4.3.6 National Cycle Route 6 is located to the north of the site. It provides access from Salford where it then travels south through Manchester city centre and continues south through Moss Side and Whalley Range. From here it runs east through Fallowfield and Levenshulme. It is both an on and off-road cycle route.
- 4.3.7 An on-road route is also available along Oxford Road, around 1km to the east of the site, which provides a connection to Manchester city centre to the north and extends towards Chorlton to the south.
- 4.3.8 This is shown in Figure 4.1, below, shows the existing cycle routes in the vicinity of the site.

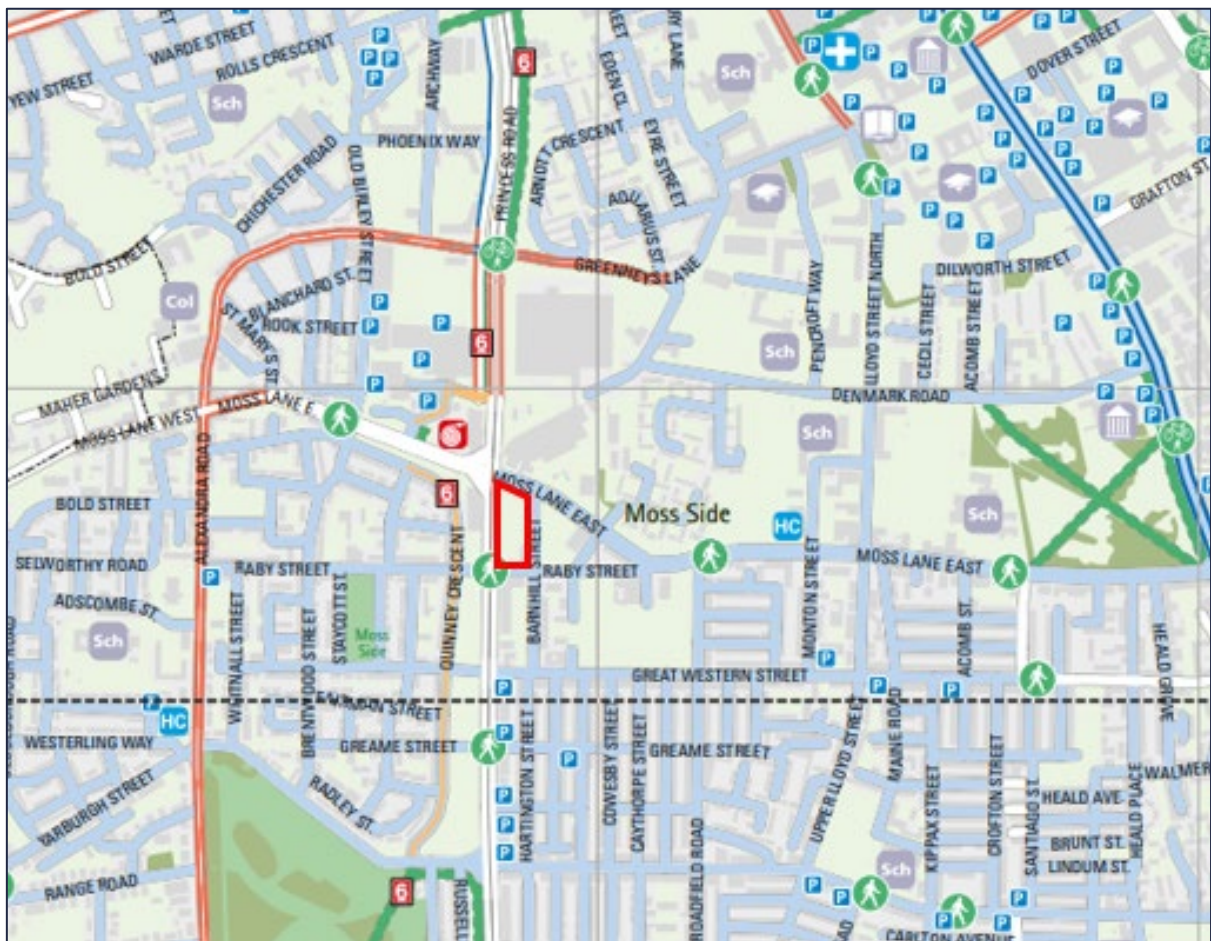


Figure 4.1 Extract from TfGM Cycle Map

- 4.3.9** Cycle Route 6 connects with Cycle Route 60 along the Fallowfield Loop, south to the site. Route 60 runs between north and east Manchester, making up most of the Fallowfield Loop between Chorlton-cum-Hardy and Gorton before heading along the filled-in Stockport Branch Canal. To the west route 60 connects with cycle route 55.
- 4.3.10** National Cycle Route 55 starts in Salford Quays then runs south to the south of Whalley Range. It is also a on and off-road cycle route and is located approximately 2.8 km from the centre of the site.
- 4.3.11** Figure 4.2, below, displays National Cycle Routes 6, 60 and 55 in proximity to the proposed site.

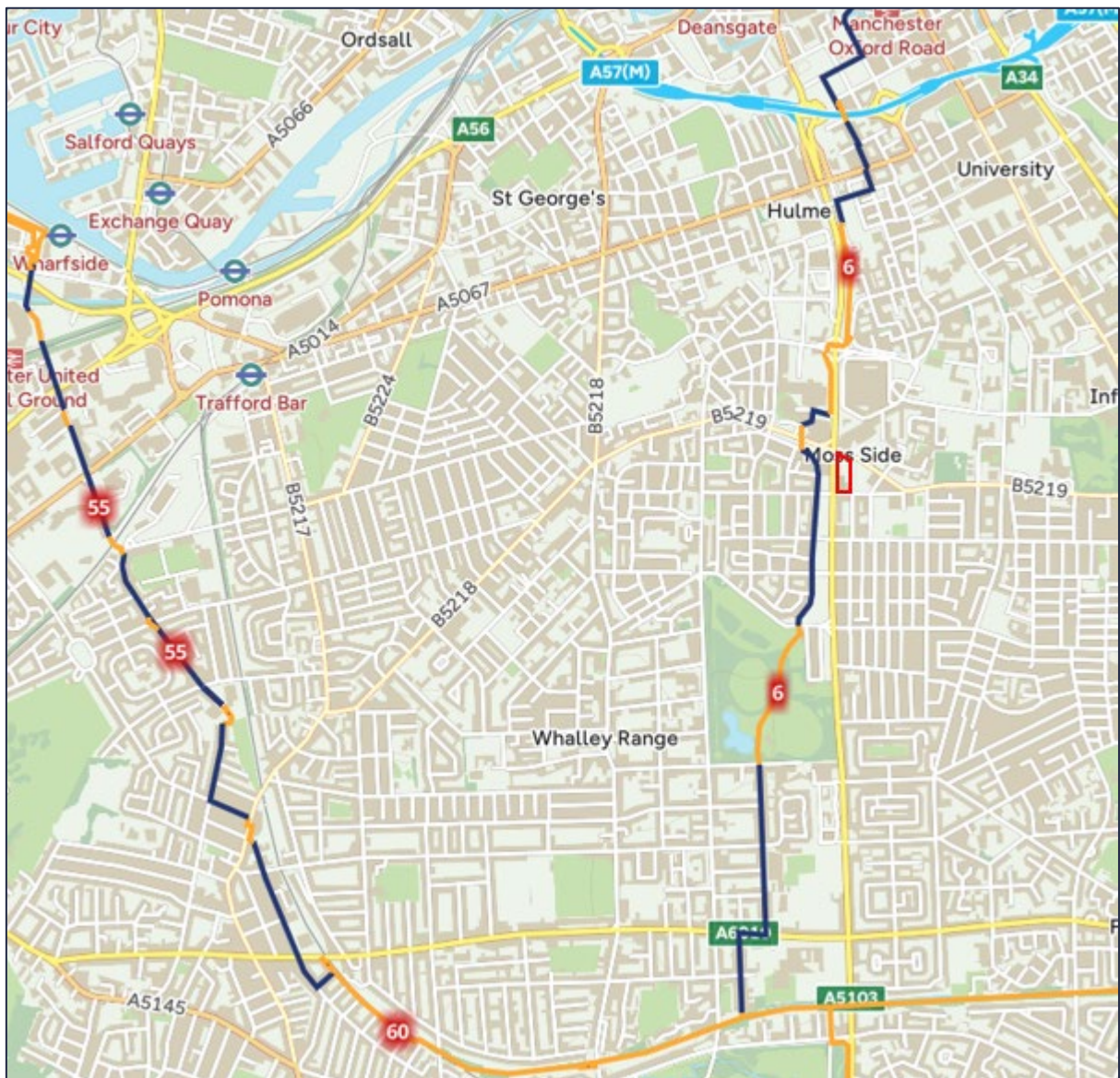


Figure 4.2 National Cycle Route Map (Sustrans)

4.3.12 As previously stated, in order to encourage travel by cycle, the development will provide cycle parking at 150%.

4.3.13 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 stop to the site is located along Princess Road, immediately to the west of the development site. This stop consists of a bus stop pole, shelter, seating area and timetable. Additional bus stops are located further along Princess Road, a short distance southward, and along Moss Lane East to the north of the site. All the nearest bus stops to the site are shown on Plan 3.

4.4.3 A summary of the services available from the nearest bus stops from the development site is provided in Table 4.7 below.

Servic 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	
15	Manchester - Flixton	5	Every 20 mins	11	1	Every 20 mins	12	Every 60 mins
101	Manchester - Wythenshawe	8	Every 10 mins	20	5	Every 15 mins	19	Every 30 mins
102	Manchester - Chorlton	0	0	0	0	0	0	Every 60 mins
103	Manchester - Mcr Airport via Wythenshawe	6	Every 30 mins	12	4	Every 30 mins	12	Every 60 mins
720	Cornbrook - Moss Side - Chorlton - Arrowfield Estate - Loreto High school	1	1	-	-	-	-	-
728	Brooks Bar - Hulme - Moss Side - Fallowfield - Burnage	1	1	-	-	-	-	-
739	Belle Vue - Beswick - Ancoats - Moss Side - Fallowfield	1	1	-	-	-	-	-
742	Burnage - Heaton Moor - Heaton Chapel - Levenshulme - Hulme	-	3	-	-	-	-	-

Table 4.7 Existing Bus Services Operating in the Vicinity of the Site

4.4.4 As can be seen from Table 4.7, the nearest bus stops to the site provides various services throughout the day to destinations such as Piccadilly Gardens, Wythenshawe, Chorlton and Manchester Airport.

4.4.5 It is noted that the above services provide a choice of how people travel with the bus services operating from around 05:00am to around 01:00am, making travel by public transport a real alternative to travelling by car for commuting trips.

4.4.6 In order to demonstrate the level of accessibility some example journey times by bus are presented below Table 4.8 below.

Destination	Duration
Picadilly Gardens	20 mins
Wythenshawe	29 mins
Manchester Airport	55 mins

Table 4.8 Example Bus Journey Times from the Site

4.4.7 The above table demonstrates that Manchester Picadilly Gardens is a 20-minute bus journey, Wythenshawe is just a 29-minute bus journey from the site and Manchester Airport is just a 55-minute bus journey.

4.4.8 It is also worth noting that FlixBus, a coach operator, have a stop along Princess Road, near the junction with Moss Lane East. These provide coach links to countless destinations throughout the UK.

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

4.5 Accessibility by Metrolink

4.5.1 The nearest tram stop to the site is Deansgate – Castlefield Tram Stop, which can be accessed via a 35-minute walk or 9-minute bus journey on the 103 or 101 service.

4.5.2 This tram stop is a part of the Greater Manchester's Metrolink, and has 2 platforms offering services to destinations such as Altrincham, Bury, The Trafford Centre, Manchester Victoria and Eccles.

4.5.3 This provides opportunities for commuting/leisure opportunities from the site via tram.

4.6 Accessibility by Rail

4.6.1 The nearest station located to the site is Manchester Oxford Road, which can be accessed via an 11-minute bus journey on the 101 or 103 service, a 34-minute walk or 10-minute cycle.

4.6.2 This train station is managed by Northern and has 5 platforms, offering 20 services per hour to destinations such as Liverpool, Blackpool, Llandudno, Manchester Airport, Glasgow Central and Norwich, providing links to nationwide destinations.

4.6.3 The station has 72 cycle parking spaces located in a cycle hub outside the front of the station as well as facilities between platforms 4 and 5, which are covered by shelter and CCTV.

4.6.4 This provides opportunities for commuting/leisure opportunities from the site via rail.

4.7 Accessibility Summary

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

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

5 PROMOTING SMARTER CHOICES VIA TRAVEL PLANS

5.1 Introduction

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

5.2 Travel Plan

5.2.1 A Framework Travel Plan is included at **Appendix 2**. 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.

5.2.2 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.

5.2.3 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.

6 TRAFFIC IMPACT ANALYSIS

6.1 Introduction

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

6.2 Assessment Criteria

6.2.1 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.

6.3 Surveyed Traffic Flows

6.3.1 Before considering the potential changes in traffic that would occur on the local highway as a result of development proposals, the existing levels of traffic on the highway network in the vicinity of the site must first be established.

6.3.2 Traffic surveys were undertaken on Thursday, 29 June 2023, at the following locations:

- A5103 Princess Road/B5219 Moss Lane East signalised junction;
- A5103 Princess Road/Great Western Street signalised junction;
- B5219 Moss Lane East/Barnhill Street priority junction;
- Barnhill Street/Raby Street priority junction;
- B5219 Moss Lane East/Raby Street priority junction; and
- B5219 Moss Lane East/Lloyd Street North signalised junction.

- 6.3.3** The DfT's 'Transport Analytical Guidance (TAG) Unit M1.2 - Data Sources and Surveys' states at paragraph 2.3.9 that '*Validity of data is a key consideration in assessing whether existing data sources are suitable for intended use(s). One factor affecting data validity is age. A single threshold should not be used to determine data suitability. Instead, age should be considered together with the extent to which population, land use, transport network, and travel demand patterns have changed, as well as the quality and consistency of documentation that describes data collection and processing steps.*' [Emphasis added.]
- 6.3.4** Paragraph 2.3.10 goes on to state '*For example, significant changes post data collection, such as the opening of a new bypass, a major new development or changes in public transport services in the vicinity of model internal area, would make the use of data collected prior to these data inappropriate. In other cases, older data may be acceptable where there has been little change to land use and transport network...*'
- 6.3.5** Given there has been no significant changes post data collection, it is considered that 2022 survey data remains appropriate for use
- 6.3.6** The survey data is included at **Appendix 3**.
- 6.3.7** From the analysis, the weekday AM peak occurred between 0730 and 0830 hours, whilst the weekday PM peak occurred between 1630 and 1730 hours.
- 6.3.8** **Figures 1** and **2** show the 2023 surveyed traffic flows in lights, HGVs and total vehicles, for the weekday AM and weekday PM peak periods respectively. Similarly, **Figures 3** and **4** show the 2023 surveyed flows converted into passenger car units (PCUs), the unit of analysis, for the weekday AM and weekday PM peak periods respectively.

6.4 **Growthed Flows**

- 6.4.1** It is anticipated that the proposed development will have a completion year of 2028, however, for the purpose of the analysis, a future year assessment 5-years post submission of the application has been considered, i.e. 2030.

6.4.2 The future year traffic flow factors have been derived using TEMPro version 8.1. The application site falls with the Middle Super Output Area (MSOA) Manchester 024.

6.4.3 The resulting growth factors are as follows:

- 2023 to 2028 AM Peak – 1.0745;
- 2023 to 2028 PM Peak – 1.0745;
- 2023 to 2030 AM Peak – 1.1070;
- 2023 to 2030 PM Peak – 1.1073.

6.4.4 The resultant 2028 growthed traffic flows are shown in **Figures 5** and **6** for the weekday AM and PM peak periods respectively, whilst **Figures 7** and **8** show the 2030 growthed flows for the weekday AM and PM peak periods respectively.

6.5 Proposed Development

6.5.1 As previously stated, the proposals would provide a total of 212 dwellings comprising of 205 apartments and 7 houses.

Proposed Apartments

6.5.2 In order to establish the vehicular trip rates for the proposed apartments, reference has been made to the latest TRICS database. The parameters used to ascertain the vehicular trip rates for the proposed development are as follows:

- Residential, Flats Privately Owned;
- Greater London and Republic of Ireland sites excluded;
- Range greater than 75 units;
- Edge of Town Centre and Suburban Area locations; and
- Weekday surveys only.

6.5.3 A summary of the resulting trip rates and the likely level of trips that would occur as a result of the proposed apartments is included in Table 6.1, below, with the TRICS output being provided at **Appendix 4**.

Mode	Period	Trip Rate		Trips	
		Arr	Dep	Arr	Dep
Vehicle	AM Peak Hour	0.052	0.178	11	36
	PM Peak Hour	0.163	0.082	33	17

Table 6.1 Proposed Apartment Trip Rates and Trips

6.5.4 As can be seen from the above table, the proposed apartments are predicted to result in 47 two-way vehicular trips during the weekday AM peak and 50 two-way trips during the weekday PM peak period.

Proposed Houses

6.5.5 In order to establish the vehicular trip rates for the proposed houses, reference has been made to the latest TRICS database. The parameters used to ascertain the vehicular trip rates for the proposed development are as follows:

- Residential, Houses Privately Owned;
- Greater London and Republic of Ireland sites excluded;
- Range 10 to 50 units;
- Edge of Town Centre and Suburban Area locations; and
- Weekday surveys only.

6.5.6 A summary of the resulting trip rates and the likely level of trips that would occur as a result of the proposed houses is included in Table 6.2, below, with the TRICS output being provided at **Appendix 5**.

Mode	Period	Trip Rate		Trips	
		Arr	Dep	Arr	Dep
Vehicle	AM Peak Hour	0.155	0.350	1	2
	PM Peak Hour	0.288	0.184	2	1

Table 6.2 Proposed Houses Trip Rates and Trips

6.5.7 As can be seen from the above table, the proposed houses are predicted to result in 3 two-way vehicular trips during the weekday AM peak and 3 two-way trips during the weekday PM peak period.

6.5.8 The total trips, by site, are set out in Table 6.3, below.

AM Peak			PM Peak		
Arr	Dep	2-way	Arr	Dep	2-way
12	39	51	35	18	53

Table 6.3 Total Proposed Trips

6.5.9 As can be seen from the above table, the proposed development is predicted to result in an average of less than 1 trip per minute during the peak traffic periods.

6.6 Trip Distribution and Assignment

6.6.1 Eddisons are aware that TfGM have recently expressed the view that *‘trip distribution should be based on counted flows rather than Census data, which is now quite outdated’*.

6.6.2 Percentage distributions at the junctions of interest have therefore been calculated from the traffic surveys. In particular, the outbound trips during the AM peak and the inbound trips during the PM peak are likely to provide an appropriate proxy for residential trips.

- 6.6.3 The resulting trip distribution is shown in **Figure 9**.
- 6.6.4 The direct frontage parking of the houses and the parking for the apartments will be accessed from Barnhill Street.
- 6.6.5 **Figures 10 and 11** shows the proposed development trips to site.
- 6.6.6 The proposed development trips have been added to the growthed flows to produce 'with development' flows.
- 6.6.7 **Figures 12 and 13** show the 2028 'With Development' Flows for the weekday AM and PM peaks, whilst **Figures 14 and 15** show the 2030 'With Development' Flows for the weekday AM and PM peaks.

6.7 Changes in Traffic

- 6.7.1 Having determined the levels of traffic that could occur as a result of the proposed development proposals, the changes in traffic that would occur on the local highway network can be determined. These are summarised in Table 6.4, below.

	2030 Base	2030 'With Dev'	Change in Traffic	Percentage Change
A5103 Princess Road/B5219 Moss Lane East signalised junction				
AM Peak	4279	4300	+21	+0.5%
PM Peak	4239	4262	+23	+0.5%
A5103 Princess Road/Great Western Street signalised junction				
AM Peak	3776	3790	+14	+0.4%
PM Peak	3535	3550	+15	+0.4%
B5219 Moss Lane East/Barnhill Street priority junction				
AM Peak	793	829	+36	+4.5%
PM Peak	974	1011	+37	+3.8%
Barnhill Street/Raby Street priority junction				
AM Peak	42	56	+14	+33.3%
PM Peak	115	130	+15	+13.0%
B5219 Moss Lane East/Raby Street priority junction				
AM Peak	796	811	+15	+1.8%
PM Peak	944	959	+15	+1.6%
B5219 Moss Lane East/Lloyd Street North signalised junction				
AM Peak	1593	1606	+13	+0.8%
PM Peak	1831	1845	+14	+0.8%

Table 6.3 Changes in Traffic Resulting from the Proposed Development

6.7.2 The DfT document 'Guidance on Transport Assessment' provided some suggested thresholds in respect to traffic impact and, at Appendix B, advised that the formal assessment of a junction may not be required for developments that would typically generate fewer than 30 two-way additional trips. Whilst this guidance was withdrawn in 2014, the document still represents good practice when assessing the transport impacts of a development.

6.7.3 On this basis, capacity assessment of the B5219 Moss Lane East/Barnhill Street priority junction has been undertaken.

6.8 Capacity Assessments

B5219 Moss Lane East/Barnhill Street Priority Junction

6.8.1 Capacity assessments of the B5219 Moss Lane East/Barnhill Street priority junction have been undertaken using the JUNCTION11 program.

6.8.2 The results of the analysis are summarised within Table 6.5, below, with the full results contained within **Appendix 6**.

Movement	2028 Base Flows				2028 'With Dev' Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
Barnhill Street	0.02	0	0.06	0	0.08	0	0.10	0
Moss Lane East Right turn	0.02	0	0.04	0	0.03	0	0.08	0

**Table 6.5 Summary of JUNCTIONS9 Output
for the Moss Lane East/Barnhill Street Junction**

6.8.3 As can be seen from the above, the Moss Lane East/Barnhill Street junction is predicted to operate well within capacity for all assessment scenarios.

6.9 Car Parking

- 6.9.1** As stated previously, a total of 63 spaces are proposed for the site – 7 spaces for the houses and 56 spaces, including 4 spaces for the mobility impaired, for the apartments.
- 6.9.2** As set out in detail at Section 3, there is a clear aim in national and local planning policy to reduce travel by the private car and encourage access by sustainable modes of transport.
- 6.9.3** As confirmed in Place for Everyone, the aim is for Greater Manchester to become a carbon neutral city region by 2038. This will, in part, be achieved by enabling sustainable choices for travel and decarbonise transport, and new development will have a significant role in reducing car dependency and increase levels of walking, cycling and public transport.
- 6.9.4** In addition, the DfT document ‘Future of Mobility: Urban Strategy’, included a study from the Carplus Annual Survey of Car Clubs. This indicated that the number of car club members across the UK increased from 32,000 to 245,000 members between 2007 and 2017, demonstrating a substantial appetite for the adoption of car clubs.
- 6.9.5** 20% of the car parking spaces will incorporate electric vehicle charging points, which accord with the aims of PfE Policy JP-S2.
- 6.9.6** Furthermore, as part of the proposals, and in accordance with PfE Policy JP-C8, a Car Club will also be promoted within the development, which has significant potential to reduce primary and secondary car ownership and use.
- 6.9.7** The provision of Car Club vehicles within the development has significant potential to reduce primary and secondary car ownership and use. The 2020 CoMoUK report suggests that each car club space takes 18.5 private cars off the road. 22% of car club members suggested that they would have bought a car if they had not joined the car club.
- 6.9.8** As set out in Section 4, the site is situated in a highly accessible location.

- 6.9.9 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.
- 6.9.10 It has been demonstrated that the site is accessible by cycle, with a number of national cycle routes being located within close proximity of the site. Cycle parking will be provided at 150%, which accords with PfE Policy JP-C7 and will further encourage access by this sustainable mode of transport.
- 6.9.11 The bus services from the bus stops on Princess Road and Moss Lane East, travelling to destinations such as Manchester Picadilly, Wythenshawe and Manchester Airport, demonstrates that the proposed development can be considered as accessible by bus.
- 6.9.12 There are also opportunities to travel via rail, with Manchester Oxford Road station located just a short bus journey away.
- 6.9.13 As such, the location of the site will assist in promoting a choice of travel modes other than the private car for the development's residents and visitors, and the proposals accord with PfE Policies JP-Strat14, JP-C1 and JP-C7.
- 6.9.14 A vast majority of the proposed dwellings will be either 1 or 2 bed (33% of the proposed units will be 1-bed and 50% will be 2-bed). The smaller 1 and 2-bed dwellings would provide lower levels of residential occupancy and would, therefore, have lower levels of car ownership.
- 6.9.15 By way of demonstration, the 2011 Census dataset DC4415EW1a '*Accommodation type by car or van availability by number of usual residents aged 17 or over in household*' suggests that, across the Manchester City Council merged local authority area, 68% of flat, maisonette or apartments with one usual resident aged 17 or over in household do not have a car.
- 6.9.16 It is also helpful to recognise that affordable housing schemes tend to accommodate households with relatively lower levels of car ownership.

- 6.9.17** The 2011 Census dataset DC4416EW1a '*Tenure by car or van availability by number of usual residents aged 17 or over in household*' indicates that, across the Manchester merged local authority area (Manchester City Council), 65% of social rented properties (i.e. properties rented from the local authority or housing association) do not have a car.
- 6.9.18** In addition, it is anticipated that parking will be allocated to specific units. Prospective occupiers will be aware of the parking availability at the site and would decide on whether to rent such a property. The proposed level of parking would therefore attract residents with low car ownership that are comfortable walking, cycling and/or using public transport.
- 6.9.19** This is supported by the Transport for London (TfL) 'Residential Car Parking' research paper, which found that developments with more car parking have residents who are more likely to own cars, and that as people's alternatives get better, fewer choose to own a car.
- 6.9.20** Residents and visitors will be encouraged to travel by sustainable modes from the outset through the implementation of a robust Travel Plan at the site. The Travel Plan would highlight the benefits of travelling by on foot, by cycle, and by public transport.
- 6.9.21** Therefore, given the highly accessible nature of the site and the nature of the proposals, it is considered that the proposed parking provision is appropriate.
- 6.9.22** Notwithstanding this, as evidenced in Section 2.1, existing on-street parking is available in the vicinity of the site to cater for visitors, delivery drop-offs, etc.

7 CONCLUSIONS

7.1.1 Eddisons has been instructed by MSV / Caddick to advise on the traffic and transport issues relating to a planning application for a residential development on land at Barnhill Street/Raby Street, Moss Side.

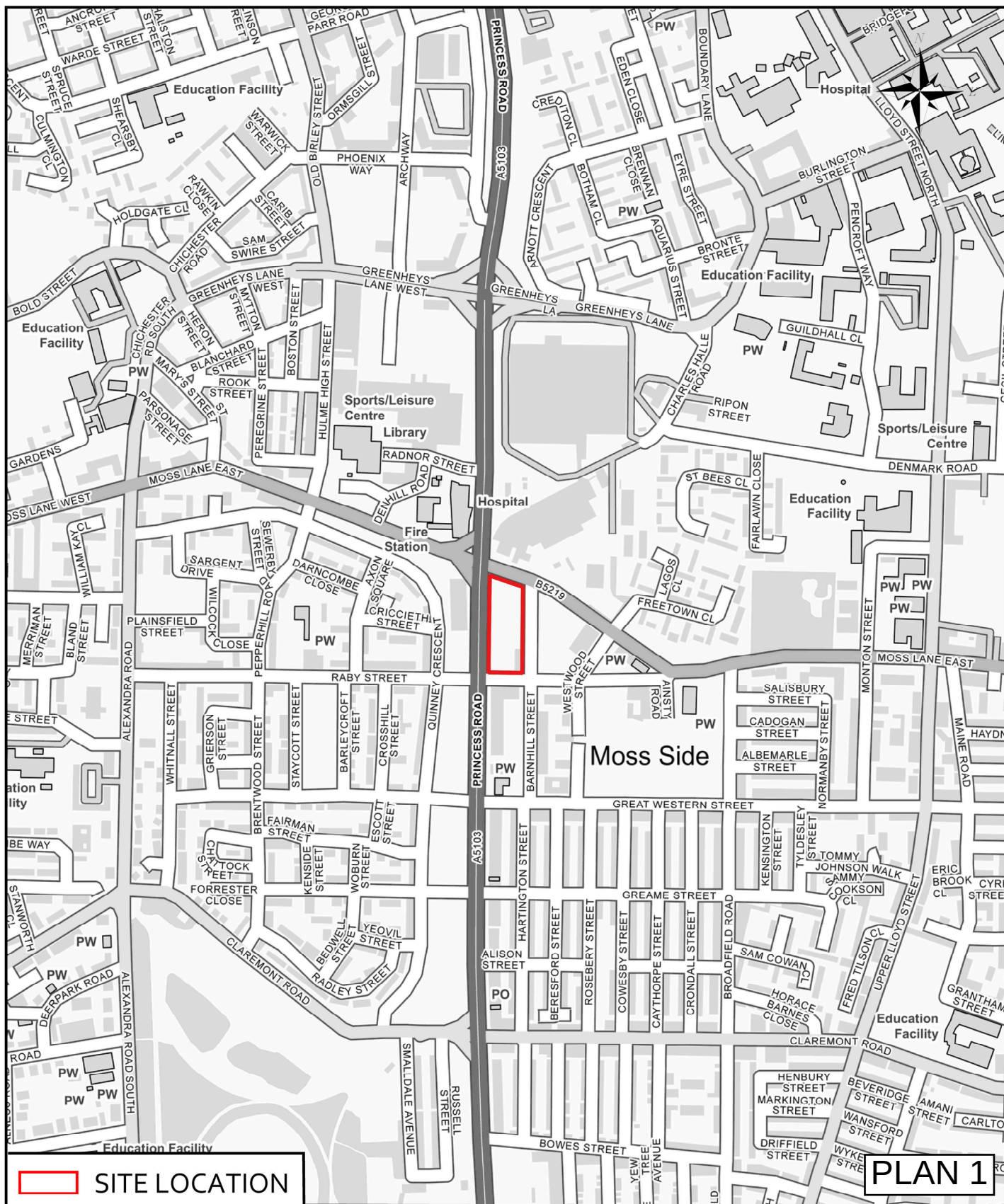
7.1.2 The proposals would provide a total of 212 dwellings comprising of 205 apartments and 7 houses.

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

- The proposed development will be accessed by safe and efficient vehicular access arrangements;
- The report has demonstrated that the proposed development would be highly accessible by non-car travel modes of such as walking, cycling and public transport;
- The traffic impact of the proposals would not be material; and
- Car parking provision is appropriate and consistent with sustainability objectives and promoting walking, cycling and use of public transport.

7.1.4 It can therefore be concluded that the proposals are acceptable in highway terms.

PLANS



CLIENT:

MSV / CADDICK

DRAWING TITLE:

**BARNHILL STREET, MOSS SIDE
SITE LOCATION**

DRAWN:

HJ

DATE:

25.06.25

CHECKED:

TR

DATE:

25.06.25

SCALES:

NTS @ A4

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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

DRAWING NUMBER:

4864-01

REVISION:

-

Eddisons

GROUND FLOOR PLAN



1:200 scale



Note.
Please note any 2bed 3 (61sqm) person shown with a double bed in the 2nd bedroom, is still classified as only a 61sq 2b3p flat to suit NSS.

PLAN 2

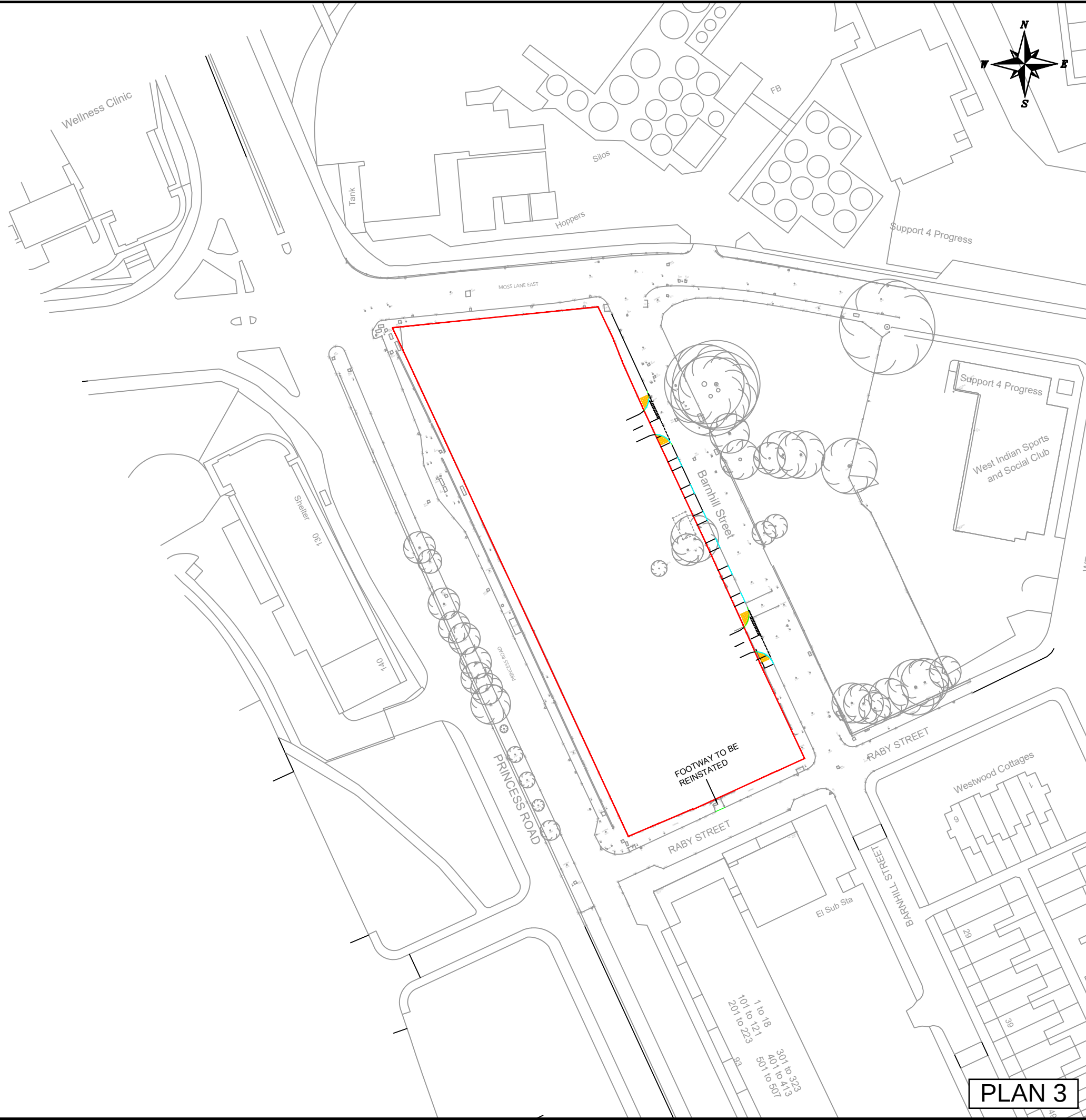
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www.mcau.co.uk

Client
MSV
Project
Land at Barnhill Street/Raby Street
Moss Side
Description
Proposed
Ground Floor Plan

Status
Stage 3 - Planning
Job Number
1215-MCAU
Drawing Number
03-00
Scale
1:200@A1
Date
JAN 25
Revision
P23

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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.

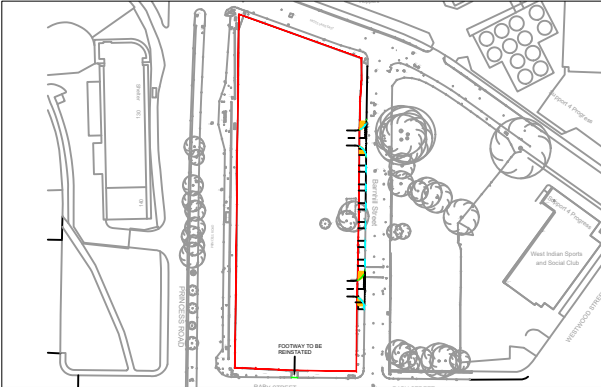
INDICATIVE SITE BOUNDARY

DENOTES NEW KERBS

DENOTES DROPPED KERBS

LOCAL AUTHORITY: MANCHESTER CITY COUNCIL

TOTAL AREA OF SITE: 0.65Ha



SITE LAYOUT NTS

A	UPDATED TO COMMENTS	LB	TR	JUL 25
REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

MSV / CADDICK

PROJECT:

LAND AT BARNHILL STREET/ RABY STREET, MOSS SIDE

DRAWING TITLE:

PROPOSED HIGHWAY WORKS

SCALES:

1:1000 @ A3

DRAWN:	LB	CHECKED:	TR	DATE:	JUL 25
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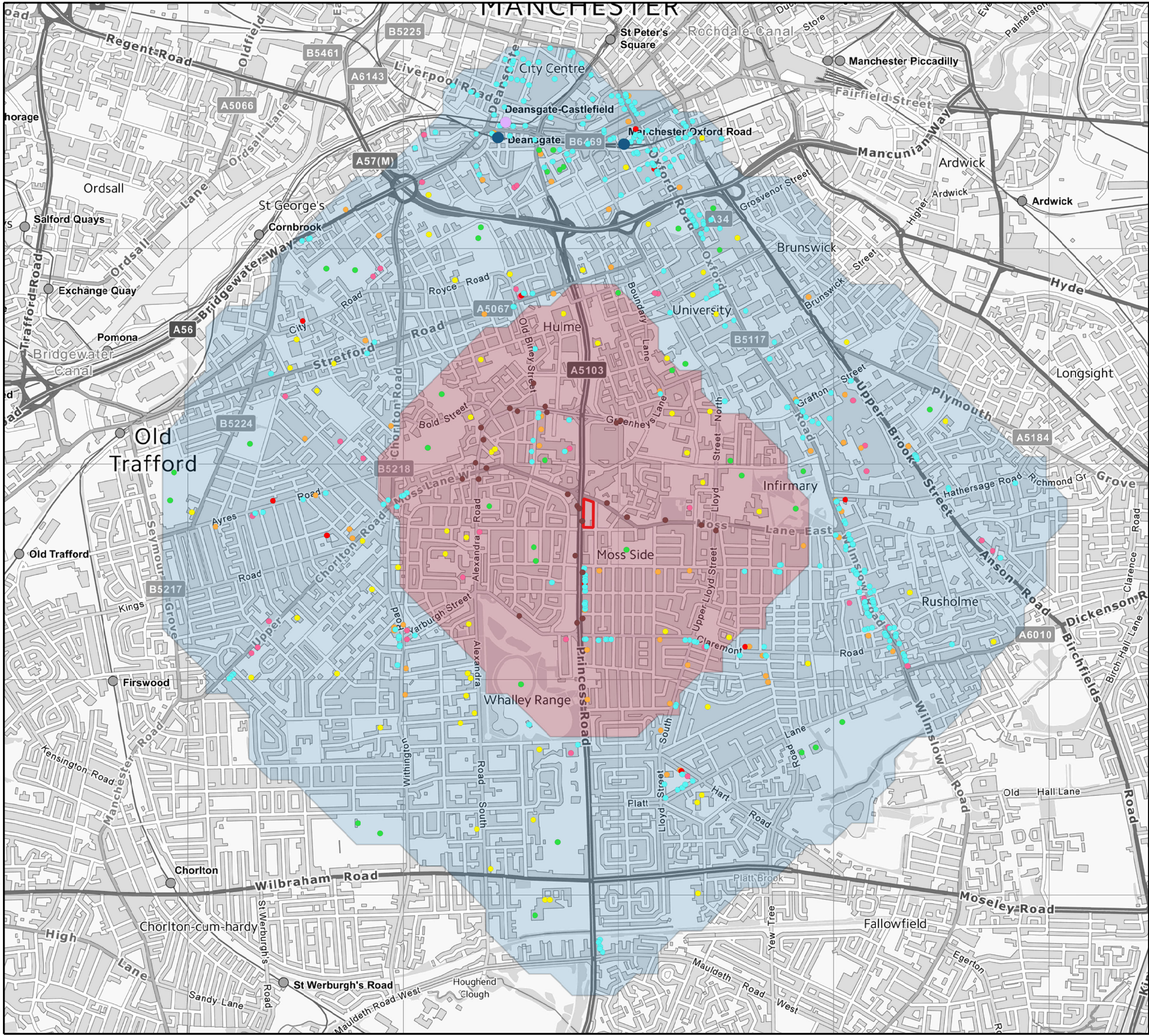
Eddisons
340 Deansgate
Manchester
M3 4LY

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

DRAWING NUMBER:	4864-F01	REVISION:	A
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PLAN 3

Eddisons



NOTES

Site Location

800m Pedestrian Catchment

2km Pedestrian Catchment

Nearest Train Stations

Nearest Tram Stops

Nearest Bus Stops

Café/Takeaway/Public House

Education

Medical/Healthcare

Post Office/Post Box

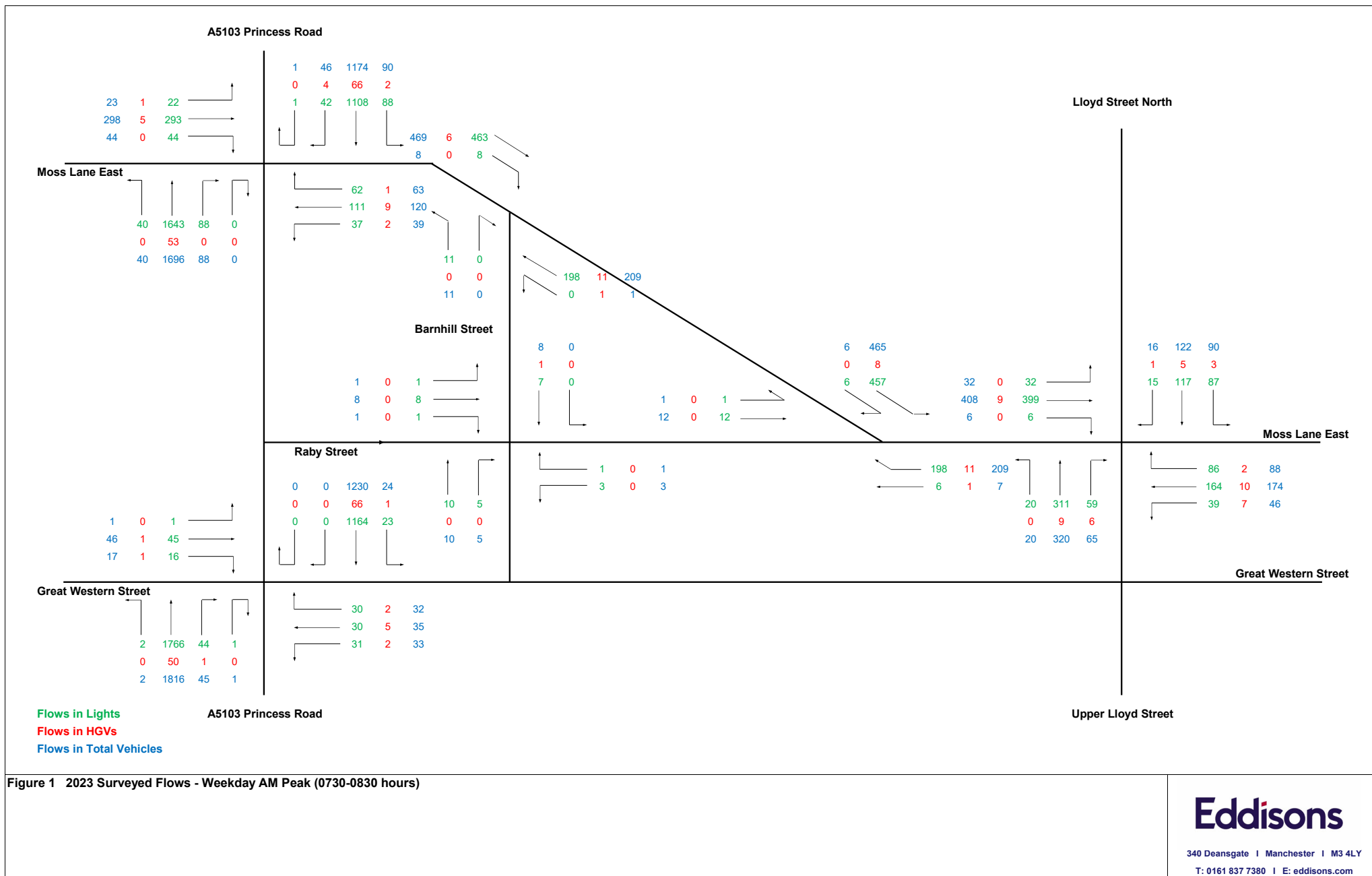
Sport/Leisure/Park

Supermarket/Local Food Store

REV	DETAILS	DRAWN	CHECKED	DATE
CLIENT: MSV / CADDICK				
PROJECT: BARNHILL STREET, MOSS SIDE				
DRAWING TITLE: 800M & 2KM PEDESTRIAN CATCHMENT WITH AMENITIES				
SCALES: NTS @ A3				
DRAWN: HJ		CHECKED: TR		DATE: JUN 25
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DRAWING NUMBER: 4864-03				REVISION: -

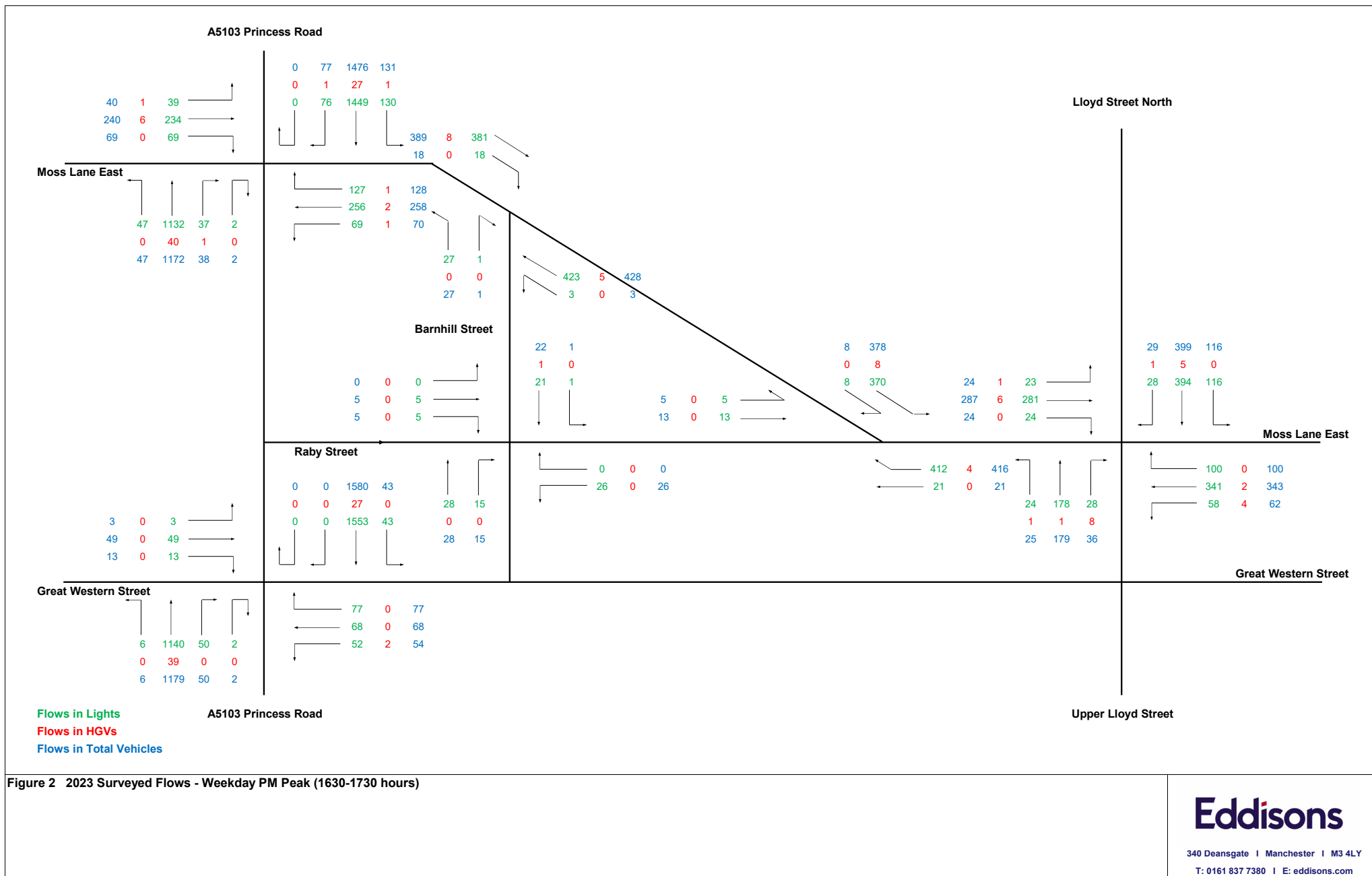
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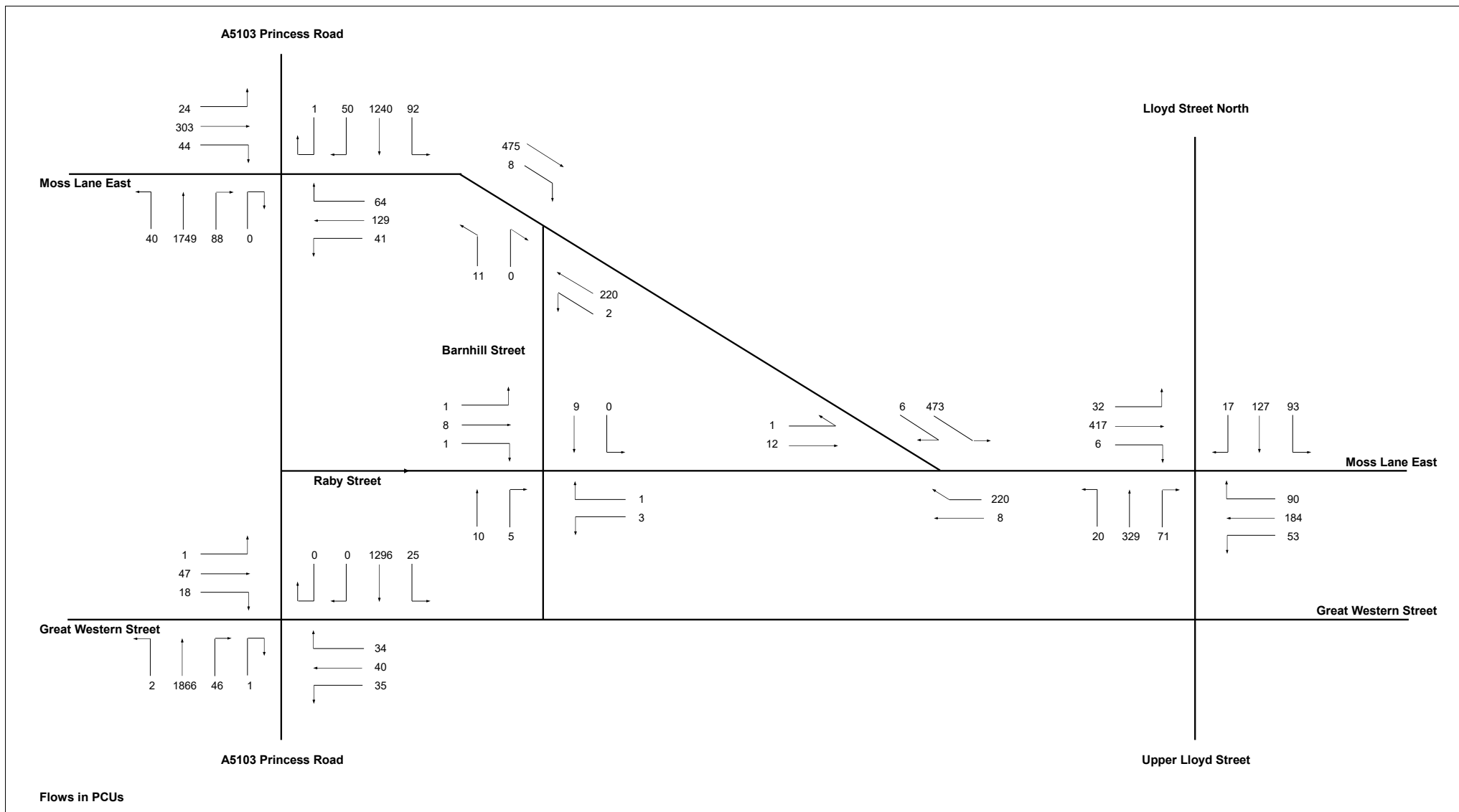
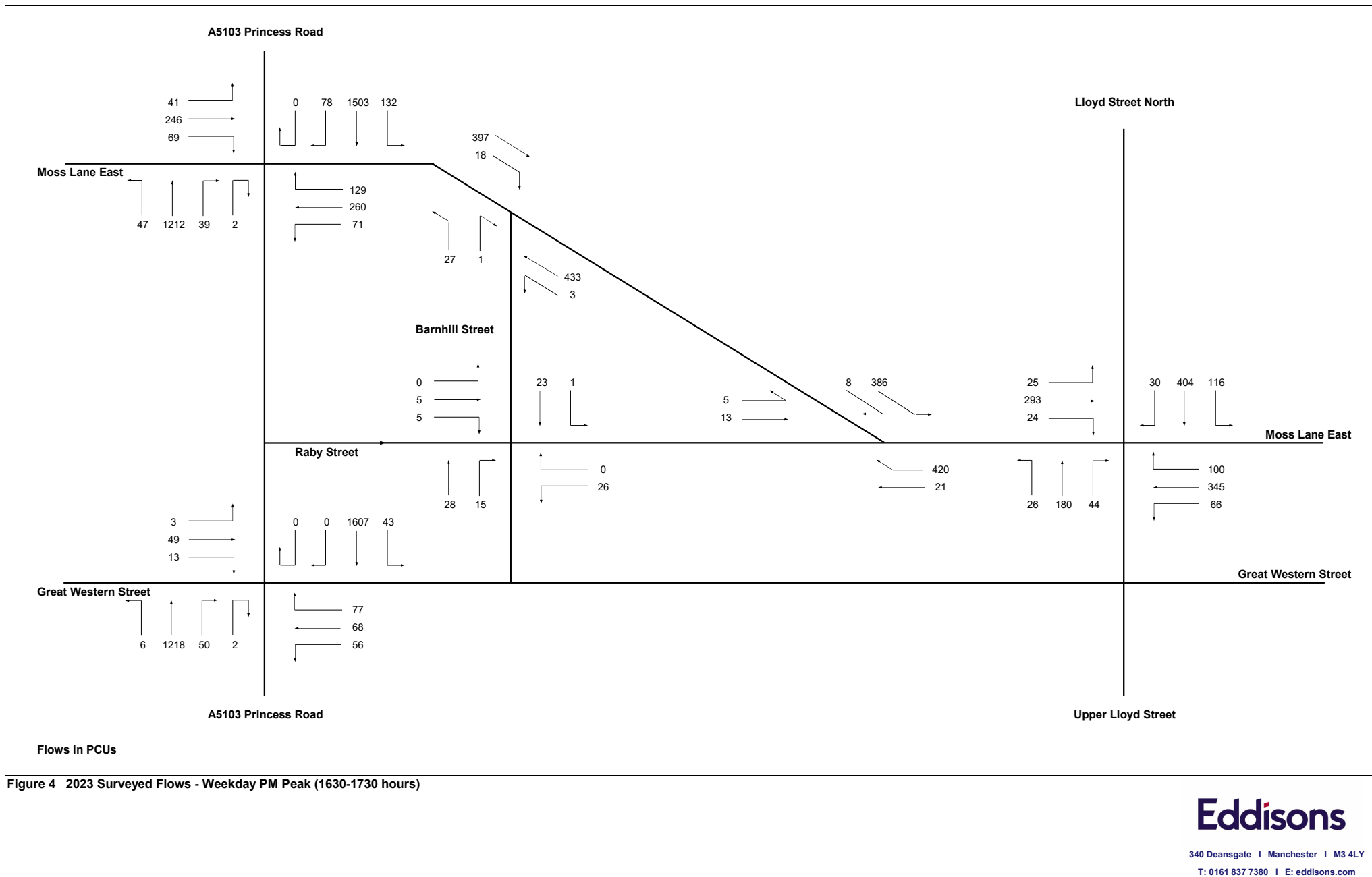
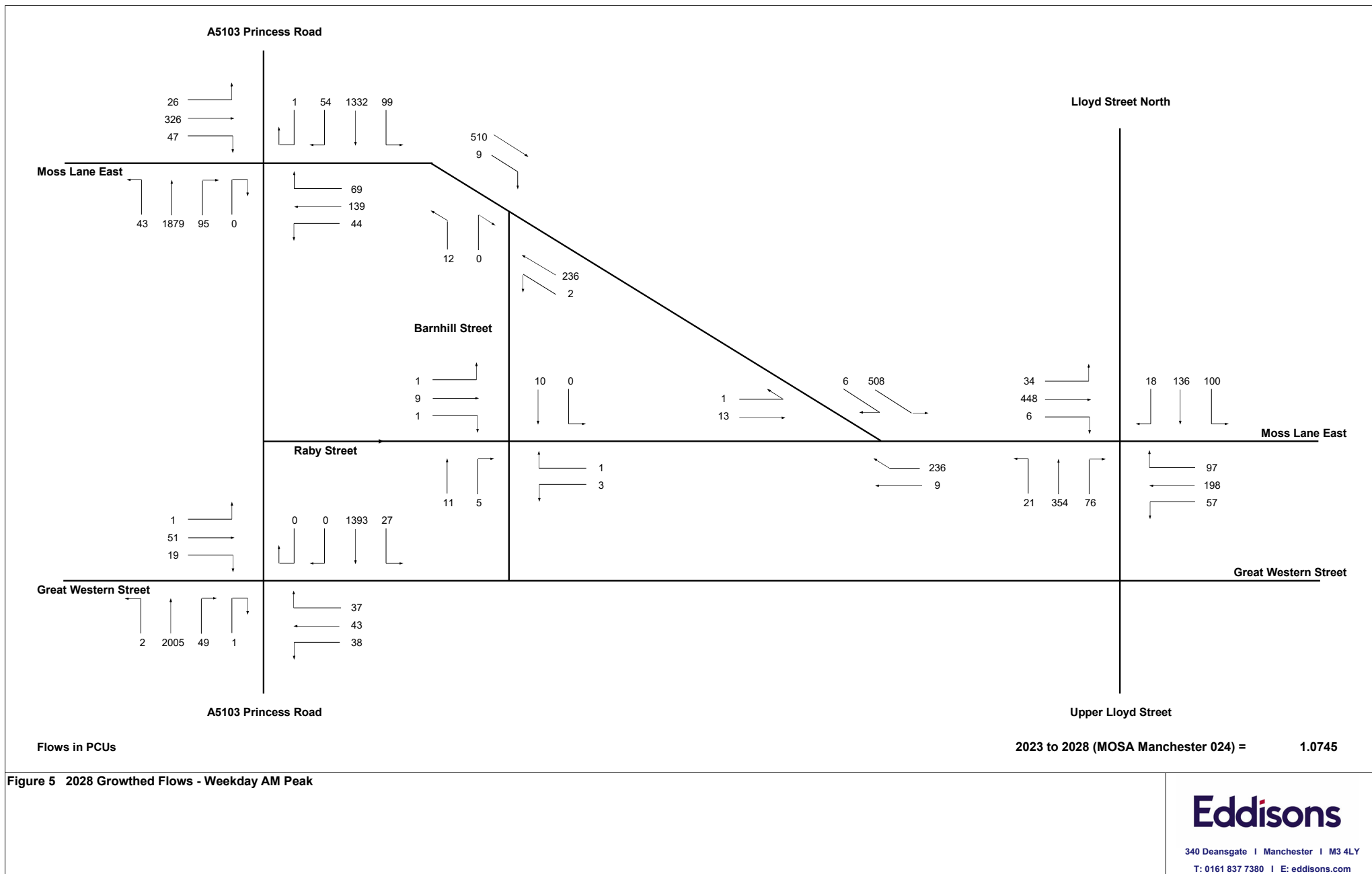


Figure 3 2023 Surveyed Flows - Weekday AM Peak (0730-0830 hours)

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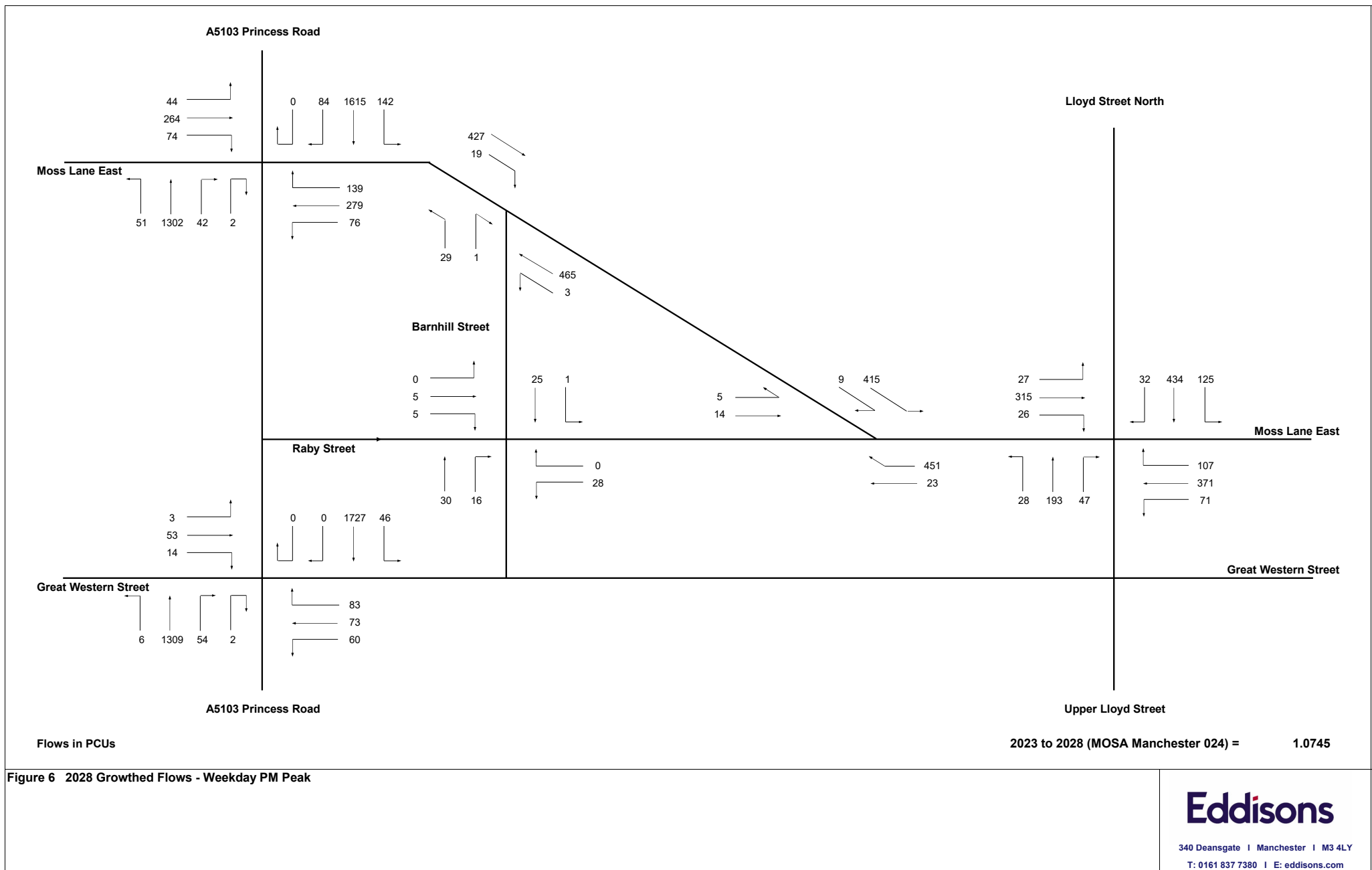
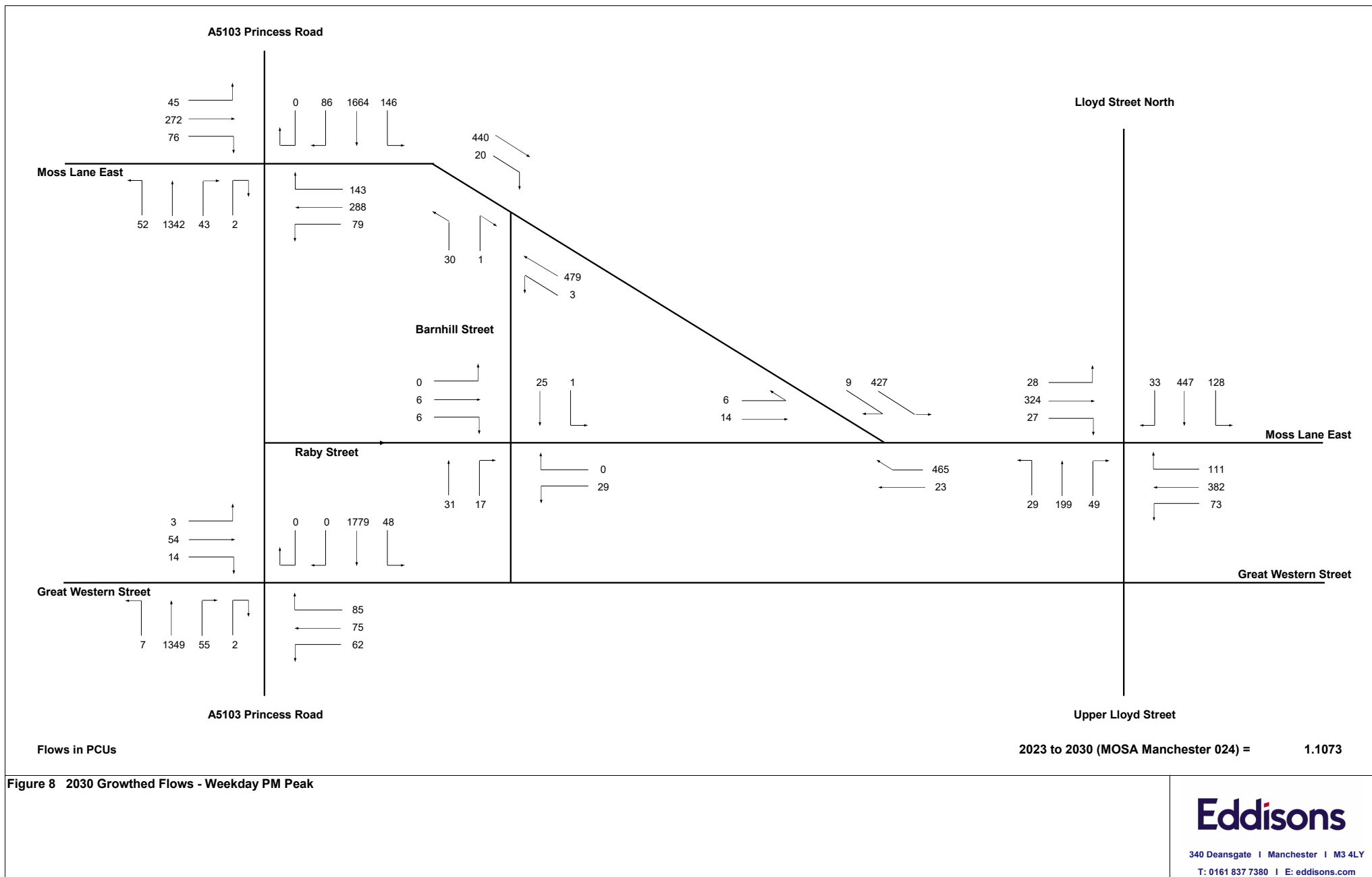


Figure 6 2028 Grownth Flows - Weekday PM Peak

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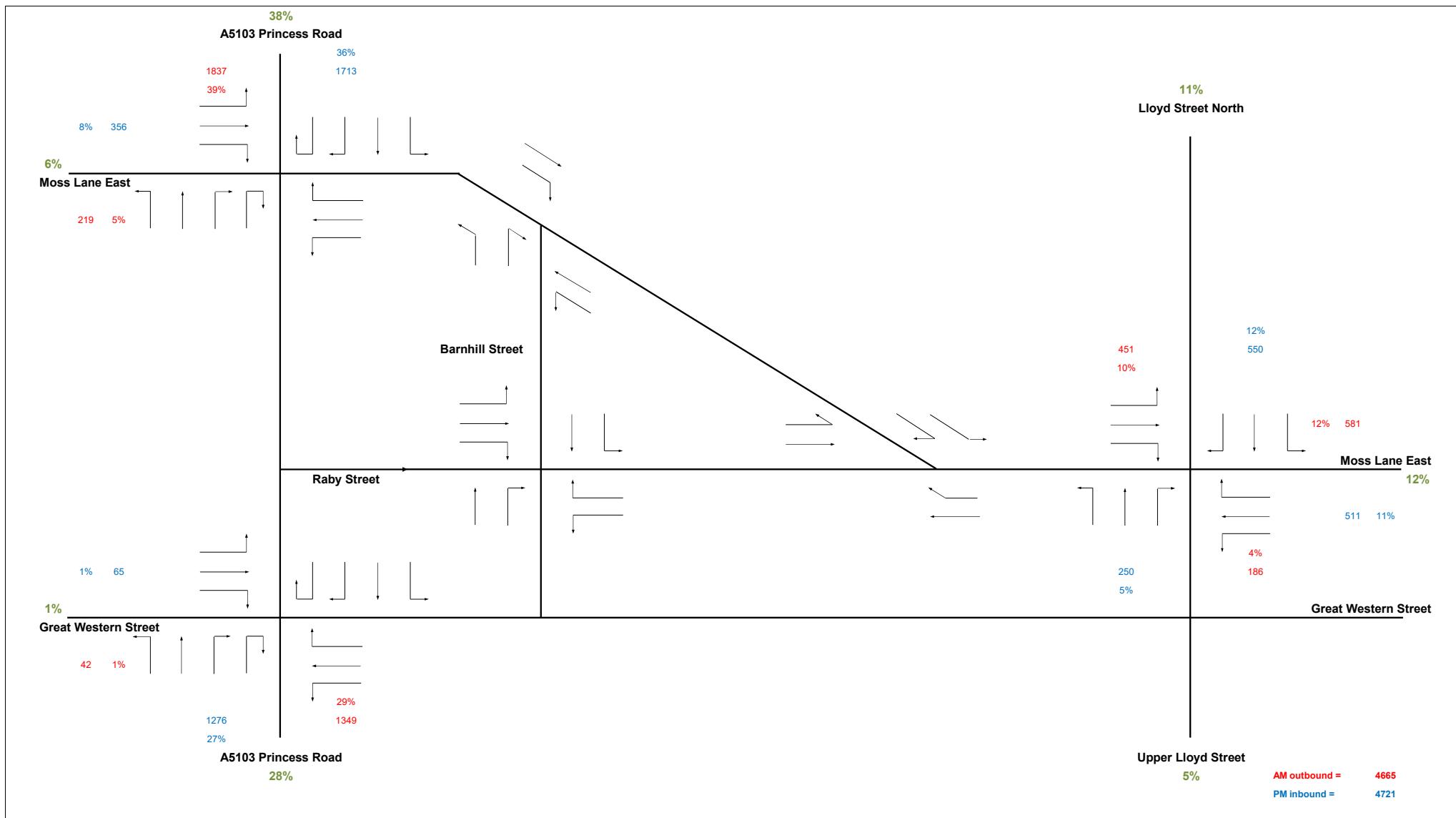


Figure 9 Trip Distribution

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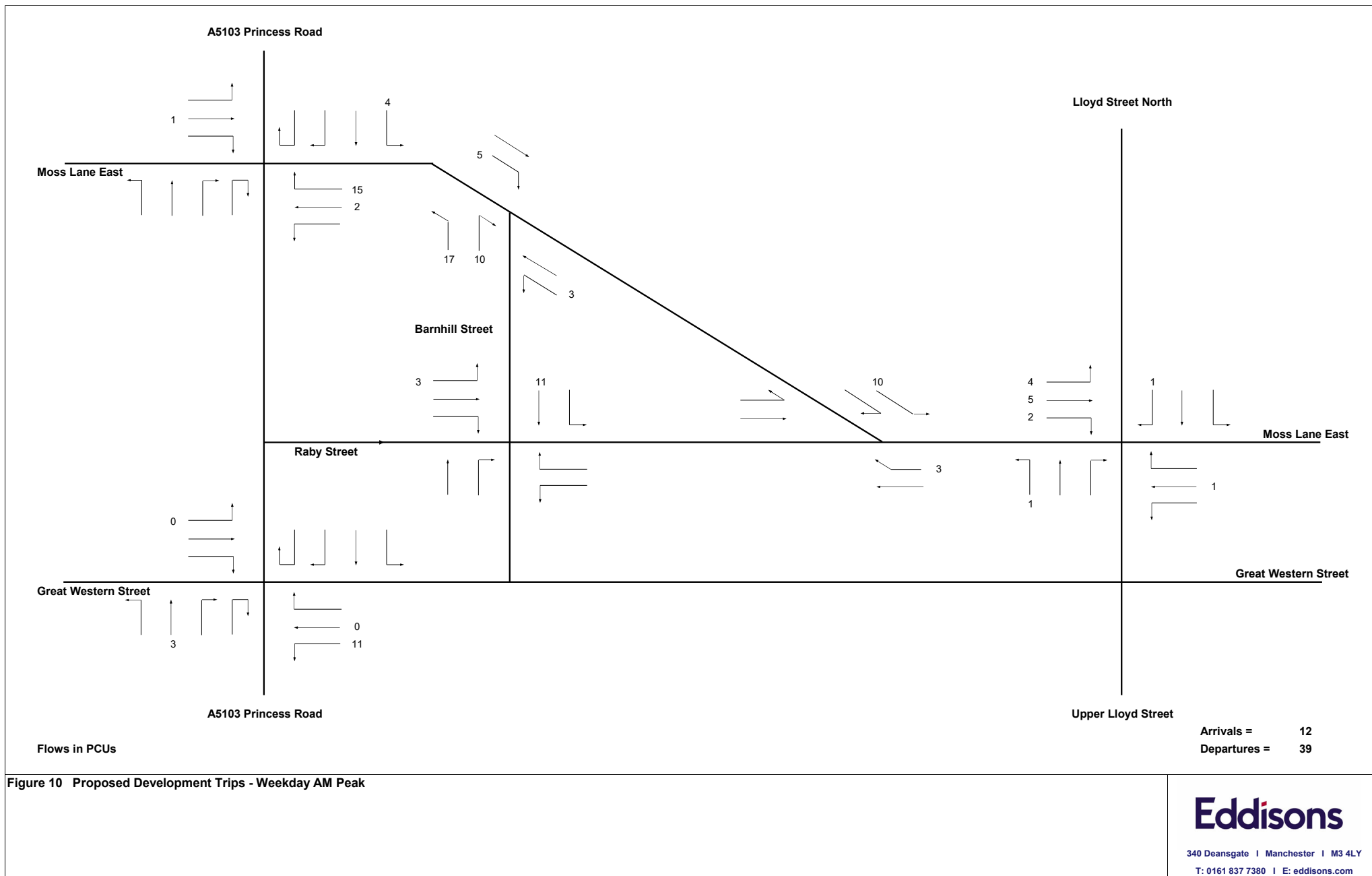


Figure 10 Proposed Development Trips - Weekday AM Peak

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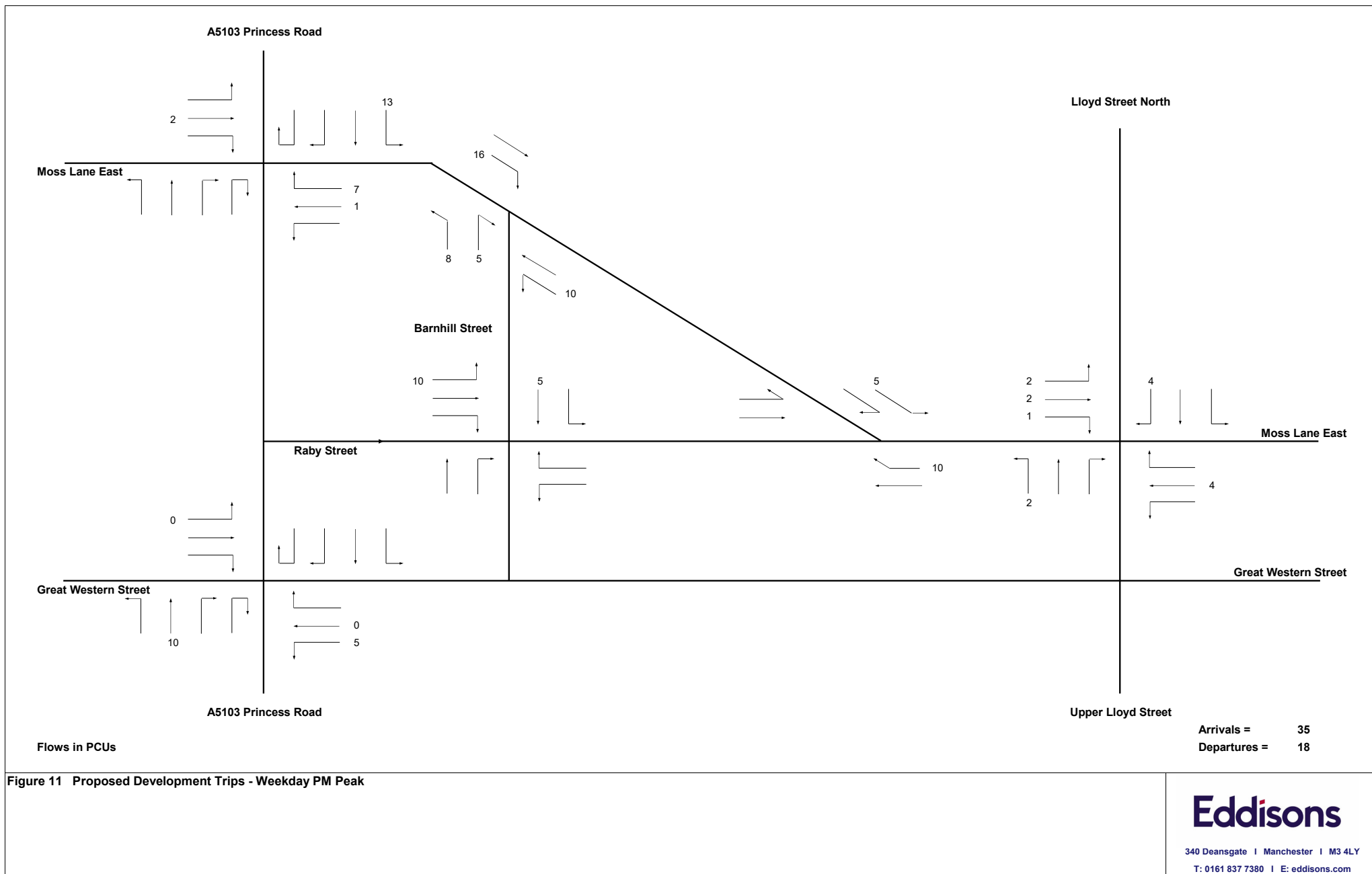


Figure 11 Proposed Development Trips - Weekday PM Peak

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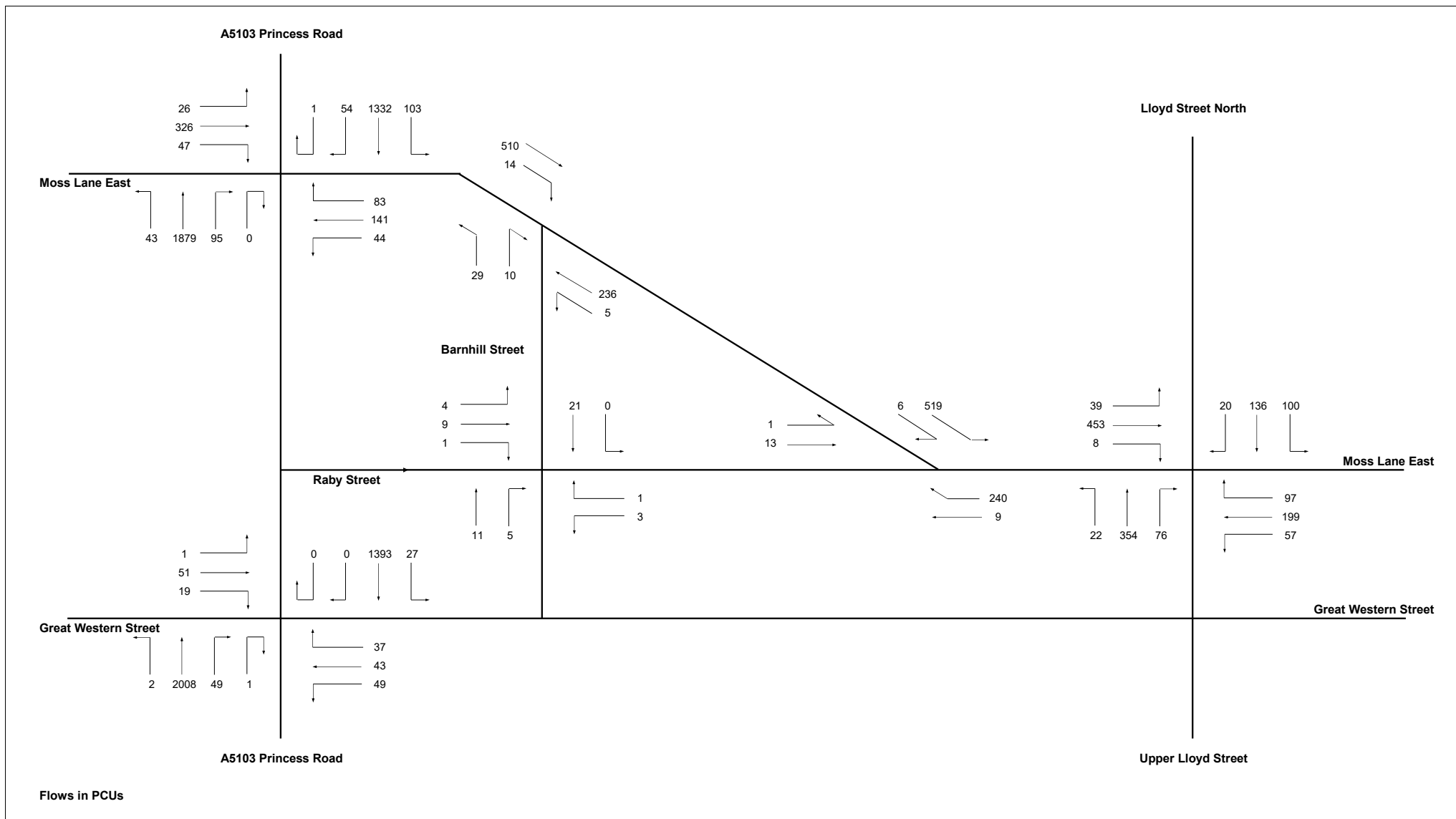


Figure 12 2028 'With Development' Flows - Weekday AM Peak

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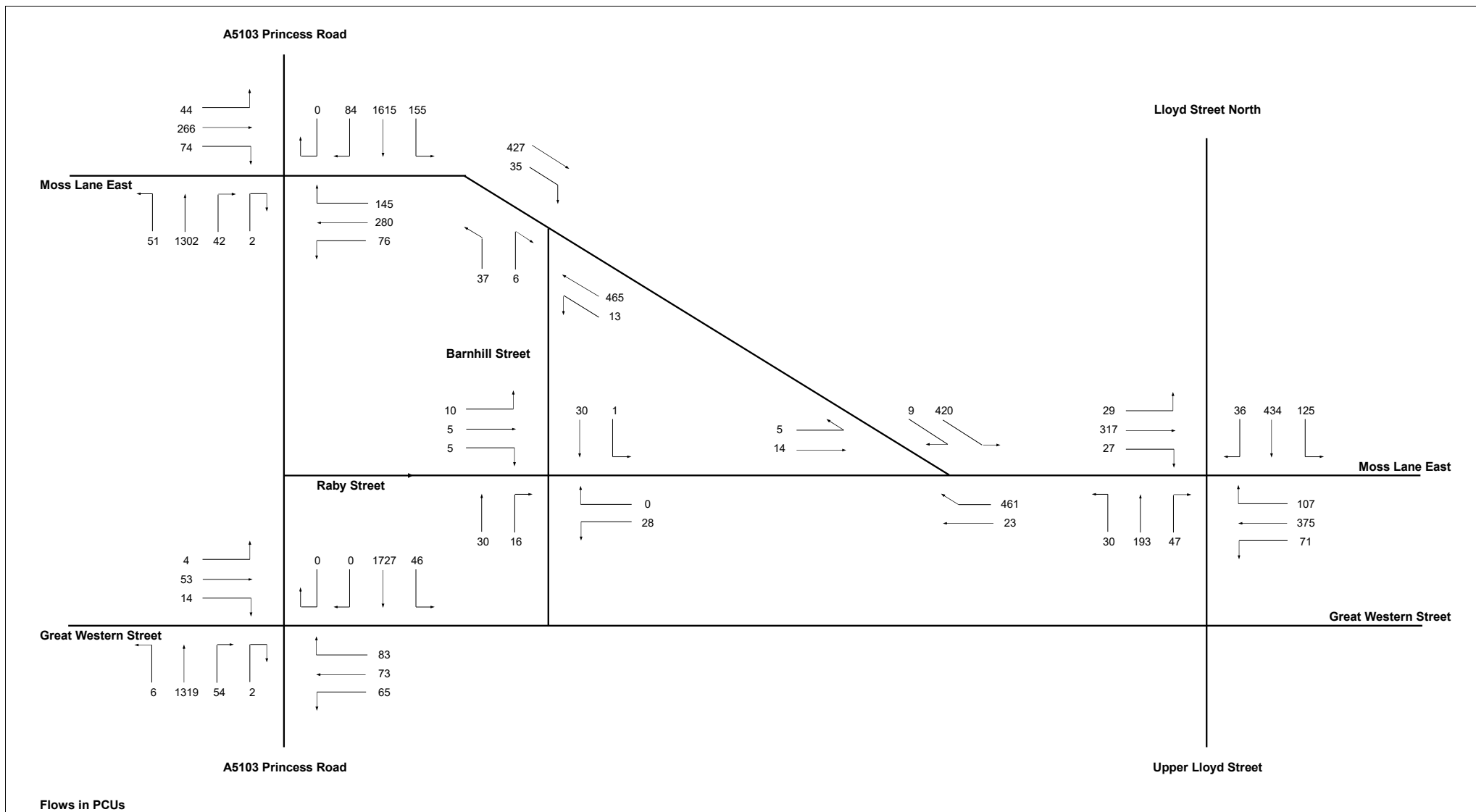


Figure 13 2028 'With Development' Flows - Weekday PM Peak

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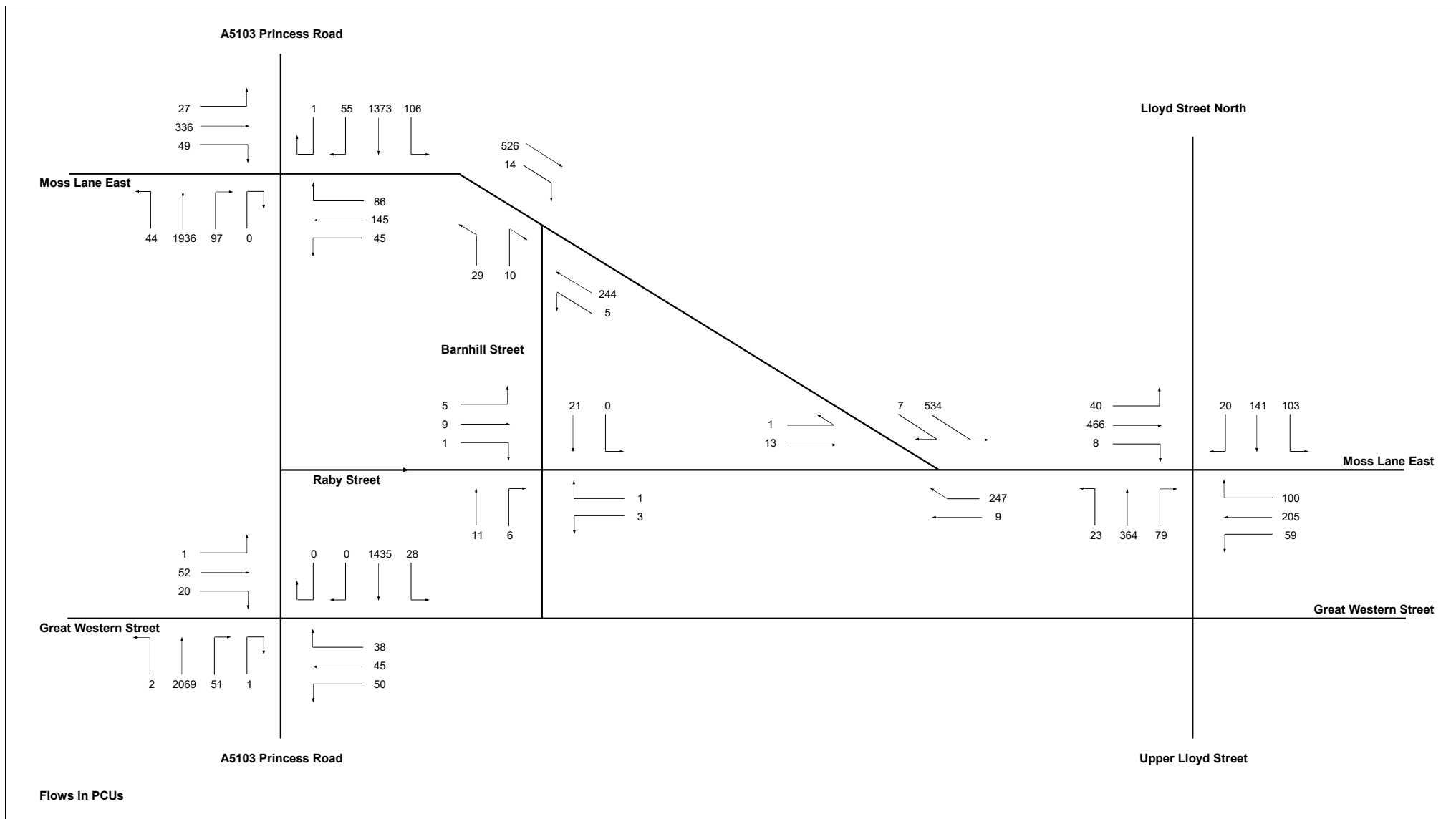


Figure 14 2030 'With Development' Flows - Weekday AM Peak

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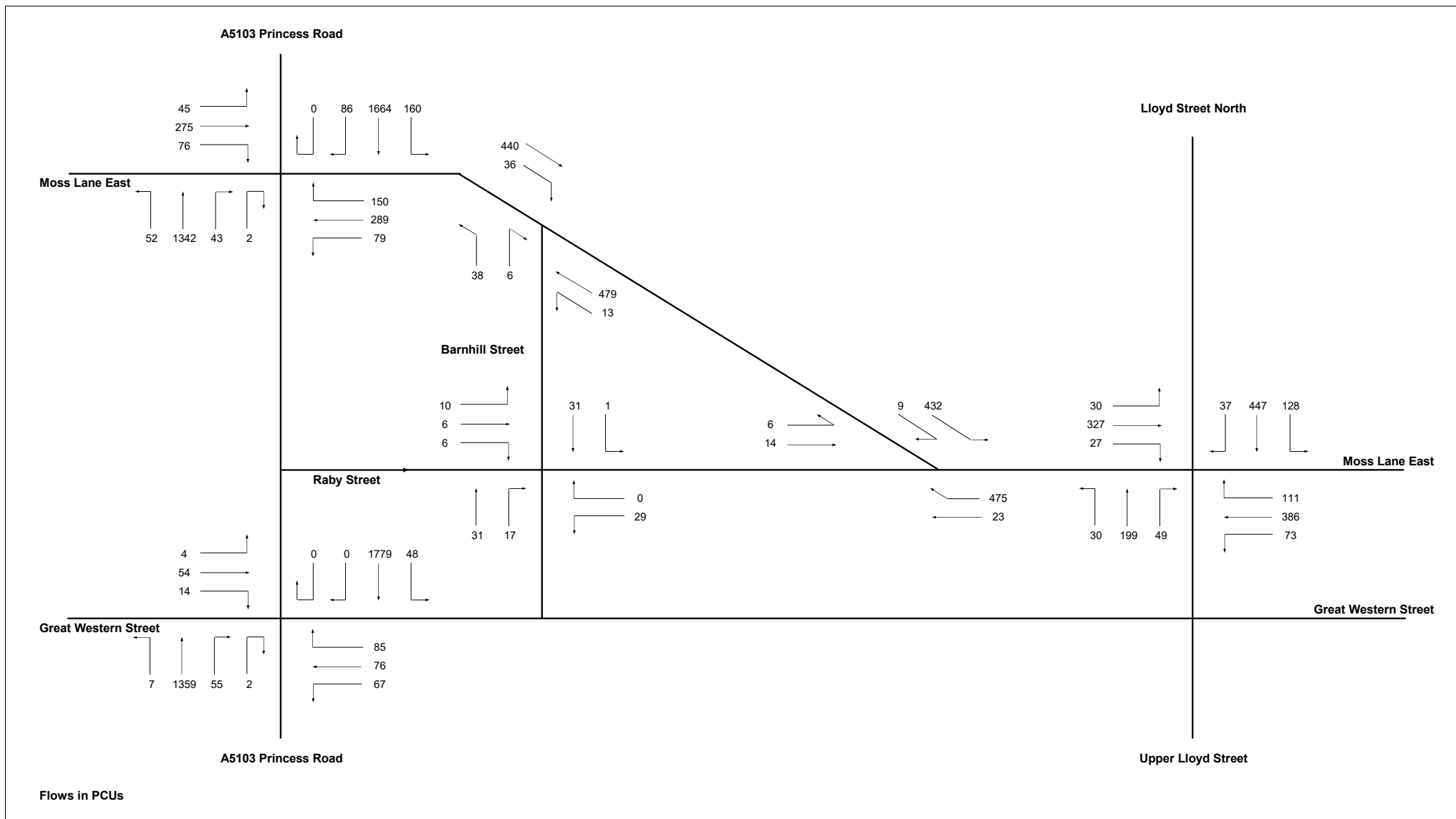


Figure 15 2030 'With Development' Flows - Weekday PM Peak

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APPENDICES

APPENDIX 1

Swept Path Analysis

APPENDIX 2

Framework Travel Plan

FRAMEWORK TRAVEL PLAN

REPORT

DOCUMENT:	Framework Travel Plan
PROJECT:	Land at Barnhill Street/Raby Street, Moss Side
CLIENT:	Caddick
JOB NUMBER:	4684
FILE ORIGIN:	Z:\projects\4864 Moss Side Sites (Caddick)\Docs\Reports\TP4864.1.docx

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CONTENTS

1	INTRODUCTION	1
1.2	Structure of the Travel Plan	1
1.3	The Travel Plan	2
2	TRAVEL PLANNING POLICY AND GUIDANCE.....	3
2.1	Travel Planning Policy	3
2.2	Travel Planning Guidance	3
3	PLAN ADMINISTRATION	5
4	ACCESSIBILITY BY NON CAR MODES.....	6
4.1	Introduction.....	6
4.2	Access on Foot.....	7
4.3	Access by Cycle	12
4.4	Access by Bus	16
4.5	Accessibility by Metrolink	18
4.6	Accessibility by Rail.....	18
4.7	Accessibility Summary	18
5	MANAGEMENT MEASURES	20
5.1	Introduction.....	20
5.2	Appointment of Travel Plan Co-ordinator.....	20
5.3	Resident's Travel Pack	21
5.4	Travel Awareness and Information.....	23
5.5	Promotion of the Lift Share Scheme	23
5.6	Encouraging Walking/Cycling.....	23
5.7	Encouraging Travel by Public Transport.....	23
5.8	Marketing and Promotion	24
6	TRAVEL PLAN TARGETS.....	25
6.1	Introduction.....	25

6.2 Potential Targets 25

6.3 Action Plan..... 26

7 PLAN MONITORING AND ASSESSMENT 28

8 CONCLUSION..... 30

PLANS: Refer to Transport Assessment Document

Plan 1	Site Location
Plan 2	Illustrative Masterplan
Plan 3	2km Pedestrian Catchment

APPENDICES

Appendix 1	Travel Survey Questionnaire
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1 INTRODUCTION

- 1.1.1** Eddisons has been instructed by Caddick to advise on the traffic and transport issues relating to a planning application for a residential development on land at Barnhill Steet/Raby Street, Moss Side. The site location is shown in **Plan 1**.
- 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.
- 1.1.3** The Department for Transport has guidance on the preparation of travel plans which are of relevance to this proposed development in ‘Good Practice Guidelines: Delivering Travel Plans through the Planning Process – Published in April 2009’.
- 1.1.4** Oxfordshire County Council (OCC) also provide Travel Plan guidance in their document ‘Transport for New Developments – Transport Assessments and Travel Plans March 2014’.

1.2 Structure of the Travel Plan

- 1.2.1** Following this introduction, Section 2 details Travel Plan Policy and guidance and presents the ‘Travel Plan Pyramid’.
- 1.2.2** Section 3 sets out a series of management measures that will be implemented as part of the Travel Plan. Section 4 of the Travel Plan considers the accessibility of the site by non-car modes, including walking, cycling and public transport.
- 1.2.3** Section 5 discusses the initial targets for reducing trips by the private car while Section 6 details the monitoring and assessment of the Travel Plan.

1.3 The Travel Plan

1.3.1 The aim of the Travel Plan is as follows:

- To encourage residents and visitors to use alternatives to the private car.
- To increase the awareness of the advantages and potential for travel by more environmentally friendly modes; and
- To introduce a package of management measures that will facilitate travel by modes of transport other than the private car.

2 TRAVEL PLANNING POLICY AND GUIDANCE

2.1 Travel Planning Policy

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

2.2 Travel Planning Guidance

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

2.2.2 The Department for Transport's (DfT's) 'Making Residential Travel Plans Work', has been superseded by the National Planning Practice Guidance, but still provides relevant guidance on the preparation of Travel Plan. That guidance introduced the concept of a 'Travel Plan Pyramid'. This helps demonstrate how successful plans are built on the firm foundations of a good location and site design. The pyramid is presented in **Figure 2.1** below.

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

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



Figure 2.1 The Travel Plan Pyramid

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

3 PLAN ADMINISTRATION

- 3.1.1** The administration of the Travel Plan (once implemented) will be the responsibility of the developer.
- 3.1.2** The developer will be required to designate a Travel Plan Coordinator (TPC) for the residential development. The TPC will be responsible for implementing the Travel Plan and will be point of contact for the residents and the Local Planning Authority (LHA).
- 3.1.3** Details of the TPC will be submitted to the LHA one month prior to the first occupation of the site. Similarly, the TPC details will be provided to all personnel at the development, such as those in the sales office for example.
- 3.1.4** The TPC will therefore become the first point of contact for residents, the LHA and other outside organisations in all matters regarding travel including TPCs from other local sites.
- 3.1.5** Prospective buyers will be made aware of the Travel Plan and its aims at the earliest opportunity, such as when viewing and enquiring about properties. The Residents Travel Pack, discussed in more detail below, will also form part of a Prospective Buyers Information Pack.
- 3.1.6** The TPC will also develop and manage the Travel Plan for the site as the document evolves over time. The duties will include monitoring, reviewing targets and forming action plans if the Residential Travel Plan is not performing in some areas.

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.

4.1.3 The NPPF confirms that *‘Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes’* though it is recognised that *‘opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.’*

4.1.4 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.

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

- accessibility on foot;
- accessibility by cycle;
- accessibility by bus;
- accessibility by Metrolink; and
- accessibility by train.

4.2 Access on Foot

- 4.2.1 It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.
- 4.2.2 Existing footways are provided along Moss Lane East, Barnhill Street, Raby Street and Princess Road. These link to the wider pedestrian network.
- 4.2.3 This provision provides links to a comprehensive network of routes within Moss Side and further, which provide safe pedestrian movement to the local amenities and facilities provided in the area. Dropped kerbs and tactile paving are provided at all key junctions between the application site and the day-to-day amenities within Moss Side.
- 4.2.4 The DFT National Travel Survey of 2022 confirms that 83% of all trips less than a mile (1.6km) are carried out on foot.
- 4.2.5 The Institute of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot', provides information on acceptable walking distances. Table 3.2 of that document 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

4.2.6 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.'*

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

4.2.8 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

4.2.9 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;
- Education – 3,200 or 4,800 metres;

- Personal business – 1,600 metres.

4.2.10 Overall, in Table 5.1 of that document it states that 1,950 square metres is the 85th percentile distance for walking as the main mode of travel. Table 4.4 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 4.4 WYG Report/NTS Data Walk Distances

4.2.11 In summary, the distance of 1,950 metres, or around 2km, represents an acceptable maximum walking distance for the majority of land uses.

4.2.12 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.'

4.2.13 A 20-minute walk equates to a walking distance of around 1,600 metres.

4.2.14 In light of the above, a pedestrian catchment of 2km and 800m from the centre of the site, using all usable pedestrian routes, has been provided in **Plan 3**.

4.2.15 The 800-metre pedestrian catchment encompasses the surrounding area of the site including Moss Side, Hulme and a small part of Whalley Range, including the nearest bus stops to the site along Princess Road and Moss Lane East, local convenience stores and various educational facilities.

- 4.2.16 The 2km pedestrian catchment stretches further into areas such as Old Trafford, Rusholme and into the City Centre, including the university campus, train and tram stops, several cafés and public houses, health centres and open green spaces. Clearly, this represents a key destination for potential employment, retail and leisure trips.
- 4.2.17 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 Table 4.5 below.

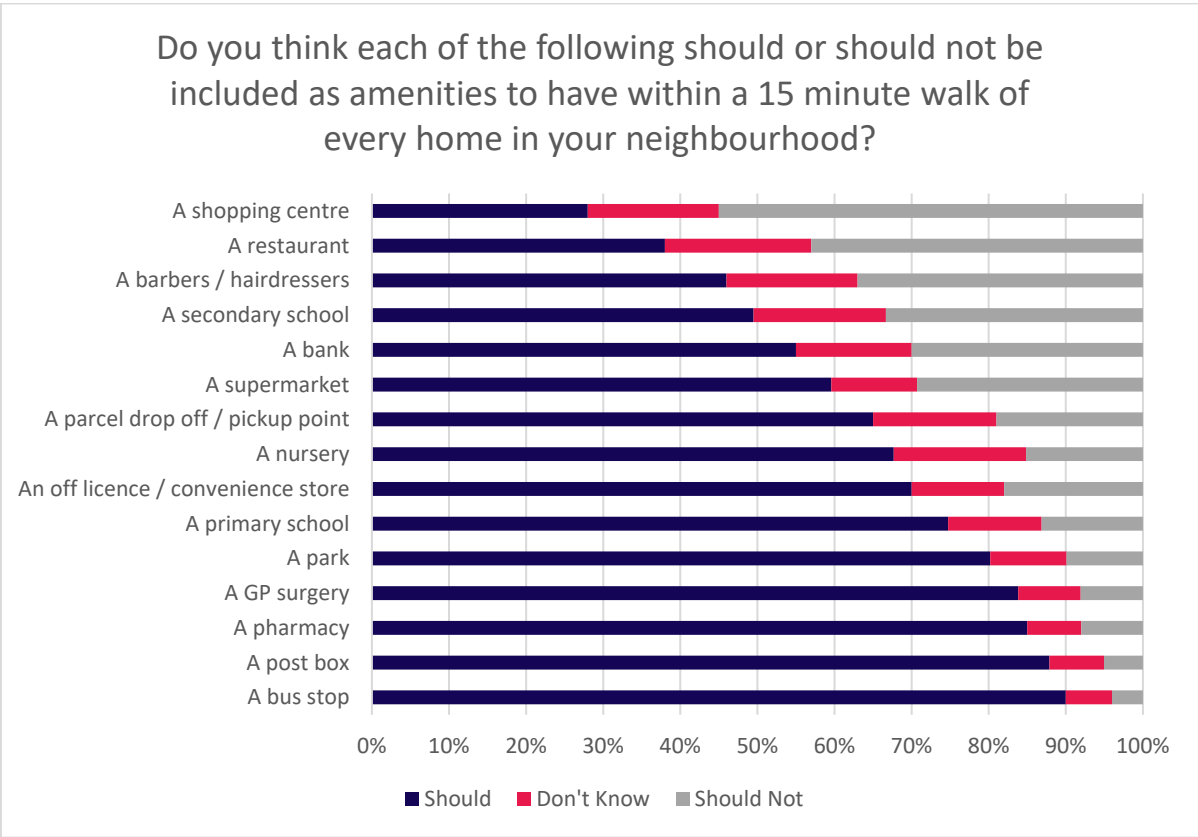


Table 4.5 YouGov Poll Results (Source YouGov)

- 4.2.18** Table 4.5 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.
- 4.2.19** As can be seen in Plan 3, the site is located in close proximity to a number of a local amenities, including a bus stop, a post box, a pharmacy / GP surgery, and a local convenience store.
- 4.2.20** Table 4.6, below, shows the walking distance from the centre point of site 1 and 2 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?
Princess Road Bus Stop	30m	1,600m	YES
The Wellington Medical Centre	190m	1,600m	YES
Princess Road Post Office	380m	1,600m	YES
ASDA	390m	1,600m	YES
Moss Side Leisure Centre	465m	1,600m	YES
KFC	510m	1,600m	YES
Great Western Off-Licence	625m	1,600m	YES
Moss Side Health Centre	665m	1,600m	YES
Webster Primary School	750m	3,200m	YES
Manchester Academy High School	900m	3,200m	YES
Whitworth Park	1,050m	1,600m	YES
The Ducie Arms	1,265m	1,600m	YES

Table 4.6 Distance from Site to Local Facilities

4.2.21 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 Advice in the recently updated Highway Code seeks to improve the safety of vulnerable road users including cyclists, pedestrians, and horse-riders. 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.
- 4.3.3 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.'*
- 4.3.4 A distance of 8km (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 areas including Manchester, Salford and Trafford Park.
- 4.3.5 The closest cycle route to the proposed site is National Cycle Route 6, which is around 160 metres to the west, travelling along Quinney Crescent down towards Alexandra Park.
- 4.3.6 National Cycle Route 6 is located to the north of the site. It provides access from Salford where it then travels south through Manchester city centre and continues south through Moss Side and Whalley Range. From here it runs east through Fallowfield and Levenshulme. It is both an on and off-road cycle route.
- 4.3.7 An on-road route is also available along Oxford Road, around 1km to the east of the site, which provides a connection to Manchester city centre to the north and extends towards Chorlton to the south.
- 4.3.8 This is shown in Figure 4.1, below, shows the existing cycle routes in the vicinity of the site.

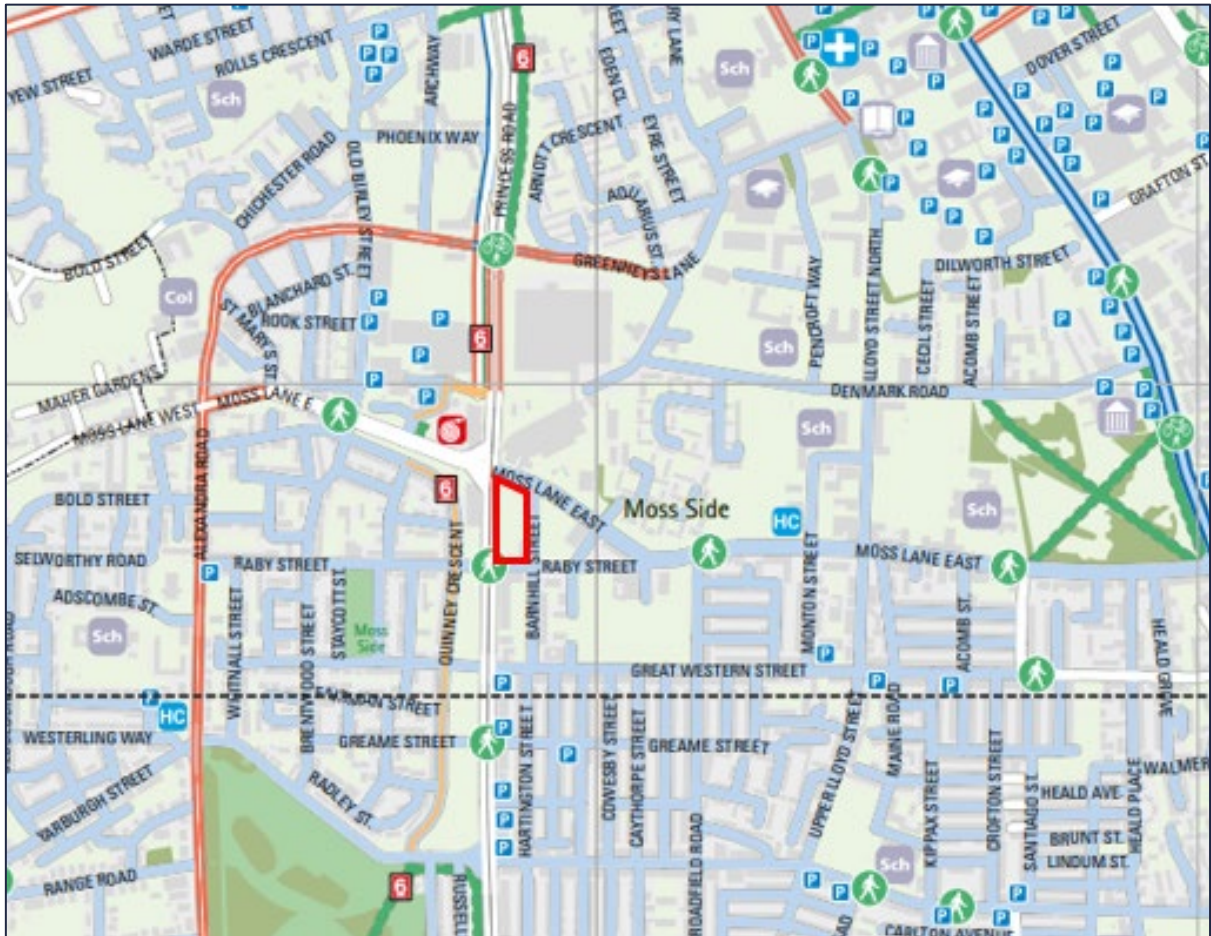


Figure 4.1 Extract from TfGM Cycle Map

- 4.3.9 Cycle Route 6 connects with Cycle Route 60 along the Fallowfield Loop, south to the site. Route 60 runs between north and east Manchester, making up most of the Fallowfield Loop between Chorlton-cum-Hardy and Gorton before heading along the filled-in Stockport Branch Canal. To the west route 60 connects with cycle route 55.
- 4.3.10 National Cycle Route 55 starts in Salford Quays then runs south to the south of Whalley Range. It is also a on and off-road cycle route and is located approximately 2.8 km from the centre of the site.
- 4.3.11 Figure 4.2, below, displays National Cycle Routes 6, 60 and 55 in proximity to the proposed site.

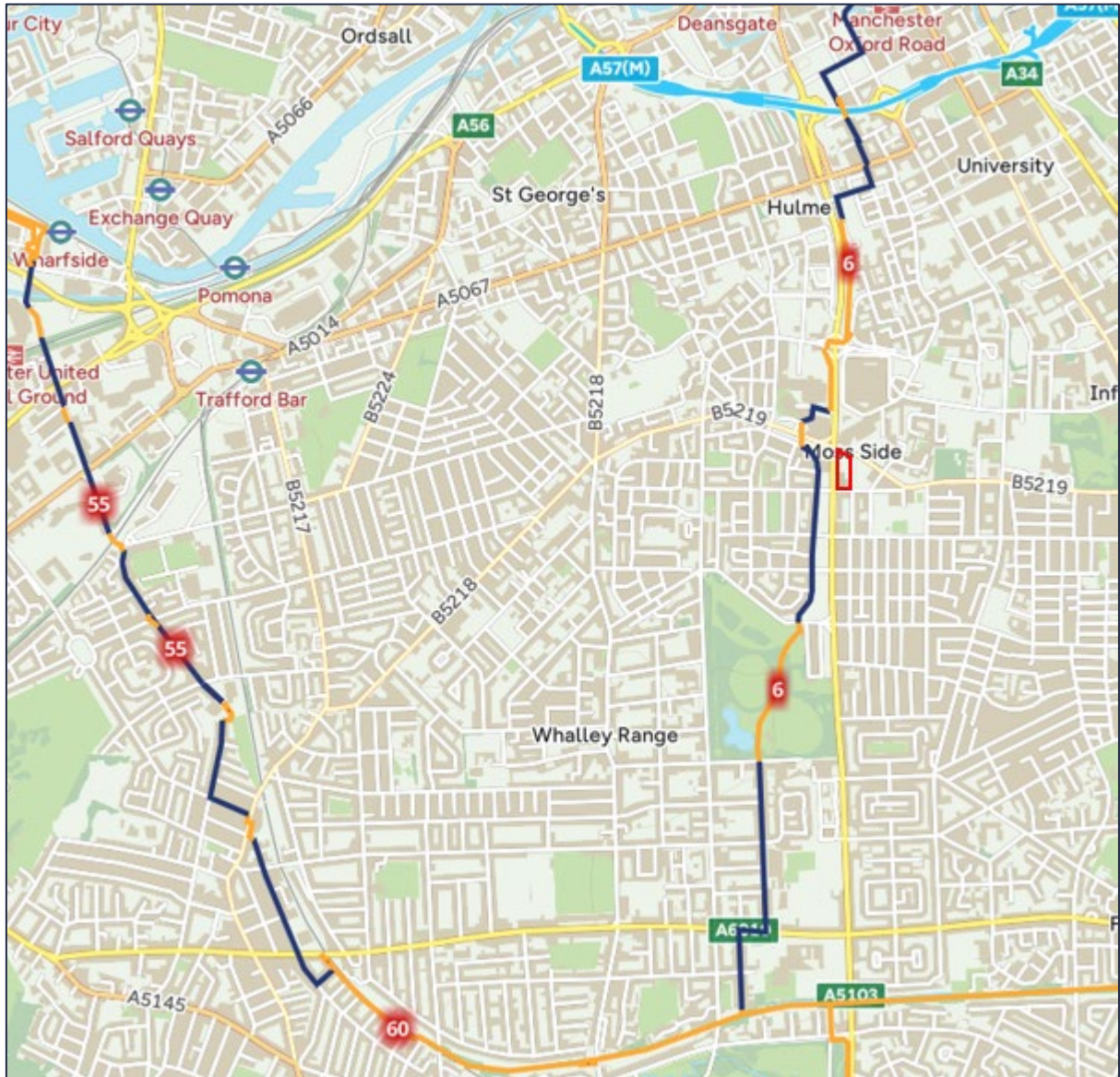


Figure 4.2 National Cycle Route Map (Sustrans)

4.3.12 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 stop to the site is located along Princess Road, immediately to the west of the development site. This stop consists of a bus stop pole, shelter, seating area and timetable. Additional bus stops are located further along Princess Road, a short distance southward, and along Moss Lane East to the north of the site. All the nearest bus stops to the site are shown on Plan 3.

4.4.3 A summary of the services available from the nearest bus stops from the development site is provided in Table 4.7 below.

Servic 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	
15	Manchester - Flixton	5	Every 20 mins	11	1	Every 20 mins	12	Every 60 mins
101	Manchester - Wythenshawe	8	Every 10 mins	20	5	Every 15 mins	19	Every 30 mins
102	Manchester - Chorlton	0	0	0	0	0	0	Every 60 mins
103	Manchester - Mcr Airport via Wythenshawe	6	Every 30 mins	12	4	Every 30 mins	12	Every 60 mins
720	Cornbrook - Moss Side - Chorlton - Arrowfield Estate - Loreto High school	1	1	-	-	-	-	-
728	Brooks Bar - Hulme - Moss Side - Fallowfield - Burnage	1	1	-	-	-	-	-

739	Belle Vue - Beswick - Ancoats - Moss Side - Fallowfield	1	1	-	-	-	-	-
742	Burnage - Heaton Moor - Heaton Chapel - Levenshulme - Hulme	-	3	-	-	-	-	-

Table 4.7 Existing Bus Services Operating in the Vicinity of the Site

- 4.4.4** As can be seen from Table 4.7, the nearest bus stops to the site provides various services throughout the day to destinations such as Picadilly Gardens, Wythenshawe, Chorlton and Manchester Airport.
- 4.4.5** It is noted that the above services provide a choice of how people travel with the bus services operating from around 05:00am to around 01:00am, making travel by public transport a real alternative to travelling by car for commuting trips.
- 4.4.6** In order to demonstrate the level of accessibility some example journey times by bus are presented below Table 4.8 below.

Destination	Duration
Picadilly Gardens	20 mins
Wythenshawe	29 mins
Manchester Airport	55 mins

Table 4.8 Example Bus Journey Times from the Site

- 4.4.7** The above table demonstrates that Manchester Picadilly Gardens is a 20-minute bus journey, Wythenshawe is just a 29-minute bus journey from the site and Manchester Airport is just a 55-minute bus journey.
- 4.4.8** It is therefore concluded that the proposed development site is accessible by bus.

4.5 Accessibility by Metrolink

- 4.5.1** The nearest tram stop to the site is Deansgate – Castlefield Tram Stop, which can be accessed via a 35-minute walk, 9-minute bus journey on the 103 or 101 service or by a 10-minute cycle from the site.
- 4.5.2** This tram stop is a part of the Greater Manchester's Metrolink, and has 2 platforms offering services to destinations such as Altrincham, Bury, The Trafford Centre, Manchester Victoria and Eccles.
- 4.5.3** This provides opportunities for commuting/leisure opportunities from the site via tram.

4.6 Accessibility by Rail

- 4.6.1** The nearest station located to the site is Manchester Oxford Road, which can be accessed via an 11-minute bus journey on the 101 or 103 service, a 34-minute walk or 10-minute cycle.
- 4.6.2** This train station is managed by Northern and has 5 platforms, offering 20 services per hour to destinations such as Liverpool, Blackpool, Llandudno, Manchester Airport, Glasgow Central and Norwich, providing links to nationwide destinations.
- 4.6.3** The station has 72 cycle parking spaces located in a cycle hub outside the front of the station as well as facilities between platforms 4 and 5, which are covered by shelter and CCTV.
- 4.6.4** This provides opportunities for commuting/leisure opportunities from the site via rail.

4.7 Accessibility Summary

- 4.7.1** The proposals have been considered in terms of accessibility by non-car modes for the proposed development.
- 4.7.2** 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 a number of national cycle routes being located within close proximity of the site;
- the services from the bus stops on Princess Road and Moss Lane East, travelling to destinations such as Manchester Picadilly, Wythenshawe and Manchester Airport, shows that the proposed development can be considered as accessible by bus; and
- The site is accessible via tram with Deansgate-Castlefield Tram stop located a short bus journey away, additionally the site is also accessible via rail with Manchester Oxford Road station located just a short bus journey away.

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

5 MANAGEMENT MEASURES

5.1 Introduction

5.1.1 The following provides a summary of the measures that will be implemented by this Travel Plan, which are discussed in more detail below:

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

5.2 Appointment of Travel Plan Co-ordinator

5.2.1 A Travel Plan Co-ordinator (TPC) will be appointed by the housebuilder or developer at least one month prior to occupation of the first dwelling.

5.2.2 The TPC will be responsible for all aspects of the Travel Plan. Their primary functions will be:

- Liaison with the local planning and highway authorities;
- Provision of a Resident's Travel Pack containing information for residents;
- Promotion of the sustainable transport options available to residents by providing information on local public transport, cycle, walking and car sharing schemes; and

- Maintenance of all necessary systems, data and paperwork.

5.2.3 The role of the TPC will also be to develop and manage the Site's Travel Plan.

5.2.4 Their duties will include monitoring, reviewing targets and forming action plans if an area of the Travel Plan is underperforming. Annual progress reports will be prepared and submitted to the Council.

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

5.3 Resident's Travel Pack

5.3.1 A Travel Plan is an important component of new development. It is a document created as part of the planning application process, but it comes fully into force when a development becomes operational. It will then evolve with the Site over a number of years with input from Residents, the TPC and feedback from the Local Authorities.

5.3.2 It promotes sustainable travel patterns from development inception by ensuring that prospective residents are aware of the Travel Plan and its objectives at the earliest opportunity. This encourages all new residents to consider the travel options available to them and what trips could be undertaken by sustainable means.

5.3.3 The following section discusses the active travel network serving the Site, which connects the site to a wide range of local facilities. Similarly, the local bus services will encourage residents to use public transport as a primary means of travel where appropriate.

5.3.4 The content of the Travel Pack will be updated over time when new resources and information become available; however, the following basic information will be included within the first issue:

- information relating to local walking and cycling routes.
- information on the local bus and rail timetables, including online information and local journey planner services.
- Information about the local area and identification of the local amenities and facilities , e.g. the location, distance and routes to the local shops, schools, Post Offices, Doctor Surgeries, Hospitals, Banks, Libraries, Parks, attractions and other local amenities.
- Copies of the most recently published public transport information and the online equivalent.
- Details of other websites and sources of information that can help plan sustainable travel such as:
 - Public Transport - Links to timetable information e.g. www.traveline.info and www.nationalrail.co.uk.
 - Car Sharing - Links to websites that co-ordinate car sharing such as www.enterprisecarshare.com, and www.liftshare.org.uk to encourage car sharing.
 - Cycling - Link to the Cycling UK charity website www.cyclinguk.org and Sustrans www.sustrans.org.uk.
 - Local Amenities - local supermarkets and delivery services offering online shopping (reduce the need for car travel).

5.3.5 The first issue of the Resident's Travel Pack will be the responsibility of the house builder.

5.4 Travel Awareness and Information

5.4.1 All prospective residents will be made aware of the Travel Plan and its aims. Resident Travel Packs will be issued to all new residents prior to occupation and prospective buyers will be made aware of the Travel Plan when viewing properties to promote the sustainable travel opportunities of the Site.

5.5 Promotion of the Lift Share Scheme

5.5.1 The TPC will promote the use of lift sharing, encouraging residents interested in lift sharing to register on the Liftshare website. The site allows users to register their details, where they are travelling to, if they are offering a lift or need a lift to their destination. This site will then provide information on matching lift share opportunities.

5.5.2 The website can be found at www.liftshare.com/uk

5.6 Encouraging Walking/Cycling

5.6.1 Residents will be provided with information and advice concerning safe pedestrian and cycle routes to the site.

5.6.2 If there is interest in walking or cycling schemes, the TPC could review the potential for the provision of walking / cycling signage or provide details of walks and cycle routes. That information could identify the distances to key destinations served by the route, along with information on the local services and amenities in those areas.

5.7 Encouraging Travel by Public Transport

5.7.1 The TPC will liaise with the local bus operators to promote the use of bus and rail services and ensure that up to date timetable information is readily available to residents.

- 5.7.2** Travel by public transport will be promoted and residents will be encouraged to access the public transport information provided on relevant websites, as well as utilising the Journey Planning tools available.

5.8 Marketing and Promotion

- 5.8.1** To ensure that potential residents of the site are informed about the Travel Plan and its goals from the earliest stage, the Travel Plan will have a significant presence within the sales suite of the development. This will include a display outlining the sustainable travel options available from the site and the travel measures being implemented to promote their use.
- 5.8.2** The sales staff will be given training to promote the Travel Plan as an asset and selling point of the development. Key concepts relating to the site's accessibility will also be included within marketing and sales particulars.

6 TRAVEL PLAN TARGETS

6.1 Introduction

6.1.1 This section considers the operation of the Travel Plan once the development has been completed, occupied and the site is operational. The Travel Plan provides targets against which the success of the Plan in achieving its objectives will be measured.

6.1.2 The targets are designed to be quantifiable, relevant to both measures and objectives in the Plan and include a timescale.

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

6.1.4 More accurate information to establish the baseline targets, however, will be obtained from a Residents Travel Survey which will be undertaken within one month of the development being 75% occupied.

6.1.5 Suitable targets for reducing the need to travel by private car will be set against the baseline targets and agreed with the Council and included in the final Residential Travel Plan for the whole development.

6.2 Potential Targets

6.2.1 The Travel Plan targets are designed to be quantifiable, be relevant to both the Plan's measures and objectives and include a timescale within which they should be achieved.

6.2.2 Targets that can be included within a Travel Plan include:

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

6.3 Action Plan

6.3.1 Table 6.1 below sets out the key tasks that will need to be undertaken by the Travel Plan Co-ordinator. The Action Plan includes timescales to assist the TPC with implementing the obligations of the Travel Plan.

Action	Target Date	Indicator/Measured by	Responsibility
Appointment of TPC	TPC appointed one month prior to first occupation of site	Appointment of TPC by target date	Caddick
Production of Residents Travel Pack	Upon Occupation	Resident travel survey	Caddick
Undertake initial travel surveys	Within 1 month of reaching 75% occupation of development	Receipt of survey results	TPC

Action	Target Date	Indicator/Measured by	Responsibility
Agree Travel Plan Targets	1 month after initial travel survey undertaken	Receipt of written agreements of targets	TPC
Achieve target car driver travel to work mode split	5 years after initial travel survey	Residents travel surveys conducted in years 1, 3 and 5	TPC

Table 6.1 Travel Plan Action Plan and Timescales

7 PLAN MONITORING AND ASSESSMENT

7.1.1 Travel Plan monitoring typically takes place on the following basis:

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

7.1.2 The monitoring could include items such as:

- 'Full residential surveys' to be completed in year 1, year 3 and year 5, with 'snapshot' surveys completed every 6 to 12 months.
- Feedback from bus operators to establish demand for local bus services and provide an understanding of how the demand might integrate with existing timetables.

7.1.3 A Final Travel Plan will be produced once planning permission has been granted. The production of that document will consider of how best to monitor and measure the success of the Travel Plan. Appropriate monitoring arrangements will also be agreed with the Local Planning Authorities.

7.1.4 Annual progress reports will be submitted as part of the monitoring and assessment process. This will summarise the results of the travel surveys with regards to targets, budgets, general effectiveness and current initiatives. The report will be submitted to the Local Authority no later than one month following the anniversary of the Travel Plan approval.

- 7.1.5** The monitoring of the Travel Plan will identify which measures are proving most effective and which are not performing as intended. This will enable the effective measures to be promoted further, whilst ineffective measures can be reviewed and rectified. The monitoring also provides an opportunity to identify any existing barriers to sustainable trip making and what initiatives could be used to overcome them. New initiatives for the coming year will also be identified by the report.

8 CONCLUSION

8.1.1 This Travel Plan has identified how the proposed development seeks to promote travel by sustainable modes and reduce the dependency of the private car. It has presented a series of measures that will be implemented to support the reduction in car usage, particularly for single car occupancy trips.

8.1.2 The aims of the Travel Plan are to:

- encourage residents to use sustainable modes of transport;
- reduce the reliance on single car occupancy journeys; and
- generally reduce traffic related pollution and noise.

8.1.3 This Travel Plan provides information on the non-car modes of transport that will be accessible by residents and visitors of the Site.

8.1.4 The Travel Plan also identifies the wide range of measures and actions that will be used to encourage walking, cycling, public transport use and car sharing.

8.1.5 The Travel Plan will be managed by a Travel Plan Co-ordinator, who will ensure that the Travel Plan is implemented and operating effectively. They will also be a point of contact for residents and the Local Authority.

8.1.6 The Travel Plan Coordinator will conduct Resident Travel Surveys to establish the baseline travel characteristics of the site and consider how sustainable trip making could be enhanced. From that baseline, Travel Plan targets will be set and agreed with the Travel Plan team at the Council.

8.1.7 It can therefore be concluded that the proposals will provide a highly sustainable development and should be considered acceptable to the local highway authority.

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APPENDIX 3

Survey Data

signal surveys

Time Beginning	A5103 Princess Road/B5219 Moss Lane East - Thursday 29th June 2023																											
	1		2		3		4		5		6		7		8		9		10		11		12		13		14	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	0	0	3	2	266	12	18	0	15	0	23	3	10	1	0	0	22	0	425	9	12	0	13	0	66	0	5	0
0745	1	0	12	0	290	21	29	0	14	0	26	0	8	1	0	0	24	0	410	16	10	0	9	0	99	2	2	0
0800	0	0	14	0	282	12	17	0	13	1	26	3	8	0	0	0	25	0	427	17	10	0	9	0	48	2	6	0
0815	0	0	13	2	270	21	24	2	20	0	36	3	11	0	0	0	17	0	381	11	8	0	13	0	80	1	9	1
0830	0	0	15	1	241	18	23	0	12	0	39	1	11	0	0	0	16	0	427	13	9	0	15	0	50	1	9	0
0845	0	0	19	1	232	20	13	2	21	0	45	1	8	0	0	0	8	1	364	7	11	1	16	1	65	3	5	0
0900	0	0	17	1	241	19	22	0	16	1	24	2	6	0	0	0	15	1	375	21	10	0	7	0	59	1	7	0
0915	1	0	12	1	247	15	27	2	22	2	34	1	12	1	1	0	8	0	305	12	14	0	25	0	64	1	6	0
Time Beginning	A5103 Princess Road/B5219 Moss Lane East - Thursday 29th June 2023																											
	1		2		3		4		5		6		7		8		9		10		11		12		13		14	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	0	0	25	0	345	5	28	0	31	0	75	1	24	0	1	0	8	0	267	14	13	0	15	0	63	1	10	0
1645	0	0	18	0	371	7	38	1	45	0	55	0	16	0	0	0	11	0	294	8	13	0	19	0	57	2	9	1
1700	0	0	17	0	359	10	27	0	30	1	64	1	16	0	1	0	4	0	287	10	9	0	13	0	57	2	13	0
1715	0	0	16	1	374	5	37	0	21	0	62	0	13	1	0	0	14	1	284	8	12	0	22	0	57	1	7	0
1730	1	0	13	0	385	14	29	0	26	0	48	0	14	0	0	0	8	0	304	6	10	0	21	0	63	1	14	0
1745	0	0	18	0	334	6	43	0	27	0	64	1	14	0	2	0	8	0	278	12	16	0	25	0	71	1	7	0
1800	0	0	13	1	378	4	33	0	34	0	47	1	17	0	0	0	6	0	314	10	18	0	23	0	63	1	13	0
1815	0	0	11	0	313	8	40	0	40	0	69	2	12	0	0	0	10	0	273	5	9	0	19	0	55	1	13	0

signal surveys

Time Beginning	B5219 Moss Lane East/Barnhill Street - Thursday 29th June 2023											
	15		16		17		18		19		20	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	51	3	0	1	0	0	2	0	0	0	107	0
0745	38	2	0	0	0	0	2	0	2	0	151	2
0800	55	2	0	0	0	0	4	0	4	0	84	2
0815	54	4	0	0	0	0	3	0	2	0	121	2
0830	64	1	1	0	0	0	3	0	1	0	87	2
0845	63	0	0	0	2	0	5	0	0	0	86	6
0900	45	4	0	0	1	0	5	0	1	1	95	1
0915	61	3	1	0	0	0	2	0	6	0	94	2
Time Beginning	B5219 Moss Lane East/Barnhill Street - Thursday 29th June 2023											
	15		16		17		18		19		20	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	118	2	2	0	0	0	9	0	5	0	95	1
1645	114	0	0	0	0	0	8	0	2	0	104	3
1700	100	2	0	0	1	0	7	0	4	0	84	2
1715	91	1	1	0	0	0	3	0	7	0	98	2
1730	82	1	1	0	1	0	5	0	2	0	101	1
1745	107	0	1	0	3	0	5	0	10	0	105	1
1800	81	1	0	0	0	0	11	0	6	0	102	1
1815	110	2	2	0	0	0	11	0	7	0	100	1

signal surveys

Time Beginning	Barnhill Street/Raby Street - Thursday 29th June 2023																	
	21		22		23		24		25		26		27		28		29	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	0	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0
0745	2	0	0	0	0	0	1	0	0	0	2	0	0	0	4	0	0	0
0800	3	0	0	0	1	0	0	0	1	0	4	0	0	0	2	0	0	0
0815	2	0	0	0	0	0	2	0	3	0	3	0	1	0	1	0	0	0
0830	3	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	2	0
0845	0	0	0	0	0	0	4	0	4	0	6	0	2	0	2	0	0	0
0900	0	0	2	0	1	0	4	0	3	0	5	0	0	0	1	0	1	0
0915	6	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
Time Beginning	Barnhill Street/Raby Street - Thursday 29th June 2023																	
	21		22		23		24		25		26		27		28		29	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	7	1	0	0	0	0	11	0	3	0	12	0	2	0	1	0	0	0
1645	2	0	0	0	0	0	8	0	5	0	5	0	1	0	1	0	0	0
1700	4	0	1	0	0	0	3	0	3	0	8	0	2	0	2	0	0	0
1715	8	0	0	0	0	0	4	0	4	0	3	0	0	0	1	0	0	0
1730	3	0	0	0	2	0	3	0	3	0	6	0	0	0	1	0	2	0
1745	12	0	1	0	1	0	12	0	6	0	5	0	1	0	0	0	1	0
1800	6	0	0	0	3	0	3	0	6	0	8	0	0	0	2	0	0	0
1815	3	0	0	0	0	0	6	0	2	0	13	0	1	0	0	0	1	0

signal surveys

Time Beginning	B5219 Moss Lane East/Raby Street - Thursday 29th June 2023											
	30		31		32		33		34		35	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	50	4	0	0	3	0	0	0	0	0	107	1
0745	38	2	3	0	5	0	1	0	2	0	150	2
0800	58	2	2	1	2	0	0	0	3	0	84	2
0815	52	3	1	0	2	0	0	0	1	0	116	3
0830	65	1	1	1	1	0	0	0	1	0	90	2
0845	63	0	4	0	7	0	1	0	1	0	87	5
0900	48	4	6	0	2	0	0	0	4	0	94	2
0915	56	3	2	1	2	0	1	0	3	0	90	3
Time Beginning	B5219 Moss Lane East/Raby Street - Thursday 29th June 2023											
	30		31		32		33		34		35	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	117	1	7	0	5	0	2	0	4	0	87	1
1645	97	0	6	0	3	0	3	0	1	0	106	3
1700	100	2	3	0	4	0	0	0	1	0	84	2
1715	98	1	5	0	1	0	0	0	2	0	93	2
1730	75	1	4	0	3	0	4	0	0	0	105	1
1745	101	0	9	0	3	0	1	0	1	0	99	1
1800	79	1	5	0	8	0	0	0	0	0	105	1
1815	112	2	6	0	3	0	0	0	0	0	96	1

signal surveys

Time Beginning	A5103 Princess Road/Great Western Street - Thursday 29th June 2023																											
	36		37		38		39		40		41		42		43		44		45		46		47		48		49	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	0	0	0	0	305	13	4	0	9	0	4	1	8	0	1	0	5	1	477	6	1	0	4	0	2	1	0	0
0745	0	0	0	0	289	19	7	1	8	0	7	1	10	1	0	0	8	0	426	17	0	0	5	1	11	0	0	0
0800	0	0	0	0	301	14	5	0	5	1	6	2	8	0	0	0	13	0	463	19	0	0	2	0	12	0	1	0
0815	0	0	0	0	269	20	7	0	8	1	13	1	5	1	0	0	18	0	400	8	1	0	5	0	20	0	0	0
0830	0	0	0	0	272	19	6	0	11	0	11	0	9	0	0	0	11	0	426	11	0	0	6	0	8	1	2	0
0845	0	0	0	0	234	18	7	0	7	0	14	0	10	1	0	0	9	0	353	12	0	0	4	0	12	2	0	0
0900	0	0	0	0	255	19	8	0	9	0	14	0	6	0	0	0	13	0	383	24	1	0	3	0	10	0	0	0
0915	0	0	0	0	275	17	4	1	8	0	8	0	6	0	1	0	6	0	309	9	0	1	0	0	8	0	0	0

Time Beginning	A5103 Princess Road/Great Western Street - Thursday 29th June 2023																											
	36		37		38		39		40		41		42		43		44		45		46		47		48		49	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	0	0	0	0	378	5	22	0	23	0	13	0	15	0	1	0	15	0	284	12	2	0	2	0	13	0	1	0
1645	0	0	0	0	350	5	7	0	22	0	22	0	13	1	1	0	8	0	288	8	1	0	4	0	13	0	2	0
1700	0	0	0	0	418	9	6	0	12	0	16	0	15	1	0	0	17	0	291	10	1	0	3	0	10	0	0	0
1715	0	0	0	0	407	8	8	0	20	0	17	0	9	0	0	0	10	0	277	9	2	0	4	0	13	0	0	0
1730	0	0	0	0	404	11	4	0	16	0	9	0	15	0	1	0	14	0	290	9	1	0	1	0	13	0	2	0
1745	0	0	0	0	379	7	4	0	18	0	13	0	18	0	2	0	12	0	275	10	0	0	6	0	18	0	2	0
1800	0	0	0	0	389	5	13	0	27	0	18	0	14	0	1	0	12	0	302	8	0	0	3	0	7	0	0	0
1815	1	0	0	0	345	7	10	0	19	0	22	0	17	0	1	0	7	0	285	6	4	0	2	0	18	0	1	0

signal surveys

Time Beginning	B5219 Moss Lane East/Lloyd Street North - Thursday 29th June 2023																							
	50		51		52		53		54		55		56		57		58		59		60		61	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	4	1	19	1	12	0	18	1	43	3	7	2	23	1	63	2	5	0	1	0	98	1	4	0
0745	3	0	17	2	25	1	19	1	31	3	9	2	13	2	82	3	6	0	3	0	124	2	7	0
0800	2	0	39	1	18	2	25	0	49	1	14	1	14	2	84	4	2	0	0	0	71	3	11	0
0815	6	0	42	1	32	0	24	0	41	3	9	2	9	1	82	0	7	0	2	0	106	3	10	0
0830	3	0	31	1	18	0	17	1	47	1	9	1	14	2	102	3	10	0	5	0	69	1	11	1
0845	9	0	40	1	18	0	25	0	55	0	2	1	24	3	102	1	2	0	1	0	75	4	13	0
0900	6	0	48	1	21	1	26	1	34	3	11	2	21	1	110	0	3	0	3	0	70	2	9	0
0915	2	0	41	1	18	2	25	0	55	4	11	3	8	2	83	4	4	0	3	0	74	6	4	0

Time Beginning	B5219 Moss Lane East/Lloyd Street North - Thursday 29th June 2023																							
	36		37		38		39		40		41		42		43		44		45		46		49	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1630	6	0	91	0	26	0	23	0	91	1	14	1	8	2	57	1	7	0	6	0	75	0	3	1
1645	6	0	99	2	29	0	30	0	87	0	17	1	9	3	50	0	5	0	7	0	82	2	6	0
1700	10	1	106	2	30	0	29	0	81	1	11	1	8	1	39	0	5	0	6	0	55	1	6	0
1715	6	0	98	1	31	0	18	0	82	0	16	1	3	2	32	0	7	1	5	0	69	3	8	0
1730	6	0	122	1	24	0	16	0	50	1	4	3	5	2	55	0	10	0	4	0	76	1	2	0
1745	5	0	91	0	20	0	15	0	88	0	21	0	15	1	57	0	2	0	9	0	75	0	1	0
1800	6	0	79	0	22	0	23	0	71	1	13	2	12	1	51	0	5	0	4	0	79	2	11	0
1815	5	0	75	0	25	0	31	0	88	1	17	1	7	1	71	1	9	0	6	0	70	1	6	0

APPENDIX 4

TRICS Output – Proposed Apartments

Calculation Reference: AUDIT-851401-230901-0946

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	CT CENTRAL BEDFORDSHIRE	2 days
	HF HERTFORDSHIRE	1 days
	PO PORTSMOUTH	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	NG NOTTINGHAM	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 82 to 184 (units:)
Range Selected by User: 75 to 215 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 10/06/21

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

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	8 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	4
Suburban Area (PPS6 Out of Centre)	4

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

Selected Location Sub Categories:

Development Zone	1
Residential Zone	2
Built-Up Zone	2
No Sub Category	3

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	6 days - Selected
Servicing vehicles Excluded	4 days - Selected

Secondary Filtering selection:

Use Class:

C3	8 days
----	--------

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

50,001 to 75,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	3 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	3 days

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

Travel Plan:

Yes	2 days
No	6 days

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

PTAL Rating:

No PTAL Present	8 days
-----------------	--------

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

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	123	0.034	8	123	0.153	8	123	0.187
08:00 - 09:00	8	123	0.052	8	123	0.178	8	123	0.230
09:00 - 10:00	8	123	0.064	8	123	0.071	8	123	0.135
10:00 - 11:00	8	123	0.053	8	123	0.066	8	123	0.119
11:00 - 12:00	8	123	0.053	8	123	0.072	8	123	0.125
12:00 - 13:00	8	123	0.072	8	123	0.088	8	123	0.160
13:00 - 14:00	8	123	0.050	8	123	0.067	8	123	0.117
14:00 - 15:00	8	123	0.058	8	123	0.063	8	123	0.121
15:00 - 16:00	8	123	0.098	8	123	0.056	8	123	0.154
16:00 - 17:00	8	123	0.114	8	123	0.064	8	123	0.178
17:00 - 18:00	8	123	0.163	8	123	0.082	8	123	0.245
18:00 - 19:00	8	123	0.164	8	123	0.087	8	123	0.251
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.975			1.047			2.022

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:	82 - 184 (units:)
Survey date range:	01/01/15 - 10/06/21
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

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

APPENDIX 5

TRICS Output – Proposed Houses

Calculation Reference: AUDIT-851401-230809-0800

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	2 days
03	SOUTH WEST	
	SD SWINDON	1 days
	TB TORBAY	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	PB PETERBOROUGH	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	AC CHESHIRE WEST & CHESTER	1 days
09	NORTH	
	DH DURHAM	1 days
	FU WESTMORLAND & FURNESS	1 days
10	WALES	
	PS POWYS	2 days
11	SCOTLAND	
	HI HIGHLAND	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 10 to 50 (units:)
 Range Selected by User: 10 to 50 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 09/11/22

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

Selected survey days:

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

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

Selected survey types:

Manual count	16 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.

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	16
------------------	----

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	14 days - Selected

Secondary Filtering selection:

Use Class:

C3	16 days
----	---------

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	7 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	2 days
25,001 to 50,000	3 days

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

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	1 days
50,001 to 75,000	3 days
75,001 to 100,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	5 days
1.1 to 1.5	10 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	3 days
No	13 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	16 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	AC-03-A-04	TOWN HOUSES		CHESHIRE WEST & CHESTER
	LONDON ROAD			
	NORTHWICH			
	LEFTWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:	24		
	Survey date: THURSDAY	06/06/19	Survey Type: MANUAL	
2	DH-03-A-01	SEMI DETACHED		DURHAM
	GREENFIELDS ROAD			
	BISHOP AUCKLAND			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:	50		
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL	
3	FU-03-A-02	DETACHED / TERRACED HOUSING		WESTMORLAND & FURNESS
	MACADAM WAY			
	PENRITH			
	Edge of Town Centre			
	Residential Zone			
	Total No of Dwellings:	50		
	Survey date: TUESDAY	21/06/16	Survey Type: MANUAL	
4	HC-03-A-17	HOUSES & FLATS		HAMPSHIRE
	CANADA WAY			
	LIPHOOK			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:	36		
	Survey date: THURSDAY	12/11/15	Survey Type: MANUAL	
5	HC-03-A-30	TERRACED HOUSES		HAMPSHIRE
	MEUDON AVENUE			
	FARNBOROUGH			
	Edge of Town Centre			
	Residential Zone			
	Total No of Dwellings:	31		
	Survey date: FRIDAY	14/10/22	Survey Type: MANUAL	
6	HI-03-A-14	SEMI-DETACHED & TERRACED		HIGHLAND
	KING BRUDE ROAD			
	INVERNESS			
	SCORGUIE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:	40		
	Survey date: WEDNESDAY	23/03/16	Survey Type: MANUAL	
7	LN-03-A-04	DETACHED & SEMI-DETACHED		LINCOLNSHIRE
	EGERTON ROAD			
	LINCOLN			
	Edge of Town Centre			
	Residential Zone			
	Total No of Dwellings:	30		
	Survey date: MONDAY	29/06/15	Survey Type: MANUAL	

LIST OF SITES relevant to selection parameters (Cont.)

8	NF-03-A-51	SEMI-DETACHED	NORFOLK
	CITY ROAD		
	NORWICH		
	LAKENHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	34	
	Survey date: TUESDAY	13/09/22	Survey Type: MANUAL
9	NY-03-A-12	TOWN HOUSES	NORTH YORKSHIRE
	RACECOURSE LANE		
	NORTHALLERTON		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	47	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
10	NY-03-A-13	TERRACED HOUSES	NORTH YORKSHIRE
	CATTERICK ROAD		
	CATTERICK GARRISON		
	OLD HOSPITAL COMPOUND		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	10	
	Survey date: WEDNESDAY	10/05/17	Survey Type: MANUAL
11	PB-03-A-04	DETACHED HOUSES	PETERBOROUGH
	EASTFIELD ROAD		
	PETERBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	28	
	Survey date: MONDAY	17/10/16	Survey Type: MANUAL
12	PS-03-A-01	MIXED HOUSES	POWYS
	BRYN GLAS		
	WELSHPOOL		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	16	
	Survey date: MONDAY	11/05/15	Survey Type: MANUAL
13	PS-03-A-02	DETACHED / SEMI-DETACHED	POWYS
	GUNROG ROAD		
	WELSHPOOL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	28	
	Survey date: MONDAY	11/05/15	Survey Type: MANUAL
14	SD-03-A-01	SEMI DETACHED	SWINDON
	HEADLANDS GROVE		
	SWINDON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	27	
	Survey date: THURSDAY	22/09/16	Survey Type: MANUAL
15	TB-03-A-01	TERRACED HOUSES	TORBAY
	BRONSHILL ROAD		
	TORQUAY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	37	
	Survey date: WEDNESDAY	30/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

16	WK-03-A-03	DETACHED HOUSES	WARWICKSHIRE
	BRESE AVENUE		
	WARWICK		
	GUYS CLIFFE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	23	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL

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

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

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	16	32	0.080	16	32	0.233	16	32	0.313
08:00 - 09:00	16	32	0.155	16	32	0.350	16	32	0.505
09:00 - 10:00	16	32	0.176	16	32	0.162	16	32	0.338
10:00 - 11:00	16	32	0.145	16	32	0.168	16	32	0.313
11:00 - 12:00	16	32	0.135	16	32	0.131	16	32	0.266
12:00 - 13:00	16	32	0.174	16	32	0.188	16	32	0.362
13:00 - 14:00	16	32	0.162	16	32	0.182	16	32	0.344
14:00 - 15:00	16	32	0.172	16	32	0.207	16	32	0.379
15:00 - 16:00	16	32	0.276	16	32	0.219	16	32	0.495
16:00 - 17:00	16	32	0.286	16	32	0.151	16	32	0.437
17:00 - 18:00	16	32	0.288	16	32	0.184	16	32	0.472
18:00 - 19:00	16	32	0.194	16	32	0.137	16	32	0.331
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.243			2.312			4.555

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: 10 - 50 (units:)
 Survey date range: 01/01/15 - 09/11/22
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

APPENDIX 6

PICADY Output the Moss Lane East/Barnhill Street Priority Junction

Junctions 11

PICADY 11 - Priority Intersection Module

Version: 11.0.0.2177
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Filename: Import of Moss Lane East - Barnhill Street.j11
Path: Z:\projects\4067 Moss Side Sites, Manchester\Picady
Report generation date: 02/07/2025 09:28:07

- »2030 | Growthed Flows | AM
- »2030 | Growthed Flows | PM
- »2030 | With Development Flows | AM
- »2030 | With Development Flows | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2030 - Growthed Flows									
Stream B-AC	D1	0.0	5.98	0.02	A	D2	0.1	7.07	0.06	A
Stream C-AB		0.0	6.29	0.02	A		0.0	7.01	0.04	A
	2030 - With Development Flows									
Stream B-AC	D3	0.1	7.36	0.08	A	D4	0.1	7.85	0.10	A
Stream C-AB		0.0	6.30	0.03	A		0.1	7.08	0.08	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	Moss Lane East - Barnhill Street
Location	Moss Side
Site number	
Date	01/09/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Growthed Flows	AM	ONE HOUR	00:00	01:30	15	✓
D2	2030	Growthed Flows	PM	ONE HOUR	00:00	01:30	15	✓
D3	2030	With Development Flows	AM	ONE HOUR	00:00	01:30	15	✓
D4	2030	With Development Flows	PM	ONE HOUR	00:00	01:30	15	✓

Analysis Set Details

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

2030 | Growthed Flows | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.16	A

Arms

Arms

Arm	Name	Description	Arm type
A	Moss Lane East (W)		Major
B	Barnhill Street		Minor
C	Moss Lane East (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.50			100.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.60	15	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	524	0.085	0.215	0.135	0.307
B-C	678	0.093	0.234	-	-
C-B	632	0.218	0.218	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Growthed Flows	AM	ONE HOUR	00:00	01:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	246	100.000
B		ONE HOUR	✓	12	100.000
C		ONE HOUR	✓	535	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	2	244
	B	0	0	12
	C	526	9	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.02	5.98	0.0	A	11	17
C-AB	0.02	6.29	0.0	A	8	13
C-A					483	724
A-B					2	3
A-C					224	336

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	0.00	635	0.014	9	0.0	0.0	5.750	A
C-AB	7	2	0.00	596	0.011	7	0.0	0.0	6.115	A
C-A	396	99	0.00			396				
A-B	2	0.38	0.00			2				
A-C	184	46	0.00			184				

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	0.00	627	0.017	11	0.0	0.0	5.845	A
C-AB	8	2	0.00	590	0.014	8	0.0	0.0	6.190	A
C-A	473	118	0.00			473				
A-B	2	0.45	0.00			2				
A-C	219	55	0.00			219				

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	0.00	615	0.021	13	0.0	0.0	5.981	A
C-AB	10	3	0.00	583	0.017	10	0.0	0.0	6.290	A
C-A	579	145	0.00			579				
A-B	2	0.55	0.00			2				
A-C	269	67	0.00			269				

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	0.00	615	0.021	13	0.0	0.0	5.981	A
C-AB	10	3	0.00	583	0.017	10	0.0	0.0	6.290	A
C-A	579	145	0.00			579				
A-B	2	0.55	0.00			2				
A-C	269	67	0.00			269				

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	0.00	627	0.017	11	0.0	0.0	5.845	A
C-AB	8	2	0.00	590	0.014	8	0.0	0.0	6.193	A
C-A	473	118	0.00			473				
A-B	2	0.45	0.00			2				
A-C	219	55	0.00			219				

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	0.00	635	0.014	9	0.0	0.0	5.751	A
C-AB	7	2	0.00	596	0.011	7	0.0	0.0	6.115	A
C-A	396	99	0.00			396				
A-B	2	0.38	0.00			2				
A-C	184	46	0.00			184				

2030 | Growthed Flows | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.37	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.37	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2030	Growthed Flows	PM	ONE HOUR	00:00	01:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	482	100.000
B		ONE HOUR	✓	31	100.000
C		ONE HOUR	✓	460	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	3	479
	B	1	0	30
	C	440	20	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.06	7.07	0.1	A	28	43
C-AB	0.04	7.01	0.0	A	19	28
C-A					403	605
A-B					3	4
A-C					440	659

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	0.00	584	0.040	23	0.0	0.0	6.416	A
C-AB	15	4	0.00	562	0.027	15	0.0	0.0	6.584	A
C-A	331	83	0.00			331				
A-B	2	0.56	0.00			2				
A-C	361	90	0.00			361				

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	0.00	567	0.049	28	0.0	0.1	6.676	A
C-AB	18	5	0.00	551	0.033	18	0.0	0.0	6.764	A
C-A	395	99	0.00			395				
A-B	3	0.67	0.00			3				
A-C	431	108	0.00			431				

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	0.00	543	0.063	34	0.1	0.1	7.072	A
C-AB	23	6	0.00	537	0.043	23	0.0	0.0	7.005	A
C-A	484	121	0.00			484				
A-B	3	0.83	0.00			3				
A-C	527	132	0.00			527				

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	0.00	543	0.063	34	0.1	0.1	7.072	A
C-AB	23	6	0.00	537	0.043	23	0.0	0.0	7.007	A
C-A	484	121	0.00			484				
A-B	3	0.83	0.00			3				
A-C	527	132	0.00			527				

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	0.00	567	0.049	28	0.1	0.1	6.681	A
C-AB	18	5	0.00	551	0.033	18	0.0	0.0	6.768	A
C-A	395	99	0.00			395				
A-B	3	0.67	0.00			3				
A-C	431	108	0.00			431				

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	0.00	584	0.040	23	0.1	0.0	6.419	A
C-AB	15	4	0.00	562	0.027	15	0.0	0.0	6.590	A
C-A	331	83	0.00			331				
A-B	2	0.56	0.00			2				
A-C	361	90	0.00			361				

2030 | With Development Flows | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.46	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.46	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2030	With Development Flows	AM	ONE HOUR	00:00	01:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	249	100.000
B		ONE HOUR	✓	39	100.000
C		ONE HOUR	✓	540	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A	B	C
	A	0	5	244
	B	10	0	29
	C	526	14	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	7.36	0.1	A	36	54
C-AB	0.03	6.30	0.0	A	13	20
C-A					482	724
A-B					5	7
A-C					224	336

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	0.00	565	0.052	29	0.0	0.1	6.718	A
C-AB	11	3	0.00	598	0.018	11	0.0	0.0	6.134	A
C-A	396	99	0.00			396				
A-B	4	0.94	0.00			4				
A-C	184	46	0.00			184				

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	9	0.00	551	0.064	35	0.1	0.1	6.973	A
C-AB	13	3	0.00	593	0.022	13	0.0	0.0	6.207	A
C-A	473	118	0.00			473				
A-B	4	1	0.00			4				
A-C	219	55	0.00			219				

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	0.00	532	0.081	43	0.1	0.1	7.357	A
C-AB	16	4	0.00	588	0.027	16	0.0	0.0	6.300	A
C-A	579	145	0.00			579				
A-B	6	1	0.00			6				
A-C	269	67	0.00			269				

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	0.00	532	0.081	43	0.1	0.1	7.357	A
C-AB	16	4	0.00	588	0.027	16	0.0	0.0	6.302	A
C-A	579	145	0.00			579				
A-B	6	1	0.00			6				
A-C	269	67	0.00			269				

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	9	0.00	551	0.064	35	0.1	0.1	6.978	A
C-AB	13	3	0.00	593	0.022	13	0.0	0.0	6.210	A
C-A	473	118	0.00			473				
A-B	4	1	0.00			4				
A-C	219	55	0.00			219				

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	0.00	565	0.052	29	0.1	0.1	6.728	A
C-AB	11	3	0.00	598	0.018	11	0.0	0.0	6.134	A
C-A	396	99	0.00			396				
A-B	4	0.94	0.00			4				
A-C	184	46	0.00			184				

2030 | With Development Flows | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.61	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.61	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2030	With Development Flows	PM	ONE HOUR	00:00	01:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	492	100.000
B		ONE HOUR	✓	44	100.000
C		ONE HOUR	✓	476	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A	B	C
	A	0	13	479
	B	6	0	38
	C	440	36	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	7.85	0.1	A	40	61
C-AB	0.08	7.08	0.1	A	35	52
C-A					402	603
A-B					12	18
A-C					440	659

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	0.00	554	0.060	33	0.0	0.1	6.901	A
C-AB	28	7	0.00	567	0.049	28	0.0	0.1	6.670	A
C-A	330	83	0.00			330				
A-B	10	2	0.00			10				
A-C	361	90	0.00			361				

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	10	0.00	535	0.074	39	0.1	0.1	7.269	A
C-AB	34	8	0.00	559	0.060	34	0.1	0.1	6.850	A
C-A	394	99	0.00			394				
A-B	12	3	0.00			12				
A-C	431	108	0.00			431				

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	48	12	0.00	507	0.096	48	0.1	0.1	7.844	A
C-AB	43	11	0.00	551	0.077	42	0.1	0.1	7.078	A
C-A	482	120	0.00			482				
A-B	14	4	0.00			14				
A-C	527	132	0.00			527				

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	48	12	0.00	507	0.096	48	0.1	0.1	7.847	A
C-AB	43	11	0.00	551	0.077	43	0.1	0.1	7.078	A
C-A	482	120	0.00			482				
A-B	14	4	0.00			14				
A-C	527	132	0.00			527				

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	10	0.00	535	0.074	40	0.1	0.1	7.272	A
C-AB	34	8	0.00	559	0.060	34	0.1	0.1	6.852	A
C-A	394	99	0.00			394				
A-B	12	3	0.00			12				
A-C	431	108	0.00			431				

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	8	0.00	554	0.060	33	0.1	0.1	6.908	A
C-AB	28	7	0.00	567	0.049	28	0.1	0.1	6.676	A
C-A	330	83	0.00			330				
A-B	10	2	0.00			10				
A-C	361	90	0.00			361				

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