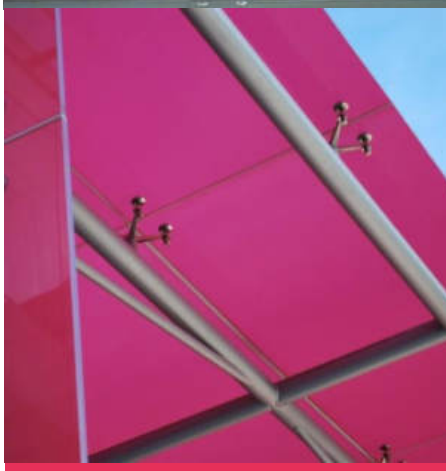








Great Northern
Transport Statement

Curtins Ref: 80483-CUR-XX-XX-T-TP-00001
Revision: P07
Issue Date: 23 November 2022

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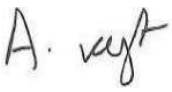
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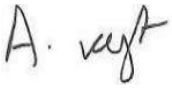
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1.0 Introduction

1.1 Introduction

1.1.1 Curtins has been appointed by GNW Developments Limited (the Applicant) to provide traffic and transport advice in relation to the Great Northern Redevelopment Application.

1.1.2 The proposals form part of a wider regeneration priority area. On 27 July 2016, Manchester's Executive Committee endorsed the 'Great Northern Complex, Manchester Central and Castlefield Quay Strategic Regeneration Framework' ('SRF'), which sets out a clear ambition to guide the redevelopment, re-modelling and refurbishment of the Site within SRF boundary.

1.1.3 The ambition for the Great Northern Warehouse, Deansgate Terrace and Leisure Box, as set out in the SRF, is to allow the Site to reach its full potential and reflect its strategic and historic importance within Manchester City Centre.

1.1.4 Following the endorsement of the initial SRF by Manchester City Council, an application was submitted in December 2017 (LPA Ref.: 118568/FO/2017). This application for planning permission and listed building consent related to only part of the current application Site and comprised conversion of the majority of the Great Northern Warehouse into residential uses, works to Great Northern Square, and remodelling of the northern end of Deansgate Terrace under the following description of development:

'Refurbishment, restoration and re-use of Great Northern Warehouse building as mixed-use development including retail units (Use Classes A1 shop, A3 restaurant/cafe and A4 drinking establishment), gym (Use Class D2), casino (sui generis) and 118 no. residential apartments (Use Class C3), refurbishment, restoration and extension of 223-255 Deansgate Terrace and Goods Yard Entrance to accommodate ground floor retail units (Use Classes A1 shop, A3 restaurant/cafe and A4 drinking establishment) and 24 no. residential apartments (Use Class C3) on upper floors, reconfiguration of Great Northern Square to allow for redeveloped and additional public realm, to include hard and soft landscaping, and formation of Dean Street parallel to Deansgate, together with associated highway works, access, car parking, servicing, rooftop plant, removal of non-original modern installations and making good and associated works'

1.1.5 This permission was granted on 14 March 2018 and subsequently partially implemented (confirmed via a Certificate of Lawfulness), with demolition, public realm and infrastructure works undertaken within Great Northern Square. The remainder of the permission has, to date, not been realised and refreshed proposals are now coming forward.

1.1.6 After the 2018 SRF, an alternative strategy was set out and endorsed in a partial update to the Great

1.1.7 Northern SRF (March 2019). This allowed for the Great Northern Warehouse upper floors be converted to offices instead of residential.

1.1.8 The latest proposals broadly consist of:

- Refurbishment and reuse of the Great Northern Warehouse to provide office space and ground floor retail and leisure uses, including retention of the existing casino, bowling alley and restaurant.
- Conversion and alterations to the Deansgate Terrace to provide further office accommodation with ground floor retail and leisure space.
- A series of new and enhanced public spaces alongside a remodelled and reworked Great Northern Square to provide an enhanced amenity and experience for all users.
- Creation of at-grade routes between Deansgate Terrace and the Warehouse (Dean Street) and between Deansgate and Watson Street (Allport Street).
- Rationalised car parking (Leisure Box only) and the removal of vehicular ramps to the warehouse.
- Demolition of the existing Odeon Cinema and the creation of new homes within three residential buildings on top of the retained car parking structures. The new homes will benefit from a significant amount of external private amenity space at roof top level.
- Rationalised and de-engineered junctions and access routes onto Watson Street, combined with public realm enhancements and active frontages will create a street that encourages pedestrian movement into the wider city centre northwards from the Deansgate Castlefield transport interchange, and via the new vertical circulation from deck level onto Great Bridgewater Street, being provided as part of Viadux.
- Enhancements to Deansgate Mews as a destination for local independent retailers and local communities. This will be achieved by improving accessibility and providing weather protection to enhance user comfort in external amenity spaces.

1.1.9 The development description is as follows:

"Phased redevelopment of the Great Northern Warehouse (GNW), Deansgate Terrace and Leisure Box, including areas of public realm, comprising:

- *demolition of the central atrium, GNW car park ramps, and other modern elements, alongside removal of 519 car parking spaces from the GNW, retention of casino (Sui Generis), bowling alley and existing food and drink unit (Use Class E) alongside the refurbishment, restoration, and re-use of the Grade II* Listed Great Northern Warehouse to provide office, retail and / or food and drink use (Use Class E) and ancillary areas;*

- *the refurbishment, restoration, partial demolition and 3-storey extension of the Grade II Listed Deansgate Terrace (northern section) and Goods Yard Entrance to form office, retail and / or food and drink use (Use Class E) and drinking establishments / hot food takeaway (Sui Generis), with*

associated public realm works comprising the reconfiguration of Great Northern Square and the introduction of additional public realm with associated hard and soft landscaping, together with highways works, access and servicing facilities, rooftop plant and other associated works;

- *partial demolition of the existing leisure box prior to conversion; reconfiguration and extension of existing car parking to provide 929 parking spaces and associated plant, followed by construction of three residential buildings to provide 746 no. apartments (Use Class C3) above the retained car park comprising ground floor plus 16, 27 and 34 storeys respectively including 753 cycle parking spaces, with office, retail and / or food and drink use (Use Class E), or Sui Generis (drinking establishments / hot food takeaway) at ground floor and level 3, hard and soft landscaping, together with highways works, access and servicing facilities, rooftop plant and other associated works; and*

- *external alterations and restoration of Deansgate Terrace (southern section) to provide office, retail or food and drink use (Use Class E) or Sui Generis (drinking establishments / hot food takeaway / live music venue), along with delivery of associated public realm, highways works, plant, and associated works."*

1.1.10 The proposed quantum and floor areas are as follows:

	Residential	Use Class E (Office/Commercial)	Other
Great Northern Warehouse	N/A	10,979 m² (NIA) / 16,139 m² (GIA) office 1,756 m² (NIA) commercial 8,256 existing non refurbished commercial	156 cycle parking spaces
Deansgate Terrace	N/A	North and Mid 2,329 m² (NIA) / 3,787 m² (GIA) office 2,140 m² (GIA) commercial South 3,914 m² (GIA) commercial/community space Total 2,329 m² (NIA) office and 6,054 m² (GIA) commercial/community space	34 cycle parking spaces
Leisure Box	Building A: 330 dwellings Building B: 125 dwellings Building C: 291 dwellings Total: 746 dwellings	2,441 m² (GIA) commercial	929 car parking spaces 753 cycle parking spaces

Public Realm	There are several main components that make up the public realm, which combine to create a more accessible Site, described as follows: • Great Northern Square; • Dean Street (north); • Deansgate Mews; • Watson Street and Great Bridgewater Street public realm improvements; • Allport Street; and • Podium areas for residents only.

Figure 1.1 – Quantum and Use

1.1.11 The proposed Site layout is provided in **Appendix A** to the rear of the report.

1.2 Purpose of the Report

1.2.1 This Transport Statement (TS) has been prepared to inform Highway Officers at MCC and TfGM of the latest development proposals and their potential impact on the surrounding area from a traffic and transportation perspective.

1.2.2 The TS is supported by a range of appendices, with swept path assessments showing the proposed servicing arrangements.

1.2.3 Additionally, the TS is supported by a Framework Travel Plan (Document Reference: **80483-CUR-XX-XX-T-TP-00002**) with measures and initiatives to encourage active and sustainable travel. A Waste Management Strategy has also been prepared as (Document Reference: **80483-CUR-XX-XX-T-TP-00003**).

1.3 Scope of the Report

1.3.1 The scope of this report is consistent with the guidance and recommendations set out in Local and National planning policy.

1.3.2 Curtins has also had a number of pre-application discussions with the MCC Planning Department and MCC Highways regarding the scheme between March 2022 and October 2022.

1.3.3 It was agreed during these discussions that a Transport Statement would be sufficient to support the development and the TS should contain the following:

- A description of the transport and highway network in the vicinity of the Site;
- A review of highway safety within the vicinity of the Site for the most recent five years;

- A summary of the development proposals, proposed parking arrangements, any changes to the highway network and justification for the provision;
- Drawings showing the proposed servicing strategy;
- An audit of accessibility by all modes of travel including walking, cycling, and public transport;
- Details of future vehicular trips and commentary on any highway impacts; and
- A review of the relevant local and national transport planning policy.

1.4 Structure of the Report

1.4.1 Following this introduction, **Section 2** of the report provides a comprehensive description of the existing Site and its location. This includes the local highway network and existing parking facilities.

1.4.2 **Section 2** also reviews the local area in terms of highways safety by way of obtaining records of accidents adjacent to the Site over the most recent five-year period available.

1.4.3 **Section 3** gives an overview of the development proposals including details on proposed access, parking provision, and a servicing and refuse strategy.

1.4.4 **Section 4** considers the Site's accessibility by sustainable modes of transport, including walking, cycling, and public transport.

1.4.5 **Section 5** demonstrates that the office components of the development accords with the transport requirements within Building Research Establishment Environmental Assessment Method (BREEAM)'s New Construction guidance (2018).

1.4.6 **Section 6** outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals and the highway impact.

1.4.7 **Section 7** summarises key national and local transport planning policy, and **Section 8** provides a report summary and conclusion.

2.0 Existing Situation

2.1 Site Location

2.1.1 The Site is located within Manchester City Centre adjacent to Deansgate. It is bound by Watson Street to the east, Peter Street (A34) to the north, Deansgate to the west and Great Bridgewater Street to the south.

2.1.2 **Figure 2.1** below shows the Site in a local context relating to the local highway network:

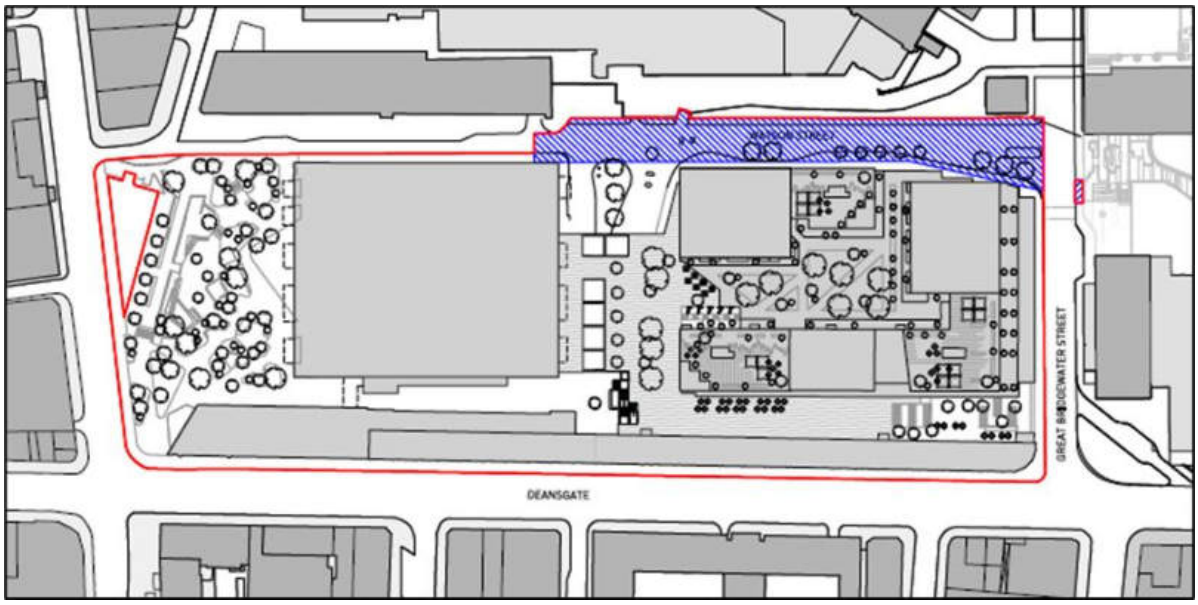


Figure 2.1 – Site Location

2.2 Existing Use

2.2.1 The Site can be broadly divided into four components comprising:

- Great Northern Square – located to the north of the application boundary, the square is an area of public realm with a mix of soft and hard landscaping with an amphitheatre-style seating arrangement in its centre, which currently acts as barrier to movement across the space;

- Great Northern Warehouse – a Graded II* Listed former railway goods warehouse built between 1896 and 1899, which was refurbished in 1999 to provide retail, commercial and car parking spaces (519 spaces);

- Leisure Box and the modern atrium – a modern addition to the Warehouse following the 1999 refurbishments. The Leisure Box contains an Odeon cinema, the Gym and car parking (721 spaces); and

Map data ©2017 Google

- Deansgate Terrace – covers the length of Deansgate from Peter Street to Great Bridgewater Street. The 3 to 4 storey length of terraces is Grade II Listed. The Deansgate Terrance is currently occupied by a mix of tenures - a number of long-term term tenancies alongside a number of short term uses/ meanwhile uses to create activity and placemaking uses while planning for the overall development is concluded.

2.2.2 In total, 1,240 car parking spaces are currently provided across the Site, with 519 bays in the Great Northern Warehouse and 721 bays in the Leisure Box. Access to both car parks is provided via a roundabout on Watson Street.

2.2.3 The space between the Great Northern Warehouse and Deansgate Terrace is currently occupied by a mixture of access and servicing arrangements, including the car park ramps providing vehicular access to the upper levels of Great Northern Warehouse.

2.3 Existing Car Park Use - 2016 Surveys

2.3.1 To gain an understanding of how the current NCP car parks in the Warehouse (519 spaces) and the Leisure Box (721 spaces) operate, a parking occupancy survey was undertaken in the winter of 2016. This took place over a six-week period from the 31st October to the 11th December 2016. Whilst the data is now circa 5-6 years old it represents a pre-covid period when usage was potentially higher.

2.3.2 The results are summarised in Figure 2.2 below.

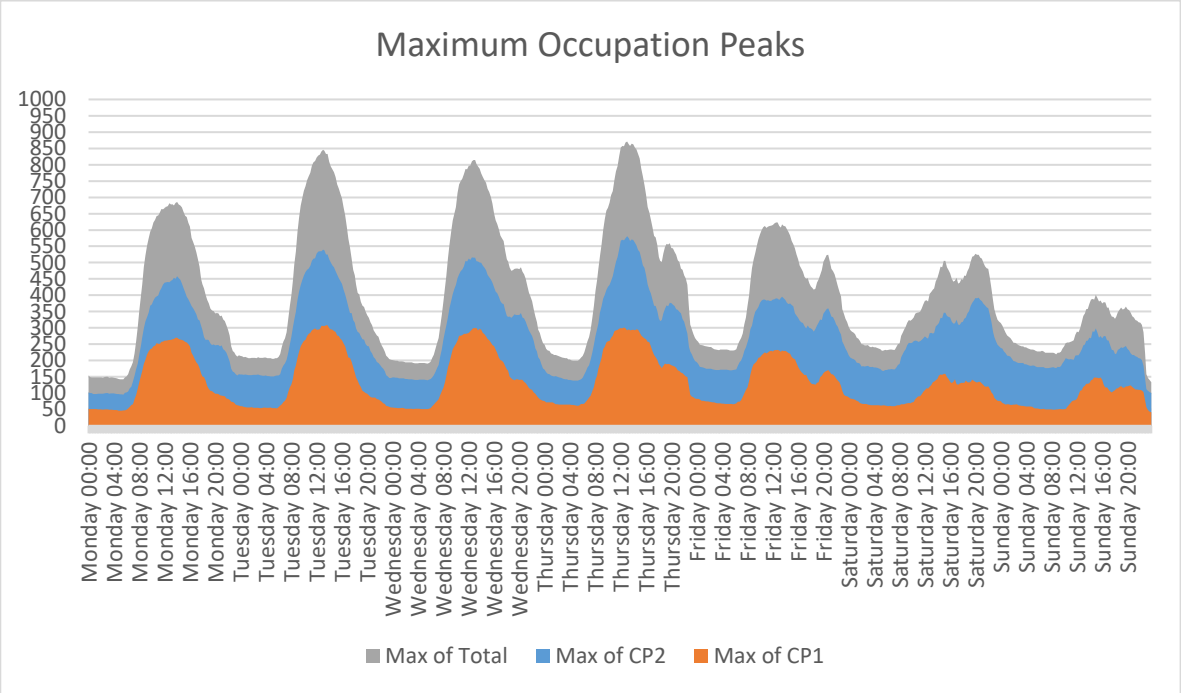


Figure 2.2 – Car Park Maximum Occupation Surveys

2.3.3 The results indicate that during the six week period the maximum occupancy in Car Park 1 (Warehouse) was circa 300 vehicles and the maximum occupancy in Car Park 2 (Leisure Box) was just over 550 vehicles.

2.3.4 This indicates that maximum usage in the Warehouse was circa 57% of capacity and maximum usage in the Leisure Box was circa 76% of capacity. The combined maximum usage equates to circa 68% of capacity.

2.3.5 Notwithstanding the above, it is worth noting that this is the maximum and not the average level of usage. As an example, figures for the first week in December are provide below:

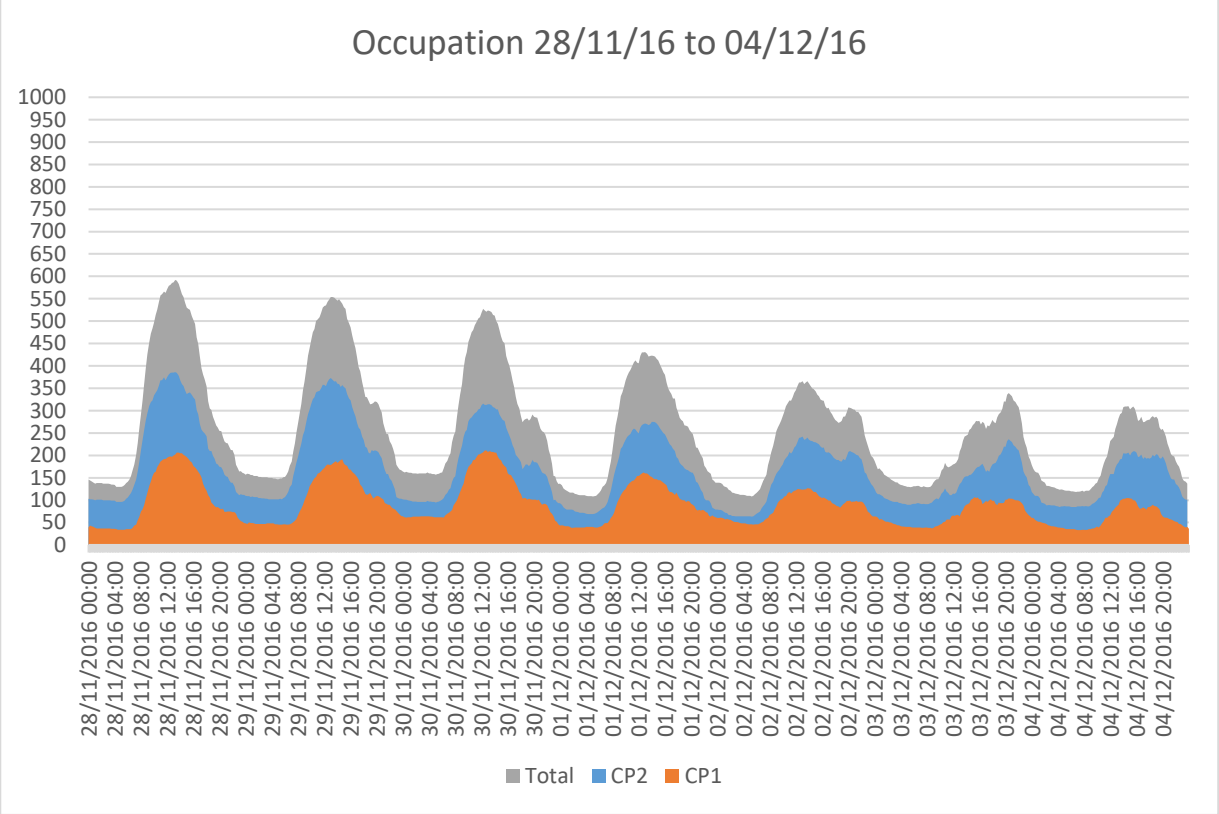


Figure 2.3 – Car Park Occupation Surveys – December 2016

2.3.6 The figures suggest that usage was significantly lower during this period with maximum occupancy in Car Park 1 (Warehouse) circa 200 vehicles and the maximum occupancy in Car Park 2 (Leisure Box just over 350 vehicles.

2.3.7 This indicates that maximum usage in the Warehouse was circa 38% of capacity and maximum usage in the Leisure Box was circa 48% of capacity. The combined maximum usage equates to circa 44% of capacity.

2.3.8 It is clear from the above, that both car parks operate well within capacity with the Leisure Box being the most popular. The combined level of usage across both car parks appears to range 44% to 76% of capacity.

2.4 Existing Car Park Use - 2022 Surveys

2.4.1 On the 30th March 2022, Curtins commissioned traffic surveys at the access into the two NCP car parks from Watson Street between the hours of 0700 and 1900.

2.4.2 The full results are included in **Appendix B.**

2.4.3 The car park access surveys demonstrated that during the 12 hour period there were 1025 arrivals and 846 departures.

2.4.4 The maximum occupancy of car park 1 – the Warehouse occurred at circa 11.15 when there were 139 parked cars. This is an occupancy rate of circa 27%.

2.4.5 The maximum occupancy of car park 2 – the Leisure Box occurred at circa 11.45 when there were 368 parked cars. This is an occupancy rate of circa 51%.

2.4.6 The results suggest both car parks operating within capacity, but with the Leisure Box being the most popular.

2.5 Existing Servicing Arrangements

2.5.1 Refuse vehicles currently access the Warehouse and Leisure Box via Watson Street which provides access to two dedicated service yards. The Warehouse service yard is located underneath the existing atrium and there is a second service yard for the Leisure Box which takes the form of an internal access road and turning head.

2.5.2 Some vehicles associated with the Terraces also use the Leisure Box for servicing and refuse collection, whilst others are understood to utilise two existing loading bays on Deansgate.

2.5.3 Information from the existing waste management contractor has indicated that there are currently 58 bins for the existing Warehouse and the Leisure Box tenants. This consists of:

Warehouse Service Yard

- 19 Green Bins;
- 7 Red Bins;
- 5 Blue Bins; and
- 3 Grey Bins.

Leisure Box Service Yard

- 3 Red Bins;
- 10 Green Bins;
- 5 Grey Bins; and
- 6 Blue Bins.

2.5.4 The different bins relate to the different waste streams, with blue for general waste, green for glass, red for food and grey for pulpable materials.

2.5.5 To provide an indication of the level of usage of the Warehouse service yard, a waste collection survey was undertaken by Great Northern employees. The survey took place in June 2017 for a two-week period and the results indicate that all waste was collected by a private waste collection company.

2.5.6 During the two week period there were a total of 29 waste collections for the two service areas. This equates to almost two vehicles per day.

2.5.7 During the same period there were 199 deliveries which equates to circa 14 vehicles per day if spread equally across the period.

2.5.8 Discussions with the operators in 2022 confirmed that this level of activity is still occurring.

2.6 Surrounding Highway Network

Watson Street

2.6.1 Watson Street currently provides access to the existing Warehouse car park, adjacent Leisure Box car park and two internal servicing areas via a roundabout accommodated on the carriageway. Watson Street also provides access to the Manchester Central service yard and the Manchester Central car park egress.

2.6.2 To the north of the roundabout, Watson Street becomes a one-way only route which seeks to prohibit general through-traffic with the exception of servicing and access. There are bollards in place but these have been permanently down for a number of years and are not currently in use.

2.6.3 Watson Street links Great Bridgewater Street to the south and the A34 Peter Street to the north.

2.6.4 Pedestrian footways are provided along both sides of the carriageway. These are reasonably wide on the western side but are less than 2m on the eastern side. The condition of the footways is good and there are no significant signs of damage or poor maintenance.

2.6.5 The carriageway width is unusually wide at over 7.5m in front of the Leisure Box, albeit this does narrow down as the road extends north.

Watson Street/Great Bridgewater Street Junction

2.6.6 The Watson Street/Great Bridgewater Street junction is currently a three arm signal controlled junction.

2.6.7 The Watson Street arm has an unusually wide junction mouth and as a result it accommodates a large central refuge island and two exit lanes. There is a staggered push button crossing facility for pedestrians.

2.6.8 The Great Bridgewater Street western arm consists of a single lane in each direction plus cycle lanes on both sides of the carriageway. There is a signal controlled pedestrian crossing with no push button facilities.

2.6.9 The eastern arm consists of a single eastbound lane but two westbound lanes, one for straight ahead movements and one for right turn movements. One of the lanes has been closed for several months to accommodate the construction of Viadux. There is no pedestrian crossing on this arm and no cycle lanes.

2.6.10 The junction, particularly the Watson Street arm, is considered to be overdesigned for the needs of cars and HGV's, at the expense of pedestrians.

2.6.11 Traffic surveys commissioned by Curtins on the 30th March 2022 (**Appendix B**), demonstrate that the flows during the AM peak are as follows:

- Watson Street Outbound – 35
- Watson Street Inbound – 236
- Watson Street Total – 274
- Great Bridgewater Street West – 537
- Great Bridgewater Street East – 482

2.6.12 The flows during the PM peak are as follows:

- Watson Street Outbound – 211
- Watson Street Inbound – 105
- Watson Street Total – 316
- Great Bridgewater Street West – 486
- Great Bridgewater Street East – 475

2.6.13 These are relatively modest flows and traffic modelling combined with Site observations demonstrates that the junction operates well within capacity in both peak periods.

A34 Peter Street

2.6.14 The A34 Peter Street connects with Watson Street to the north of the Site via an egress-only priority junction. A34 Peter Street is a primary route in central Manchester, providing connectivity to the A6042 Trinity Way to the north-west and the A57(M) Mancunian Way to the south-east.

2.6.15 The route is a single lane, two-way carriageway in the vicinity of the Site, with on-street parking, disabled parking, loading bays and taxi ranks along the main carriageway. To the west, the A34 carriageway continues from Peter Street into Quay Street, through a signalised crossroad junction with Deansgate. To the east, the A34 also continues into Oxford Street.

A56 Deansgate

2.6.16 Deansgate connects with the A34 Peter Street via a signalised crossroad junction to the west of the Site. Deansgate is a major route connecting Manchester City Centre to the north and the A56-Chester Road and the A57(M) Mancunian Way to the south. The road has a number of active frontages in the vicinity of the Site with a selection of commercial uses including restaurants and cafes, estate agents amongst others.

2.6.17 Deansgate is approximately 14 metres wide with footways provided along both sides of the carriageway, On-street parking is provided along much of Deansgate which reduces the operational width of the carriageway. Loading bays, disabled parking and taxi ranks are also provided.

2.6.18 A stepped pedestrian entrance is provided into the Site leading from the footway on the east side of the carriageway. Pedestrian accessibility is also provided onto Deansgate from Great Northern Square.

2.6.19 In May 2020, during the COVID-19 pandemic, a section of Deansgate between King Street West and Blackfriars Street was pedestrianised / closed to car traffic, under emergency legislation brought in by the Government to allow people more room to social distance. ‘Surface guard’ barriers were installed to block access to vehicles whilst providing space for bicycles to pass.

2.6.20 In December 2020, Manchester City Council installed new ‘Rhino’ barriers to allow buses and taxis to travel one-way down the road (southbound, with the northbound carriageway still closed). Pedestrians still have extra room to walk along the carriageway, and the tree planters remain.

2.6.21 MCC then held a public consultation on the permanent pedestrianisation of the remainder of the A56 Deansgate up until its junction with the A34 Quay Street / Peter Street (and additional changes to surrounding roads), shown in **Figure 2.4**. In these proposals, the remainder of Deansgate could be made one-way in a southbound direction, with a contraflow cycle provision in place northbound.

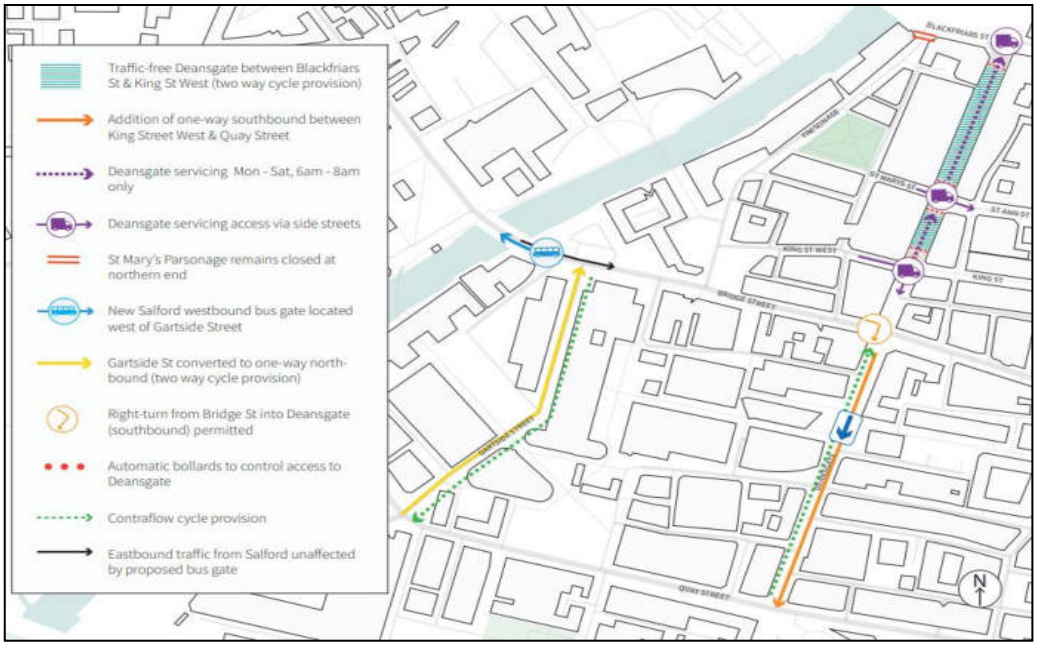


Figure 2.4 – Map of Changes to Deansgate
(Source: Manchester City Council, 2020)

2.6.22 It is not envisaged that the above plans would have a significant impact on the access arrangements for the proposed development.

2.6.23 However, it is understood that plans to alter the section of Deansgate directly outside the Deansgate Terraces are also under consideration and an extract form a consultation exercise launched by MCC Highways in 2022 is provided below:

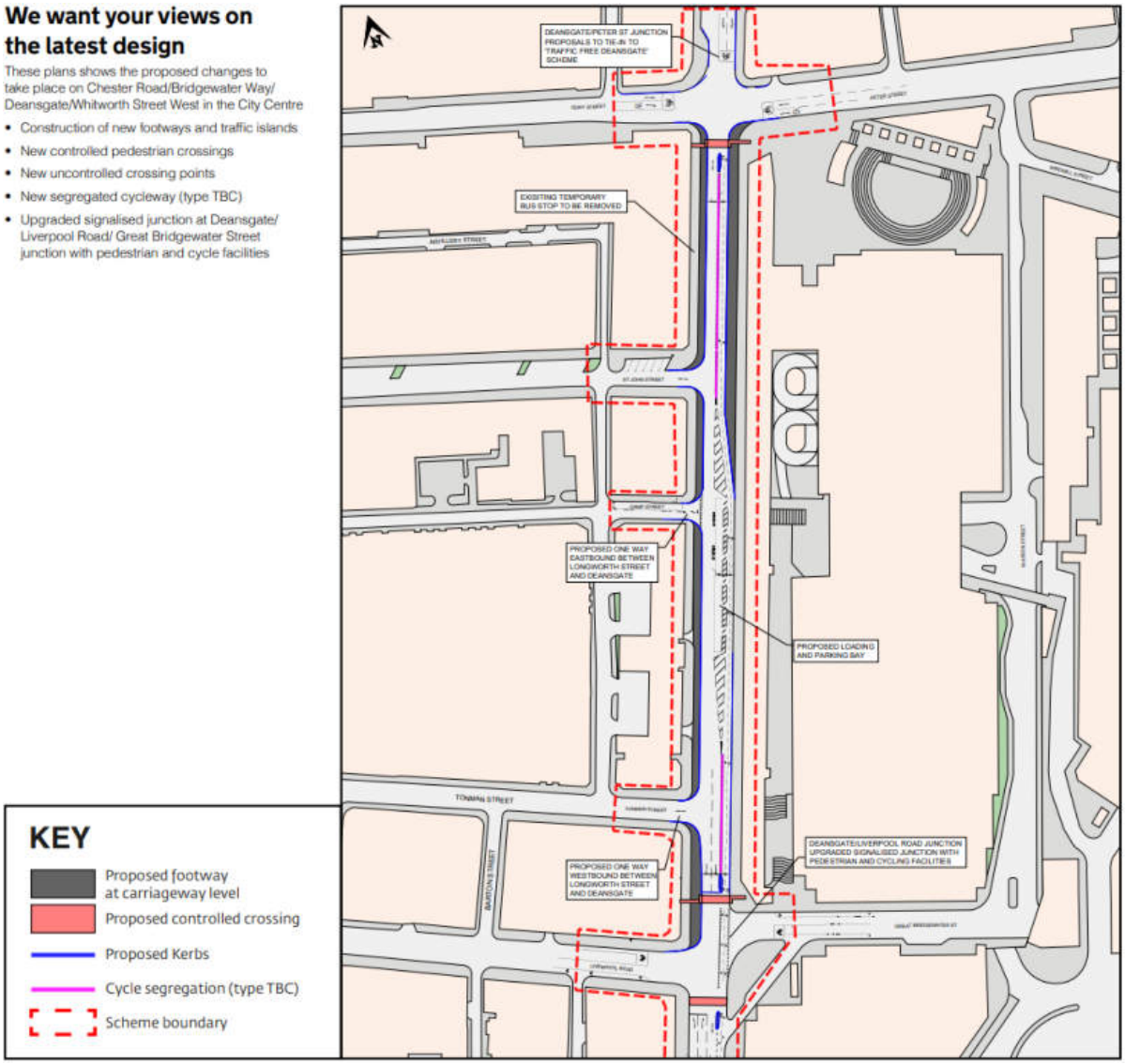


Figure 2.5 – MCC Deansgate Consultation, 2022

2.6.24 The above proposals will change the parking and servicing along the Deansgate frontage of the Site, albeit a loading bay in broadly the same area as the existing situation is proposed. The proposals will also prevent vehicles travelling north on Deansgate.

2.7 Highway Safety

2.7.1 Personal Injury Accident (PIA) data for the highway network surrounding the application Site has been obtained for the latest available five-year period. The data is summarised below in **Table 2.1** with a plot showing the location of the PIA data provided in **Figure 2.6**.

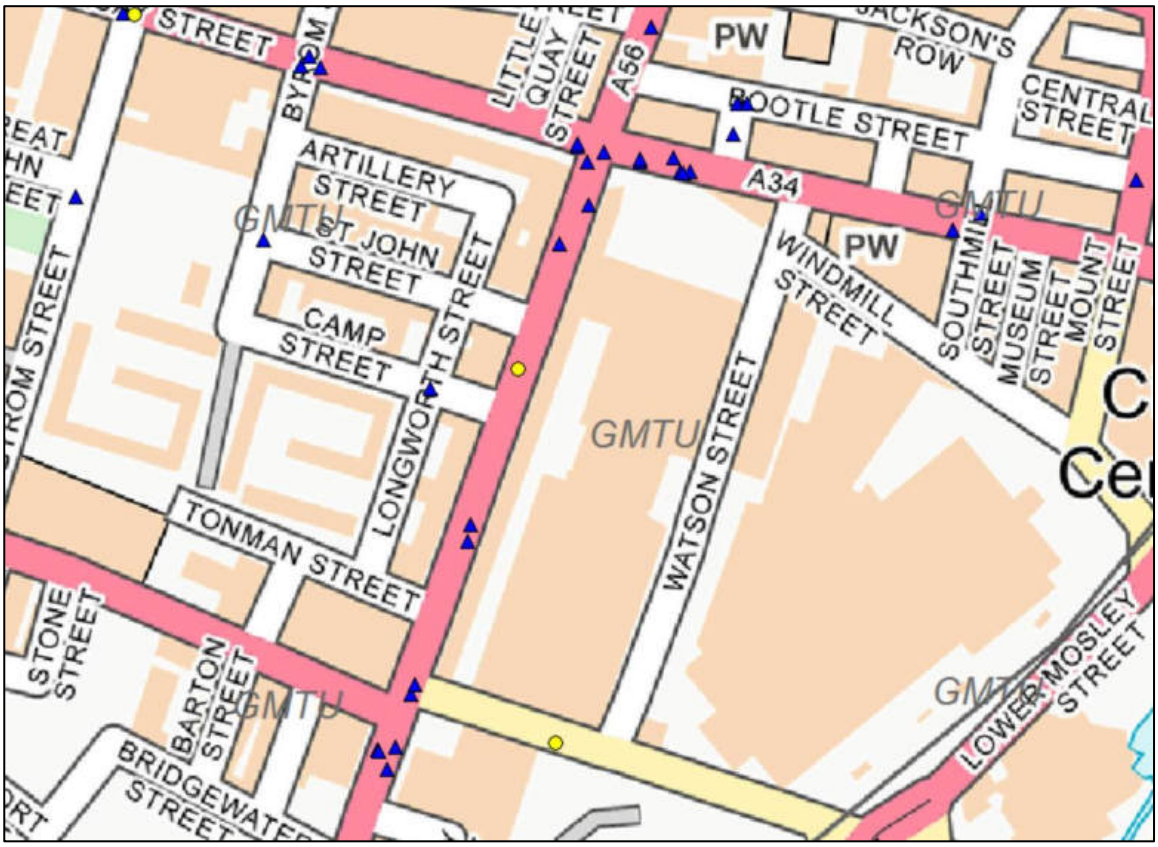


Figure 2.6 - Area assessed for Personal Injury Accident Data

Junction/Link	Slight	Serious	Fatal	Totals
Quay Street/ Byrom Street (West)	1	1	0	**2**
Byrom Street/ Great John Street	1	0	0	**1**
Quay Street/ Byrom Street (East)	3	0	0	**3**
Byrom Street/ St John Street	1	0	0	**1**
Longworth Street/ Camp Street	1	0	0	**1**
Deansgate/ Atkinson Street	1	0	0	**1**
Deansgate/ Peter Street/ Quay Street	12	0	0	**12**
Deansgate, between Camp Street and St John Street	0	1	0	**1**
Deansgate, between Tonman Street and Camp Street	2	0	0	**2**
Deansgate/ Great Bridgewater Street	2	0	0	**2**
Deansgate, slightly south of Liverpool Road	4	0	0	**4**
Great Bridgewater Street, slightly west of Watson Street	0	1	0	**1**
Bootle Street/ Jerusalem Place	2	0	0	**2**

Junction/Link	Slight	Serious	Fatal	Totals
Jerusalem Place	1	0	0	**1**
Peter Street/ Southmill Street	2	0	0	**2**
Bootle Street/ Mount Street	1	0	0	**1**
Total	**34**	**3**	**0**	**37**

Table 2.1 – Personal Injury Accident Data Summary

2.7.2 There has been a total of 37 collisions in the latest five-year period available, 34 of which were 'slight' severity incidents, and 3 of which were 'serious' severity incidents. No fatal accidents have been recorded in the study area and period.

2.7.3 The 12 'slight' incidents at the Deansgate/ Peter Street/ Quay Street junction appears higher than usual but a review of the data suggests these were spread spatially and temporally with 5 incidents in 2017, 4 in 2019, and one each in 2018, 2020 and 2021. There is a decreasing trend in recent years, which may be due to lower traffic volumes associated with Covid and hybrid working.

2.7.4 No significant correlations have been identified to suggest that highway condition, layout or design were significant contributory factors in any of the collisions. It is not considered that there is an existing safety issue that is likely to be exacerbated by the proposed development.

2.7.5 This is a conclusion that was reached and supported by Highways Officers as part of the earlier Warehouse planning application.

3.0 Development Proposals

3.1 Overview of Proposals

3.1.1 As set out in Section 1 the development proposals broadly consist of:

- Refurbishment and reuse of the Great Northern Warehouse to provide office space and ground floor retail and leisure uses, including retention of the existing casino, bowling alley and restaurant.
- Conversion and alterations to the Deansgate Terrace to provide further office accommodation with ground floor retail and leisure space.
- A series of new and enhanced public spaces alongside a remodelled and reworked Great Northern Square to provide an enhanced amenity and experience for all users.
- Creation of at-grade routes between Deansgate Terrace and the Warehouse (Dean Street) and between Deansgate and Watson Street (Allport Street).
- Rationalised car parking (Leisure Box only) and the removal of vehicular ramps to the warehouse.
- Demolition of the existing Odeon Cinema and the creation of new homes within three residential buildings on top of the retained car parking structures. The new homes will benefit from a significant amount of external private amenity space at roof top level.
- Rationalised and de-engineered junctions and access routes onto Watson Street, combined with public realm enhancements and active frontages will create a street that encourages pedestrian movement into the wider city centre northwards from the Deansgate Castlefield transport interchange, and via the new vertical circulation from deck level onto Great Bridgewater Street, being provided as part of Viadux.
- Enhancements to Deansgate Mews as a destination for local independent retailers and local communities. This will be achieved by improving accessibility and providing weather protection to enhance user comfort in external amenity spaces.

3.1.2 The proposed Site layout is provided in **Appendix A** to the rear of the report.

3.2 Proposed Access

Car Access

3.2.1 There is no allocated car parking proposed for the Deansgate Terrace office space, Great Northern Warehouse office space or Great Northern Square and therefore there is no requirement for car access directly into these areas.

3.2.2 As all parking is being removed from the Great Northern Warehouse, the current vehicular access arrangements, via spiral parking ramps on the side of the building, will be completely removed and this area will accommodate new areas of public realm.

3.2.3 Vehicular access to the Leisure Box car park will remain broadly similar to present with an access and egress onto Watson Street. All cars will therefore arrive and depart via Watson Street.

3.2.4 To enhance the Watson Street environment for pedestrians and cyclists, the width of the carriageway will be reduced from circa 7.5m to circa 5.5m. The footways will be increased in width on both sides of the carriageway to create new areas of public realm. The roundabout that provides access into the Warehouse and Leisure Box will be retained but the corner radii will all be tightened to significantly reduce the dominance of cars.

3.2.5 The proposed access arrangement is shown on **Drawing 80483-CUR-XX-00-D-TP-75001.**

3.2.6 Swept path analysis for a car, 10m rigid vehicle, 11.2m refuse vehicle and fire tender are shown on **Drawings 80483-CUR-XX-00-D-TP-5001, 5002, 5006, and 5007.**

Pedestrian and Cycle Access

3.2.7 As part of the proposals, the permeability of the Site will be significantly enhanced by removal of the amphitheatre and the creation of a new North/South route known as Dean Street which is a new pedestrian only route that will extend from Peter Street to Great Bridgwater Street. This in turn will connect to Watson Street via new areas of public realm to Deansgate via a gap in the Terraces. This will be known as Alport Street. The existing level difference between Deansgate and the Warehouse will be smoothed out to create a more accessible and level environment with the exception of where it meets Great Bridgewater Street.

3.2.8 The main pedestrian entrance to the Warehouse ground floor uses such as the Casino, Bowling Alley and restaurant will remain largely as per the existing situation with primary access from Great Northern Square and additional accesses from Watson Street.

3.2.9 The primary pedestrian entrance for the Warehouse office space is envisaged from Great Northern Square.

3.2.10 Pedestrian access for the residential components of the scheme will primarily be from the shared terrace area with access via Deansgate, with secondary entrance points via Watson Street.

3.2.11 Pedestrian access to the Terraces will be via Deansgate and Dean Street.

3.2.12 Cycle access for the Warehouse office components will be via the south west corner of the Warehouse via a new cycle ramp.

3.2.13 Cycle access for the residential components will be via Deansgate and Great Bridgewater Street.

3.2.14 Cycle access for the Deansgate Terraces will be via Deansgate or Dean Street.

3.3 Proposed Parking

Car Parking

3.3.1 As set out in Section 2, there are currently 721 parking spaces in the Leisure Box and 519 parking spaces in the Warehouse. This gives a total of 1,240 publicly available spaces.

3.3.2 As part of the development proposals the total parking across the Site will be reduced by 311 cars (a circa 25% reduction) to 929 spaces. All of these spaces will be located on the residential (former Leisure Box) side of the Site split across 5 levels.

3.3.3 Of the 929 spaces, none will be allocated to the office uses.

3.3.4 Circa 167 spaces will be allocated to the residential uses, representing a ratio of circa 18%.

3.3.5 The remaining 762 spaces will remain as publicly available spaces, as per the current situation. The reduction in publicly available parking is therefore actually 478 spaces or c.40%.

3.3.6 It is proposed that circa 17 (10%) of the residential spaces will be EV ready with the remaining 150 (90%) being future proofed with cable routing provided.

3.3.7 For the remainder of the car park it is proposed that 39 (5%) of spaces will be EV ready and 115 (15%) will be future proofed with cable routing provided.

3.3.8 Accessible spaces will be provided in genera accordance with MCC standards which suggest 5%.

Nearby Parking Facilities

3.3.9 As there will be a reduction in parking at the Site, MCC and TfGM have asked for a review of nearby public car parks to understand parking levels in the surrounding area. There are many publicly available car parks situated within a 1,000m walking catchment (12.5 minutes) – the distance categorised by the CIHT as 'Acceptable' for walking commutes. Nearby car parking is summarised in **Table 3.1**:

Car Park	Car Park Location	Approximate Walking Distance from Site	Approximate Number of Spaces	Disabled Bays	Electric Vehicle (EV) Charging Bays
1	340 Deansgate, M3 4NH	320m	36	–	–
2	Manchester Central, M2 3GX	380m	643	Yes	Yes
3	35 Bootle Street, M2 5GU	400m	17	–	–
4	Stone Street, M3 4NE	420m	14	–	–
5	Bridgewater Hall, M15 4PS	520m	280	–	–
6	Chepstow Street, M1 5JN	640m	16	–	–

Car Park	Car Park Location	Approximate Walking Distance from Site	Approximate Number of Spaces	Disabled Bays	Electric Vehicle (EV) Charging Bays
7	First Street, M15 4FN	640m	700	Yes	Yes
8	King Street West, M3 2WY	660m	537	Yes	
9	Spinningfields, M3 3BE	670m	680	Yes	–
10	Oxford Street, M1 5EJ	700m	431	Yes	–
11	Piazza, M1 4LX	780m	225	Yes	Yes
12	Bridge Street, M3 5AH	800m	65	–	–
13	Great Jackson Street, M15 4PA	820m	150	–	–
14	Water Street, M3 4JH	850m	325	–	–
15	Hulme Street, M15 6AW	860m	92	–	–
16	Stanley Street, M3 5EX	900m	635	Yes	Yes
17	China Town, M1 4EE	920m	75	–	–
18	New Bailey, M3 5EN	940m	620	Yes	Yes
19	Abingdon Street, M1 6DD	950m	10	–	–
20	Sackville Street, M1 3LY	960m	119	–	–
21	Palace, M1 6NE	1,000m	411	Yes	–
		Total:	**6,081**	Yes	Yes

Table 3.1 – Existing Off-Site Car Parking Provision

3.3.10 The above table demonstrates 21 car parks were found within a 12.5-minute walk of the Site, providing car parking provision for approximately 6,081 vehicles, including provision for disabled drivers and electric vehicle charging. Of this parking provision, approximately 710 spaces are within a 500m (6 minute) walk – which is categorised as the 'Desirable' distance. It is therefore considered there is adequate opportunity for off-Site parking should future staff, visitors, and residents chose to commute by car.

Cycle Parking

3.3.11 Cycle parking for the residential element of the proposals will be provided at a ratio of 1 space per apartment as per standard MCC guidance. On this basis, there are 753 spaces proposed for cycles, all located in a large store at the south western corner of the Leisure Box Site (see below image).

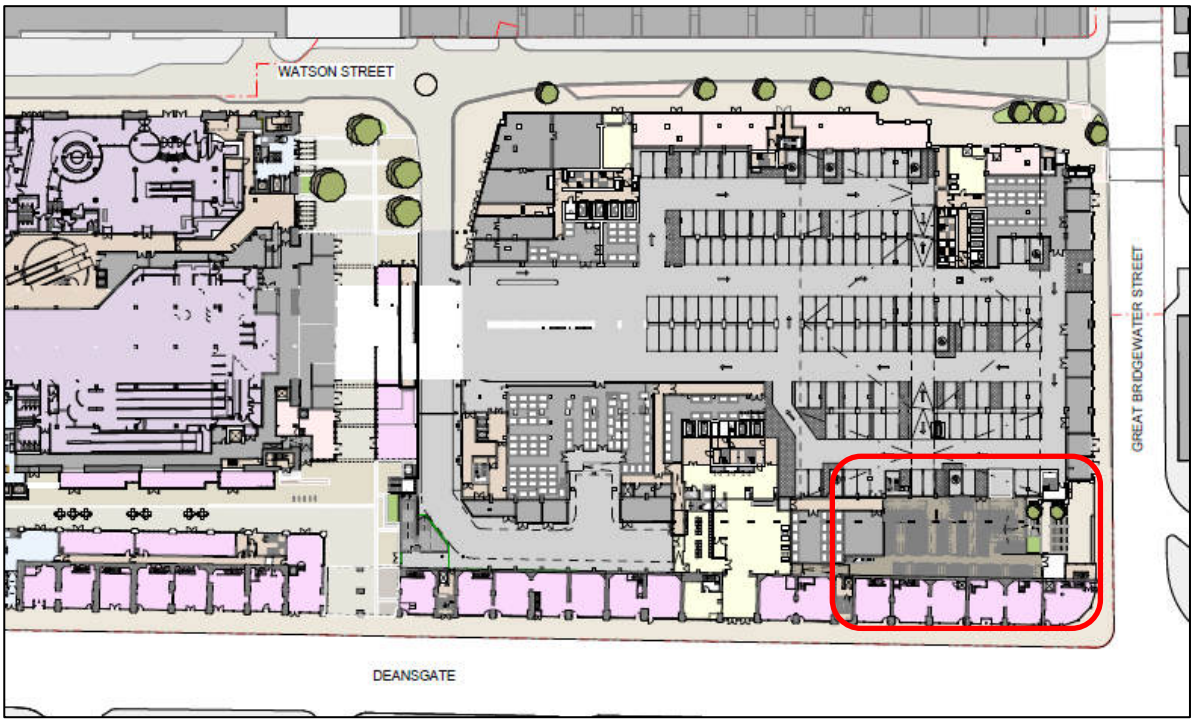


Figure 3.1 – Residential Cycle Parking

3.3.12 Secure cycle parking for the office elements will be provided in the Warehouse with 156 spaces. 34 additional parking spaces for the Terraces will also be provided, giving a total quantum of 190 internal spaces (see below image). There will also be 10 showers, 228 lockers and changing facilities.

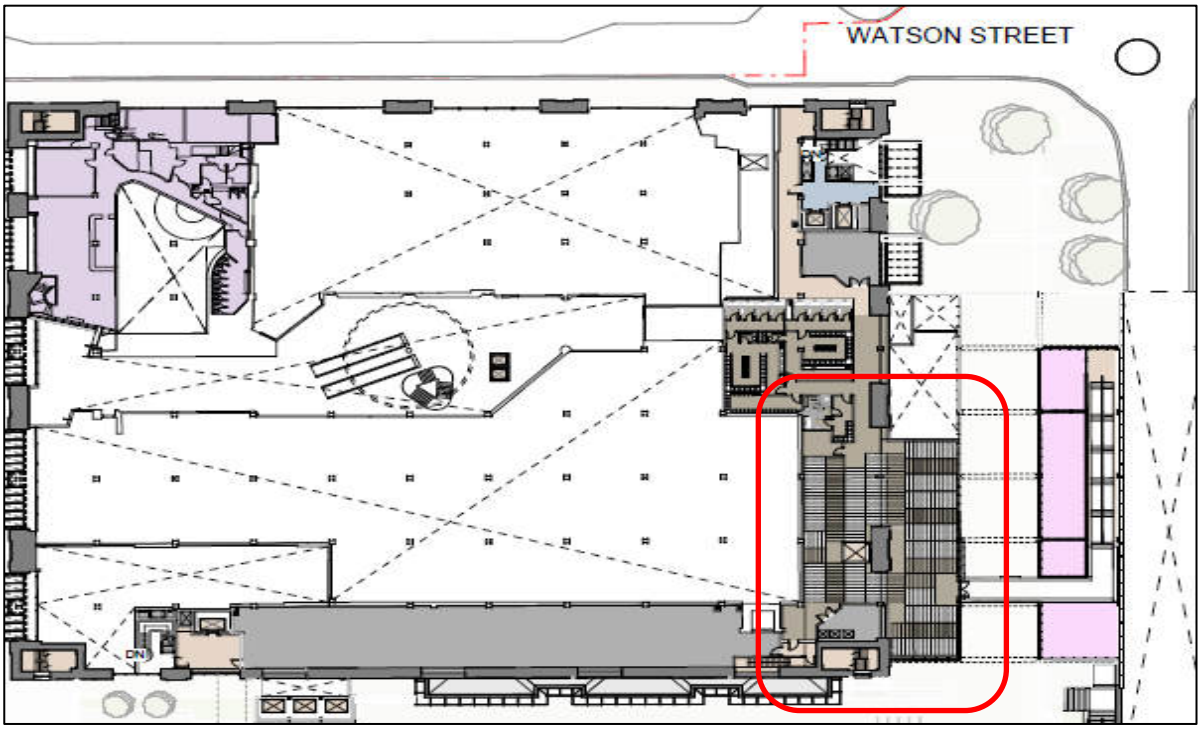


Figure 3.2 – Office Cycle Parking

3.3.13 The provision of 190 spaces is well in excess of the MCC cycle standards which suggest 1 space per 200 sqm for office uses. The MCC standards would require circa 100 spaces based on the proposed GFA and therefore the provision is almost double.

3.3.14 The over provision of cycle parking against MCC standards is one of the many initiatives to encourage more people to travel by sustainable modes (in addition to other measures outlined in the accompanying Framework Travel Plan (Document Reference: **80483-CUR-XX-XX-T-TP-00002**)).

3.3.15 The cycle parking provision is BREEAM compliant and the CycleScore scheme will be pursued post completion.

3.3.16 In addition to the internal cycle parking, additional short stay parking is proposed in the public realm areas for the various commercial/retail units. This will consist of 56 short stay spaces to complement the provision of Beryl Bikes which have recently been installed on Watson Street.

3.4 Proposed Servicing and Waste Arrangements

3.4.1 It is envisaged that refuse collection for the residential, office and terrace components would predominantly take place within the Site in a comparable manner to the existing situation.

3.4.2 This involves waste vehicles entering the Site from Watson Street, collecting waste from a series of waste stores and then egressing back the way they came, Great Bridgewater Street/Watson Street.

3.4.3 All vehicles of comparable or smaller size than an 11.2m refuse vehicle will be permitted to undertake manoeuvres in this manner. Discussions with MCC Highways have suggested the newer electric vehicles are 10.4m long.

3.4.4 A management company would be appointed to transfer waste from the residential bin stores to a central residential bin store area. These areas have been sized based on MCC waste collection criteria and it is envisaged that MCC would collect the waste. Scoping discussions with MCC Highways have confirmed this is acceptable.

3.4.5 Waste from the office space in the Warehouse and Terraces and the existing and proposed retail/leisure uses would be transferred to a central commercial waste store located within the Leisure Box. A private contractor would collect waste in a comparable manner to the existing situation.

3.4.6 More details on the waste collection schedule and number of bins proposed are provided in a Waste Management Strategy prepared by Curtins (Document Reference: **80483-CUR-XX-XX-T-TP-00003**).

3.4.7 Some servicing would also take place as set out above. However, in addition to the internal back of house areas, three new loading bays are proposed on Watson Street. Two in the vicinity of the residential uses and one in the vicinity of the Warehouse.

3.4.8 The loading bay outside of the Warehouse was discussed and agreed with MCC Highways as part of the 2017 application. There was some discussion regarding the bollards on the one-way section of Watson Street and what would happen if these were raised, but it was agreed that these don't appear to be in use and even if they were, access would need to be provided for servicing. It was again agreed that the strategy was acceptable in principle.

3.4.9 It is proposed that service vehicles requiring access to the Warehouse loading bay enter the bay from the south, unload or load and then exit via the one-way section of Watson Street onto Peter Street.

3.4.10 The existing loading bays located on Deansgate would also be used to serve the Deansgate Terraces and potentially one of the residential towers. If Deansgate is made one way in a southbound direction, a loading bay is still proposed.

3.5 Highway Improvements

3.5.1 As part of the Viadux development a new Metrolink entrance for the Deansgate/Castlefield stop is being constructed on the south side of Great Bridgewater Street, directly opposite Watson Street. This provides an opportunity to reconfigure the existing junction to significantly enhance the pedestrian environment and the desire line that is likely to be created along Watson Street.

3.5.2 The Viadux development has an obligation to deliver an enhanced junction in this location, but to ensure that the improvements are suitable for both developments, the Viadux team has worked extensively with the GNW team to prepare a layout that rebalances the junction in favour of pedestrians. This includes:

- Narrowing the Watson Street carriageway from over 7.5m to 5.5m;
- Reducing the two exit lanes on Watson Street to one exit lane;
- Removing the staggered crossing on Watson Street to create a continuous pedestrian crossing;
- The introduction of new continuous crossings on both arms of Great Bridgewater Street, including an all red stage for pedestrians;
- Large new area of public realm on the north western corner of the junction outside of the Leisure Box; and
- A widened footway along both sides of Watson Street.

3.5.3 The modified junction can still accommodate refuse vehicles, service vehicles and 16.5m HGV articulated vehicles due to setting the stop line back further than the existing situation.

3.5.4 The layout and swept path analysis is included as **Appendix C.**

3.5.5 It is proposed that the delivery of the improvements will be split between the Viadux team and the GNW team as construction requirements for GNW mean the junction improvement cannot be delivered until

the residential component is complete. The potential phasing of the improvements is also included in **Appendix C.**

3.6 Stopping Up of Watson Street

3.6.1 As part of the development proposals, a small slither of adopted highway on the western side of Watson Street will need to be formally stopped up under Section 247 of the Town and Country Planning Act. The land in question is understood to be within the Sites title, but is also classed as adopted highway.

3.6.2 Under section 247, a Stopping up Order provides the Secretary of State (SoS) the power to stop up highways in accordance with a legally granted planning condition, as stated below:

"The SoS may by Order authorise the stopping up or diversion of any highway if he is satisfied that it is necessary to do so in order to enable development to be carried out:

- *in accordance with a planning permission; or*
- *by Government Department"*

3.6.3 Discussions with MCC Highways are ongoing and will continue until determination.

4.0 Accessibility by Sustainable Modes of Travel

4.1 Introduction

4.1.1 A key element of national, regional and local policy is to ensure that new developments are located in areas where alternative modes of travel are available. It is important to ensure that developments are not isolated but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

4.1.2 Walking, cycling, and public transport should be prioritised over car use, according to the National Design Guide (Department for Levelling Up, Housing and Community (DLUHC), 2021). This is emphasised at a local level in the Made to Move MCC strategy and Mayoral ambitions to locate homes on transport nodes.

4.1.3 The accessibility of the proposed development is considered in this context for the following modes of travel:

- Pedestrian Accessibility;
- Accessibility by Cycle; and
- Accessibility by Public Transport.

4.2 Pedestrian Accessibility

4.3.1 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled 'Providing for Journeys on Foot' suggests walking distances which are relevant to this planning application. These are reproduced in **Table 4.1.**

	Town Centres (m)	Commuting/School/ Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

Table 4.1 - CIHT Suggested Acceptable Walking Distances

4.3.2 The Department for Transport's National Travel Survey (from Tables NTS0308a and NTS0601) shows that walking is the most frequent mode used for short trips: 80% of all trips and 74% of walking trips were under 1 mile (1.6km) in 2019 – with the 1.6km distance broadly comparable with the CIHT's 2.0km

'Preferred Maximum'. The average distance for walking trips was 1.5km and 96% of walking trips were under 2 miles (3.2km) in 2019.

4.3.3 Furthermore, Sustrans' Walking and Cycling Index 2021 reveals that the average distance of a walking or wheeling trip in the past year in Greater Manchester was 1.5km.

4.3.4 The National Design Guide (DLUHC, 2021) states that well-designed places are walkable, which is defined as *"local facilities [are] within walking distance, generally considered to be no more than a 10-minute walk (800m radius)".*

4.3.5 To assist in summarising the accessibility of the Site by foot, an indicative pedestrian catchment plan has been produced. **Figure 4.1** presents a walking catchment with 500m intervals up to 2,000m – with the darkest red being the 500m catchment through to the lightest orange being the 2,000m catchment.

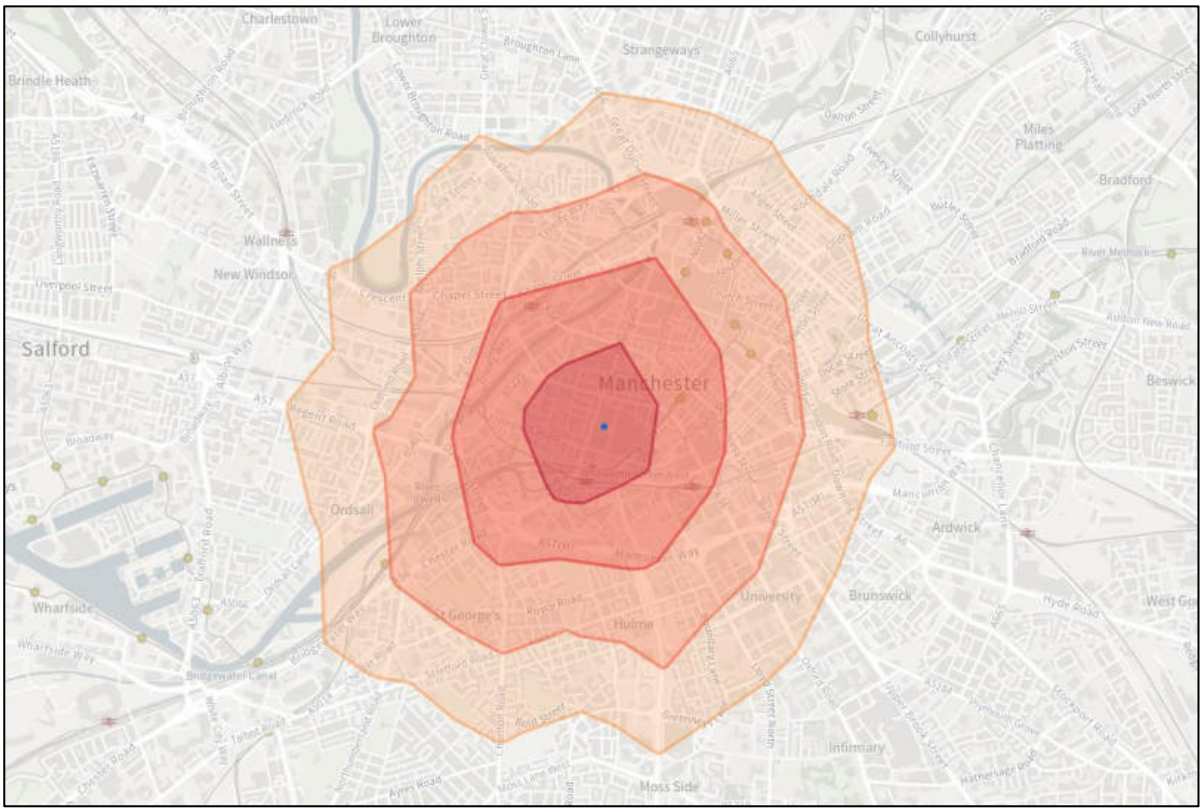


Figure 4.1 – Walking Catchment

4.3.6 Guidance from BREEAM UK New Construction 2018 states that Transport Assessments and Travel Plans should include reporting on the number and type of amenities within 500m of the Site (based on current Tra 02 criteria) to obtain credits. The number and type of existing accessible amenities within 500m of the Site can be summarised in **Table 4.2** below:

No.	Amenity	BREEAM Criteria / Type	Proximity to Site
1	Deansgate (comprising restaurants, supermarkets, bars, hotels)	Appropriate food outlet Access to cash	0m
2	Castlefield (comprising bars, restaurants, waterfront, green space, museum, hotels)	Appropriate food outlet Access to cash Access to an outdoor open space	250m
3	Spinningfields (comprising shops, restaurants, bars, a gym, open space)	Appropriate food outlet Access to an outdoor open space Access to a recreation or leisure facility for fitness or sports	350m

Table 4.2 – Number and Type of Existing Accessible Amenities within 500m of the Site

4.3.7 The pedestrian catchment plan confirms that the Site is well located in relation to local services and facilities within Manchester.

4.3.8 Between 500m and 1000m from the Site lies the Castlefield/Deansgate and St Peters Square Metrolink stations, Deansgate Corridor, Spinningfields, Piccadilly Gardens, Chinatown, Oxford Road, and Arndale Centre. The Arndale centre is one of the largest city-centre shopping centres in Europe and houses over 200 shops as well as several food and drink establishments.

4.3.9 Within the wider 1,000m – 2,000m catchments, there are a number of city centre residential properties in all directions. Additional leisure, food, retail, employment, high street banks, health clubs, and convenience stores are accessible along Market Street, the Printworks, Northern Quarter, and Gay Village.

4.3.10 The vast majority of Manchester and Salford City Centres and the major public transport interchanges (Salford Central, Manchester Victoria, Manchester Piccadilly, Manchester Oxford Road, Deansgate, Oxford Road corridor) are within a 2,000m (c. 25-minute) walk of the Site.

4.3.11 All of the key roads in the vicinity of the Site already have good levels of existing pedestrian infrastructure consisting of relatively wide footways, controlled crossings, dropped kerbs and areas of car free public realm.

4.3.12 The development proposals (detailed in **Section 3**) also include plans to improve pedestrian amenity and public realm in the vicinity of the Site, which would be beneficial to pedestrians and would encourage more staff and visitors to travel on foot.

4.3.13 The Site is considered highly accessible by foot.

4.3 Accessibility by Cycle

4.3.1 Cycling is a cost effective, efficient, and healthy way to travel. Cycling also provides a predictable arrival time which depending on location, can be quicker than driving or using public transport, and is subject to fewer delays.

4.3.2 The average person in England cycled 16 times for a total distance of 54 miles in 2019, according to the Department for Transport's walking and cycling statistics. This equates to an average of 3.38 miles / 5.43km per trip, which is rounded to a 5.5km catchment. Furthermore, Sustrans' Walking and Cycling Index 2021 reveals that the average distance of a cycling trip in the past year in Greater Manchester was 6.9km.

4.3.3 8km (5-miles) considered to be the maximum acceptable cycling distance for most people and is based on the 2019 National Travel Survey statistics, which demonstrates that 82% of cycling trips were under 5 miles (8km). The National Model Design Code – Part 2 (DLUHC, 2021) also references this distance, expressing *"the aim that walking and cycling should be the first choice for short local journeys, particularly those of 5 miles or less."*

4.3.4 The average cyclist travels at approximately 12mph, according to CD195 of the Design Manual for Roads and Bridges, so they could travel 5.5km, 6.9km and 8km in approximately 17, 21 and 25 minutes, respectively.

4.3.5 In order to assist in assessing the accessibility of the Site by cycle, **Figure 4.2** presents a 15-minute and 25-minute cycling catchment from the Site, along with the National Cycle Network (NCN) Routes available within these ranges.

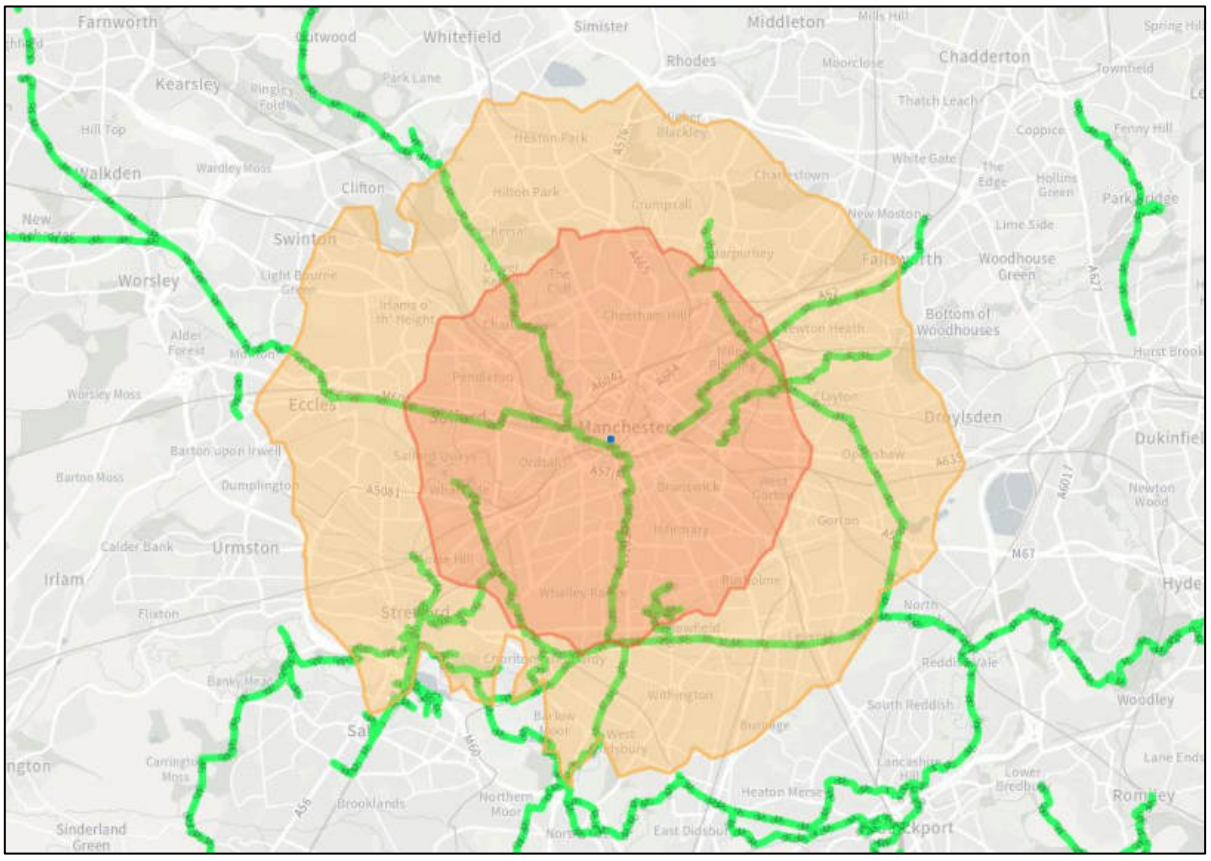


Figure 4.2 – Cycling Catchment

4.3.6 The 15-minute catchment encompasses Manchester and Salford City Centres including all key transport links, shopping centres, bars, restaurants, leisure centres, tourist attractions and places of worship. The catchment also extends as far as Higher Broughton to the north, Beswick to the east, Whalley Range to the south, and Weaste to the west. The 25-minute catchment extends further north to Heaton Park, east to Gorton, south to West Didsbury, and west to Eccles.

4.3.7 Cyclists can access Routes 6, 66, and 55 of the NCN from Manchester and Salford City Centres, in addition to Route 60 within the 5.5km cycle catchment.

4.3.8 Route 6 runs from Watford in London to Windermere in the Lake District (more locally, Route 6 connects Manchester City Centre to Chorlton); Route 60 connects North and East Manchester, partly following the Fallowfield Loopline; Route 66 begins in Manchester, extending to Spurn Head, via Bradford, Leeds, York, and Kingston upon Hull; and Route 55 is still under construction, but the accessible stretch runs on-road to Eccles and traffic-free to Tyldesley.

4.3.9 Low 20mph speed limits throughout much of Manchester city centre, along with existing cycle infrastructure, including a National Cycle Network Route, allows easy cycle access to Great Northern Warehouse. The local cycle network in the vicinity of the Site is shown in **Figure 4.3** below:



Figure 4.3 – Local Cycle Network
(Source: TfGM, 2022)

4.3.10 The local cycle network shown above is also a part of Greater Manchester's cycling and walking infrastructure proposal, named the "Bee Network". The Bee Network comprises signed routes that mark the most direct and pleasant way to navigate an area on foot or by bike. The Site is in close proximity to the Beeways network and proposed future improvements (i.e. the New Bailey connection to Salford Central station and the Victoria North/Eastern Gateway route through Ancoats.). The existing network is shown in **Figure 4.4** below.

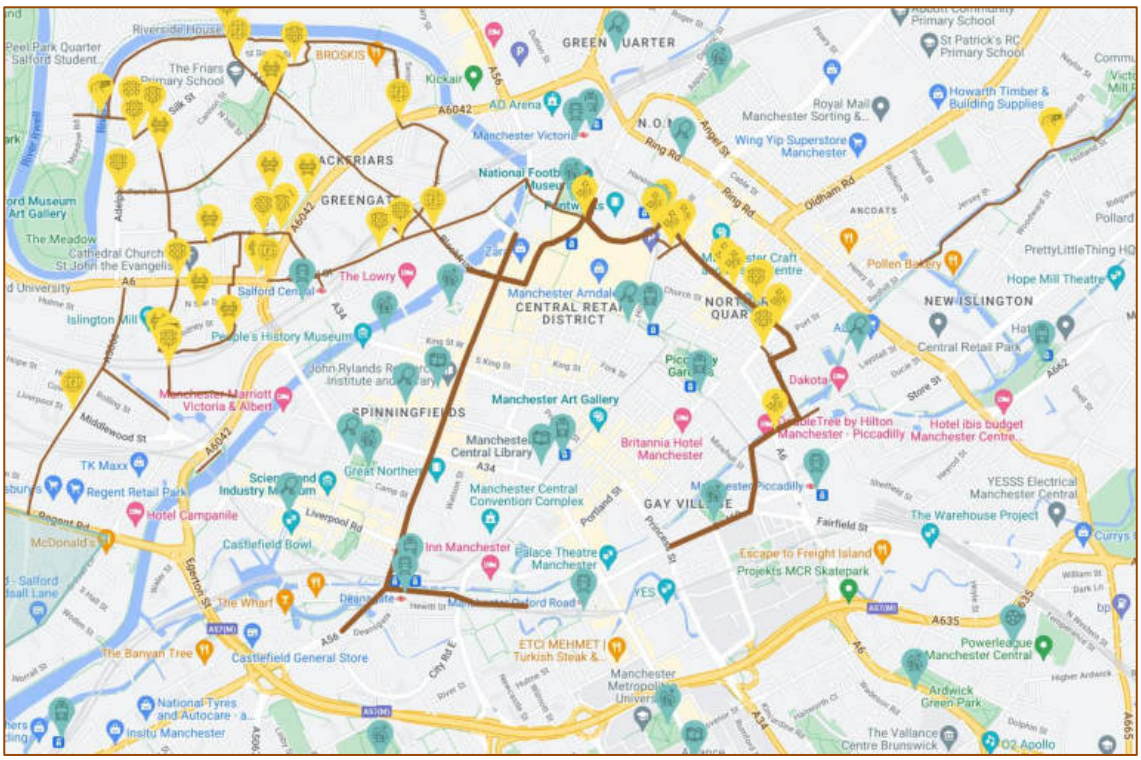


Figure 4.4 – Bee Network Map
(Source: TfGM, 2022)

4.3.11 Most notably, Manchester City Council is developing plans to improve the 'City Centre Triangle' with improved, physically segregated cycling facilities. TfGM describes it as: *"part of a key route linking various radial routes across and around the regional centre connecting to major trip attractors. This scheme aims to create an easier, safer and more attractive route for people to move between Piccadilly, Victoria and Deansgate stations, and to link into other walking and cycling routes. It focuses on areas not already covered by other walking and cycling improvement schemes (along Deansgate, and in the Northern Quarter)."*

4.3.12 Transport for Greater Manchester, working in partnership with Manchester City Council, Salford City Council and Trafford Council, has launched Greater Manchester's first publicly operated, self-service, 24/7 cycle hire scheme. Hire bikes are now available from multiple stations across Oxford Road, the University of Salford and at MediaCity – making cycling a real option for commuters, cross city travellers and students. The scheme is being roll out in stages and will see 1,500 bikes - including e-bikes, available to the public from August 2022 – eventually expanding to cover the following area:

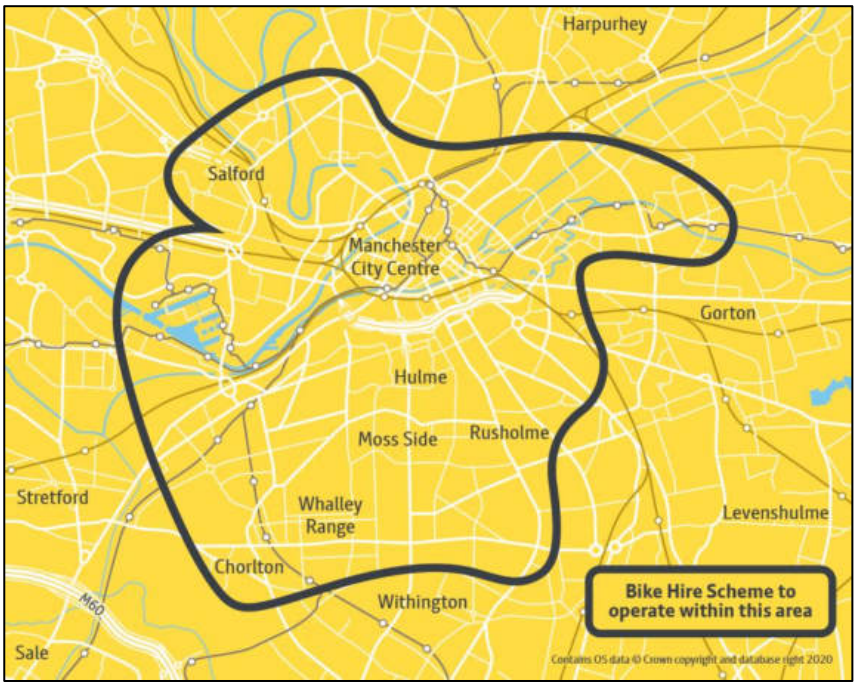


Figure 4.5 – TfGM Cycle Hire Future Boundary
(Source: TfGM, 2020)

4.3.13 The closest cycle hire stands are currently at Watson Street outside of the casino.

4.3.14 In summary, there are excellent opportunities for future Site users to make bicycle trips to a variety of land uses across Manchester city centre and Greater Manchester.

4.4 Accessibility by Public Transport

4.4.1 Developed by Transport for Greater Manchester (TfGM), Greater Manchester Accessibility Levels (GMAL) are a measure of the accessibility of a point to both the conventional public transport network (i.e. bus, Metrolink and rail) and Greater Manchester's Local Link (flexible transport service), considering walk access time, service availability, and average waiting time. The method is essentially a way of measuring the density of the public transport provision at any location within the Greater Manchester region.

4.4.2 The accessibility index score is categorised into eight levels (1 to 8), where level 8 represents a high level of accessibility (described as 'excellent') and level 1 a low level of accessibility (described as 'very poor'). The Site is located in an area with a GMAL rating of 8 and is considered appropriately situated to take advantage of existing public transport infrastructure within Manchester city centre and Greater Manchester.

4.4.3 The National Model Design Code – Part 2 (DLUHC, 2021) states: *"Generally, people are prepared to walk further to a railway station or tram stop (10 minutes) [800m walking distance] than to a bus stop (5 minutes) [400m walking distance]."* These times and distances are also cited in the CIHT document

'Planning for Walking' (2015). This equates to a walking speed of 80m per minute (1.34m/s) – equivalent to the average walking speed of 79m per minute (1.31m/s) in 2019 that can be calculated from the National Travel Survey statistics (Table NTS0303).

4.4.4 Accessibility by bus, rail and Metrolink are considered further below:

Bus Accessibility

4.4.5 Further CIHT guidance – from *'Buses in Urban Developments'* (2018) – indicates that a bus stop should be located within the following walking distances from a new development based on its location and the number and frequency of services:

Situation	Maximum Walking Distance (m)
Core bus corridors with two or more high-frequency services	500
Single high-frequency routes (every 12 minutes or better)	400
Less frequent routes	300
Town/city centres	250

Table 4.3 – CIHT Maximum Suggested Walking Distances to Bus Stops

4.4.6 From the midpoint of the Site, via the Deansgate pedestrian entrance stairs, pedestrians can reach the Sovereign House bus stop on Deansgate within 250m and 'Mount Street' on Peter Street within 410m. All routes of the free bus, a service providing direct access across key city centre locations, stop at these locations. The free bus routes and frequencies are detailed in **Figure 4.6** below:

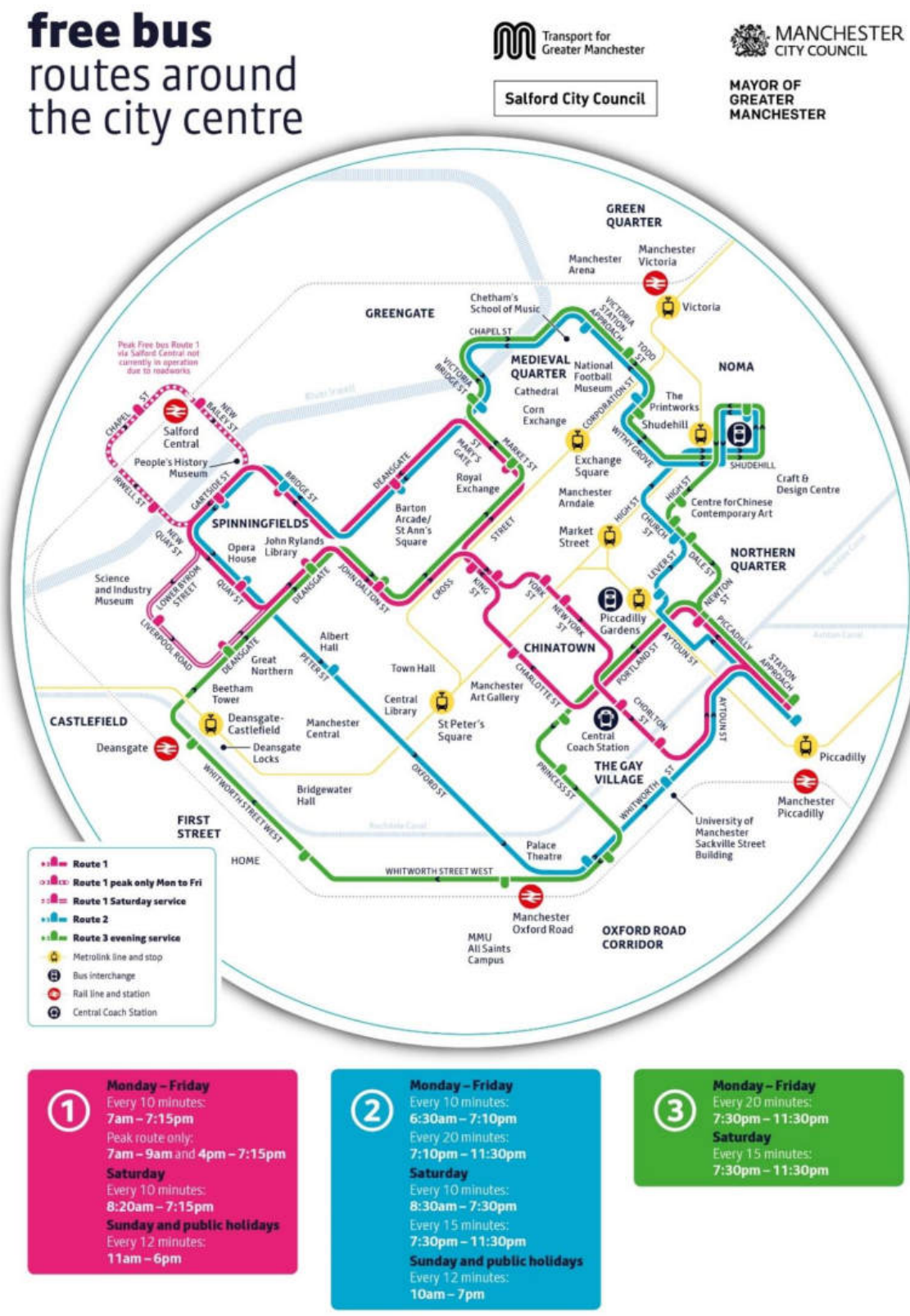


Figure 4.6 – Free Bus Route and Timetable
(Source: TfGM, 2021)

4.4.7 The 'Edwardian Hotel' stop on Peter Street and 'Watson Street' stop on Great Bridgewater Street are also available within 330m and 320m, respectively. These are outside the 250m walking distances for city centres.

4.4.8 The development will provide a pedestrian access onto Watson Street which will reduce the walking distance to 320m, 250m, and 210m for the 'Mount Street', 'Edwardian Hotel', and 'Watson Street' stops, respectively.

4.4.9 'Mount Street' would be the only bus stop outside the acceptable walking distance, as outlined by the CIHT for city centres, however this is within the DLUHC guidance, and it is considered that people will be willing to walk further for a free service.

4.4.10 **Table 4.4** details the services that call at these stops, and their associated frequencies:

Bus Service	Route	Peak Hourly Frequency		
		Mon – Fri	Sat	Sun/Hols
From 'Edwardian Hotel' (330m, reducing to 250m):				
191	Manchester – Stockport – Hazel Grove	4 services in PM to Hazel Grove c. 3 services per hour to Manchester 6am-9am and hourly in PM to Manchester	–	–
197	Manchester – Universities – Stockport	2	2	–
From 'Watson Street' (320m, reducing to 210m):				
33	Manchester – Eccles – Worsley	2	2	1

Table 4.4 – Summary of Bus Service Frequencies in the vicinity of the Site

4.4.11 Routes 191 and 197 terminate at Albert Square, which is currently under renovation. It is possible that increased services will be timetabled once this has been completed in 2024

4.4.12 Furthermore, at the Sovereign House bus stop on Deansgate and the Mount Street stop on Peter Street, all routes of the Free Bus stop.

4.4.13 It is noted that the provision of bus services will change over time in response to current circumstances.

Rail Accessibility

4.4.14 The nearest train station is Deansgate, located approximately 400m south of the Site, via the existing Deansgate pedestrian entrance stairs. A summary of rail services from the station is summarised in **Table 4.5:**

Destination	Hourly Frequency		
	Mon – Fri	Sat	Sun/Hols
Bolton to Alderley Edge via Stockport Bolton to Manchester Airport	1 1	1 1	– 1
Manchester to Southport via Bolton and Wigan – Southport	1 in PM to Southport 1 per hour to Manchester	1 in PM to Southport 1 per hour to Manchester	–
Liverpool to Manchester Piccadilly via Warrington Central	2	2	1
Blackpool North to Manchester Airport	1	1	1

Table 4.5 - Summary of Rail Services from Deansgate Train Station

4.4.15 In addition to the locations noted above, the routes also serve key local destinations such as Bolton, Wigan, Preston, Buxton, Birchwood, Widnes and Warrington.

4.4.16 In addition to Deansgate, Manchester Oxford Road, Manchester Victoria and Manchester Piccadilly facilitates for journeys to destinations further afield such as Leeds (1 hour), Liverpool (40 mins), London Euston (c.2hr 10min), Nottingham (c.1hr 45min), Norwich (c.4hr 30min), Hull (c.1hr 55min), and Sheffield (c.50min). All stations are connected to Deansgate via the Metrolink.

Metrolink (Light Rail)

4.4.17 The Deansgate-Castlefield and St Peter's Square Metrolink stops are a c. 400m and 600m walking distance, via the existing Deansgate pedestrian entrance stairs. These both lie within the 800m recommended distance.

4.4.18 Proposals for a new staircase and lift to access Deansgate-Castlefield from Great Bridgewater Street would reduce the walking distance between the Site and the Metrolink stop.

4.4.19 The following services call at both these stops:

- East Didsbury – Shaw and Crompton;
- East Didsbury – Rochdale Town Centre;
- Manchester Airport – Victoria;
- Altrincham – Bury;
- Altrincham – Piccadilly; and

- Eccles – Ashton-under-Lyne.

4.4.20 All lines run at a frequency of every 12 minutes between 06:00 – 00:00 on Mondays to Saturdays, and 07:00 – 00:00 on Sundays. Some lines only operate during peak hours, for example:

- Green Line (Altrincham to Bury): 07:00 – 20:00 on Mondays to Fridays and 09:00 – 18:30 on Saturdays. Outside these hours, use the Purple (Altrincham to Piccadilly) and Yellow (Piccadilly to Bury) Lines.
- Grey Line (East Didsbury to Shaw and Crompton): 07:00 – 20:00 on Mondays to Fridays and 09:00 – 18:30 on Saturdays. Outside these hours, use the Pink Line (East Didsbury to Rochdale Town Centre).

4.4.21 The start and end times for specific stations will change over time in response to current circumstances. The Metrolink frequencies are accurate at the time of writing, whereas up-to-date times can be found on the Metrolink website at: https://tfgm.com/public-transport/tram/tram-schedule.

4.4.22 Users can change at Cornbrook to access services on the Trafford Park line, as shown in the Metrolink map in **Figure 4.7**.

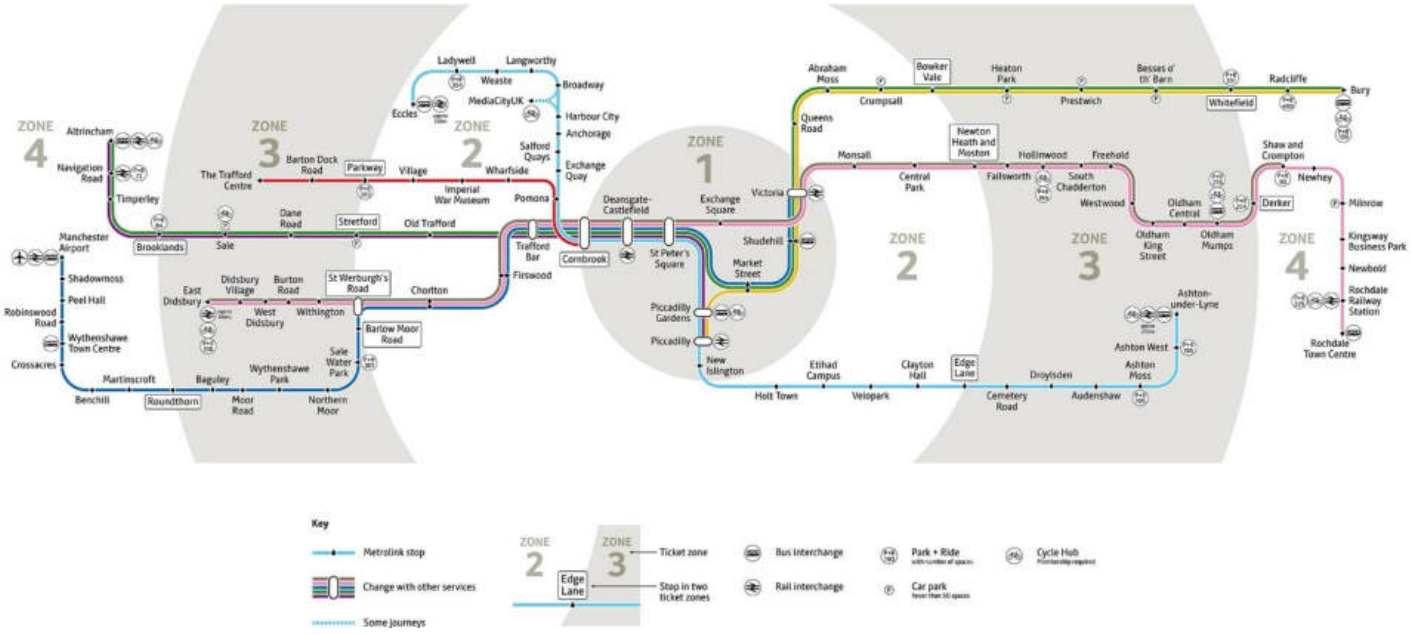


Figure 4.7 – TfGM Metrolink Network Map
(Source: TfGM, 2022)

4.4.23 In summary, it is considered the Site is highly accessible by Metrolink (light rail).

BREEAM Public Transport Accessibility Index (AI)

4.4.24 Guidance from the BREEAM UK New Construction 2018 consultation also states that Transport Assessments and Travel Plans should include reporting on the public transport accessibility (i.e. Tra 01

– proximity to train, bus etc. stops and frequency of services) to obtain credits. This includes calculation of the Accessibility Index (AI) of the Site.

4.4.25 The methodology for calculating the AI uses Transport for London's Public Transport Accessibility Level (PTAL) method, itself based on a methodology developed in 1992 by the London Borough of Hammersmith and Fulham. The GMAL methodology is also derived from the PTAL approach but modified to consider flexible transport service provision (Local Link) and to reflect local service provision levels (different accessibility levels) within Greater Manchester.

4.4.26 Based on previous experience and guidance from the BREEAM Knowledge Base, it is considered that GMAL index scores can be used interchangeably as the AI of the Site to demonstrate compliance against BREEAM.

4.4.27 The Site is located in an area with a GMAL rating of 8 as mentioned earlier, with a further GMAL index score of 72.38.

4.5 Summary

4.5.1 It is considered the Site is highly accessible by sustainable modes of transport, which are also usable by those with limited mobility and are wheelchair accessible. The surrounding area exhibits excellent levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the Site.

5.0 Building Research Establishment Environmental Assessment Method (BREEAM) Compliance

5.1 Introduction

5.1.1 The office component of the development has been assessed against BREEAM UK New Construction 2018 standards which seeks to demonstrate compliance by obtaining a suitable number of credits.

5.2 Results

5.2.1 The assessment categories pertaining to traffic and transport, the relevant sections of this report where compliance has been assessed, and the credits they obtain, are summarised in **Table 5.1** below:

BREEAM Category	Description	Signposts	No. of Credits
Tra 01	**Transport Assessment and Travel Plan:** 1. No later than Concept Design stage, undertake a Site-specific transport assessment (or develop a travel statement) and draft travel plan, which can demonstrably be used to influence the Site layout and built form.	This document	**2**
	2. The Site-specific travel assessment (or statement) shall cover as a minimum:		
	• If relevant, travel patterns and attitudes of existing building or Site users towards cycling, walking and public transport, to identify relevant constraints and opportunities;	Section 6 of TS	
	• Predicted travel patterns and transport impact of future building or Site users;	Section 6 of TS	
	• Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors;	Section 2 of TS	
	• Reporting of the number and type of existing accessible amenities within 500m of the Site;	Section 4 of TS	
	• Disabled access accounting for varying levels and types of disability, including visual impairment;	Section 2 of TS	
	• Calculation of the existing public transport Accessibility Index (AI); and	Section 4 of TS	
	• Current facilities for cyclists.	Section 2 of TS	
	3. Following a transport assessment (in accordance with the requirements set out in criteria 2), develop a Site-specific travel plan that provides a long-term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation.	Framework Travel Plan (FTP) (Document Reference: 80483-CUR-XX-XX-T-TP-00002)	
	4. If the occupier is known, involve them in the development of the travel plan.	TBC	

BREEAM Category	Description	Signposts	No. of Credits
	5. Demonstrate that the travel plan will be implemented and supported by the building's management in operation.	Section 9 of FTP	
Tra 02	**Sustainable Transport Measures:**		
	1. Prerequisite: Achieve criteria 3–5 in the Tra 01 Transport Assessment and Travel Plan credit.	This document	
	2. Identify the sustainable transport measures as per Table 7.4 in BREEAM guidance.		*Points:*
	• The existing AI calculated in Tra 01 ≥ 8;	Section 4 of TS	*1*
	• Demonstrate an increase over the existing Accessibility Index through negotiation with local bus, train or tram companies to increase the frequency of the local service provision for the development; OR	Not achieved, not required considering existing Site's excellent accessibility	*0*
	• Demonstrate an increase over the existing Accessibility Index. This could be through provision of a diverted bus route, a new or enhanced bus stop, or other similar solutions; OR		
	• Provide a dedicated service, such as a bus route or service.		
	• Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities;	Section 7 of FTP	*1*
	• Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development;	Section 3 of TS	*1*
	• Set up a car sharing group or facility to facilitate and encourage building users to car share; AND		
	• Raise awareness of the sharing scheme with marketing and communication materials; AND	Not achieved, development is located close to existing car club spaces	*0*
	• Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development; AND		
	• Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.		
	• During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it; AND	Not achieved, development is located centrally	*0*
	• Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.		
	• Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 (sliding scale of compliance used as development comprises over 200 users);	Section 3 of TS	*1*
	• The above has been achieved; provide at least two compliant cyclists' facilities for the building users (showers, changing facilities, lockers, drying spaces);	Section 3 of TS	*1*

BREEAM Category	Description	Signposts	No. of Credits
	Existing amenities: • At least three existing accessible amenities are present;	Section 4 of TS	*1*
	Enhanced amenities: • Ensure a minimum of one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided; OR • Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided. • Implement one Site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan. Submit this for review by BRE. 3. Award credits according to the existing Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3 of BREEAM guidance.	Section 3 of TS; retail units Section 7 of FTP, pending BRE review (see para 5.1.4) Site AI: 72.38 Points achieved under criteria 2: 8	*2* **10**
Total Transport Credits Obtained			**12**

Table 5.1 – BREEAM Credits Targeted

5.2.2 Other relevant considerations in a BREEAM-compliant report include the following, with the compliance of the proposed development to these considerations outlined next to the criteria:

- **Lighting, landscaping and shelter to create pleasant pedestrian and public transport waiting areas** – Pleasant pedestrian environments will be delivered within the Site as part of proposed development, public transport waiting areas will not be delivered within the Site due to existing infrastructure that is already available in the vicinity of Deansgate;
- **Restrictions or charging for car parking** – Vehicles will be charged for parking;
- **Pedestrian and cyclist friendly (for all types of user regardless of the level of mobility or visual impairment) with the provision of cycle lanes, safe crossing points, direct routes, appropriate tactile surfaces, good lighting and signposting to other amenities, public transport nodes and adjoining off-Site pedestrian and cycle routes** – Direct routes, appropriate surfaces, lighting and signposting will be delivered within the Site as part of proposed development. Safe crossing points and cycle lanes out of the Site will not be delivered due to the presence of existing and proposed infrastructure in the vicinity of Deansgate; and
- **Ensure rural buildings have appropriate access to transport to serve the local community adequately (where procured to do so, e.g. community centre)** – Not applicable as development is located within the city centre.

5.2.3 A key part of the Framework Travel Plan (FTP) will be monitoring, whereby travel surveys will be distributed to staff at the development to understand travel habits. Recipients will be encouraged to participate, and the surveys would extract key information such as place of residence, usual mode of

travel and reason for modal choice, attractiveness of and barriers to active and sustainable modes of travel, and any incentives that could encourage staff to travel more sustainably. The findings will provide information on reasons for travel patterns and attitudes of Site users to identify relevant constraints and opportunities.

5.2.4 The FTP includes Travel Information Packs as an initiative to encourage sustainable travel, which would be a Site-specific improvement measure in line with the aims, objectives, and recommendations of the Travel Plan.

6.0 Highway Impact

6.1 Introduction

6.1.1 The following section provides details of the potential highway impact associated with the proposed development.

6.2 Existing Traffic Generation

6.2.1 The Site currently comprises 1,240 publicly available car parking spaces which serve the surrounding area and the uses that currently exist at the Great Northern Warehouse and Leisure Box.

6.2.1 As set out in Section 2, Curtins commissioned traffic surveys at the access into the two NCP car parks from Watson Street between the hours of 0700 and 1900 on the 30th March 2022. The full results are included in **Appendix C.**

6.2.2 The car park access surveys demonstrated that during the 12 hour period there were 1025 arrivals and 846 departures associated with the car parks.

6.2.3 During the 0800 to 0900 AM peak period there were circa 207 arrivals and 28 departures equating to 235 total two-way movements associated with the car parks.

6.2.1 During the 1700 to 1800 PM peak period there were circa 67 arrivals and 146 departures equating to 213 total two-way movements associated with the car parks.

6.2.2 In addition to the car parks, there were a number of other vehicles accessing the servicing areas, but this equated to 4 vehicles in the AM peak and 1 vehicle in the PM peak.

6.2.3 Some of the above traffic will be associated with nearby uses such as offices, but a proportion will also relate to the Leisure Box, Terraces and Warehouse including the cinema and other leisure uses.

6.2.4 Whilst it is not possible to determine the purpose of each vehicle currently accessing the Site, it is considered reasonable to assume that at least 25% of the peak hour traffic is associated with staff and visitor movements either at the Leisure Box cinema or other leisure uses within the Leisure Box. Circa 25% of existing peak period movements would equate to circa 59 trips in the AM and circa 53 trips in the PM. Service vehicles would be in addition to this as would the removal of any taxis servicing the cinema.

6.2.5 In the evening period, the movements associated with the leisure uses and cinema may be higher.

6.2.6 These movements would be removed from the network as part of the development proposals.

6.3 Forecasted Trip Generation

6.3.1 The proposed development predominantly consists of 746 new residential apartments and circa 19,926m² GIA of commercial office space spread across the Deansgate Terraces and Great Northern Warehouse. There are ancillary retail, leisure and F&B uses, but these are not expected generate significant quantum of peak hour trips.

6.3.2 The traffic generating potential of each use is provided under each subheading below. In order to undertake the assessment, the TRICS database has been used. TRICS is the industry recognised tool for calculating the anticipated future trip demand of a proposed development. The database contains multi-modal surveys of varying land uses in multiple destinations across the UK, including office land uses.

6.3.3 Whilst TRICS is the industry recognised tool for calculating the anticipated future trip demand of a proposed development, it must be noted that many of the office Sites are not directly comparable to modern offices or residential developments located in highly sustainable areas of Manchester City Centre.

Residential Generation

6.3.4 The level of trips generated by the residential element has been derived using peak hour trip rates obtained from surveys of schemes of a similar size and nature to that proposed, from within the 'Residential – Flats Privately Owned' category of the TRICS database.

6.3.5 The retail uses at ground floor would be ancillary to the residential uses and form a minor part of the development traffic. It is considered that the vast majority of trips to these elements will be either linked trips as residents visit shops before / after work, or pass-by trips as other people travel by the Site on an alternative trip. As such, trips generated by these uses have not been calculated.

6.3.6 The search criteria used in the TRICS database are presented in **Appendix D**, from which the total trip rates can be calculated. These are summarised in **Table 6.1** below. All trip rates are per 1 dwelling:

Trip Rate Mode	Average TRICS Trip Rates AM (08:00 – 09:00)				Average TRICS Trip Rates PM (17:00 – 18:00)			
	Arrive	Depart	Total	Modal Split (%)	Arrive	Depart	Total	Modal Split (%)
Vehicles	0.054	0.177	0.231	38%	0.174	0.098	0.272	43%
Cyclists	0.002	0.011	0.013	2%	0.008	0.004	0.012	2%
Pedestrians	0.021	0.085	0.106	17%	0.075	0.067	0.142	22%
Public Transport	0.011	0.115	0.126	21%	0.075	0.01	0.085	13%

Table 6.1 – Proposed Multi-Modal Trip Rates and Split

6.3.7 From **Table 6.1** above, the total number of trips that could be generated can be calculated. This is provided in **Table 6.2**:

Trip Rate Mode	Trip Generation AM (08:00 – 09:00)			Trip Generation PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	41	133	**174**	131	74	**205**
Cyclists	2	8	10	6	9	15
Pedestrians	16	64	80	56	50	106
Public Transport	8	86	94	56	8	64

Table 6.2 – Proposed Trip Generation (746 dwellings)

6.3.8 The number of vehicle trips generated by the proposed residential development could equate to 174 and 205 two-way movements respectively in the normal AM and PM peak periods (08:00 – 09:00 and 17:00 – 18:00).

6.3.9 However, this is considered to be a significant overestimation and when the TRICS data is reviewed it reveals that none of the Sites are particularly relevant to a highly accessible Site in Manchester city centre with limited parking provision.

Sensitivity Test – TRICS Person Data Combined with Census Data

6.3.10 The TRICS analysis also includes the total person trip rate associated with a development. This is shown in **Table 6.3** below:

Residential	Trip Generation AM (08:00 – 09:00)			Trip Generation PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
TRICS Person Trip Rates (per 1 dwelling)	0.100	0.512	0.612	0.429	0.211	0.640
Trip Generation (746 dwellings)	75	384	**459**	322	158	**480**

Table 6.3 – TRICS Person Trip Rates – Residential

6.3.11 The number of person trips generated across all modes by the proposed residential development could equate to 459 and 480 two-way movements respectively in the normal AM and PM peak periods (08:00 – 09:00 and 17:00 – 18:00).

6.3.12 The 2011 Census dataset 'WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level)' has been consulted to derive the likely modal split of residents at the Site travelling to work. The middle super output area (MSOA) of Manchester 060 where the Site is located has been used as the place of residence.

6.3.13 The mode of travel to work data extracted from the output areas is summarised in **Table 6.4**:

Mode of Travel to Work	Number	Percentage
Work mainly at or from home	0	0%
Underground, metro, light rail or tram	125	4%
Train	193	6%
Bus, minibus, or coach	166	5%
Taxi	10	0%
Motorcycle, scooter or moped	1	0%
Driving a car or van	896	28%
Passenger in a car or van	54	2%
Bicycle	62	2%
On foot	1638	52%
Other method of travel to work	9	0%
Total		**100%**

Table 6.4 – 2011 Census Method of Travel to Work

6.3.14 **Table 6.4** confirms that the mode share for car drivers is c. 28%. As such, there could be c. 128 and 134 two-way vehicular trips in the AM and PM peak hours respectively, the remainder travelling by sustainable modes of transport.

6.3.15 However, Curtins is of the view that this is still too high and this is evidenced by the fact that the data suggests no one works at home. It is commonly reported that a proportion of the working population are now working from home, for at least a proportion of their week, following the COVID-19 pandemic. The emergence of trends such as home working, hybrid working, flexible working and peak spreading are potential outcomes that would reduce travel demands during peak hours.

6.3.16 The modal share has been derived by using 2011 Census data, which should be referenced with discretion on the basis that travel patterns have shifted significantly in Manchester City Centre and across the whole of the UK since then. Public transport and cycle infrastructure in Greater Manchester have also improved significantly since 2011, with the expansion of the Metrolink network and the Ordsall Chord bridge, all of which allow for more trams / trains to run across the whole of Greater Manchester and the North.

6.3.17 To further support this, reference is also made to a guidance note produced by TRICS in July 2019 which cautions against over estimating trip demand. The guidance note provides compelling evidence suggesting that there has been a significant decline in car trip rates in recent years (from c. 58% of trips to employment / office Sites nationwide made by car between 2009 – 2013, to c. 50% between 2014 – 2018).

6.3.18 There has also been a significant increase in pedestrian trips and public transport trips (from c. 33% of trips to employment / office Sites nationwide made on foot and by public transport between 2009 –

2013, to c. 41% between 2014 – 2018). These figures are national averages in a mixture of locations and do not reflect the highly accessibility of the proposed development in the city centre, which is likely to demonstrate greater uptake of public transport and sustainable modes of travel.

6.3.19 **Section 4** has also demonstrated that the Site is highly accessible by sustainable modes of transport. The surrounding area exhibits excellent levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the Site.

6.3.20 In January 2021, Transport for Greater Manchester (TfGM) published the Greater Manchester Transport Strategy 2040, which is focused around improving the reliability of public transport and local cycling and walking connections so that fewer people would need to drive to work. The following excerpts from the Greater Manchester Transport Strategy 2040 address the change in travel patterns in recent years, along with plans for the future:

"Page 47, under 'Future role of the car' – *Many younger people no longer see car ownership, or indeed a driving licence, as essential. Growing, ageing and more affluent populations will also choose different ways to travel. The growth of car clubs, the advent of app-enabled taxi despatch companies, and the use of social media to arrange shared transport can provide transport on demand without the costs and responsibilities of car ownership and will help to shift attitudes over time. This provides a great opportunity to develop a more integrated and flexible transport system which responds to the changing needs of Greater Manchester's residents and businesses;* and

Page 62, under 'Public Transport Integration: Keeping Greater Manchester Moving in 2040' – *Improved public transport will need to play a major role in delivering Greater Manchester's sustainable growth agenda up to 2040. An attractive, efficient and well-integrated public transport network is an essential element within the city-region's infrastructure and at the heart of the Our Network vision. Together with active travel, it can provide the significantly enhanced connectivity that our city-region requires for success. It can encourage growing numbers of people out of their cars for more of their journeys (helping to reduce emissions and congestion), and it can provide access to employment, education and opportunities for the third of households without access to a car. Crucially, however, our approach also opens the way for a future where car ownership is not considered essential, and residents can choose from a range of sustainable and efficient travel options – public transport, ride sharing, car sharing/hire, walking, cycling or taxi.*"

6.3.21 There is also a sub-strategy to the Greater Manchester Transport Strategy 2040, titled 'City Centre Transport Strategy to 2040'. The central aim of the strategy is for *"90% of all morning peak trips to the city centre to be made on foot, by cycle or using public transport before 2040, with walking to become the predominant mode of travel* within *the city centre."* The following excerpts from the City Centre Transport Strategy 2040 address the change in travel patterns in recent years, along with plans for the future:

"Page 21 – *In 2002 cars represented 37% of all journeys into the city centre in the morning peak, with almost 32,000 cars crossing the Manchester-Salford Inner Relief Route. Proposals in the last [City Centre Transport] strategy, including enhanced public transport and cycling provision, resulted in the number of cars entering the city centre falling to less than 23,000, or around 21% of all journeys;*

Page 40, under "Ambition 5: Parking in the city centre is smarter and integrated with other modes" – *We want to ensure that car parking in the city centre is effectively managed. This means… Providing residents with access to shared vehicles for essential use rather than encouraging car ownership;* and

Page 70, under "Management of our city centre car parks" – *The change from a carbon and car-based economy to a low carbon one is likely to see a change from a car ownership model to a car sharing model with people viewing mobility rather than ownership as the key.*"

6.3.22 In summary, whilst the analysis suggests the residential uses could generate an additional 128 and 134 two-way trips by private vehciles, this is highly unlikely to occur for all of the reasons set out above.

6.3.23 It must also be stressed that even if this level of traffic did occur, they would not strictly be new trips, on the basis that the existing car park has a total of 1,240 spaces and therefore could generate this level of trips without any requirement for planning approval for the Proposed Development.

Office Uses

6.3.24 The proposed offices will have no dedicated parking and therefore will not directly generate any car trips, with the exception of taxis.

6.3.25 However, the potential level of trips that could be generated by the office elements has been derived using peak hour trip rates obtained from the 'office category of the TRICS database. The full search criteria used in the TRICS database are presented in **Appendix E**. **Table 6.5** below summarises this. Note that due to the exclusion of some modes (i.e. taxis and other modes of travel), the modal split does not add to 100%. For robustness and to cover a worst-case scenario, a higher GFA of 23,300m² has been used. All trip rates are per 100m² GFA.

TRICS	Average TRICS Trip Rates AM (08:00 – 09:00)				Average TRICS Trip Rates PM (17:00 – 18:00)			
	Arrive	Depart	Total	Modal Split (%)	Arrive	Depart	Total	Modal Split (%)
Vehicles	0.459	0.047	0.506	35	0.047	0.38	0.427	24
Cyclists	0.221	0	0.221	15	0	0.182	0.182	10
Pedestrians	0.324	0.008	0.332	23	0.04	0.554	0.594	34
Public Transport	0.364	0	0.364	25	0	0.49	0.49	28

Table 6.5 – Multi-Modal Office Trip Rates and Split

6.3.26 From **Table 6.5** above, the total number of trips that could be generated by the office uses can be found. This is provided in **Table 6.6**:

C. 23,300 sqm GIA	Trip Generation AM (08:00 – 09:00)			Trip Generation PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	106	10	**116**	11	87	**98**
Cyclist	50	0	50	0	42	42
Pedestrians	75	2	77	9	127	136
Public Transport	84	0	84	0	112	112

Table 6.6 – Office Trip Generation

6.3.27 TRICS vehicular trip rates estimate that the number of vehicle trips generated by the office uses of the Site could equate to 116 and 98 two-way movements respectively in the normal AM and PM peak periods (08:00 – 09:00 and 17:00 – 18:00).

Sensitivity Test – TRICS Person Data Combined with Census Data

6.3.1 The TRICS data also provided the person trip rates and trips as summarised below:

Office	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
	Arrive	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Person Trip Rate	1.408	0.024	1.432	0.079	1.684	1.763
Person Trips for c. 23,300 sqm (proposed)	324	6	329	18	387	405

Table 6.7 – Multi-Modal Sensitivity Test: Proposed Person Trips

6.3.2 **Table 6.7** confirms that the development could generate an additional 324 and 405 two-way person trips in the AM and PM peaks respectively.

6.3.3 A further sensitivity test has been undertaken utilising data based on the 2011 Census dataset 'WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level)'. The middle super output area (MSOA) of Manchester 060 has been used as the place of work, whereas the assumptions used for the places of residence include all ten Greater Manchester Local Authorities (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, and Wigan).

6.3.4 The Census data is referred to with discretion due to its datedness, however it remains the most comprehensive dataset available at the time of writing.

6.3.5 Notwithstanding, the development is car free in nature, and the typical demographic of staff are expected to favour travel by public transport, walking, cycling, or flexible working / working from home

on certain days of the week. Therefore, the mode share has been adjusted to account for the low car parking provision and redistributed across other modes, summarised in **Table 6.8**:

Mode of Travel to Work	Total	Percentage Mode Share	Adjusted Mode Share
Work mainly at or from home	0	0%	5%
Underground, metro, light rail or tram	1,198	7%	10%
Train	2,052	12%	15%
Bus, minibus, or coach	3,883	23%	26%
Taxi	63	0%	0%
Motorcycle, scooter or moped	99	1%	1%
Driving a car or van	5,833	35%	15%
Passenger in a car or van	694	4%	4%
Bicycle	465	3%	6%
On foot	2,260	14%	17%
Other method of travel to work	27	0%	0%
Total	**16,574**	**100%**	**100%**

Table 6.8 – Multi-Modal Sensitivity Test: Method of Travel to Work

6.3.6 **Table 6.8** determines that the mode share for car drivers is 15%, in contrast to up to 35% suggested by the TRICS assessment. The updated net trip generation for the development is summarised in **Table 6.9**, when the above mode share is applied to the person trip rates:

Net Impact	Trip Generation AM (08:00 – 09:00)			Trip Generation PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
Work mainly at or from home	16	0	16	1	19	20
Underground, metro, light rail or tram	32	1	35	2	39	41
Train	47	1	48	3	58	60
Bus, minibus, or coach	84	2	86	5	101	106
Taxi	1	0	1	0	1	1
Motorcycle, scooter or moped	1	0	1	0	1	2
Driving a car or van	48	1	49	3	58	61
Passenger in a car or van	9	0	9	1	15	16
Bicycle	19	0	19	1	23	24
On foot	55	1	56	3	66	66

Other method of travel to work	1	0	1	0	1	1

Table 6.9 – Multi-Modal Sensitivity Test: Offices

*Note that some numbers have been subject to rounding.

6.3.7 **Table 6.9** demonstrates that there could be an additional 49 two-way vehicle movements in the AM peak and 61 two-way vehicle movements in the PM peak as a result of the proposed office development.

6.3.1 In summary, the analysis suggests the office uses could generate an additional 49 and 61 two-way car trips.

6.3.2 These may park in the publicly available car park adjacent to the office, but it must also be stressed that even if this level of traffic did occur, they would not strictly be new trips, on the basis that the existing car park has 1,240 spaces and therefore could generate this level of trips without any requirement for planning approval.

Residential and Offices Uses Combined

6.3.3 The above results suggest that that the proposed residential uses and the office uses combined could generate circa 177 two-way trips in the AM peak period and circa 195 two-way trips in the PM peak period. This is a worst case assessment for all of the reasons set out in this section of the report.

6.4 Net Impact

6.4.1 To determine the peak hour net impact of the proposals, the traffic generated by the existing Leisure Box uses (as detailed in para 6.2.4) has been discounted from the residential and office use traffic generation utilising the sensitivity test data set out above.

6.4.2 On the above basis, the net impact in the AM peak hour could be 118 additional two-way vehicles and the net impact in the PM peak hour could be 143 two-way vehicles.

6.4.3 All of these vehicles would park in the modified car park and therefore they would not strictly be new trips, on the basis that the existing car park has consent for 1,240 spaces and therefore could generate this level of trips without any requirement for planning approval.

6.5 Highway Impact Conclusion

6.5.1 The existing car park consists of 1,240 spaces and therefore the actual traffic generating capacity is significantly higher than the usage figures set out in this report. All 1,240 spaces could be utilised multiple times per day as part of the existing scenario.

6.5.2 As the proposals reduce the car park to circa 929 spaces (762 publicly available spaces if the residential parking is discounted), the traffic generating potential will be a minimum of 311 spaces less than the base situation.

6.5.3 On the above basis, Curtins do not believe that capacity assessments would be required, and the highway network would not experience any adverse traffic impact when compared to the existing traffic generation potential of the Site.

7.0 Transport Planning Policy

7.1 Introduction

7.1.1 The following section sets out key local and national transport planning policies, and how the proposals relate to them.

7.2 National Planning Policy Framework (2021)

7.2.1 The National Planning Policy Framework (NPPF) sets out the current national transport planning policy and outlines the important role that transport policies have to play in facilitating sustainable development.

7.2.2 Paragraph 11 states that:

"Plans and decisions should apply a presumption in favour of sustainable development."

7.2.3 For decision taking this means granting permission unless:

"…*any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies*."

7.2.4 Section 9 of the NPPF is entitled *Promoting Sustainable Transport* and outlines the important role that transport policies have to play in facilitating sustainable development. The section states that:

"*The planning system should actively manage patterns of growth …Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.*"

7.2.5 The document emphasises the need for developments to offer a choice of sustainable modes of transport to *"reduce congestion and emissions, and improve air quality and public health"* and provide *"safe and suitable access"* for all users.

7.2.6 Paragraph 110 of the NPPF states that in assessing Sites that may be allocated for development in plans, or specific applications in development, it should be ensured that:

a) "appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) safe and suitable access to the Site can be achieved for all users;
c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

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

7.2.7 The development proposals have shown that safe and suitable access to the Site can be achieved, and it is not anticipated that the proposals would result in any significant impacts on the highway network.

7.2.8 Paragraph 111 of the NPPF states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe"

7.2.9 The previous section of this report demonstrates that the highway impact of the proposed development is negligible and the removal of circa 311 car parking spaces significantly reduces the trip generating potential of the Site.

7.2.10 Paragraph 112 of the NPPF states that applications for development should:

- *"give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."*

7.2.11 The proposed development is situated in an accessible location. There is good walking and cycling infrastructure adjacent to the Site, and public transport is accessible within an acceptable walking and cycling distance.

7.2.12 The proposed development accords with the general principles of the NPPF.

7.3 National Planning Practice Guidance (NPPG)

7.3.1 In addition to the NPPF, a National Planning Practice Guidance (NPPG) document has also been developed by the Ministry of Housing, Communities & Local Government in 2012, with a revised version in 2014. It brings together planning practice guidance for England and sits alongside the NPPF. Within

this document there is a specific section that clarifies the over-arching principles on Travel Plans, Transport Assessments and Transport Statements. The guidance states that:

"Travel Plans, Transport Assessments and Statements can positively contribute to:

- *Encouraging sustainable travel;*
- *Lessening traffic generation and its detrimental impacts;*
- *Reducing carbon emissions and climate impacts;*
- *Creating accessible, connected, inclusive communities;*
- *Improving health outcomes and quality of life;*
- *Improving road safety; and*
- *Reducing the need for new development to increase existing road capacity or provide new roads."*

7.3.2 The guidance on Transport Assessments and Statements re-iterates the circumstances in which either document would usually be required. It is clear that a development of the size and nature of this development requires a Transport Statement. It also clarifies the process for establishing a scope for what the documents should contain. The NPPG has been considered in the production of this TS and the accompanying Framework Travel Plan (Document Reference: **80483-CUR-XX-XX-T-TP-00002**).

7.3.3 As outlined above, this TS demonstrates that the Site is accessible by active and sustainable modes of travel, and that safe and suitable access can be gained to the development. The development proposals therefore apply the principles set out in the NPPG and will seek to create a sustainable development and make a positive contribution to the local area.

7.4 Manchester Core Strategy (2012 – 2027)

7.4.1 The Manchester Core Strategy promotes similar principles to the NPPF. It contains three specific "Transport" policies, comprising:

- Policy T1 – Sustainable Transport;
- Policy T2 – Accessible Areas of Opportunity and Need; and
- Policy T3 – Strategic Integration.

7.4.2 Policy T1 focuses on sustainable transport and access for all. The accessibility of the Site would encourage users of the proposed development to travel by sustainable modes.

7.4.3 Policy T2 of the Manchester Core Strategy states:

"The Council will actively manage the pattern of development to ensure that … Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development."

7.4.4 The development would benefit from sustainable transport links across the city centre. The Council notes that it "will take the circumstances of each proposal into account to establish what level of parking is appropriate."

7.4.5 Policy T3 is in relation to strategic integration of developments with the sustainable transport network. The proposed development would not prejudice the implementation of any of the strategic integration projects.

7.5 Greater Manchester Transport Strategy 2040

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

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

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

7.5.3 The above measures and additional initiatives have also been provided in greater detail in the accompanying Framework Travel Plan (Document Reference: **80483-CUR-XX-XX-T-TP-00002**).

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

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

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

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

7.6 Conclusions

7.6.1 It is considered that the proposed development is in line with national and local transport policies and guidance. The Site is located within an area which has a range of existing local facilities and plenty of sustainable travel choices.

8.0 Summary and Conclusions

8.1 Summary

8.1.1 Curtins has been appointed by GNW Developments Limited(the Applicant) to provide traffic and transport advice in relation to the Great Northern Redevelopment Application.

8.1.2 The proposals consist of:

- Refurbishment and reuse of the Great Northern Warehouse to provide office space and ground floor retail and leisure uses, including retention of the existing casino, bowling alley and restaurant.
- Conversion and alterations to the Deansgate Terrace to provide further office accommodation with ground floor retail and leisure space.
- A series of new and enhanced public spaces alongside a remodelled and reworked Great Northern Square to provide an enhanced amenity and experience for all users.
- Creation of at-grade routes between Deansgate Terrace and the Warehouse (Dean Street) and between Deansgate and Watson Street (Allport Street).
- Rationalised car parking (Leisure Box only) and the removal of vehicular ramps to the warehouse.
- Demolition of the existing Odeon Cinema and the creation of new homes within three residential buildings on top of the retained car parking structures. The new homes will benefit from a significant amount of external private amenity space at roof top level.
- Rationalised and de-engineered junctions and access routes onto Watson Street, combined with public realm enhancements and active frontages will create a street that encourages pedestrian movement into the wider city centre northwards from the Deansgate Castlefield transport interchange, and via the new vertical circulation from deck level onto Great Bridgewater Street, being provided as part of Viadux.
- Enhancements to Deansgate Mews as a destination for local independent retailers and local communities. This will be achieved by improving accessibility and providing weather protection to enhance user comfort in external amenity spaces.

8.1.3 A review of baseline conditions and highway safety in the vicinity of the Site has been undertaken. It is not considered that there is an existing highway safety issue that is likely to be exacerbated by the proposed development.

8.1.4 Relevant details of the proposed Site layout, access, parking facilities, and servicing arrangements have been provided.

8.1.5 The Site is accessible by sustainable modes of transport. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are several public transport opportunities within acceptable walking distance of the Site.

8.1.1 Trip generation forecasts using TRICS data and 2011 Census Journey to Work data have demonstrated that there is a negligible highway impact and the removal of circa 311 car parking spaces significantly reduces the trip generating potential of the Site.

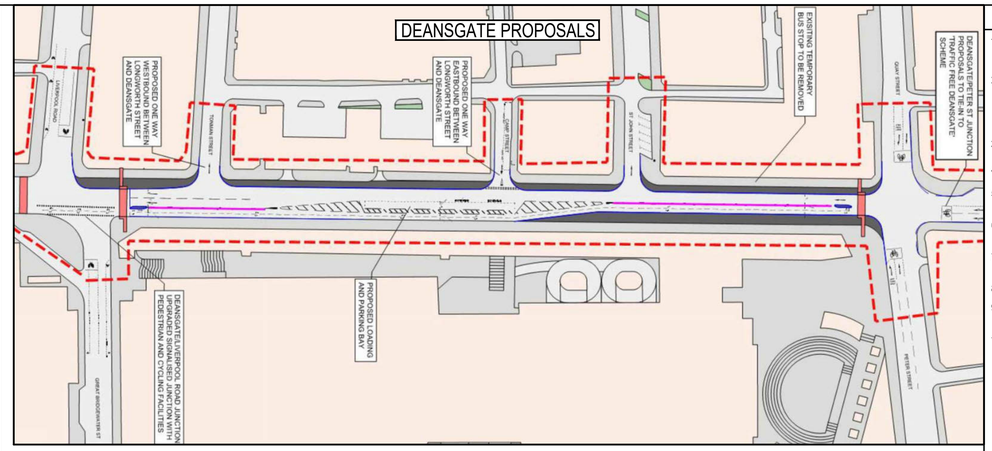
8.1.2 Additionally, measures are proposed in the accompanying Framework Travel Plan to increase the level of walking, cycling and public transport use to and from the Site, and to reduce reliance on the private car.

8.1.3 A review of relevant local and national transport planning guidance has been undertaken. It is considered that the proposed development conforms with such policy.

8.2 Conclusions

8.2.1 From a traffic and transportation perspective there are no reasons why the development proposals should not be granted planning approval.

Drawings



IT IS NOTED THAT THERE ARE PROPOSALS TO CONVERT DEANSGATE INTO A ONE-WAY STREET SOUTHBOUND. IT IS CONSIDERED THAT THE PROPOSALS ARE COMPATIBLE WITH THE PROPOSED DEVELOPMENT (SEE DEANSGATE PROPOSALS INSET)

EXISTING LOADING BAY (3x10m)

EXISTING LOADING BAY (3x16m)

PROPOSED SERVICE AREA

PROPOSED TURNING HEAD

12m LONG WAITING SPACE TO ACCESS SERVICE AREA

PROPOSED BARRIER TO CONTROL ACCESS TO SERVICE AREA

STOP

ACCESS TO CAR PARK

PROPOSED ACCESS TO CAR PARK AND SERVICE AREA

PROPOSED INFORMAL ROUTE FOR MAINTENANCE AND OCCASIONAL LOADING ACCESS (TO BE MANAGED)

PROPOSED LOADING BAY (2.7x13.5m)

PROPOSED LOADING AND DROP-OFF AREA (2.7x14m)

PROPOSED LOADING AND DROP-OFF AREA (2.7x18.5m)

MINIMUM 2.5m FOOTWAY TO BE MAINTAINED

PROPOSED 5.5m WIDE CARRIAGEWAY

PROPOSED SHARED SPACE, WITH TURNING AREA WITHIN. TURNING AREA TO BE HIGHLIGHTED WITH DIFFERENT MATERIALS OR COLOURS

PROPOSED SIGNAL CONTROLLED PEDESTRIAN CROSSING COMPLETE WITH DROPPED KERBS AND TACTILE PAVING AS PER VECTOS DRAWING REF.: 'SVA-VEC-0-P1-DR-CH-0100'

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
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5. THE CONTENT OF THIS DRAWING IS FOR INDICATIVE INFORMATION ONLY AND NOT SUITABLE FOR CONSTRUCTION PURPOSES.
6. LAYOUT BASED ON SIMPSON HAUGH'S DRAWING REF.: '10422-SHP-Z0-A-B5D9-G100-PL-00-001-P01'
7. LANDSCAPE BASED ON PLANIT'S DRAWING REF.: '2891-PLA-XX-00-DR-L-0001-P04'
8. BASED ON LAND SURVEY WHERE AVAILABLE
9. GREAT BRIDGEWATER STREET / WATSON STREET JUNCTION BASED ON VECTOS' DRAWING REF.: 'SVA-VEC-0-P1-DR-CH-0100'
10. DEANSGATE PROPOSALS BASED ON MCC'S CONSULTATION MATERIALS REF.: '101007.01_City_Centre_Active_Travel_Route_area_2_Deansgate_Whitworth_Street_v7'

KEY:
- PROPOSED ROAD MARKINGS
- PROPOSED RAISED TABLE
- PUBLIC HIGHWAY EXTENTS

Rev:	Description:	Date:	By:	Chkd:
P05	Minor update	18/11/22	DD	AV
P04	Proposed layout and access updated	10/11/22	DD	AV
P03	Proposed layout updated	24/08/22	DD	AV
P02	Proposed site access updated	17/06/22	DD	AV

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Status: PRELIMINARY

Project: GREAT NORTHERN WAREHOUSE MANCHESTER

Drg Title: ACCESS AND SERVICING ARRANGEMENT

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	16/03/22	DD	DD	AV
Scale: 1:500				

Project No: Originator: Volume: Level: Type: Role: Category / Number: Rev:

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EXISTING LOADING BAY (3x10m)

EXISTING LOADING BAY (3x16m)

PROPOSED SERVICE AREA

PROPOSED BARRIER TO CONTROL ACCESS TO SERVICE AREA

PROPOSED LOADING BAY (2.7x13.5m)

PROPOSED LOADING AREA (2.7x14m)

PROPOSED LOADING AREA (2.7x18.5m)

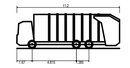
GREAT BRIDGEWATER STREET

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KEY: PROPOSED ROAD MARKINGS
PROPOSED RAISED TABLE

VEHICLE PROFILE:



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

Overall Length	11.200m
Overall Width	2.552m
Overall Body Height	3.700m
Mid Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

Rev:	Description:	Date:	By:	Chkd:
P04	Proposed layout updated	10/11/22	DD	AV
P03	Proposed layout updated	24/08/22	DD	AV
P02	Proposed layout updated	16/06/22	DD	AV

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Status: PRELIMINARY

Project: GREAT NORTHERN WAREHOUSE MANCHESTER

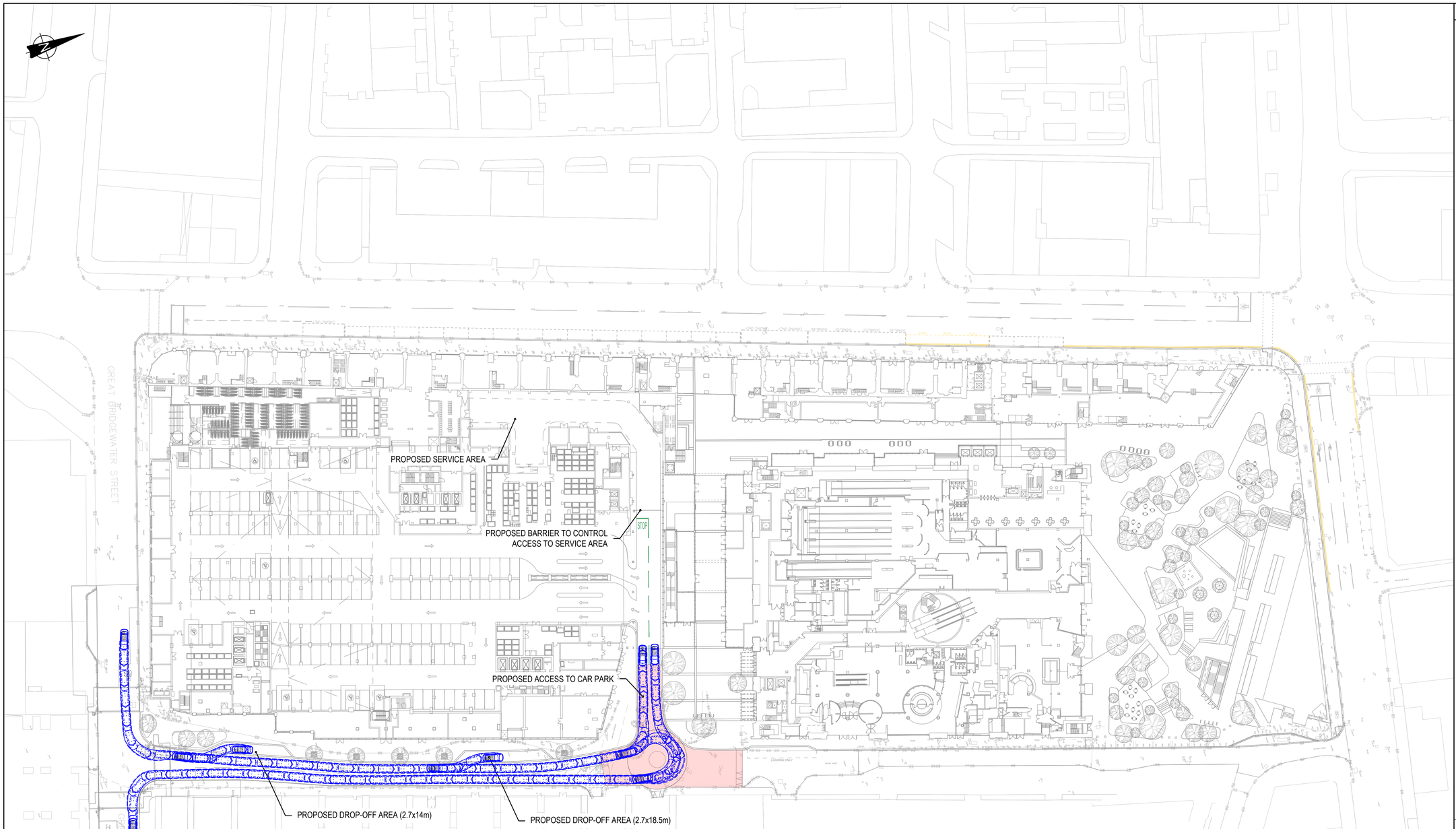
Drg Title: SWEPT PATH ANALYSIS 11.2m REFUSE VEHICLE

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	16/03/22	DD	DD	AV

Scale: 1:500

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080483	CUR	XX	00	D	TP	05001	P04

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6. LAYOUT BASED ON SIMPSON HAUGH'S DRAWING REF.: '10422-SHP-Z0-A-BSD9-G100-PL-00-001-P01'
7. LANDSCAPE BASED ON PLANIT'S DRAWING REF.: '2891-PLA-XX-00-DR-L-0001-P04'
8. BASED ON LAND SURVEY WHERE AVAILABLE
9. GREAT BRIDGEWATER STREET / WATSON STREET JUNCTION BASED ON VECTOS' DRAWING REF.: 'SVA-VEC-0-P1-DR-CH-0100'

KEY:
PROPOSED ROAD MARKINGS
PROPOSED RAISED TABLE

VEHICLE PROFILE:



Audi A6 (2018)

Overall Length	4.939m
Overall Width	2.114m
Overall Body Height	1.461m
Min Body Ground Clearance	0.142m
Max Track Width	1.875m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

Rev:	Description:	Date:	By:	Chkd:
P03	Proposed layout updated	10/11/22	DD	AV
P02	Proposed layout updated	24/08/22	DD	AV

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Status: PRELIMINARY

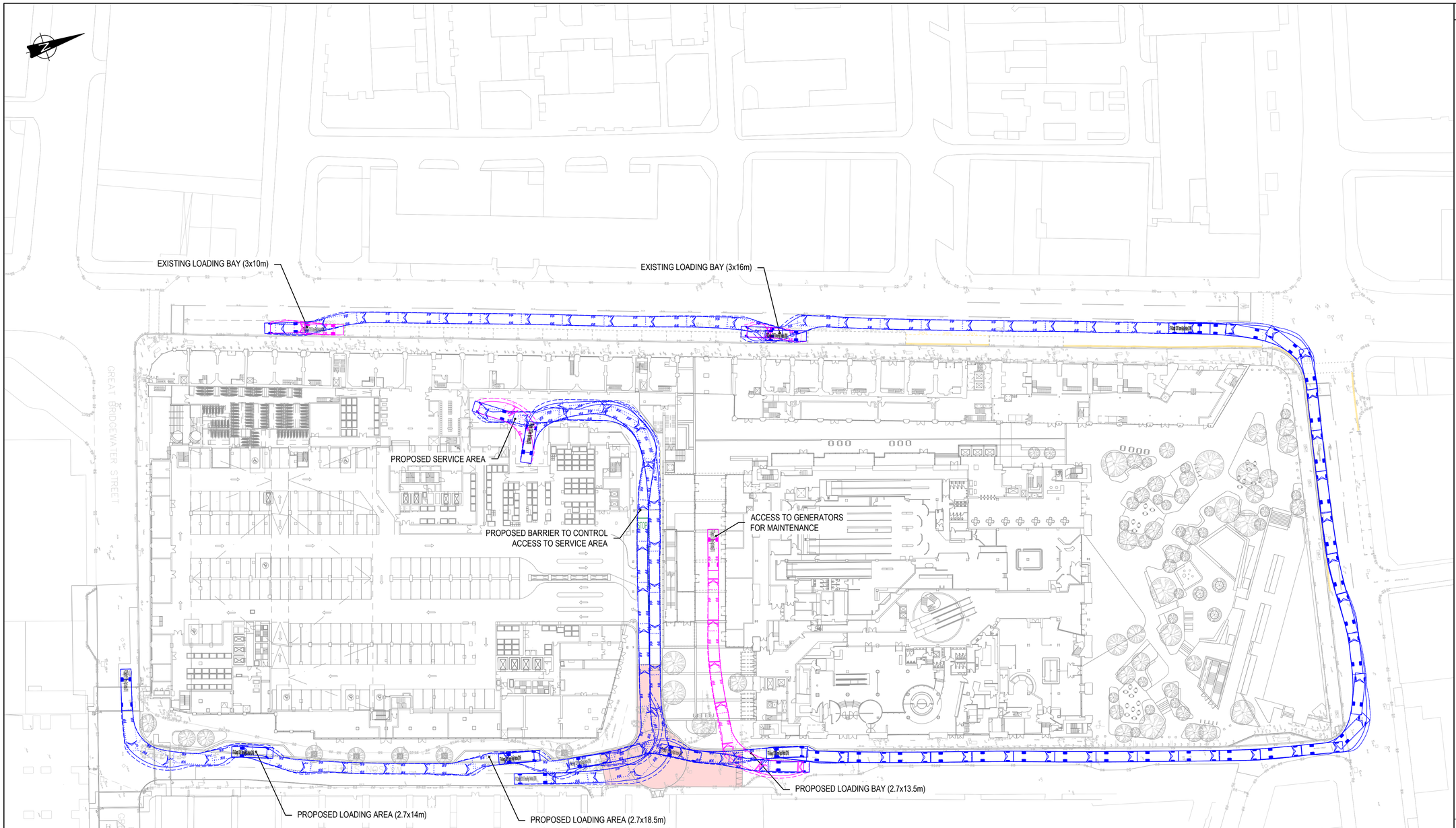
Project: GREAT NORTHERN WAREHOUSE MANCHESTER

Drg Title: SWEPT PATH ANALYSIS LARGE CAR

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	16/03/22	DD	DD	AV
Scale: 1:500				

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080483	CUR	XX	00	D	TP	05002	P03

\\mafile02\Projects\080001 - 081000\080483 - GNW Full Site Application 2021\04-Production\4A-Models-Drawings\TP\CAD\05\

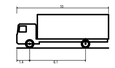


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7. LANDSCAPE BASED ON PLANIT'S DRAWING REF.: '2891-PLA-XX-00-DR-L-0001-P04'
8. BASED ON LAND SURVEY WHERE AVAILABLE
9. GREAT BRIDGEWATER STREET / WATSON STREET JUNCTION BASED ON VECTOS' DRAWING REF.: 'SVA-VEC-0-P1-DR-CH-0100'

KEY:
PROPOSED ROAD MARKINGS
PROPOSED RAISED TABLE

VEHICLE PROFILE:



FTA Design 13/18 Tonne Rigid Vehicle (2016)

Overall Length	10.000m
Overall Width	2.550m
Overall Body Height	3.540m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m

Rev:	Description:	Date:	By:	Chkd:
P03	Proposed layout updated	10/11/22	DD	AV
P02	Proposed layout updated	24/08/22	DD	AV

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Status:
PRELIMINARY

Project:
GREAT NORTHERN WAREHOUSE
MANCHESTER

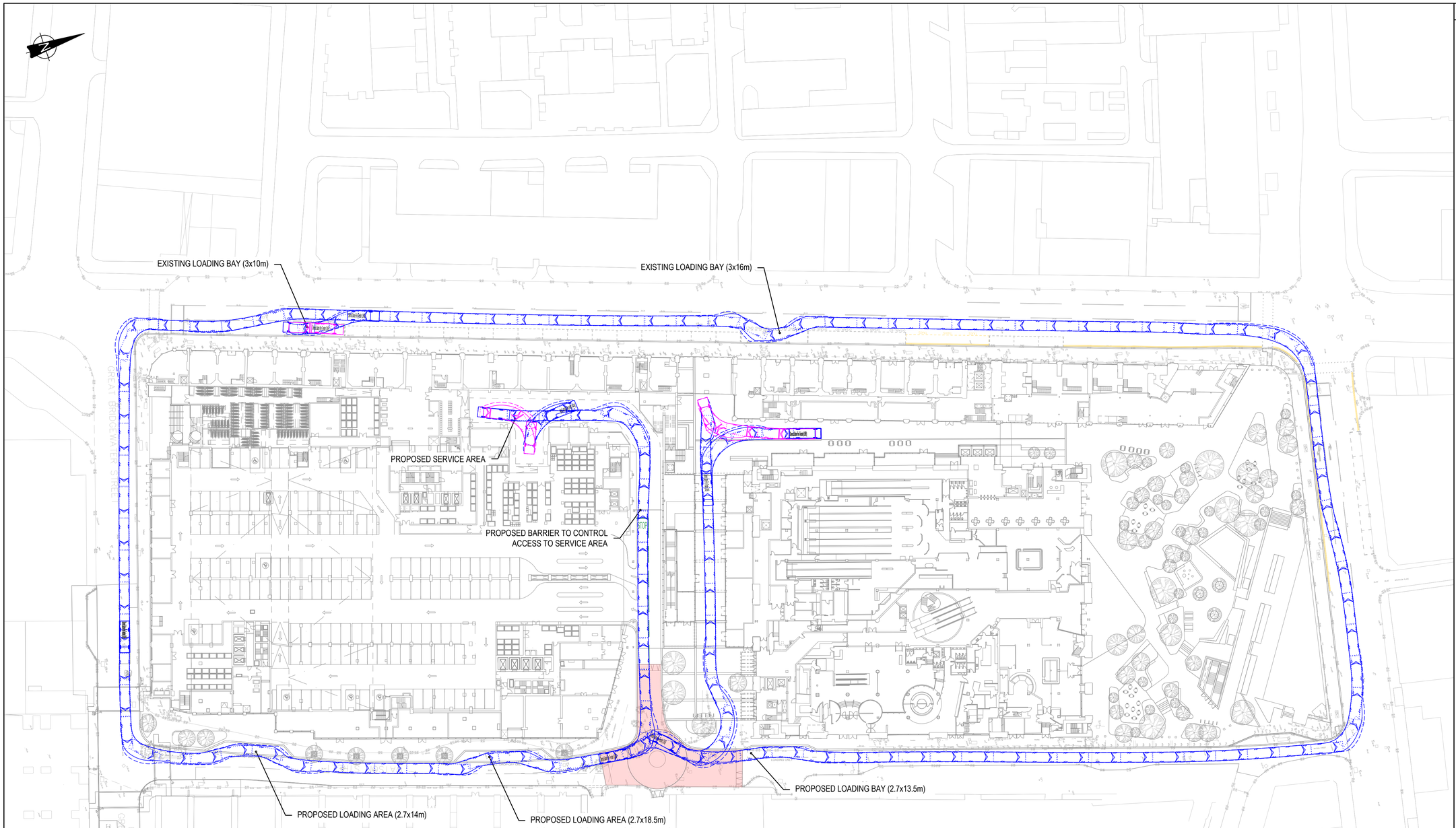
Drg Title:
SWEPT PATH ANALYSIS
10m RIGID HGV

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	11/08/22	DD	DD	AV

Scale: 1:500

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080483	CUR	XX	00	D	TP	05006	P03

\\mafs02\Projects\080001 - 081000\080483 - GNW Full Site Application 2021\04-Production\4A-Models-Drawings\TP\CAD\05\



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7. LANDSCAPE BASED ON PLANIT'S DRAWING REF.: '2891-PLA-XX-00-DR-L-0001-P04'
8. BASED ON LAND SURVEY WHERE AVAILABLE
9. GREAT BRIDGEWATER STREET / WATSON STREET JUNCTION BASED ON VECTOS' DRAWING REF.: 'SVA-VEC-0-P1-DR-CH-0100'

KEY:
PROPOSED ROAD MARKINGS
PROPOSED RAISED TABLE

VEHICLE PROFILE:



Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.512m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

Rev:	Description:	Date:	By:	Chkd:
P02	Proposed layout updated	10/11/22	DD	AV

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Status:
PRELIMINARY

Project:
GREAT NORTHERN WAREHOUSE
MANCHESTER

Drg Title:
SWEPT PATH ANALYSIS
7.7m FIRE TENDER

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	24/08/22	DD	DD	AV

Scale: 1:500

Project No:	Originator:	Volume:	Level:	Type:	Role:	Category / Number:	Rev:
080483	CUR	XX	00	D	TP	05007	P02

\\mafs02\Projects\080001 - 081000\080483 - GNW Full Site Application 2021\04-Production\4A-Models-Drawings\TP\CAD\05\

Appendix A – Proposed Site Layout

KEY:

Residential (Use Class C3)

- Residential Entrance/ Shared Amenity
- Residential circulation/ Private Amenity
- One Bed Apartment
- Two Bed Apartment
- Three Bed Apartment

Office (Use Class E(c))

- Office
- Office Entrances
- Office Circulation/ Balconies & Terraces

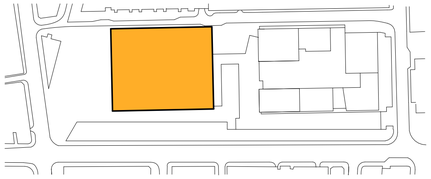
Commercial, Business & Service Community (Use Class Varies)

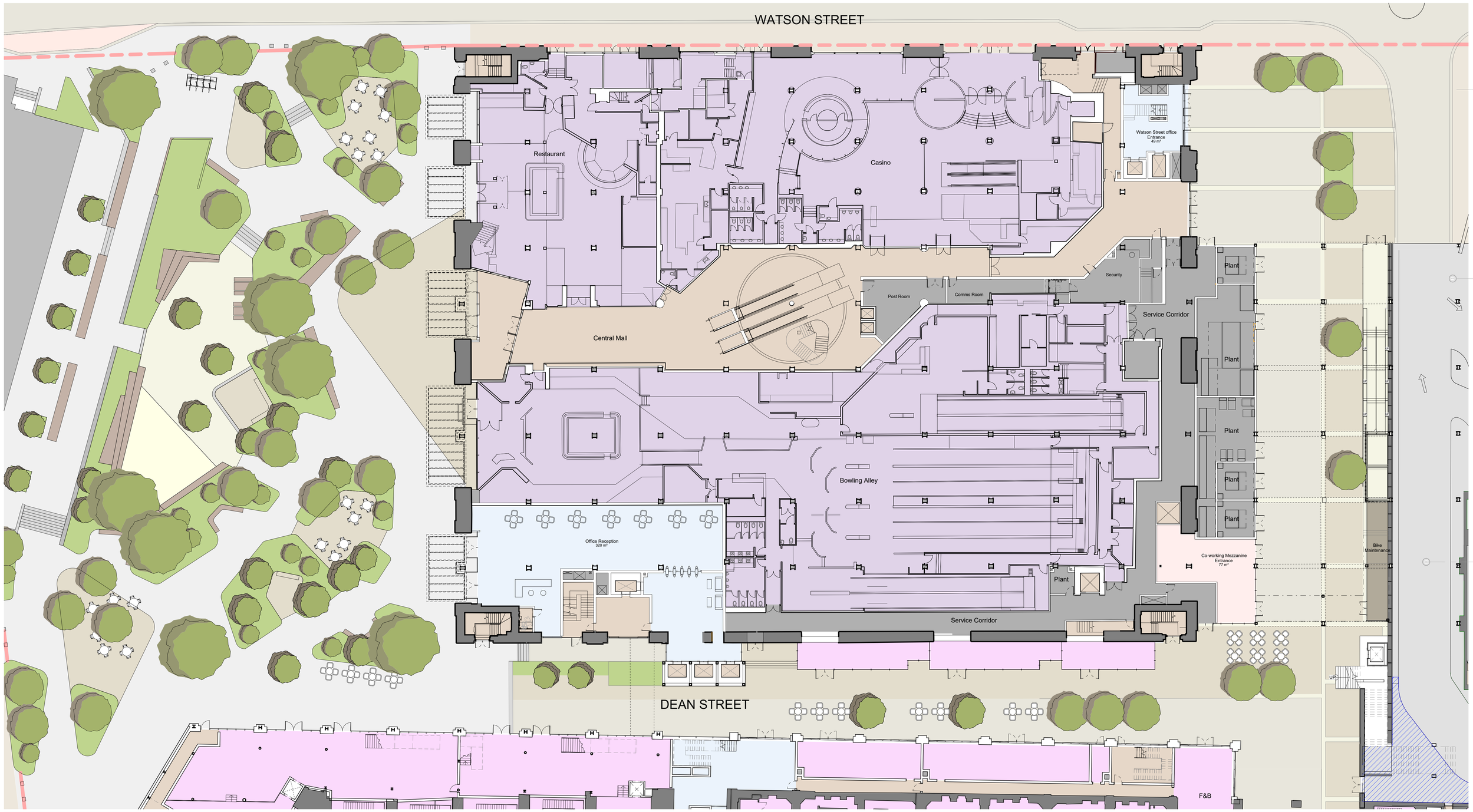
- Use Class E
- Use Class E or Sui Generis (Entertainment Venue)
- Use Class E or Sui Generis (Drinking Establishments or Hot Food Takeaway or Entertainment Venue)
- Use Class E or F2 (b)
- Entrances & Circulation

Other (Use Class Varies)

- Car Park (Sui Generis)
- Ancillary (Plant, Refuse Stores, Back of House, etc)
- Ancillary (Cycle Stores)

KEY PLAN:





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NORTH

Rev	Date	Description
P01	2022-03-09	First Issue
P02	2022-06-10	Interim Issue
P03	2022-07-25	Scheme Update
P04	2022-08-12	Developed Scheme Issue
P05	2022-09-02	Stage 2 Issue
P06	2022-10-10	Planning Design Freeze
P07	2022-10-13	Room Tags Added for Client Issue

Project Title: Great Northern

Drawing Title: General Arrangement Warehouse Proposed Ground Floor Plan

Project No: 10422

Scale: 1 : 200@ A1

Status: FOR INFORMATION

PROJ - ORIG - ZONE - HOLE - CLASS - TYPE - LOC - SEQ: 10422-SHP-Z2-A-G200-PL-00-001

Revision: P07

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KEY:

Residential (Use Class C3)

- Residential Entrance/ Shared Amenity
- Residential circulation/ Private Amenity
- One Bed Apartment
- Three bed apartment
- Two Bed Apartment

Office (Use Class E(c))

- Office
- Office Entrances
- Office Circulation/ Balconies & Terraces

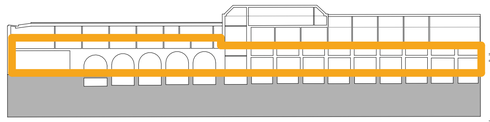
Commercial, Business & Service Community (Use Class Varies)

- Use Class E
- Use Class E or Sui Generis (Entertainment Venue)
- Use Class E or Sui Generis (Drinking Establishments or Hot Food Takeaway or Entertainment Venue)
- Use Class E or F2 (b)
- Entrances & Circulation

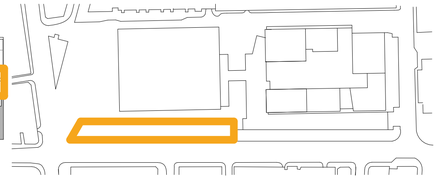
Other (Use Class Varies)

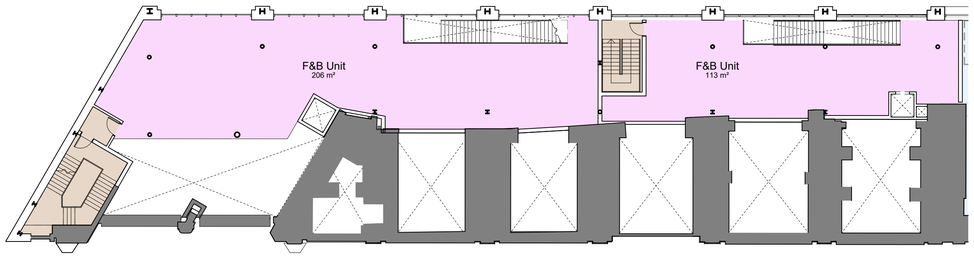
- Car Park (Sui Generis)
- Ancillary (Plant, Refuse Stores, Back of House, etc)
- Ancillary (Cycle Stores)

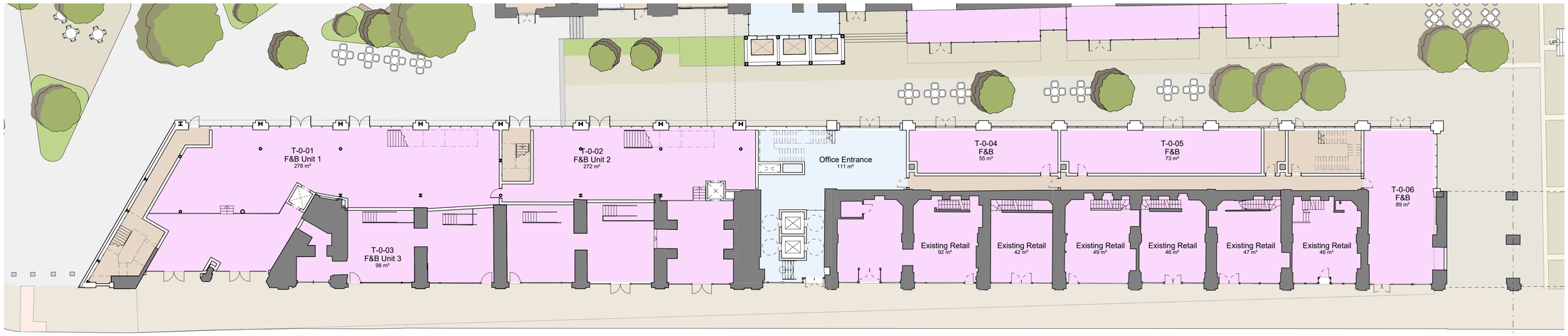
Z3A KEY SECTION:



KEY PLAN:







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NORTH

Rev	Date	Description
P01	2022-03-09	First Issue
P02	2022-06-10	Interim Issue
P03	2022-07-22	Scheme Update
P04	2022-08-12	Developed Scheme Issue
P05	2022-09-02	Stage 2 Issue
P06	2022-10-10	Planning Design Freeze
P07	2022-10-13	Room Tags Added for Client Issue

Project Title
Great Northern

Status
FOR INFORMATION

Drawing Title
General Arrangement
Terraces A - Proposed Ground Floor Plan

Project No
10422

Scale
1 : 200@ A1

PROJ.-ORIG.-ZONE-ROLE-CLAS-TYPE-LOC-SEQ
10422-SHP-Z3A-A-G200-PL-00-001

Revision
P07

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KEY:

Residential (Use Class C3)

- Residential Entrance/ Shared Amenity
- Residential circulation/ Private Amenity
- One Bed Apartment
- Three bed apartment
- Two Bed Apartment

Office (Use Class E(c))

- Office
- Office Entrances
- Office Circulation/ Balconies & Terraces

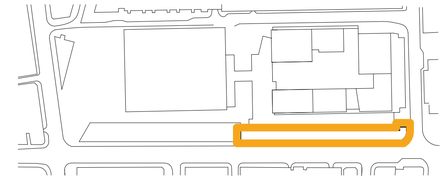
Commercial, Business & Service Community (Use Class Varies)

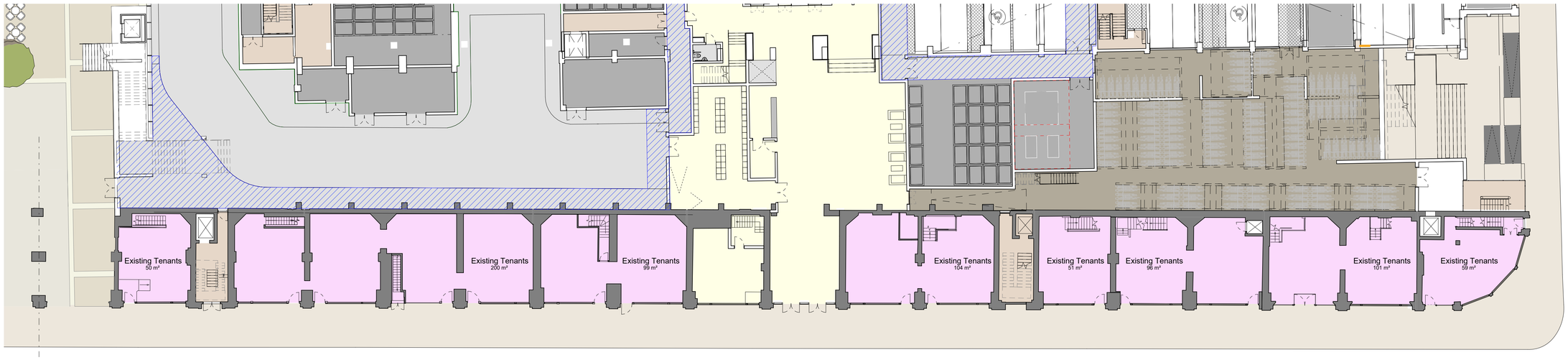
- Use Class E
- Use Class E or Sui Generis (Entertainment Venue)
- Use Class E or Sui Generis (Drinking Establishments or Hot Food Takeaway or Entertainment Venue)
- Use Class E or F2 (b)
- Entrances & Circulation

Other (Use Class Varies)

- Car Park (Sui Generis)
- Ancillary (Plant, Refuse Stores, Back of House, etc)
- Ancillary (Cycle Stores)

KEY PLAN:





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NORTH

Rev	Date	Description
P01	2022-03-09	First Issue
P02	2022-06-10	Interim Issue
P03	2022-07-22	Scheme Update
P04	2022-08-12	Developed Scheme Issue
P05	2022-09-02	Stage 2 Issue
P06	2022-10-10	Planning Design Freeze
P07	2022-10-13	Room Tags Added for Client Issue

Project Title
Great Northern

Drawing Title
General Arrangement
Terraces B - Proposed Ground Floor Plan

Project No
10422

Scale
1 : 200@ A1

Status
FOR INFORMATION

PROJ - ORIG - ZONE - ROLE - CLAS - TYPE - LOC - SEQ
10422-SHP-Z3B-A-G200-PL-00-001

Revision
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KEY:

Residential (Use Class C3)

- Residential Entrance/ Shared Amenity
- Residential circulation/ Private Amenity
- One Bed Apartment
- Two Bed Apartment
- Three bed apartment

Office (Use Class E(c))

- Office
- Office Entrances
- Office Circulation/ Balconies & Terraces

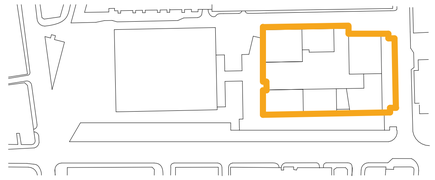
Commercial, Business & Service Community (Use Class Varies)

- Use Class E
- Use Class E or Sui Generis (Entertainment Venue)
- Use Class E or Sui Generis (Drinking Establishments or Hot Food Takeaway or Entertainment Venue)
- Use Class E or F2 (b)
- Entrances & Circulation

Other (Use Class Varies)

- Car Park (Sui Generis)
- Ancillary (Plant, Refuse Stores, Back of House, etc)
- Ancillary (Cycle Stores)

KEY Plan:





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NORTH

Rev	Date	Description
P01	09-03-2022	First Issue
P02	10-06-2022	Interim Issue
P03	25-07-2022	Scheme Update
P04	12-08-2022	Developed Scheme Issue
P05	02-09-2022	Stage 2 Issue
P06	10-10-2022	Planning Design Freeze
P07	13-10-2022	Room Tags Added for Client Issue

Project Title
Great Northern
Manchester

Status
FOR INFORMATION

Drawing Title
General Arrangement
Leisure Box - Proposed Ground Floor Plan

Project No
10422

Scale
1 : 200@ A1

PROJ - ORIG - ZONE - MOLF - CLAS - TYPE - LOC - SEQ
10422-SHP-Z4-A-G200-PL-00-001

Revision
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Appendix B – 2022 Car Park Surveys

Road Data Services Ltd

Manchester
Wednesday 30th March 2022
Internal Car Park Movement

	Move 1							Move 2							Move 3							Move 4							Move 5							Move 6							Move 7						
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	TOTAL	PCUs
07:00 - 07:15	0	0	10	1	0	11	11.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0	0	0	1	0	0	1	1.0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	21	0	0	21	21.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
07:30 - 07:45	0	0	24	1	0	25	25.0	0	0	0	0	0	0	0.0	0	0	11	0	0	11	11.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	0	27	0	0	27	27.0	0	0	0	0	0	0	0.0	0	0	13	0	0	13	13.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	2	0	0	2	2.0
Hourly Total	**0**	**0**	**82**	**2**	**0**	**84**	**84.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**30**	**0**	**0**	**30**	**30.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**16**	**0**	**0**	**16**	**16.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**3**	**0**	**0**	**3**	**3.0**
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08:15 - 08:30	0	0	28	1	0	29	29.0	0	0	1	1	0	2	2.0	0	0	17	0	0	17	17.0	0	0	0	0	0	0	0.0	0	0	7	1	0	8	8.0	0	0	0	0	0	0	0.0	0	0	2	0	0	2	2.0
08:30 - 08:45	0	0	38	0	0	38	38.0	0	0	0	0	0	0	0.0	0	0	16	0	0	16	16.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0	0	0	0	0	0	0	0.0	0	0	2	0	0	2	2.0
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09:15 - 09:30	0	0	33	1	0	34	34.0	0	0	0	0	0	0	0.0	0	0	14	0	0	14	14.0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0.0	0	0	2	0	0	2	2.0
09:30 - 09:45	0	0	30	0	0	30	30.0	0	0	0	0	0	0	0.0	0	0	17	0	0	17	17.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	1	0	1	1.0	0	0	2	0	0	2	2.0
09:45 - 10:00	0	0	24	2	0	26	26.0	0	0	1	0	0	1	1.0	0	0	7	0	0	7	7.0	0	0	0	0	0	0	0.0	0	0	5	1	0	6	6.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
Hourly Total	**0**	**0**	**122**	**4**	**0**	**126**	**126.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**52**	**0**	**0**	**52**	**52.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**9**	**1**	**0**	**10**	**10.0**	**0**	**0**	**0**	**1**	**0**	**1**	**1.0**	**0**	**0**	**6**	**0**	**0**	**6**	**6.0**
10:00 - 10:15	1	0	19	1	0	21	20.2	0	0	0	0	1	1	1.5	0	0	9	0	0	9	9.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
10:15 - 10:30	0	0	11	1	0	12	12.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	1	1	1.5	0	0	1	0	0	1	1.0
10:30 - 10:45	0	0	14	2	0	16	16.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	1	1	2	2.5	0	0	14	1	0	15	15.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0
10:45 - 11:00	0	0	11	0	0	11	11.0	0	0	0	1	0	1	1.0	0	0	1	0	0	1	1.0	0	0	0	1	1	2	2.5	0	0	5	1	0	6	6.0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0.0
Hourly Total	**1**	**0**	**55**	**4**	**0**	**60**	**59.2**	**0**	**0**	**0**	**1**	**1**	**2**	**2.5**	**0**	**0**	**14**	**0**	**0**	**14**	**14.0**	**0**	**0**	**0**	**2**	**2**	**4**	**5.0**	**0**	**0**	**23**	**2**	**0**	**25**	**25.0**	**0**	**0**	**0**	**0**	**1**	**1**	**1.5**	**0**	**0**	**5**	**0**	**0**	**5**	**5.0**
11:00 - 11:15	0	0	10	0	0	10	10.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0	0	0	0	0	1	1	1.5	0	0	5	0	0	5	5.0	0	0	0	0	1	1	1.5	0	0	4	0	0	4	4.0
11:15 - 11:30	0	0	11	2	0	13	13.0	0	0	0	0	0	0	0.0	0	0	1	1	0	2	2.0	0	0	0	0	0	0	0.0	0	0	4	1	0	5	5.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
11:30 - 11:45	0	0	18	2	0	20	20.0	0	0	0	0	0	0	0.0	0	0	1	1	0	2	2.0	0	0	0	0	0	0	0.0	0	0	7	0	0	7	7.0	0	0	0	0	0	0	0.0	0	0	3	1	0	4	4.0
11:45 - 12:00	0	0	8	1	0	9	9.0	0	0	0	0	1	1	1.5	0	0	1	0	0	1	1.0	0	0	0	0	1	1	1.5	0	0	9	1	0	10	10.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
Hourly Total	**0**	**0**	**47**	**5**	**0**	**52**	**52.0**	**0**	**0**	**0**	**0**	**1**	**1**	**1.5**	**0**	**0**	**7**	**2**	**0**	**9**	**9.0**	**0**	**0**	**0**	**0**	**2**	**2**	**3.0**	**0**	**0**	**25**	**2**	**0**	**27**	**27.0**	**0**	**0**	**0**	**0**	**1**	**1**	**1.5**	**0**	**0**	**9**	**1**	**0**	**10**	**10.0**
12:00 - 12:15	0	0	6	1	0	7	7.0	0	0	1	0	1	2	2.5	0	0	0	0	0	0	0.0	0	0	0	1	0	1	1.0	0	0	12	0	0	12	12.0	0	0	1	0	1	2	2.5	0	0	1	0	0	1	1.0
12:15 - 12:30	0	0	9	1	0	10	10.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	1	0	1	1.0	0	0	9	0	0	9	9.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0
12:30 - 12:45	0	0	15	0	0	15	15.0	0	0	0	0	0	0	0.0	0	0	2	1	0	3	3.0	0	0	0	0	0	0	0.0	0	0	13	0	0	13	13.0	0	0	0	0	1	1	1.5	0	0	5	0	0	5	5.0
12:45 - 13:00	0	0	11	0	0	11	11.0	0	0	0	1	0	1	1.0	0	0	2	0	0	2	2.0	0	0	1	0	0	1	1.0	0	0	11	3	0	14	14.0	0	0	0	0	0	0	0.0	0	0	2	1	0	3	3.0
Hourly Total	**0**	**0**	**41**	**2**	**0**	**43**	**43.0**	**0**	**0**	**1**	**1**	**1**	**3**	**3.5**	**0**	**0**	**7**	**1**	**0**	**8**	**8.0**	**0**	**0**	**1**	**2**	**0**	**3**	**3.0**	**0**	**0**	**45**	**3**	**0**	**48**	**48.0**	**0**	**0**	**1**	**0**	**2**	**3**	**4.0**	**0**	**0**	**12**	**1**	**0**	**13**	**13.0**
13:00 - 13:15	0	0	6	1	0	7	7.0	0	0	1	0	0	1	1.0	0	0	2	0	0	2	2.0	0	0	0	0	0	0	0.0	0	0	7	1	0	8	8.0	0	0	1	0	0	1	1.0	0	0	4	0	0	4	4.0
13:15 - 13:30	0	0	17	0	0	17	17.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	1	0	1	1.0	0	0	20	1	0	21	21.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
13:30 - 13:45	0	0	11	1	0	12	12.0	0	0	0	0	0	0	0.0	0	0	7	0	0	7	7.0	0	0	0	0	0	0	0.0	0	0	18	0	0	18	18.0	0	0	0	1	0	1	1.0	0	0	1	0	0	1	1.0
13:45 - 14:00	0	0	11	0	0	11	11.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	1	0	21	0	0	22	21.2	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0
Hourly Total	**0**	**0**	**45**	**2**	**0**	**47**	**47.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**13**	**0**	**0**	**13**	**13.0**	**0**	**0**	**0**	**1**	**0**	**1**	**1.0**	**1**	**0**	**66**	**2**	**0**	**69**	**68.2**	**0**	**0**	**1**	**1**	**0**	**2**	**2.0**	**0**	**0**	**7**	**0**	**0**	**7**	**7.0**
14:00 - 14:15	0	0	5	0	0	5	5.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	8	0	0	8	8.0	0	0	0	1	0	1	1.0	0	0	9	0	0	9	9.0
14:15 - 14:30	0	0	13	1	0	14	14.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	1	0	1	1.0	0	0	15	2	0	17	17.0	0	0	1	1	0	2	2.0	0	0	3	0	0	3	3.0
14:30 - 14:45	0	0	2	1	0	3	3.0	0	0	0	1	0	1	1.0	0	0	3	0	0	3	3.0	0	0	0	1	0	1	1.0	0	0	13	0	0	13	13.0	0	0	0	0	0	0	0.0	0	0	6	0	0	6	6.0
14:45 - 15:00	0	0	8	0	0	8	8.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	1	0	1	1.0	0	0	12	1	0	13	13.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0
Hourly Total	**0**	**0**	**28**	**2**	**0**	**30**	**30.0**	**0**	**0**	**0**	**1**	**0**	**1**	**1.0**	**0**	**0**	**8**	**0**	**0**	**8**	**8.0**	**0**	**0**	**0**	**3**	**0**	**3**	**3.0**	**0**	**0**	**48**	**3**	**0**	**51**	**51.0**	**0**	**0**	**1**	**2**	**0**	**3**	**3.0**	**0**	**0**	**23**	**0**	**0**	**23**	**23.0**
15:00 - 15:15	0	0	6	2	0	8	8.0	0	0	0	1	1	2	2.5	0	0	2	0	0	2	2.0	0	0	0	0	0	0	0.0	0	0	15	2	0	17	17.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0
15:15 - 15:30	0	0	9	1	0	10	10.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	0	0	0	0.0	0	0	24	2	0	26	26.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0
15:30 - 15:45	0	0	5	0	0	5	5.0	0	0	0	0	0	0	0.0	0	0	1	0	0	1	1.0	0	0	0	0	0	0	0.0	0	0	18	2	0	20	20.0	0	0	1	0	0	1	1.0	0	0	2	0	0	2	2.0
15:45 - 16:00	0	0	12	0	0	12	12.0	0	0	0	0	0	0	0.0	0	0	2	0	0	2	2.0	0	0	0	0	0	0	0.0	0	1	23	1	0	25	24.4	0	0	0	2	0	2	2.0	0	0	6	0	0	6	6.0
Hourly Total	**0**	**0**	**32**	**3**	**0**	**35**	**35.0**	**0**	**0**	**0**	**1**	**1**	**2**	**2.5**	**0**	**0**	**6**	**0**	**0**	**6**	**6.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**1**	**80**	**7**	**0**	**88**	**87.4**	**0**	**0**	**1**	**2**	**0**	**3**	**3.0**	**0**	**0**	**15**	**0**	**0**	**15**	**15.0**
16:00 - 16:15	0	0	3	1	0	4	4.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0	0	0	0	0	0	0	0.0	0	0	15	1	0	16	16.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0
16:15 - 16:30	0	0	6	0	0	6	6.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	16	1	0	17	17.0	0	0	0	0	0	0	0.0	0	0	13	0	0	13	13.0
16:30 - 16:45	0	0	11	0	0	11	11.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	21	3	0	24	24.0	0	0	0	0	0	0	0.0	0	0	5	0	0	5	5.0
16:45 - 17:00	0	0	10	0	0	10	10.0	0	0	0	0	0	0	0.0	0	0	6	0	0	6	6.0	0	0	0	0	1	1	1.5	0	0	19	1	0	20	20.0	0	0	1	0	0	1	1.0	0	0	8	0	0	8	8.0
Hourly Total	**0**	**0**	**30**	**1**	**0**	**31**	**31.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**16**	**0**	**0**	**16**	**16.0**	**0**	**0**	**0**	**0**	**1**	**1**	**1.5**	**0**	**0**	**71**	**6**	**0**	**77**	**77.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**31**	**0**	**0**	**31**	**31.0**
17:00 - 17:15	0	0	13	0	0	13	13.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0	0	0	0	0	0	0	0.0	0	0	22	0	0	22	22.0	0	0	0	0	0	0	0.0	0	0	9	0	0	9	9.0
17:15 - 17:30	0	0	12	1	0	13	13.0	0	0	1	0	0	1	1.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	22	1	0	23	23.0	0	0	0	0	0	0	0.0	0	0	14	0	0	14	14.0
17:30 - 17:45	0	0	10	2	0	12	12.0	0	0	0	0	0	0	0.0	0	0	4	0	0	4	4.0	0	0	0	0	0	0	0.0	0	0	19	0	0	19	19.0	0	0	0	0	0	0	0.0	0	0	15	0	0	15	15.0
17:45 - 18:00	0	0	15	0	0	15	15.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	29	0	0	29	29.0	0	0	0	0	0	0	0.0	0	0	15	0	0	15	15.0
Hourly Total	**0**	**0**	**50**	**3**	**0**	**53**	**53.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**14**	**0**	**0**	**14**	**14.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**92**	**1**	**0**	**93**	**93.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**53**	**0**	**0**	**53**	**53.0**
18:00 - 18:15	0	0	23	0	0	23	23.0	0	0	0	0	0	0	0.0	0	0	6	0	0	6	6.0	0	0	2	0	0	2	2.0	0	0	34	0	0	34	34.0	0	0	0	0	0	0	0.0	0	0	11	0	0	11	11.0
18:15 - 18:30	0	0	12	1	0	13	13.0	0	0	0	0	0	0	0.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	22	0	0	22	22.0	0	0	0	0	0	0	0.0	0	0	9	0	0	9	9.0
18:30 - 18:45	0	0	9	1	0	10	10.0	0	0	0	0	0	0	0.0	0	0	3	1	0	4	4.0	0	0	0	0	0	0	0.0	0	0	27	1	0	28	28.0	0	0	0	0	0	0	0.0	0	0	11	0	0	11	11.0
18:45 - 19:00	0	0	25	0	0	25	25.0	0	0	1	0	0	1	1.0	0	0	3	0	0	3	3.0	0	0	0	0	0	0	0.0	0	0	21	3	0	24	24.0	0	0	0	0	0	0	0.0	0	0	9	0	0	9	9.0
Hourly Total	**0**	**0**	**69**	**2**	**0**	**71**	**71.0**	**0**	**0**	**1**	**0**	**0**	**1**	**1.0**	**0**	**0**	**15**	**1**	**0**	**16**	**16.0**	**0**	**0**	**2**	**0**	**0**	**2**	**2.0**	**0**	**0**	**104**	**4**	**0**	**108**	**108.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**40**	**0**	**0**	**40**	**40.0**
TOTAL	**1**	**0**	**744**	**33**	**0**	**778**	**777.2**	**0**	**0**	**6**	**6**	**4**	**16**	**18.0**	**0**	**0**	**243**	**4**	**0**	**247**	**247.0**	**1**	**0**	**3**	**8**	**5**	**17**	**18.7**	**1**	**1**	**600**	**33**	**0**	**635**	**633.6**	**0**	**0**	**6**	**6**	**4**	**16**	**18.0**	**0**	**0**	**208**	**3**	**0**	**211**	**211.0**

Appendix C – Great Bridgewater Street/Watson Street Junction and Phasing

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Great Northern Car Park

Watson Street

Great Bridgewater Street

FOR CONTINUATION REFER TO PHASE 2 DRAWINGS

0 2 4 8 12
1:200 SCALE (m)

REV	DETAILS	DRAWN	CHECKED	DATE
P01	FOR INFORMATION	JD	DRC	17/08/22

1. TO BE PRINTED IN COLOUR.
2. DO NOT SCALE.

Key:

- RED LINE BOUNDARY S278 WORKS
- PROPOSED KERB LINE
- PROPOSED FULL-DEPTH CARRIAGEWAY CONSTRUCTION
- PROPOSED CARRIAGEWAY RESURFACING
- PROPOSED CYCLE LANE GREEN HATCHED AREAS
- PROPOSED F1 (FLEXIBLE) NEW FOOTWAY CONSTRUCTION
- PROPOSED F1 FOOTWAY RESURFACING
- PROPOSED F2 (YORKSTONE SLABS) NEW FOOTWAY CONSTRUCTION
- PROPOSED F2 (YORKSTONE SLABS) FOOTWAY RESURFACING
- F3 RESURFACING - RELAY EXISTING PCC PAVING SLABS
- PROPOSED F3 PCC PAVING SLAB FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY RESURFACING
- PROPOSED RED TACTILE PAVING
- PROPOSED BUFF TACTILE PAVING
- PROPOSED SIGNAL POLES / PUSH BUTTONS
- PROPOSED SIGNAL DETECTOR LOOPS (SHOWN INDICATIVELY)

PRELIMINARY

GREAT BRIDGEWATER STREET
WATSON STREET JUNCTION
VIADUX WORKS GENERAL ARRANGEMENT

JD	DRC	17.08.22

SALBOY CENTRAL LIMITED

VIADUX PHASE 1 S278 WORKS

1:200

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

SVA-VEC-0-P1-DR-CH-0100 | P01

TRILOGY HOARDING LINE

Watson Street

Great Bridgewater Street

Great Northern Car Park

FOR CONTINUATION REFER TO PHASE 2 DRAWINGS

0 2 4 8 12
1:200 SCALE (m)

REV	DETAILS	DRAWN	CHECKED	DATE
P01	FOR INFORMATION	JD	DRC	17/08/22

1. TO BE PRINTED IN COLOUR.
2. DO NOT SCALE.

Key:

- RED LINE BOUNDARY S278 WORKS
- PROPOSED KERB LINE
- PROPOSED FULL-DEPTH CARRIAGEWAY CONSTRUCTION
- PROPOSED CARRIAGEWAY RESURFACING
- PROPOSED CYCLE LANE GREEN HATCHED AREAS
- PROPOSED F1 (FLEXIBLE) NEW FOOTWAY CONSTRUCTION
- PROPOSED F1 FOOTWAY RESURFACING
- PROPOSED F2 (YORKSTONE SLABS) NEW FOOTWAY CONSTRUCTION
- PROPOSED F2 (YORKSTONE SLABS) FOOTWAY RESURFACING
- F3 RESURFACING - RELAY EXISTING PCC PAVING SLABS
- PROPOSED F3 PCC PAVING SLAB FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY RESURFACING
- PROPOSED RED TACTILE PAVING
- PROPOSED BUFF TACTILE PAVING
- PROPOSED SIGNAL POLES / PUSH BUTTONS
- PROPOSED SIGNAL DETECTOR LOOPS (SHOWN INDICATIVELY)

PRELIMINARY

GREAT BRIDGEWATER STREET
WATSON STREET JUNCTION
TRILOGY INTERIM WORKS

JD	DRC	17.08.22

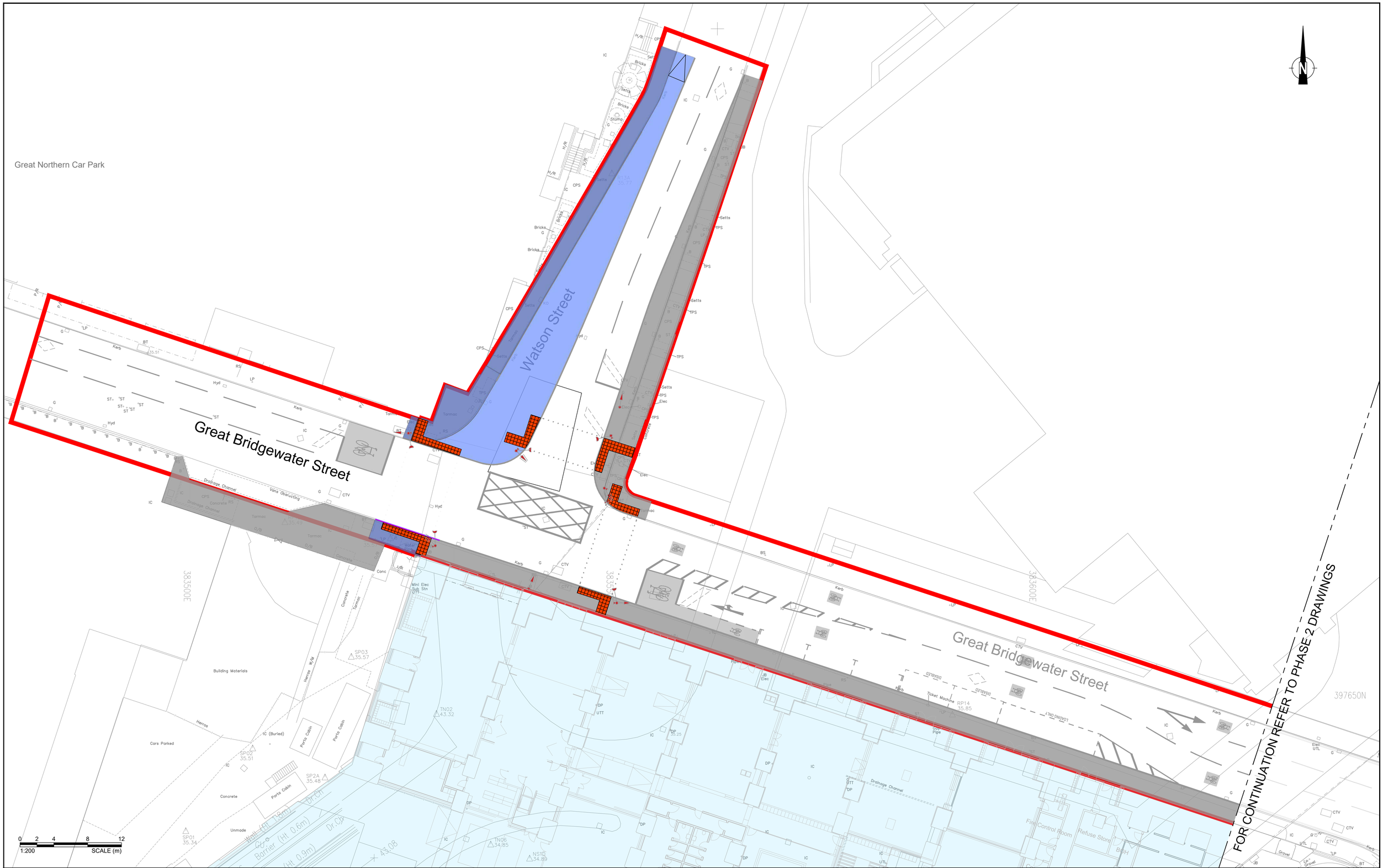
SALBOY CENTRAL LIMITED

VIADUX PHASE 1 S278 WORKS

1:200

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

SVA-VEC-0-P1-DR-CH-0101 P01



REV	DETAILS	DRAWN	CHECKED	DATE
P01	FOR INFORMATION	JD	DRC	16/08/22

1. TO BE PRINTED IN COLOUR.
2. DO NOT SCALE.

Key:

- RED LINE BOUNDARY S278 WORKS
- PROPOSED KERB LINE
- PROPOSED FULL-DEPTH CARRIAGEWAY CONSTRUCTION
- PROPOSED CARRIAGEWAY RESURFACING
- PROPOSED CYCLE LANE GREEN HATCHED AREAS
- PROPOSED F1 (FLEXIBLE) NEW FOOTWAY CONSTRUCTION
- PROPOSED F1 FOOTWAY RESURFACING
- PROPOSED F2 (YORKSTONE SLABS) NEW FOOTWAY CONSTRUCTION
- PROPOSED F2 (YORKSTONE SLABS) FOOTWAY RESURFACING
- F3 RESURFACING - RELAY EXISTING PCC PAVING SLABS
- PROPOSED F3 PCC PAVING SLAB FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY CONSTRUCTION
- PROPOSED F4 (GRANITE SLABS) FOOTWAY RESURFACING
- PROPOSED RED TACTILE PAVING
- PROPOSED BUFF TACTILE PAVING
- PROPOSED SIGNAL POLES / PUSH BUTTONS
- PROPOSED SIGNAL DETECTOR LOOPS (SHOWN INDICATIVELY)

PRELIMINARY

GREAT BRIDGEWATER STREET
WATSON STREET JUNCTION
COMPLETED GENERAL ARRANGEMENT

JD	DRC	16.08.22

SALBOY CENTRAL LIMITED

VIADUX PHASE 1 S278 WORKS

1:200

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

SVA-VEC-0-P1-DR-CH-0102 | P01

Appendix D – Residential TRIP Rates

Calculation Reference: AUDIT-148301-211027-1052

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	BR	BRISTOL CITY	1 days
06	**WEST MIDLANDS**		
	WK	WARWICKSHIRE	1 days
08	**NORTH WEST**		
	GM	GREATER MANCHESTER	1 days
09	**NORTH**		
	TW	TYNE & WEAR	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: Gross floor area
Actual Range: 960 to 5736 (units: sqm)
Range Selected by User: 178 to 70291 (units: sqm)

Parking Spaces Range: Selected: 0 to 100 Actual: 5 to 2923

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 13/11/19

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

Selected survey days:

Monday	2 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	4 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 undertaking using machines.

Selected Locations:

Town Centre	4

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

Selected Location Sub Categories:

Built-Up Zone	4

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:

Not Known	4 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®.

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

250,001 to 500,000	2 days
500,001 or More	2 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	4 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	3 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	4 days

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

LIST OF SITES relevant to selection parameters

1	**BR-02-A-02**	**PLANNING & ENGINEERING**		**BRISTOL CITY**
	ST THOMAS STREET			
	BRISTOL			
	Town Centre			
	Built-Up Zone			
	Total Gross floor area:		5736 sqm	
	Survey date: FRIDAY		*29/11/13*	*Survey Type: MANUAL*
2	**GM-02-A-08**	**REGUS**		**GREATER MANCHESTER**
	FOUNTAIN STREET			
	MANCHESTER			
	Town Centre			
	Built-Up Zone			
	Total Gross floor area:		3960 sqm	
	Survey date: MONDAY		*26/09/16*	*Survey Type: MANUAL*
3	**TW-02-A-07**	**OFFICES**		**TYNE & WEAR**
	MULGRAVE TERRACE			
	GATESHEAD			
	Town Centre			
	Built-Up Zone			
	Total Gross floor area:		2090 sqm	
	Survey date: MONDAY		*13/06/16*	*Survey Type: MANUAL*
4	**WK-02-A-01**	**OFFICES**		**WARWICKSHIRE**
	WARWICK ROAD			
	COVENTRY			
	Town Centre			
	Built-Up Zone			
	Total Gross floor area:		960 sqm	
	Survey date: THURSDAY		*17/10/13*	*Survey Type: MANUAL*

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.142	4	3162	0.000	4	3162	0.142
08:00 - 09:00	**4**	**3162**	**0.459**	4	3162	0.047	**4**	**3162**	**0.506**
09:00 - 10:00	4	3162	0.411	4	3162	0.063	4	3162	0.474
10:00 - 11:00	4	3162	0.142	4	3162	0.040	4	3162	0.182
11:00 - 12:00	4	3162	0.071	4	3162	0.119	4	3162	0.190
12:00 - 13:00	4	3162	0.174	4	3162	0.174	4	3162	0.348
13:00 - 14:00	4	3162	0.142	4	3162	0.103	4	3162	0.245
14:00 - 15:00	4	3162	0.095	4	3162	0.119	4	3162	0.214
15:00 - 16:00	4	3162	0.111	4	3162	0.095	4	3162	0.206
16:00 - 17:00	4	3162	0.103	4	3162	0.316	4	3162	0.419
17:00 - 18:00	4	3162	0.047	**4**	**3162**	**0.380**	4	3162	0.427
18:00 - 19:00	4	3162	0.024	4	3162	0.300	4	3162	0.324
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.921			1.756			3.677

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:	960 - 5736 (units: sqm)
Survey date date range:	01/01/13 - 13/11/19
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. 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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.000	4	3162	0.000	4	3162	0.000
08:00 - 09:00	**4**	**3162**	**0.016**	**4**	**3162**	**0.016**	**4**	**3162**	**0.032**
09:00 - 10:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
10:00 - 11:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
11:00 - 12:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
12:00 - 13:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
13:00 - 14:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
14:00 - 15:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
15:00 - 16:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
16:00 - 17:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
17:00 - 18:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
18:00 - 19:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.032			0.032			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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	**4**	**3162**	**0.008**	4	3162	0.000	**4**	**3162**	**0.008**
08:00 - 09:00	4	3162	0.000	**4**	**3162**	**0.008**	4	3162	0.008
09:00 - 10:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
10:00 - 11:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
11:00 - 12:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
12:00 - 13:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
13:00 - 14:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
14:00 - 15:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
15:00 - 16:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
16:00 - 17:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
17:00 - 18:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
18:00 - 19:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.040	4	3162	0.000	4	3162	0.040
08:00 - 09:00	**4**	**3162**	**0.221**	4	3162	0.000	**4**	**3162**	**0.221**
09:00 - 10:00	4	3162	0.087	4	3162	0.000	4	3162	0.087
10:00 - 11:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
11:00 - 12:00	4	3162	0.000	4	3162	0.016	4	3162	0.016
12:00 - 13:00	4	3162	0.008	4	3162	0.000	4	3162	0.008
13:00 - 14:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
14:00 - 15:00	4	3162	0.000	4	3162	0.008	4	3162	0.008
15:00 - 16:00	4	3162	0.000	4	3162	0.016	4	3162	0.016
16:00 - 17:00	4	3162	0.000	4	3162	0.032	4	3162	0.032
17:00 - 18:00	4	3162	0.000	**4**	**3162**	**0.182**	4	3162	0.182
18:00 - 19:00	4	3162	0.000	4	3162	0.103	4	3162	0.103
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.356			0.357			0.713

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.

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TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.158	4	3162	0.000	4	3162	0.158
08:00 - 09:00	**4**	**3162**	**0.498**	4	3162	0.016	**4**	**3162**	**0.514**
09:00 - 10:00	4	3162	0.459	4	3162	0.055	4	3162	0.514
10:00 - 11:00	4	3162	0.158	4	3162	0.040	4	3162	0.198
11:00 - 12:00	4	3162	0.079	4	3162	0.127	4	3162	0.206
12:00 - 13:00	4	3162	0.174	4	3162	0.190	4	3162	0.364
13:00 - 14:00	4	3162	0.166	4	3162	0.127	4	3162	0.293
14:00 - 15:00	4	3162	0.111	4	3162	0.119	4	3162	0.230
15:00 - 16:00	4	3162	0.119	4	3162	0.127	4	3162	0.246
16:00 - 17:00	4	3162	0.103	4	3162	0.356	4	3162	0.459
17:00 - 18:00	4	3162	0.040	**4**	**3162**	**0.459**	4	3162	0.499
18:00 - 19:00	4	3162	0.008	4	3162	0.348	4	3162	0.356
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.073			1.964			4.037

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.

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TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.063	4	3162	0.024	4	3162	0.087
08:00 - 09:00	4	3162	0.324	4	3162	0.008	4	3162	0.332
09:00 - 10:00	4	3162	0.427	4	3162	0.221	4	3162	0.648
10:00 - 11:00	4	3162	0.474	4	3162	0.364	4	3162	0.838
11:00 - 12:00	4	3162	0.324	4	3162	0.419	4	3162	0.743
12:00 - 13:00	4	3162	0.577	**4**	**3162**	**0.973**	**4**	**3162**	**1.550**
13:00 - 14:00	**4**	**3162**	**1.083**	4	3162	0.467	4	3162	1.550
14:00 - 15:00	4	3162	0.364	4	3162	0.300	4	3162	0.664
15:00 - 16:00	4	3162	0.182	4	3162	0.087	4	3162	0.269
16:00 - 17:00	4	3162	0.095	4	3162	0.190	4	3162	0.285
17:00 - 18:00	4	3162	0.040	4	3162	0.554	4	3162	0.594
18:00 - 19:00	4	3162	0.008	4	3162	0.198	4	3162	0.206
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.961			3.805			7.766

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL BUS/ TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.032	4	3162	0.000	4	3162	0.032
08:00 - 09:00	4	3162	0.150	4	3162	0.000	4	3162	0.150
09:00 - 10:00	**4**	**3162**	**0.229**	4	3162	0.000	**4**	**3162**	**0.229**
10:00 - 11:00	4	3162	0.040	4	3162	0.000	4	3162	0.040
11:00 - 12:00	4	3162	0.032	4	3162	0.024	4	3162	0.056
12:00 - 13:00	4	3162	0.032	4	3162	0.079	4	3162	0.111
13:00 - 14:00	4	3162	0.000	4	3162	0.024	4	3162	0.024
14:00 - 15:00	4	3162	0.000	4	3162	0.024	4	3162	0.024
15:00 - 16:00	4	3162	0.024	4	3162	0.032	4	3162	0.056
16:00 - 17:00	4	3162	0.000	4	3162	0.095	4	3162	0.095
17:00 - 18:00	4	3162	0.000	**4**	**3162**	**0.182**	4	3162	0.182
18:00 - 19:00	4	3162	0.000	4	3162	0.103	4	3162	0.103
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.539			0.563			1.102

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.016	4	3162	0.000	4	3162	0.016
08:00 - 09:00	4	3162	0.214	4	3162	0.000	4	3162	0.214
09:00 - 10:00	**4**	**3162**	**0.229**	4	3162	0.000	4	3162	0.229
10:00 - 11:00	4	3162	0.032	4	3162	0.000	4	3162	0.032
11:00 - 12:00	4	3162	0.032	4	3162	0.000	4	3162	0.032
12:00 - 13:00	4	3162	0.016	4	3162	0.024	4	3162	0.040
13:00 - 14:00	4	3162	0.008	4	3162	0.032	4	3162	0.040
14:00 - 15:00	4	3162	0.024	4	3162	0.024	4	3162	0.048
15:00 - 16:00	4	3162	0.008	4	3162	0.024	4	3162	0.032
16:00 - 17:00	4	3162	0.016	4	3162	0.079	4	3162	0.095
17:00 - 18:00	4	3162	0.000	**4**	**3162**	**0.308**	**4**	**3162**	**0.308**
18:00 - 19:00	4	3162	0.000	4	3162	0.134	4	3162	0.134
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.595			0.625			1.220

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.047	4	3162	0.000	4	3162	0.047
08:00 - 09:00	4	3162	0.364	4	3162	0.000	4	3162	0.364
09:00 - 10:00	**4**	**3162**	**0.459**	4	3162	0.000	4	3162	0.459
10:00 - 11:00	4	3162	0.071	4	3162	0.000	4	3162	0.071
11:00 - 12:00	4	3162	0.063	4	3162	0.024	4	3162	0.087
12:00 - 13:00	4	3162	0.047	4	3162	0.103	4	3162	0.150
13:00 - 14:00	4	3162	0.008	4	3162	0.055	4	3162	0.063
14:00 - 15:00	4	3162	0.024	4	3162	0.047	4	3162	0.071
15:00 - 16:00	4	3162	0.032	4	3162	0.055	4	3162	0.087
16:00 - 17:00	4	3162	0.016	4	3162	0.174	4	3162	0.190
17:00 - 18:00	4	3162	0.000	**4**	**3162**	**0.490**	**4**	**3162**	**0.490**
18:00 - 19:00	4	3162	0.000	4	3162	0.237	4	3162	0.237
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.131			1.185			2.316

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.308	4	3162	0.024	4	3162	0.332
08:00 - 09:00	4	3162	1.408	4	3162	0.024	4	3162	1.432
09:00 - 10:00	**4**	**3162**	**1.431**	4	3162	0.277	4	3162	1.708
10:00 - 11:00	4	3162	0.704	4	3162	0.403	4	3162	1.107
11:00 - 12:00	4	3162	0.467	4	3162	0.585	4	3162	1.052
12:00 - 13:00	4	3162	0.807	4	3162	1.265	**4**	**3162**	**2.072**
13:00 - 14:00	4	3162	1.257	4	3162	0.648	4	3162	1.905
14:00 - 15:00	4	3162	0.498	4	3162	0.474	4	3162	0.972
15:00 - 16:00	4	3162	0.332	4	3162	0.285	4	3162	0.617
16:00 - 17:00	4	3162	0.214	4	3162	0.751	4	3162	0.965
17:00 - 18:00	4	3162	0.079	**4**	**3162**	**1.684**	4	3162	1.763
18:00 - 19:00	4	3162	0.016	4	3162	0.886	4	3162	0.902
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.521			7.306			14.827

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.127	4	3162	0.000	4	3162	0.127
08:00 - 09:00	**4**	**3162**	**0.419**	4	3162	0.016	4	3162	0.435
09:00 - 10:00	4	3162	0.403	4	3162	0.063	**4**	**3162**	**0.466**
10:00 - 11:00	4	3162	0.134	4	3162	0.032	4	3162	0.166
11:00 - 12:00	4	3162	0.063	4	3162	0.119	4	3162	0.182
12:00 - 13:00	4	3162	0.134	4	3162	0.134	4	3162	0.268
13:00 - 14:00	4	3162	0.142	4	3162	0.095	4	3162	0.237
14:00 - 15:00	4	3162	0.087	4	3162	0.111	4	3162	0.198
15:00 - 16:00	4	3162	0.103	4	3162	0.087	4	3162	0.190
16:00 - 17:00	4	3162	0.079	4	3162	0.285	4	3162	0.364
17:00 - 18:00	4	3162	0.040	**4**	**3162**	**0.348**	4	3162	0.388
18:00 - 19:00	4	3162	0.016	4	3162	0.293	4	3162	0.309
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.747			1.583			3.330

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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.000	4	3162	0.000	4	3162	0.000
08:00 - 09:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
09:00 - 10:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
10:00 - 11:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
11:00 - 12:00	4	3162	0.008	4	3162	0.000	4	3162	0.008
12:00 - 13:00	**4**	**3162**	**0.040**	**4**	**3162**	**0.040**	**4**	**3162**	**0.080**
13:00 - 14:00	4	3162	0.000	4	3162	0.008	4	3162	0.008
14:00 - 15:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
15:00 - 16:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
16:00 - 17:00	4	3162	0.016	4	3162	0.016	4	3162	0.032
17:00 - 18:00	4	3162	0.008	4	3162	0.008	4	3162	0.016
18:00 - 19:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.104			0.104			0.208

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 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL MOTOR CYCLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	3162	0.008	4	3162	0.000	4	3162	0.008
08:00 - 09:00	**4**	**3162**	**0.016**	4	3162	0.000	4	3162	0.016
09:00 - 10:00	4	3162	0.008	4	3162	0.000	4	3162	0.008
10:00 - 11:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
11:00 - 12:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
12:00 - 13:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
13:00 - 14:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
14:00 - 15:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
15:00 - 16:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
16:00 - 17:00	4	3162	0.000	4	3162	0.008	4	3162	0.008
17:00 - 18:00	4	3162	0.000	**4**	**3162**	**0.024**	**4**	**3162**	**0.024**
18:00 - 19:00	4	3162	0.000	4	3162	0.000	4	3162	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.032			0.032			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.*

Appendix E – Office Trip Rates

Calculation Reference: AUDIT-148301-210916-0902

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	**SOUTH EAST**		
	BD	BEDFORDSHIRE	3 days
	EX	ESSEX	2 days
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
04	**EAST ANGLIA**		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 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: 6 to 175 (units:)
Range Selected by User: 6 to 184 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 18/11/19

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:

Tuesday	6 days
Thursday	4 days

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

Selected survey types:

Manual count	10 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 undertaking using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	9

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

Selected Location Sub Categories:

Residential Zone	4
Built-Up Zone	5
No Sub Category	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	10 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:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	8 days

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	8 days

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

Travel Plan:

Yes	2 days
No	8 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	10 days

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

LIST OF SITES relevant to selection parameters

1 **BD-03-C-01** **BLOCKS OF FLATS** **BEDFORDSHIRE**
WING ROAD
LEIGHTON BUZZARD
LINSLADE
Edge of Town Centre
Residential Zone
Total No of Dwellings: 175
Survey date: TUESDAY *15/05/18* *Survey Type: MANUAL*

2 **BD-03-C-02** **BLOCKS OF FLATS** **BEDFORDSHIRE**
STANBRIDGE ROAD
LEIGHTON BUZZARD

Edge of Town Centre
Residential Zone
Total No of Dwellings: 62
Survey date: TUESDAY *15/05/18* *Survey Type: MANUAL*

3 **BD-03-C-03** **BLOCKS OF FLATS** **BEDFORDSHIRE**
COURT DRIVE
DUNSTABLE

Edge of Town Centre
No Sub Category
Total No of Dwellings: 146
Survey date: TUESDAY *15/05/18* *Survey Type: MANUAL*

4 **CB-03-C-01** **BLOCK OF FLATS** **CUMBRIA**
KING STREET
CARLISLE

Town Centre
Built-Up Zone
Total No of Dwellings: 40
Survey date: THURSDAY *12/06/14* *Survey Type: MANUAL*

5 **EX-03-C-01** **FLATS** **ESSEX**
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total No of Dwellings: 6
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

6 **EX-03-C-02** **BLOCK OF FLATS** **ESSEX**
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total No of Dwellings: 94
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

7 **HC-03-C-01** **BLOCKS OF FLATS** **HAMPSHIRE**
CROSS STREET
PORTSMOUTH

Edge of Town Centre
Built-Up Zone
Total No of Dwellings: 90
Survey date: TUESDAY *05/06/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8	**HF-03-C-03**	**BLOCK OF FLATS**		**HERTFORDSHIRE**
	SHENLEY ROAD			
	BOREHAMWOOD			
	Edge of Town Centre			
	Built-Up Zone			
	Total No of Dwellings:		91	
	Survey date: THURSDAY		*14/11/19*	*Survey Type: MANUAL*
9	**NF-03-C-01**	**BLOCKS OF FLATS**		**NORFOLK**
	PAGE STAIR LANE			
	KING'S LYNN			
	Edge of Town Centre			
	Built-Up Zone			
	Total No of Dwellings:		51	
	Survey date: THURSDAY		*11/12/14*	*Survey Type: MANUAL*
10	**SF-03-C-01**	**BLOCKS OF FLATS**		**SUFFOLK**
	STATION HILL			
	BURY ST EDMUNDS			
	Edge of Town Centre			
	Built-Up Zone			
	Total No of Dwellings:		85	
	Survey date: THURSDAY		*18/12/14*	*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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	84	0.045	10	84	0.156	10	84	0.201
08:00 - 09:00	10	84	0.054	**10**	**84**	**0.177**	10	84	0.231
09:00 - 10:00	10	84	0.064	10	84	0.076	10	84	0.140
10:00 - 11:00	10	84	0.073	10	84	0.094	10	84	0.167
11:00 - 12:00	10	84	0.075	10	84	0.087	10	84	0.162
12:00 - 13:00	10	84	0.113	10	84	0.105	10	84	0.218
13:00 - 14:00	10	84	0.092	10	84	0.094	10	84	0.186
14:00 - 15:00	10	84	0.073	10	84	0.077	10	84	0.150
15:00 - 16:00	10	84	0.085	10	84	0.068	10	84	0.153
16:00 - 17:00	10	84	0.133	10	84	0.071	10	84	0.204
17:00 - 18:00	10	84	0.174	10	84	0.098	10	84	0.272
18:00 - 19:00	**10**	**84**	**0.193**	10	84	0.102	**10**	**84**	**0.295**
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.174			1.205			2.379

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:	6 - 175 (units:)
Survey date date range:	01/01/13 - 18/11/19
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. 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 CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	84	0.001	10	84	0.008	10	84	0.009
08:00 - 09:00	10	84	0.002	**10**	**84**	**0.011**	**10**	**84**	**0.013**
09:00 - 10:00	10	84	0.001	10	84	0.000	10	84	0.001
10:00 - 11:00	10	84	0.002	10	84	0.004	10	84	0.006
11:00 - 12:00	10	84	0.007	10	84	0.005	10	84	0.012
12:00 - 13:00	10	84	0.001	10	84	0.004	10	84	0.005
13:00 - 14:00	10	84	0.002	10	84	0.001	10	84	0.003
14:00 - 15:00	10	84	0.004	10	84	0.001	10	84	0.005
15:00 - 16:00	10	84	0.005	10	84	0.001	10	84	0.006
16:00 - 17:00	10	84	0.001	10	84	0.001	10	84	0.002
17:00 - 18:00	**10**	**84**	**0.008**	10	84	0.004	10	84	0.012
18:00 - 19:00	10	84	0.004	10	84	0.000	10	84	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.038			0.040			0.078

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	84	0.018	10	84	0.065	10	84	0.083
08:00 - 09:00	10	84	0.021	**10**	**84**	**0.085**	10	84	0.106
09:00 - 10:00	10	84	0.043	10	84	0.050	10	84	0.093
10:00 - 11:00	10	84	0.054	10	84	0.043	10	84	0.097
11:00 - 12:00	10	84	0.033	10	84	0.036	10	84	0.069
12:00 - 13:00	10	84	0.054	10	84	0.046	10	84	0.100
13:00 - 14:00	10	84	0.048	10	84	0.040	10	84	0.088
14:00 - 15:00	10	84	0.046	10	84	0.042	10	84	0.088
15:00 - 16:00	10	84	0.052	10	84	0.051	10	84	0.103
16:00 - 17:00	10	84	0.065	10	84	0.061	10	84	0.126
17:00 - 18:00	10	84	0.075	10	84	0.067	**10**	**84**	**0.142**
18:00 - 19:00	**10**	**84**	**0.079**	10	84	0.063	10	84	0.142
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.588			0.649			1.237

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.

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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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	84	0.001	10	84	0.068	10	84	0.069
08:00 - 09:00	10	84	0.011	**10**	**84**	**0.115**	**10**	**84**	**0.126**
09:00 - 10:00	10	84	0.002	10	84	0.036	10	84	0.038
10:00 - 11:00	10	84	0.011	10	84	0.010	10	84	0.021
11:00 - 12:00	10	84	0.010	10	84	0.008	10	84	0.018
12:00 - 13:00	10	84	0.024	10	84	0.024	10	84	0.048
13:00 - 14:00	10	84	0.014	10	84	0.029	10	84	0.043
14:00 - 15:00	10	84	0.020	10	84	0.012	10	84	0.032
15:00 - 16:00	10	84	0.068	10	84	0.015	10	84	0.083
16:00 - 17:00	10	84	0.048	10	84	0.010	10	84	0.058
17:00 - 18:00	**10**	**84**	**0.075**	10	84	0.010	10	84	0.085
18:00 - 19:00	10	84	0.062	10	84	0.013	10	84	0.075
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.346			0.350			0.696

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.

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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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	84	0.074	10	84	0.370	10	84	0.444
08:00 - 09:00	10	84	0.100	**10**	**84**	**0.512**	10	84	0.612
09:00 - 10:00	10	84	0.124	10	84	0.186	10	84	0.310
10:00 - 11:00	10	84	0.160	10	84	0.186	10	84	0.346
11:00 - 12:00	10	84	0.148	10	84	0.167	10	84	0.315
12:00 - 13:00	10	84	0.229	10	84	0.231	10	84	0.460
13:00 - 14:00	10	84	0.198	10	84	0.183	10	84	0.381
14:00 - 15:00	10	84	0.158	10	84	0.157	10	84	0.315
15:00 - 16:00	10	84	0.254	10	84	0.163	10	84	0.417
16:00 - 17:00	10	84	0.325	10	84	0.162	10	84	0.487
17:00 - 18:00	10	84	0.429	10	84	0.211	10	84	0.640
18:00 - 19:00	**10**	**84**	**0.468**	10	84	0.212	**10**	**84**	**0.680**
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.667			2.740			5.407

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.

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