

Residential Development
232-236 Palatine Road
Didsbury
Transport Assessment
241217/SK22492/TA01(-01)

Contents

	Page
1 Introduction	1
2 Baseline Situation	1
3 Development Proposal	4
4 Sustainable Connectivity	6
5 Impact Assessment	10
6 Conclusions	14

Appendices

A Development Layouts
B Survey Data
C Access Arrangements
D Swept Path Analysis
E Travel Plan
F TRICS & Census Output
G Traffic Flow Charts
H PICADY Output

Project	Document	Rev	Description	Authorised by	Signed	Date
SK22492	TA	00	First Draft – Text Only Issue	LGS	LGS	09/12/2024
SK22492	TA	00	Updated	LGS	LGS	17/12/2024

1 Introduction

- 1.1 SK has been appointed by Marco Living 3 Limited to prepare a Transport Assessment (TA) that assesses the implications of residential development at 232-236 Palatine Road in the Didsbury area of Manchester.
- 1.2 The planning application seeks consent for the development of 54 apartments and 16 houses on the site (Use Class C3) together with associated landscaping and access following the demolition of the existing buildings on the site. The development layouts are attached as Appendix A.
- 1.3 The assessment has been undertaken in line with the following policy and assessment guidance:
 - Ministry for Housing, Communities & Local Government (2023), National Planning Policy Framework
 - Ministry for Housing, Communities & Local Government (2023), Planning Practice Guidance
 - Greater Manchester Combined Authority (2024), Places for Everyone Joint Development Plan 2022 to 2039
 - Manchester City Council (2012), Local Development Framework: Core Strategy Development Plan Document
 - Transport for Greater Manchester (2013), Transport for Sustainable Communities
- 1.4 The Local Highway Authority is Manchester City Council (MCC).

2 Baseline Situation

Site Location

- 2.1 The location of the site is shown on Figure 2.1.
- 2.2 The site is located in the Didsbury area of the city. It sits to the west of the B5167 Palatine Road, circa 800m north of the centre of Northenden and 1.3km to the west of the centre of Didsbury.

Baseline Site Use

- 2.3 The site is currently occupied by three large residential dwellings that are in use as 22 flats (Use Class C3).
- 2.4 Vehicle access to the three dwellings is provided from three crossover arrangements on Palatine Road.
- 2.5 Car parking is provided in the areas of hardstanding serving each dwelling.
- 2.6 Deliveries and refuse collection occur from kerbside on Palatine Road.

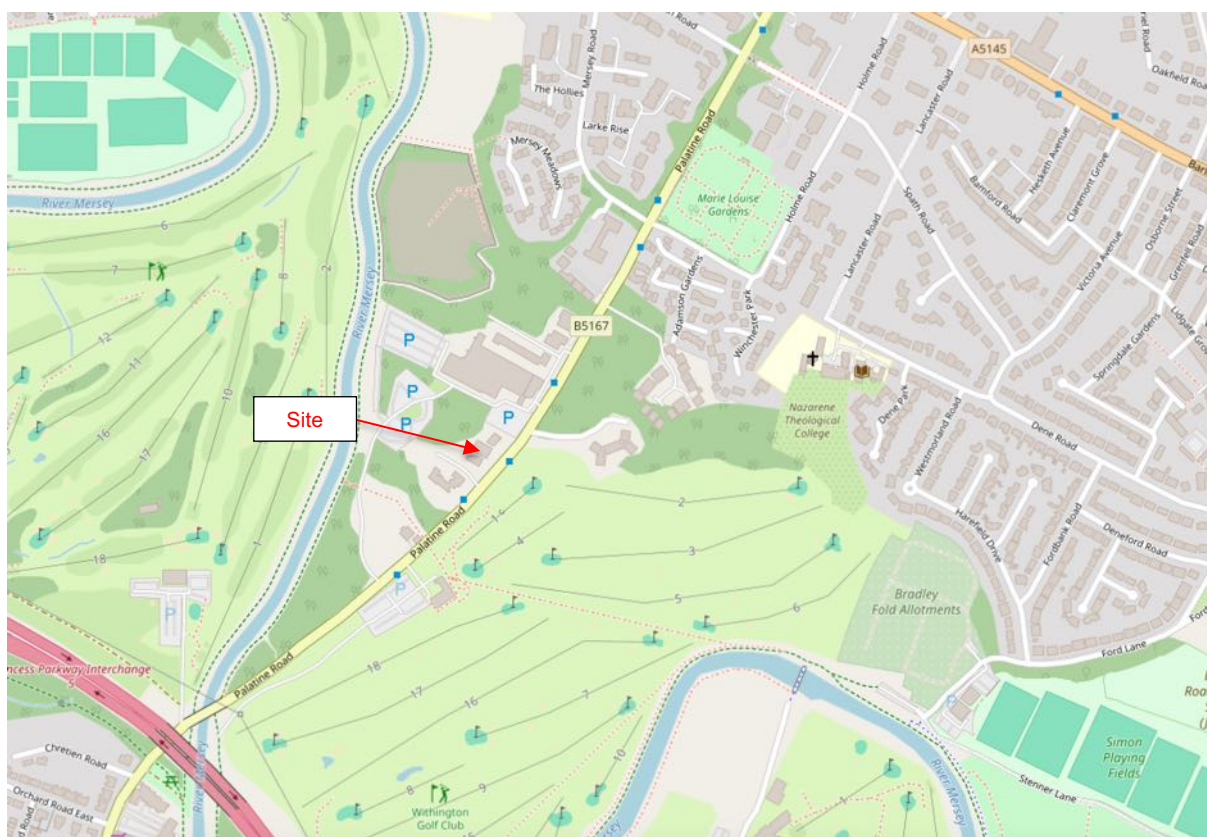


Figure 2.1: Site Location

[source: [OpenStreetMap Foundation](#) licensed under the [Open Database License](#)]

Local Highway Network

- 2.7 Palatine Road is an 8.4m wide road that routes north-south on the eastern boundary of the site. In the vicinity of the site, it has a footway of 2.3m wide on the western (site) side of the road and a footway of 1.9m on the eastern side of the road by the bus stop. The road is street lit and subject to a 30mph speed limit.
- 2.8 Travelling north on Palatine Road access is gained to Mersey Road and Dene Road W. The footways continue northwards at a similar width to found in the vicinity of the site. A signalised crossing is in place just prior to the junction with Mersey Road/Dene Road W.
- 2.9 South of the site Palatine Road travels underneath the M60 as the road drops into Northenden. The footways on the western side of the road provides a continuous provision to Northenden. There is no footway on the eastern side from the bus stop opposite the site to a point just north of the M60, adjacent to the access point to the Mersey Path, where an uncontrolled crossing is provided. Just south of the M60 a signalised crossing is provided.

Traffic Regulation Orders

- 2.10 In the vicinity of the site, Traffic Regulation Orders (TRO) are in place in the form single yellow line controls on both sides of the road. The TRO are in force between 8am to 9.30am, 5pm to 6.30pm and 9pm to 3am (Monday-Friday) and 9pm to 3am (Saturday-Sunday).

Surveyed Traffic Flows & Vehicle Speeds

- 2.11 An Automatic Traffic Count (ATC) survey was undertaken outside the site between Thursday 3rd October 2024 and Wednesday 9th October 2024. The survey data is attached as Appendix B.
- 2.12 Table 2.1 provides a summary of the surveyed traffic flows in vehicles and passenger car units (pcu).

Traffic Flows (in vehs)	0800-0900	1700-1800
Southbound	490	636
Northbound	836	759
Total	1326	1395
Traffic Flows (in pcu)	0800-0900	1700-1800
Southbound	514	673
Northbound	884	796
Total	1398	1468

Table 2.1: Surveyed Traffic Flows – Palatine Road

2.13 The ATC also recorded vehicle speeds which are summarised in Table 2.2.

Vehicle Speeds	Average (mph)	85%ile (mph)
Southbound – Average Day	28.0	32.0
Northbound –Average Day	27.4	31.0

Table 2.2: Surveyed Vehicle Speeds – Palatine Road

Road Safety Patterns

- 2.14 The [TfGM database](#) has been used to establish collision patterns over the most recent five-year period available.¹ The TfGM database states that the current data available is for 31st December 2018 to 31st December 2023.
- 2.15 The database shows that there have been no collisions at the site access junctions. There has been a single collision to the north of the site on Palatine Road. The collision was classified as slight.

¹ <https://www.gmtu.gov.uk/gmaccidents/>

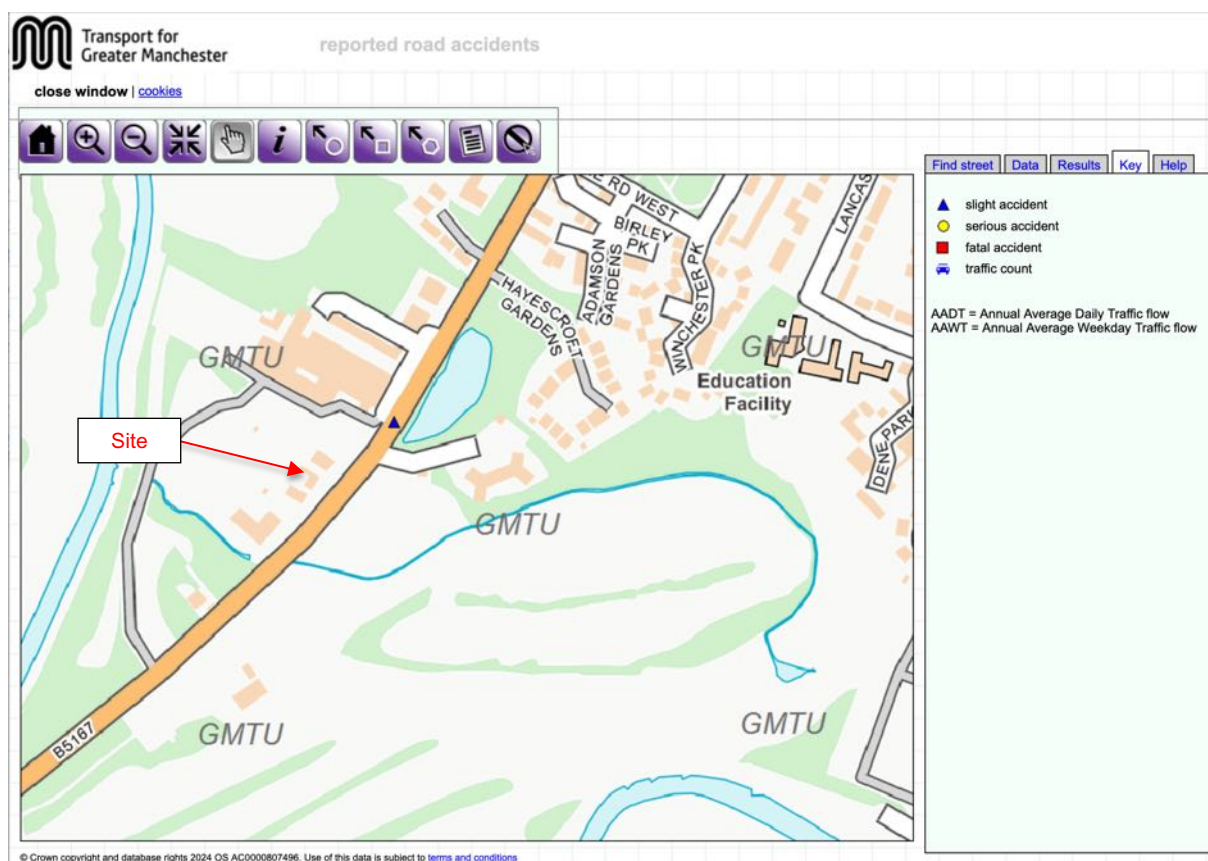


Figure 2.2: Road Safety Patterns
[source: Transport for Greater Manchester]

3 Development Proposal

Overview

- 3.1 The development layouts are attached as Appendix A.
- 3.2 The planning application seeks consent for the development of 54 apartments and 16 houses on the site (Use Class C3) together with associated landscaping and access following the demolition of the existing buildings on the site.
- 3.3 Table 3.1 shows the number of bedrooms by dwelling type.

Dwelling Type	1 Bed	2 Bed	3 Bed	5 Bed	Total
Apartments	24	26	4	0	54
Terrace	0	0	0	8	8
Semi	0	0	0	8	8
Total	24	26	4	16	70

Table 3.1: Bedroom Numbers

Site Access

- 3.4 The proposed site access arrangements are shown in Appendix C. The existing driveway openings will be replaced with two formal bellmouth arrangements, with footway reinstated where necessary to suit the new access layout.

- 3.5 The new bellmouths have been designed to accommodate entry manoeuvres including for a refuse vehicle in the case of the southern access point and entry and exit manoeuvres at the northern access point, and to accommodate tree retention.
- 3.6 Dropped kerb crossing points with tactile paving will be provided at each of the access points, alongside reinstatement of the footway on the site frontage. A new dropped kerb crossing point is also proposed on Palatine Road on the site frontage, to enhance the accessibility of the southbound bus stop.

Parking Provision

- 3.7 48 parking spaces are provided for the apartments of which eight are located within the front curtilage at ground level and the remainder is located in the lower ground parking area (38 in the undercroft and two uncovered).
- 3.8 10 EV charging spaces are provided. The Fire Engineer has advised that it is not possible to provide EV charging infrastructure in the undercroft parking area and so all EV is located in uncovered areas. This has impacted on the level of provision that can be made.
- 3.9 To ensure that all apartment households with a parking space have access to an EV charger it is proposed to reserve four of the EV spaces as a short-stay, active charging location. This will allow apartment residents without an EV charger in their parking space to charge their vehicle.
- 3.10 Based on this apartment residents will have 44 long-stay car parking spaces, a provision of 81%. Three of the apartment parking spaces are to accessible standard.
- 3.11 The houses will all have a garage with a single parking space (16 garage spaces), a provision of 100%. All of the garage spaces will have an EV charger.
- 3.12 MCC's parking standards are set out in the Core Strategy.² MCC does not maintain any parking standards for residential land uses. Further MCC guidance on parking is provided within the document "Manchester Residential Quality Guidance".³ The document states that:

"...there is no 'one size fits all' approach to car parking and it should be considered on a site-by-site basis."

- 3.13 The document goes on to state that 100% parking provision should be a starting point, but that reduced on-site provision may be justified on that basis of factors such as cycle parking in excess of 50% provision, and evidence demonstrating that lower levels of parking demand would be appropriate.
- 3.14 In line with the policy above 100% car parking is provided for the houses and 81% is provided for the apartments. The apartment parking level is based on local car ownership evidence and a high level of cycle parking for the apartments.
- 3.15 54 cycle parking spaces are provided for the apartments, including space for adapted bikes. Cycle parking for the houses will be accommodated in curtilage.

Parking Space Dimensions

- 3.16 Parking spaces are 2.4m x 4.8m with 6m manoeuvring space other than in the undercroft, the manoeuvring space for these is 5.5m and the spaces have therefore been widened to 2.7m to compensate, in line with the advice in MfS. The garages have a full width opening to allow access.
- 3.17 Accessible parking bays have a 1200mm clearance zones to three sides of each space.

² Manchester City Council (2012), Manchester's Local Development Framework: Core Strategy Development Plan Document

³ Manchester City Council (2017), Manchester Residential Design Guidance

Travel Plan

- 3.18 The site will be supported by a Travel Plan that includes measures to promote and support active and sustainable resident travel. An Interim Travel Plan has been prepared for the planning application and this is attached as Appendix D. The Interim Travel Plan sets out the measures that will be adopted at the site, including management and monitoring mechanisms.

Delivery & Servicing Management Plan

- 3.19 The access arrangement has been designed to allow refuse vehicle access to the pull-in area of the site frontage. Bins will be moved to this area on collection day by the site management team.
- 3.20 The frontage area will also accommodate day to day service activity such as post and parcel drop-off, supermarket deliveries, and for less frequent deliveries such as bulky goods.
- 3.21 The refuse collection vehicle is expected to be the largest vehicle type that will require regular access. Swept path analysis for a refuse collection vehicle is shown in Appendix E.

Emergency Access

- 3.22 The scheme has been designed to accommodate access for a fire service vehicle to a turning area within the site, under advice from the Fire Engineer. Swept Path analysis for a fire service vehicle accessing this area is provided in Appendix E.

4 Sustainable Connectivity

Active Travel Routes

- 4.1 The existing footway outside the site is 2.3m wide. A controlled crossing is located to the north of the site at the junction with Dene Road W (340m north of the site), an uncontrolled crossing is provided where access can be gained to the Mersey Path traffic free route along the Mersey (480m south of the site), and a further controlled crossing is provided to the south of the M60 (600m south of the site).
- 4.2 Tactile paving and dropped kerb crossings will be provided at the site access junction, and a new uncontrolled dropped kerb crossing point will be provided across the road outside the site, to improve the accessibility of the southbound bus stop.
- 4.3 Figure 4.1 shows the cycle network serving the site from the [TfGM website](https://tfgm.pindarcreative.co.uk).⁴ This shows that access can be gained to traffic calmed/20mph routes to the north of the site at the junction with Dene Road W/Mersey Road which provides a connection to formal routes on Barlow Moor Road. To the south of the site access can be gained to traffic free routes along the Mersey (Mersey Path) and to the south of this Route 62 of the National Cycle Network (Trans Pennine Trail).
- 4.4 The development accommodates cycle parking at a rate of one space per dwelling.
- 4.5 A Travel Plan will be adopted at the site to promote and support active travel choices.

⁴ <https://tfgm.pindarcreative.co.uk>

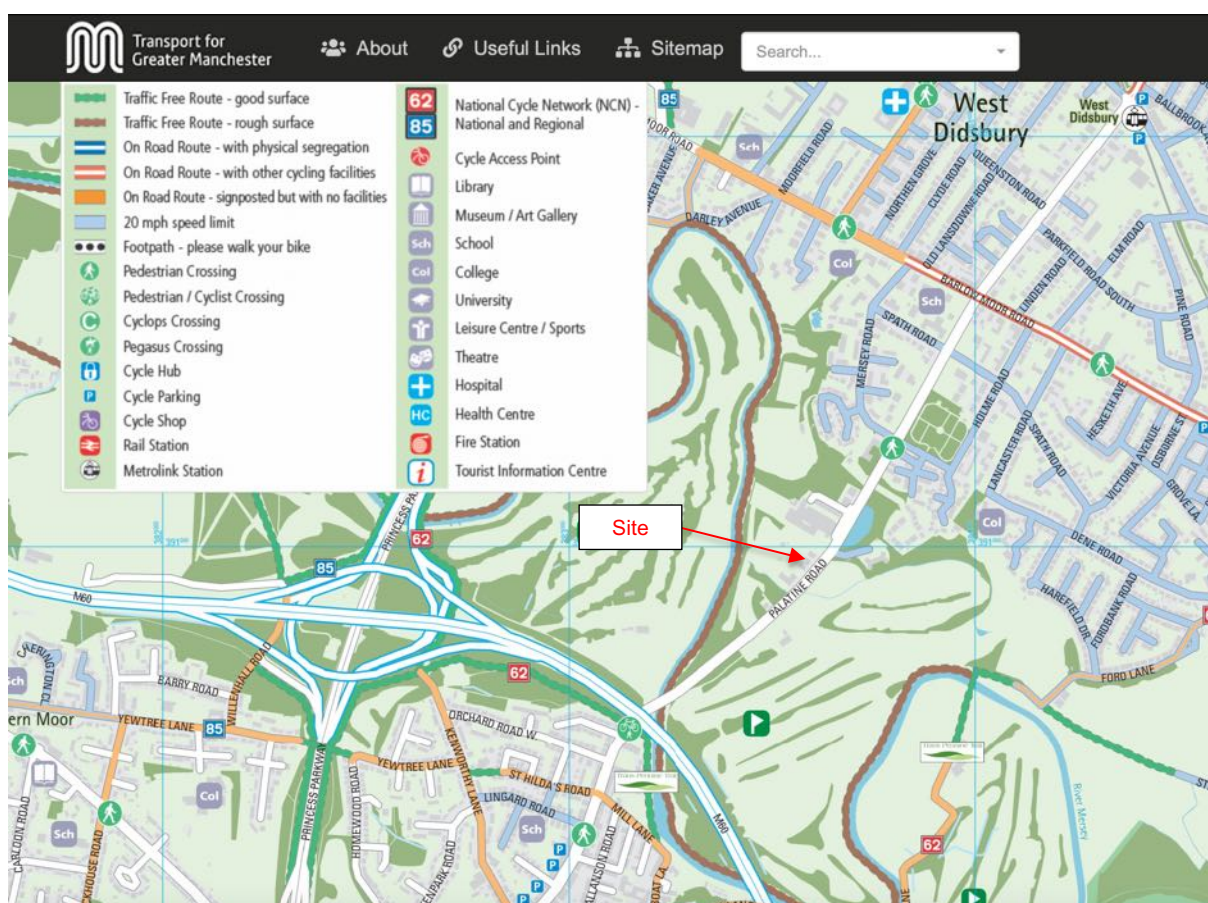


Figure 4.1: Cycle Network
[source: Transport for Greater Manchester]

Public Transport Routes

- 4.6 Figure 4.2 shows [TfGM's public transport network map](https://tfgm.com/maps) for the local area.⁵
- 4.7 The nearest bus stop to the site is located opposite the site on Palatine Road (southbound services). The bus stop has a flag pole, timetable information and street lighting. The new uncontrolled crossing delivered by the development will support access to the southbound bus stop.
- 4.8 The nearest northbound bus stop is located 104m to the north of the site. The bus stop has a shelter, seating, flag pole, timetable information and street lighting.

⁵ <https://tfgm.com/maps>



Figure 4.2: Public Transport Network
[source: Transport for Greater Manchester]

- 4.9 Table 4.1 provides a summary of the bus services using these stops taken from [TfGM timetables](https://tfgm.com/public-transport/bus) at the time of preparing the report.⁶ This shows that the site is served by nine buses per hour during a weekday, with three buses per hour in the evening and regular services provided at the weekend.

No.	Route	Weekday (Buses per hour/each way)			Weekend (Buses per hour/each way)	
		Peak	Day	Evening	Saturday	Sunday
41	Middleton – Bowker – City Centre – Sale	3	3	1	3	2
43	Manchester Airport – Moss Side – City Centre	6	6	2	6	4

Table 4.1: Bus Services
[source: Transport for Greater Manchester]

⁶ <https://tfgm.com/public-transport/bus>

Accessibility Assessment

- 4.10 One of the principal factors to be considered when assessing the suitability of a site for development is the proximity and connectivity of a site to local amenities and services. It is generally held that walking has the potential to replace short car trips for distances up to 2km (equating to a 25-minute walk time).
- 4.11 The Chartered Institution of Highways and Transportation (CIHT) provides further guidance on suitable walk distances, setting maximum preferred distances as replicated in Table 4.2.⁷

Destination Type	Walk Distance (m)	Walk Time (mins)*
Commuting	2000	25
Local Centre/Local Retail	800	10
Other	1200	15

Table 4.2: CIHT Walk Distances
[source: Chartered Institution of Highways & Transportation]

- 4.12 Figure 4.3 shows walking isochrones from the site based on the CIHT guidance in Table 4.2.
- 4.13 Figure 4.3 shows that local centre uses on Palatine Road, to the south of the site, are within a 10-minute walk. These uses include a Co-op food store, take-aways and a hairdresser. Public open space is also within a 10-minute walk, such as the Marie Louise Gardens.
- 4.14 Within a 15-minute walk access can be gained to the Hugh Rae Library, Bradley Fold Allotments, Didsbury Sports Ground, Simon Playing Fields, Northenden Community School, Moor Allerton Prep School, and the centre of Northenden. The amenities in the centre of Northenden include a pharmacy, convenience retail, Tesco Express, a Nat West Bank and Food & Beverage outlets.
- 4.15 Within a 25-minute walk access can be gained to the Northenden Medical Centre, Wythenshawe Cricket Club, St Wilfrid's CofE Primary School, the centre of Didsbury, Withington Hospital, Lancastrian School, and Didsbury High School.
- 4.16 The assessment confirms that the site is well located for access to a range of local amenities and services.

⁷ Chartered Institution of Highways & Transportation (2000), Guidelines for Providing for Journeys on Foot

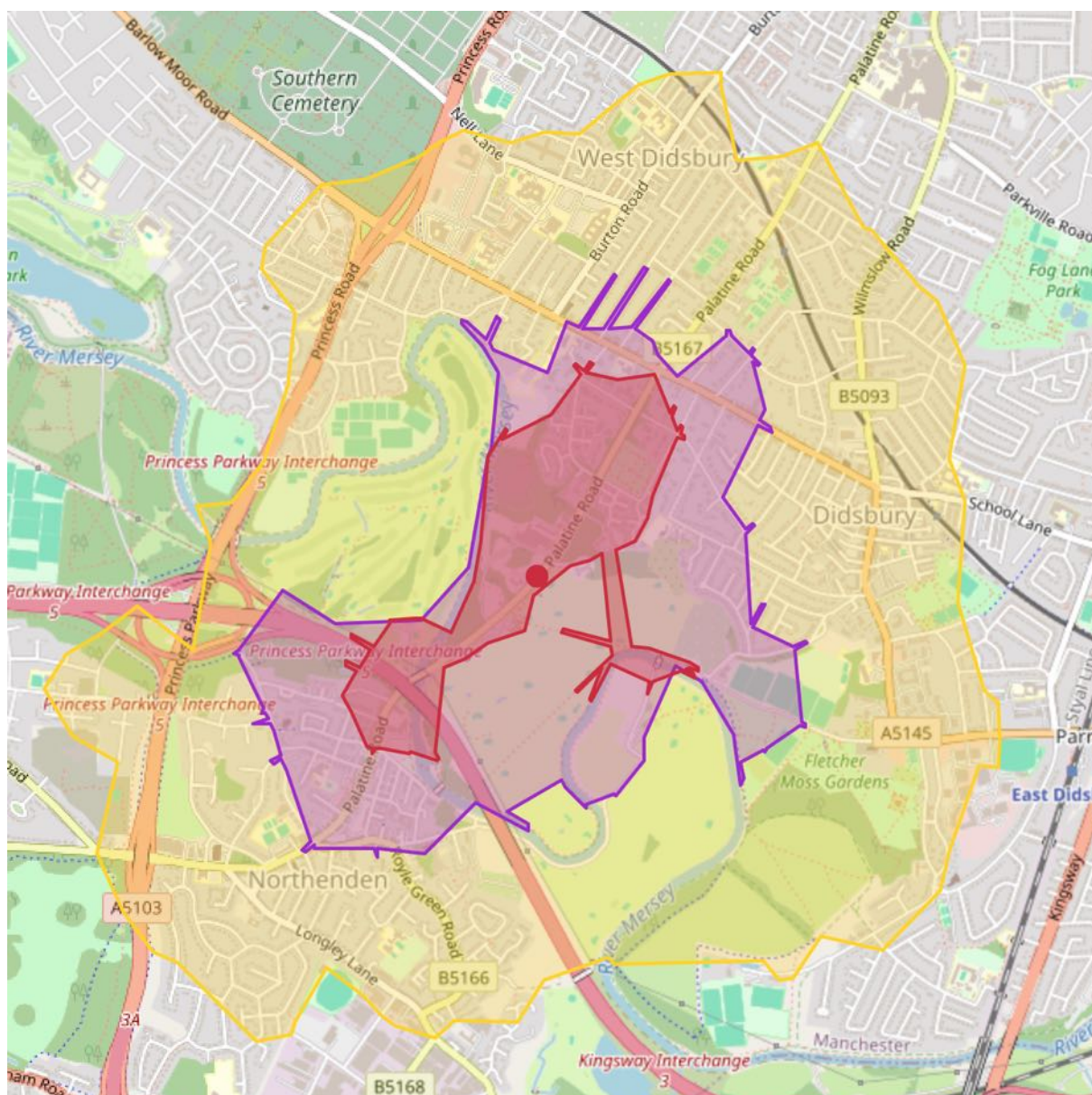


Figure 4.3: Walk Isochrones

[source: [ISO4app](#) and [OpenStreetMap Foundation](#) licensed under the [Open Database License](#)]

- 4.17 A [Greater Manchester Accessibility Level](#) (GMAL) calculation has been undertaken for the site. A GMAL is calculated using the interactive tool managed and maintained by TfGM.⁸ This tool measures accessibility by public transport of a point of interest and provides a rate between 1 and 8, where 1 is a poor level of accessibility and 8 is an exceptional level of accessibility.
- 4.18 The database shows that the site has a GMAL of 5 (score: 8.72), which is a good level of accessibility in a suburban area.
- 4.19 The assessment confirms that the site is well located in relation to access to public transport services.

⁸ <https://www.gmtu.gov.uk/gmbusroute/GMAL%20Calculation%20Guide.pdf>

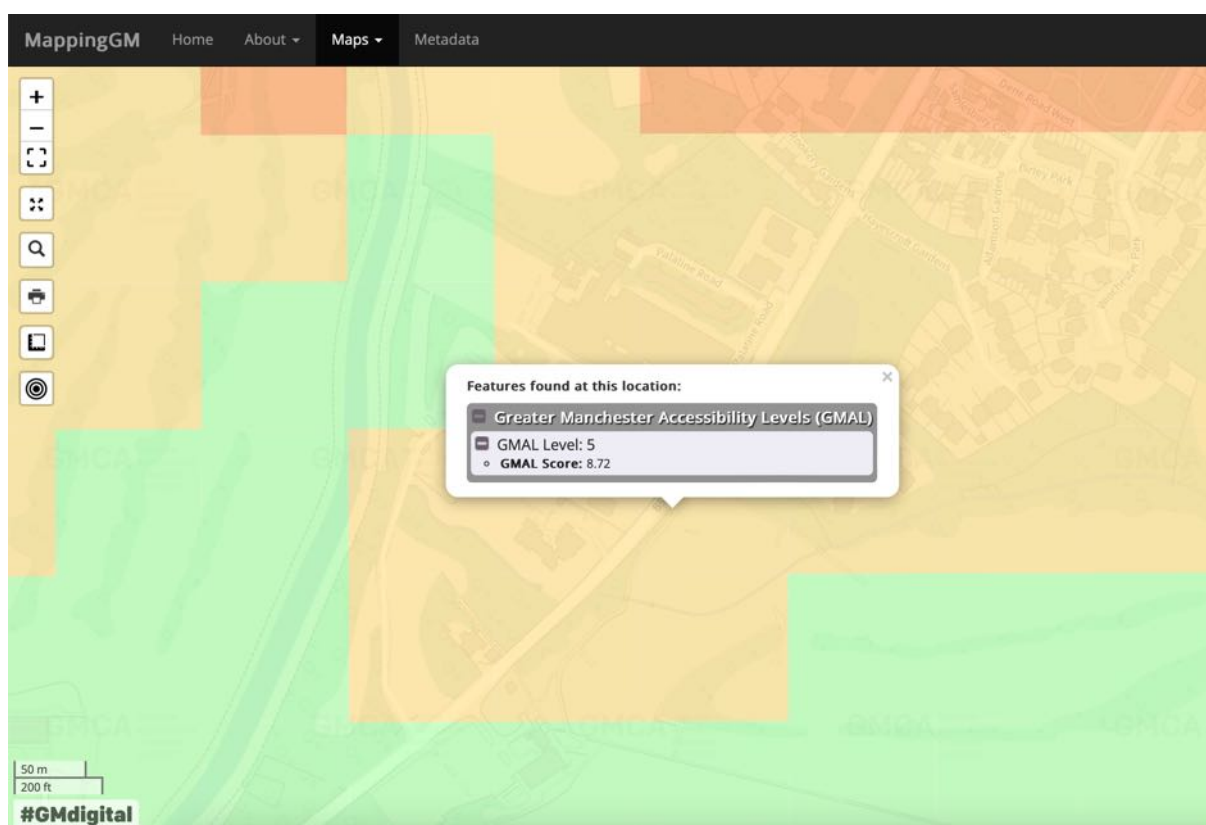


Figure 4.4: Greater Manchester Accessibility Level
[source: Mapping GM]

5 Impact Assessment

Trip Generation Method

- 5.1 TRICS guidance sets out the method that should be used when deriving a suitable sample set for a development proposal.⁹ At section 4 of the guidance (replicated below) it states that the forecast should be based on adjustments to locational and accessibility qualities, rather than regions.

“Bearing in mind the results of our research, with hard data now being available, it is not considered good practice to exclude survey sites within the TRICS database on the sole basis of such sites being located in a specific region.”

- 5.2 In line with this no adjustment has been made to the regions in the sample. Instead, the locational parameters have been set to reflect the site’s location characteristics (suburban area/edge of town).
- 5.3 The site has a GMAL rate of 5 and a score of 8.72, which equates to a PTAL of 2. None of the TRICS Greater London sample sites have a PTAL higher than the proposal site.

Development Trip Generation

- 5.4 The trip generation forecast has been undertaken separately for the houses and the apartments using TRICS privately owned residential use classes. The TRICS output is attached as Appendix F with a summary provided below.

⁹ TRICS (2023) TRICS Good Practice Guidance 2024

	Person Trip Rates per unit - Houses			Person Trip Rates per unit - Apartments		
	In	Out	Total	In	Out	Total
AM Peak Hour	0.293	0.837	1.13	0.11	0.568	0.678
PM Peak Hour	0.543	0.346	0.889	0.4	0.188	0.588
	Person Trips - Houses			Person Trips - Apartments		
	In	Out	Total	In	Out	Total
AM Peak Hour	5	13	18	6	31	37
PM Peak Hour	9	6	14	22	10	32

Table 5.1: Person Trip Rates & Total Trips – Development

- 5.5 Census mode share data for the local area (Manchester 042) has been used to establish typical resident travel patterns. The Census data, attached as Appendix F, shows a 56% car driver mode share. This has been used in the assessment as it is higher than that found in the TRICS data forecast.

	Vehicle Trips - Houses			Vehicle Trip - Apartments			Total Vehicle Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	3	8	10	3	17	21	6	25	31
PM Peak Hour	5	3	8	12	6	18	17	9	26

Table 5.2: Vehicle Trips – Development

Base Site Traffic Flows

- 5.6 The site is currently occupied by 22 apartments. Using the apartment trip rates and mode share set out previously the site has the potential to generate the level of traffic shown in Table 5.3.

	Total Vehicle Trips		
	In	Out	Total
AM Peak Hour	1	7	8
PM Peak Hour	5	2	7

Table 5.3: Vehicle Trips – Base

Traffic Impact

- 5.7 Table 5.4 shows that the net change in traffic flows will not be significant and therefore the development will not have an impact on highway operation. Notwithstanding this, an assessment has been undertaken of the site access junction, as set out below.

	Base Site Traffic			Development Site Traffic			Total Vehicle Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	1	7	8	6	25	31	5	18	23
PM Peak Hour	5	2	7	17	9	26	12	7	19

Table 5.4: Net Traffic Impact

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2029 Base Network Traffic Flows

- 5.8 In line with standard appraisal methods, a future year of five-years post-planning submission has been assessed (2029). The surveyed traffic flows have been growthed to 2029 using TEMPRO core growth for the location in which the site sits (Manchester 042). The latest version of TEMPRO has been used in the assessment ([version 8.1](#)).¹⁰
- AM Peak Hour: 1.0640
 - PM Peak Hour: 1.0736
- 5.9 The growth factors have been applied to the surveyed traffic flows as shown in Appendix H to form the base situation against which the development will be assessed.

Development Distribution

- 5.10 The development traffic has been distributed in line with surveyed patterns of movement, as shown in Appendix G. The development traffic has then been combined with 2029 base traffic to form the with development scenario.
- 5.11 To allow a robust assessment no adjustment has been made to acknowledge the baseline uses on the site.

Site Access Operation

- 5.12 PICADY has been used to model the operation of the site access junction. To allow a robust assessment the base flows do not contain the baseline site traffic flows and all movements have been modelled at a single point of access. The PICADY output is attached as Appendix H with a summary in Table 5.5.

Movement	2029 AM Peak with Development		2029 PM Peak with Development	
	RFC	Queue	RFC	Queue
From Site	0.08	0	0.08	0
Right turn to Site	0.01	0	0.03	0

Table 5.5: Site Access Operation

- 5.13 The assessment indicates that the proposed site access junction will operate well within capacity.

Parking Assessment

- 5.14 As noted earlier, MCC does not maintain any parking standards for residential developments and guidance suggests 100% should be the starting point for all developments.
- 5.15 100% car parking is provided for the houses in garage spaces.
- 5.16 Research shows that people living in apartments own fewer cars and this is borne out by the TRICS data attached as Appendix G. Given this a review has been made of local Census data to establish the car ownership rate for apartments in the area and to inform the level required.

¹⁰ <https://www.gov.uk/government/publications/tempro-downloads>

Accommodation Type	Car Ownership Level	Proposed Parking Rate
Apartments	78%	81%

Table 5.6: Car Ownership Level

- 5.17 Table 5.6 confirms that the apartment parking level (44 spaces/81%) is sufficient to meet apartment resident requirements.
- 5.18 As noted earlier, it is not possible to provide EV charging points in the undercroft so four of the EV spaces will be reserved for short stay charging for residents that don't have a charging point. All of the houses will have access to an EV charger in the garage.

Policy Compliance

- 5.19 Paragraph 114 of the National Planning Policy Framework (NPPF) supports developments that allow appropriate opportunities for sustainable transport modes to be taken up.¹¹ This is echoed in Policy JP-C1 (An Integrated Network) of Places for Everyone (PfE) aims to help deliver an accessible, low carbon Greater Manchester by supporting developments that minimises the need to travel and is located where trips can be made by walking, cycling and public transport.¹² Policy SO5 (Transport) and Policy T1 (Sustainable Transport) of the Local Plan supports development that is located where the need to travel by private car can be reduced and the use of public transport can be achieved.¹³ Policy JP-C8 also requires developments to be located where opportunities for access by pedestrians, disabled people, cyclists, public transport and EV.
- 5.20 Paragraph 115 of NPPF states that developments should only be prevented on highway grounds if there would be an unacceptable impact on highway safety or where residual cumulative impacts would be severe. This is reflected in Policy DM1 (Development Management) of the Local Plan and Policy JP-C8 (Transport Requirements for New Development) of the PfE, which both require Transport Assessments/Statements to be undertaken to examine the impact of development on the highway network. This TA has been prepared and it shows that the proposal will not have any negative effects on highway operation or road safety. A Travel Plan has also been prepared and this will result in a benefit to future site users without recourse to wider network mitigation.
- 5.21 The assessment confirms that the development accords with local, regional and national policy requirements.

6 Conclusions

- 6.1 SK has prepared a TA that examines the impact of constructing 70 dwellings (Use Class C3) at 232-236 Palatine Road in the Didsbury area of Manchester. The assessment has been undertaken in line with standard appraisal methods.
- 6.2 The assessment confirms that the site is a location that is accessible by a range of modes and that the site has a GMAL of 5. Measures are included in the proposal such as localised pedestrian improvements, cycle parking, and EV charging to support sustainable trip making. The development will be underpinned by a Travel Plan.
- 6.3 The assessment shows that there are no collision hotspots in the vicinity of the site. Vehicle and pedestrian access to the site will be provided by a new access arrangement which has been designed to confirm with required standards.
- 6.4 Servicing will be undertaken within the site and the assessment shows that suitable space is provided to accommodate large vehicles requiring regular access.
- 6.5 A traffic assessment has been undertaken and this shows that the proposal will not be associated with a significant level of traffic and that the site access will operate within suitable capacity levels.
- 6.6 The TA confirms that the site accords with local, regional and national policy requirements.

¹¹ Department for Levelling Up, Housing & Communities (2023), National Planning Policy Framework

¹² Greater Manchester Combined Authority (2024), Places for Everyone Joint Development Plan 2022-2039

¹³ Manchester City Council (2012), Manchester's Local Development Framework – Core Strategy

Appendix A

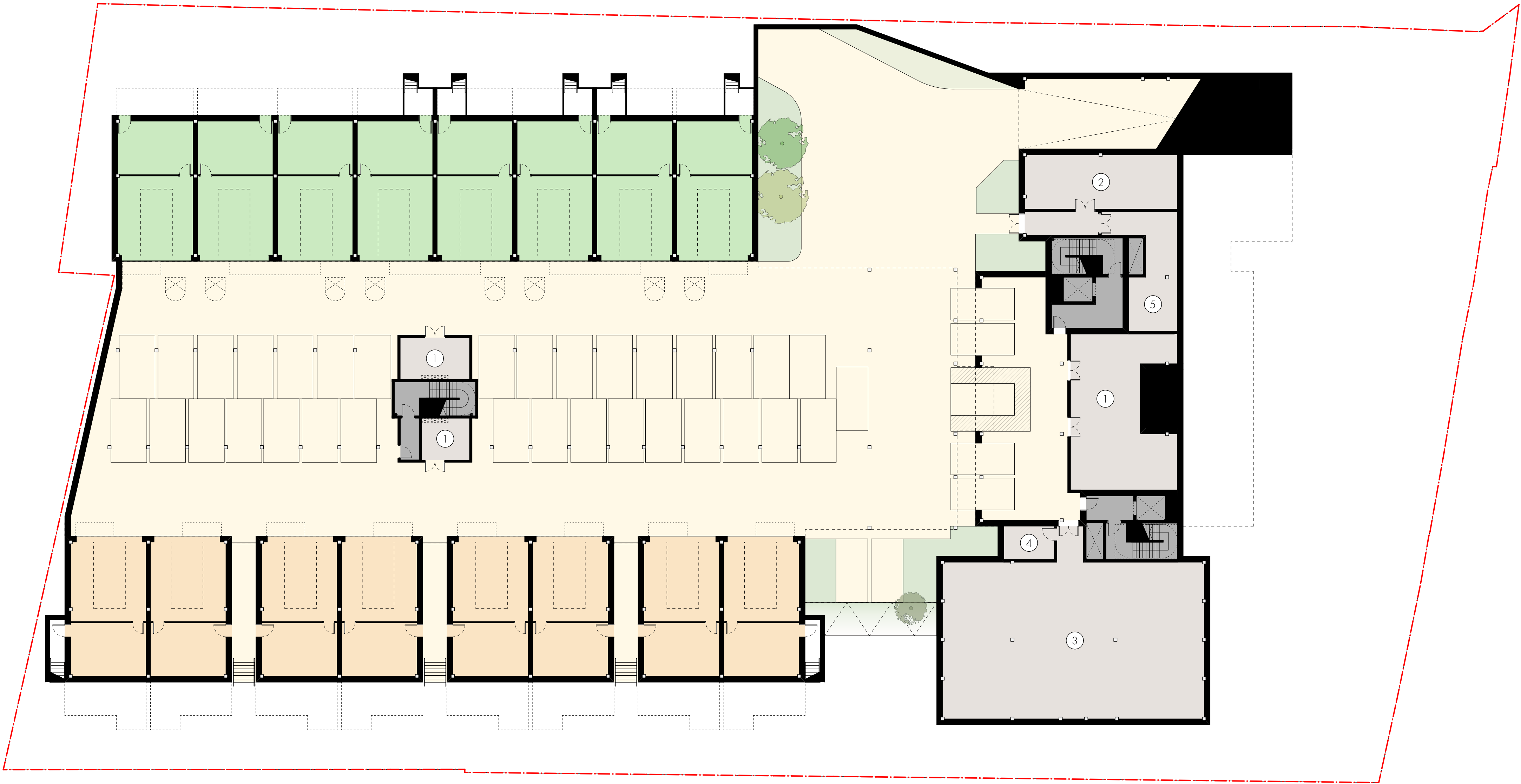


REVISION	DATE	DESCRIPTION
P01	08/11/2024	PRELIMINARY ISSUE
P02	03/12/2024	PUBLIC CONSULTATION ISSUE

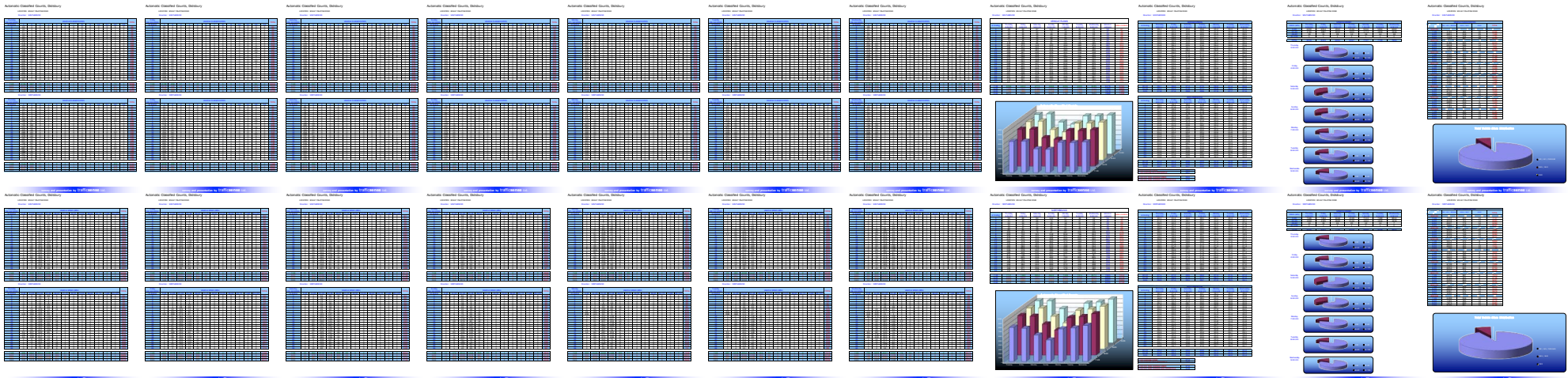
- KEY:
- Application Boundary
 - 1B 2P Apartment
 - 2B 3P Apartment
 - 2B 4P Apartment
 - 3B 5P Apartment
 - 3B 6P Apartment
 - Town Houses
 - Semi - detached Houses
 - Substation location option

REVISION	DATE	DESCRIPTION
P01	08/11/2024	PRELIMINARY ISSUE
P02	03/12/2024	PUBLIC CONSULTATION ISSUE

- KEY:
- Application Boundary
 - 1 Bin Store
 - 2 Bike Store - 36no.
 - 3 Sprinkler Tank Room
 - 4 Comms. Room
 - 5 BCWS
 - Town Houses
 - Semi-detached Houses



Appendix B



Appendix C



THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED AND ONLY WRITTEN DIMENSIONS SHALL BE USED

NOTES
Layout subject to detailed design and confirmation of statutory undertakers' equipment.

Revision Details	By	Date	Suffix
	Check		
Drawing Number			
SK22492-001			
232-236 Palatine Road, Didsbury			
Drawing Title			
Proposed Site Access General Arrangement			
Scale at A3			
1:500			
Drawn	Approved		
JAT	LGS		
Check	Date		
LGS	05.12.24		

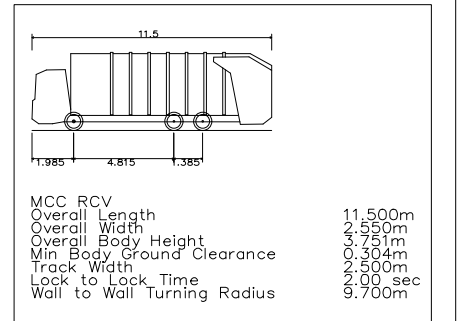
Appendix D



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NOTES

Vehicle Profile



Revision Details	By	Date	Suffix
	Check		

Drawing Number
SK22492-002

232-236 Palatine Road, Didsbury

Drawing Title
**Swept Path Analysis
Refuse Collection Vehicle**

Scale at A3
1:200

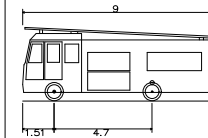
Drawn JAT	Approved LGS
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Check LGS	Date 05.12.24
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NOTES
Vehicle Profile



Scania P250 Fire Appliance 9m	9.000m
Overall Length	7.540m
Overall Width	3.531m
Overall Body Height	0.416m
Min Body Ground Clearance	2.490m
Track Width	4.00 sec
Lock to Lock Time	8.550m
Kerb to Kerb Turning Radius	

Revision Details	By	Date	Suffix
	Check		

Drawing Number
SK22492-003

232-236 Palatine Road, Didsbury

Drawing Title
Swept Path Analysis Fire Service Vehicle

Scale at A3
1:200

Drawn	Approved
JAT	LGS

Check	Date
LGS	05.12.24

Appendix E

Residential Development
232-236 Palatine Road
Didsbury
Interim Travel Plan
241217/SK22492/ITP01(-01)

Contents

	Page
1 Introduction	1
2 Travel Plan Process	2
3 Site Location	4
4 Accessibility Audit	6
5 Plan Management	8
6 Measures Toolkit	11
7 Monitoring Plan	13
8 Action Plan	14

Project	Document	Rev	Description	Authorised by	Signed	Date
SK22492	ITP01	00	First Draft	L Speers	LGS	09/12/2024
SK22492	ITP01	01	Updated	L Speers	LGS	17/12/2024

1 Introduction

Background

- 1.1 SK has been appointed by Marco Living 3 Limited to prepare an Interim Travel Plan for a residential development at 232-236 Palatine Road in the Didsbury area of Manchester.
- 1.2 A Transport Assessment (TA) has been prepared for the planning application and this should be referred to for full details of the development proposals and the transport implications. Details of the development relevant to the Travel Plan are summarised below.

Development Overview

- 1.3 The development layouts are attached as Appendix A of the TA.
- 1.4 The planning application seeks consent for the development of 54 apartments and 16 houses on the site (Use Class C3) together with associated landscaping and access following the demolition of the existing buildings on the site.
- 1.5 Table 3.1 shows the number of bedrooms by dwelling type.

Dwelling Type	1 Bed	2 Bed	3 Bed	5 Bed	Total
Apartments	24	26	4	0	54
Terrace	0	0	0	8	8
Semi	0	0	0	8	8
Total	24	26	4	16	70

Table 3.1: Bedroom Numbers

- 1.6 The proposed site access arrangements are shown in Appendix C of the TA. The existing driveway openings will be replaced with two formal bellmouth arrangements, with footway reinstated where necessary to suit the new access layout.
- 1.7 The new bellmouths have been designed to accommodate entry manoeuvres including for a refuse vehicle in the case of the southern access point and entry and exit manoeuvres at the northern access point, and to accommodate tree retention.
- 1.8 Dropped kerb crossing points with tactile paving will be provided at each of the access points, alongside reinstatement of the footway on the site frontage. A new dropped kerb crossing point is also proposed on Palatine Road on the site frontage, to enhance the accessibility of the southbound bus stop.
- 1.9 48 parking spaces are provided for the apartments of which eight are located within the front curtilage at ground level and the remainder is located in the lower ground parking area (38 in the undercroft and two uncovered).
- 1.10 10 EV charging spaces are provided. The Fire Engineer has advised that it is not possible to provide EV charging infrastructure in the undercroft parking area and so all EV is located in uncovered areas. This has impacted on the level of provision that can be made.
- 1.11 To ensure that all apartment households with a parking space have access to an EV charger it is proposed to reserve four of the EV spaces as a short-stay, active charging location. This will allow apartment residents without an EV charger in their parking space to charge their vehicle.
- 1.12 Based on this apartment residents will have 44 long-stay car parking spaces, a provision of 81%. Three of the apartment parking spaces are to accessible standard.
- 1.13 The houses will all have a garage with a single parking space (16 garage spaces), a provision of 100%. All of the garage spaces will have an EV charger.

- 1.14 MCC's parking standards are set out in the Core Strategy.¹ MCC does not maintain any parking standards for residential land uses. Further MCC guidance on parking is provided within the document "Manchester Residential Quality Guidance".² The document states that:
- "...there is no 'one size fits all' approach to car parking and it should be considered on a site-by-site basis."
- 1.15 The document goes on to state that 100% parking provision should be a starting point, but that reduced on-site provision may be justified on that basis of factors such as cycle parking in excess of 50% provision, and evidence demonstrating that lower levels of parking demand would be appropriate.
- 1.16 In line with the policy above 100% car parking is provided for the houses and 81% is provided for the apartments. The apartment parking level is based on local car ownership evidence and a high level of cycle parking for the apartments.
- 1.17 54 cycle parking spaces are provided for the apartments, including space for adapted bikes. Cycle parking for the houses will be accommodated in curtilage.
- 1.18 Parking spaces are 2.4m x 4.8m with 6m manoeuvring space other than in the undercroft, the manoeuvring space for these is 5.5m and the spaces have therefore been widened to 2.7m to compensate, in line with the advice in MfS. The garages have a full width opening to allow access.
- 1.19 Accessible parking bays have a 1200mm clearance zones to three sides of each space.
- 1.20 The access arrangement has been designed to allow refuse vehicle access to the pull-in area of the site frontage. Bins will be moved to this area on collection day by the site management team.
- 1.21 The frontage area will also accommodate day to day service activity such as post and parcel drop-off, supermarket deliveries, and for less frequent deliveries such as bulky goods.
- 1.22 The refuse collection vehicle is expected to be the largest vehicle type that will require regular access. Swept path analysis for a refuse collection vehicle is shown in Appendix E of the TA.
- 1.23 The scheme has been designed to accommodate access for a fire service vehicle to a turning area within the site, under advice from the Fire Engineer. Swept Path analysis for a fire service vehicle accessing this area is provided in Appendix E of the TA.

2 Travel Plan Process

Travel Plan Process

- 2.1 The Travel Plan draws on the following guidance and best practice:
- Department for Transport (2007), Making Residential Travel Plans Work
 - Department for Transport (2009), Good Practice Guidelines: Delivering Travel Plans through the Planning Process
 - Greater Manchester Combined Authority (2024), Places for Everyone Joint Development Plan 2022 to 2039
 - Manchester City Council (2012), Local Development Framework: Core Strategy Development Plan Document
 - Ministry for Housing, Communities & Local Government (2023), National Planning Policy Framework
 - Ministry for Housing, Communities & Local Government (2023), Planning Practice Guidance
 - Transport for Greater Manchester (2013), Transport for Sustainable Communities
 - Transport for Greater Manchester (2017), Greater Manchester Transport Strategy 2040

¹ Manchester City Council (2012), Manchester's Local Development Framework: Core Strategy Development Plan Document

² Manchester City Council (2017), Manchester Residential Design Guidance

2.2 Annex 2 of NPPF describes a Travel Plan as:

“A long-term management strategy for an organization or site that seeks to deliver sustainable transport objectives and is regularly reviewed.”³

- 2.3 A Travel Plan is a tool for managing access to a site that sets out a management strategy that seeks to promote sustainable travel choices and reduce single occupancy car use to achieve stated objectives. It should contain a package of measures designed to meet the objective to reduce single-occupancy car use generated from the site by supporting sustainable modes of transport, where practicable.
- 2.4 A Travel Plan should include a mixture of site infrastructure, strategy, marketing, and communication measures to assist the plan to meet defined objectives. Within a Travel Plan there is a need to set targets and indicators, the purpose of which is to monitor change and review policies overtime to allow it to meet the needs of the users of a site.
- 2.5 A Travel Plan should also outline the existing accessibility of the site, infrastructure measures included as part of the development, and management and policy measures for adoption at the site to promote use of sustainable modes.
- 2.6 This version of the Travel Plan has been prepared for the planning application to set out the principles that will be adopted in the full Travel Plan for the site. The requirement to prepare a full Travel Plan will be a condition of planning.

Travel Plan Pyramid

2.7 The Department of Transport (DfT) states that it is helpful to:

“... view the Travel Plan as a pyramid of measures and actions, some of which may form the foundations of the Travel Plan and part of which will be outcomes from the Transport Assessment.”⁴

- 2.8 The DfT pyramid is shown in Figure 2.1.
- 2.9 At the bottom of the pyramid is the location of the site and characteristics of access to the site by all modes of travel. The location of the development provides the foundation for good accessibility, and this is examined in Section 3 and 4 of the Plan.
- 2.10 At the next level the physical aspects of the proposed development are set out to allow acknowledgement of that some Travel Plan measures are built-in to the layout to influence travel, such as pedestrian access measures and car and cycle parking provision. These aspects are set out in Section 1 and 6.
- 2.11 The remaining levels outline the management, promotion and strategy measures that are to be adopted as part of the Travel Plan to reinforce the site location, infrastructure proposals and access opportunities. These are set out in Sections 5 and 6 of the Plan.
- 2.12 Section 7 sets out the monitoring plan which details how and when the travel plan will be reviewed. This includes how and when surveys will be undertaken, and the targets that will be set to meet the stated objectives.
- 2.13 Section 8 provides a summary of the actions identified in the Travel Plan along with timescales for implementation and funding/budget details.

³ Department for Levelling Up, Housing & Communities (2023), National Planning Policy Framework

⁴ Department for Transport (2007), Making Residential Travel Plans Work

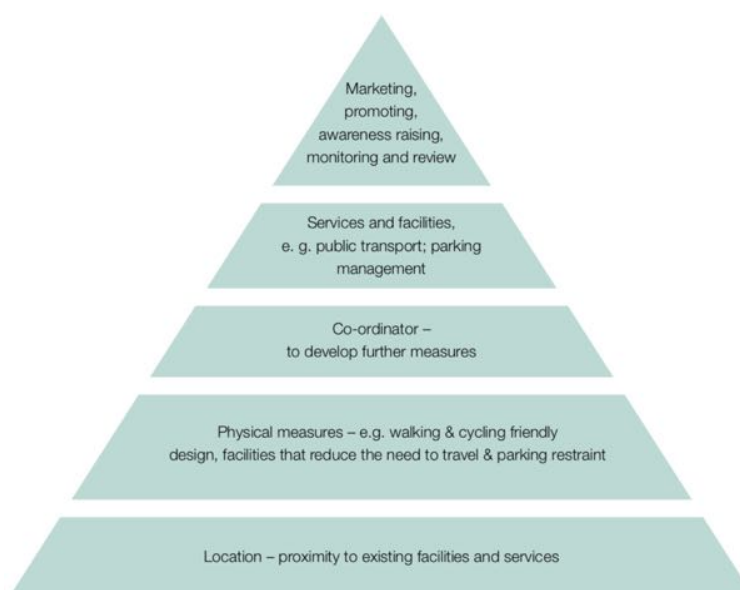


Figure 2.1: Travel Plan Pyramid
[source: DfT]

Travel Plan Benefits

- 2.14 Travel Plans result in a variety of health, financial, environmental and site operation benefits, which are set out below.
- 2.15 Reduced levels of single occupancy car use can lead to an improvement in air quality both surrounding the site and across the wider area. In addition, increases in active travel have very real impact on health as moderate physical activity can help prevent obesity, mental health issues, cancer, high blood pressure and cardiovascular disease.
- 2.16 The financial benefits of Travel Plans include personal cost savings from using more cost-effective modes of travel and indirect and wider cost savings relating to reduced illness and reduced accident rates.
- 2.17 The environmental benefits of Travel Plans include reduced carbon emissions and air quality issues.
- 2.18 Travel Plans also bring societal benefits including a happier and healthier community, and more social interaction.

Objectives

- 2.19 The objectives of the Travel Plan are to:
 - Objective 1:** To increase site user trips by active/sustainable modes of travel.
 - Objective 2:** To reduce the number of site user single occupancy private car trips.

3 Site Location

Site Location

- 3.1 The location of the site is shown on Figure 3.1.
- 3.2 The site is located in the Didsbury area of the city. It sits to the west of the B5167 Palatine Road, circa 800m north of the centre of Northenden and 1.3km to the west of the centre of Didsbury.

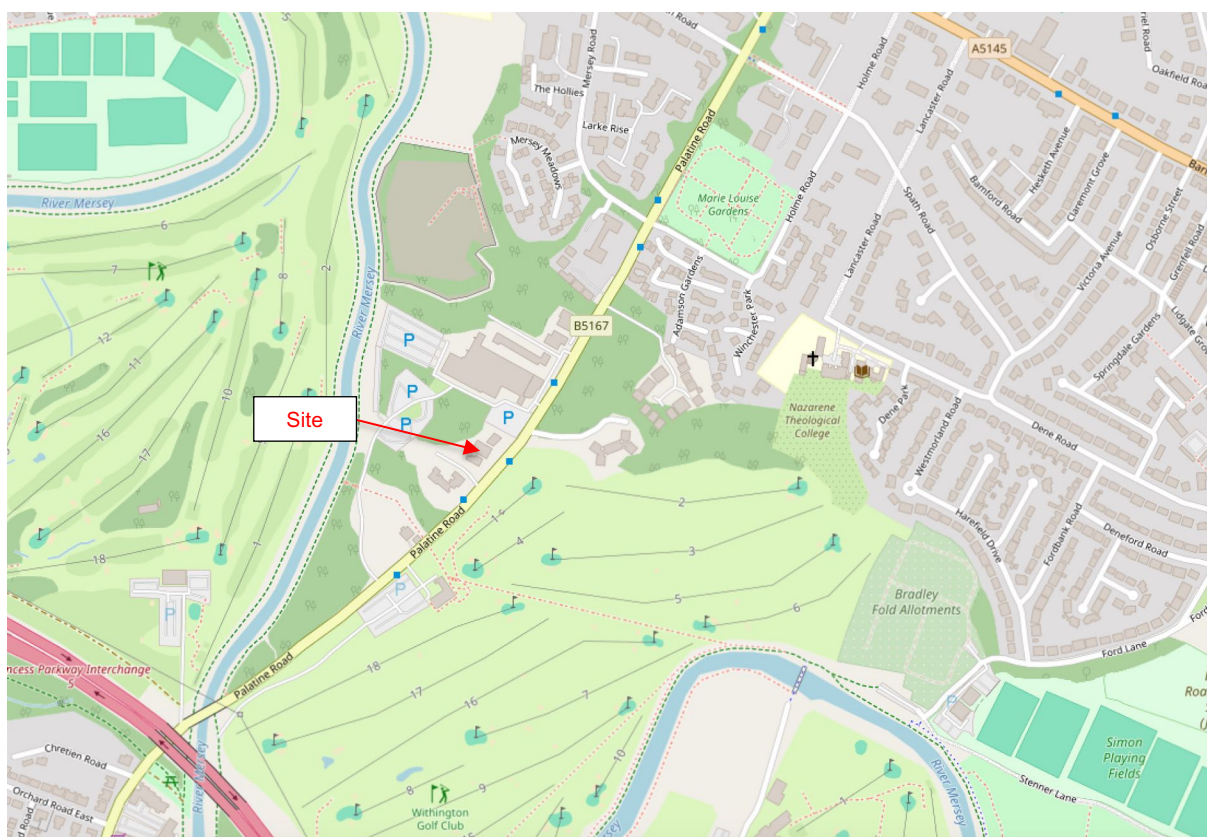


Figure 3.1: Site Location

[source: [OpenStreetMap Foundation](#) licensed under the [Open Database License](#)]

Local Transport Network

- 3.3 Palatine Road is an 8.4m wide road that routes north-south on the eastern boundary of the site. In the vicinity of the site it has a footway of 2.3m wide on the western (site) side of the road and a footway of 1.9m on the eastern side of the road by the bus stop. The road is street lit and subject to a 30mph speed limit.
- 3.4 Travelling north on Palatine Road access is gained to Mersey Road and Dene Road W. The footways continue northwards at a similar width to found in the vicinity of the site. A signalised crossing is in place just prior to the junction with Mersey Road/Dene Road W.
- 3.5 South of the site Palatine Road travels underneath the M60 as the road drops into Northenden. The footways on the western side of the road provides a continuous provision to Northenden. There is no footway on the eastern side from the bus stop opposite the site to a point just north of the M60, adjacent to the access point to the Mersey Path, where an uncontrolled crossing is provided. Just south of the M60 a signalised crossing is provided.
- 3.6 In the vicinity of the site, Traffic Regulation Orders (TRO) are in place in the form single yellow line controls on both sides of the road. The TRO are in force between 8am to 9.30am, 5pm to 6.30pm and 9pm to 3am (Monday-Friday) and 9pm to 3am (Saturday-Sunday).

Traffic & Speed Data

- 3.7 Speed and traffic data has been collected on Palatine Road outside the site and is set out in Section 2 of the TA.

Road Safety Data

- 3.8 Section 2 of the TA contains road safety data and analysis. This shows that there have been no collision hotspots in the vicinity of the site during the five year period assessed.

4 Accessibility Audit

Active Travel Routes

- 4.1 The existing footway outside the site is 2.3m wide. A controlled crossing is located to the north of the site at the junction with Dene Road W (340m north of the site), an uncontrolled crossing is provided where access can be gained to the Mersey Path traffic free route along the Mersey (480m south of the site), and a further controlled crossing is provided to the south of the M60 (600m south of the site).
- 4.2 Figure 4.1 shows the cycle network serving the site from the [TfGM website](https://tfgm.pindarcreative.co.uk).⁵ This shows that access can be gained to traffic calmed/20mph routes to the north of the site at the junction with Dene Road W/Mersey Road which provides a connection to formal routes on Barlow Moor Road. To the south of the site access can be gained to traffic free routes along the Mersey (Mersey Path) and to the south of this Route 62 of the National Cycle Network (Trans Pennine Trail).

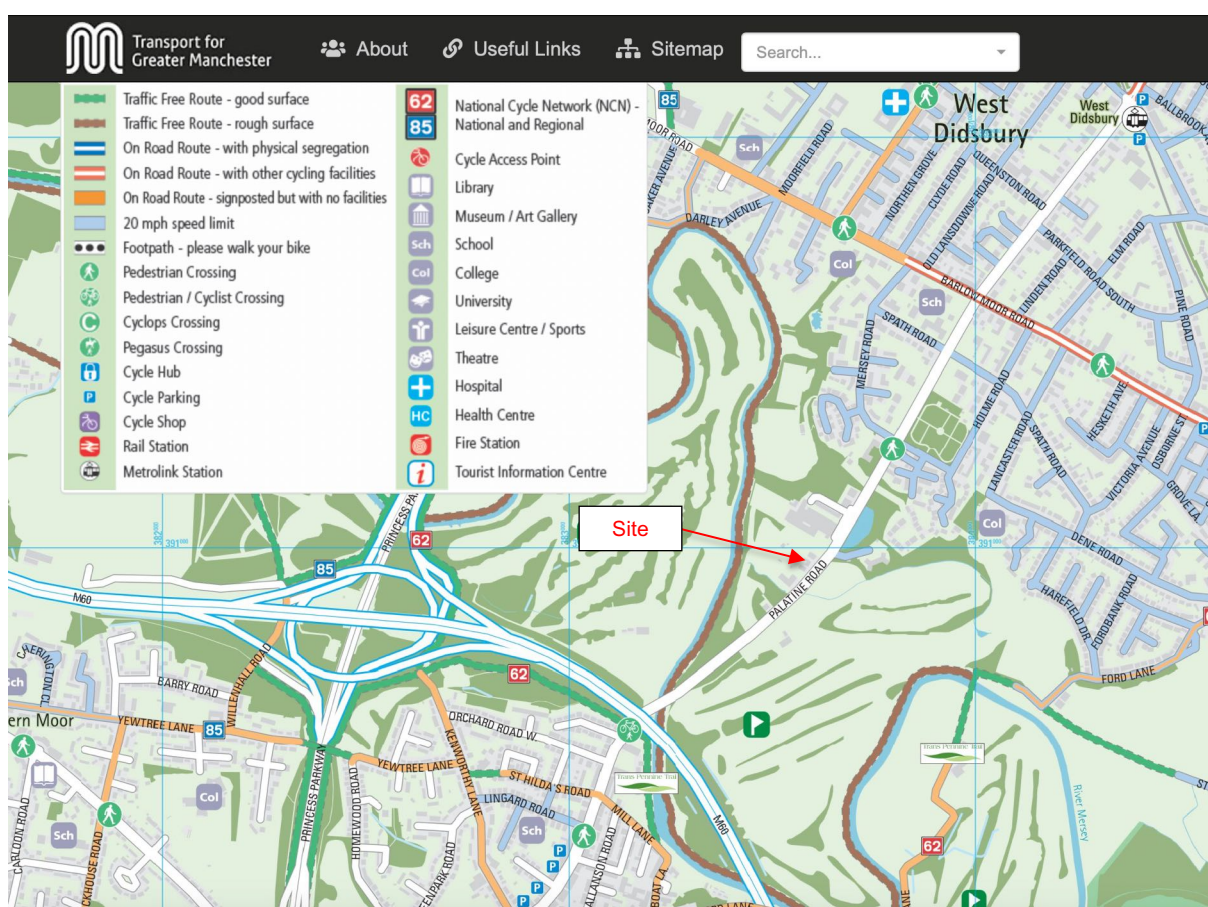


Figure 4.1: Cycle Network
[source: Transport for Greater Manchester]

Public Transport Routes

- 4.3 Figure 4.2 shows [TfGM's public transport network map](https://tfgm.com/maps) for the local area.⁶

⁵ <https://tfgm.pindarcreative.co.uk>

⁶ <https://tfgm.com/maps>

- 4.4 The nearest bus stop to the site is located opposite the site on Palatine Road (southbound services). The bus stop has a flag pole, timetable information and street lighting.



Figure 4.2: Public Transport Network
[source: Transport for Greater Manchester]

- 4.5 Table 4.1 provides a summary of the buses passing the site based on information from [TfGM's bus timetables](#) at the time of writing the report.⁷

⁷ <https://www.tfgm.com/plan-a-journey/schedules/bus-timetables>

No.	Route	Weekday (Buses per hour/each way)			Weekend (Buses per hour/each way)	
		Peak	Day	Evening	Saturday	Sunday
41	Middleton – Bowker – City Centre – Sale	3	3	1	3	2
43	Manchester Airport – Moss Side – City Centre	6	6	2	6	4

Table 4.1: Local Bus Services
[source: [Transport for Greater Manchester](#)]

5 Travel Plan Management

Applicant Responsibilities

- 5.1 An effective Travel Plan needs a clear hierarchy of responsibility. The applicant has been closely involved in the development of the Travel Plan and is committed to its successful implementation.
- 5.2 The applicant will identify a Travel Plan Co-ordinator for the development prior to occupation.

Travel Plan Co-ordinators

- 5.3 Travel Plan Co-ordinators play an important role in developing, managing, and promoting Travel Plans. The Travel Plan Co-ordinator will be responsible for the day-to-day running of their respective Travel Plans and will also develop, implement, market, and monitor effectiveness.
- 5.4 In summary, the Travel Plan Co-ordinator's responsibilities are:
 - Implementing the Plan measures.
 - Providing a point of contact for site users and the Council.
 - Publicising and raising awareness of local and national initiatives.
 - Preparing and issuing the travel information.
 - Providing periodic updates to site users on changes to local services and facilities.
 - Monitoring and surveying travel patterns.
 - Periodically reporting to the Council.
- 5.5 Should the Travel Plan Co-ordinators at either use change then the applicant will provide the Council with the contact details of the replacement within three months.

Handover Arrangements

- 5.6 Should the interest in the site be sold, the responsibility for the Travel Plan implementation will transfer to the successor in title. If this should be the case, then full contact details and the new Travel Plan Co-ordinator will be provided to the Council within three months to allow the Travel Plans to continue uninterrupted at each use.

6 Measures Toolkit

Communication Measures

- 6.1 The Communications Strategy is a vital component of any Travel Plan as it will be used to ensure that site users are aware of the travel options and initiatives available to them and will be the means of communicating the progress of the Plan. The Travel Plan Co-ordinator will be responsible for marketing and promoting the Travel Plans and providing and disseminating information to site users.
- 6.2 Table 6.1 shows the measures that will be used in the communications strategy.

Initiative	Description
Travel Packs	Preparation and issue of travel packs for each household.
Other Information Distribution	The communications resources will be kept up to date and residents will be alerted to any significant changes in local services.

Table 6.1: Communications Initiatives

- 6.3 Travel packs are good means of disseminating information and making sure that site users are aware of the travel choices available to them.
- 6.4 The travel packs will be issued to households when they move in. The travel packs will contain the following types of information:
1. Travel Plan Co-ordinator contact details.
 2. Information on on-line and phone app journey planning software.
 3. Information on cycle and walking routes.
 4. Information on bus routes and frequencies.
 5. Information on bus ticketing arrangements.
 6. Information on the building's delivery arrangements.
- 6.5 The information resources (travel packs) will be periodically reviewed and will be kept up to date. Residents will be alerted by email of any significant local service changes.

Journey Planning

- 6.6 Residents will be encouraged to familiarise themselves with the following journey planning resources:
- [TfGM journey planning software](#)⁸
 - [Public transport maps](#)⁹
 - [Active Travel route software](#)¹⁰
 - [Walking and cycling route maps](#)¹¹
 - Links to [Google Play](#)¹² and [Apple Store](#)¹³ Bee Network app

Active Travel Measures

- 6.7 Table 6.2 summarises the active travel measures that will be used.

Initiative	Description
Active Travel Benefits	The Travel Plan Co-ordinator will promote the benefits of walking and cycling to site users using the relevant communications strategy.
Local Route Awareness	The Travel Plan Co-ordinator will provide information via the communications strategy on active travel routes.
New Infrastructure	The development will provide new pedestrian infrastructure and cycle parking as set out in the TA.
Safety Tips	The Travel Plan Co-ordinator will provide information via the communications strategy on walking and cycling safety tips.
Cycle Training/Hire	The Travel Plan Co-ordinator will provide information on TfGM's cycle training schemes and local cycle hire schemes.

Table 6.2: Active Travel Initiatives

- 6.8 Active travel provides the following benefits:
- **Builds activity into your daily routine.**

⁸ <https://tfgm.com/plan-a-journey>

⁹ <https://tfgm.com/maps>

¹⁰ <https://beeactive.tfgm.com>

¹¹ <https://tfgm.pindarcreeative.co.uk>

¹² <https://play.google.com/store/apps/details?id=com.tfgm.beenetwork>

¹³ <https://apps.apple.com/gb/app/bee-network/id1669705230>

It'll help to meet the government guidelines which recommend young people get at least 60 minutes of physical activity every day and that adults should get at least 150 minutes of moderate activity per week.

- **Boost your mental health and wellbeing.**
According to the Mental Health Foundation physical activity increases mental alertness and helps to reduce stress and anxiety.
- **Fewer cars equals cleaner air.**
You experience five times higher pollution levels in a car than walking or on a bike.
- **Save your family money.**
Not only will less money be spent on petrol, but money can also be saved on gym or fitness centre fees.
- **You'll arrive feeling ready to start the day.**
People who walk and cycle arrive at work more relaxed and alert than those who travel by car.

- 6.9 The Travel Plan Co-ordinator will provide information on the benefits of active travel via the travel packs.
- 6.10 Section 4 confirms that the site relates well to existing active travel routes. The Travel Plan Co-ordinators will provide information on these routes to residents via the travel packs.
- 6.11 The proposed development will provide localised enhancements to pedestrian access routes, and cycle parking.
- 6.12 The Travel Plan Co-ordinator will provide walking and cycling safety tips by providing residents with resources provided by [TfGM](#)¹⁴, [GMWalking](#)¹⁵, [Sustrans](#)¹⁶ and [Cycling UK](#)¹⁷.
- 6.13 TfGM provides [cycle training sessions](#)¹⁸ for adults and family groups. This scheme will be promoted to residents.
- 6.14 The Travel Plan Co-ordinator will provide information to residents on how they can try cycling, without committing to the purchase of a bike. Resources that will be used include [TfGM's Bike Libraries](#)¹⁹ lending scheme, and a [number of charities](#)²⁰ that provide bike loan services.

Public Transport Measures

- 6.15 Table 6.3 shows the measures that will be used to encourage site users to travel more actively.

Initiative	Description
Local Route Awareness	The Travel Plan Co-ordinator will provide information via the relevant communications strategy on public transport routes and services.
Ticketing Arrangements	The Travel Plan Co-ordinator will ensure that site users are aware of TfGM ticketing arrangements.
Regular Review	The Travel Plan Co-ordinator will regularly review the TfGM database so that any service changes can be relayed to site users.

Table 6.3: Public Transport Initiatives

- 6.16 The Travel Plan Co-ordinators will provide information on local bus routes to residents via the travel pack.
- 6.17 The Travel Plan Co-ordinator will make sure that all residents are aware of ticketing arrangements available using information from [TfGM ticketing information](#)²¹.
- 6.18 The following ticketing incentives are currently offered in Greater Manchester:

¹⁴ <https://beeactive.tfgm.com>

¹⁵ <https://gmwalking.co.uk>

¹⁶ www.sustrans.org.uk/

¹⁷ www.cyclinguk.org/

¹⁸ <https://beeactive.tfgm.com/cycling/courses-and-bike-maintenance/>

¹⁹ <https://beeactive.tfgm.com/cycling/bike-libraries/>

²⁰ <https://beeactive.tfgm.com/cycling/get-a-bike/>

²¹ <https://tfgm.com/tickets-and-passes/find-a-ticket>

- [Bus Travel](#)²²
Adult single fares are capped at £2 and day tickets capped at £5. Weekly adult tickets are available for £21. Individual bus operators may provide their own weekly bus ticket but the 7 Day Any Bus Adult travelcard allows travel all week with any operator in Greater Manchester.
- [Tram Travel](#)²³
The Clipper ticket provides 10 days' travel for the price of 9 with journeys that can be taken over 56 days. The Contactless Early Bird Bonus saves money on travel before 7am on weekdays. Weekly Contactless is capped at £31 even if you travel in all zones.
- [Train Travel](#)²⁴
The Flexi Season Ticket offers 8 days of travel in 28 days – anytime between two named stations.

6.19 The Travel Plan Co-ordinator will be responsible for periodically reviewing the public transport databases to check for service changes and any new public transport initiatives. The Travel Plan Co-ordinator will then update the travel packs with any changes and will let residents know by email.

Sustainable Car Measures

6.20 Table 6.4 shows the measures that will be used to encourage sustainable vehicle use for residents.

Initiative	Description
Car Sharing	Car sharing will be promoted to residents.
Low Emissions Vehicles	Provide EV charging spaces.

Table 6.4: Sustainable Car Use Initiatives

6.21 Site users will be provided with information on the benefits of car sharing and information on [Liftshare](#) via the travel pack.²⁵

6.22 All residents with a parking space will have access to an EV charging point.

7 Monitoring Plan

Baseline Surveys

7.1 Surveying and monitoring travel patterns is an important tool in measuring the progress of the Travel Plan and success of the Plan in terms of meeting the declared objectives and targets.

7.2 Baseline resident travel surveys will be undertaken within three months of occupancy of the relevant use. The travel surveys collect the following information:

1. Usual mode of travel to work
2. Household car and cycle ownership
3. Reason for mode choice

7.3 The results from the first survey will be used to set the targets for the Travel Plan and to update the measures, if required. The updated Travel Plan will be submitted to the Council within six months of completion of the baseline/first surveys.

²² <https://tfgm.com/get-on-board>

²³ <https://tfgm.com/tickets-and-passes/ways-to-pay/smart-card>

²⁴ <https://www.northernrailway.co.uk/tickets/flexi>

²⁵ <https://liftshare.com/uk>

Monitoring Surveys

- 7.4 Surveys will be undertaken every two years for a period of five years (baseline/year one, year three, and year five). Following each survey period, a short monitoring report will be issued to the Council for discussion. The monitoring report will be issued within three months of each survey period.

Exercise	Key Information	Frequency	Responsibility
Issue of travel packs	Dissemination of travel information and travel survey to residents	On occupation	Travel Plan Co-ordinators
Baseline resident surveys	Data to be used to establish baseline trip patterns and to allow appropriate targets to be set	Within 3 months of occupation/final Travel Plan to be submitted within 6 months of survey completion (Year 1)	Travel Plan Co-ordinators
Monitoring resident surveys	Data to be used to establish progress of the Plan and review success of measures	Year 3 and Year 5	Travel Plan Co-ordinators
Preparation of Monitoring Report	Set out mode share, targets, and any changes proposed to the Plan	3 months after each monitoring survey period	Travel Plan Co-ordinators

Table 7.1: Monitoring Plan

Targets

- 7.5 Targets are measurable goals against which the progress of the Travel Plan can be assessed. Targets should be SMART – Specific, Measurable, Achievable, Realistic and Time-Related.
- 7.6 The targets are split into two different types, Output Targets and Outcome Targets. Output Targets are non-quantifiable and action-based that need to be achieved in a set time period. Outcome Targets are quantifiable and will be based on the results of the travel surveys.
- 7.7 The following Output Targets have been set for the Travel Plan:
- Appoint Travel Plan Co-ordinator on occupation.
 - Provide contact details of Travel Plan Co-ordinator to the Council on occupation of each element.
 - Provide the travel packs to all new residents on occupation of each element.
 - Undertake the baseline travel surveys within 3 months of occupation.
 - Update the Travel Plan and issue to the Council within 6 months of survey.
 - Undertake monitoring travel surveys in years 3 and 5.
 - Prepare a monitoring report and issue to the Council within 3 months of each monitoring survey.
- 7.8 The Outcome Target for the Travel Plan is to increase the proportion of site residents travelling by sustainable modes and reduce single occupancy car trips from the baseline mode share. The baseline mode share will be established on completion of the baseline/year one surveys and at this point a quantitative target will be set.
- 7.9 Preliminary Outcome Targets are set out in Table 7.2.

Provision of Travel Packs

Specific	The Travel Plan Co-ordinator will provide residents with a travel pack. These resources will be kept up to date.
Measurable	Verified as part of the monitoring reports.
Achievable	Will be the responsibility of the Travel Plan Co-ordinator.
Realistic	The information resources will be available to site users.
Timebound	Ongoing.

Resident Surveys

Specific	Residents travel patterns will be periodically monitored.
Measurable	Will be recorded as part of the baseline and monitoring survey programme.
Achievable	Will be the responsibility of the Travel Plan Co-ordinator.
Realistic	Yes.
Timebound	Ongoing.

Reduce the Number of Single Occupancy Car Trips & Increase Sustainable Trip Making

Specific	Reduce the number of site users travelling alone in a private car and increase sustainable trip making.
Measurable	Verified using the baseline and monitoring surveys. Updated, quantifiable targets to be set following baseline surveys.
Achievable	Will be the responsibility of the Travel Plan Co-ordinator.
Realistic	Yes.
Timebound	Monitoring programme set out.

Table 7.2: Preliminary Travel Plan SMART Targets

8 Interim Action Plan & Funding

- 8.1 The Action Plan summarises the measures set out in the Travel Plan, who will be responsible for delivering them and target timescales.

Initiative		Responsibility	Target Delivery
Management	Appoint Travel Plan Co-ordinator	Applicant	Prior to occupation
	Provide Contact Details	Applicant	Within 3 months of occupation
Monitoring	Prepare Survey Questionnaire	Travel Plan Co-ordinator	On occupation
	Baseline/Year 1 Surveys	Travel Plan Co-ordinator	Within 3 months of occupation
	Travel Plan Update	Travel Plan Co-ordinator	Within 6 months of occupation
	Monitoring Surveys	Travel Plan Co-ordinator	In line with monitoring programme
	Monitoring Reports	Travel Plan Co-ordinator	Within 3 months of survey
Communications	Prepare Resident Travel Packs	Travel Plan Co-ordinator	Prior to occupation
	Distribute Travel Packs	Travel Plan Co-ordinator	Prior to occupation
	Other Information Distribution	Travel Plan Co-ordinator	On-going
Active Travel	Promote Active Travel Benefits	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Raise Local Route Awareness	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Provide Development Infrastructure	Applicant	Prior to occupation
	Provide Safety Information	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Promote Cycle Training	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Promote Cycle Hire	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Maintain Momentum	Travel Plan Co-ordinator	On-going – periodic email updates
Public Transport	Raise Local Route/Ticketing Awareness	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates
	Regular Review	Travel Plan Co-ordinator	On-going – periodic email updates
Sustainable Car	EV Chargers	Applicant	Prior to occupation
	Car Sharing	Travel Plan Co-ordinator	Travel pack – on occupation On-going – periodic email updates

Table 8.1: Action Plan

Appendix F

QS703EW - Method of Travel to Work (2001 specification)

ONS Crown Copyright Reserved [from Nomis on 3 September 2024]

population	All usual residents aged 16 to 74
units	Persons
area type	2011 super output areas - middle layer
area name	E02001086 : Manchester 042

Method of Travel to Work	2011	%
All categories: Method of travel to work	3,311	
Work mainly at or from home	263	8%
Underground, metro, light rail, tram	17	1%
Train	40	1%
Bus, minibus or coach	621	19%
Taxi	19	1%
Motorcycle, scooter or moped	20	1%
Driving a car or van	1,855	56%
Passenger in a car or van	113	3%
Bicycle	180	5%
On foot	172	5%
Other method of travel to work	11	0%

RM001 - Accommodation type by car or van availability

ONS Crown Copyright Reserved [from Nomis on 18 October 2024]

population	All households
units	Households
date	2021
area type	2021 super output areas - middle layer
area name	E02001086 : Manchester 042

Number of cars or vans	Total	Flat	Total	Flat
Total	2,951	1,135	100%	100%
No cars or vans in household	785	396	27%	35%
1 car or van in household	1,438	593	49%	52%
2 or more cars or vans in household	728	146	25%	13%
			98%	78%

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

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

Primary Filtering selection:

Parameter: No of Dwellings
 Actual Range: 22 to 184 (units:)
 Range Selected by User: 20 to 200 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

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

Selected survey days:

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

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	10
Edge of Town	3

Selected Location Sub Categories:

Development Zone	1
Residential Zone	9
No Sub Category	3

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	17 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

C3	13 days
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Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
20,001 to 25,000	6 days
25,001 to 50,000	4 days
50,001 to 100,000	1 days

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days
500,001 or More	4 days

Car ownership within 5 miles:

0.6 to 1.0	9 days
1.1 to 1.5	4 days

Secondary Filtering selection (Cont.):

Travel Plan:

Yes	4 days
No	9 days

PTAL Rating:

No PTAL Present	11 days
1b Very poor	1 days
2 Poor	1 days

LIST OF SITES relevant to selection parameters

1	BT-03-C-03 MOUNT PLEASANT WEMBLEY	BLOCKS OF FLATS	BRENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	130	
	Survey date: THURSDAY	16/11/23	Survey Type: MANUAL
2	CA-03-C-03 CROMWELL ROAD CAMBRIDGE	BLOCKS OF FLATS	CAMBRIDGESHIRE
	Suburban Area (PPS6 Out of Centre) No Sub Category Total No of Dwellings:	82	
	Survey date: MONDAY	18/09/17	Survey Type: MANUAL
3	DY-03-C-03 CAESAR STREET DERBY	BLOCKS OF FLATS	DERBY
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	30	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL
4	EN-03-C-03 NORTH CIRCULAR ROAD PALMERS GREEN	BLOCKS OF FLATS	ENFIELD
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	27	
	Survey date: WEDNESDAY	08/11/17	Survey Type: MANUAL
5	HF-03-C-06 FERNDOWN ROAD WATFORD SOUTH OXHEY Edge of Town Residential Zone Total No of Dwellings:	26	
	Survey date: THURSDAY	08/06/23	Survey Type: MANUAL
6	HF-03-C-08 HAYLING ROAD WATFORD SOUTH OXHEY Edge of Town Residential Zone Total No of Dwellings:	22	
	Survey date: TUESDAY	06/06/23	Survey Type: MANUAL
7	MS-03-C-02 SOUTH FERRY QUAY LIVERPOOL BRUNSWICK DOCK Suburban Area (PPS6 Out of Centre) Development Zone Total No of Dwellings:	184	
	Survey date: TUESDAY	13/11/18	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	NF-03-C-02	MIXED FLATS & HOUSES	NORFOLK
	HALL ROAD		
	NORWICH		
	LAKENHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	82	
	Survey date: MONDAY	18/11/19	Survey Type: MANUAL
9	NG-03-C-01	HOUSES (SPLIT INTO FLATS)	NOTTINGHAM
	LAWRENCE WAY		
	NOTTINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total No of Dwellings:	56	
	Survey date: TUESDAY	08/11/16	Survey Type: MANUAL
10	NG-03-C-02	HOUSES (SPLIT INTO FLATS)	NOTTINGHAM
	CASTLE MARINA ROAD		
	NOTTINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total No of Dwellings:	135	
	Survey date: WEDNESDAY	09/11/16	Survey Type: MANUAL
11	RD-03-C-07	BLOCKS OF FLATS	RICHMOND
	BESSANT DRIVE		
	KEW		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	170	
	Survey date: WEDNESDAY	14/06/23	Survey Type: MANUAL
12	SH-03-C-01	BLOCK OF FLATS	SHROPSHIRE
	ABBEY FOREGATE		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	47	
	Survey date: MONDAY	19/06/23	Survey Type: MANUAL
13	TW-03-C-01	BLOCKS OF FLATS	TYNE & WEAR
	CAULDWELL AVENUE		
	WHITLEY BAY		
	MONKESEATON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	45	
	Survey date: FRIDAY	15/10/21	Survey Type: MANUAL

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DL-03-C-18	covid
WF-03-C-06	covid

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.47

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	13	80	0.049	13	80	0.152	13	80	0.201
08:00 - 09:00	13	80	0.055	13	80	0.174	13	80	0.229
09:00 - 10:00	13	80	0.081	13	80	0.100	13	80	0.181
10:00 - 11:00	13	80	0.067	13	80	0.080	13	80	0.147
11:00 - 12:00	13	80	0.069	13	80	0.082	13	80	0.151
12:00 - 13:00	13	80	0.081	13	80	0.088	13	80	0.169
13:00 - 14:00	13	80	0.074	13	80	0.087	13	80	0.161
14:00 - 15:00	13	80	0.070	13	80	0.076	13	80	0.146
15:00 - 16:00	13	80	0.114	13	80	0.071	13	80	0.185
16:00 - 17:00	13	80	0.107	13	80	0.073	13	80	0.180
17:00 - 18:00	13	80	0.154	13	80	0.083	13	80	0.237
18:00 - 19:00	13	80	0.126	13	80	0.077	13	80	0.203
19:00 - 20:00	3	109	0.131	3	109	0.052	3	109	0.183
20:00 - 21:00	3	109	0.061	3	109	0.021	3	109	0.082
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.239			1.216			2.455

Parameter summary

Trip rate parameter range selected:22 - 184 (units:)

Survey date date range:01/01/16 - 16/11/23

Number of weekdays (Monday-Friday):13

Number of Saturdays:0

Number of Sundays:0

Surveys automatically removed from selection:6

Surveys manually removed from selection:2

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	80	0.000	13	80	0.000	13	80	0.000
08:00 - 09:00	13	80	0.001	13	80	0.000	13	80	0.001
09:00 - 10:00	13	80	0.000	13	80	0.001	13	80	0.001
10:00 - 11:00	13	80	0.001	13	80	0.000	13	80	0.001
11:00 - 12:00	13	80	0.001	13	80	0.002	13	80	0.003
12:00 - 13:00	13	80	0.002	13	80	0.002	13	80	0.004
13:00 - 14:00	13	80	0.000	13	80	0.000	13	80	0.000
14:00 - 15:00	13	80	0.001	13	80	0.001	13	80	0.002
15:00 - 16:00	13	80	0.000	13	80	0.000	13	80	0.000
16:00 - 17:00	13	80	0.001	13	80	0.000	13	80	0.001
17:00 - 18:00	13	80	0.000	13	80	0.001	13	80	0.001
18:00 - 19:00	13	80	0.000	13	80	0.000	13	80	0.000
19:00 - 20:00	3	109	0.000	3	109	0.000	3	109	0.000
20:00 - 21:00	3	109	0.000	3	109	0.000	3	109	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.007			0.014

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	80	0.002	13	80	0.012	13	80	0.014
08:00 - 09:00	13	80	0.006	13	80	0.017	13	80	0.023
09:00 - 10:00	13	80	0.003	13	80	0.008	13	80	0.011
10:00 - 11:00	13	80	0.003	13	80	0.002	13	80	0.005
11:00 - 12:00	13	80	0.003	13	80	0.003	13	80	0.006
12:00 - 13:00	13	80	0.001	13	80	0.004	13	80	0.005
13:00 - 14:00	13	80	0.005	13	80	0.005	13	80	0.010
14:00 - 15:00	13	80	0.011	13	80	0.007	13	80	0.018
15:00 - 16:00	13	80	0.008	13	80	0.003	13	80	0.011
16:00 - 17:00	13	80	0.011	13	80	0.006	13	80	0.017
17:00 - 18:00	13	80	0.011	13	80	0.008	13	80	0.019
18:00 - 19:00	13	80	0.011	13	80	0.005	13	80	0.016
19:00 - 20:00	3	109	0.012	3	109	0.006	3	109	0.018
20:00 - 21:00	3	109	0.012	3	109	0.000	3	109	0.012
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.099			0.086			0.185

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	80	0.017	13	80	0.086	13	80	0.103
08:00 - 09:00	13	80	0.036	13	80	0.153	13	80	0.189
09:00 - 10:00	13	80	0.045	13	80	0.079	13	80	0.124
10:00 - 11:00	13	80	0.035	13	80	0.054	13	80	0.089
11:00 - 12:00	13	80	0.030	13	80	0.043	13	80	0.073
12:00 - 13:00	13	80	0.058	13	80	0.051	13	80	0.109
13:00 - 14:00	13	80	0.049	13	80	0.046	13	80	0.095
14:00 - 15:00	13	80	0.060	13	80	0.057	13	80	0.117
15:00 - 16:00	13	80	0.096	13	80	0.046	13	80	0.142
16:00 - 17:00	13	80	0.092	13	80	0.036	13	80	0.128
17:00 - 18:00	13	80	0.098	13	80	0.048	13	80	0.146
18:00 - 19:00	13	80	0.086	13	80	0.038	13	80	0.124
19:00 - 20:00	3	109	0.024	3	109	0.034	3	109	0.058
20:00 - 21:00	3	109	0.037	3	109	0.021	3	109	0.058
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.763			0.792			1.555

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	80	0.006	13	80	0.115	13	80	0.121
08:00 - 09:00	13	80	0.007	13	80	0.133	13	80	0.140
09:00 - 10:00	13	80	0.014	13	80	0.045	13	80	0.059
10:00 - 11:00	13	80	0.017	13	80	0.027	13	80	0.044
11:00 - 12:00	13	80	0.014	13	80	0.026	13	80	0.040
12:00 - 13:00	13	80	0.024	13	80	0.025	13	80	0.049
13:00 - 14:00	13	80	0.016	13	80	0.030	13	80	0.046
14:00 - 15:00	13	80	0.022	13	80	0.030	13	80	0.052
15:00 - 16:00	13	80	0.050	13	80	0.020	13	80	0.070
16:00 - 17:00	13	80	0.065	13	80	0.022	13	80	0.087
17:00 - 18:00	13	80	0.091	13	80	0.019	13	80	0.110
18:00 - 19:00	13	80	0.096	13	80	0.014	13	80	0.110
19:00 - 20:00	3	109	0.153	3	109	0.015	3	109	0.168
20:00 - 21:00	3	109	0.095	3	109	0.028	3	109	0.123
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.670			0.549			1.219

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.47

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	13	80	0.071	13	80	0.411	13	80	0.482
08:00 - 09:00	13	80	0.110	13	80	0.568	13	80	0.678
09:00 - 10:00	13	80	0.165	13	80	0.264	13	80	0.429
10:00 - 11:00	13	80	0.137	13	80	0.185	13	80	0.322
11:00 - 12:00	13	80	0.133	13	80	0.191	13	80	0.324
12:00 - 13:00	13	80	0.190	13	80	0.195	13	80	0.385
13:00 - 14:00	13	80	0.154	13	80	0.188	13	80	0.342
14:00 - 15:00	13	80	0.181	13	80	0.183	13	80	0.364
15:00 - 16:00	13	80	0.317	13	80	0.157	13	80	0.474
16:00 - 17:00	13	80	0.309	13	80	0.152	13	80	0.461
17:00 - 18:00	13	80	0.400	13	80	0.188	13	80	0.588
18:00 - 19:00	13	80	0.365	13	80	0.154	13	80	0.519
19:00 - 20:00	3	109	0.394	3	109	0.116	3	109	0.510
20:00 - 21:00	3	109	0.223	3	109	0.073	3	109	0.296
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.149			3.025			6.174

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON	
	EN ENFIELD	1 days
02	SOUTH EAST	
	CT CENTRAL BEDFORDSHIRE	1 days
	ES EAST SUSSEX	1 days
	HC HAMPSHIRE	4 days
	MW MEDWAY	1 days
	SC SURREY	1 days
03	SOUTH WEST	
	DC DORSET	2 days
	SD SWINDON	1 days
04	EAST ANGLIA	
	NF NORFOLK	3 days
	PB PETERBOROUGH	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	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
10	WALES	
	VG VALE OF GLAMORGAN	1 days
11	SCOTLAND	
	HI HIGHLAND	1 days
14	LEINSTER	
	WC WICKLOW	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	CV CAVAN	1 days
17	ULSTER (NORTHERN IRELAND)	
	DE DERRY	1 days

Primary Filtering selection:

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

Selected survey days:

Monday	7 days
Tuesday	4 days
Wednesday	9 days
Thursday	4 days
Friday	3 days

Selected survey types:

Manual count	27 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	7
Edge of Town	20

Selected Location Sub Categories:

Residential Zone	24
No Sub Category	3

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	9 days - Selected
Servicing vehicles Excluded	21 days - Selected

Secondary Filtering selection:

Use Class:

C3	27 days
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Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	11 days
10,001 to 15,000	6 days
15,001 to 20,000	5 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

Population within 5 miles:

5,001 to 25,000	5 days
25,001 to 50,000	3 days
50,001 to 75,000	5 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	10 days
250,001 to 500,000	1 days
500,001 or More	1 days

Secondary Filtering selection (Cont.):

Car ownership within 5 miles:

0.6 to 1.0	9 days
1.1 to 1.5	17 days
1.6 to 2.0	1 days

Travel Plan:

Yes	12 days
No	15 days

PTAL Rating:

No PTAL Present	26 days
1b Very poor	1 days

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	CT-03-A-01	MIXED HOUSES		CENTRAL BEDFORDSHIRE
	ARLESEY ROAD			
	STOTFOLD			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:	46		
	Survey date: WEDNESDAY	22/06/22	Survey Type: MANUAL	
3	CV-03-A-03	DETACHED HOUSES		CAVAN
	R212 DUBLIN ROAD			
	CAVAN			
	PULLAMORE NEAR			
	Edge of Town			
	No Sub Category			
	Total No of Dwellings:	37		
	Survey date: MONDAY	22/05/17	Survey Type: MANUAL	
4	DC-03-A-09	MIXED HOUSES		DORSET
	A350			
	SHAFTESBURY			
	Edge of Town			
	No Sub Category			
	Total No of Dwellings:	50		
	Survey date: FRIDAY	19/11/21	Survey Type: MANUAL	
5	DC-03-A-10	MIXED HOUSES		DORSET
	ADDISON CLOSE			
	GILLINGHAM			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:	26		
	Survey date: WEDNESDAY	09/11/22	Survey Type: MANUAL	
6	DE-03-A-04	SEMI-DETACHED & TERRACED		DERRY
	GREENHALL HIGHWAY			
	COLERAINE			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:	38		
	Survey date: THURSDAY	19/05/22	Survey Type: MANUAL	
7	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	

LIST OF SITES relevant to selection parameters (Cont.)

8	EN-03-A-01 BOLLINGBROKE PARK COCKFOSTERS	TERRACED & SEMI-DETACHED	ENFIELD
	Edge of Town Residential Zone Total No of Dwellings: 32 Survey date: WEDNESDAY 24/11/21		Survey Type: MANUAL
9	ES-03-A-09 THE FAIRWAY NEWHAVEN	DETACHED & SEMI-DETACHED	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 47 Survey date: MONDAY 13/03/23		Survey Type: MANUAL
10	HC-03-A-21 PRIESTLEY ROAD BASINGSTOKE HOUNDMILLS	TERRACED & SEMI-DETACHED	HAMPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 39 Survey date: TUESDAY 13/11/18		Survey Type: MANUAL
11	HC-03-A-22 BOW LAKE GARDENS NEAR EASTLEIGH BISHOPSTOKE	MIXED HOUSES	HAMPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 40 Survey date: WEDNESDAY 31/10/18		Survey Type: MANUAL
12	HC-03-A-31 KILN ROAD LIPHOOK	MIXED HOUSES & FLATS	HAMPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 44 Survey date: FRIDAY 07/10/22		Survey Type: MANUAL
13	HC-03-A-37 REDFIELDS LANE FLEET CHURCH CROOKHAM	MIXED HOUSES	HAMPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 50 Survey date: WEDNESDAY 27/03/24		Survey Type: MANUAL
14	HI-03-A-14 KING BRUDE ROAD INVERNESS SCORGUIE	SEMI-DETACHED & TERRACED	HIGHLAND
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 40 Survey date: WEDNESDAY 23/03/16		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	MW-03-A-02 OTTERHAM QUAY LANE RAINHAM	MIXED HOUSES	MEDWAY
	Edge of Town Residential Zone Total No of Dwellings:	19	
	Survey date: MONDAY	06/06/22	Survey Type: MANUAL
16	NF-03-A-05 HEATH DRIVE HOLT	MIXED HOUSES	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:	40	
	Survey date: THURSDAY	19/09/19	Survey Type: MANUAL
17	NF-03-A-37 GREENFIELDS ROAD DEREHAM	MIXED HOUSES	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:	44	
	Survey date: TUESDAY	27/09/22	Survey Type: MANUAL
18	NF-03-A-51 CITY ROAD NORWICH LAKENHAM Suburban Area (PPS6 Out of Centre)	SEMI-DETACHED	NORFOLK
	Residential Zone Total No of Dwellings:	34	
	Survey date: TUESDAY	13/09/22	Survey Type: MANUAL
19	NT-03-A-08 WIGHAY ROAD HUCKNALL	DETACHED HOUSES	NOTTINGHAMSHIRE
	Edge of Town Residential Zone Total No of Dwellings:	36	
	Survey date: MONDAY	18/10/21	Survey Type: MANUAL
20	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND Suburban Area (PPS6 Out of Centre)	TERRACED HOUSES	NORTH YORKSHIRE
	Residential Zone Total No of Dwellings:	10	
	Survey date: WEDNESDAY	10/05/17	Survey Type: MANUAL
21	NY-03-A-14 PALACE ROAD RIPON	DETACHED & BUNGALOWS	NORTH YORKSHIRE
	Edge of Town Residential Zone Total No of Dwellings:	45	
	Survey date: WEDNESDAY	18/05/22	Survey Type: MANUAL
22	PB-03-A-04 EASTFIELD ROAD PETERBOROUGH	DETACHED HOUSES	PETERBOROUGH
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	28	
	Survey date: MONDAY	17/10/16	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

23	SC-03-A-07 FOLLY HILL FARNHAM	MIXED HOUSES		SURREY
	Edge of Town Residential Zone Total No of Dwellings:	41		
	Survey date: WEDNESDAY	11/05/22	Survey Type: MANUAL	
24	SD-03-A-01 HEADLANDS GROVE SWINDON	SEMI DETACHED		SWINDON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	27		
	Survey date: THURSDAY	22/09/16	Survey Type: MANUAL	
25	VG-03-A-01 ARTHUR STREET BARRY	SEMI-DETACHED & TERRACED		VALE OF GLAMORGAN
	Edge of Town Residential Zone Total No of Dwellings:	12		
	Survey date: MONDAY	08/05/17	Survey Type: MANUAL	
26	WC-03-A-01 STATION ROAD WICKLOW CORPORATION MURRAGH	DETACHED HOUSES		WICKLOW
	Edge of Town No Sub Category Total No of Dwellings:	50		
	Survey date: MONDAY	28/05/18	Survey Type: MANUAL	
27	WK-03-A-04 DALEHOUSE LANE KENILWORTH	DETACHED HOUSES		WARWICKSHIRE
	Edge of Town Residential Zone Total No of Dwellings:	49		
	Survey date: FRIDAY	27/09/19	Survey Type: MANUAL	

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DL-03-A-11	covid
MG-03-A-01	covid

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 1.62

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	27	37	0.087	27	37	0.270	27	37	0.357
08:00 - 09:00	27	37	0.201	27	37	0.417	27	37	0.618
09:00 - 10:00	27	37	0.177	27	37	0.214	27	37	0.391
10:00 - 11:00	27	37	0.156	27	37	0.195	27	37	0.351
11:00 - 12:00	27	37	0.171	27	37	0.177	27	37	0.348
12:00 - 13:00	27	37	0.210	27	37	0.217	27	37	0.427
13:00 - 14:00	27	37	0.208	27	37	0.188	27	37	0.396
14:00 - 15:00	27	37	0.209	27	37	0.240	27	37	0.449
15:00 - 16:00	27	37	0.334	27	37	0.252	27	37	0.586
16:00 - 17:00	27	37	0.303	27	37	0.200	27	37	0.503
17:00 - 18:00	27	37	0.348	27	37	0.204	27	37	0.552
18:00 - 19:00	27	37	0.260	27	37	0.185	27	37	0.445
19:00 - 20:00	1	32	0.188	1	32	0.125	1	32	0.313
20:00 - 21:00	1	32	0.219	1	32	0.188	1	32	0.407
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.071			3.072			6.143

Parameter summary

Trip rate parameter range selected:	10 - 50 (units:)
Survey date date range:	01/01/16 - 27/03/24
Number of weekdays (Monday-Friday):	27
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	2

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	27	37	0.001	27	37	0.001	27	37	0.002
08:00 - 09:00	27	37	0.006	27	37	0.003	27	37	0.009
09:00 - 10:00	27	37	0.006	27	37	0.007	27	37	0.013
10:00 - 11:00	27	37	0.003	27	37	0.002	27	37	0.005
11:00 - 12:00	27	37	0.002	27	37	0.004	27	37	0.006
12:00 - 13:00	27	37	0.002	27	37	0.003	27	37	0.005
13:00 - 14:00	27	37	0.003	27	37	0.002	27	37	0.005
14:00 - 15:00	27	37	0.000	27	37	0.000	27	37	0.000
15:00 - 16:00	27	37	0.001	27	37	0.002	27	37	0.003
16:00 - 17:00	27	37	0.000	27	37	0.000	27	37	0.000
17:00 - 18:00	27	37	0.001	27	37	0.002	27	37	0.003
18:00 - 19:00	27	37	0.001	27	37	0.001	27	37	0.002
19:00 - 20:00	1	32	0.000	1	32	0.000	1	32	0.000
20:00 - 21:00	1	32	0.000	1	32	0.000	1	32	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.026			0.027			0.053

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	27	37	0.007	27	37	0.011	27	37	0.018
08:00 - 09:00	27	37	0.005	27	37	0.010	27	37	0.015
09:00 - 10:00	27	37	0.004	27	37	0.005	27	37	0.009
10:00 - 11:00	27	37	0.007	27	37	0.007	27	37	0.014
11:00 - 12:00	27	37	0.000	27	37	0.002	27	37	0.002
12:00 - 13:00	27	37	0.004	27	37	0.002	27	37	0.006
13:00 - 14:00	27	37	0.003	27	37	0.006	27	37	0.009
14:00 - 15:00	27	37	0.001	27	37	0.002	27	37	0.003
15:00 - 16:00	27	37	0.009	27	37	0.010	27	37	0.019
16:00 - 17:00	27	37	0.007	27	37	0.002	27	37	0.009
17:00 - 18:00	27	37	0.009	27	37	0.005	27	37	0.014
18:00 - 19:00	27	37	0.006	27	37	0.005	27	37	0.011
19:00 - 20:00	1	32	0.000	1	32	0.000	1	32	0.000
20:00 - 21:00	1	32	0.000	1	32	0.000	1	32	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.062			0.067			0.129

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	27	37	0.020	27	37	0.044	27	37	0.064
08:00 - 09:00	27	37	0.053	27	37	0.152	27	37	0.205
09:00 - 10:00	27	37	0.056	27	37	0.049	27	37	0.105
10:00 - 11:00	27	37	0.038	27	37	0.045	27	37	0.083
11:00 - 12:00	27	37	0.032	27	37	0.046	27	37	0.078
12:00 - 13:00	27	37	0.045	27	37	0.039	27	37	0.084
13:00 - 14:00	27	37	0.036	27	37	0.041	27	37	0.077
14:00 - 15:00	27	37	0.055	27	37	0.050	27	37	0.105
15:00 - 16:00	27	37	0.123	27	37	0.063	27	37	0.186
16:00 - 17:00	27	37	0.072	27	37	0.045	27	37	0.117
17:00 - 18:00	27	37	0.055	27	37	0.068	27	37	0.123
18:00 - 19:00	27	37	0.081	27	37	0.055	27	37	0.136
19:00 - 20:00	1	32	0.094	1	32	0.000	1	32	0.094
20:00 - 21:00	1	32	0.000	1	32	0.000	1	32	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.760			0.697			1.457

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	27	37	0.004	27	37	0.031	27	37	0.035
08:00 - 09:00	27	37	0.004	27	37	0.032	27	37	0.036
09:00 - 10:00	27	37	0.006	27	37	0.013	27	37	0.019
10:00 - 11:00	27	37	0.008	27	37	0.008	27	37	0.016
11:00 - 12:00	27	37	0.005	27	37	0.008	27	37	0.013
12:00 - 13:00	27	37	0.012	27	37	0.007	27	37	0.019
13:00 - 14:00	27	37	0.004	27	37	0.003	27	37	0.007
14:00 - 15:00	27	37	0.005	27	37	0.003	27	37	0.008
15:00 - 16:00	27	37	0.020	27	37	0.004	27	37	0.024
16:00 - 17:00	27	37	0.025	27	37	0.001	27	37	0.026
17:00 - 18:00	27	37	0.018	27	37	0.011	27	37	0.029
18:00 - 19:00	27	37	0.014	27	37	0.002	27	37	0.016
19:00 - 20:00	1	32	0.000	1	32	0.000	1	32	0.000
20:00 - 21:00	1	32	0.000	1	32	0.000	1	32	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.125			0.123			0.248

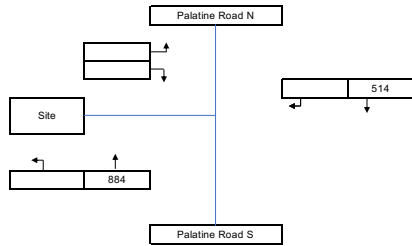
TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.62

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	27	37	0.132	27	37	0.438	27	37	0.570
08:00 - 09:00	27	37	0.293	27	37	0.837	27	37	1.130
09:00 - 10:00	27	37	0.272	27	37	0.337	27	37	0.609
10:00 - 11:00	27	37	0.239	27	37	0.308	27	37	0.547
11:00 - 12:00	27	37	0.241	27	37	0.283	27	37	0.524
12:00 - 13:00	27	37	0.331	27	37	0.319	27	37	0.650
13:00 - 14:00	27	37	0.295	27	37	0.289	27	37	0.584
14:00 - 15:00	27	37	0.315	27	37	0.360	27	37	0.675
15:00 - 16:00	27	37	0.662	27	37	0.393	27	37	1.055
16:00 - 17:00	27	37	0.532	27	37	0.304	27	37	0.836
17:00 - 18:00	27	37	0.543	27	37	0.346	27	37	0.889
18:00 - 19:00	27	37	0.431	27	37	0.294	27	37	0.725
19:00 - 20:00	1	32	0.313	1	32	0.188	1	32	0.500
20:00 - 21:00	1	32	0.313	1	32	0.250	1	32	0.562
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.910			4.946			9.856

Appendix G

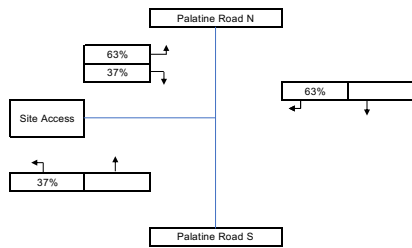
Palatine Road - Residential Development

AM Peak Hour: Observed Traffic Flows (in pcu)
[0800-0900]



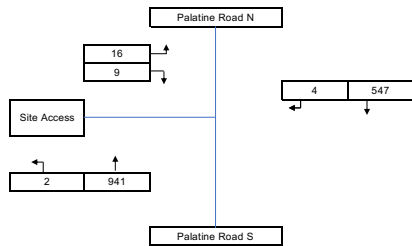
Palatine Road - Residential Development

AM Peak Hour: Development Distribution



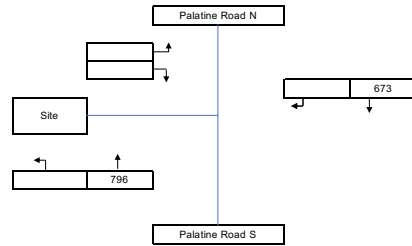
Palatine Road - Residential Development

AM Peak Hour: 2029 Base & Development Traffic



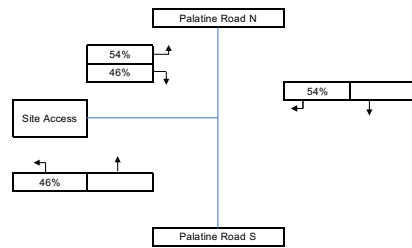
Palatine Road - Residential Development

PM Peak Hour: Observed Traffic Flows (in pcu)
[1700-1800]



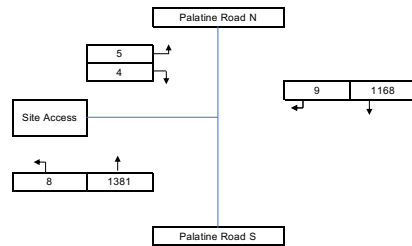
Palatine Road - Residential Development

PM Peak Hour: Development Distribution



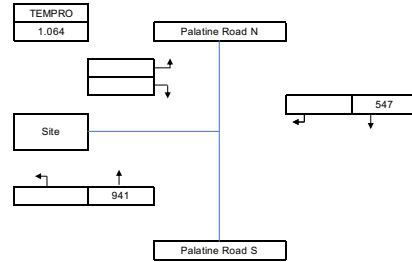
Palatine Road - Residential Development

PM Peak Hour: 2029 Base & Development Traffic



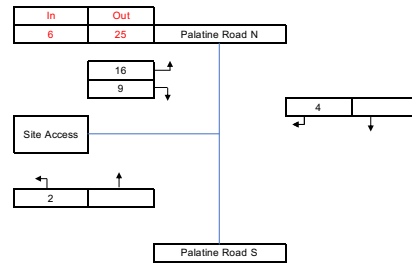
Palatine Road - Residential Development

AM Peak Hour: 2029 Base Traffic Flows (in pcu)



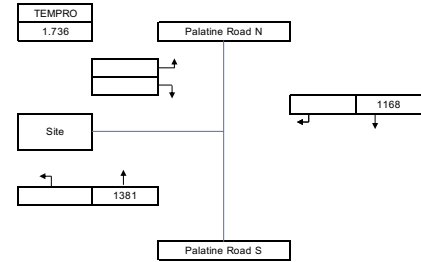
Palatine Road - Residential Development

AM Peak Hour: Development Traffic



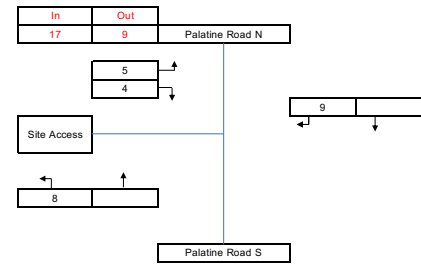
Palatine Road - Residential Development

PM Peak Hour: 2029 Base Traffic Flows (in pcu)



Palatine Road - Residential Development

PM Peak Hour: Development Traffic



Appendix H

Junctions 9									
PICADY 9 - Priority Intersection Module									
Version: 9.5.1.7462 © Copyright TRL Limited, 2019									
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk									
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution									

Filename: Site Access - Proposed.j9

Path: C:\Users\JohnThompson\CloudStation\SK22492 Palatine Road\Junction Assessments

Report generation date: 05/12/2024 15:38:16

»Proposed Access - 2029 with Development, AM

»Proposed Access - 2029 with Development, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
Proposed Access - 2029 with Development										
Stream B-AC	D1	0.1	11.79	0.08	B	D2	0.1	32.72	0.08	D
Stream C-B		0.0	8.26	0.01	A		0.0	10.85	0.03	B

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

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

File summary

File Description

Title	Palatine Road Site Access
Location	Didsbury
Site number	
Date	05/12/2024
Version	
Status	
Identifier	
Client	
Jobnumber	SK22492
Enumerator	
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2029 with Development	AM	FLAT	08:00	09:00	60	15	✓
D2	2029 with Development	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

Proposed Access - 2029 with Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Palatine Road (S)		Major
B	Site Access		Minor
C	Palatine Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.70			130.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	25	15

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	493	0.079	0.200	0.126	0.286
B-C	633	0.086	0.217	-	-
C-B	649	0.222	0.222	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2029 with Development	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	943	100.000
B		FLAT	✓	25	100.000
C		FLAT	✓	551	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0	2	941
	B	9	0	16
	C	547	4	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	11.79	0.1	B	25	25
C-A					547	547
C-B	0.01	8.26	0.0	A	4	4
A-B					2	2
A-C					941	941

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	330	0.076	25	0.0	0.1	11.764	B
C-A	547	137			547				
C-B	4	1	440	0.009	4	0.0	0.0	8.258	A
A-B	2	0.50			2				
A-C	941	235			941				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	330	0.076	25	0.1	0.1	11.788	B
C-A	547	137			547				
C-B	4	1	440	0.009	4	0.0	0.0	8.258	A
A-B	2	0.50			2				
A-C	941	235			941				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	330	0.076	25	0.1	0.1	11.788	B
C-A	547	137			547				
C-B	4	1	440	0.009	4	0.0	0.0	8.258	A
A-B	2	0.50			2				
A-C	941	235			941				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	330	0.076	25	0.1	0.1	11.788	B
C-A	547	137			547				
C-B	4	1	440	0.009	4	0.0	0.0	8.258	A
A-B	2	0.50			2				
A-C	941	235			941				

Proposed Access - 2029 with Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2029 with Development	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	1389	100.000
B		FLAT	✓	9	100.000
C		FLAT	✓	1177	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	8	1381
	B	4	0	5
	C	1168	9	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	32.72	0.1	D	9	9
C-A					1168	1168
C-B	0.03	10.85	0.0	B	9	9
A-B					8	8
A-C					1381	1381

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	119	0.076	9	0.0	0.1	32.519	D
C-A	1168	292			1168				
C-B	9	2	341	0.026	9	0.0	0.0	10.840	B
A-B	8	2			8				
A-C	1381	345			1381				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	119	0.076	9	0.1	0.1	32.714	D
C-A	1168	292			1168				
C-B	9	2	341	0.026	9	0.0	0.0	10.846	B
A-B	8	2			8				
A-C	1381	345			1381				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	119	0.076	9	0.1	0.1	32.719	D
C-A	1168	292			1168				
C-B	9	2	341	0.026	9	0.0	0.0	10.846	B
A-B	8	2			8				
A-C	1381	345			1381				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	2	119	0.076	9	0.1	0.1	32.722	D
C-A	1168	292			1168				
C-B	9	2	341	0.026	9	0.0	0.0	10.846	B
A-B	8	2			8				
A-C	1381	345			1381				