

Piccadilly Wharf, Manchester

Transport Statement

210617/SK22109/TS01(-01)

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Project	Document	Rev	Description	Authorised by	Signed	Date
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1 Introduction

- 1.1 SK has been instructed to prepare a Transport Statement (TS) to accompany a planning application for the development of 54 apartments on a site off Store Street in Manchester city centre. The proposed layout is attached as Appendix A.
- 1.2 The site occupies a sustainable location in the city centre and sits in the Manchester Piccadilly Strategic Regeneration Framework area (SRF). The site was granted consent for residential development in 2016.
- 1.3 The TS assesses the traffic, transport, safety and accessibility impact of the proposal. The assessment has been prepared in accordance with the following guidance:
 - Ministry of Housing, Communities & Local Government (2019), National Planning Policy Framework
 - Ministry of Housing, Communities & Local Government (2016), Planning Practice Guidance
 - Manchester City Council (2019) Draft Zero Carbon Framework 2020-2038
 - Manchester City Council (2018), Revised Manchester Piccadilly SRF
 - Manchester City Council (2016), Residential Design Guide
 - Transport for Greater Manchester (2017), Greater Manchester Transport Strategy 2040
 - Transport for Greater Manchester (2013), Transport for Sustainable Communities
 - Department for Transport (2020), Decarbonising Transport: Setting the Challenge
 - Chartered Institution of Highways & Transportation (2019), Better planning, better transport, better places

2 Existing Situation

Site Location

- 2.1 Figure 2.1 shows that site is sustainably located in the city centre, to the northeast of Piccadilly station. It is bound to the north by Store Street, to the south by adjacent residential properties and to the west by a commercial property. The site sits in the Manchester Piccadilly SRF.
- 2.2 In 2016 planning permission (ref: 107245/FO) was granted for the construction of a 13 storey block providing 34 apartments, with ground floor assembly and leisure uses. The consented scheme was effectively car-free, with the exception of a single parking space for use by the resident of the penthouse. The consented vehicle access to the parking space was provided from Store Street and required the removal of street parking bays. The planning conditions required the provision of dropped-kerbs at the access junction and the relocation of the existing Pay & Display machine located at the access point. The consented refuse and delivery arrangements were also taken from kerbside on Store Street.



Figure 2.1: Site Location

Local Highway Network

- 2.3 The site is accessed from Store Street, an unclassified road routing southwest-northeast between the A6 London Road and the A665 Great Ancoats Street. To the northeast of the site Store Street passes under the Ashton Canal aqueduct, the oldest canal aqueduct still in use in Britain. The road under the aqueduct is subject to a one-way working chicane, with priority given to vehicles travelling northeast bound. To the southwest of the site Store Street passes under a bridge formed by Piccadilly Approach above.
- 2.4 Store Street is subject to a 20mph speed restriction, with footways and street lighting present along its length. Lighting is also present under the bridge formed by Piccadilly Approach. The street is subject to parking restrictions in the form of double yellow lines and designated Pay and Display parking bays. To the southwest of the site a parking bays are present for coaches to layover.

Traffic Regulation Orders

- 2.5 The site sits within the City Centre Controlled Parking Zone 4 and is governed by Pay & Display parking bays and double yellow lines. The parking controls operate between 8am and 8pm (Monday to Sunday), with a ten hour maximum permitted stay.
- 2.6 There are 17 parking bays on Store Street between the aqueduct and the railway bridge to the south of the site, including two Electric Vehicle charging points outside the site. A coach parking bay is also provided for five coaches. Under the railway bridge a further 14 parking spaces are provided. To the north of the aqueduct further parking spaces are provided. All of the parking spaces are subject to Pay & Display charges.
- 2.7 MCC city centre parking policy allows disabled drivers to park for free and unlimited duration in Pay & Display parking bays when displaying a valid Blue Badge.
- 2.8 As part of the previous planning application, four parking surveys were undertaken to establish the usage of the spaces on Store Street. The surveys showed that the parking bays operate at a

maximum 14% occupancy level, with the majority of parking demand being located in the spaces under the railway bridge. The parking bays between the railway bridge and the aqueduct were only found to be in use on two occasions (maximum of three cars) and the parking bays beyond the aqueduct were not utilised. The surveys confirm that parking supply on Store Street substantially exceeds demand levels.

- 2.9 There are no loading restrictions present on the streets on Store Street and service activity occurs from kerbside for surrounding properties, including refuse collection for Wharf Close apartments opposite the site.

Public Car Parks

- 2.10 Table 2.1 shows there are over 3,000 off-street parking spaces in public car parks within a 10 minute walk of the site.

Car Park Location	Operator	No. of Spaces	Walk Time (mins)
Store Street	NCP	376	1
Piccadilly Station	APCOA	711	4
Baird Street	RCP	100	4
Piccadilly Parking	Piccadilly Parking	42	5
Ducie Street	MCCP	32	5
Piccadilly Place	Q Park	583	5
Sheffield Street	MCC	167	6
Tariff Street	CitiPark	230	6
Dale Street	CitiPark	285	7
Piccadilly Gardens	MCC	712	10

Table 2.1: Public Car Parks
[source: Parkopedia Website 2021]

Road Safety

- 2.11 The TfGM accident database has been reviewed for the most recent five-year period of available data, up to December 2020. The locations and severities of accidents are shown in Figure 2.2.

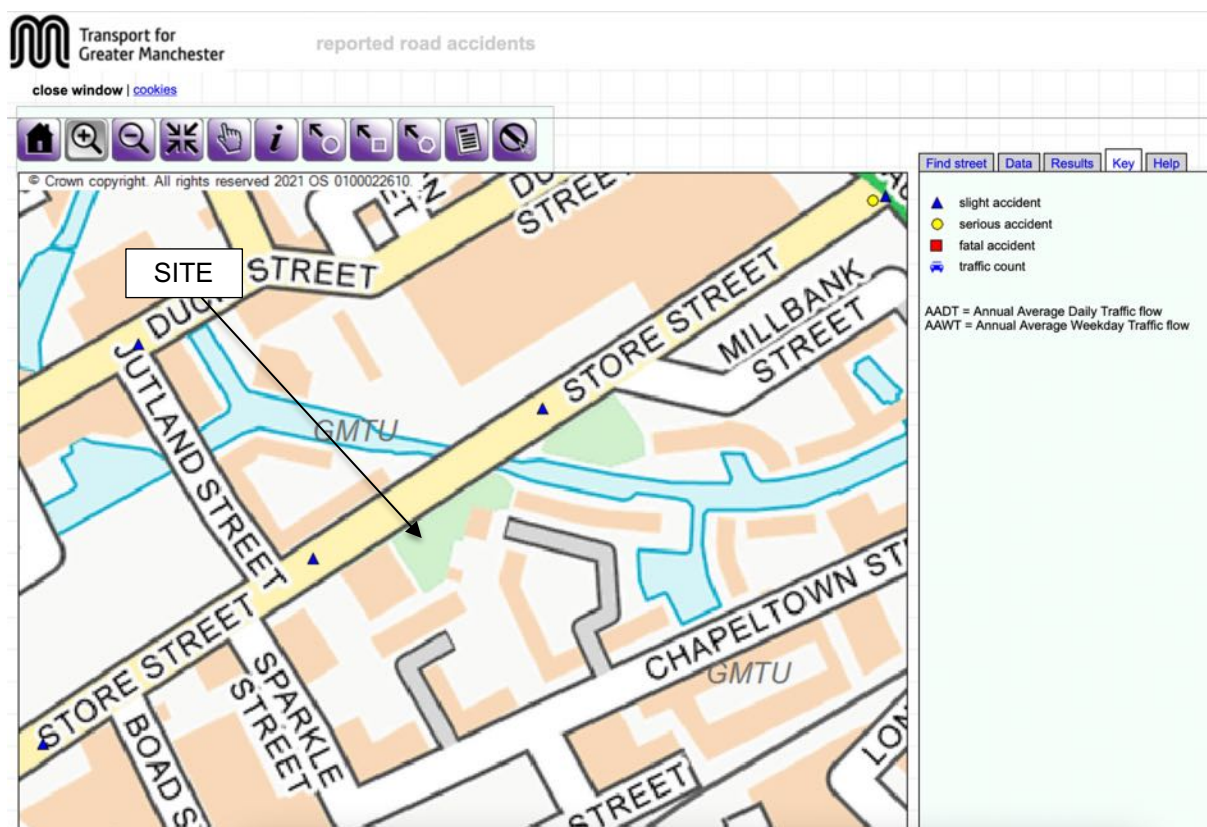


Figure 2.2: Accident Locations - Five Years to December 2020
[source: TfGM/GMTU Accident Database 2021]

- 2.12 On the stretch of Store Street closest to site there has been two accidents. Both accidents were classified as slight.
- 2.13 The locations, severity and frequency of recorded accidents does not indicate a prevalent safety issue.

3 Proposed Development

- 3.1 The proposal will deliver a single block with 54 apartments and resident amenity facilities. The site layout is attached as Appendix A.
- 3.2 Pedestrian access to the building for residents is provided from Store Street. The applicant will fund the resurfacing of the footways on the site frontage as part of the Section 278 access works.
- 3.3 The consented access as located on the northwest corner of the site. The access included a crossover arrangement with dropped and taper kerbs. The consented access required the removal of parking bays and the relocation of the Pay & Display meter.
- 3.4 The new proposal retains a similar access form (a crossover with dropped and taper kerbs) but is relocated to the southwest corner of the site. The access requires the removal of two street parking bays. The provision of a site access in this location no longer necessitates the relocation of the Pay & Display meter as required for the previous consent. The access proposal is attached as Appendix B.
- 3.5 Cycle parking is provided in the building for 54 bikes. Access to the cycle store is gained via the vehicular access point. A cycle maintenance area is also provided.
- 3.6 The proposal provides two parking spaces within the site, one standard space and one disabled space. To facilitate the tight turning area within the site a car turntable is included. The location of the turntable is shown on the layout in Appendix A. The specification for the turntable is included in Appendix B. Other than two spaces, the proposal is car-free. The suitability of the site for car-free living is assessed in Section 6.

- 3.7 Site servicing, including refuse collection, delivery and moving in arrangements, is retained from kerbside as found acceptable by MCC when it consented the previously residential scheme at the site previously. This is also the same arrangement as in place for the existing residential apartment block opposite the site. The refuse store is located at the front of the development, with refuse access also gained from kerbside in line with the previous consent.
- 3.8 An Interim Travel Plan has been prepared for the planning application and is attached as Appendix C. This sets out the broad principles of the transport strategy that will be used to assist residents to live active and sustainable lives. The Interim Travel Plan will form the basis for the full Travel Plan for the site that will be adopted on occupation. The requirement to prepare a full Travel Plan will be dealt with by a suitably worded planning condition.

4 Accessibility Impact

Site Location

- 4.1 The site's location in the city centre means that access can be gained to numerous amenities and services a short-walk from the site. Research promotes '20 Minute Neighbourhood' principles, whereby residents can access employment, retail, health and leisure land uses within a 20 minute sustainable trip of their home. '20 Minute Neighbourhood Principles' are being promoted by the Town & Country Planning Association (TCPA), Sports England and Sustrans as a way of delivering healthy placemaking¹.

Access on Foot

- 4.2 The site is connected to key destinations by a comprehensive network of pedestrian routes, typical of its city centre location. Pedestrian provision is of good condition, with wide footways, dropped kerb crossings and tactile paving present.
- 4.3 Two-thirds of all journeys in the UK are under-five miles and short distance trips offer the greatest opportunity for changes in travel behaviour. DfT best practice guidance states that walking has the potential to substitute for car trips under 2km. CIHT² provides further advice on suitable walking distances these are set out in Table 4.1.

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

Table 4.1: CIHT Walk Distances

- 4.4 Figure 4.1 shows 10, 15 and 25 minute walking isochrones from the site. A 20 minute isochrone is also shown to allow the site to be assessed against TCPA '20 Minute Neighbourhood' principles³.

¹ TCPA *et al* (2020), <https://www.tcpa.org.uk/Pages/Category/health>

² CIHT (2000), *Providing for Journeys on Foot*

³ TCPA *et al* (2020), <https://www.tcpa.org.uk/Pages/Category/health>



Figure 4.1: 10, 15, 20 & 25 Minute Walking Isochrones

- 4.5 Figure 4.1 shows that the site is within a 20 minute walk of the core areas of the city centre offering access to a range of services and amenities, including public transport nodes such as Piccadilly station, Victoria station, Oxford Road station, Piccadilly Gardens, and Shudehill Interchange. The site is also within a 25 minute walk of central areas of Salford.
- 4.6 The assessment shows that the site meets '20 Minute Neighbourhood' principles, in that a large proportion of residents' needs can be met within a 20 minute walk of the site.
- 4.7 The existing infrastructure surrounding the site creates opportunities for access on foot.

Access on Cycle

- 4.8 Figure 4.2 shows the cycle network serving the city centre.

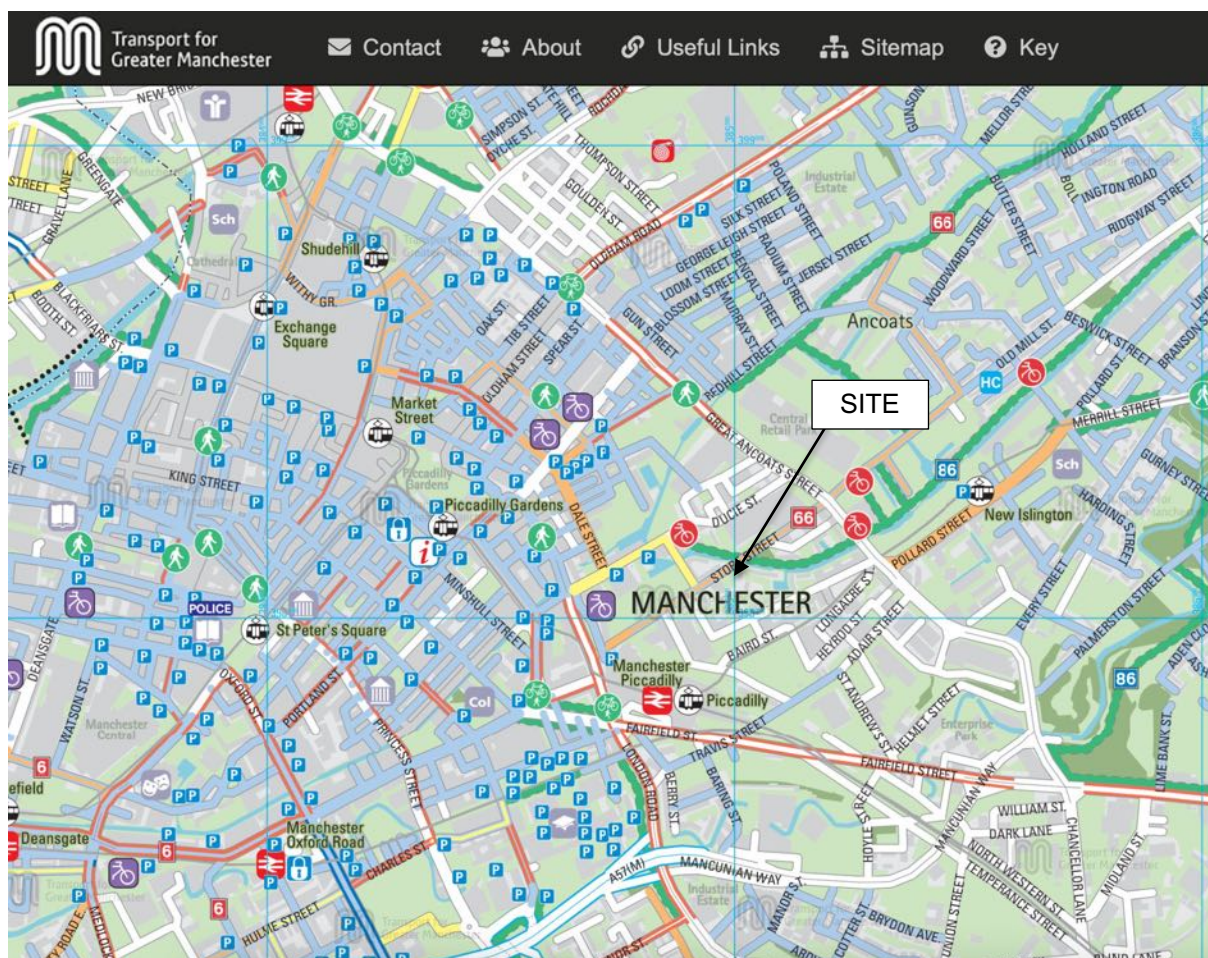


Figure 4.2: GM Cycle Network
[source: TfGM 2021]

- 4.9 Figure 4.2 shows that Store Street is part of Route 66 of the National Cycle Network. Store Street is also a Bee Line on the Bee Network. A connection can be gained to Route 86 of the National Cycle Network that routes along the Ashton Canal providing connections to areas to the north of the site. Access can also be gained to the remainder of the city centre using advisory routes to the south of the site.
- 4.10 Figure 4.3 shows 10, 15, 20 and 25 minute cycle journey times from the site based on leisurely cycle speed of 16km/h.

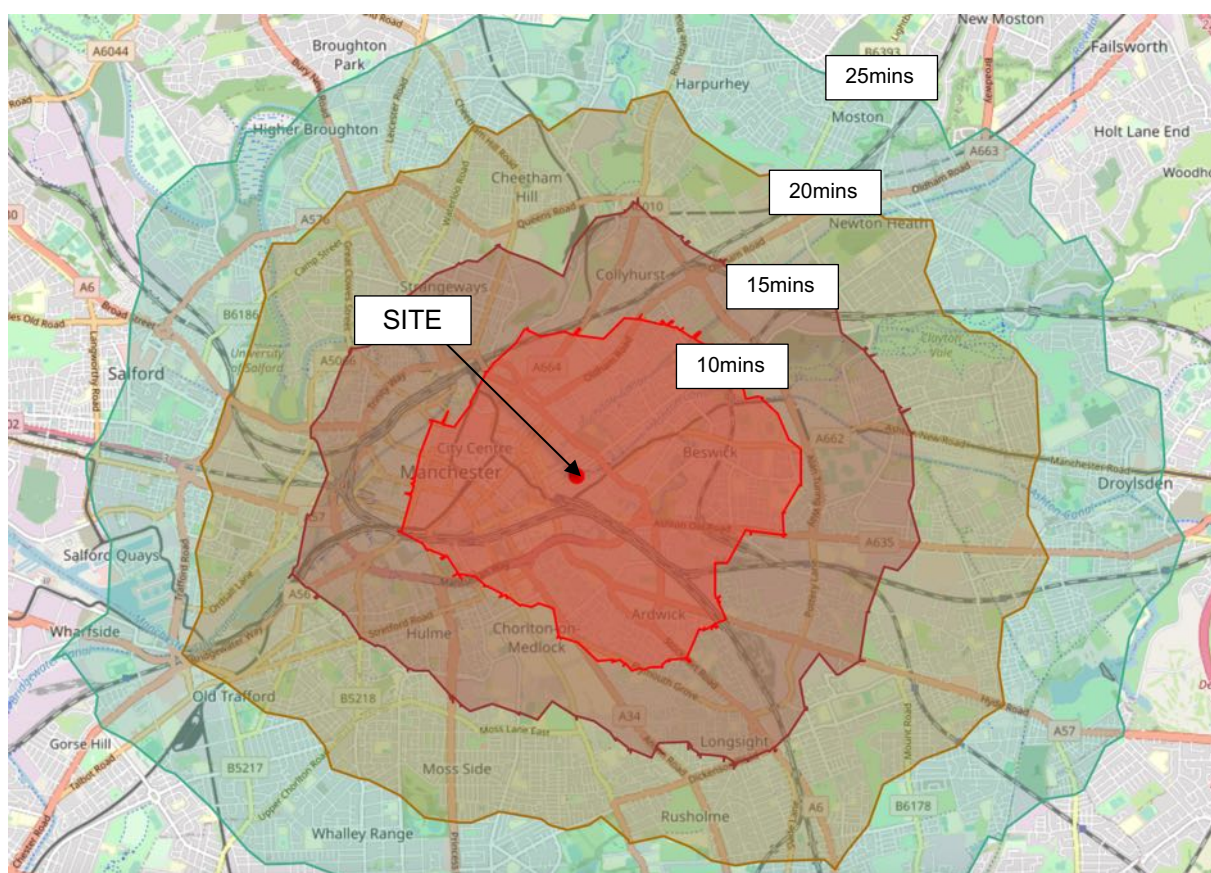


Figure 4.3: Cycle Catchments

- 4.11 Figure 4.3 shows that the site is within a 10 minute cycle of most of the city centre, the Oxford Road Corridor, and areas of Ardwick, Collyhurst, Beswick and Chorlton on Medlock. This means access can be gained to numerous local amenities and services. Access can also be gained to most of the major transport interchanges in the city centre within a 10 minute cycle.
- 4.12 Figure 4.3 also shows that access can also be gained to Rusholme, Old Trafford, Newton Heath, and Salford University in a 20 minute cycle of the site. Access can be gained to Salford Quays and Droylsden in a 25 minute cycle.
- 4.13 The assessment shows that access can be gained to numerous amenities and services a short-cycle from the site. The site meets '20 Minute Neighbourhood' principles, in that a large proportion of resident needs can be met within a 20 minute cycle of the site.
- 4.14 The existing infrastructure surrounding the site creates opportunities for access by bike.

Access by Public Transport

- 4.15 Figure 4.4 shows the public transport network serving the site.



Figure 4.4: Public Transport Network
[source: TfGM 2021]

- 4.16 The nearest bus stops are located on Piccadilly and Great Ancoats Street, a five minute walk from the site. Access to Piccadilly Gardens bus interchange is a 10 minute walk from the site. Access can also be gained to the Free Bus at Piccadilly Approach a short walk south of the site. The site is also located adjacent to Piccadilly train station where access can be gained to train and tram services.
- 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. This tool measures accessibility by public transport of a point of interest and provides a score between 1 and 8, where 1 is a low level of accessibility and 8 is the highest level of accessibility.

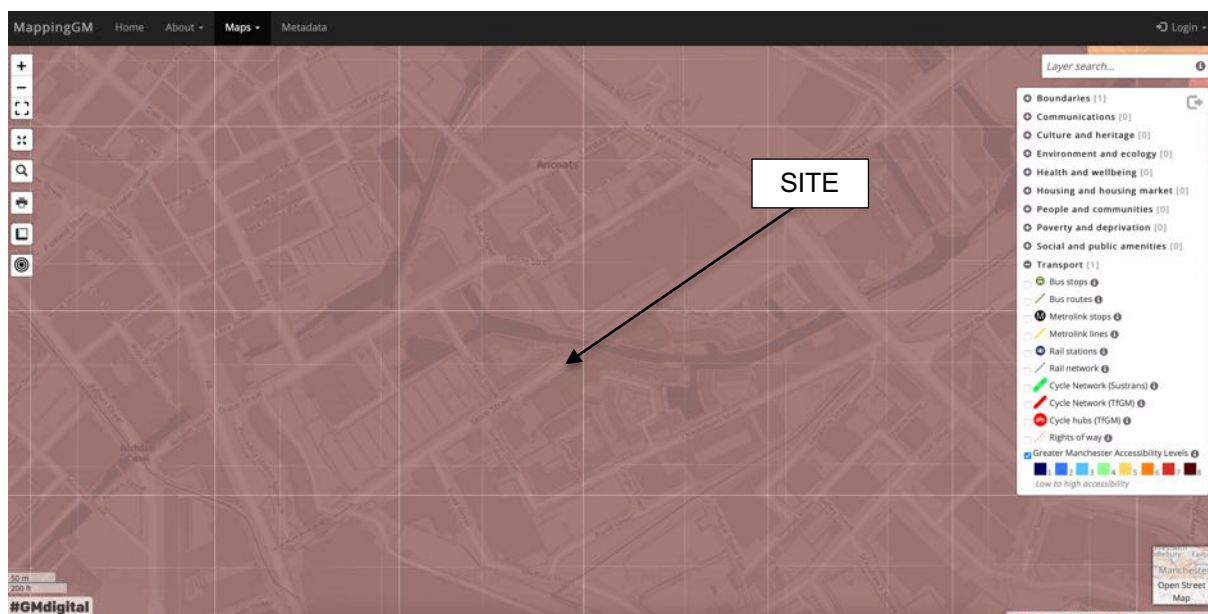


Figure 4.5: GMAL Score
[source: MappingGM 2021]

- 4.18 Figure 4.5 shows that the site has a GMAL of 8, which is the highest level of accessibility in Greater Manchester.
- 4.19 The assessment shows that the site benefits from an excellent accessibility level by public transport, meaning that residents can access numerous destinations across the region by sustainable modes from the moment they move in.

Casual Car Use

- 4.20 The majority of the residents will live at the site without owning a car. However, there may be occasions when a car is required. Car Clubs provide an alternative to car ownership that complements the sustainable transport system Greater Manchester. Car clubs enable members to benefit from low cost, convenient and greener motoring, and a more sustainable pattern of living that provides access for ad-hoc vehicle use and negates the requirement to own and store a car.
- 4.21 The nearest car club vehicles to the site are located at Q Park on Piccadilly Place, a five minute walk away, and Brewer Street, a seven minute walk away.

Summary & Policy Compliance

- 4.22 Research shows that people can and will live active, sustainable and low-carbon lifestyles in developments that are located with easy reach of employment and retail destinations, local amenities and leisure spaces. The site is sustainably located in the city centre, which means that residents can access key activity destinations without needing to use, or even own, a car. The city centre location of the site means that it has hyper-proximity characteristics that are the same as required to meet '20 Minute Neighbourhood' principles. The assessment shows that the existing infrastructure serving the site provides ample opportunities for access on foot, cycle and public transport. The site also has a GMAL of 8, which is an exceptional public transport accessibility level.
- 4.23 CIHT published new guidance in 2019⁴ that provides advice on better transport planning to achieve mode shifts away from the car and improve placemaking. CIHT states that a site's location is an important criterion in encouraging active travel and states that they should be designed to 'tip the balance' in favour of sustainable modes to allow genuine opportunities for sustainable modes to be embraced from the outset. This requires locating developments where access can be gained to local services without a reliance on the private car and providing facilities

⁴ CIHT (2019), Better planning, better transport, better places

so that the development becomes a place for people, rather than one dominated by cars. Delivering developments in such a manner has clear knock benefits, including improved health and wellbeing of residents and air quality benefits, reduced pressures on highway network operation, and reductions in emissions. The proposal has the following characteristics that will support active movement and reduce the requirement to use a car:

- Location in Manchester city centre
- Provision of residential amenity facilities
- A 20 minute journey time to key employment, leisure and retail activity destinations
- Existing walking & cycling infrastructure connecting to key destinations
- Resurfacing of footways bounding the site and provision of dropped kerbs at site access
- Good level of public transport accessibility within acceptable walk distances of bus, tram and train services
- Very high GMAL (8)
- 5 minute walk to car club vehicles
- Car-free development – other than two parking spaces
- 100% cycle parking
- Cycle maintenance area
- Travel Plan

- 4.24 The 2020 DfT⁵ vision sets out how a net zero transport system will be achieved this includes a commitment to introducing measures so that public transport and active travel become the natural first choice for daily activities. Part of the vision is based on place-based solutions to the carbon crisis. This is supported by policies adopted by MCC. Delivering car-free residential developments, such as the site, in sustainable and accessible locations is key to achieving local and national zero carbon ambitions.
- 4.25 Paragraph 92 of NPPF (2019) states that planning decisions should ensure an integrated approach to considering the location of housing, economic uses and community facilities and services. This is further supported by paragraphs 103 and 104, which support developments in sustainable locations which have a mix of uses across an area to minimise the number and length of journeys needed. The proposal is in line with NPPF policy.

5 Traffic Impact

Changes Trip Trends

- 5.1 CIHT's 2019 guidance sets a requirement for better transport planning to achieve mode shifts away from the car and improve placemaking. The document also contains new advice on forecasting development impacts. CIHT states that local authorities can no longer build themselves out of congestion and that support should be given to new approaches to transport planning to avoid old 'predict and provide' methods that have ultimately led to a dominance of car infrastructure and perpetuating problems with congestion. It also states that when assessing future trip patterns from developments caution should be given to basing this on historic data, due to the changes in mobility patterns and also the aspiration to design schemes that create people-focused areas that will support sustainable movement patterns. CIHT supports reducing site parking provision to achieve a reduction in car ownership and use.
- 5.2 Based on this guidance, the trip forecast method used to assess the development's impact needs to be considered in the context of the changes in mobility patterns in central locations and the car-free nature of the scheme.

TRICS Guidance

- 5.3 In October 2019 TRICS⁶ released a study that examined the importance of regions and location types on trip rate variables. TRICS Good Practice advice had always maintained that users should refrain from deselecting sites by geographical region, despite many Local Highway

⁵ DfT (2020), Decarbonising Transport: Setting the Challenge

⁶ TRICS (2019), A Comparison of Vehicular Trip Rate Variation by TRICS Regions & Location Types

Authorities supporting this method. The study re-emphasises this advice and the research shows that the location type, accessibility level and car ownership level are more important variables than region when examining trip generation.

- 5.4 TRICS published an updated version of the Good Practice Guide in 2021⁷. The updated user guide explicitly retains the instruction that sites should not be excluded based on region.

TRICS Assessment Method

- 5.5 In line with the guidance set out above, the following assessment parameters have been set for the TRICS assessment.

- TRICS Use: 03 – Residential / C – Flats Privately Owned
- Regions: All selected
- Location: Town Centre only
- Car Ownership: Below 0.6 removed to allow a worst-case assessment
- Off-site Parking: Only sites where off-site parking available and included in TRICS survey selected
- London Sites: Only sites where PTAL / GMAL level is the same or worse than the proposal site selected

- 5.6 The TRICS output is attached as Appendix D. Table 5.1 provides a summary of the TRICS sites in the forecast.

Ref	Place	Location	Units	Site Parking	Off-site Parking in Survey	Off-site Parking Available	Car Ownership	PTAL
BM-03-C-01	Bromley	Town Centre	160	83	Yes	Yes	0.6 - 1.0	6a
CB-03-C-01	Carlisle	Town Centre	40	43	Yes	Yes	1.1 - 1.5	
GM-03-C-02	Manchester	Town Centre	154	100	Yes	Yes	0.6 - 1.0	
GM-03-C-03	Manchester	Town Centre	20	14	Yes	Yes	0.6 - 1.0	
HM-03-C-01	Fulham	Town Centre	42	38	Yes	Yes	0.6 - 1.0	5
HM-03-C-02	Hammersmith	Town Centre	194	53	Yes	Yes	Less than 0.5	6b
HO-03-C-02	Brentford	Town Centre	86	64	Yes	Yes	0.6 - 1.0	3

Table 5.1: TRICS Survey Sites

- 5.7 The TRICS forecast includes four sites located in Greater London. None of the sites are located in the central area of the city and none are located in the congestion zone. One of the sites has been removed as the car ownership level is higher than the (worst-case) assessment threshold set for this assessment.
- 5.8 An assessment to compare the accessibility levels of the London sites with that of the proposal has been undertaken to ensure they are representative. While PTAL and GMAL assessments are undertaken using exactly the same method, the index score and final rank are slightly different. Table 5.2 shows how the PTAL and GMAL ranking methods compare.
- 5.9 The site has a GMAL of 8, with a site score of 90.66. Table 5.2 shows that using PTAL the site would have a score of 6b. The site therefore has a higher PTAL score than the Greater London sites that are included in the TRICS assessment. This means that the assessment will dampen the sustainable trip making when compared to what will actually occur at the site.

⁷ TRICS (2021), Good Practice Guide

PTAL Rank	PTAL Index	GMAL Rank	GMAL Index
6b	40.01+	8	25.0+
6a	25.01 to 40.0	8	
5	20.01 to 25.0	7	17.6 to 25.0
4	15.01 to 25.0		

Table 5.2: PTAL & GMAL Ranking Comparison

- 5.10 All of the sites in the TRICS survey include site parking, with an average parking rate of 68%. The proposal is effectively car-free with only two parking spaces and so the inclusion of sites with higher levels of site parking means that the vehicle trip forecast will provide a worst-case assessment.
- 5.11 All of the TRICS sites sit in areas that are subject to parking controls, with street parking and off-street parking is available. The TRICS surveys all include counts of site parking demand that may occur in off-site locations. This means the characteristics of the site are replicated in the assessment.
- 5.12 The assessment above shows that the trip rates provide a representative basis for the assessment in terms of location and accessibility levels. The inclusion of sites with higher local area car ownership levels and site parking means that the trip rates are robust and are likely to result in a higher vehicle trip rate than will realistically occur at the site.

Multimodal Trip Generation

- 5.13 Table 5.3 shows the trip rates for each mode used in the assessment.

	Person Trip Rate (per unit)			Walking Trip Rate (per unit)			Cycling Trip Rate (per unit)		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	0.076	0.46	0.536	0.036	0.201	0.237	0.002	0.01	0.012
PM Peak Hour	0.434	0.181	0.615	0.217	0.125	0.342	0.01	0	0.01
Daily	2.712	2.544	5.256	1.4	1.343	2.743	0.03	0.034	0.064
	Public Transport Trip Rate (per unit)			Vehicles Trip Rate (per unit)			OGV Trip Rate (per unit)		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	0.006	0.179	0.185	0.024	0.056	0.08	0	0	0
PM Peak Hour	0.163	0.016	0.179	0.046	0.03	0.076	0.002	0.002	0.004
Daily	0.771	0.66	1.431	0.453	0.462	0.915	0.008	0.008	0.016

Table 5.3: Multimodal Trip Rates

- 5.14 Table 5.4 shows the multimodal trips generated by the proposal using the TRICS forecast method.

	Total Trips			Walking Trips			Cycling Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	4	25	29	2	11	13	0	1	1
PM Peak Hour	23	10	33	12	7	18	1	0	1
Daily	146	137	284	76	73	148	2	2	3
	Public Transport Trips			Vehicle Trips (All)			OGV Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour	0	10	10	1	3	4	0	0	0
PM Peak Hour	9	1	10	2	2	4	0	0	0
Daily	42	36	77	24	25	49	0	0	1

Table 5.4: Multimodal Development Trips

- 5.15 A further check has been made of the appropriateness of the forecast method using the trip rates accepted by MCC and TfGM for the Crusader Works development, that is located close to the site.

Ref: 113363	Trip Rate (per unit)			Traffic Flows		
	IN	OUT	TOTAL	IN	OUT	TOTAL
AM Peak Hour	0.011	0.029	0.04	1	2	2
PM Peak Hour	0.023	0.006	0.017	1	0	1
Daily	0.146	0.154	0.3	9	9	18

Table 5.5: Traffic Flow Calibration

- 5.16 Table 5.5 shows that using the Crusader Works trip rates the development traffic flows would be lower than presented in this assessment. It can therefore be concluded that the proposed assessment provides a robust means of assessing the trip effects associated with the development of the site.

Residual Traffic Impact

- 5.17 Due to the characteristics of the TRICS surveys sites the forecast provides a worst-case assessment that allows for service movements, drop-off activity, taxi movements, and car traffic associated with residents parking off-site.
- 5.18 The TRICS trip rates include sites that all include site parking with an average rate of 68%. Evidence presented later in the TS shows that site parking has a very real impact on car ownership and car use, with locations that provide site parking (particularly above 50%) generating significantly higher levels of car ownership. The proposal only includes two parking spaces and therefore it can be concluded that not only is the forecast inflating vehicle trips above that which will actually occur at the proposal site. In reality, the site will appeal to residents who do not own a car and the level of traffic generated by the proposal will be significantly lower than presented in Table 5.4.
- 5.19 All of the TRICS survey sites include counts of the activity associated with off-site parking demand. This means that the traffic associated with residents parking on-street or in public parking is also inherent in the vehicle trip generation.

- 5.20 Table 5.4 shows that the proposal will generate four vehicle trips in the AM and PM peak hours, and less than 49 trips across the day. The traffic generated by the proposal is negligible and is below DfT significance thresholds. The proposal will not have a severe impact on highway operation or unacceptable effects on road safety.

Policy Compliance

- 5.21 Paragraph 109 of NPPF states that developments should only be prevented on highways grounds if there would be an unacceptable impact on highway safety or where residual cumulative impacts would be severe. The assessment shows that the proposal will not generate a significant level of traffic.
- 5.22 Delivering a car-free development in this location will assist MCC to meet its wider ambitious to reduce carbon generated by developments and reduce development traffic generations.

6 Suitability for Car-Free Living

Policy Context & Parking Assessment

- 6.1 When considering appropriate levels of parking at a development, NPPF states that consideration should be given to the following criteria:
- The accessibility of the development
 - The type, mix and use of the development
 - The availability of and opportunities for public transport trips
 - Car ownership levels
- 6.2 MCC does not maintain any parking standards for city centre developments and each site is taken on its own merits.
- 6.3 The proposal only includes two parking spaces and so is effectively car-free as most residents will not own a car. The assessment of the suitability of the site for car-free living has been undertaken in line with NPPF and considers similar assessments SK has previously agreed with MCC.
- 6.4 A number of factors are considered in evaluating the suitability of sites for reduced levels of parking and this should be set against a background of recent changes in travel and car ownership patterns, particularly in large metropolitan areas.
- 6.5 The method used to assess the parking requirements at the site are based on the guidance in NPPF and that used for other development assessments in Manchester. The following elements are considered:
- Resident mobility research
 - Accessibility of the development and opportunities for public transport access
 - PTAL / GMAL comparison
 - Local car ownership levels
 - Parking precedents
 - Amenity and road safety impacts

Resident Mobility Research

- 6.6 In the twentieth century growth in prosperity was associated with growth in car ownership. This relationship has changed in the twenty-first century, with growing prosperity in successful cities and large metropolitan areas now associated with decreasing car use. Increased urbanisation and population growth are both leading to higher density locations where the car as a means of travel is less useful and less used.
- 6.7 These trends have been largely found to be the result of factors that lie outside the transport sphere to do with socio-economic and living situations. These factors include increased urban living, changing demographics, shifts in working patterns and a rise in flexible work locations, reduced driving license ownership, changes to when people start a family, and increased take-up

of mobile technology. This finding is supported locally by a presentation by TfGM which states that changes in travel behaviour have occurred due to:

- Increasing urban densification and more people living close to regional centres and city centres
- People in these areas travelling shorter distances to work
- Rise in the digital economy
- Changing attitudes to car use/ownership⁸

6.8 TfGM, on behalf of the ten Greater Manchester authorities, has prepared the Transport Strategy for region⁹. The evidence that underpins this Strategy states that:

'Urban densification generally leads to more demand for public transport and active travel... Urban densification therefore offers a major opportunity to reduce car dependence.'

6.9 It is clear that the intensification of population and activity in urban areas is having the effect of lowering per capita car ownership because as car use becomes less necessary for day-to-day journeys the convenience of owning and using also reduces.

6.10 Research also shows that residents are self-selectors who choose homes in urban areas to ensure ease of access to key destinations and reduce the requirement to own or use a car. This is supported by research reported by Melia¹⁰ which shows that many residents who live without a car are people who either make an environmental decision not to own a car or who people who purposefully pick an accessible home location so daily travel needs can be met without needing to own and store a car. These residents tend to display pro-urban characteristics, favouring living in flats which are close to key public transport nodes and local amenities.

6.11 CIHT's 2019 guidance further supports the evidence set out above. CIHT states that the site layouts should be designed to 'tip the balance' in favour of sustainable modes to allow genuine opportunities for sustainable modes to be embraced from the outset. The guidance supports providing low or no parking at developments to embed good travel behaviour from the outset.

6.12 CIHT also states that to fully encourage walking, cycling and public transport in these urban areas will require restraining the demand for car use and ownership using reduced development parking levels.

6.13 A large TfL¹¹ study that was undertaken to examine residential parking patterns. The study found that in nearly all cases, as the level of parking provision increases, car ownership rises. This is particularly the case for households living in developments with 0.5 parking spaces per unit or fewer, where residents are found to be significantly less likely to own a car. This means that residential developments with levels of car parking at 50% will not generate demand for parking at off-site locations, such as on street or in local car parks.

6.14 The evidence all shows that developments with more parking have higher levels of car ownership and produce more car travel than similar sized developments with less parking. Proving that, as would be expected, residential on-site parking levels and car ownership are intrinsically linked. This means that developments in the correct locations can truly encourage car-free living, without any reliance on off-site parking.

6.15 Notwithstanding this, there are circa 3,000 parking spaces located within a 10 minute walk of the site that could be used should a resident wish to store a car. The area also benefits from existing TRO that remove the practicability of a resident storing a vehicle on street.

Accessibility

6.16 The accessibility of the site has been assessed in Section 4. This shows that the proposal has the following sustainability qualities:

⁸ Nicola Kane TfGM (2017): Travel Demand in Greater Manchester

⁹TfGM (2017), Greater Manchester Transport Strategy 2040

¹⁰ Melia (2014), Car-free and Low Car Development

¹¹ Transport for London (2012), Residential Parking Provision in New Developments

- Location in Manchester city centre
- Provision of residential amenity facilities
- A 20 minute journey time to key employment, leisure and retail activity destinations
- Existing walking & cycling infrastructure connecting to key destinations
- Resurfacing of footways bounding the site and provision of dropped kerbs at site access
- Good level of public transport accessibility within acceptable walk distances of bus, tram and train services
- Very high GMAL (8)
- 5 minute walk to car club vehicles
- Car-free development – other than two parking spaces
- 100% cycle parking
- Cycle maintenance area
- Travel Plan

PTAL / GMAL Assessment Method

- 6.17 TfGM often relies on Transport for London (TfL) research to justify policy and strategies measures in Greater Manchester. This is because there are numerous similarities between the two metropolitan areas. It is therefore appropriate to refer in this assessment to methods used by TfL to assess sites to decide whether they are suitable for car-free living.
- 6.18 The London Authorities also have the most experience of successfully delivering low-car housing across Greater London. The draft London Plan (policy T6) states that low-car housing development should be the starting point for all new development that site within sustainable locations.
- 6.19 London Plan Policy T6.1 states that residential developments in all areas of Greater London with a PTAL of 5 and 6 should be considered for car-free development. Table 5.2 shows that a PTAL of 5 is the same as a GMAL of 7 and a PTAL of 6 is the same as a GMAL of 8.
- 6.20 The proposal site has a GMAL of 8 and is therefore suitable for car-free living when considered in the context of the TfL assessment method.

Car Ownership Level

- 6.21 2017 data from TfGM 'Travel Diary Surveys' (TRADS) shows that 67% of residents live in the city centre without a car.
- 6.22 CIHT 2019 guidance advises caution when using historic data to forecast future traffic and parking patterns. This is because recent research shows that car ownership patterns are continuing to change, particularly in central urban locations such as the site. The TfL study also shows that there is a strong relationship between car ownership and development parking provision, with developments that provide circa 50% parking, or less, attracting a significant number of residents who do not own a car at all.
- 6.23 Notwithstanding the above, the TRADS data does provide a good starting point from which to assess the ability for residents to live without owning a car and it clearly demonstrates that not only is it possible to live without a car, but also there is a large appetite for this in the city centre.

Parking Precedents

- 6.24 A review has been made of recent apartment planning consents in areas with a similar level of accessibility as the proposal site.

Site	Area	No. of Units	Standard Parking Rate	Disabled Parking	GMAL
Proposal Site	City Centre – Piccadilly	54	2%	Provided On-site	8
Port Street	City Centre - Ancoats	135	0%	Provided On-street	8
Crusader Works	City Centre - Piccadilly	201	0%	Provided On-street	8
UX	City Centre - Boddingtons	556	1%	Provided On-street	8
Bendix Street	City Centre - New Cross	161	0%	Provided On-street	8
Oldham Street	City Centre - New Cross	144	0%	Provided On-street	8
Goulden Street	City Centre - New Cross	73	0%	Provided On-street	8
Swan Street	City Centre – New Cross	118	0%	Provided On-street	8

Table 6.1: Comparable Consented Developments

- 6.25 The site is effectively car-free providing only two parking spaces, this means that the majority of residents will live at the site without a car. The comparison shows that the site is appropriate for car-free living based on its very good accessibility level and that this is in line with precedents across the city that have no site parking.

Road Safety & Amenity Effects

- 6.26 Parking is controlled on the streets adjacent to the site between 8am and 8pm (Monday to Sunday). This reduces the practicability of a resident storing a car on street, thereby removing potential for overspill parking from the site.
- 6.27 Evidence is also presented that shows that developments with less than a 50% rate tend to be occupied by residents who do not own a car.
- 6.28 The parking controls and lack of car owning residents at the site mean that there will not be road safety or amenity effects of the parking level at the site.

Policy Compliance

- 6.29 The evidence presented above shows that there is a market for car-free living in Manchester city centre and that the site meets all of the criteria for car-free living. Car-free development in the city centre is also supported by local precedents and local/regional policy.
- 6.30 The local streets surrounding the site benefit from parking controls that limit the practicability of storing a resident vehicle on the site. The city centre also provides numerous opportunities for public parking, in the unlikely event that a resident wants to store a car.
- 6.31 Paragraph 109 of NPPF states that developments should only be prevented on highways grounds if there would be an unacceptable impact on highway safety or where residual cumulative impacts would be severe. The assessment shows that the proposal will not result in negative effects on the surrounding highway network.

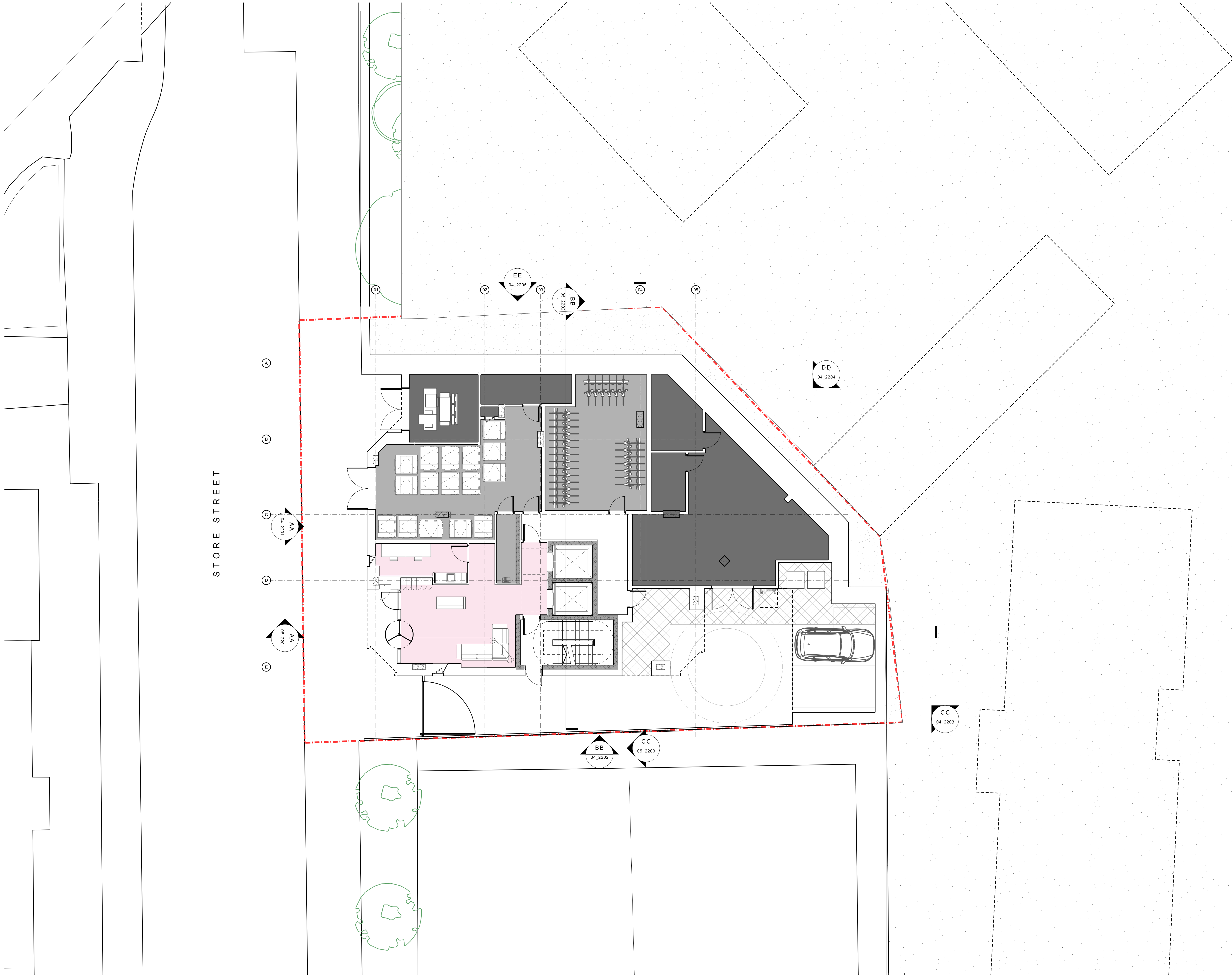
7 Conclusions

- 7.1 SK has been appointed to prepare a TS to accompany a planning application for a residential development on a site off Store Street in Manchester. The proposal will deliver 54 apartments.
- 7.2 The TS has been prepared in line with local, regional and national assessment guidance using standard appraisal methods.
- 7.3 The accessibility analysis shows that the site is well located to allow residents to easily access key activity destinations in Manchester city centre and beyond by sustainable modes. Access can be gained to frequent bus, tram and train services and the site has a GMAL of 8. The site is also

shown to meet '20 Minute Neighbourhood' principles in that residents can meet their daily needs within a short sustainable trip length of their home.

- 7.4 The proposal is car-free other than two spaces provided within the site (including a disabled parking space). The assessment shows that the site meets the criteria for car-free living and that this is in line with both local and national policy.
- 7.5 The proposal is supported by resident amenity facilities, a high level of cycle parking, reinstatement of footways bounding the site and a Travel Plan.
- 7.6 The traffic impact and road safety assessments show that the proposal will not have an impact on highway operation or road safety patterns.
- 7.7 It is concluded that the proposed development meets the requirements of local and national policy, and that the residual traffic and road safety impact of the proposal will not be severe or unacceptable when examined in the context of NPPF.

Appendix A



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All Contractors must refer to this drawing and are responsible for reading and checking all dimensions and details to their work. 5plus Architects are to be notified of any variation between drawings and site conditions.

Structural steel drawings based on steel only and should not be interpreted for reinforcement.

All dimensions and levels should be fixed only from those values stated in text, on the drawings.

CONSTRUCTION - It is considered that the proposed works are within the scope of a competent Contractor and as such no contract documents have been provided, refer to relevant Joint Schedule Designers Risk Assessment.

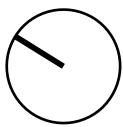
KEY PLAN:

- Application Boundary
- Studio
- One Bed Apartment
- Two Bed Apartment
- Two Bed Duplex
- Three Bed Duplex
- Reception
- Resident's Lounge
- Refuse / Cycle Store
- Plant Space
- Terrace

NOTE: Site and boundary information based on survey S20-SST-T provided by Geo UK Ltd, 14/01/21. Further detail for surrounding buildings based on Ordnance Survey data and leasehold information where access to survey private land was not permitted.

G	16/06/21	Issued for planning.
F	07/06/21	Issued for information.
E	01/06/21	Issued for information.
D	17/03/21	Structural design added. Issued for information.
C	05/03/21	Issued for information.
B	20/01/21	Issued for information.
A	03/11/20	Indicative structural layout added

REV:	DATE:	DETAILS:
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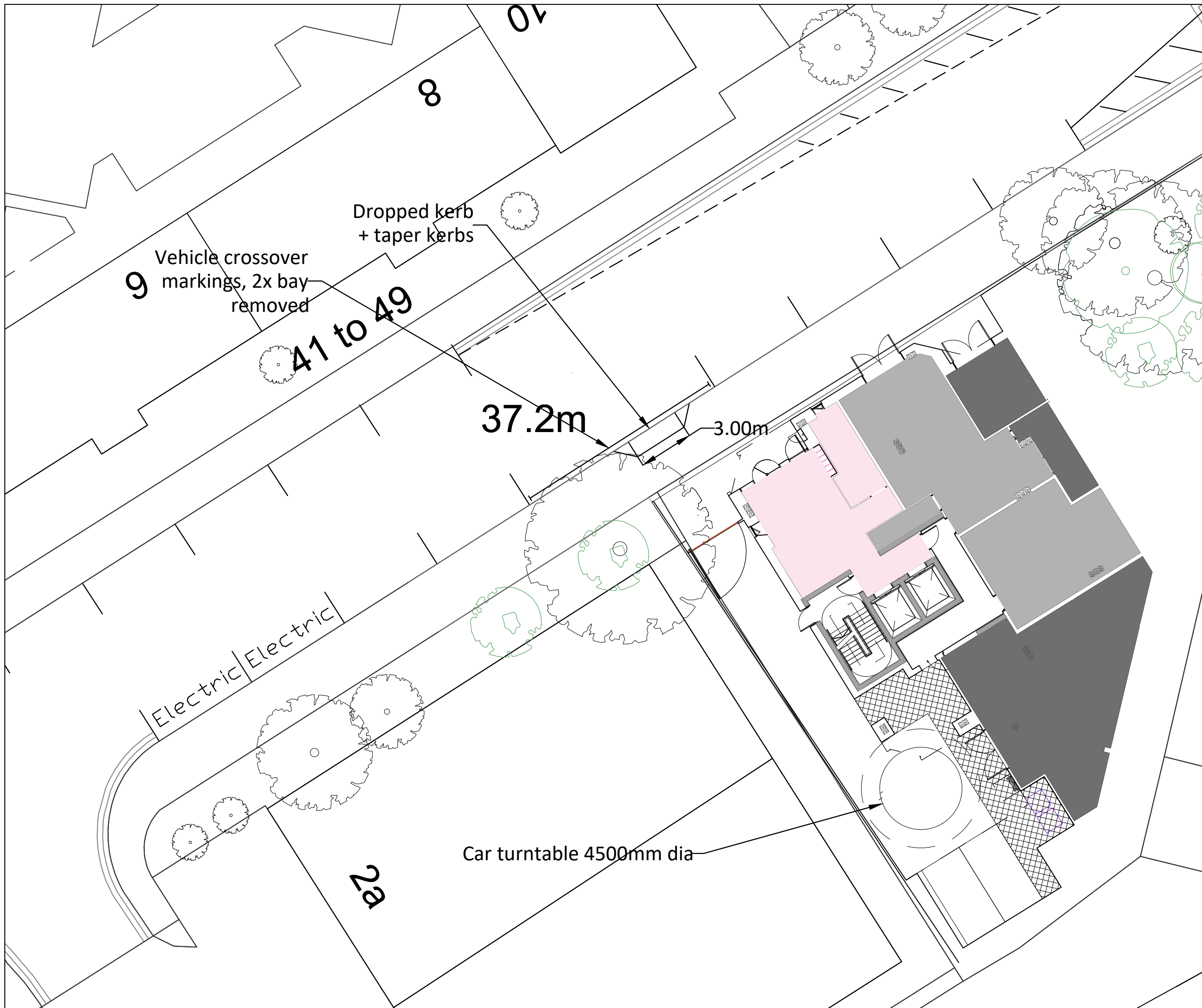
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5plusarchitects.com

PROJECT:
M1 Piccadilly
Store Street
TITLE:
Proposed General Arrangement Plans
Ground Floor
SCALE: 1:100 @ A1
ORIGIN DATE: 22/10/20
DRAWN: MS
CHECKED: PN
STATUS:
Planning
PROJECT: 05868_ B1_02_2200
DRAWING NO:
REV: G

Appendix B



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NOTES

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

Revision Details	By	Date	Suffix
Site layout updated	JAT	17.06.21	A

Drawing Number
SK22109-001

Drawing Title
M1 Piccadilly
Proposed car park access & associated TRO changes

Scale at A3
1:200

Drawn	Approved
JAT	LGS

Check	Date
LGS	09.06.21



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NOTES

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

Revision Details	By	Date	Suffix
Site layout updated	JAT	17.06.21	A

Drawing Number
SK22109-002

M1 Piccadilly

Drawing Title
Parking Area Vehicle Tracking Large 4x4

Scale at A3
1:200

Drawn	Approved
JAT	LGS

Check	Date
LGS	09.06.21

How to select the correct size turntable for your project

When considering a car turntable to solve your parking problems the smallest turntable recommended must be 1 m wider than your vehicle wheelbase.

However, in order to gain the maximum benefit from your investment we advise you to install the largest possible turntable that your location and budget will allow.

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Minimum Turntable Diameter = Vehicle Wheelbase + 1 Meter.

Weights and Dimensions

Our standard turntables come in a variety of sizes as illustrated below.

We can also design and manufacture Car Turntables in any size to suit your individual project

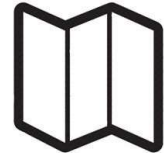


TURNTABLE DIAMETER	MINIMUM DEPTH OF TURNTABLE	APPROX TURNTABLE WEIGHT	MAXIMUM VEHICLE WEIGHT	MOTOR	CAPACITY
3.8 metres	200mm	1000 kilos	1 x 3500 kilos	0.375Kw	1 Family hatchback
4.1 metres	200mm	1250 kilos	1 x 3500 kilos	0.375Kw	1 Medium Car or Van
4.5 metres	200mm	1500 kilos	1 x 3500 kilos	0.375Kw	1 Large Car or Van
5 metres	200mm	1750 kilos	2 x 3500 kilos	0.375Kw	1 Large Car or Van or 2 Small Cars
6 metres	200mm	2000 kilos	2 x 3500 kilos	0.375Kw	Up to 2 Large Cars or Vans

Note: Specifications may vary depending on final turntable finish and driveway levels



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Appendix C

Piccadilly Wharf, Manchester

Interim Travel Plan

210617/SK22109/ITP01(-01)

Contents

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1 Introduction	1
2 Audit	4
3 Management	10
4 Toolkit & Action Plan	10
5 Monitoring, Targets & Review Mechanisms	12

Project	Document	Rev	Description	Authorised by	Signed	Date
SK22109	ITP01	-00	Draft	L Speers	LGS	31/03/21
SK22109	ITP01	-01	Submission	L Speers	LGS	17/06/21

1 Introduction

- 1.1 SK has been instructed to prepare an Interim Travel Plan for a residential development on Store Street in Manchester city centre.
- 1.2 A Transport Statement (TS) has been prepared to accompany the planning application and this should be read in conjunction with this document for full details of the development impact and layouts.

Development Proposal

- 1.3 The proposal will deliver a single block with 54 apartments and resident amenity facilities. The site layout is attached as Appendix A of the TS.
- 1.4 Pedestrian access to the building for residents is provided from Store Street. The applicant will fund the resurfacing of the footways on the site frontage as part of the Section 278 access works.
- 1.5 The consented access as located on the northwest corner of the site. The access included a crossover arrangement with dropped and taper kerbs. The consented access required the removal of parking bays and the relocation of the Pay & Display meter.
- 1.6 The new proposal retains the access form (a crossover with dropped and taper kerbs) but is relocated to the southwest corner of the site. The access requires the removal of two street parking bays. The provision of a site access in this location no longer necessitates the relocation of the Pay & Display meter as required for the previous consent. The access proposal is attached as Appendix B of the TS.
- 1.7 Cycle parking is provided in the building for 54 bikes. Access to the cycle store is gained via the vehicular access point. A cycle maintenance area is also provided.
- 1.8 The proposal provides two parking spaces within the site, one standard space and one disabled space. To facilitate the tight turning area within the site a car turntable is included. The location of the turntable is shown on the layout in Appendix A of the TS. The specification for the turntable is included in Appendix B of the TS. Other than two spaces, the proposal is effectively car-free. The suitability of the site to allow residents to live car-free is assessed in Section 6 of the TS.
- 1.9 Site servicing, including refuse collection, delivery and moving in arrangements, is retained from kerbside as found acceptable by MCC when it consented the previously residential scheme at the site previously. This is also the same arrangement as in place for the existing residential apartment block opposite the site. The refuse store is located at the front of the development, with refuse access also gained from kerbside in line with the previous consent.

Travel Plan Process

- 1.10 A Travel Plan is a tool for managing access to a site that aims to promote access by sustainable modes. It contains a package of measures designed to meet the objective to reduce car use generated from the site by supporting sustainable modes of transport and measures that will build on the location of a development site. In line with NPPF, the measures adopted should be commensurate with the scale of impact from the development and the level of intervention required to influence residents to take up sustainable modes and to reduce significant single occupancy car trips.
- 1.11 In this instance, the site is located in Manchester city centre. The TS assessment shows that access can be gained to numerous services and facilities using existing/scheduled sustainable infrastructure and without needing to use or even own a car. The site also meets '20 Minute Neighbourhood' principles, in that a large proportion of resident needs can be met within a 20 minute journey time. The locational qualities of the site and the infrastructure to be delivered as part of the proposal are reflected in the low level of intervention required from the Travel Plan.
- 1.12 Within a Travel Plan there is a need to set objectives, targets and indicators, the purpose of which is to monitor change and review policies to meet the needs of the users of the site. A future management and monitoring mechanism are set out for adoption in the final Travel Plan.

- 1.13 The Travel Plan process is not a one-off, static event, but a constantly evolving strategy that should grow and adapt to meet the travel patterns and needs of the end users of the site. This interim version of the Travel Plan is the first stage of the process and outlines the aims and objectives and sets the level of intervention required to encourage and support sustainable living practices at the site.
- 1.14 The Interim Travel Plan draws on the following guidance and best practice:
- Ministry of Housing, Communities & Local Government (2019), National Planning Policy Framework
 - Ministry of Housing, Communities & Local Government (2016), Planning Practice Guidance
 - MCC (2012) Manchester's Local Development Framework: Core Strategy Development Plan
 - MCC (2019) Draft Zero Carbon Framework 2020-2038
 - MCC (2019), Manchester Northern Gateway Strategic Regeneration Framework
 - Transport for Greater Manchester (2013), Transport for Sustainable Communities
 - Transport for Greater Manchester (2017), Greater Manchester Transport Strategy 2040
 - Department for Transport (2020), Decarbonising Transport: Setting the Challenge
 - Chartered Institution of Highways & Transportation (2019), Better planning, better transport, better places

The Travel Plan Pyramid

- 1.15 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.’¹
- 1.16 The DfT pyramid (shown in Figure 1.1) views the Travel Plan process as a series of considerations that is constructed from the ground up, with each new layer building on the last within the context of objectives sought.
- 1.17 At the bottom of the pyramid is the location of the site and at this stage characteristics of access to the site by all modes of travel. This is set out in Section 2 of the Plan.
- 1.18 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. These measures include pedestrian access, a restrained car parking level, and cycle parking proposals. This information is as set out above in Section 1 and also in Section 4.
- 1.19 The remaining levels outline the management, promotion and *soft* measures that are to be adopted as part of the travel plan to reinforce the site location, infrastructure proposals and access opportunities. DfT research has consistently demonstrated that investment in *soft* or SMART travel planning measures, when coupled with marketing interventions, can have a very real impact upon influencing travel behaviour. These are set out in Sections 3 to 4 of the Plan. Section 4 also sets out the Travel Plan Action Plan.
- 1.20 Section 5 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.

¹ Department for Transport (2009), Delivering Travel Plans through the Planning Process



Figure 1.1: Travel Plan Pyramid
[source: DfT 2008]

Travel Plan Benefits

- 1.21 Travel plans result in a variety of health, financial, environmental and site operation benefits, which are set out below.
- 1.22 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 resident health as moderate physical activity can help prevent obesity, mental health issues, cancer, high blood pressure and cardiovascular disease.
- 1.23 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.
- 1.24 The environmental benefits of Travel Plans include reduced carbon emissions and air quality issues.

Travel Plan Objectives

- 1.25 The main objectives of a Travel Plan are to reduce the environmental effects of transport associated with developments and raise awareness of sustainable means of access. In this instance, residents will already have already chosen to live without owning a car and so the main objective of the Travel Plan is to outline a sustainable and realistic strategy that will provide residents with information on the various travel options available to them.
- 1.26 A secondary objective of the Travel Plan is to outline an Action Plan for the site that clearly defines the strategy and monitoring measures to be adopted to meet the defined objectives of the Plan. To this end, the Plan seeks:

- To support site users to make informed travel choices
- To set out a suitable monitoring and management structure

2 Audit

Site Location

- 2.1 Figure 2.1 shows that site is sustainably located in the city centre, to the northeast of Piccadilly station. It is bound to the north by Store Street, to the south by adjacent residential properties and to the west by a commercial property. The site sits in the Manchester Piccadilly SRF.
- 2.2 In 2016 planning permission (ref: 107245/FO) was granted for the construction of a 13 storey block providing 34 apartments, with ground floor assembly and leisure uses. The consented scheme was effectively car-free, with the exception of a single parking space for use by the resident of the penthouse. The consented vehicle access to the parking space was provided from Store Street and required the removal of a street parking street. The planning conditions required the provision of dropped-kerbs at the access junction and the relocation of the existing Pay & Display machine located at the access point. The consented refuse and delivery arrangements were also taken from kerbside on Store Street.



Figure 2.1: Site Location

Local Highway Network

- 2.3 The site is accessed from Store Street, an unclassified road routing southwest-northeast between the A6 London Road and the A665 Great Ancoats Street. To the northeast of the site Store Street passes under the Ashton Canal aqueduct, the oldest canal aqueduct still in use in Britain. The road under the aqueduct is subject to a one-way working chicane, with priority given to vehicles travelling northeast bound. To the southwest of the site Store Street passes under a bridge formed by Piccadilly Approach above.
- 2.4 Store Street is subject to a 20mph speed restriction, with footways and street lighting present along its length. Lighting is also present under the bridge formed by Piccadilly Approach. The

street is subject to parking restrictions in the form of double yellow lines and designated Pay and Display parking bays. To the southwest of the site a parking bays are present for coaches to layover.

Traffic Regulation Orders

- 2.5 The site sits within the City Centre Controlled Parking Zone 4 and is governed by Pay & Display parking bays and double yellow lines. The parking controls operate between 8am and 8pm (Monday to Sunday), with a ten hour maximum permitted stay.
- 2.6 There are 17 parking bays on Store Street between the aqueduct and the railway bridge to the south of the site, including two Electric Vehicle charging points outside the site. A coach parking bay is also provided for five coaches. Under the railway bridge a further 14 parking spaces are provided. To the north of the aqueduct further parking spaces are provided. All of the parking spaces are subject to Pay & Display charges.
- 2.7 MCC city centre parking policy allows disabled drivers to park for free and unlimited duration in Pay & Display parking bays when displaying a valid Blue Badge.
- 2.8 As part of the previous planning application, four parking surveys were undertaken to establish the usage of the spaces on Store Street. The surveys showed that the parking bays operate at a maximum 14% occupancy level, with the majority of parking demand being located in the spaces under the railway bridge. The parking bays between the railway bridge and the aqueduct were only found to be in use on two occasions (maximum of three cars) and the parking bays beyond the aqueduct were not utilised. The surveys confirm that parking supply on Store Street substantially exceeds demand levels.
- 2.9 There are no loading restrictions present on the streets on Store Street and service activity occurs from kerbside for surrounding properties, including refuse collection for Wharf Close apartments opposite the site.

Access on Foot

- 2.10 The site is connected to key destinations by a comprehensive network of pedestrian routes, typical of its city centre location. Pedestrian provision is of good condition, with wide footways, dropped kerb crossings and tactile paving present.
- 2.11 Two-thirds of all journeys in the UK are under-five miles and short distance trips offer the greatest opportunity for changes in travel behaviour. DfT best practice guidance states that walking has the potential to substitute for car trips under 2km. CIHT² provides further advice on suitable walking distances these are set out in Table 2.1.

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

Table 2.1: CIHT Walk Distances

- 2.12 Figure 2.1 shows 10, 15 and 25 minute walking isochrones from the site. A 20 minute isochrone is also shown to allow the site to be assessed against TCPA '20 Minute Neighbourhood' principles³.

² CIHT (2000), Providing for Journeys on Foot

³ TCPA *et al* (2020), <https://www.tcpa.org.uk/Pages/Category/health>



Figure 2.2: 10, 15, 20 & 25 Minute Walking Isochrones

- 2.13 Figure 2.2 shows that the site is within a 20 minute walk of the core areas of the city centre offering access to a range of services and amenities, including public transport nodes such as Piccadilly station, Victoria station, Oxford Road station, Piccadilly Gardens, and Shudehill Interchange. The site is also within a 25 minute walk of central areas of Salford.
- 2.14 The assessment shows that the site meets '20 Minute Neighbourhood' principles, in that a large proportion of resident needs can be met within a 20 minute walk of the site.
- 2.15 The existing infrastructure surrounding the site creates opportunities for access on foot.

Access by Cycle

- 2.16 Figure 2.3 shows the cycle network serving the city centre.

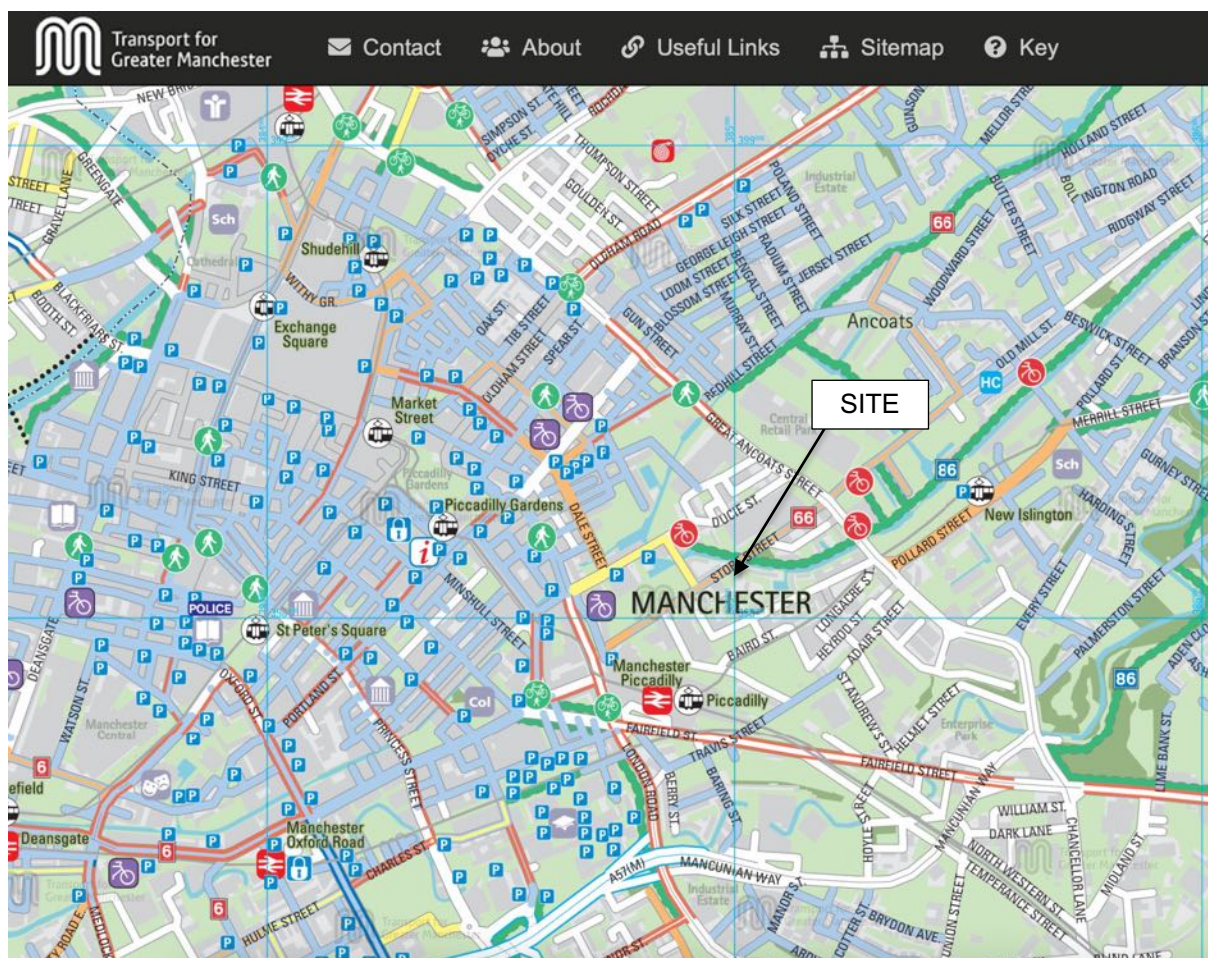


Figure 2.3: GM Cycle Network
[source: TfGM 2021]

- 2.17 Figure 2.3 shows that Store Street is part of Route 66 of the National Cycle Network. Store Street is also a Bee Line on the Bee Network. A connection can be gained to Route 86 of the National Cycle Network that routes along the Ashton Canal providing connections to areas to the north of the site. Access can also be gained to the remainder of the city centre using advisory routes to the south of the site.
- 2.18 Figure 2.4 shows 10, 15, 20 and 25 minute cycle journey times from the site based on leisurely cycle speed of 16km/h.

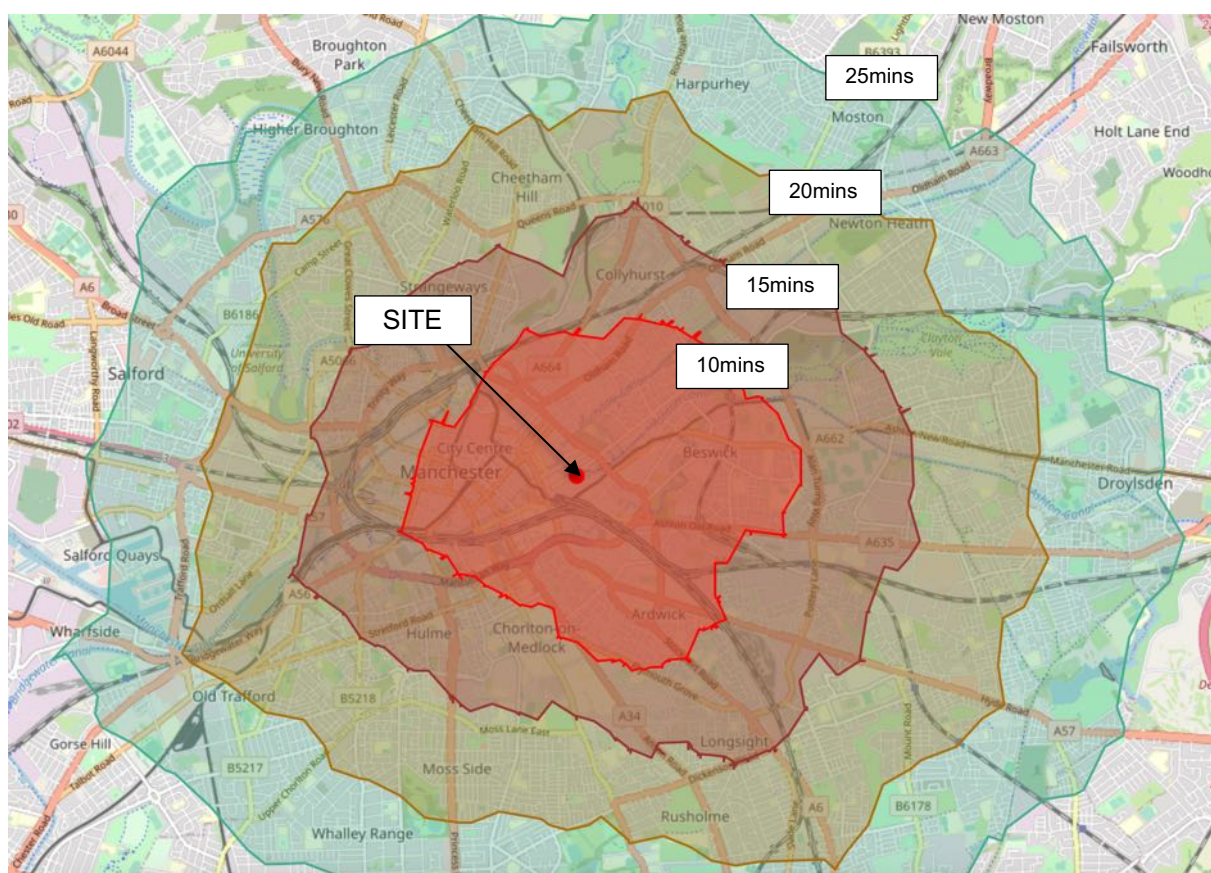


Figure 2.4: Cycle Catchments

- 2.19 Figure 2.4 shows that the site is within a 10 minute cycle of most of the city centre, the Oxford Road Corridor, and areas of Ardwick, Collyhurst, Beswick and Chorlton on Medlock. This means access can be gained to numerous local amenities and services. Access can also be gained to most of the major transport interchanges in the city centre within a 10 minute cycle.
- 2.20 Figure 2.4 also shows that access can also be gained to Rusholme, Old Trafford, Newton Heath, and Salford University in a 20 minute cycle of the site. Access can be gained to Salford Quays and Droylsden in a 25 minute cycle.
- 2.21 The assessment shows that access can be gained to numerous amenities and services a short-cycle from the site. The site meets '20 Minute Neighbourhood' principles, in that a large proportion of resident needs can be met within a 20 minute cycle of the site.
- 2.22 The existing infrastructure surrounding the site creates opportunities for access by bike.

Access by Public Transport

- 2.23 Figure 2.5 shows the public transport network serving the site.



Figure 4.4: Public Transport Network
[source: TfGM 2021]

- 2.24 The nearest bus stops are located on Piccadilly and Great Ancoats Street, a five minute walk from the site. Access to Piccadilly Gardens bus interchange is a 10 minute walk from the site. Access can also be gained to the Free Bus at Piccadilly Approach a short walk south of the site. The site is also located adjacent to Piccadilly train station where access can be gained to train and tram services.
- 2.25 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. This tool measures accessibility by public transport of a point of interest and provides a score between 1 and 8, where 1 is a low level of accessibility and 8 is the highest level of accessibility.
- 2.26 The TS shows that the site has a GMAL of 8, which is the highest level of accessibility in Greater Manchester.
- 2.27 The assessment shows that the site benefits from an excellent accessibility level by public transport, meaning that residents can access numerous destinations across the region by sustainable modes from the moment they move in.

Casual Car Use

- 2.28 The majority of the residents will live at the site without owning a car. However, there may be occasions when a car is required. Car Clubs provide an alternative to car ownership that complements the sustainable transport system Greater Manchester. Car clubs enable members to benefit from low cost, convenient and greener motoring, and a more sustainable pattern of living that provides access for ad-hoc vehicle use and negates the requirement to own and store a car.
- 2.29 The nearest car club vehicles to the site are located at Q Park on Piccadilly Place, a five minute walk away, and Brewer Street, a seven minute walk away.

3 Management

Travel Plan Coordinator

- 3.1 An effective Travel Plan needs a clear hierarchy of responsibility. The applicant has been closely involved in the development of the Interim Plan and is committed to its successful implementation on completion of the development.
- 3.2 The applicant, or their successor in title, will continue to have a regular overseeing role in the progress of the Plan and is committed to funding the resources required for its implementation.
- 3.3 Travel Plan Co-ordinators play an important role in developing, implementing and managing Travel Plans. The Travel Plan Co-ordinator for the site will be identified prior to occupation of the development and contact details provided to MCC.
- 3.4 The Co-ordinator will form the main point of contact for the local authority and residents. The Co-ordinator will also be responsible for raising awareness and marketing the Travel Plan and surveying its effectiveness and assessing this against the stated objectives and targets.
- 3.5 In summary, the Travel Plan Co-ordinator's general role and responsibilities will include:
 - Implementing the Plan measures
 - Providing a point of contact for site residents, the local community and MCC
 - Publicising and raising awareness of local and national initiatives
 - Preparing and issuing the travel packs
 - Providing regular updates to residents on changes to local services and facilities
 - Monitoring and surveying travel patterns
 - Regularly reporting to MCC

Funding Mechanisms

- 3.6 The applicant is committed to the implementation and successful delivery of the Travel Plan's measures to meet the stated plan objectives.
- 3.7 The applicant has confirmed that it will fund the cost of time for the Travel Plan Co-ordinator to implement Plan measures, respond to resident issues, and undertake the annual survey and Plan review.

4 Toolkit & Action Plan

Promotion & Marketing

- 4.1 Good communication is a vital component of the Travel Plan to ensure that residents are fully aware of the options available to them. Research undertaken by DfT shows that promotion and marketing of Travel Plan's is one of the most important measures in encouraging people to travel sustainably and actively. This is particularly the case for a site such as this development that occupies an exceptionally sustainable location with very good opportunities for sustainable trip making from day one of the development.
- 4.2 The Travel Plan Coordinator will be responsible for marketing and promoting the Travel Plan. The following measures will be used to promote the Travel Plan:
 1. Travel packs for all new households
 2. Promotion of local authority/local area travel campaigns / networks
 3. Distribution of promotional materials
- 4.3 In summary, the travel packs will provide:
 1. Travel Plan Co-ordinator contact details
 2. Information on TfGM on-line and phone app journey planning software
 3. Information on TfGM cycle and walking route maps
 4. Information on TfGM bus maps and timetables
 5. Details of current TfGM local initiatives

- 4.4 Residents will be encouraged to familiarise themselves with the journey planning websites and phone apps promoted by TfGM on its website. These included : [Traveline](#), [Citymapper](#) and [Transit](#).
- 4.5 The Travel Plan Co-ordinator will also be responsible for making residents aware of the many benefits for travelling more sustainably:
1. Improve health and wellbeing
 2. Save money
 3. Reduce traffic congestion
 4. Increase physical activity and fitness
 5. Improve air quality
 6. Reduce carbon emissions
 7. Meet new people

Walking

- 4.6 TfGM states that the growth in residential development in urban centres has led to an urban renaissance that has reduced car ownership and use. This is because people can work and play within walkable distances of their front door. The proposal site is a continuation of this, as the site is located in Manchester city centre which can be accessed in a short walk.
- 4.7 The CIHT's simple rule has been applied to the layout and the transport strategy so that it helps the city centre become a place that is planned for people rather than cars, so that it results in a place for people, rather than one dominated by traffic. The proposal is effectively car-free (other than two spaces) and this has clear knock benefits, including improved health and wellbeing of residents and air quality benefits, and reduced pressures on highway network operation, and reductions in emissions.
- 4.8 Information on local walking routes will be provided to residents in the travel pack. The travel pack will also include details of on-line and phone app journey planning software that is available from [TfGM](#).

Cycling

- 4.9 The site relates well to streets that are suitable for cycling. The proposal includes a high level of cycle parking and a cycle maintenance area.
- 4.10 TfGM also offer [free cycle training and maintenance sessions](#) for adults. The cycle training and maintenance will be promoted to residents by the Travel Plan Co-ordinator and information relating to this is provided in the travel pack.
- 4.11 Details of regular cycle events, such the Summer Cycle Camp, Let's Ride Pop-Up and HSBC's Let's Ride Manchester are provided on the [TfGM](#) website. TfGM offer a cycle newsletter service is frequently updated with new route information and activities. This can be signed up for by using the [TfGM](#) website. These information resources will be promoted to residents in the travel pack.
- 4.12 Bikes and equipment can be purchased from [The Manchester Bike Hire](#), [Harry Halls Cycles](#) and [Evans Cycles](#). Manchester Bike Hire also provides a hire service whereby cycles are dropped off at local homes. These information resources will be promoted to residents in the travel pack.

Public Transport

- 4.13 The assessment shows that the site is within a short walk of bus, tram and train services. The site is shown to have a GMAL of 8, which indicates an exceptional level of public transport accessibility.
- 4.14 The travel pack will include information relating to phone app and on-line journey planning information available on [TfGM](#).
- 4.15 The Travel Plan Co-ordinator will be responsible for regularly reviewing the TfGM database to check for service changes and new initiatives.

Reducing the Need to Travel & Efficient Vehicle Use

- 4.16 The proposal is car-free. Disabled parking is provided within the site. Disabled drivers are also permitted to park for free and unlimited periods in standard street parking bays in the city centre.
- 4.17 Car Clubs provide an alternative to car ownership that complements the sustainable transport system Greater Manchester. Car clubs enable members to benefit from low cost, convenient and greener motoring, and a more sustainable pattern of living that provides access for ad-hoc vehicle use and negates the requirement to own and store a car. Car clubs are located across the city centre and these will be promoted to residents in the travel packs.
- 4.18 The travel pack will include information on on-line food retail facilities that serve the area, including [Sainsburys](#), [Tesco](#) and [Ocado](#).

Action Plan

- 4.19 An Action Plan has been developed that summarises the key actions from the Travel Plan. This will be reviewed and updated as part of each monitoring period.
- 4.20 The Action Plan has been split into four key output periods based on the following:
- Quick Wins (Q) – prior to occupation
 - Short (S) – can be achieved within 12 months of occupation
 - Long (L) – can be achieved within 3 years of occupation
 - Ongoing (O) – no set timescales as will be regularly reviewed and updated

General	• Appointment of the Travel Plan Co-ordinator (Q) • Agreement of Travel Plan budget (Q) • Collection of latest travel information and update briefing (Q) (O) • Introduction of identified <i>firm</i> measures (Q)
Marketing	• Official launch of the Travel Plan (S) • Preparation of travel packs (Q) (O) • Promotion of national campaigns (O) • Preparation of material to update residents with any service changes (O)
Infrastructure	• Provision of secure cycle parking (Q) • Provision of restrained parking level (Q) • Promotion of car club (O)
Monitoring	• Baseline travel survey (S) • Review and update of targets (S) • Periodic travel surveys (O) • Preparation of periodic monitoring reports (O)

Table 4.1: Action Plan

5 Monitoring, Targets & Review Mechanisms

Data Collection & Analysis

- 5.1 Travel surveys will be undertaken within six months of the site being occupied and the results from the survey will be then used to set the targets for the Travel Plan and to update the measures, if required. A monitoring report will set out the results of the survey and any changes to the targets/measures and this will be issued to MCC within three months of the survey.
- 5.2 The surveys will investigate the following information:
1. Place of residence
 2. Usual mode of travel
 3. Car and cycle ownership
 4. Initiatives that would encourage a change in mode
- 5.3 Following the baseline survey, surveys will be undertaken periodically over a three-year period.

Interim Targets

- 5.4 In line with DfT guidance, action-based targets have been set for the Interim Travel Plan. Action-based targets are based on the Travel Plan reaching set milestones or indicators.
- 5.5 The following action-based targets have been set:
- Prepare/issue travel packs for each resident on occupation
 - Survey existing resident travel patterns within 6 months of occupation
- 5.6 Quantitative targets also provide a useful indicator against which the performance of the Travel Plan can be assessed. The targets are required to be SMART (Site-specific, Measurable, Achievable, Realistic and Timed). These targets are used to review and assess the impact of the Plan overtime. The final targets for the Plan will be set following the first travel surveys.

Appendix D

Calculation Reference: AUDIT-443201-210301-0337

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	
	BM BROMLEY	1 days
	HM HAMMERSMITH AND FULHAM	1 days
	HO HOUNSLOW	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
09	NORTH	
	CB CUMBRIA	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 20 to 160 (units:)
 Range Selected by User: 6 to 493 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 06/03/20

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

Selected survey days:

Monday	1 days
Wednesday	2 days
Thursday	2 days
Friday	1 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

Town Centre	6
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This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone	5
High Street	1

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

Secondary Filtering selection:

Use Class:

C3 6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

25,001 to 50,000 5 days

100,001 or More 1 days

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

Population within 5 miles:

75,001 to 100,000 1 days

500,001 or More 5 days

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

Car ownership within 5 miles:

0.6 to 1.0 5 days

1.1 to 1.5 1 days

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

Travel Plan:

Yes 1 days

No 5 days

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

PTAL Rating:

No PTAL Present 3 days

3 Moderate 1 days

5 Very Good 1 days

6a Excellent 1 days

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

LIST OF SITES relevant to selection parameters

1	BM-03-C-01 RINGER'S ROAD BROMLEY	BLOCKS OF FLATS		BROMLEY
	Town Centre Built-Up Zone Total No of Dwellings:		160	
	Survey date: MONDAY		12/11/18	Survey Type: MANUAL
2	CB-03-C-01 KING STREET CARLISLE	BLOCK OF FLATS		CUMBRIA
	Town Centre Built-Up Zone Total No of Dwellings:		40	
	Survey date: THURSDAY		12/06/14	Survey Type: MANUAL
3	GM-03-C-02 WHITWORTH STREET W. MANCHESTER	BLOCK OF FLATS		GREATER MANCHESTER
	Town Centre Built-Up Zone Total No of Dwellings:		154	
	Survey date: THURSDAY		13/10/11	Survey Type: MANUAL
4	GM-03-C-03 FAIRFIELD STREET MANCHESTER	BLOCK OF FLATS		GREATER MANCHESTER
	Town Centre Built-Up Zone Total No of Dwellings:		20	
	Survey date: FRIDAY		14/10/11	Survey Type: MANUAL
5	HM-03-C-01 VANSTON PLACE FULHAM	BLOCK OF FLATS		HAMMERSMITH AND FULHAM
	Town Centre High Street Total No of Dwellings:		42	
	Survey date: WEDNESDAY		16/07/14	Survey Type: MANUAL
6	HO-03-C-02 HIGH STREET BRENTFORD	BLOCK OF FLATS		HOUNSLOW
	Town Centre Built-Up Zone Total No of Dwellings:		86	
	Survey date: WEDNESDAY		03/09/14	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
HM-03-C-02	Car ownership below assessment threshold

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

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	6	84	0.026	6	84	0.058	6	84	0.084
08:00 - 09:00	6	84	0.024	6	84	0.056	6	84	0.080
09:00 - 10:00	6	84	0.024	6	84	0.032	6	84	0.056
10:00 - 11:00	6	84	0.022	6	84	0.022	6	84	0.044
11:00 - 12:00	6	84	0.026	6	84	0.030	6	84	0.056
12:00 - 13:00	6	84	0.026	6	84	0.034	6	84	0.060
13:00 - 14:00	6	84	0.028	6	84	0.036	6	84	0.064
14:00 - 15:00	6	84	0.016	6	84	0.024	6	84	0.040
15:00 - 16:00	6	84	0.036	6	84	0.030	6	84	0.066
16:00 - 17:00	6	84	0.050	6	84	0.024	6	84	0.074
17:00 - 18:00	6	84	0.046	6	84	0.030	6	84	0.076
18:00 - 19:00	6	84	0.048	6	84	0.030	6	84	0.078
19:00 - 20:00	1	160	0.050	1	160	0.031	1	160	0.081
20:00 - 21:00	1	160	0.031	1	160	0.025	1	160	0.056
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.453			0.462			0.915

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

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

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Parameter summary

Trip rate parameter range selected: 20 - 160 (units:)
Survey date range: 01/01/10 - 06/03/20
Number of weekdays (Monday-Friday): 6
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 0
Surveys manually removed from selection: 1

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL 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	6	84	0.002	6	84	0.002	6	84	0.004
08:00 - 09:00	6	84	0.000	6	84	0.000	6	84	0.000
09:00 - 10:00	6	84	0.002	6	84	0.002	6	84	0.004
10:00 - 11:00	6	84	0.000	6	84	0.000	6	84	0.000
11:00 - 12:00	6	84	0.000	6	84	0.000	6	84	0.000
12:00 - 13:00	6	84	0.000	6	84	0.000	6	84	0.000
13:00 - 14:00	6	84	0.000	6	84	0.000	6	84	0.000
14:00 - 15:00	6	84	0.002	6	84	0.000	6	84	0.002
15:00 - 16:00	6	84	0.000	6	84	0.002	6	84	0.002
16:00 - 17:00	6	84	0.000	6	84	0.000	6	84	0.000
17:00 - 18:00	6	84	0.002	6	84	0.002	6	84	0.004
18:00 - 19:00	6	84	0.000	6	84	0.000	6	84	0.000
19:00 - 20:00	1	160	0.000	1	160	0.000	1	160	0.000
20:00 - 21:00	1	160	0.000	1	160	0.000	1	160	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.008			0.016

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL 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	6	84	0.000	6	84	0.006	6	84	0.006
08:00 - 09:00	6	84	0.002	6	84	0.010	6	84	0.012
09:00 - 10:00	6	84	0.002	6	84	0.004	6	84	0.006
10:00 - 11:00	6	84	0.002	6	84	0.002	6	84	0.004
11:00 - 12:00	6	84	0.000	6	84	0.000	6	84	0.000
12:00 - 13:00	6	84	0.000	6	84	0.006	6	84	0.006
13:00 - 14:00	6	84	0.006	6	84	0.000	6	84	0.006
14:00 - 15:00	6	84	0.000	6	84	0.000	6	84	0.000
15:00 - 16:00	6	84	0.000	6	84	0.000	6	84	0.000
16:00 - 17:00	6	84	0.000	6	84	0.002	6	84	0.002
17:00 - 18:00	6	84	0.010	6	84	0.000	6	84	0.010
18:00 - 19:00	6	84	0.008	6	84	0.004	6	84	0.012
19:00 - 20:00	1	160	0.000	1	160	0.000	1	160	0.000
20:00 - 21:00	1	160	0.000	1	160	0.000	1	160	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.030			0.034			0.064

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	84	0.012	6	84	0.044	6	84	0.056
08:00 - 09:00	6	84	0.036	6	84	0.201	6	84	0.237
09:00 - 10:00	6	84	0.028	6	84	0.118	6	84	0.146
10:00 - 11:00	6	84	0.046	6	84	0.078	6	84	0.124
11:00 - 12:00	6	84	0.088	6	84	0.090	6	84	0.178
12:00 - 13:00	6	84	0.096	6	84	0.084	6	84	0.180
13:00 - 14:00	6	84	0.110	6	84	0.106	6	84	0.216
14:00 - 15:00	6	84	0.100	6	84	0.074	6	84	0.174
15:00 - 16:00	6	84	0.131	6	84	0.112	6	84	0.243
16:00 - 17:00	6	84	0.193	6	84	0.155	6	84	0.348
17:00 - 18:00	6	84	0.217	6	84	0.125	6	84	0.342
18:00 - 19:00	6	84	0.143	6	84	0.044	6	84	0.187
19:00 - 20:00	1	160	0.106	1	160	0.081	1	160	0.187
20:00 - 21:00	1	160	0.094	1	160	0.031	1	160	0.125
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	1.400			1.343			2.743		

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

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

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	84	0.004	6	84	0.193	6	84	0.197
08:00 - 09:00	6	84	0.006	6	84	0.179	6	84	0.185
09:00 - 10:00	6	84	0.002	6	84	0.076	6	84	0.078
10:00 - 11:00	6	84	0.006	6	84	0.040	6	84	0.046
11:00 - 12:00	6	84	0.010	6	84	0.020	6	84	0.030
12:00 - 13:00	6	84	0.016	6	84	0.034	6	84	0.050
13:00 - 14:00	6	84	0.014	6	84	0.024	6	84	0.038
14:00 - 15:00	6	84	0.014	6	84	0.016	6	84	0.030
15:00 - 16:00	6	84	0.058	6	84	0.014	6	84	0.072
16:00 - 17:00	6	84	0.066	6	84	0.030	6	84	0.096
17:00 - 18:00	6	84	0.163	6	84	0.016	6	84	0.179
18:00 - 19:00	6	84	0.131	6	84	0.012	6	84	0.143
19:00 - 20:00	1	160	0.237	1	160	0.006	1	160	0.243
20:00 - 21:00	1	160	0.044	1	160	0.000	1	160	0.044
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.771			0.660			1.431

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	6	84	0.042	6	84	0.315	6	84	0.357
08:00 - 09:00	6	84	0.076	6	84	0.460	6	84	0.536
09:00 - 10:00	6	84	0.058	6	84	0.229	6	84	0.287
10:00 - 11:00	6	84	0.078	6	84	0.147	6	84	0.225
11:00 - 12:00	6	84	0.125	6	84	0.145	6	84	0.270
12:00 - 13:00	6	84	0.137	6	84	0.155	6	84	0.292
13:00 - 14:00	6	84	0.165	6	84	0.167	6	84	0.332
14:00 - 15:00	6	84	0.137	6	84	0.114	6	84	0.251
15:00 - 16:00	6	84	0.237	6	84	0.165	6	84	0.402
16:00 - 17:00	6	84	0.319	6	84	0.211	6	84	0.530
17:00 - 18:00	6	84	0.434	6	84	0.181	6	84	0.615
18:00 - 19:00	6	84	0.341	6	84	0.092	6	84	0.433
19:00 - 20:00	1	160	0.400	1	160	0.119	1	160	0.519
20:00 - 21:00	1	160	0.163	1	160	0.044	1	160	0.207
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.712			2.544			5.256

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

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