

Penrhyn Road, Knowsley

Transport Assessment

Knowsley Redevelopments Ltd

27 January 2022

Document Reference: C21054/TA01



This document is formatted for double sided printing.

© Apex Transport Planning Ltd.

All Rights Reserved.

Registered Office:

30 Summerfield Avenue

Cardiff

CF14 3QA

QUALITY MANAGEMENT

REPORT DETAILS

Issued by	Apex Transport Planning Ltd 11-13 Penhill Road Cardiff CF11 9PQ	Tel: 02920 619 361 info@apex.tp.co.uk www.apex.tp.co.uk	
Client	Knowsley Redevelopments Ltd		
Project Name	Penrhyn Road, Knowsley		
Report Title	Transport Assessment		
Report Ref.	TA01		
Project No.	C21054		
Date	27/01/2022		

ISSUE HISTORY

Issue No.	Status	Date	Approved	Revision Details
1	Draft	29/10/2021	DC	First Issue
2	Draft	16/12/2021	DC	Second Issue
3	Final	27/01/2022	DC	For submission

NOTICE

This report has been prepared for Knowsley Redevelopments Ltd in accordance with the terms and conditions of appointment. Apex Transport Planning Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

The material presented in this report is confidential. This report has been prepared and is intended solely for Knowsley Redevelopments Ltd for use in relation to the Penrhyn Road, Knowsley project.

CONTENTS

1.	INTRODUCTION	1
1.1	Background	1
1.2	Scope of Report	1
1.3	Relevant Planning Policies	1
2.	EXISTING CONDITIONS	3
2.1	Site Location and Context	3
2.2	Existing Site Use and Access	3
2.3	Local Highway Network	4
2.4	Existing Traffic flow data	5
2.5	Road Safety	7
2.6	Modal Share	8
3.	SUSTAINABLE CONNECTIVITY	9
3.1	Introduction	9
3.2	Walking	9
3.3	Cycling	11
3.4	Public Transport	14
3.5	Accessibility Assessment	15
3.6	Summary	16
4.	DEVELOPMENT PROPOSALS	17
4.1	Overview	17
4.2	Site Layout	17
4.3	Access	18
4.4	Parking	18
4.5	Deliveries and Servicing	20
5.	TRIP GENERATION	22
5.1	Introduction	22
5.2	Existing Trip Generation	22
5.3	Proposed Trip Generation	23
5.4	Net Change	25
6.	TRIP DISTRIBUTION AND IMPACTS	27
6.1	Introduction	27
6.2	Trip Distribution	27
6.3	Trip Assignment	29
6.4	Impacts	29
6.5	Junction Model of the Site Access / Penrhyn Road	30
7.	MITIGATION	34
7.1	Travel Plan	34
8.	SUMMARY AND CONCLUSIONS	35
8.1	Summary	35
8.2	Conclusions	36

Tables

Table 2-1: 2021 Base Traffic Flows – Penrhyn Road	5
Table 2-2: 2018 Traffic data along School Lane (B5194)	6
Table 2-3: 2017 Traffic data along School Lane (B5194)	6
Table 2-4: DfT Traffic flow data	6
Table 2-5: Journey to Work Mode Split (Census 2011)	8
Table 3-1: Local Bus Services	14
Table 5-1: Existing Industrial Unit – Vehicle Trip Generation	22
Table 5-2: Existing Offices – Vehicle Trip Generation	23
Table 5-3: Total Existing Site – Vehicle Trip Generation	23
Table 5-4: Proposed B2 Industrial Unit development – Vehicle Trip Generation	24
Table 5-5: Proposed B2 Industrial Unit development – HGV Trip Generation	24
Table 5-6: Proposed B8 Warehouse development – Vehicle Trip Generation	24
Table 5-7: Proposed B8 Warehouse development – HGV Trip Generation	25
Table 5-8: Net Change in Two-Way Vehicle Generation	25
Table 6-1: Movements through key junctions (no reduction for existing site)	29
Table 6-2: 2031 Baseline Traffic Flows – Penrhyn Road	31
Table 6-3: Site Access / Penrhyn Road Modelling Output Summary (2031 Baseline + Development)	32

Figures

Figure 2-1: Indicative Site Location	3
Figure 2-2: Existing Building Floorspaces	4
Figure 2-3: Location of Recorded PIA's	7
Figure 3-1: Pedestrian Isochrones (25 minutes at five minute intervals)	11
Figure 3-2: Cycle Routes within vicinity of the site	12
Figure 3-3: Cycle Isochrones (25 minutes at five minute intervals)	13
Figure 3-4: Bus Routes within the region	15
Figure 6-1: Commuting flows to Knowsley 005 MSA	28
Figure 6-2: 2031 Vehicle Movements at Site Access / Penrhyn Road	32

Appendices

Appendix A	Scoping Discussions
Appendix B	Penrhyn Road Traffic Survey
Appendix C	Accessibility Assessment
Appendix D	Site Masterplan
Appendix E	General Arrangement of Site Access
Appendix F	Swept Path Analysis
Appendix G	TRICS Outputs – Existing Industrial Unit
Appendix H	TRICS Outputs – Existing Offices
Appendix I	TRICS Outputs – Proposed Industrial Use
Appendix J	TRICS Outputs – Proposed Warehouse Unit
Appendix K	Journey to Work Distribution Analysis
Appendix L	Distribution Percentages and Traffic Flow Diagrams
Appendix M	Junctions 9 Model Outputs

1. INTRODUCTION

1.1 Background

- 1.1.1 Apex Transport Planning Ltd ('Apex TP') has been commissioned by Knowsley Redevelopments Ltd to produce a Transport Assessment (TA) in relation to a proposed B2/B8 warehouse unit development on an existing industrial site at Penrhyn Road, Knowsley Business Park, Prescot.
- 1.1.2 The proposals comprise the demolition of the existing buildings and erection of a B2/B8 warehouse unit with ancillary offices and associated external service yard and car parking.
- 1.1.3 The application site ('the site') is located to the north of Penrhyn Road and south of the A580 East Lancashire Road. Access is gained from the south via Penrhyn Road. It is a brownfield site with an existing industrial use with a number of buildings located on the site with a long history of employment use. The site is also allocated as a Primarily Industrial Area (Knowsley Business Park) as Policy CS4 in the Knowsley Council Local Plan. As such, the proposals would be situated within a site allocated for employment use.
- 1.1.4 This TA provides an assessment of the sustainable connectivity and transport impacts of the proposed development and sets out details of the proposed parking and access arrangements. This TA has been produced to inform Knowsley Metropolitan Borough Council (KMBC) of the highways and transport implications of the proposals.

1.2 Scope of Report

- 1.2.1 The scope of the report has been discussed with the highway authority, KMBC, with their pre-application responses included in Appendix A.
- 1.2.2 The TA broadly includes the following:
 - Description of the existing site use, location and trip generation characteristics
 - Review of the existing conditions, including relevant planning allocations / applications, highway network characteristics, highway safety and existing travel behaviour
 - Review of the sustainable connectivity of the site including walking and cycling routes and public transport connections
 - Description of the development proposals, demonstrating safe and appropriate access by all modes, car and cycle parking and servicing and delivery arrangements
 - Forecast of vehicle trip generation in the peak hours and net change from the existing / historic use
 - Consideration of the impact of the proposals on the local highway network

1.3 Relevant Planning Policies

- 1.3.1 Key policy and guidance documents in relation to transport at a national and local level have been considered when assessing the impact of the development proposals which include:
 - National Planning Policy Framework (July 2021)
 - Planning Practice Guidance Travel Plans, Transport Assessments and Statements in Decision-Taking' (March 2014)
 - Manual for Streets (2007)
 - KMBC Local Plan 2016
 - KMBC Design Quality in New Development SPD (2016)

- The third LTP for Merseyside (2011-2026)
- KMBC guidance on parking contained within SPD 'Ensuring a Choice of Travel' (2010)

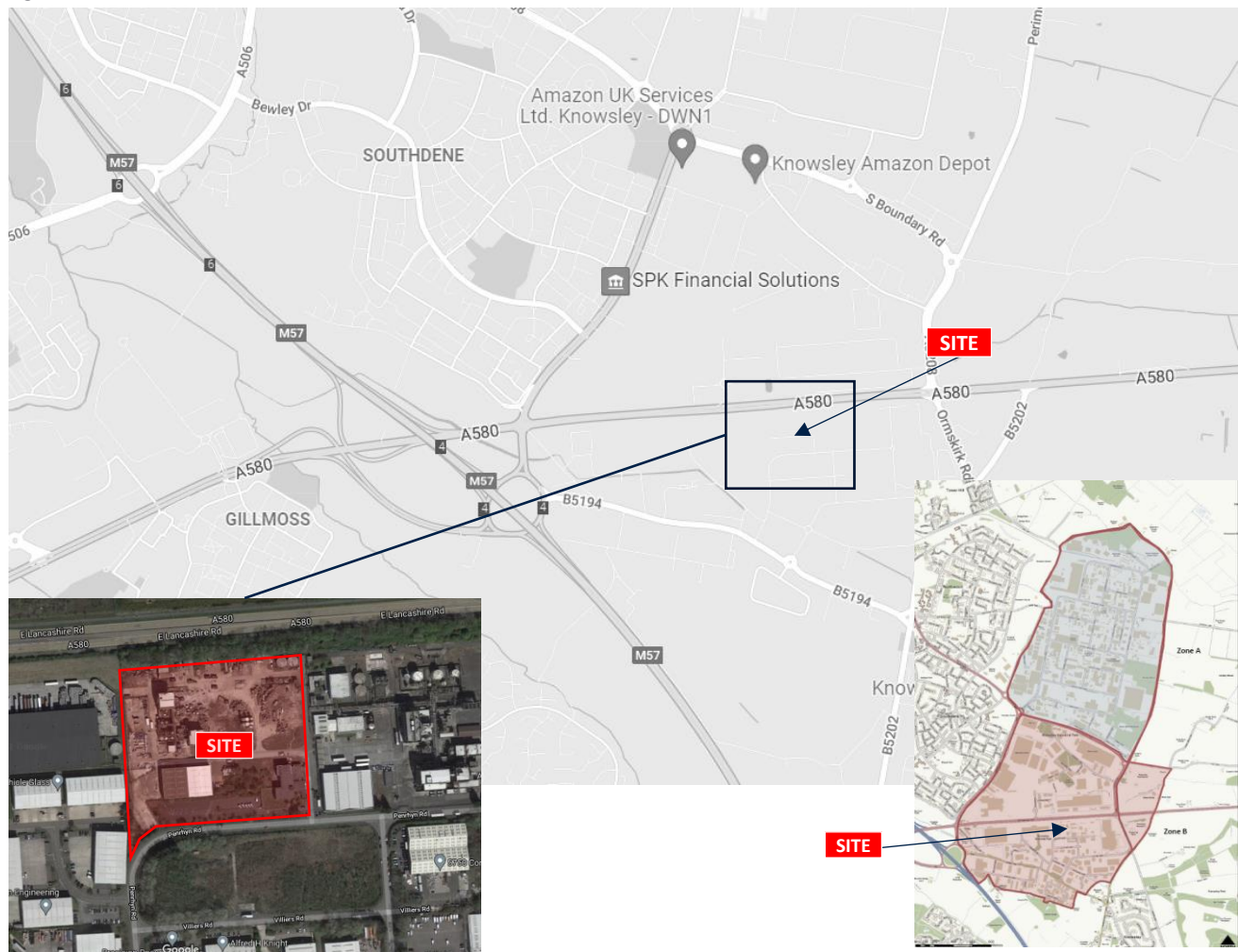
- 1.3.2 The key policy documents promote employment developments at Knowsley Industrial Park. The policies support developments where there is a choice of sustainable transport modes such as walking, cycling, public transport and electric vehicles.
- 1.3.3 KMBC local plan policy CS4 states that the site is allocated as a Primarily Industrial Area (Knowsley Business Park) as Policy CS4 in the Knowsley Council Local Plan. As such, movements associated with the proposed use have been accepted on the network through the strategic planning process.
- 1.3.4 The NPPF para 111 states that development should only be prevented or refused on transport grounds if there is an unacceptable impact on highway safety, or where the residual cumulative impacts on the road network are severe.

2. EXISTING CONDITIONS

2.1 Site Location and Context

- 2.1.1 The site is located within the southern extent of Knowsley Business Park (Zone B), immediately south of the A580 and the north of Penrhyn Road approximately 650 metres from the northern edge of Knowsley.
- 2.1.2 It is situated within an existing industrial estate and is surrounded by industrial and employment uses, including a number of engineering companies alongside retail distribution warehouses.
- 2.1.3 The site location is shown indicatively in Figure 2-1.

Figure 2-1: Indicative Site Location



Source: Google Maps

2.2 Existing Site Use and Access

- 2.2.1 The existing site use was for a chemical manufacturing plant with offices and warehousing. This was operational as recently as 2019 and the highway authority have stated that they would consider trips from this existing use, if operational within the last four years. The existing use comprised a number of different buildings across the site, the majority of which were industrial / factory / warehouse use (6233.6sqm in total) with an additional office building of 1,350sqm.

- 2.2.2 The existing floorspace by building across the site, provided by the existing landowner, has been set out within Figure 2-2.

Figure 2-2: Existing Building Floorspaces

Warehouse (Building 1)	1,627.92
Chiller Store (Building 2)	60.00
Flammable Store (Building 3)	268.04
Flammable Store (Building 4)	265.45
Drum Fill (Building 5)	36.22
Dryer House (Building 7)	79.83
Switch Room (Building 8)	58.59
Workshops (Building 9)	200.93
Boiler House (Building 10)	197.37
Workshop (Building 11)	81.59
Stores (Building 12 and 13)	94.13
Bonner Building (Building 14)	
Ground Floor	685.32
First Floor	59.59
TDC Building (Industrial) (Building 15)	428.76
TDC Building (Labs) (Building 15)	
Ground Floor	155.11
First Floor	155.11
Second Floor	155.11
Production Plant (Building 16) - Disused	210.79
Production (Building 17)	
Ground Floor	1,223.94
First Floor	191.54
Administration Block	
Ground Floor	850.43
First Floor	499.26
Total	7,583.26

- 2.2.3 The site is accessed from the south via a priority junction onto Penrhyn Road. This in turn links to the south connecting to the B5194 School Lane. The site had a car park along its frontage which links to the priority junction and could accommodate approximately 85 vehicles. Further informal parking is provided adjacent to the site access which can accommodate eight vehicles. As such, the existing site had parking for approximately 93 vehicles.
- 2.2.4 The main access into the service areas for operational vehicles is gated, with the gatehouse situated adjacent to the access and in front of the office building. The gates are set back approximately 30 metres from the edge of the highway on Penrhyn Road.
- 2.2.5 The existing and historic site use generated a significant number of vehicle movements for employment use, including HGVs, which have been accommodated appropriately at the site access and onto the surrounding network.
- 2.2.6 The site is also allocated for employment use within the Local Plan and as such, movements associated with employment use on the site have also been accepted through the strategic planning process.

2.3 Local Highway Network

- 2.3.1 The site is accessed from Penrhyn Road which links to School Lane (B5194) to the south-west as the minor arm of a priority junction. Penrhyn Road also links to Kitling Road via an unnamed road connecting to the south, which links to School Lane (B5194) at a four armed roundabout at its southern end. Kitling Road also links to the B5202 at its eastern end at a five armed roundabout.

- 2.3.2 Penrhyn Road is a single carriageway road with a width of c. 7.5 metres, which accommodates HGV and light vehicle movements for numerous surrounding industrial units. It connects to School Lane (B5194) at its south-western extent. Penrhyn Road has two metre footways on both sides which benefit from street lighting at regular intervals and dropped kerb crossings at junctions. Grass verges are also provided in places, providing separation for pedestrians. Penrhyn Road is a no through road to the east of the unnamed road (which links to Kitling Road).
- 2.3.3 Kitling Road provides access to Penrhyn Road from the five arm B5202 roundabout to the east and School Lane to the south via Villiers Road and Overbrook Lane. Kitling Road benefits from street lighting and two metre footways along its length.
- 2.3.4 The B5194 School Lane is a key route accommodating significant levels of HGV traffic relating to Knowsley Business Park connecting the M57 J4 at its western end with the B5202 at its eastern end. School Lane has a large traffic island priority controlled junction with the B5202 Knowsley Lane. School Lane is subject to a 40-mph speed limit and has a carriageway width of 7.4 metres, including a 0.7 metre central strip, with the vicinity of Penrhyn Road. School Lane is a dedicated bus route, with the closest stops located on approach to B5194 / Kitling Road / Caddick Road roundabout approximately 500 metres from the site. There is also a Clearway order to prohibit drivers stopping on the carriageway of School Lane to maintain the free flow of traffic.
- 2.3.5 The B5202 / Kitling Road roundabout also provides access to Ormskirk Road which links to the A580 to the north at a signal controlled junction. The A580 is an arterial dual carriageway route which links the M6 to the M57.
- 2.3.6 The M57 provides the closest access to the strategic road network from J4, which forms a grade separated, partly signal controlled, roundabout junction with School Lane and the A580. This would provide the key route for operational vehicle traffic movements to and from the site.

2.4 Existing Traffic flow data

Penrhyn Road

- 2.4.1 The highway authority has requested an assessment of the operation of the proposed site access with Penrhyn Road. As such, to obtain background traffic data against which the site access can be assessed, an automatic traffic count (ATC) was undertaken by an independent traffic survey specialist (Auto Surveys Ltd) for seven continuous days between Friday 12th November 2021 and Thursday 18th November 2021. The counter was placed approximately 30m to the west of the existing site access on Penrhyn Road and recorded fully classified two-way vehicle movements as well as speed information.
- 2.4.2 The highest recorded two-way peak hour movements on any weekday have been set out in Table 2-1. The full survey data is included in Appendix B.

Table 2-1: 2021 Base Traffic Flows – Penrhyn Road

Time Period	Total Vehicles			HGVs		
	Westbound	Eastbound	Two-way	Westbound	Eastbound	Two-way
AM Peak (08:00-09:00)	18	26	44	0	0	0
PM Peak (17:00-18:00)	42	12	54	1	0	1

Wider Network

- 2.4.3 A review has been undertaken of recent planning applications in the surrounding area to ascertain baseline flows on the wider surrounding highway network during peak hours.

- 2.4.4 A planning application was approved for a proposed Compressed Natural Gas (CNG), filling station at The Gateway on School Lane in Knowsley (App Ref: 18-00578-FUL). This was supported by a Transport Assessment produced by Highway Associates in 2018. This provided details of traffic flows on School Lane at the access location, to the west of Penrhyn Road. Table 2-2 provides a summary of this data.

Table 2-2: 2018 Traffic data along School Lane (B5194)

Time Period	Total Vehicles			HGVs		
	Westbound	Eastbound	Two-Way	Westbound	Eastbound	Two-Way
AM Peak (0745-0845)	276	587	863	27	24	51
PM Peak (1630-1730)	558	231	789	12	17	29

Source: App Ref: 18-00578-FUL – Transport Assessment (Appendix 2)

- 2.4.5 The Transport Assessment for The Gateway application also stated that this was significantly below the traffic capacity of a single carriageway road with a clearway order in place which is 1,300 vehicles per hour in the busiest direction of flow. Whilst the DMRB document referenced has now been superseded, this analysis was accepted through the granting of planning consent. As such, there is a high level of two-way movements on School Lane but this still operates well below its maximum theoretical capacity.
- 2.4.6 In addition, a planning application was approved for a petrol station, drive-thru restaurant and three industrial units on the Nexus site on land at the junction of Moorgate Road / M57 slip road, immediately south of School Lane (at its western end) (App Ref: 19-00243-OUT).
- 2.4.7 This was supported by a Transport Statement produced by Highway CBO Transport in 2019. This provided details of traffic flows on School Lane to the east of the M57 J4. Table 2-3 provides a summary of this data.

Table 2-3: 2017 Traffic data along School Lane (B5194)

Time Period	Total Vehicles			HGVs		
	Westbound	Eastbound	Two-Way	Westbound	Eastbound	Two-Way
AM Peak (0800-0900)	391	750	1141	66	53	119
PM Peak (1700-1800)	767	359	1126	23	50	73

Source: App Ref: 19-00243-OUT – Transport Assessment (Table 2:1)

- 2.4.8 The flows shown in the Nexus site TS were slightly higher than shown in The Gateway application, but still well within the capacity of the road. This also showed a higher existing HGV flow on the network.
- 2.4.9 It is recognised that the movements obtained within these surveys would include traffic generated by the existing / historic use of the application site.
- 2.4.10 The Department for Transport (DfT) provides AADF (Annual Average Daily Flow) traffic data at a number of locations across the highway network. Within the vicinity of the site, count data is provided on the A580 to the east and west of Ormskirk Road, as well as on School Road to the west of Unity Grove. A summary of the two-way movements by link are set out in Table 2-4.

Table 2-4: DfT Traffic flow data

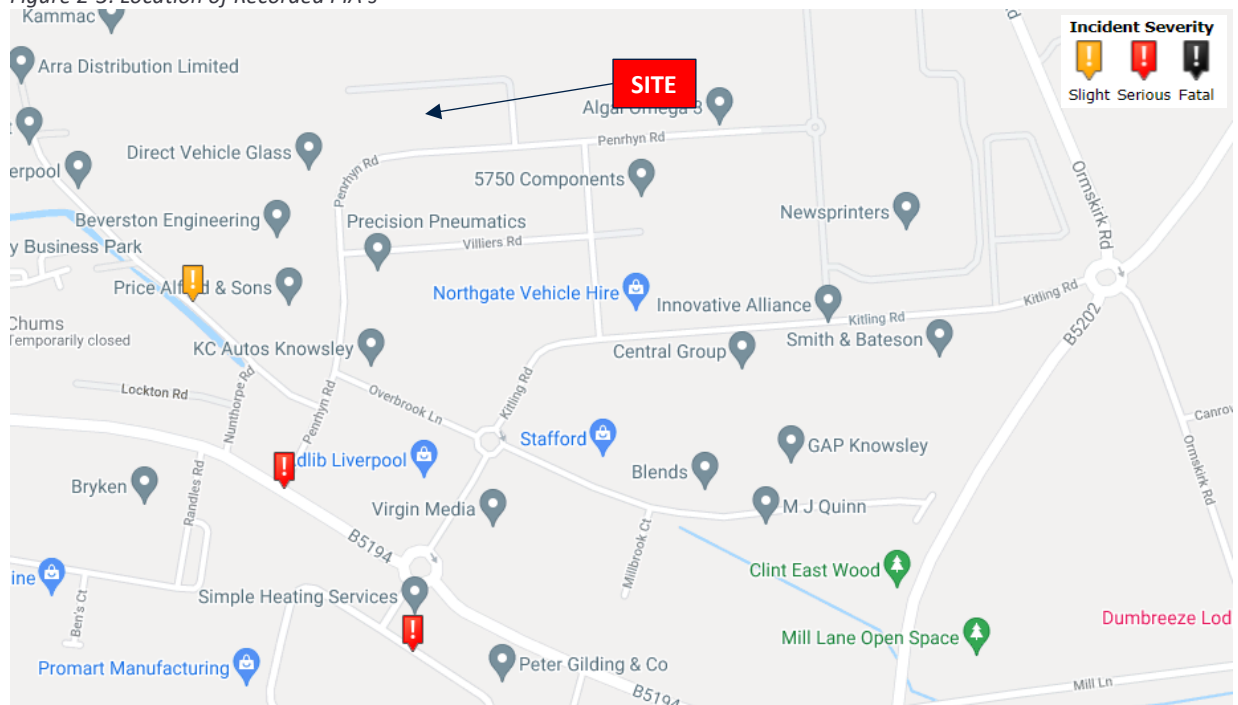
Time Period	Total Vehicles			HGVs		
	Westbound	Eastbound	Two-Way	Westbound	Eastbound	Two-Way
A580 west of Ormskirk Road (Site No. 7298) – 2018 count data						
AM Peak (0800-0900)	782	797	1579	66	74	140
PM Peak (1700-1800)	591	776	1367	25	35	60
A580 west of Ormskirk Road (Site No. 37360) – 2017 count data						
AM Peak (0800-0900)	1452	820	2272	104	114	218
PM Peak (1700-1800)	792	1280	2072	39	65	104
B5194 School Road west of Unity Road (Site No. 809405) – 2019 count data						
AM Peak (0800-0900)	261	560	821	35	24	59
PM Peak (1700-1800)	319	205	524	7	31	38

- 2.4.11 As shown within the DfT counts the flows on School Road were lower than the other two surveys, although there was a higher percentage of HGV's. The three surveys all therefore have differing levels of movements but demonstrate that School Road operates well within capacity.
- 2.4.12 The flows on the A580 show that this route has between c. 1,400 – 2,300 two-way movements in the peak hours. This is a high level of traffic flow, but well within the capacity of a dual carriageway road with two lanes in each direction. The flows east of Ormskirk Road are higher than those to the west, as some vehicles from the industrial estates and Knowsley would utilise this eastern section of the route to access the M6.
- 2.4.13 These obtained traffic flows will be utilised to assess the impact of the redevelopment proposals on the wider network.

2.5 Road Safety

- 2.5.1 Personal Injury Accident (PIA) data has been obtained from road safety data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. The most recently available five-year dataset covers between 1st January 2016 and 31st December 2020.
- 2.5.2 The study area considered within the analysis covers the local highway network within the vicinity of the site as well as the Penrhyn Road and Kitling Road junctions with the B5202 and B5194. Locations of recorded PIAs are shown in Figure 2-4.

Figure 2-3: Location of Recorded PIA's



Source: Crashmap

- 2.5.3 Three PIAs occurred within the study area surrounding the site. Two of them were serious PIAs and one was slight. There were no fatal incidents during this period.
- 2.5.4 No PIAs occurred in close proximity to the site access, along Penrhyn Road or Kitling Road or at the Kitling Road / B5202 junction.

- 2.5.5 Two of the PIAs occurred away from routes which would be utilised by the proposed development, with one on Caddick Road and one on Ainsworth Lane, neither of which form through routes for vehicles or pedestrians.
- 2.5.6 The remaining PIA occurred at the junction of Penrhyn Road and School Lane. This involved a collision between a car turning at the junction colliding with a motorcycle who was ongoing on School Lane.
- 2.5.7 There were no incidents involving pedestrian or cyclist movements on the key routes to the site. There were no incidents involving HGVs within the study area. There were no locations where a cluster of four or more PIAs occurred in the same location.
- 2.5.8 As such, although all incidents are regrettable, the PIAs that occurred do not indicate a specific pattern or issue with the geometry of the highway that would be exacerbated by the proposals, particularly given the historic use of the site has generated vehicle movements on the network.

2.6 Modal Share

- 2.6.1 The site is located within Knowsley 005 middle layer super output area (MSOA). Census 2011 data has been analysed for the Knowsley 005 MSOA to establish the journey to work modal split for the workplace population. This has been compared with the data for the entire of the Knowsley metropolitan borough area. This is shown in Table 2-5.

Table 2-5: Journey to Work Mode Split (Census 2011)

Mode	Knowsley 005 %	Knowsley %
Public Transport	10.5%	11.5%
Car Driver	70.8%	66.4%
Car Passenger	9.2%	8.0%
Motorcycle	0.8%	0.6%
Bicycle	2.3%	1.7%
On Foot	4.6%	9.5%
Other	1.8%	2.2%
Total	100.0%	100.0%

- 2.6.2 Table 2-5 shows that 72% of existing employees travel to work to this MSOA as a car or motorcycle driver and an additional 9% travel to work as a car passenger. A total of 18% travel by sustainable modes of transport, of which 11% travel by public transport, 5% on foot and 2% by bicycle.
- 2.6.3 The data shows that the method of travel is similar in Knowsley 005 MSOA and across the wider borough area.
- 2.6.4 The data shows that employees in this area have a high level of travel by sustainable modes, particularly by public transport, which is reflective of the sustainable location of the site. As such, this demonstrates that there is excellent potential for walking, cycling, and public transport trips to be made to and from the site and that these movements already occur in this area (including historically in relation to the site operations).

3. SUSTAINABLE CONNECTIVITY

3.1 Introduction

- 3.1.1 The site has a long history of employment use and is situated within the Knowsley Business Park allocated employment area. As such, the sustainable transport links have been considered appropriate for employment uses and movements have been accommodated to and from the site for this use.
- 3.1.2 Although the site is considered to be appropriately situated for employment use, this section provides an appraisal of the existing sustainable transport networks surrounding the proposed site, with due regard to walking, cycling network and public transport networks/infrastructure.

3.2 Walking

- 3.2.1 Walking is the most important mode of travel at a local level and offers the greatest potential to replace short car journeys.

Infrastructure

- 3.2.2 The site is well connected by good pedestrian routes and facilities and is within a well-established industrial area. The surrounding streets have footways on both sides, as would be expected in an existing urban area. There are continuous walking routes in all directions which connect to residential areas, facilities and public transport stops. Street lighting is provided at frequent intervals along all routes linking to the site. The gradients are relatively flat on the routes surrounding the site which is conducive for walking.
- 3.2.3 The two metre wide footways located along both sides of Penrhyn Road provide a direct connection to the site from the surrounding area and as a continuous link to Knowsley Village to the south-east of the site. The footways along the unnamed road, Penrhyn Road, Kitling Road and School Lane provide a route to Knowsley to the south and Southdene to the northwest.
- 3.2.4 There are at grade signal controlled crossings provided at the A580 / A5207 junction which enables crossing to Southdene and Kirkby.
- 3.2.5 As such, the site is well situated to encourage walking for future employees and visitors.

Distances

- 3.2.6 To enable an assessment of the viability of walking between the site and residential areas, it is appropriate to establish the maximum distance that people are generally prepared to walk for work purposes.
- 3.2.7 There are a number of publications which suggest guidance for appropriate and acceptable walking distances. For reference, these have been summarised as follows.
- CIHT - Guidelines for Providing for Journeys on Foot (2000): suggests preferred maximum distances for commuting are up to 2km and states that the average walking journey is approximately 1km.
 - Department for Transport (DfT) – Manual for Streets (2007): MfS states that ‘walkable neighbourhoods’ are typically characterised by having a range of facilities within 10 minutes walking distance (c. 800 metres) – i.e. this would include employment uses. MfS also acknowledges that this is not an upper limit and references previous planning policy guidance in that it is generally acknowledged that walking offers the greatest potential to replace short car trips, particularly under 2km.

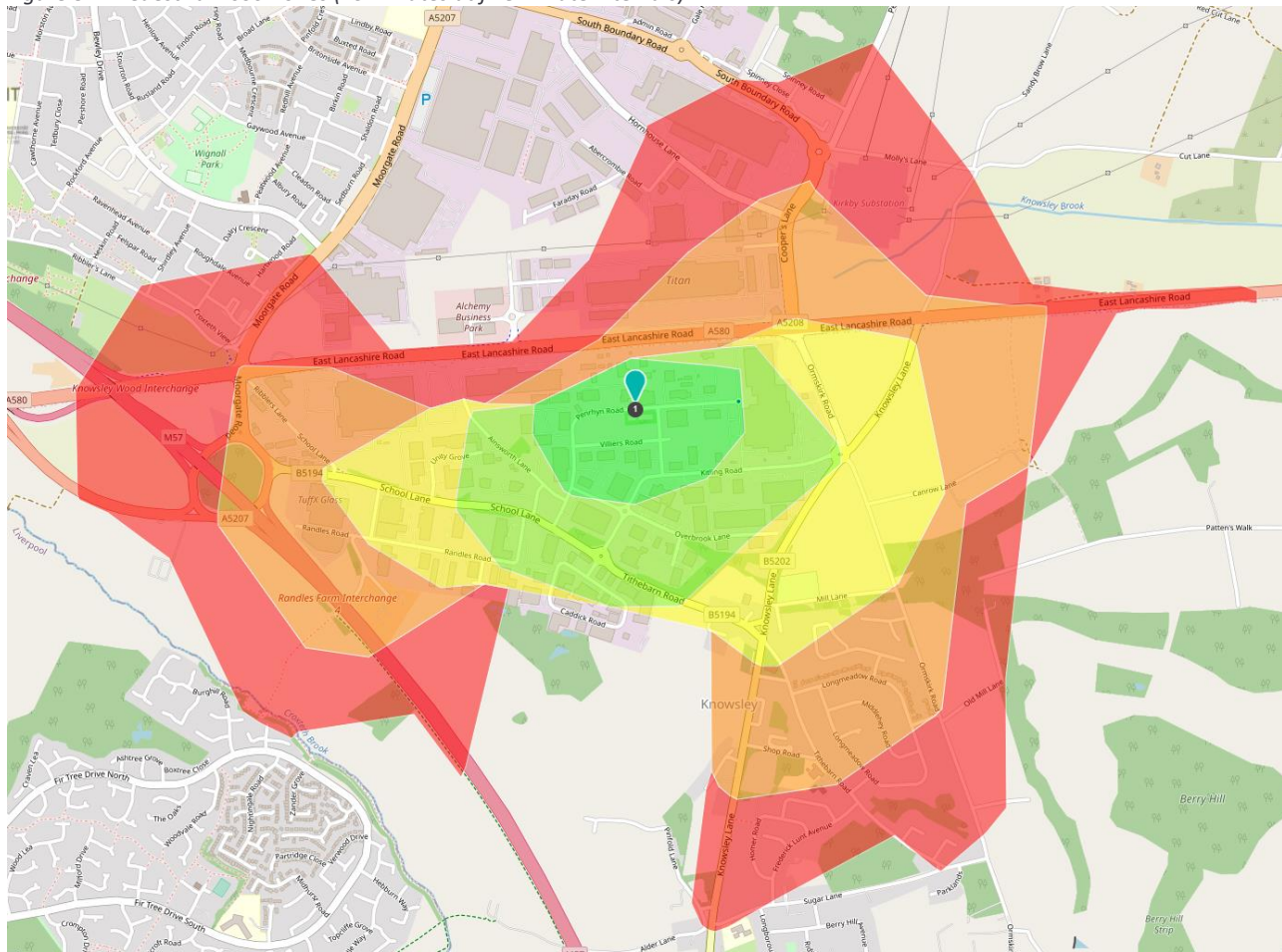
- CIHT (2015) – Planning for Walking: In relation to shorter trips in particular, (section 2.1) states that across Britain about *‘80% of journeys shorter than 1 mile (1.6km) are made wholly on foot’*.
- DfT – National Travel Survey 2016 Report (NTS2016)– This suggests on page 16 that 80% of all trips under 1 mile (1.6km) were made by walking. Page 19 suggests that the average walking trip was 16 minutes in time (equating to around 1.3km based on a walking speed of 3mph).
- DMRB – Although recently superseded by CD143, TA91/05 Provision for Non-Motorised Users provided useful guidance on walking and cycling distances, which remains helpful in this regard. Paragraph 2.2 of TA91/05 states that 2 miles (3.2km) is *‘a distance that could easily be walked by the majority of people’*. Paragraph 2.3 also continues by stating that *‘Walking is used to access a wide variety of destinations including places of work, normally within a range of up to 2 miles’* (3.2km).

3.2.8 As such, based on guidance, it is considered that suitable walking distances could be up to 3.2km. This equates to around a 40-minute walk travelling at 3mph. However, distances of 2km are considered more likely for walking journeys and residential areas within 800 metres are considered to be within ‘walkable neighbourhood’ distances.

3.2.9 ‘Openroute Service’ has been used to generate pedestrian isochrones at five-minute (c.400m) intervals as shown in Figure 3-1. This is based on walking speeds of 5km per hour (c. 3mph). It demonstrates a significant proportion of the northern areas within Knowsley are accessible within a 25-minute walk from the site (c. 2km). This includes the residential area of Knowsley to the south of the site, the southern part of Knowsley Industrial Park and the southern extent of the residential area of Kirkby.

3.2.10 This shows that there is a high number of residents within potential walking distance of the site and that the site is highly accessible on foot. As such, a high proportion of employees (and visitors) could travel to the site on foot, and this would be an attractive option.

Figure 3-1: Pedestrian Isochrones (25 minutes at five minute intervals)



Source: Openroute Service

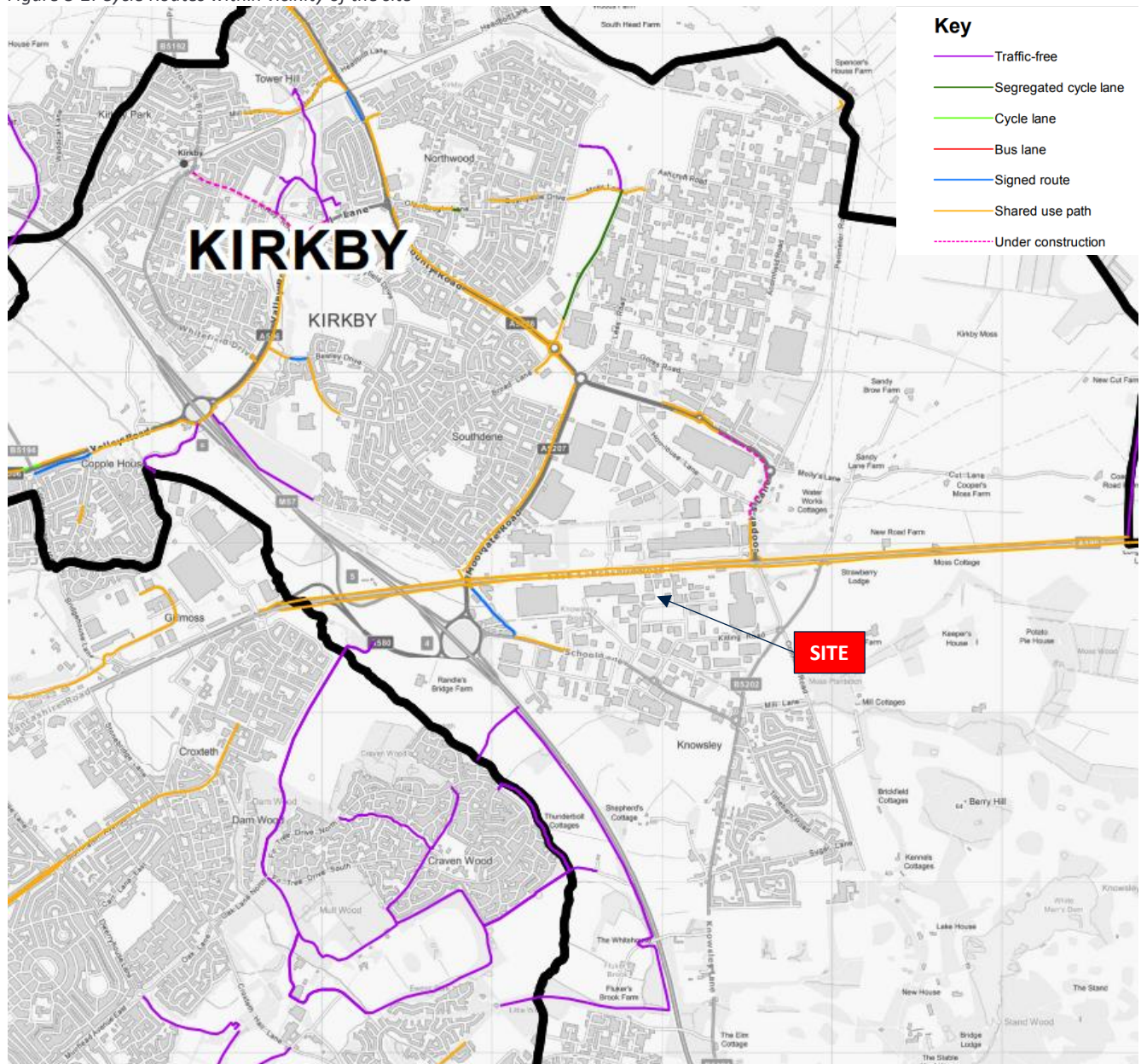
3.3 Cycling

Routes

- 3.3.1 Cycle routes within the vicinity of the site are shown on the Merseytravel active travel website. This shows that there is a shared use footway / cycleway route on School Lane which connects to a signed route on Ribblers Lane linking to the A580 / A5207 junction. This in turn links to further shared use footway / cycleways which run adjacent to the A580 and the A5207 connecting to Kirkby to the north and St Helens to the east. There is a signal controlled crossing at the A580 / A5207 enabling access to routes in all directions.
- 3.3.2 A further traffic free route runs adjacent to the M57 and also connects with Craven Wood, which can be accessed from an underpass via Gellings Lane. This also provides a connection with northern areas in Huyton.
- 3.3.3 There is also a shared use path running adjacent to the A580 along the northern boundary of the site.
- 3.3.4 The surrounding streets are also wide, with streetlighting and a minimal gradient and would be suitable for use by cyclists. Penrhyn Road also has a low level of vehicle movements and is suitable for shared use by cyclists and vehicles.
- 3.3.5 As such, the site is connected to local cycle routes and these would be suitable for some employees and visitors.

3.3.6 The cycle routes within the vicinity of the site are shown in Figure 3-2.

Figure 3-2: Cycle Routes within vicinity of the site



Source: Merseytravel Cycle Map

Distances

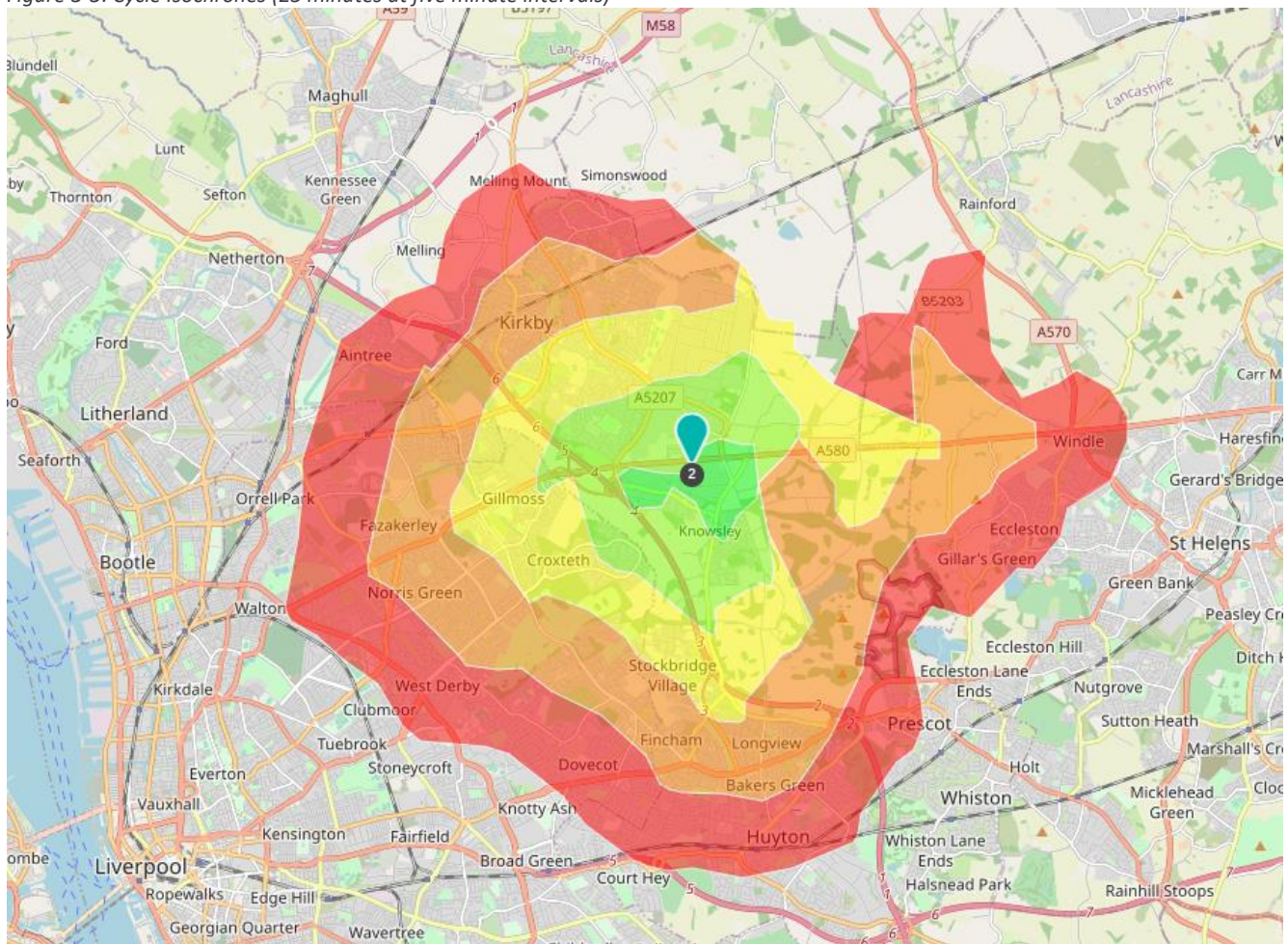
3.3.7 There are a number of publications which suggest guidance for appropriate and acceptable cycling distances for commuting purposes. Two of the key guidance documents have been summarised as follows.

- DfT - LTN02/08 Cycle Infrastructure Design (paragraph 1.5.1) states that 'for commuter journeys, a trip distance of over five miles is not uncommon' (c.8km), and that 'Experienced cyclists will often be prepared to cycle longer distances for whatever journey purpose.'
- With regard to cycling, TA91/05 states (paragraph 2.11) that 'Cycling is used for accessing a variety of different destinations, including places of work, up to a range of around 5 miles.' At

paragraph 2.9, TA91/05 states that 5 miles (c.8km) is a distance ‘that could easily be cycled by the majority of people’.

- 3.3.8 It has been assumed that journeys of up to 8km are within an acceptable cycling distance. A cycling journey of 8km would equate to approximately a 25-minute trip.
- 3.3.9 The Openroute Service has been used to generate cycle isochrones at five-minute intervals up to a total of 25 minutes (c.8km) using roads and cycle routes (i.e. not straight line distances). This has been shown in Figure 3-3. The isochrones are generated based on speeds dependent on the surface and highway type. The majority (if not all) of the routes used would be paved and as such would be subject to an 18kph speed based on the parameters in the software. A five-minute isochrone would therefore cover a distance of c. 1.5km, with a 25-minute isochrone covering a distance of c.7.5km. As such, this is broadly in accordance with the relevant design guidance (indeed, cycle journeys to the site could originate from slightly greater distances, up to 8km from the site, in accordance with the guidance).
- 3.3.10 The isochrones show the entire of Knowsley is accessible within an appropriate cycling distance in addition to Kirkby, Prescott, Huyton and eastern areas of Liverpool. Most of the areas within Crawley can be accessed by suitable and recommended cycling routes, as shown within Figure 3-2.

Figure 3-3: Cycle Isochrones (25 minutes at five minute intervals)



Source: Openroute Service

- 3.3.11 As such, travelling to the site by cycle is considered a feasible and realistic option for some employees of the site. As shown in Section 2, there are already journeys made by cycle for work purposes in this area.

3.4 Public Transport

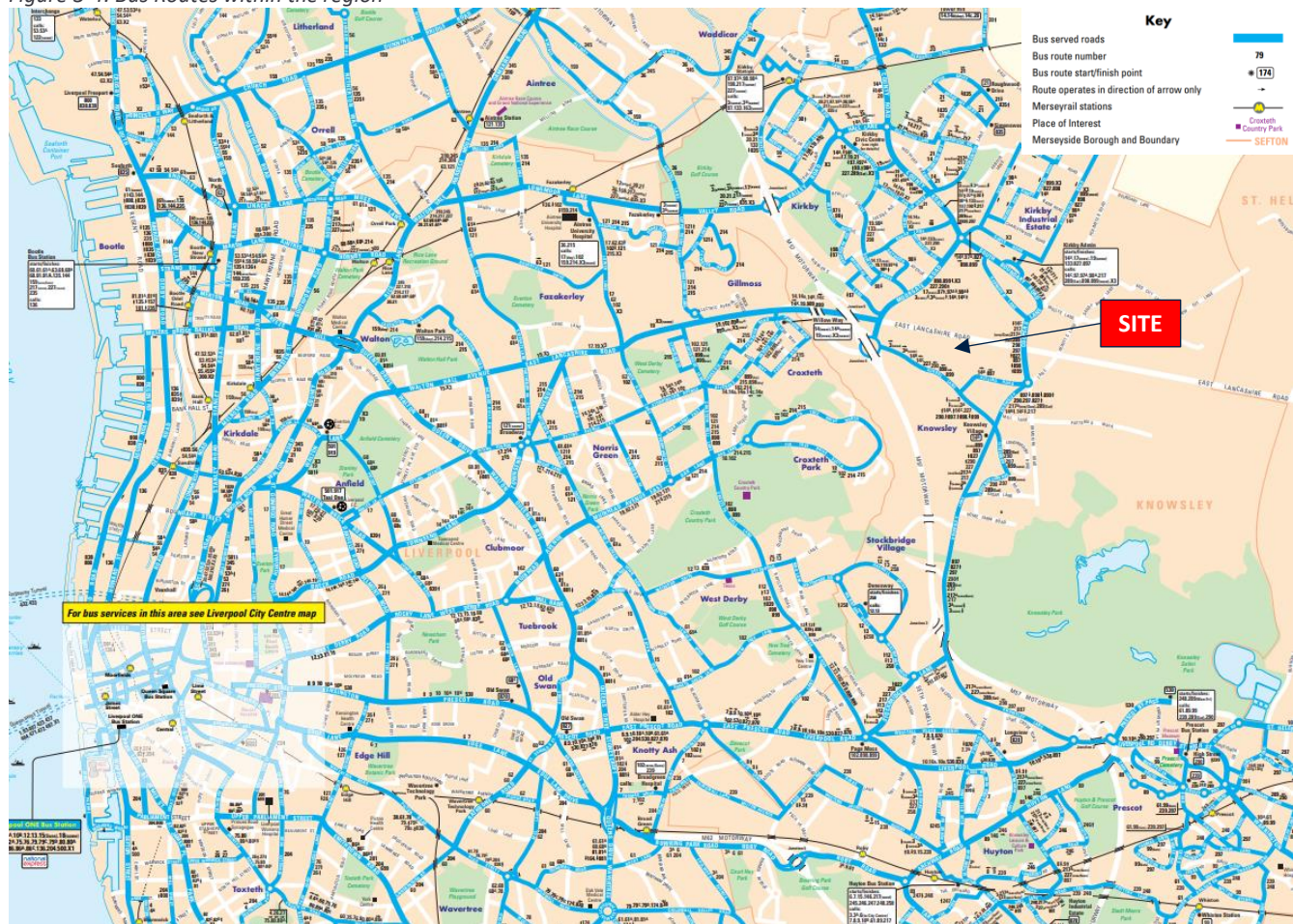
Bus

- 3.4.1 The closest bus stops to the site are situated on Kitling Road, within a 450 metre walk of the site via suitable footways. There are further bus stops on School Road which are approximately 650 metres from the site. These stops provide timetable information. The stops are served by services 14B, 217/217A, 227, 289, 297, 827, 898 and 899. Service 14B stops on Kitling Road with the remainder stopping on School Road.
- 3.4.2 A summary of the services available within suitable walking distance of the site can be found in Table 3-1. These are shown in a single direction, with the other direction providing the same frequency of service. A route map showing the services within the vicinity of the site is shown in Figure 3-4.

Table 3-1: Local Bus Services

No.	Route Summary	Frequency		
		Monday-Friday	Saturday	Sunday
14B	Liverpool - Knowsley Village	Four services a day First Bus: 0758 Last Bus: 1855	No Service	No Service
217 / 217A / 227	Kirkby Bus Station - Huyton	Two per hour First Bus: 0657 Last Bus: 2319	One per hour First Bus: 0658 Last Bus: 2326	One per hour First Bus: 0649 Last Bus: 2319
289	St Helens - Prescot or Kirkby	One per hour First Bus: 1027 Last Bus: 1727	One per hour First Bus: 1001 Last Bus: 1701	No Service
297	St Helens - Kirkby	One per hour First Bus: 0807 Last Bus: 1708	No Service	No Service
827	Old Swan - Kirkby	One service 0730	No Service	No Service
898	Page Moss - Kirkby Admin circulars	One per hour First Bus: 0548 Last Bus: 2253	One per hour First Bus: 0548 Last Bus: 2253	One per hour First Bus: 0548 Last Bus: 2253
899	Woolfall Heath – West Kirkby, Knowsley	One per hour First Bus: 0505 Last Bus: 2210	No Service	No Service

Figure 3-4: Bus Routes within the region



Source: Mersey Travel Bus Routes

- 3.4.3 The site has excellent connections by frequent bus services to a variety of destinations. This includes services which operate throughout the day and are therefore suitable for employees' working shifts.
- 3.4.4 As such, travelling by bus would be suitable and attractive mode for commuting journeys to and from the site.

Rail

- 3.4.5 The closest railway station to the site, Kirkby Rail Station, is located approximately 5.3km to the northwest of the site. The station can be accessed via a 16-minute cycle and is connected by suitable routes.
- 3.4.6 Kirkby Rail Station provides services to local and regional destinations. These services including trains routing to and from Liverpool and Blackburn. Journeys to Liverpool Central Rail Station from Kirkby take around 20 minutes and from Liverpool it is possible to connect to further regional and national destinations.
- 3.4.7 As such, travelling by rail and cycle to the site provides an alternative option for some employees, particularly those travelling longer journeys to the site.

3.5 Accessibility Assessment

- 3.5.1 Although the site is situated within an allocated employment area and has an existing employment use, as requested by the highway authority an accessibility assessment has been undertaken in

accordance with Appendix B of the KMBC Ensuring a Choice of Sustainable Travel SPD. The full assessment has been provided in Appendix C.

- 3.5.2 The site scores the suggested minimum points for walking, cycling and parking provision, demonstrating the sustainable location of the site. In relation to public transport the site scores 4 points out of the minimum 5. This is partly due to scoring no points on the location to public transport as the distance to stops has a threshold of 200m, when the site has access to stops within 450m which are not considered. However, it is set out in detail that measures to encourage travel by public transport have been set out within the Travel Plan and the site is well connected to existing stops by continuous good quality walking routes and these stops have frequent services.
- 3.5.3 As such, the access by public transport is considered appropriate and does not require any further mitigation. In addition, the site has an existing employment use and is situated within an allocated employment site, the location has therefore been considered appropriate in sustainable connectivity terms for employment use.

3.6 Summary

- 3.6.1 The site is situated in a sustainable location, as would be expected in an existing and established urban area, within an allocated employment site. It is well suited to accommodate the proposals, being located in a well-established industrial area connected by existing pedestrian, cycle and public transport networks.
- 3.6.2 There is an attractive and realistic choice of modes of travel for all journey purposes, which will assist in constraining the level of vehicle generation from the site and minimise the impact of the development.
- 3.6.3 The site location will encourage and promote sustainable travel behaviour, attract employees who choose to travel by sustainable modes and is fully in accordance with sustainable transport policies in the Local Plan and NPPF.

4. DEVELOPMENT PROPOSALS

4.1 Overview

4.1.1 The proposals comprise the demolition of the existing plant/buildings and erection of a B2 industrial unit / B8 warehouse unit with ancillary offices and associated external service yard and car parking. The proposed development will be accessed off Penrhyn Road with separate access points for staff and visitors from operational vehicles.

4.1.2 The scheme consists of the following:

Building Unit	GFA (sqm)
Warehouse	17,159
Warehouse office	903
Transport office	465
Total Floorspace	18,554

4.1.3 Although there are offices within the unit, these are ancillary to the main B2/B8 use.

4.1.4 The site layout plan shows that the site would have 147 car parking spaces (including 8 disabled spaces), 46 HGV spaces and 11 motorcycle spaces, if occupied for B8 use. Further parking for 85 car parking spaces and 8 motorcycle spaces is possible within the service yard for B2 use, if needed.

4.1.5 The site masterplan is provided within Appendix D.

4.2 Site Layout

4.2.1 The site layout has been designed to ensure operational activities are separated from non-operational activities, with dedicated areas and accesses for each. This includes separating HGVs and pedestrians as far as possible.

4.2.2 A 132-space car park is situated on the southern boundary of the site close to the warehouse office and staff entrance. This car park, which also accommodates 11 motorcycle spaces, is served from Penrhyn Road via a new priority junction. This car park is linear in nature, has an aisle with of 6m and has suitable turning areas at each end.

4.2.3 The operational access is proposed to the east of the car park access. This leads to the service yard area to the rear of the warehouse unit via an access road adjacent to the eastern side of the building, which is secured by a controlled access gate. The access road is 7.3m wide which is suitable for accommodating two-way passing vehicle movements.

4.2.4 An additional 15 car parking spaces are provided along the west side of the operational access road to the south of the gatehouse/gate. The operation yard to the rear of the site accommodates 46 HGV parking spaces, 18 dock loading doors, three level access doors and a 25m turning area at its western end. All vehicles can turn into and out of the spaces appropriately and a large HGV can turn within the turning circle and exit the site, in forward gear, where needed.

4.2.5 Footways are provided on each side of the car park access road and on the western side of the operational access which link to the footways on Penrhyn Road. These connect to internal footways which provide access around the perimeter of the unit enabling a safe separation of vehicles and pedestrians.

4.3 Access

- 4.3.1 The site is currently accessed from Penrhyn Road and therefore movements onto this road from the site, including by HGVs, have been established over an extensive period. The proposals would provide two access points onto Penrhyn Road for staff / visitor movements and operational vehicle movements. The operational vehicle access would be located broadly where the existing access is obtained, with the staff / visitor access approximately 83m to the west.
- 4.3.2 The operational vehicle access has radii of 15m on the west side, with a taper of 1:20 over a length of 11m to ease articulated vehicle movements and a 15m radii on the east side. The access road has a width of 7.3m. As such all articulated vehicle movements can turn into and out of the site access without conflict.
- 4.3.3 The staff and visitor access will be provided with a 6m wide access and 6m corner radii on each side of the junction. As such, all light vehicle movements can turn into and out of the site access appropriately.
- 4.3.4 A general arrangement design of the proposed access arrangements is provided within Appendix E.
- 4.3.5 Visibility from the accesses was requested at 43 metres by the highway authority, in accordance with the speed limit. As part of the traffic survey on Penrhyn Road, this also recorded speed information which showed a maximum 85th percentile speed of 35.5mph. In accordance with the formula in Manual for Streets this would equate to a stopping sight distance of 55 metres. As such, visibility has been shown at this distance to demonstrate it is acceptable for recorded speeds. The visibility is shown at an x-distance of 2.4 metres back from the edge of the carriageway. Forward visibility to the site access from the centre of all approaching lanes to the site accesses would be 55 metres or more. As such, suitable visibility is provided to and from approaching vehicles.
- 4.3.6 The site boundary is contiguous with the adopted highway and all works and visibility splays can be accommodated within the site boundary or within highway land. As such, the access can be delivered appropriately.
- 4.3.7 The vehicular access extends the footways from Penrhyn Road into the site. Dropped kerb crossings with tactile paving will be provided at both site accesses to enable pedestrians (both site users and existing movements) to cross within the mouth of the junction.
- 4.3.8 Swept path analysis drawings have been provided in Appendix F which show vehicle tracking for 16.5m long articulated vehicles turning in and out from Penrhyn Road without conflict, as well as light vehicles turning into and out of the staff and visitor access.
- 4.3.9 The access arrangements are considered safe and suitable for accommodating all movements to and from the proposed development.

4.4 Parking

Car Parking

- 4.4.1 The parking standards within KMBC are provided within the Ensuring a Choice of Travel SPD (September 2010). These provide maximum standards dependent on the use. These provide standards for a B2 and B8 use. The highway authority has stated that they would typically request the highest level of parking requirement of the proposed land use, which in this case would be for a B2 use.
- 4.4.2 The standards applicable for a B2 industrial use on the site are one space per 100 sqm GFA. The standards applicable for the B8 warehousing use on the site are one space per 100 sqm GFA.

- 4.4.3 Applying the standards to the proposed development would equate to a maximum provision of;
- 412 spaces for B2 use.
 - 186 spaces for B8 use.
- 4.4.4 The proposed site layout plan in Appendix D shows a total of 147 car parking spaces and is therefore in accordance with the standards in the SPD for a B8 use (at 79% of the maximum levels) considering the site's sustainable location.
- 4.4.5 In relation to a B2 use, the site layout shows a large service area which can accommodate 46 parked HGVs. This level of service area would not be required if the site were to be occupied for a B2 use and the service yard and parking arrangements would be rearranged accordingly. It is estimated that around half of the service area could be reallocated for car parking for a B2 use given the smaller service yard which would be required. Where this is the case, this service yard could accommodate approximately 85 vehicles. As such, this would equate to a total of c. 232 parking spaces on the site for a B2 use. This equates to c. 56% of the maximum level within the parking standards. This is considered to be an appropriate provision which would not have a material impact on overspill parking on the highway, whilst also encouraging sustainable travel (in conjunction with the measures in the Travel Plan).
- 4.4.6 In addition, it is noted that the parking standards are maximum levels and the SPD states that *"In all areas there may be instances where provision should be less than the maximum specified for example where a site is particularly accessible by modes of transport other than the private car."* As set out in Section 3, the site has good connectivity by sustainable modes of travel which will assist in encouraging these modes and will provide measures within a Travel Plan and as part of the site design to encourage sustainable travel.
- 4.4.7 Finally, the level of parking on the site is in excess of the existing site which had 93 car parking spaces for a building of for an industrial / office use with a floorspace of 7,583 sqm. This equates to one space per 82 sqm. Applied to the proposed use this would equate to 226 spaces. The potential B2 use could provide parking in excess of this level and as such the provision of 232 spaces would be considered appropriate within this area and on this site.
- 4.4.8 All spaces shown on the site layout plan have dimensions of 2.5m x 5.0m which is considered appropriate to accommodate large cars. Swept path analysis has been undertaken to demonstrate that vehicles can turn into and out of spaces within the car park appropriately. This has been provided in Appendix F.

Disabled Parking

- 4.4.9 The SPD guidance states that a minimum of 5% of the total allocation of car parking spaces should be provided as disabled parking.
- 4.4.10 A total of eight disabled parking spaces are provided on the site, which equates to 5% of the total provision, which is therefore in accordance the guidance in the SPD.
- 4.4.11 The spaces allow for an additional 1.2m hatched area around the side and rear of the space to enable safe access to vehicles for people with mobility impairments. The spaces are situated close to the building entrance and will have step free access from the spaces to the building entrance via suitable dropped kerbs and crossings.

Electric Vehicle Charging

- 4.4.12 The KMBC SPD does not provide standards for the provision of electric vehicle charging spaces. However, within the air quality section, it is stated that *“electric vehicle charging infrastructure will be required, at the discretion of the local highway authority, at a level appropriate to the type and scale of the development and in line with any future government guidance.”*
- 4.4.13 In accordance with this requirement, eight spaces will provide electric vehicle charging (c. 5% of the total number of spaces for B8 use), with a passive provision for a further 5%. This is considered appropriate and further encourages more sustainable travel to and from the site.

HGV Parking

- 4.4.14 The KMBC SPD does not provide standards for the provision of HGV parking, stating that parking should be developed on a case by case basis through discussions with the Council.
- 4.4.15 The site layout plan shows a total of 46 HGV spaces located in the service yard to the rear of the site, in addition to a dedicated turning area. These spaces will be clearly marked out on site to ensure efficient use of space and safety. This is considered appropriate for accommodating the likely movements generated by a B8 occupier. If the site were occupied for B2 uses this service yard would decrease in size and space reallocated for staff parking.

Cycle Parking

- 4.4.16 The cycle parking standards are provided in the SPD which states for B8 warehousing use that a minimum of one cycle space per 850 sqm should be provided. Applying the standards to the site would equate to a requirement for 22 spaces.
- 4.4.17 For a B2 industrial unit a minimum of one cycle space per 450 sqm should be provided. Applying the standards to the site would equate to a requirement for 41 spaces.
- 4.4.18 The site is providing cycle shelters which can accommodate 56 cycles in accordance with the required level of provision based on the SPD. The shelters are provided close to the building entrance.
- 4.4.19 The cycle parking will be monitored as part of the travel plan and, if demand dictates, additional provision will be considered.

Motorcycle Parking

- 4.4.20 The motorcycle parking standards are provided in the SPD which states for B8 warehousing that one space per 2,000 sqm should be provided. Applying the standards to the site would equate to a requirement for nine motorcycle spaces.
- 4.4.21 For a B2 use the requirement would be for one space per 2,000 sqm, which would equate to 19 motorcycle spaces.
- 4.4.22 The proposals will provide 11 motorcycle spaces located at the front of the proposed unit near the main building entrance. Capacity for an additional eight spaces would be available with the large service yard area to the rear of the site, if the site were to be occupied for a B2 use.

4.5 Deliveries and Servicing

- 4.5.1 The site layout allows for HGVs to turn appropriately and enter and exit in forward gear.

- 4.5.2 Vehicles are able to reverse against each proposed service bay throughout the site and a turning circle is provided to enable large HGVs to turn at the western end of the service area.
- 4.5.3 Swept path analysis has been undertaken to demonstrate the service and delivery movements can be accommodated appropriately and this is shown in Appendix F.
- 4.5.4 The layout also suitably accommodates a fire tender around the entire extent of the building.

5. TRIP GENERATION

5.1 Introduction

- 5.1.1 The change in vehicle trip generation between the existing use against the proposed B2 industrial / B8 warehouse use has been considered through analysis of the Trip Rate Information Computer System (TRICS). The TRICS database has been analysed for sites with similar characteristics in terms of scale and location.
- 5.1.2 The analysis considers the trip generation during network peak hours on a weekday. These have been considered as 07:00 to 08:00 and 08:00 to 09:00 in the AM peak and 16:00 to 17:00 and 17:00 to 18:00 in the PM peak.

5.2 Existing Trip Generation

- 5.2.1 The existing site use comprises a number of different buildings, the majority of which are industrial / factory / warehouse use (6233.6sqm in total) with an additional office building of 1,350sqm. These buildings have been considered separately and then combined for an overall estimated trip generation associated with the existing use of the site. As the site has been operational within the last four years, the highway authority has accepted these trips can be removed from the proposed trips to establish the net change in trip generation between existing and proposed uses.

Industrial / Warehouse

- 5.2.2 The following search criteria have been applied in TRICS to obtain surveys of similar uses and scale to the industrial buildings on the site:
- 02 – Employment/C – Industrial Unit
 - Located in England and Wales (excluding Greater London)
 - Surveys from Monday to Friday
 - Units with a GFA of between 3,500sqm and 15,000sqm
 - Industrial and Development Zone areas in Suburban areas or Edge of Town locations
 - Vehicle surveys carried out since 2010
 - Removal of surveys undertaken during the pandemic
- 5.2.3 The above search criteria resulted in the identification of seven similar sites. The estimated vehicle trip rates per 100sqm GFA and trip generation are set out in Table 5-1. The full TRICS reports are included within Appendix G.

Table 5-1: Existing Industrial Unit – Vehicle Trip Generation

Time Period	Trip Rates (per 100m2 GFA)			Trip Generation (6,233.6 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.216	0.033	0.249	13	2	15
08:00-09:00	0.239	0.047	0.286	15	3	18
16:00-17:00	0.036	0.296	0.332	2	18	20
17:00-18:00	0.082	0.16	0.242	5	10	15

Offices

- 5.2.4 The following search criteria have been applied in TRICS to obtain surveys of similar uses to the office building on the site:
- 02 – Employment/A – Offices
 - Located in England and Wales (excluding Greater London)

- Surveys from Monday to Friday
- Units with a GFA of between 500sqm and 3,000sqm
- Industrial and Development Zone areas in Suburban areas or edge of Town locations
- Vehicle surveys carried out since 2010
- Removal of surveys undertaken during the pandemic

5.2.5 The above search criteria resulted in the identification of three similar sites. The estimated vehicle trip rates per 100sqm GFA and trip generation are set out in Table 5-2. The full TRICS reports are included within Appendix H.

Table 5-2: Existing Offices – Vehicle Trip Generation

Time Period	Trip Rates (per 100m2 GFA)			Trip Generation (1,350 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.406	0.295	0.701	5	4	9
08:00-09:00	2.011	0.148	2.159	27	2	29
16:00-17:00	0.277	0.996	1.273	4	13	17
17:00-18:00	0.295	3.450	3.745	4	47	51

Total

5.2.6 The total level of estimated vehicle generation for the existing site is shown within Table 5-3.

Table 5-3: Total Existing Site – Vehicle Trip Generation

Time Period	Trip Generation		
	Arrivals	Departures	Two-way
07:00-08:00	18	6	24
08:00-09:00	42	5	47
16:00-17:00	6	31	37
17:00-18:00	9	57	66

5.2.7 The existing use is estimated to generate 24 to 47 two-way vehicle trips in the AM network peak hours and 37 to 66 two-way vehicle trips in the PM network peak hours.

5.3 Proposed Trip Generation

5.3.1 The trip generation from a single B2 or B8 unit has been considered within this analysis. The trip generation has been considered for each potential use separately, with the worst case level of trips then used to compare with the existing use.

B2 Industrial Unit

5.3.2 The proposed B2 unit would be significantly larger than the existing use on the site and as such, new trip rates have been obtained to reflect the proposals. The following search criteria have been applied in TRICS to obtain surveys of similar sites to a potential B2 industrial unit use (18,554 sqm):

- 02 – Employment/F - Warehousing (commercial)
- Located in England and Wales (excluding Greater London)
- Surveys from Monday to Friday
- Units with a GFA of between 10,000sqm and 50,000sqm
- Industrial Zone areas in Suburban areas or Edge of Town locations
- Vehicle surveys carried out since 2010
- Removal of surveys undertaken during the pandemic

5.3.3 The above search criteria resulted in the identification of three similar sites. The forecast vehicle trip rates per 100sqm GFA and trip generation are set out in Table 5-4. The full TRICS reports are included within Appendix I.

Table 5-4: Proposed B2 Industrial Unit development – Vehicle Trip Generation

Time Period	Trip Rates (per 100m2 GFA)			Trip Generation (18,554 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.259	0.029	0.288	48	5	53
08:00-09:00	0.126	0.036	0.162	23	7	30
16:00-17:00	0.029	0.308	0.337	5	57	62
17:00-18:00	0.086	0.072	0.158	16	13	29

5.3.4 If the proposed development were occupied for B2 use, it is forecast to generate 30 to 53 two-way vehicle trips in the AM network peak hours and 29 to 62 two-way vehicle trips in the PM network peak hours.

5.3.5 The forecast HGV generation during the peak network periods from a B2 industrial unit is shown in Table 5-5.

Table 5-5: Proposed B2 Industrial Unit development – HGV Trip Generation

Time Period	Trip Rates (per 100m2 GFA)			Trip Generation (18,554 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.013	0.004	0.017	2	1	3
08:00-09:00	0.013	0.006	0.019	2	1	3
16:00-17:00	0.006	0.011	0.017	1	2	3
17:00-18:00	0.002	0	0.002	0	0	0

B8 Commercial Warehousing

5.3.6 The following search criteria have been applied in TRICS to obtain surveys of similar sites to a potential B8 commercial warehousing use (18,554 sqm):

- 02 – Employment/F - Warehousing (commercial)
- Located in England and Wales (excluding Greater London)
- Surveys from Monday to Friday
- Units with a GFA of between 10,000sqm and 50,000sqm
- Industrial Zone areas in Suburban areas or Edge of Town locations
- Vehicle surveys carried out since 2010
- Removal of surveys undertaken during the pandemic

5.3.7 The above search criteria resulted in the identification of four similar sites. The forecast vehicle trip rates per 100sqm GFA and trip generation are set out in Table 5-6. The full TRICS reports are included within Appendix J.

Table 5-6: Proposed B8 Warehouse development – Vehicle Trip Generation

Time Period	Trip Rates (per 100m2 GFA)			Trip Generation (18,554 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.174	0.095	0.269	32	18	50
08:00-09:00	0.099	0.105	0.204	18	19	37
16:00-17:00	0.087	0.155	0.242	16	29	45
17:00-18:00	0.096	0.147	0.243	18	27	45

5.3.8 If the proposed development is occupied for B8 warehousing use it is forecast to generate 37 to 50 two-way vehicle trips in the AM network peak hours and 45 two-way vehicle trips in each of the PM network peak hours.

5.3.9 The B2 use would therefore generate a slightly higher, albeit similar level of vehicles in the peak hours in the AM and PM hours and has therefore been used as a comparison with the existing site in the analysis.

5.3.10 The forecast HGV generation during the peak network periods from a B8 warehousing use is shown in Table 5-7.

Table 5-7: Proposed B8 Warehouse development – HGV Trip Generation

Time Period	Trip Rates (per 100m ² GFA)			Trip Generation (18,554 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.039	0.057	0.096	7	11	18
08:00-09:00	0.045	0.041	0.086	8	8	16
16:00-17:00	0.053	0.045	0.098	10	8	18
17:00-18:00	0.069	0.037	0.106	13	7	20

5.3.11 Although the level of total vehicle movements is forecast as slightly lower for the B8 use, the level of HGV movements is higher than the B2 use during the peak periods, as would be expected for a warehousing use. This further demonstrates that the operational area would be reallocated to parking if the site were occupied for B2 use (as set out in Section 4).

5.3.12 A parcel distribution use has not been considered as the design of the site and unit as shown in the proposed plans, would not lend itself to this type of use, which would have a significantly smaller building footprint and a significantly larger servicing area surrounding the building. The trip generation as shown for an industrial unit or commercial warehousing use is considered a robust analysis for the proposed building and site layout.

5.4 Net Change

5.4.1 The net change in vehicle movements between the existing and proposed uses during the peak hours has been set out in Table 5-8.

Table 5-8: Net Change in Two-Way Vehicle Generation

Time Period	Existing			Proposed (Assuming B2 use)			Net Change		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00-08:00	18	6	24	48	5	53	30	-1	29
08:00-09:00	42	5	47	23	7	30	-19	2	-17
16:00-17:00	6	31	37	5	57	62	-1	26	25
17:00-18:00	9	57	66	16	13	29	7	-44	-37

5.4.2 The proposals are forecast to generate a similar level of traffic during network peak hours, with reductions in movements forecast in some hours and increases in others. These are well within the daily variations of traffic flows which would be generated by these sites and would not materially change vehicle movements during the network peak hours from the existing situation. Indeed, over the entire four peak hours the total level of vehicle movements is exactly the same.

5.4.3 It has also been demonstrated within this TA that all trips generated by the site can be suitably accommodated by existing highway infrastructure within the well-established Knowsley Business Park employment area. Suitable parking provision has been included as part of the proposals to ensure the development does not result in overspill parking on to the surrounding highway network. The site is also allocated for employment use and as such, this type of use has been considered appropriate and acceptable on the site.

5.4.4 As such, the proposals would not have an unacceptable impact on road safety or a severe impact on the operation of the highway network and are fully in accordance with the NPPF.

- 5.4.5 However, although the site would not have a severe impact on the operation of the wider highway, the highway authority has requested junction modelling of the site access, which has therefore been provided in Section 6.

6. TRIP DISTRIBUTION AND IMPACTS

6.1 Introduction

6.1.1 Although it is not considered that the site would have a material impact on the highway network, KMBC have requested analysis of the impacts at the following key junctions:

- Ormskirk Road / B5202 roundabout
- Ormskirk Road / A580 signalised Junction
- M57 Junction 4 / Randles Farm Interchange

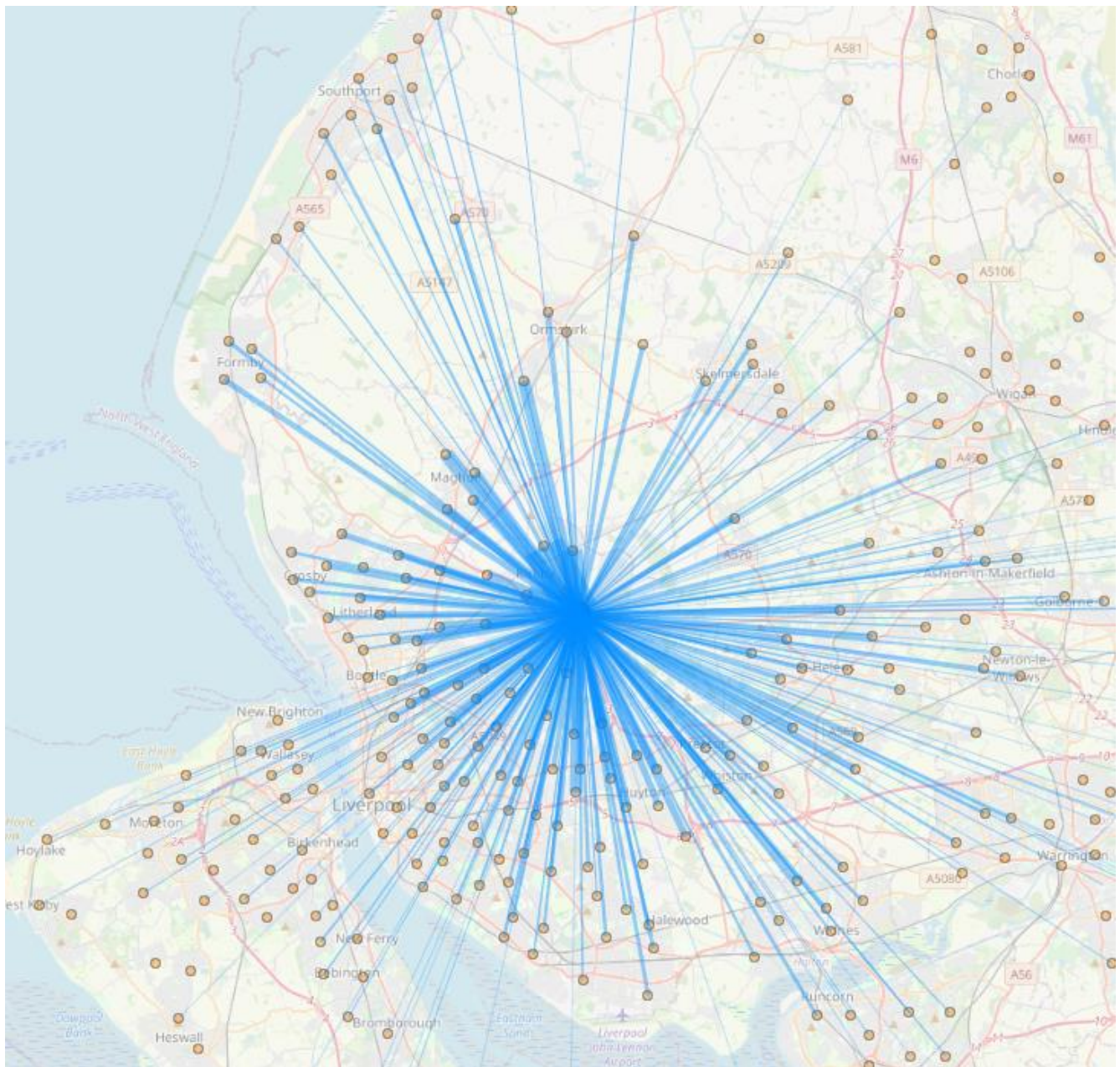
6.1.2 Trip distribution and assignment analysis has been undertaken to demonstrate the number of movements on the network through these junctions.

6.2 Trip Distribution

6.2.1 To estimate the likely vehicle distribution (for staff and employees), the Census origin-destination data has been analysed for all journeys to work into middle layer Super Output Area (MSOA) Knowsley 005 (in which the site is situated).

6.2.2 The directions of travel for commuting journeys are shown in Figure 6-1 obtained from the Datashine website. The thickness of the line indicates the number of people travelling from the MSOA in which they live to where they work, in Knowsley 005. This shows that there are journeys in all directions from the site as such, vehicles are likely to disperse across the network, minimising the impacts of the development generated traffic.

Figure 6-1: Commuting flows to Knowsley 005 MSOA



Source: <https://commute.datashine.org.uk>

6.2.3 The Datashine website provides a table of the number of journeys into Knowsley 005 from each MSOA using the 2011 Census data. This has been utilised to determine the percentage of journeys on each route to the site. Journeys have been distributed based on the most likely routes from the home origin MSOA's to the site. The route choices and calculation of the distribution on the local highway network is shown in Appendix K.

6.2.4 A summary of the distribution is set out as follows:

- A580 E - 10%
- Knowsley (assumed as Knowsley Road South) - 8%
- A580 W (w of M57 J4) - 31%
- M57 N - 30%
- M57 S - 17%

- A5207 Moorgate Road - 5%

6.2.5 In summary, it is estimated that 82% of light vehicle traffic would travel through the M57 J4.

6.2.6 The distribution has been shown as percentage of turning movements on the network at the key local junctions in Appendix L. For ease, all light vehicle movements have been assumed to have the same distribution, except for departures and arrivals from the east via the A580 which arrive via Knowsley Lane (N) / A580 off slip and depart via Ormskirk Road / A580 signalised roundabout.

6.2.7 The HGV traffic flows have been based on an assumed routing considering the strategic road network and likely destinations. The HGV traffic flows have been based on an assumed routing considering the strategic road network and likely destinations. The majority of vehicles are assumed to travel to and from the M57 J4. For the purposes of this assessment 90% of HGV's are assumed to travel via the M57 J4 and the remaining via the A580 east, via Ormskirk Road. A summary of the distribution is set out as follows:

- A580 E 10%
- A580 W (w of M57 J4) 15%
- M57 N 20%
- M57 S 50%
- A5207 Moorgate Road 5%

6.2.8 The resultant HGV turning movement distribution percentages on the network are also shown in Appendix L.

6.3 Trip Assignment

6.3.1 The HGV trip generation has been forecast using the HGV trip rates from TRICS shown in Appendix G. The light vehicle movements have been ascertained through removing the HGVs from the total vehicle movements shown in Table 5-6.

6.3.2 The development peak hour generation has been assignment onto the network based on these turning movements, with the resultant vehicle assignment shown for the AM and PM peak hours in Appendix L. These are the development traffic flows, without a reduction for the existing / historic use of the site and as such are considered to demonstrate a worst case position. As shown in Section 5, the proposals would have a minimal change in vehicle movements in comparison to the existing use of the site.

6.4 Impacts

6.4.1 The total number of vehicle movements through the junctions stated by the highway authority have been summarised within Table 6-1. These have not considered the movements generated by the existing site or the net change and are therefore considered extremely robust.

Table 6-1: Movements through key junctions (no reduction for existing site)

Junction	Total vehicle movements across all arms	
	AM Peak	PM Peak
Ormskirk Road / B5202 roundabout	8	10
Ormskirk Road / A580 signalised Junction	0	5
M57 Junction 4 / Randles Farm Interchange	46	51

6.4.2 As shown in Table 6-1 there would be a minimal number of movements through the Ormskirk Road junctions to the east of the site in the peak network hours. This level of movements would be well within daily fluctuations and would not have a severe impact on the operation of these junctions,

particularly considering the existing site generates movements on the network and no junction modelling is considered to be required.

- 6.4.3 The site is forecast to generate less than one vehicle every 2 minutes in the peak hours through the M57 Junction 4. These would be spread across arms and lanes at the junction and would not lead to a severe impact, particularly given the generation from the existing site is accommodated on the network at similar levels.
- 6.4.4 The traffic flows shown in Section 2, suggest a two-way flow of approximately 1,100 movements in the peak hours on School Lane near the M57 J4. The site would have just a 4.6% impact on the flows on School Lane at the M57 J4 and the overall flows would still fall well within the capacity of a single carriageway road, as defined in the DMRB. Again, this does not consider that the existing use generates a similar level of vehicle movements in peak hours.
- 6.4.5 In addition, it is also noted that the applications for the Nexus site was approved without requiring operational assessments of junctions on the surrounding network (other than the site access). This development forecast a significantly higher level of vehicle movements with 85-97 movements in peak hours (excluding the petrol filling station). This level of increase on School Lane and through the M57 J4 without the requirement for assessment and was therefore considered acceptable.
- 6.4.6 As such, the traffic generated by the proposed development and the minimal change in flows and traffic composition on the network, even without consideration of the existing use, would not have an unacceptable impact on road safety or a severe impact on the operation of the highway. No junction modelling on the network (other than at the site access) is considered to be required.

6.5 Junction Model of the Site Access / Penrhyn Road

Overview

- 6.5.1 As requested by the highway authority, an assessment of the operation of the site access and Penrhyn Road has been undertaken to demonstrate that the access operates appropriately. Although there are two separate accesses for the site, for robustness, all movements have been assumed to enter and exit from a single site access.
- 6.5.2 The operational assessment of the junction has been undertaken using the Transport Research Laboratory (TRL) modelling software - Junctions 9 using the PICADY module.
- 6.5.3 Junctions 9 produces three main indicators of junction capacity and operation, which are 'Traffic Intensity (RFC)', 'Queue Length' and 'Delay' and these are discussed as follows:

Traffic Intensity (RFC)

- 6.5.4 The RFC (ratio to flow capacity) is the primary measure of capacity within junction and is reported for each entry arm. If the RFC exceeds 1.0, the arm is considered to be operating over capacity, resulting in queuing occurring. An RFC value of less than 0.85 is generally considered acceptable, although an RFC of 1.0 indicates the junction being at capacity.

Queue Length

- 6.5.5 Queue length gives an indication of how the junction as a whole may impact the adjacent junctions on the highway network and how this may impact through vehicle movements.

Delay

- 6.5.6 The delay output is represented in seconds and describes the maximum value of average delay per arriving vehicle.

Scenarios

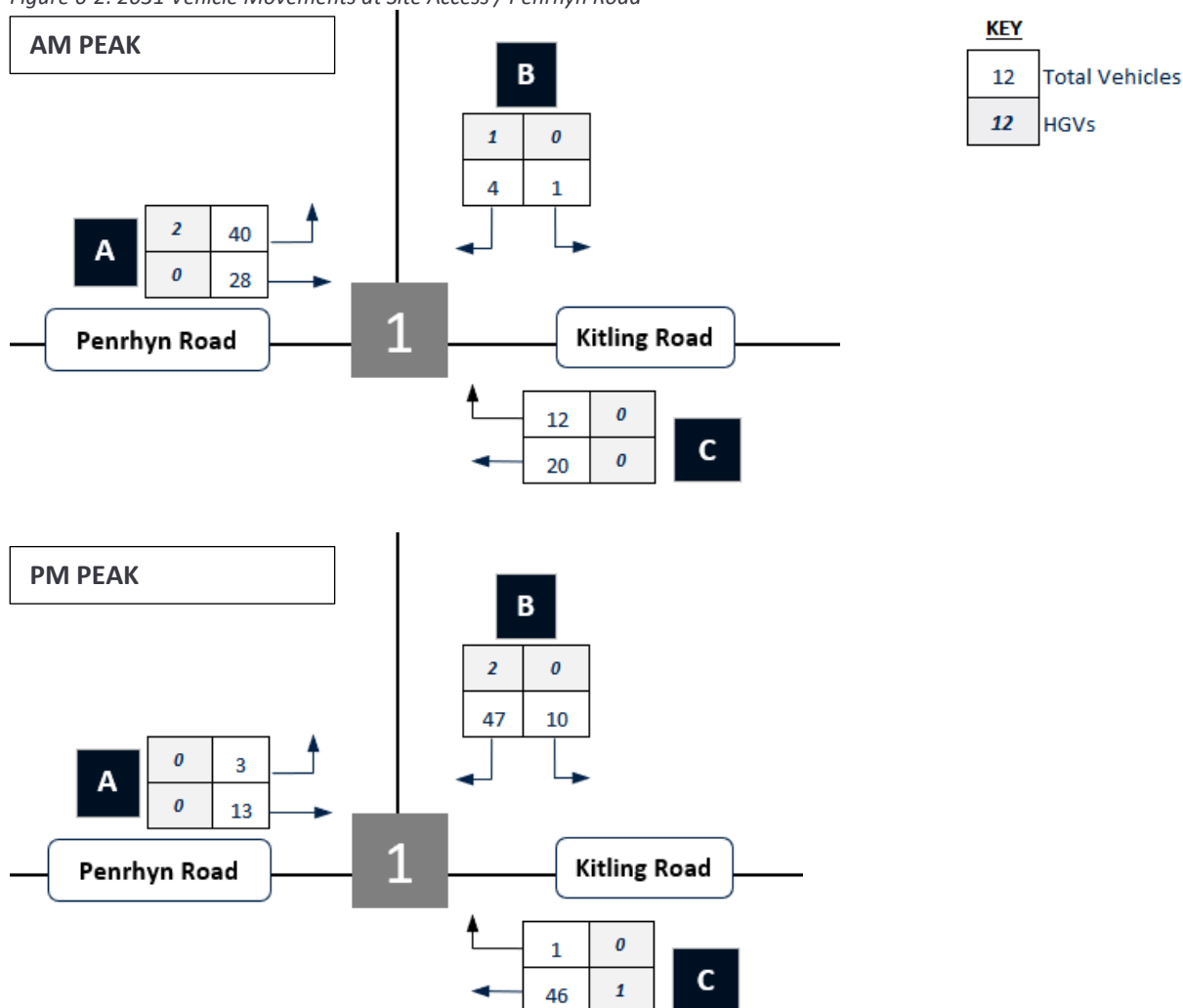
- 6.5.7 Operational assessments have been undertaken for a future year base plus development scenario for robustness. The future year assessment has been undertaken in 2031, ten years from the base traffic scenario.
- 6.5.8 To take account of background traffic growth on the local highway network within the vicinity of the site between 2021 and 2031, growth factors have been applied to the obtained 2021 base flow data on Penrhyn Road. These growth factors have been calculated using the TEMPRO computer programme which consider growth in population, employment, and car ownership based on information derived from the National Trip Ends Model (NTEM).
- 6.5.9 Growth rates within Knowsley have been considered based on growth across the entire authority for all road types. The growth rates used in the AM and PM peak hours are summarised as follows:
- 2021-2031 – AM Peak: 1.0810
 - 2021-2031 – PM Peak: 1.0839
- 6.5.10 TEMPRO guidance specifies that the growth factors for individual areas are derived from forecasts at a local authority level which are informed by allocated housing and employment sites within the associated local development plans. As the site is allocated for employment use itself, there would be an element of double counting in the factored background traffic flows through the application of growth rates in addition to the distribution of development traffic. For robustness, the growth rates have not been adjusted for the jobs created by the proposed development.
- 6.5.11 In addition, the long term effects of the pandemic on travel behaviour, particularly for commuting are not yet known. There is likely to be an increase in homeworking and reduction in peak hour vehicle movements into the future, particularly with technological and infrastructure improvements and efficiencies.
- 6.5.12 As such, the application of unfettered growth rates based on traffic projections, is considered a robust method of obtaining future year traffic flows.
- 6.5.13 The resultant 2031 baseline flows are shown in Table 6-2.

Table 6-2: 2031 Baseline Traffic Flows – Penrhyn Road

Time Period	Total Vehicles			HGVs		
	Westbound	Eastbound	Two-way	Westbound	Eastbound	Two-way
AM Peak (08:00-09:00)	20	28	48	0	0	0
PM Peak (17:00-18:00)	46	13	59	1	0	1

- 6.5.14 For robustness, the peak hours of development generated traffic have been added to the baseline peak hours in the AM and PM periods. The resultant 2031 base plus development turning movements at the site access have been provided in Figure 6-2.

Figure 6-2: 2031 Vehicle Movements at Site Access / Penrhyn Road



6.5.15 These flows have been used in the model to assess the forecast operation of the site access junction.

Model Parameters

6.5.16 For a robust assessment, the model has been run without a flare on the minor arm and with a single lane width of 3 metres. In addition, a synthesised peak has been used by applying the 'one hour' calculation method. This assumes a peak demand of 30 minutes within the peak hour.

Modelling Results

6.5.17 The results of the Junctions 9 model are outlined in Table 6-3 and the full Junctions 9 outputs are attached at Appendix M.

Table 6-3: Site Access / Penrhyn Road Modelling Output Summary (2031 Baseline + Development)

Arm Name	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Site Access	0	8.83	0.01	0	8.48	0.13
Penrhyn Road	0	5.86	0.02	0	5.54	0.00

6.5.18 Table 6-3 demonstrates that the site access is forecast to operate well within its theoretical capacity in all scenarios, with a maximum RFC of just 0.13 during the peak hours. This is significantly below the

operational capacity of 0.85. There is no queuing in any scenario, therefore no impact on through vehicle movements or with vehicles queuing internally within the site.

- 6.5.19 The results demonstrate that the site access will operate safely and appropriately with the movements generated by the proposals.

7. MITIGATION

7.1 Travel Plan

- 7.1.1 A Travel Plan has been produced and submitted separately with the application to encourage travel by sustainable modes. This will be adopted and implemented by the occupier to further minimise the impact on the network.

8. SUMMARY AND CONCLUSIONS

8.1 Summary

- 8.1.1 Apex Transport Planning has been commissioned by Knowsley Redevelopments Ltd to produce a Transport Assessment (TA) in relation to a proposed B2/B8 warehouse unit development on an existing industrial site at Penrhyn Road, Knowsley Business Park, Prescot.
- 8.1.2 This TA has been produced to inform the local highway authority, Knowsley Metropolitan Borough Council (KMBC), of the highways and transport implications of the proposals.
- 8.1.3 The proposals comprise the demolition of the existing buildings and erection of a B2/B8 warehouse unit with ancillary offices and associated external service yard and car parking. It is a brownfield site with a number of buildings located on the site with a long history of industrial employment use. The site is also allocated as a Primarily Industrial Area (Knowsley Business Park) as Policy CS4 in the Knowsley Council Local Plan.
- 8.1.4 The proposed development will be accessed from Penrhyn Road with separate access points for staff and visitors from operational vehicles. Suitable visibility and geometry is provided at each location.
- 8.1.5 The vehicular access extends the footways from Penrhyn Road into the site. Dropped kerb crossings with tactile paving will be provided at both site accesses to enable pedestrians (both site users and existing movements) to cross within the mouth of the junction.
- 8.1.6 The site layout has been designed to ensure operational activities are separated from non-operational activities, with dedicated areas and accesses for each. A total of 147 car parking spaces and 46 HGV spaces are proposed, which is consistent with KMBC parking standards for a B8 use. The site layout includes a large HGV parking area, which can be re-allocated to provide an additional 85 car parking spaces, should the site come forward for a B2 use. This would equate to a total of 232 spaces which is in accordance with the KMBC standards. The parking is considered at an appropriate level which would not have a material impact on overspill parking on the highway, whilst also encouraging sustainable travel (in conjunction with the measures in the Travel Plan).
- 8.1.7 The proposals can accommodate service and delivery vehicles appropriately and these vehicles can enter and exit the site in forward gear. Vehicles are able to reverse against each proposed service bays and a turning circle is provided to enable large HGVs to turn at the western end of the service area.
- 8.1.8 The site is in a sustainable location connected by existing pedestrian, cycle and public transport networks. As such, it is well suited to accommodate the proposals, being located in a well-established and allocated industrial area. The location will encourage and promote sustainable travel behaviour and attract employees who choose to travel by sustainable modes. This will assist in constraining the level of vehicle generation from the site and minimise the impact of the site on the highway network and the potential for overspill parking.
- 8.1.9 Road safety data has been analysed and there is no evidence of a highway safety issue within the vicinity of the site which would be exacerbated by the proposals.
- 8.1.10 A comparison between the trip generation associated with the existing industrial use and proposed B2/B8 use shows that the proposals are likely to generate a similar level of traffic during network peak hours, with minimal reductions in movements forecast in some hours and minimal increases in others. Any increases are well within the daily variations of traffic flows which would be generated by the existing site use and would not materially change vehicle movements during the network peak hours

from the existing situation. Indeed, over the entire four AM and PM peak hours considered in the analysis, the forecast total level of vehicle movements is the same.

- 8.1.11 However, as requested by KBMC an operational assessment of the proposed site access has been undertaken. As a worst case, it was assumed that all traffic entered and exited the site from a single junction. The results demonstrate that the site access will operate well within capacity, with no queuing in any period. As such, they can safely and appropriately accommodate the movements generated by the proposals.
- 8.1.12 The proposals would therefore not have a severe impact on highway capacity or an unacceptable impact on highway safety.
- 8.1.13 A Travel Plan has been produced which sets out measures to encourage sustainable transport which will further minimise vehicle use.

8.2 Conclusions

- 8.2.1 The proposals offer a choice of travel options and represent sustainable development in line with the requirements of the NPPF.
- 8.2.2 The development will not have a severe impact on the operation of the surrounding highway network or an unacceptable impact on road safety and are therefore in accordance with the NPPF.
- 8.2.3 It is therefore considered that there are no reasons relating to transport or highways for objecting to the application.

Appendix A Scoping Discussions



Knowsley Council

Jenna Wilks
Gereld Eve LLP
Manchester
M2 1HW

Please ask for: Mark Quinn
Telephone: 0151- 443-2223
E mail : mark.quinn@knowsley.gov.uk
Our Reference : 21/00761/SO
Date: 2nd November 2021

Dear Jenna

TOWN AND COUNTRY PLANNING ACT 1990

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017

**PROPOSAL: EIA SCREENING /SCOPING OPINION REQUEST FOR PROPOSED
18,554SQM OF INDUSTRIAL/EMPLOYMENT FLOORSPACE (USE CLASSES B2, B8
AND E(G)(III) WITH ANCILLARY OFFICES (USE CLASS E(G)(I) AND ASSOCIATED
WORKS.**

LOCATION: LAND AT PENRHYN ROAD, KIRKBY.

Thank you for your letter and scoping report dated 22nd September 2021 setting out the proposal for the above site.

From the information submitted I can confirm that an Environmental Impact Assessment would not be required in support of your planning application.

The Council's formal screening opinion is attached.

Should you wish to discuss the matter further or require any additional information please do not hesitate to contact me on 0151 443 2223 email mark.quinn@knowsley.gov.uk. Any written correspondence should be sent to the address below.

Yours Sincerely

M Quinn

Mark Quinn
Principal Planner





Knowsley Council

been built out. Regardless of this, the proposal is unlikely to cause any impacts to the consented waste facility.

Archaeology

11. The proposed development site is considered to have negligible archaeological potential. Therefore, I advise that there are no archaeological issues associated with this site that require EIA.

Ecological Appraisal

14. The following information should be included in the Preliminary Ecological Appraisal report:
12. A desk study, including data from the Local Environmental Records Centre following CIEEM (2017) guidelines. The desk study should identify records for designated sites, protected and priority species and habitats on site and within a suitable buffer. However, a data search with a 1km radius is expected as a minimum;
13. An Extended Phase 1 Habitat survey identifying the habitats on and adjoining the site. This should include a Phase 1 Habitat map and target notes and should follow JNCC Guidelines²;
14. An assessment of the potential for protected species to be present;
15. The requirement for further specialist surveys, for example, bats;
16. An assessment of the likely ecological effects of the proposals, because of construction works and site operation;

Highway Safety

17. A Transport Assessment and Travel will be required, as well as a construction management plan.
18. It is noted that a pre application review was submitted for this site (21/00013/PREAPP) regarding a sole B8 usage. Trip generation in the form of TRICs data was submitted for this pre application. The latest screening opinion has alternatively included a wider scope of land use, with B2, B8 and B1 included. The previous TRICs data submission is therefore redundant and will need to be revised.
19. Any TRICs data submitted will be reviewed should a full planning application for this development be submitted. It has been noted that the previous use of the site was considered, with justifications provided to support the submission of a

² JNCC (2010) Handbook for Phase 1 Habitat Survey



Knowsley Council

Transport Statement, rather than a Transport Assessment (which would include junction modelling). Such justification will only be considered if the previous use of the site has been operational within the latest 4 years. Should a greater period have elapsed when a planning application is submitted, then the previous trip generations will no longer be considered. All other information provided with the highway's response to the pre application remains valid and should be considered in line with a full planning application

Transport Assessment

20. The proposed development is noted to have a total floor area of 18,554sqm, with a mix of B1/B2/B8 uses proposed.

- Typically, Highways would request that the highest level of parking requirement (based off the land use mix) be provided, which in this case would be B1. However, it is noted that office space with the proposals is relatively small. In this case B2 standards would be requested (1 space per 45sqm). Given the floor areas proposed, this would result in circa 400 car parking spaces being provided. Currently 152 spaces are proposed and as such justification for this level will need to be provided within any submitted Transport Assessment. 6m aisle widths will need to be maintained within the car park. It is strongly encouraged that parking bays of 2.5m width and 5.0m length are provided.

- Cycle parking will also need to be provided. B2 standard – 1 per 450sqm, will be sought. In total 41 secure and covered cycle storage spaces will need to be provided.

21. The proposed car parking area to the front of the building will need to be tracked with a large car, with a left in / left out manoeuvre at the site access shown. A 16.5m HGV will also need to be tracked and shown navigating the proposed HGV access. The rear of the building will also need to be tracked with a 16.5m HGV, with the parking spaces and loading bays shown to be accessible. The turning circle will need to be shown as appropriate.

- Visibility splays in accordance with the speed limit of the road will need to be provided from both accesses locations (2.4m x 43m)

- An accessibility assessment, as included within Appendix B of the Ensuring a Choice of Sustainable Travel SPD, will need to be completed.

- A full assessment of the expected trip generations of the development site will be required, including HGV trips. As a minimum, the proposed site accesses will be



Knowsley Council

required for capacity assessments. Additional junctions may also be requested, but this can be confirmed following review of the expected trip generations. A review of trip generations will be undertaken following the submission of a full planning application.

- Detail regarding on-site lighting / illumination will need to be provided to ensure light spillage does not encroach on to the adopted highway
- It is worth noting that any accesses which may be proposed from the A580 East Lancashire Road will not be accepted

Travel Plan

22. The following links will need to be provided within any Travel Plan submitted for assessment:

Physical map of the local area identifying the development / residential site; all bus stops at the periphery of the site; nearest rail station/s; cycle / shared use routes; nearest travel information centre –

<https://www.merseytravel.gov.uk/gettingaround/transport-accessibility/Pages/Travel-Centres.aspx>

; cycle parking

Physical copies of and links to Public transport maps and / or bus timetables;

www.merseytravel.gov.uk/getting-around/timetables/Pages/Bus-Timetables.aspx

Physical copies of and links to Cycle maps;

<https://www.merseytravel.gov.uk/active-travel/cycling/>

Public Rights of Way Highways Map

<https://highways.knowsley.gov.uk>





Knowsley Council

Physical copies of and links to train timetables;

<https://www.merseytravel.gov.uk/timetables/#train>

Details of MerseyCycle and Merseytravel Bike Offers (for leisure and employment)

www.merseycycle.co.uk

Lift share information

<https://liftshare.com/uk/journeys/from/merseyside>

Sign posting to the Merseytravel and travel page Knowsley websites

www.merseytravel.gov.uk/Pages/Welcome.aspx

www.knowsley.gov.uk/residents/welcome-to-knowsley/getting-around-in-knowsley

Signposting to Merseyside cycling support and Family Cycle Maps

<https://www.merseytravel.gov.uk/active-travel/cycling/>

Signposting to Public Health

www.healthyknowsley.co.uk/Home/activity

Signposting to Air Quality information and advice

www.cleanairday.org.uk/pages/category/clean-air-hub

END OF SCREENING OPINION

Car Park, Penrhyn Road, Knowsley Business Park ,Knowsley

Issues and Risk Log

14th April 2021

Proposal: **DEMOLITION OF EXISTING PLANT/BUILDINGS AND ERECTION OF A B8 WAREHOUSE UNIT WITH ANCILLARY OFFICES AND ASSOCIATED EXTERNAL SERVICE YARD AND CAR PARKING.**

Planning Ref: **21/00013/PREAPP**

On basis of information submitted on 18th February 2021 and 22nd February 2021 made valid on 24th February 2021

Location plan ref F0009 Rev B.

Proposed Elevations F0008 Rev A & F0007 Rev A

Floor Layout F0006 Rev A

Proposed site plan F0004 Rev A

National Planning Policy Framework – see <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Development Plan:

- Knowsley Local Plan Core Strategy, adopted January 2016 – see <https://localplanmaps.knowsley.gov.uk/documents/knowsley-local-plan-adopted-core-strategy.pdf>
- Saved Policies of the Knowsley Replacement Unitary Development Plan, adopted June 2006 – see <http://www.knowsley.gov.uk/pdf/Knowsley%20UDP%202006.pdf>
- Merseyside and Halton Joint Waste Local Plan 2013 - see <http://www.knowsley.gov.uk/pdf/JointMerseyside-and-HaltonWasteLocalPlan2013.pdf>

Relevant Supplementary Planning Documents see <https://www.knowsley.gov.uk/residents/building-and-planning/local-plan/adopted-documents/supplementary-planning-documents>

- Ensuring a Choice of Travel
- Adding Social Value to new development

The most significant planning issues, and therefore risks to achieving a planning permission, are shown below. Those issues highlighted in red are considered to be of high risk to the achievement of a successful outcome.

This is a working document and will be updated during the course of the project when issues are addressed.

	High		Medium		Low
---	------	---	--------	---	-----

PERCEIVED RISK		CURRENT POSITION & NEXT STEPS
Principle of Development	The application site is allocated as Primarily Industrial Area on the Knowsley Local Plan policies map.	The proposed development for the demolition of existing buildings & erection of a warehouse B8 use with ancillary offices would be acceptable in principle subject to the detailed planning issues set out below.
Highways	• Adequacy of parking and turning facilities associated with the proposed development The amount of parking required is set out in the Supplementary Planning Document (SPD) titled Ensuring a Choice of Travel. This document can be viewed by following the link below:	

<http://www.knowsley.gov.uk/pdf/TravelSPDLowRes.pdf>

Further, the parking requirements, as per the SPD above, extend to include cycle parking, in support of sustainable transport use for site users. Also, motorcycle parking is required as per SPD. These provisions require detailing on future submissions.

The proposal offers 152 parking spaces as opposed to the maximum figure of 185. The 185 parking spaces is inclusive of the B8 warehouse and office space. As the applicant is proposing to offer less spaces than the maximum they will need to justify the shortfall. This should be presented within a Transport Assessment. Justification is normally supported by notes setting out how good the site links to sustainable transport links, i.e. how close to good bus services etc.

- Traffic generation

Traffic generation from the development proposed is required to be detailed as part of a Transport Assessment (TA), again see the aforementioned SPD for details.

The scope of a TA should cover, but not be limited to, a review of the following:

- A review of accident history to ensure that the proposed development will not contribute to collisions in the area.
- The sites accessibility – including details of

	existing public transport provision, frequency of services, location of bus stops/train stations. ○ The trip generation of the proposed development and the impact upon the surrounding highway network, including the potential traffic growth from any committed developments surrounding the site. Assessment of the impact on nearby junctions, eg the signalised junctions of the A580 and Ormskirk Road, and M57 Junction 4 with B5194 and the roundabout junction of Ormskirk road and B5202 may be required. ○ Proposed improvements to site accessibility via sustainable modes of travel, such as provision/enhancement/renewal of footpath and cycle path linkages, public transport improvements, and servicing arrangements where appropriate. ○ A proposed parking strategy and details of internal vehicular circulation. ○ Servicing arrangements including swept path drawings of the intended servicing vehicles to ensure they can enter and exit the site in a forwards gear. ○ Emergency Access arrangements (if applicable). ○ A Travel Plan to accompany the TA, together with an Accessibility Assessment for the site.	
--	---	--

Details of these can be found in Knowsley MBC's Supplementary Planning Document – 'Ensuring a Choice of Travel'

- Road access to the site of the development

Accesses are shown to/from Penrhyn Road, from the front car parking area and access to rear yard via an internal side road.

6m radii for the car parking area access and up to 15m radii for the industrial vehicle access are recommended.

Swept path analysis is required to be submitted to understand manoeuvres especially two way passing of HGVs about the rear yard access junction.

Further information regarding controls eg gates/barriers etc should accompany the above.

- Impact on highway safety

In the interest of pedestrian/occupants' safety, in regard to access/egress, sufficient intervisibility is required for both the industrial access (to rear yard) and standard car access of the car park.

Both vehicular and pedestrian visibility splays will be required to be submitted.

Visibility Splays for Stopping Sight Distance at junctions and for forward visibility are to accord with the design speed for the road.

Inter-visibility between pedestrians and drivers should be made available in any design offered.

- General Guidance

Footpath links should be provided to allow safe pedestrian access to all parts of the proposed development.

Provision shall be made within the site for the disposal of surface water so that no water drains on to any highway.

The Developer will be required to fund any necessary diversion or amendment of existing statutory undertakers' equipment, street lighting equipment and existing traffic calming features affected by the proposed development.

The proposed site layout plan must show the existing adopted highway boundary for the site.

A S38/S278 highway agreement would be required prior to the commencement of any construction work to adopt the proposed highway for the development/to undertake works on the existing adopted highway.

The Council entered into a Street Lighting and Signing PFI Contract on 1st August 2011 and as part of this the majority of streetlights and some traffic signs in the Borough are being replaced over the next few years. All new street lighting and signing to be installed on the existing public highway or highway proposed for adoption

	will be subject to a commuted sum to cover its future maintenance. The developer will be responsible for paying for the relocation of any existing signs/lighting columns which must be agreed/undertaken by the PFI Service Provider, SSE, tel. 0151 481 4530. A construction management plan will be required that will cover, but not be limited to, the management of vehicle movement on the public highway, time of working and the management of debris on the highways.	
Design & Layout	The proposed building would be set back approximately 24m from the Penrhyn Road boundary and 74m from the boundary with the East Lancashire Road. This would allow the retention of landscaping/ scope for new planting along both the Penrhyn Road and East Lancashire Road site boundaries. The indicative CGI images appear to indicate a facing materials comprising a mix of cladding and glazing which in principle would be acceptable subject to precise details being submitted. Local Plan Policy CS19 – Design Quality and Accessibility in New Development requires all developments to enhance local distinctiveness, identity and accessibility of places and to provide a good standard of amenity for future occupiers of all buildings.	Further details of proposed materials to be submitted as part of any planning application. The proposal overall should demonstrate compliance with Local Plan policy CS19.
Social Value	Given the floorspace of the proposal over 1,000sqm this would trigger a requirement for a Social Value Strategy in accordance with the requirements of “ Adding Social Value to Development” Supplementary Planning	A draft Social Value Strategy should be submitted with the planning application and the final strategy and financial contribution can be secured by way of a S106 legal agreement.

	document and a commuted sum would be required for monitoring the Social Value Strategy and for supporting the delivery of the Social Value Strategy.(SVS)	The social value requirement in weeks would be 620. The Social Value contribution would be £23,193 This is broken down as £ 13,916 monitoring fee and £9,277 delivery of the strategy.
Environmental Considerations.	Contaminated Land Given the previous use of the site (Contract Chemicals) we would request the applicant provide a site investigation information (a Phase I and II) upfront with any planning application. This information should demonstrate the site is suitable for the proposed use and any risks from the land to future site users can be mitigated against should any issues be found. Air Quality The document 'Land-Use Planning & development Control: Planning For Air Quality' recommends that an air quality assessment should be provided for commercial Developments with more than 1000m² commercial floor space. We would therefore request that an air quality assessment is provided upfront or valid justification as to why one is not being done. <u>Requirements that could be met by planning condition</u>	A phase 1 and phase 2 site investigation and air quality assessment should be submitted with any planning application.

	• Fixed Plant Noise – although the development is some distance from residential properties we don't want to continually increase the noise levels in the area without some level of control in place. • Demolition/ Construction Management Plan – to ensure the amenity of the surrounding businesses is protected as much as is reasonable during the construction phase.	
Flood Risk and Drainage.	Given that the application site area is greater than 1ha a Flood Risk Assessment would be required to support the planning application.	The following should be submitted with any planning application. Site Specific Flood Risk Assessment (FRA) - Sustainable Drainage Strategy – This will include your overall approach and is where you will evidence your approach to surface water management. E.g. plans, drawings, calculations, etc. Sustainable Drainage Strategy: Pro-forma – The pro-forma summarises and confirms the details contained within your Sustainable Drainage Strategy. It is intended to ensure all aspects of sustainable drainage have been considered Assessment of the risk of flooding from all flooding mechanisms and the identification of flood mitigation. Advice note is available to assist in completing the proforma.

		Flood Zone maps are available from the Environment Agency. The National Planning Policy Framework , accompanying Technical Guidance and Planning Practice Guidance - Flood Risk and Climate Change provides comprehensive guidance for applicants in relation to the undertaking of flood risk assessments and the responsibilities for controlling development. Drainage calculations should allow for 1:30 and 1:100 year flood events with modelling included. For the avoidance of doubt the surface water and drainage strategy, detailed design drawings, calculations and supporting information shall be expected to consider the following elements: (i) Evidence and justification that in selecting drainage features for post-development situation, the surface water drainage discharge hierarchy has been followed. Any drainage strategy proposal should clearly demonstrate how the movement down the hierarchy has been considered and that the selection of the most appropriate set of SuDS techniques has taken into account the site geological and topographical characteristics. To assess the feasibility of infiltration techniques as part of the proposed drainage strategy, evidence must be provided to show that a suitable number of soakaway tests have been completed across the whole site within different geology and to a suitable depth (i.e. a similar depth to the proposed infiltration devices). The tests should be
--	--	---

		completed according to the BRE 365 method and their results should be submitted with the full application. (ii) A SuDS aims to minimise the impacts from a proposed development on water quantity and quality and maximise amenity and biodiversity. In designing an appropriate set of SuDS techniques for a development site, the LLFA will be expecting above ground, green SuDS to be prioritised to promote water quality, amenity and biodiversity. Underground pipe and tank may be considered as storage facilities provided that sufficient justification has been provided that above ground and green SuDS will not be feasible. (iii) Model Information (Micro Drainage or similar approved) to include a plan showing pipework model numbering and network details. (iv) Results showing all the modelling criteria and summary network results for critical 1 in 2 year, 1 in 30 year and 1 in 100 year plus 40% CC storm events showing maximum water level, flow and velocity and details of any surface flooding anticipated are required. (v) Drainage Plan showing drainage layout, manholes including cover and invert levels, proposed levels, pipe sizes and gradients, all on -line controls, on and offline storage structures and outfall details. (vi) In design of sustainable drainage design the attenuation storage is provided for the in 1 in 100 years event plus %40 CC.
--	--	--

		(vii) Plan showing overland exceedance routes in the event of a failure of the drainage system or storm event in excess of the 1 in 100 + 40% CC storm event. (viii) Summary Drainage Report setting out the Drainage Strategy and results of the calculations demonstrating compliance with the above. (ix) Where third party agreements to construct sewers and to discharge flows are required, then written evidence of these two agreements shall be provided. (x) A timetable for implementation of the drainage works is required. This shall include details and a method statement for interim and temporary drainage measures during the demolition and construction phases. This information shall provide full details of who will be responsible for maintaining such temporary systems and demonstrate how the site will be drained to ensure there is no increase in the off-site flows. (xi) Demonstrating that adequate water quality of the off-site surface water flows (draining into a sewer, watercourse and ground) in accordance with the Simplified Index Approach as set out within Section 26 of the SUDS Manual (C753) can be achieved during all phases of the development. (xii) A quantitative and qualitative hydrogeological assessment with respect to groundwater levels on the site, natural land drainage, and mitigation options to mitigation risk of upcoming groundwater on the site is required. The assessment is required to demonstrate
--	--	--

		that the proposals has no negative impacts on land drainage and groundwater flooding in site and surrounding areas in vicinity.
Trees	There are existing trees either within or adjacent to the application site. In order to fully assess the impact on trees within the site a Tree Survey, Arboricultural Impact assessment and Method Statement would be required.	Tree Survey, Arboricultural Impact assessment and Method Statement would be required to be submitted with any planning application.

Planning Law requires the submission of certain information with a planning application dependent upon its type, scale and location. More detail including the Council's validation checklist can be found [here](#). Additionally, in this case the following documents would be required for this application.

DOCUMENT	STATUS
Existing & Proposed Plans and Elevations	Essential – See validation checklist.
Design & Access Statement	Essential
Transport Assessment	Essential
Travel Plan	Essential
Levels Survey information and cross sections	Essential – See validation Checklist
Economic Statement	Essential – See validation Checklist
Land Contaminated Phase 1 and Phase 2 site investigation.	Essential
External Lighting scheme including a light pollution assessment	Essential
Energy and Sustainability Assessment	Essential – See validation Checklist
Flood Risk Assessment	Essential – See validation Checklist
Section 106 Heads of Term Proposals	Essential – See validation Checklist
Parking and Access Details (parking provision)	Essential – See validation Checklist
Planning Statement including Statement of Community Involvement.	Essential – See validation Checklist
Social Value Strategy	Essential – See validation Checklist

Air Quality Assessment	Essential – See comments above
Tree Survey/Arboriculture Assessment	Essential – see comments above
Health Impact Assessment	Essential – See validation Checklist -
Scheme for site treatment and management plan	Essential – See validation Checklist.
Demolition/Construction Environmental Management Plan	Desirable
See section 3 of the validation checklist for recommended submissions to avoid planning conditions or delay for the development.	Desirable to avoid pre commencement planning conditions.

Note: The risks and uncertainty associated with an application's outcome can be reduced if information requirements are met, when an application is submitted. It can alleviate the need for planning conditions requiring the submission and further approval of additional details.

The advice given here does not indicate any formal decision by the Council as Local Planning Authority. Any views or opinions are given without prejudice to the formal consideration of any planning application and are based on the details submitted, site observations and other available information sources. A formal decision on a proposal can only be given on the submission of a planning application after its full consideration, which will involve consultation with local residents, statutory consultees and any other interested parties. You should also bear in mind that any subsequent changes to planning legislation or planning policies may affect the advice given. The pre-application process involves engagement by both the Local Planning Authority and potential applicants and, as such, we would welcome further discussions as you consider necessary although protracted discussions may incur additional fees to be advised in advance.

Appendix B Penrhyn Road Traffic Survey

10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021			Channel: Eastbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Fri 12-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	0	0	-	0	-	0	-	0	-	0	-
06:00	7	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0
07:00	12	0	0.0	12	100.0	0	0.0	0	0.0	0	0.0
08:00	25	0	0.0	24	96.0	1	4.0	0	0.0	0	0.0
09:00	12	0	0.0	10	83.3	1	8.3	1	8.3	0	0.0
10:00	6	0	0.0	4	66.7	0	0.0	2	33.3	0	0.0
11:00	13	0	0.0	13	100.0	0	0.0	0	0.0	0	0.0
12:00	17	0	0.0	13	76.5	4	23.5	0	0.0	0	0.0
13:00	15	0	0.0	12	80.0	2	13.3	1	6.7	0	0.0
14:00	14	0	0.0	11	78.6	2	14.3	1	7.1	0	0.0
15:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
16:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
17:00	10	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0
18:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
19:00	2	1	50.0	0	0.0	1	50.0	0	0.0	0	0.0
20:00	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
21:00	0	0	-	0	-	0	-	0	-	0	-
22:00	0	0	-	0	-	0	-	0	-	0	-
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	129	0	0.0	114	88.4	10	7.8	5	3.9	0	0.0
16H,6-22	139	1	0.7	121	87.1	12	8.6	5	3.6	0	0.0
18H,6-24	139	1	0.7	121	87.1	12	8.6	5	3.6	0	0.0
24H,0-24	140	1	0.7	122	87.1	12	8.6	5	3.6	0	0.0

10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021			Channel: Eastbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sat 13-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
06:00	3	0	0.0	2	66.7	0	0.0	1	33.3	0	0.0
07:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
08:00	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
09:00	18	0	0.0	18	100.0	0	0.0	0	0.0	0	0.0
10:00	6	0	0.0	4	66.7	1	16.7	1	16.7	0	0.0
11:00	0	0	-	0	-	0	-	0	-	0	-
12:00	4	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
13:00	7	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0
14:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
15:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
16:00	0	0	-	0	-	0	-	0	-	0	-
17:00	4	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
18:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
19:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
20:00	0	0	-	0	-	0	-	0	-	0	-
21:00	0	0	-	0	-	0	-	0	-	0	-
22:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	52	1	1.9	48	92.3	2	3.9	1	1.9	0	0.0
16H,6-22	56	1	1.8	51	91.1	2	3.6	2	3.6	0	0.0
18H,6-24	57	1	1.8	52	91.2	2	3.5	2	3.5	0	0.0
24H,0-24	60	1	1.7	54	90.0	3	5.0	2	3.3	0	0.0

10901		KNOWSLEY		Site No: 10901001		Location		Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021				Channel: Eastbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sun 14-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
06:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
07:00	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
08:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
09:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
10:00	4	1	25.0	2	50.0	1	25.0	0	0.0	0	0.0
11:00	0	0	-	0	-	0	-	0	-	0	-
12:00	7	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0
13:00	3	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
14:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
15:00	2	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
16:00	0	0	-	0	-	0	-	0	-	0	-
17:00	0	0	-	0	-	0	-	0	-	0	-
18:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
19:00	0	0	-	0	-	0	-	0	-	0	-
20:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
21:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
22:00	0	0	-	0	-	0	-	0	-	0	-
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	28	4	14.3	22	78.6	1	3.6	1	3.6	0	0.0
16H,6-22	33	4	12.1	27	81.8	1	3.0	1	3.0	0	0.0
18H,6-24	33	4	12.1	27	81.8	1	3.0	1	3.0	0	0.0
24H,0-24	34	4	11.8	28	82.4	1	2.9	1	2.9	0	0.0

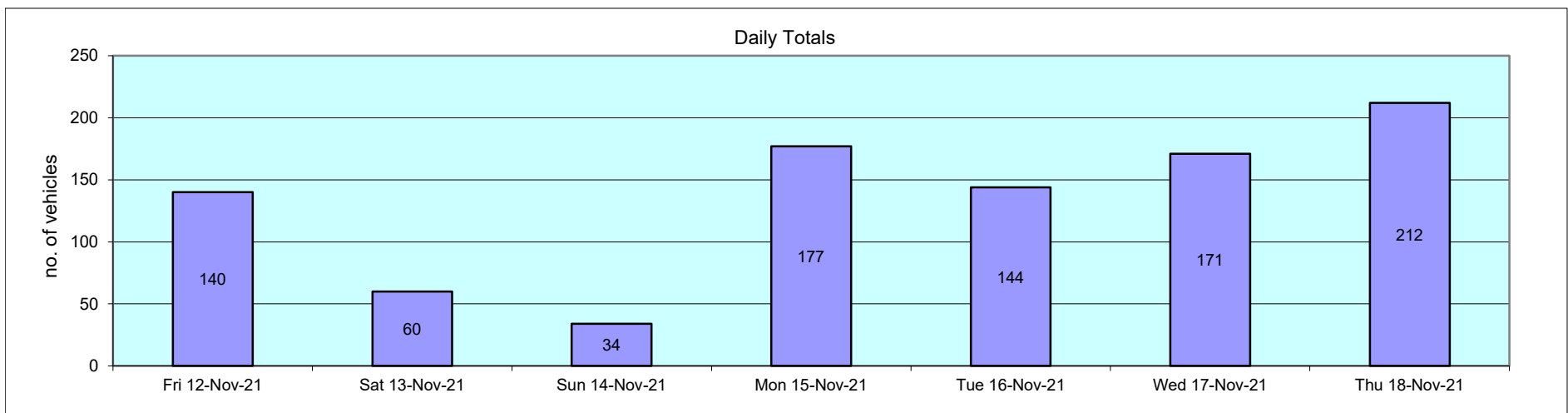
10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021				Channel: Eastbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Mon 15-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
06:00	12	0	0.0	12	100.0	0	0.0	0	0.0	0	0.0
07:00	26	1	3.9	23	88.5	2	7.7	0	0.0	0	0.0
08:00	22	0	0.0	19	86.4	3	13.6	0	0.0	0	0.0
09:00	14	0	0.0	13	92.9	1	7.1	0	0.0	0	0.0
10:00	12	0	0.0	11	91.7	1	8.3	0	0.0	0	0.0
11:00	23	0	0.0	18	78.3	3	13.0	2	8.7	0	0.0
12:00	14	0	0.0	10	71.4	1	7.1	2	14.3	1	7.1
13:00	12	0	0.0	12	100.0	0	0.0	0	0.0	0	0.0
14:00	9	0	0.0	7	77.8	0	0.0	2	22.2	0	0.0
15:00	7	0	0.0	5	71.4	2	28.6	0	0.0	0	0.0
16:00	5	0	0.0	2	40.0	1	20.0	1	20.0	1	20.0
17:00	7	0	0.0	6	85.7	0	0.0	1	14.3	0	0.0
18:00	10	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0
19:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
20:00	0	0	-	0	-	0	-	0	-	0	-
21:00	0	0	-	0	-	0	-	0	-	0	-
22:00	0	0	-	0	-	0	-	0	-	0	-
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	161	1	0.6	136	84.5	14	8.7	8	5.0	2	1.2
16H,6-22	176	1	0.6	151	85.8	14	8.0	8	4.6	2	1.1
18H,6-24	176	1	0.6	151	85.8	14	8.0	8	4.6	2	1.1
24H,0-24	177	1	0.6	152	85.9	14	7.9	8	4.5	2	1.1

10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021				Channel: Eastbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Tue 16-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	0	0	-	0	-	0	-	0	-	0	-
06:00	0	0	-	0	-	0	-	0	-	0	-
07:00	0	0	-	0	-	0	-	0	-	0	-
08:00	15	0	0.0	9	60.0	4	26.7	2	13.3	0	0.0
09:00	18	0	0.0	17	94.4	1	5.6	0	0.0	0	0.0
10:00	8	0	0.0	5	62.5	1	12.5	2	25.0	0	0.0
11:00	11	0	0.0	11	100.0	0	0.0	0	0.0	0	0.0
12:00	28	0	0.0	22	78.6	5	17.9	0	0.0	1	3.6
13:00	9	0	0.0	6	66.7	2	22.2	1	11.1	0	0.0
14:00	10	0	0.0	5	50.0	5	50.0	0	0.0	0	0.0
15:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
16:00	10	0	0.0	7	70.0	3	30.0	0	0.0	0	0.0
17:00	8	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
18:00	12	0	0.0	10	83.3	0	0.0	2	16.7	0	0.0
19:00	0	0	-	0	-	0	-	0	-	0	-
20:00	4	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
21:00	4	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	135	0	0.0	106	78.5	21	15.6	7	5.2	1	0.7
16H,6-22	143	0	0.0	113	79.0	21	14.7	8	5.6	1	0.7
18H,6-24	144	0	0.0	114	79.2	21	14.6	8	5.6	1	0.7
24H,0-24	144	0	0.0	114	79.2	21	14.6	8	5.6	1	0.7

10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021			Channel: Eastbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Wed 17-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
06:00	11	0	0.0	11	100.0	0	0.0	0	0.0	0	0.0
07:00	14	0	0.0	12	85.7	1	7.1	1	7.1	0	0.0
08:00	13	0	0.0	11	84.6	2	15.4	0	0.0	0	0.0
09:00	15	0	0.0	10	66.7	2	13.3	3	20.0	0	0.0
10:00	9	0	0.0	7	77.8	1	11.1	1	11.1	0	0.0
11:00	19	0	0.0	18	94.7	0	0.0	0	0.0	1	5.3
12:00	13	0	0.0	11	84.6	2	15.4	0	0.0	0	0.0
13:00	20	0	0.0	17	85.0	2	10.0	0	0.0	1	5.0
14:00	9	0	0.0	5	55.6	4	44.4	0	0.0	0	0.0
15:00	8	0	0.0	4	50.0	3	37.5	1	12.5	0	0.0
16:00	7	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
17:00	15	0	0.0	15	100.0	0	0.0	0	0.0	0	0.0
18:00	8	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
19:00	0	0	-	0	-	0	-	0	-	0	-
20:00	0	0	-	0	-	0	-	0	-	0	-
21:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
22:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	150	0	0.0	124	82.7	18	12.0	6	4.0	2	1.3
16H,6-22	167	0	0.0	141	84.4	18	10.8	6	3.6	2	1.2
18H,6-24	168	0	0.0	142	84.5	18	10.7	6	3.6	2	1.2
24H,0-24	171	0	0.0	144	84.2	18	10.5	7	4.1	2	1.2

10901	KNOWSLEY			Site No: 10901001			Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021				Channel: Eastbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Thu 18-Nov-21											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
06:00	10	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0
07:00	21	1	4.8	16	76.2	2	9.5	2	9.5	0	0.0
08:00	15	0	0.0	14	93.3	1	6.7	0	0.0	0	0.0
09:00	18	0	0.0	15	83.3	2	11.1	1	5.6	0	0.0
10:00	18	0	0.0	18	100.0	0	0.0	0	0.0	0	0.0
11:00	12	0	0.0	11	91.7	1	8.3	0	0.0	0	0.0
12:00	17	0	0.0	17	100.0	0	0.0	0	0.0	0	0.0
13:00	18	0	0.0	13	72.2	2	11.1	3	16.7	0	0.0
14:00	22	0	0.0	19	86.4	3	13.6	0	0.0	0	0.0
15:00	18	0	0.0	16	88.9	2	11.1	0	0.0	0	0.0
16:00	8	0	0.0	6	75.0	1	12.5	1	12.5	0	0.0
17:00	16	0	0.0	14	87.5	2	12.5	0	0.0	0	0.0
18:00	12	0	0.0	10	83.3	2	16.7	0	0.0	0	0.0
19:00	3	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
20:00	0	0	-	0	-	0	-	0	-	0	-
21:00	2	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
22:00	0	0	-	0	-	0	-	0	-	0	-
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	195	1	0.5	169	86.7	18	9.2	7	3.6	0	0.0
16H,6-22	210	1	0.5	182	86.7	20	9.5	7	3.3	0	0.0
18H,6-24	210	1	0.5	182	86.7	20	9.5	7	3.3	0	0.0
24H,0-24	212	1	0.5	184	86.8	20	9.4	7	3.3	0	0.0

10901	KNOWSLEY				Site No: 10901001		Location	Penrhyn Rd, Knowsley (att to L/C)			
NOVEMBER 2021				Channel: Eastbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Daily Totals											
Fri 12-Nov-21	140	1	0.7	122	87.1	12	8.6	5	3.6	0	0.0
Sat 13-Nov-21	60	1	1.7	54	90.0	3	5.0	2	3.3	0	0.0
Sun 14-Nov-21	34	4	11.8	28	82.4	1	2.9	1	2.9	0	0.0
Mon 15-Nov-21	177	1	0.6	152	85.9	14	7.9	8	4.5	2	1.1
Tue 16-Nov-21	144	0	0.0	114	79.2	21	14.6	8	5.6	1	0.7
Wed 17-Nov-21	171	0	0.0	144	84.2	18	10.5	7	4.1	2	1.2
Thu 18-Nov-21	212	1	0.5	184	86.8	20	9.4	7	3.3	0	0.0
Total Vehicles											
--	938	8	2.2	798	85.1	89	8.4	38	3.9	5	0.4



Appendix C Accessibility Assessment

Accessibility Assessment System B

Site: Penrhyn Road, Knowsley Business Park

Proposed use: B8 with B1 ancillary use

Access on foot			Points	Score	Justification for Scoring
Location	<u>Residential Development:</u> Is the site within 800m of a district or local centre (see Accessibility Maps) OR <u>Non-residential development:</u> Is the density of existing local housing (i.e. within 800m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	0	Nearest housing with 30+ houses per hectare is located 1km to the north west of the site.
		No	0		
Internal layout	Does 'circulation' and access inside the sites reflect direct, safe and easy to use pedestrian routes for all, with priority given to pedestrians when they have to cross roads or cycle routes?	Yes	1	1	2m footways provide direct access to the site buildings/entrance from Penrhyn Road. The site is lit. Dropped kerb crossings are provided at each site access along Penrhyn Road, complimented with tactile paving for enhanced accessibility.
		No	0		
External layout	Are there barriers between site and local facilities or housing, which restrict pedestrian access? Examples include no dropped kerbs at crossings or on desire lines; steep gradients; a lack of a formal crossing where there is heavy traffic; security concerns, e.g. lack of lighting	Yes	-1	1	The surrounding streets have footways on both sides. Continuous walking routes available in all directions which connect to residential areas, facilities and public transport stops. Street lighting is provided at regular intervals along all routes linking to the site. Gradients are relatively flat on the routes surrounding the site which is conducive for walking. Dropped kerb crossings are provided
		No	1		
	Total Score			2	
	Minimum score required			2	
Comments or action needed to correct any shortfall					

B Accessibility Assessment System



Accessibility Assessment System B

Access by Cycle			Points	Score	Justification for Scoring
Location	Residential Development: Is the site within 1500m of a district or local centre (see Accessibility Maps) Or Non-residential development: Is the density of existing local housing (e.g. within 1500m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	2	The site is located within 1km of the local housing areas of Southdene and Kirkby with 30+ houses per hectare. These are accessible by the local cycle network.
		No	0		
Internal layout	Does 'circulation' and access inside the site reflect appropriate and direct cycle routes, with priority given to cyclists where they meet motor vehicles?	Yes	1	1	The staff vehicular entrance provides appropriate and safe access for cyclists, which is separate to the HGV access. The staff access serves a car park which is considered suitable and safe for cyclists to access the building.
		No	0		
External Access	Is the development within 400m of an existing or proposed designated cycle route and/ or proposes to create a link to a cycle route, or develop a route.	Yes	1	1	A shared use cycle path runs adjacent to the northern boundary of the site along the A580. Another shared foot/cycleway is located on School Lane, approximately 650m from the site.
		No	-1		
Other	Development includes cycle parking, shower facilities, and lockers for cyclists.	Yes	1	0	Secure cycle shelter provided in accordance with standards. No shower facilities or lockers.
		No	0		
	Total Score			4	
	Minimum score required			3	
Comments or action needed to correct any shortfall					
The site is lit and cycle parking is conveniently located within the site. Gradients are relatively flat on the routes surrounding the site which is conducive for cycling. Traffic flows are low on Penryhn Road connecting to the site which is therefore considered appropriate for shared cycle use.					

B Accessibility Assessment System

Access by Public Transport			Points	Score	Justification for Scoring
Location and access to public transport	Is the site within a 200m walk of a bus or tram stop, and/or within 400m of a rail station?	Yes	2	0	
		No	0		
	Are there barriers on direct pedestrian routes to bus or tram stops or rail stations e.g. a lack of dropped kerbs, footpaths less than 2m wide, a lack of formal crossings and / or bus stop infrastructure.	Yes	0	1	2m footways provide a pedestrian route to local bus stops. Dropped kerb crossings are provided along routes, with tactile paving at key junctions. Routes follow gentle gradients and are lit at regular intervals.
		No	1		
Frequency	High (four or more bus or tram services or trains an hour)		2	2	Bus stops located on School Lane provide four or more services per hour.
	Medium (two or three bus or tram services or trains an hour)		1		
	Low (less than two bus or tram services or trains an hour)		0		
Other	The proposal contributes to bus priority measures serving the site	Yes	1	0	
		No	0		
	The proposal contributes to bus stops, bus interchange, tram facilities or bus or rail stations in the vicinity and/or provides bus stops or bus interchange in the site	Yes	1	0	
		No	0		
	The proposal contributes to an existing or new supported bus service	Yes	1	1	Existing bus services serve key residential areas and are therefore likely to gain patronage from the site proposals to improve the viability.
		No	0		
	Total Score			4	
	Minimum score required			5	
Comments or action needed to correct any shortfall					

Accessibility Assessment System B

Frequent bus services are available from stops on School Lane, approximately 600 metres from the site.

Local bus services provide access to Kirkby Rail Station.

The site provides measures within a Travel Plan to encourage public transport for employees, as far as possible.

B Accessibility Assessment System

Parking			Points	Score	Justification for Scoring
Parking	The off-street parking provided is as advised in Section 4 for that development type	Yes	1	1	Proposed parking is less than the maximum level prescribed by the standards.
		No	0		
	The off street parking provided is less than 75% of the amount advised in Section 4 for that development type (or shares parking provision with another development).	Yes	2	0	Proposed parking at 90% of standards.
		No	0		
	For development in controlled parking zones:				
	Is the proposal for a car free development?	Yes	1	0	
		No	0		
	Does it supports the control or removal of on-street parking spaces (inc provision of disabled spaces) or contributes to other identified measures in the local parking strategy (including car clubs)	Yes	1	0	
		No	0		
	Total Score			1	
	Minimum score required			1	
Comments or action needed to correct any shortfall.					

Appendix D Site Masterplan

Diagram illustrating the proposed car charging area layout:

- Plot Boundary** (Blue dashed line)
- Revision reference** (Red dashed line)
- 5% active EV charging spaces to be provided location tbc.** (Indicated by a red arrow pointing to the revision reference area)
- Knowsley Brook Easement (8m wide)** (Indicated by a blue line at the bottom)

SCHEDULE OF ACCOMMODATION (Gross Internal Area)			
Unit 100			
Warehouse Area	-	184,700 ft²	(17,159 m²)
Office	-	9,720 ft²	(903 m²)
(Incl. GF core)			
Transport Office	-	5,000 ft²	(465 m²)
Gatehouse	-	300 ft²	(28 m²)
Total Area	-	199,720 ft²	(18,554 m²)
Planning Boundary	-	9.36 Acres	(3.79 Hectares)
Site Density	-	49.14%	
Car Parking Spaces	-	147 No.	
Level Access Doors	-	3 No.	
Dock Loading Doors	-	18 No.	
Cycle Spaces	-	56 No.	
HGV Spaces	-	48 No.	
Motorcycle Spaces	-	11 No.	

PLANNING

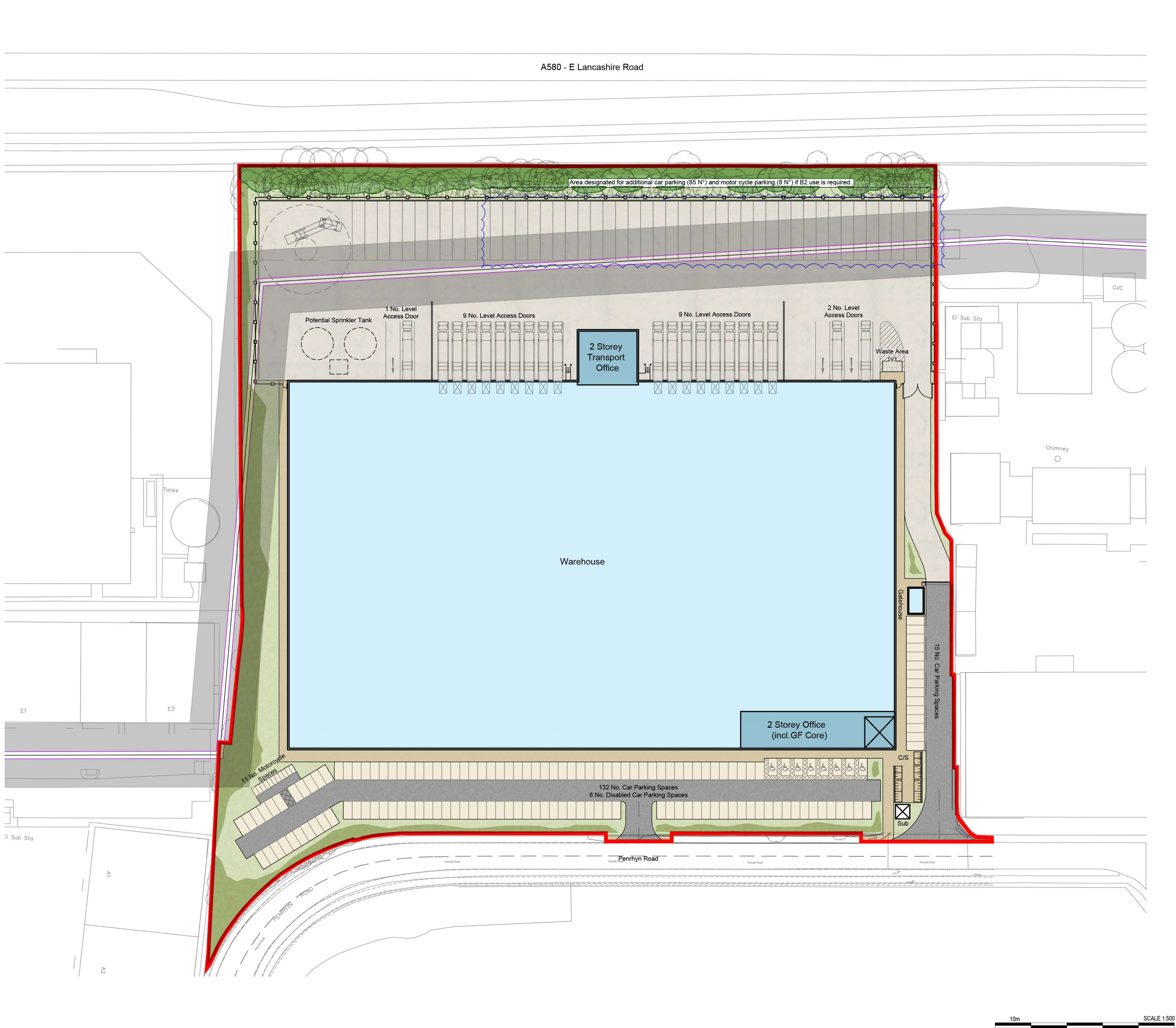
THIS DRAWING IS FOR PLANNING CONSIDERATION ONLY
AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

Penrhyn Road, Knowsley Business
Park, Merseyside
Site Layout

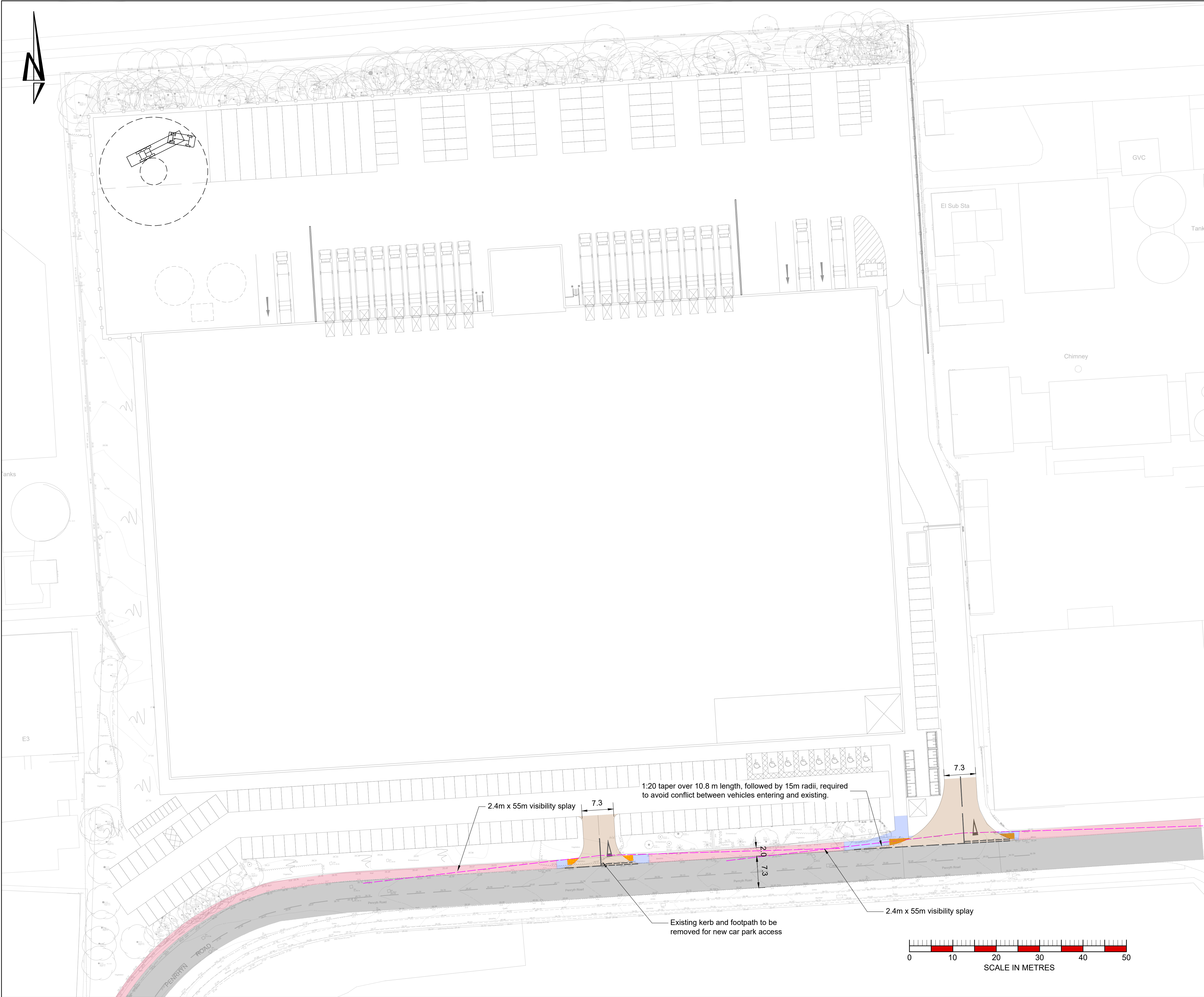
GRAFTONGATE



Drawing Status:	Planning
Drawn / Checked:	RF / LF
Date:	12/01/2022
Scale:	1:500 A1
Drawing no:	Revision:
1002 P0102	C



Appendix E General Arrangement of Site Access



THIS DRAWING IS THE COPYRIGHT OF BURROWS GRAHAM LIMITED.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

CONSTRUCTION

MAINTENANCE

DEMOLITION

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

GENERAL NOTES:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL THE RELEVANT ARCHITECTS, ENGINEERS' AND SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.

Proposed Footway Construction

Proposed Carriageway Construction

Existing Footway

Existing Carriageway

Proposed Tactile Paving

Visibility Splay

This drawing is based on UMC Architect's drawing ref: 21002-P0102D-Site Layout

P04	03.02.2022	RO	Updated Architect Layout	JAM
P03	30.11.2021	RO	Updated to show 55m visibility splay	JAM
P02	19.11.2021	RO	Vehicle tracking removed	JAM
P01	19.11.2021	RO	FIRST ISSUE	JAM
REV	DATE	BY	REVISION	CHK'D

Burrows Graham

North Office:
5 Ambassador Place, Stockport Road,
Altrincham WA15 8DB
Tel: +44 (0)161 804 8046

South Office:
Buckland House, Dower Mews,
High Street, Berkhamsted HP4 2BL
Tel: +44 (0)161 804 8046

CLIENT

GRAFTONGATE

PROJECT

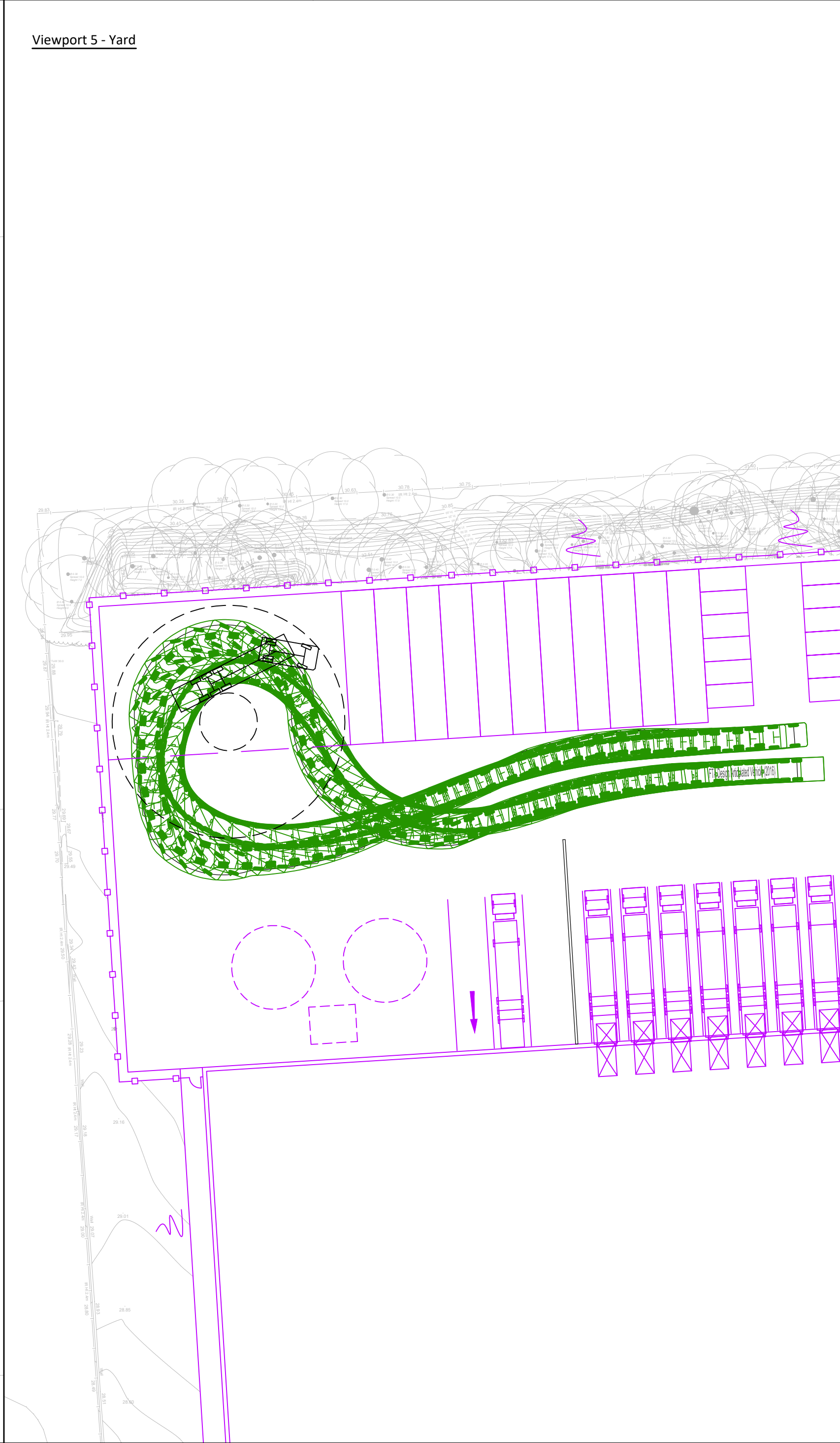
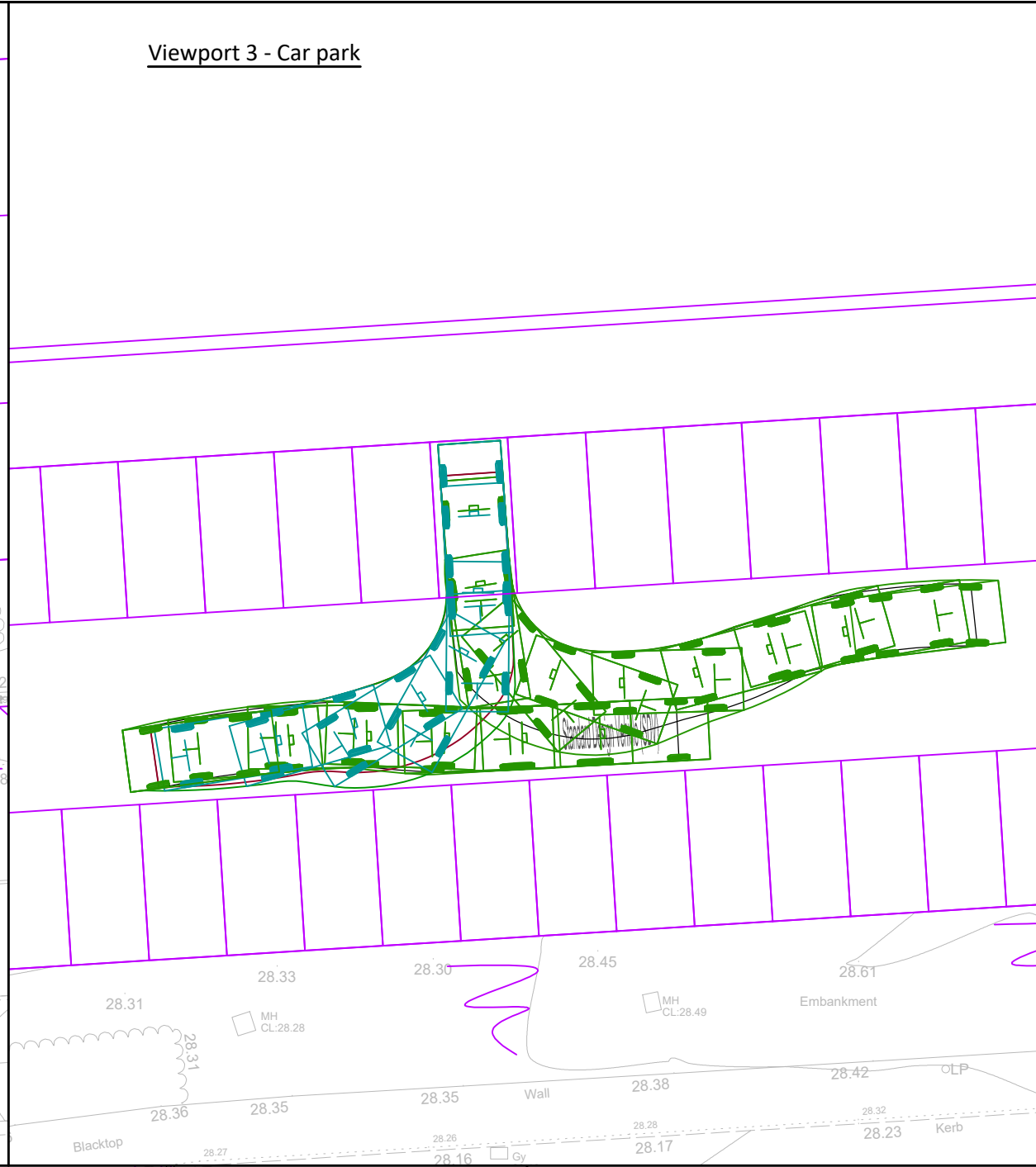
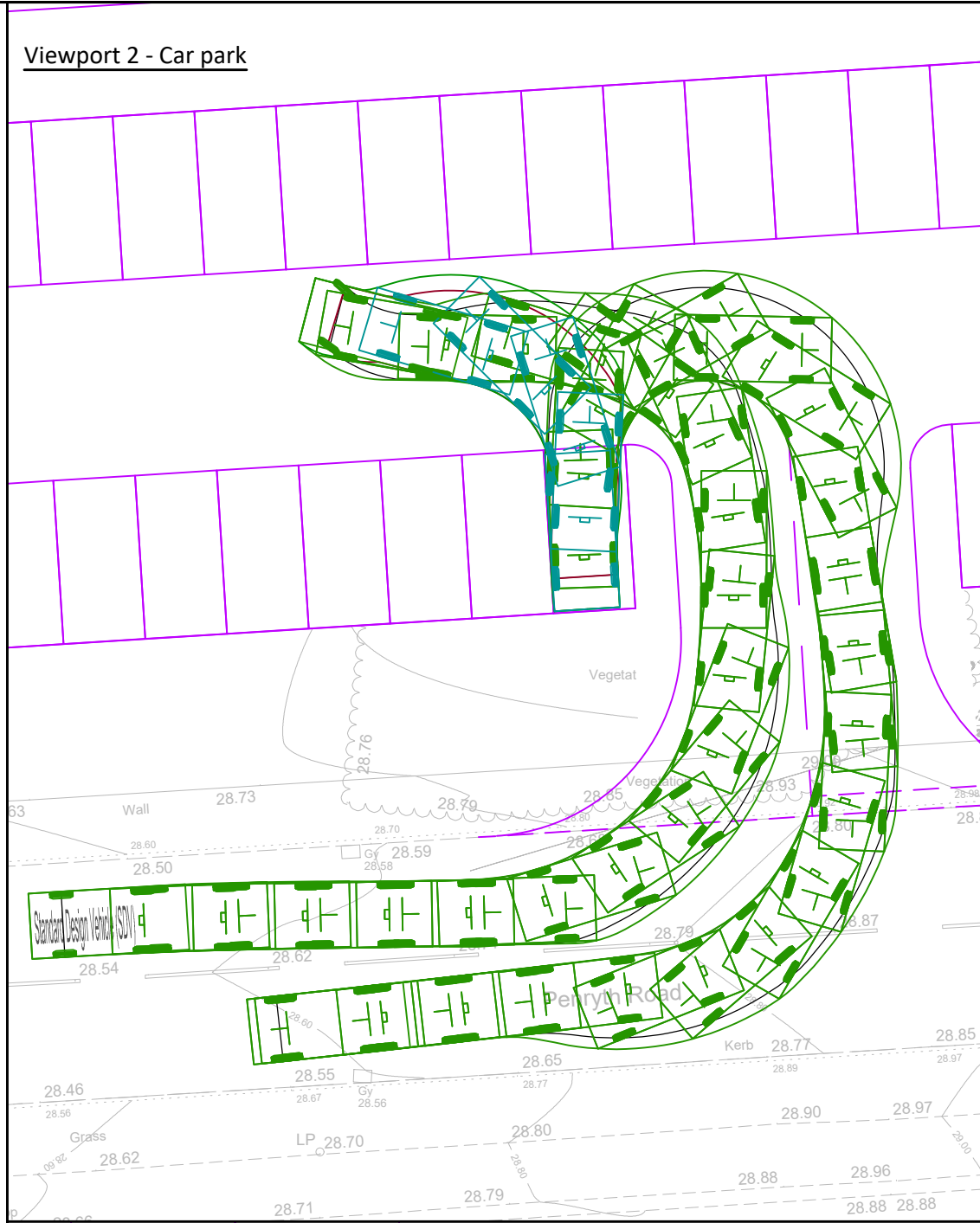
PENRHYN ROAD, MERSEYSIDE
KNOWSLEY BUSINESS PARK

DRAWING TITLE

SITE ACCESS
GENERAL ARRANGEMENT

OUR PROJECT NUMBER	DRAWING STATUS	OFFICE	
21065	PRELIMINARY	NORTH	
SCALE @ A1	DATE	DRAWN BY	CHECKED BY
1:500	19.11.2022	RO	JAM
DRAWING No	REV		
21065-BGL-XX-XX-SK-S-0003	P4		

Appendix F Swept Path Analysis



THIS DRAWING IS THE COPYRIGHT OF BURROWS GRAHAM LIMITED.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

CONSTRUCTION

MAINTENANCE

DEMOLITION

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

GENERAL NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL THE RELEVANT ARCHITECTS, ENGINEERS' AND SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.

Key

FTA Design Articulated Vehicle (2016)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.000m

Standard Design Vehicle (SDV)

Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock to lock time	4.00s
Wall to Wall Turning Radius	6.000m

This drawing is based on UMC Architect's drawing ref: 21002-P0102D

PO7	04/02/22	JAM	For planning	JW
P06	03/02/2022	JAM	For planning	JW
P05	24.01.2022	JAM	For planning	JW
P04	22.11.2021	JAM	Architect layout amended by BGL	JW
P03	27.10.2021	JAM	Updated to suit APEX comments	JW
P02	26.10.2021	JAM	Updated to suit APEX comments	JW
P01	22.10.2021	JAM	FIRST ISSUE	JW
REV	DATE	BY	REVISION	CHK'D

Burrows Graham

North Office:
5 Ambassador Place, Stockport Road,
Altrincham WA15 8DB
Tel: +44 (0)161 804 8046

South Office:
Buckland House, Dower Mews,
High Street, Berkhamsted HP4 2BL
Tel: +44 (0)161 804 8046

CLIENT

GRAFTONGATE

PROJECT

**PENRHYN ROAD, MERSEYSIDE
KNOWSLEY BUSINESS PARK**

DRAWING TITLE

VEHICLE SWEEP PATH ANALYSIS

OUR PROJECT NUMBER	DRAWING STATUS	OFFICE
21065	PRELIMINARY	NORTH

SCALE @ A1	DATE	DRAWN BY	CHECKED BY
1:500	03.02.2022	JAM	JW

DRAWING No	REV
21065-BGL-XX-XX-SK-S-0001	P7

Appendix G TRICS Outputs – Existing Industrial Unit

Calculation Reference: AUDIT-502501-210824-0803

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : C - INDUSTRIAL UNIT
 TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	DV DEVON	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	2 days
10	WALES	
	CF CARDIFF	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: 3513 to 14125 (units: sqm)
 Range Selected by User: 3500 to 15000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 09/05/18

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

Selected survey days:

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

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	3

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:

Industrial Zone	6
Development Zone	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:

Not Known 7 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
10,001 to 15,000	2 days
15,001 to 20,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

50,001 to 75,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	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:

No 7 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 7 days

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

LIST OF SITES relevant to selection parameters

1	CF-02-C-02 MAES-Y-COED ROAD CARDIFF	BAKERY Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 14125 sqm Survey date: THURSDAY 06/10/16	CARDIFF	Survey Type: MANUAL
2	CH-02-C-02 JUPITER DRIVE CHESTER CHESTER W. EMP. PARK Edge of Town Industrial Zone Total Gross floor area: 8100 sqm Survey date: WEDNESDAY 19/11/14	INDUSTRIAL MATERIALS	CHESHIRE	Survey Type: MANUAL
3	CH-02-C-03 BRUNEL ROAD MACCLESFIELD LYME GREEN BUS. PARK Edge of Town Development Zone Total Gross floor area: 6658 sqm Survey date: MONDAY 19/09/16	OFFICE FURNITURE	CHESHIRE	Survey Type: MANUAL
4	DV-02-C-02 GRACE ROAD SOUTH EXETER MARSH BARTON TRAD. EST. Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 3513 sqm Survey date: THURSDAY 06/07/17	ENERGY RECOVERY FACILITY	DEVON	Survey Type: MANUAL
5	WM-02-C-03 DOWNING STREET SMETHWICK Edge of Town Industrial Zone Total Gross floor area: 5070 sqm Survey date: TUESDAY 06/11/12	INDUSTRIAL GLASS	WEST MIDLANDS	Survey Type: MANUAL
6	WM-02-C-04 STOURVALE ROAD STOURBRIDGE LYE Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 4324 sqm Survey date: TUESDAY 21/11/17	FOUNDRY	WEST MIDLANDS	Survey Type: MANUAL
7	WY-02-C-02 BROWN LANE WEST LEEDS HOLBECK Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 13350 sqm Survey date: MONDAY 19/10/15	FLUID SYSTEMS	WEST YORKSHIRE	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/C - INDUSTRIAL UNIT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.457	1	13350	0.000	1	13350	0.457
07:00 - 08:00	7	7877	0.216	7	7877	0.033	7	7877	0.249
08:00 - 09:00	7	7877	0.239	7	7877	0.047	7	7877	0.286
09:00 - 10:00	7	7877	0.180	7	7877	0.100	7	7877	0.280
10:00 - 11:00	7	7877	0.136	7	7877	0.091	7	7877	0.227
11:00 - 12:00	7	7877	0.080	7	7877	0.105	7	7877	0.185
12:00 - 13:00	7	7877	0.134	7	7877	0.149	7	7877	0.283
13:00 - 14:00	7	7877	0.098	7	7877	0.094	7	7877	0.192
14:00 - 15:00	7	7877	0.082	7	7877	0.085	7	7877	0.167
15:00 - 16:00	7	7877	0.071	7	7877	0.161	7	7877	0.232
16:00 - 17:00	7	7877	0.036	7	7877	0.296	7	7877	0.332
17:00 - 18:00	7	7877	0.082	7	7877	0.160	7	7877	0.242
18:00 - 19:00	7	7877	0.024	7	7877	0.103	7	7877	0.127
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.835			1.424			3.259

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	3513 - 14125 (units: sqm)
Survey date range:	01/01/10 - 09/05/18
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.000	1	13350	0.000	1	13350	0.000
07:00 - 08:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
08:00 - 09:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
09:00 - 10:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
10:00 - 11:00	7	7877	0.002	7	7877	0.002	7	7877	0.004
11:00 - 12:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
12:00 - 13:00	7	7877	0.002	7	7877	0.002	7	7877	0.004
13:00 - 14:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
14:00 - 15:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
15:00 - 16:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
16:00 - 17:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
17:00 - 18:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
18:00 - 19:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

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/C - INDUSTRIAL UNIT

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.000	1	13350	0.000	1	13350	0.000
07:00 - 08:00	7	7877	0.024	7	7877	0.016	7	7877	0.040
08:00 - 09:00	7	7877	0.036	7	7877	0.025	7	7877	0.061
09:00 - 10:00	7	7877	0.063	7	7877	0.033	7	7877	0.096
10:00 - 11:00	7	7877	0.051	7	7877	0.016	7	7877	0.067
11:00 - 12:00	7	7877	0.031	7	7877	0.033	7	7877	0.064
12:00 - 13:00	7	7877	0.045	7	7877	0.045	7	7877	0.090
13:00 - 14:00	7	7877	0.040	7	7877	0.025	7	7877	0.065
14:00 - 15:00	7	7877	0.022	7	7877	0.018	7	7877	0.040
15:00 - 16:00	7	7877	0.020	7	7877	0.022	7	7877	0.042
16:00 - 17:00	7	7877	0.009	7	7877	0.020	7	7877	0.029
17:00 - 18:00	7	7877	0.002	7	7877	0.000	7	7877	0.002
18:00 - 19:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.343			0.253			0.596

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/C - INDUSTRIAL UNIT

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.000	1	13350	0.000	1	13350	0.000
07:00 - 08:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
08:00 - 09:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
09:00 - 10:00	7	7877	0.002	7	7877	0.002	7	7877	0.004
10:00 - 11:00	7	7877	0.002	7	7877	0.000	7	7877	0.002
11:00 - 12:00	7	7877	0.000	7	7877	0.002	7	7877	0.002
12:00 - 13:00	7	7877	0.002	7	7877	0.002	7	7877	0.004
13:00 - 14:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
14:00 - 15:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
15:00 - 16:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
16:00 - 17:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
17:00 - 18:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
18:00 - 19:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.006			0.006			0.012

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/C - INDUSTRIAL UNIT

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.015	1	13350	0.000	1	13350	0.015
07:00 - 08:00	7	7877	0.004	7	7877	0.004	7	7877	0.008
08:00 - 09:00	7	7877	0.005	7	7877	0.000	7	7877	0.005
09:00 - 10:00	7	7877	0.002	7	7877	0.000	7	7877	0.002
10:00 - 11:00	7	7877	0.000	7	7877	0.002	7	7877	0.002
11:00 - 12:00	7	7877	0.002	7	7877	0.000	7	7877	0.002
12:00 - 13:00	7	7877	0.000	7	7877	0.000	7	7877	0.000
13:00 - 14:00	7	7877	0.005	7	7877	0.000	7	7877	0.005
14:00 - 15:00	7	7877	0.000	7	7877	0.005	7	7877	0.005
15:00 - 16:00	7	7877	0.000	7	7877	0.004	7	7877	0.004
16:00 - 17:00	7	7877	0.000	7	7877	0.009	7	7877	0.009
17:00 - 18:00	7	7877	0.011	7	7877	0.013	7	7877	0.024
18:00 - 19:00	7	7877	0.000	7	7877	0.007	7	7877	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.044			0.044			0.088

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 H TRICS Outputs – Existing Offices

Calculation Reference: AUDIT-502501-210824-0817

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	BT BRENT	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
09	NORTH	
	DH DURHAM	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: 920 to 2500 (units: sqm)
 Range Selected by User: 500 to 3000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 09/11/20

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

Selected survey days:

Tuesday	2 days
Wednesday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	2

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:

Industrial Zone	1
Development Zone	2

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	3 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
10,001 to 15,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	2 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	2 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	2 days
6a Excellent	1 days

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

LIST OF SITES relevant to selection parameters

- | | | | |
|---|---|-----------------------|-----------|
| 1 | BT-02-A-03
EMPIRE WAY
WEMBLEY | OFFICES | BRENT |
| | Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 920 sqm
Survey date: WEDNESDAY 03/06/15
Survey Type: MANUAL | | |
| 2 | DH-02-A-02
DURHAM ROAD
NEAR DURHAM
BOWBURN | CONSTRUCTION COMPANY | DURHAM |
| | Edge of Town
Industrial Zone
Total Gross floor area: 2000 sqm
Survey date: TUESDAY 27/11/12
Survey Type: MANUAL | | |
| 3 | WL-02-A-01
THE CRESCENT
AMESBURY
SUNRISE WAY | PET INSURANCE COMPANY | WILTSHIRE |
| | Edge of Town
Development Zone
Total Gross floor area: 2500 sqm
Survey date: TUESDAY 18/09/18
Survey Type: MANUAL | | |

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SF-02-A-03	Covid

Apex Transport Planning Ltd Park Place Cardiff

Licence No: 502501

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	3	1807	0.406	3	1807	0.295	3	1807	0.701
08:00 - 09:00	3	1807	2.011	3	1807	0.148	3	1807	2.159
09:00 - 10:00	3	1807	2.288	3	1807	0.221	3	1807	2.509
10:00 - 11:00	3	1807	0.738	3	1807	0.295	3	1807	1.033
11:00 - 12:00	3	1807	0.203	3	1807	0.221	3	1807	0.424
12:00 - 13:00	3	1807	0.627	3	1807	0.609	3	1807	1.236
13:00 - 14:00	3	1807	0.720	3	1807	0.572	3	1807	1.292
14:00 - 15:00	3	1807	0.756	3	1807	0.609	3	1807	1.365
15:00 - 16:00	3	1807	0.332	3	1807	0.535	3	1807	0.867
16:00 - 17:00	3	1807	0.277	3	1807	0.996	3	1807	1.273
17:00 - 18:00	3	1807	0.295	3	1807	3.450	3	1807	3.745
18:00 - 19:00	3	1807	0.111	3	1807	0.886	3	1807	0.997
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			8.764			8.837			17.601

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	920 - 2500 (units: sqm)
Survey date range:	01/01/10 - 09/11/20
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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

Apex Transport Planning Ltd Park Place Cardiff

Licence No: 502501

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	3	1807	0.000	3	1807	0.000	3	1807	0.000
08:00 - 09:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
09:00 - 10:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
10:00 - 11:00	3	1807	0.000	3	1807	0.018	3	1807	0.018
11:00 - 12:00	3	1807	0.018	3	1807	0.000	3	1807	0.018
12:00 - 13:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
13:00 - 14:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
14:00 - 15:00	3	1807	0.018	3	1807	0.018	3	1807	0.036
15:00 - 16:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
16:00 - 17:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
17:00 - 18:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
18:00 - 19:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.036			0.072

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.

Apex Transport Planning Ltd Park Place Cardiff

Licence No: 502501

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	3	1807	0.000	3	1807	0.000	3	1807	0.000
08:00 - 09:00	3	1807	0.018	3	1807	0.000	3	1807	0.018
09:00 - 10:00	3	1807	0.018	3	1807	0.037	3	1807	0.055
10:00 - 11:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
11:00 - 12:00	3	1807	0.018	3	1807	0.018	3	1807	0.036
12:00 - 13:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
13:00 - 14:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
14:00 - 15:00	3	1807	0.018	3	1807	0.000	3	1807	0.018
15:00 - 16:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
16:00 - 17:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
17:00 - 18:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
18:00 - 19:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.072			0.055			0.127

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

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	3	1807	0.000	3	1807	0.000	3	1807	0.000
08:00 - 09:00	3	1807	0.018	3	1807	0.000	3	1807	0.018
09:00 - 10:00	3	1807	0.018	3	1807	0.000	3	1807	0.018
10:00 - 11:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
11:00 - 12:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
12:00 - 13:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
13:00 - 14:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
14:00 - 15:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
15:00 - 16:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
16:00 - 17:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
17:00 - 18:00	3	1807	0.000	3	1807	0.037	3	1807	0.037
18:00 - 19:00	3	1807	0.000	3	1807	0.000	3	1807	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.037			0.073

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 I TRICS Outputs – Proposed Industrial Use

Calculation Reference: AUDIT-502501-211216-1201

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : C - INDUSTRIAL UNIT
 TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	DV DEVON	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
10	WALES	
	CF CARDIFF	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: 13350 to 20000 (units: sqm)
 Range Selected by User: 10000 to 50000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 06/10/16

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	1

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

Selected Location Sub Categories:

Industrial Zone	3
-----------------	---

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

Secondary Filtering selection:

Use Class:

Not Known 3 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

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:

125,001 to 250,000 1 days

250,001 to 500,000 1 days

500,001 or More 1 days

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

Car ownership within 5 miles:

0.6 to 1.0 2 days

1.1 to 1.5 1 days

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

Travel Plan:

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 3 days

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

LIST OF SITES relevant to selection parameters

1	CF-02-C-02	BAKERY	CARDIFF
	MAES-Y-COED ROAD		
	CARDIFF		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	14125 sqm	
	Survey date: THURSDAY	06/10/16	Survey Type: MANUAL
2	DV-02-C-01	TUBE MANUFACTURE	DEVON
	PLYMBRIDGE ROAD		
	PLYMOUTH		
	ESTOVER		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	20000 sqm	
	Survey date: TUESDAY	17/07/12	Survey Type: MANUAL
3	WY-02-C-02	FLUID SYSTEMS	WEST YORKSHIRE
	BROWN LANE WEST		
	LEEDS		
	HOLBECK		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	13350 sqm	
	Survey date: MONDAY	19/10/15	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/C - INDUSTRIAL UNIT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.457	1	13350	0.000	1	13350	0.457
07:00 - 08:00	3	15825	0.259	3	15825	0.029	3	15825	0.288
08:00 - 09:00	3	15825	0.126	3	15825	0.036	3	15825	0.162
09:00 - 10:00	3	15825	0.099	3	15825	0.061	3	15825	0.160
10:00 - 11:00	3	15825	0.095	3	15825	0.063	3	15825	0.158
11:00 - 12:00	3	15825	0.053	3	15825	0.074	3	15825	0.127
12:00 - 13:00	3	15825	0.065	3	15825	0.091	3	15825	0.156
13:00 - 14:00	3	15825	0.152	3	15825	0.048	3	15825	0.200
14:00 - 15:00	3	15825	0.065	3	15825	0.158	3	15825	0.223
15:00 - 16:00	3	15825	0.051	3	15825	0.185	3	15825	0.236
16:00 - 17:00	3	15825	0.029	3	15825	0.308	3	15825	0.337
17:00 - 18:00	3	15825	0.086	3	15825	0.072	3	15825	0.158
18:00 - 19:00	3	15825	0.029	3	15825	0.051	3	15825	0.080
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.566			1.176			2.742

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	13350 - 20000 (units: sqm)
Survey date range:	01/01/10 - 06/10/16
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.000	1	13350	0.000	1	13350	0.000
07:00 - 08:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
08:00 - 09:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
09:00 - 10:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
10:00 - 11:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
11:00 - 12:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
12:00 - 13:00	3	15825	0.002	3	15825	0.002	3	15825	0.004
13:00 - 14:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
14:00 - 15:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
15:00 - 16:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
16:00 - 17:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
17:00 - 18:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
18:00 - 19:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

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/C - INDUSTRIAL UNIT

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.000	1	13350	0.000	1	13350	0.000
07:00 - 08:00	3	15825	0.013	3	15825	0.004	3	15825	0.017
08:00 - 09:00	3	15825	0.013	3	15825	0.006	3	15825	0.019
09:00 - 10:00	3	15825	0.042	3	15825	0.013	3	15825	0.055
10:00 - 11:00	3	15825	0.046	3	15825	0.013	3	15825	0.059
11:00 - 12:00	3	15825	0.013	3	15825	0.008	3	15825	0.021
12:00 - 13:00	3	15825	0.015	3	15825	0.002	3	15825	0.017
13:00 - 14:00	3	15825	0.011	3	15825	0.006	3	15825	0.017
14:00 - 15:00	3	15825	0.013	3	15825	0.011	3	15825	0.024
15:00 - 16:00	3	15825	0.008	3	15825	0.008	3	15825	0.016
16:00 - 17:00	3	15825	0.006	3	15825	0.011	3	15825	0.017
17:00 - 18:00	3	15825	0.002	3	15825	0.000	3	15825	0.002
18:00 - 19:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.182			0.082			0.264

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/C - INDUSTRIAL UNIT

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	1	13350	0.015	1	13350	0.000	1	13350	0.015
07:00 - 08:00	3	15825	0.002	3	15825	0.004	3	15825	0.006
08:00 - 09:00	3	15825	0.004	3	15825	0.000	3	15825	0.004
09:00 - 10:00	3	15825	0.002	3	15825	0.000	3	15825	0.002
10:00 - 11:00	3	15825	0.000	3	15825	0.002	3	15825	0.002
11:00 - 12:00	3	15825	0.002	3	15825	0.000	3	15825	0.002
12:00 - 13:00	3	15825	0.000	3	15825	0.000	3	15825	0.000
13:00 - 14:00	3	15825	0.006	3	15825	0.000	3	15825	0.006
14:00 - 15:00	3	15825	0.008	3	15825	0.013	3	15825	0.021
15:00 - 16:00	3	15825	0.000	3	15825	0.004	3	15825	0.004
16:00 - 17:00	3	15825	0.000	3	15825	0.006	3	15825	0.006
17:00 - 18:00	3	15825	0.013	3	15825	0.004	3	15825	0.017
18:00 - 19:00	3	15825	0.000	3	15825	0.006	3	15825	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.052			0.039			0.091

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 J TRICS Outputs – Proposed Warehouse Unit

Calculation Reference: AUDIT-502501-210824-0812

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : F - WAREHOUSING (COMMERCIAL)
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	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: 10446 to 31000 (units: sqm)
 Range Selected by User: 10000 to 50000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 14/10/20

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

Selected survey days:

Thursday	2 days
Friday	2 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 undertaken using machines.

Selected Locations:

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

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:

Industrial 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:

B8 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:

1,001 to 5,000 2 days

15,001 to 20,000 2 days

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

Population within 5 miles:

5,001 to 25,000 1 days

125,001 to 250,000 1 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 2 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:

No 4 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	KC-02-F-02 MILLS ROAD AYLESFORD QUARRY WOOD Edge of Town Industrial Zone Total Gross floor area: 11200 sqm Survey date: FRIDAY 22/09/17	COMMERCIAL WAREHOUSING	KENT	Survey Type: MANUAL
2	SF-02-F-02 WALTON ROAD FELIXSTOWE Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 22270 sqm Survey date: THURSDAY 11/07/13	WAREHOUSING	SUFFOLK	Survey Type: MANUAL
3	TW-02-F-01 MANDARIN WAY WASHINGTON PATTISON IND. ESTATE Edge of Town Industrial Zone Total Gross floor area: 31000 sqm Survey date: FRIDAY 13/11/15	ASDA DISTRIBUTION CENTRE	TYNE & WEAR	Survey Type: MANUAL
4	WY-02-F-02 STAITHGATE LANE BRADFORD NEWHALL Edge of Town Industrial Zone Total Gross floor area: 10446 sqm Survey date: THURSDAY 14/03/19	DISTRIBUTION COMPANY	WEST YORKSHIRE	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
WO-02-F-03	Covid

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.125	2	16358	0.083	2	16358	0.208
06:00 - 07:00	2	16358	0.220	2	16358	0.122	2	16358	0.342
07:00 - 08:00	4	18729	0.174	4	18729	0.095	4	18729	0.269
08:00 - 09:00	4	18729	0.099	4	18729	0.105	4	18729	0.204
09:00 - 10:00	4	18729	0.101	4	18729	0.081	4	18729	0.182
10:00 - 11:00	4	18729	0.079	4	18729	0.088	4	18729	0.167
11:00 - 12:00	4	18729	0.072	4	18729	0.073	4	18729	0.145
12:00 - 13:00	4	18729	0.077	4	18729	0.067	4	18729	0.144
13:00 - 14:00	4	18729	0.088	4	18729	0.087	4	18729	0.175
14:00 - 15:00	4	18729	0.075	4	18729	0.092	4	18729	0.167
15:00 - 16:00	4	18729	0.099	4	18729	0.093	4	18729	0.192
16:00 - 17:00	4	18729	0.087	4	18729	0.155	4	18729	0.242
17:00 - 18:00	4	18729	0.096	4	18729	0.147	4	18729	0.243
18:00 - 19:00	4	18729	0.043	4	18729	0.069	4	18729	0.112
19:00 - 20:00	2	16358	0.055	2	16358	0.101	2	16358	0.156
20:00 - 21:00	2	16358	0.043	2	16358	0.049	2	16358	0.092
21:00 - 22:00	1	22270	0.031	1	22270	0.018	1	22270	0.049
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.564			1.525			3.089

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	10446 - 31000 (units: sqm)
Survey date range:	01/01/10 - 14/10/20
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:	1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.000	2	16358	0.000	2	16358	0.000
06:00 - 07:00	2	16358	0.003	2	16358	0.003	2	16358	0.006
07:00 - 08:00	4	18729	0.005	4	18729	0.005	4	18729	0.010
08:00 - 09:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
09:00 - 10:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
10:00 - 11:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
11:00 - 12:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
12:00 - 13:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
13:00 - 14:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
14:00 - 15:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
15:00 - 16:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
16:00 - 17:00	4	18729	0.003	4	18729	0.003	4	18729	0.006
17:00 - 18:00	4	18729	0.003	4	18729	0.003	4	18729	0.006
18:00 - 19:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
19:00 - 20:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
20:00 - 21:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
21:00 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.014			0.014			0.028

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/F - WAREHOUSING (COMMERCIAL)

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.034	2	16358	0.064	2	16358	0.098
06:00 - 07:00	2	16358	0.046	2	16358	0.095	2	16358	0.141
07:00 - 08:00	4	18729	0.044	4	18729	0.053	4	18729	0.097
08:00 - 09:00	4	18729	0.039	4	18729	0.057	4	18729	0.096
09:00 - 10:00	4	18729	0.045	4	18729	0.041	4	18729	0.086
10:00 - 11:00	4	18729	0.044	4	18729	0.045	4	18729	0.089
11:00 - 12:00	4	18729	0.031	4	18729	0.027	4	18729	0.058
12:00 - 13:00	4	18729	0.039	4	18729	0.031	4	18729	0.070
13:00 - 14:00	4	18729	0.036	4	18729	0.040	4	18729	0.076
14:00 - 15:00	4	18729	0.027	4	18729	0.031	4	18729	0.058
15:00 - 16:00	4	18729	0.052	4	18729	0.036	4	18729	0.088
16:00 - 17:00	4	18729	0.053	4	18729	0.045	4	18729	0.098
17:00 - 18:00	4	18729	0.069	4	18729	0.037	4	18729	0.106
18:00 - 19:00	4	18729	0.032	4	18729	0.021	4	18729	0.053
19:00 - 20:00	2	16358	0.018	2	16358	0.034	2	16358	0.052
20:00 - 21:00	2	16358	0.018	2	16358	0.034	2	16358	0.052
21:00 - 22:00	1	22270	0.027	1	22270	0.004	1	22270	0.031
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.654			0.695			1.349

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/F - WAREHOUSING (COMMERCIAL)

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.000	2	16358	0.000	2	16358	0.000
06:00 - 07:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
07:00 - 08:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
08:00 - 09:00	4	18729	0.009	4	18729	0.000	4	18729	0.009
09:00 - 10:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
10:00 - 11:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
11:00 - 12:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
12:00 - 13:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
13:00 - 14:00	4	18729	0.004	4	18729	0.000	4	18729	0.004
14:00 - 15:00	4	18729	0.001	4	18729	0.003	4	18729	0.004
15:00 - 16:00	4	18729	0.008	4	18729	0.003	4	18729	0.011
16:00 - 17:00	4	18729	0.004	4	18729	0.004	4	18729	0.008
17:00 - 18:00	4	18729	0.001	4	18729	0.009	4	18729	0.010
18:00 - 19:00	4	18729	0.000	4	18729	0.004	4	18729	0.004
19:00 - 20:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
20:00 - 21:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
21:00 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.023			0.052

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.

Apex Transport Planning Ltd Park Place Cardiff

Licence No: 502501

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.086	2	16358	0.015	2	16358	0.101
06:00 - 07:00	2	16358	0.141	2	16358	0.018	2	16358	0.159
07:00 - 08:00	4	18729	0.091	4	18729	0.015	4	18729	0.106
08:00 - 09:00	4	18729	0.041	4	18729	0.017	4	18729	0.058
09:00 - 10:00	4	18729	0.028	4	18729	0.016	4	18729	0.044
10:00 - 11:00	4	18729	0.017	4	18729	0.020	4	18729	0.037
11:00 - 12:00	4	18729	0.019	4	18729	0.023	4	18729	0.042
12:00 - 13:00	4	18729	0.019	4	18729	0.021	4	18729	0.040
13:00 - 14:00	4	18729	0.031	4	18729	0.027	4	18729	0.058
14:00 - 15:00	4	18729	0.028	4	18729	0.045	4	18729	0.073
15:00 - 16:00	4	18729	0.028	4	18729	0.041	4	18729	0.069
16:00 - 17:00	4	18729	0.019	4	18729	0.089	4	18729	0.108
17:00 - 18:00	4	18729	0.011	4	18729	0.080	4	18729	0.091
18:00 - 19:00	4	18729	0.005	4	18729	0.043	4	18729	0.048
19:00 - 20:00	2	16358	0.021	2	16358	0.058	2	16358	0.079
20:00 - 21:00	2	16358	0.018	2	16358	0.009	2	16358	0.027
21:00 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.603			0.537			1.140

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/F - WAREHOUSING (COMMERCIAL)

LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.000	2	16358	0.003	2	16358	0.003
06:00 - 07:00	2	16358	0.009	2	16358	0.006	2	16358	0.015
07:00 - 08:00	4	18729	0.025	4	18729	0.020	4	18729	0.045
08:00 - 09:00	4	18729	0.015	4	18729	0.023	4	18729	0.038
09:00 - 10:00	4	18729	0.028	4	18729	0.023	4	18729	0.051
10:00 - 11:00	4	18729	0.015	4	18729	0.020	4	18729	0.035
11:00 - 12:00	4	18729	0.020	4	18729	0.023	4	18729	0.043
12:00 - 13:00	4	18729	0.013	4	18729	0.013	4	18729	0.026
13:00 - 14:00	4	18729	0.017	4	18729	0.019	4	18729	0.036
14:00 - 15:00	4	18729	0.016	4	18729	0.015	4	18729	0.031
15:00 - 16:00	4	18729	0.017	4	18729	0.016	4	18729	0.033
16:00 - 17:00	4	18729	0.012	4	18729	0.012	4	18729	0.024
17:00 - 18:00	4	18729	0.009	4	18729	0.012	4	18729	0.021
18:00 - 19:00	4	18729	0.003	4	18729	0.003	4	18729	0.006
19:00 - 20:00	2	16358	0.003	2	16358	0.003	2	16358	0.006
20:00 - 21:00	2	16358	0.006	2	16358	0.003	2	16358	0.009
21:00 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.208			0.214			0.422

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/F - WAREHOUSING (COMMERCIAL)

MOTOR CYCLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	2	16358	0.003	2	16358	0.000	2	16358	0.003
06:00 - 07:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
07:00 - 08:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
08:00 - 09:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
09:00 - 10:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
10:00 - 11:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
11:00 - 12:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
12:00 - 13:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
13:00 - 14:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
14:00 - 15:00	4	18729	0.001	4	18729	0.000	4	18729	0.001
15:00 - 16:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
16:00 - 17:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
17:00 - 18:00	4	18729	0.000	4	18729	0.004	4	18729	0.004
18:00 - 19:00	4	18729	0.000	4	18729	0.000	4	18729	0.000
19:00 - 20:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
20:00 - 21:00	2	16358	0.000	2	16358	0.000	2	16358	0.000
21:00 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.004			0.011

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 K Journey to Work Distribution Analysis

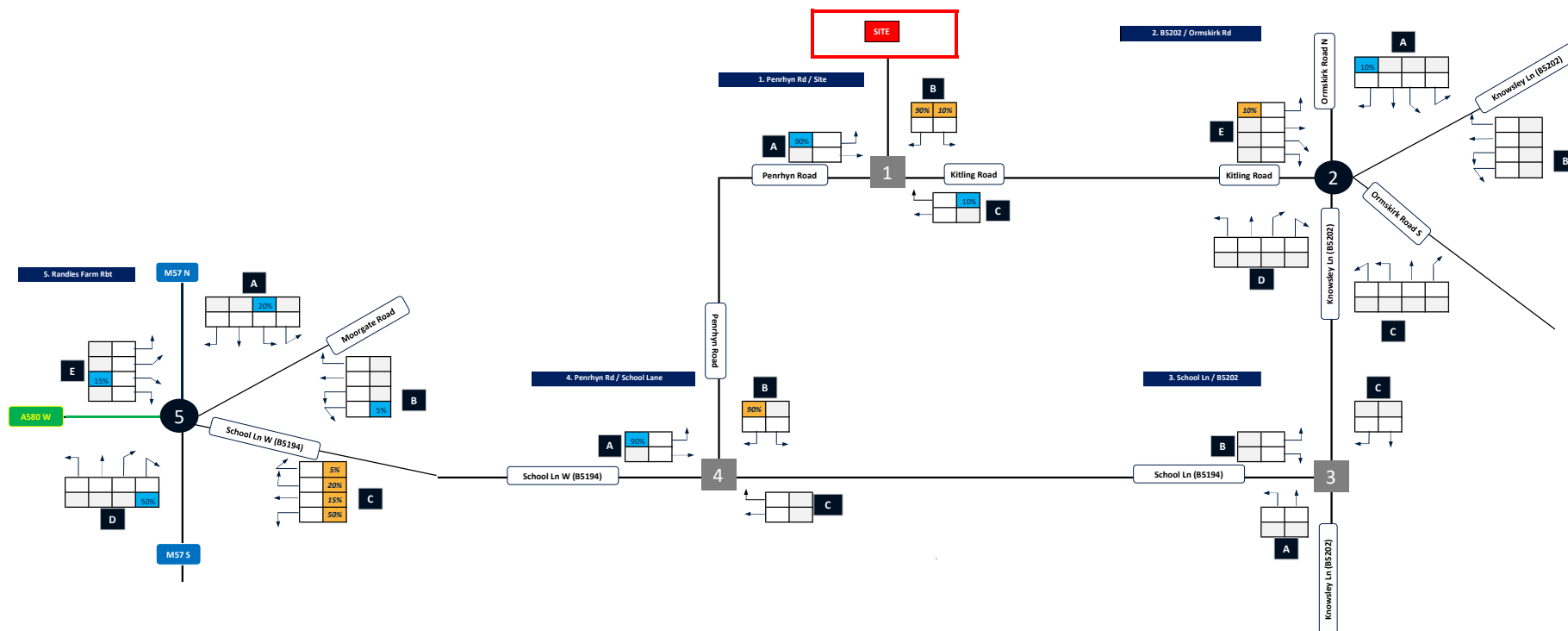
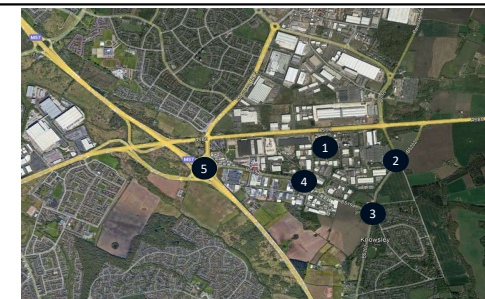
Trip Distribution Analysis

7866										0.0%										9.7%										0.0%										8.1%										0.0%										29.6%										17.3%										30.5%										4.8%										9.7%										0.0%										0.0%										4.1%										0.0%										29.6%										17.3%										30.5%										4.8%									
Arrival %										Departure %										%										Movements Arrivals										Movements Departures																																																																																																																																																					
Home	Work	Number	Ormskirk Rd (N)	Knowsley Lane (N)	Ormskirk Rd (S)	Knowsley Lane (S)	School Lane (S)	M57 (N)	M57 (S)	A580 (N)	Moorgate Rd	Ormskirk Rd (N)	Knowsley Lane (N)	Ormskirk Rd (S)	Knowsley Lane (S)	School Lane (S)	M57 (N)	M57 (S)	A580 (W)	Moorgate Rd	Ormskirk Rd (N)	Knowsley Lane (N)	Ormskirk Rd (S)	Knowsley Lane (S)	School Lane (S)	M57 (N)	A580 (W)	Moorgate Rd	Ormskirk Rd (N)	Knowsley Lane (N)	Ormskirk Rd (S)	Knowsley Lane (S)	School Lane (S)	M57 (N)	M57 (S)	A580 (W)	Moorgate Rd																																																																																																																																																								
Knowsley 005	Knowsley 005	339			60%						40%			60%						40%	200%	0	0	0	101.7	0	0	0	0	67.8	0	0	0	0	101.7	0	0	0	67.8																																																																																																																																																						
Knowsley 006	Knowsley 006	330				100%					100%			100%						100%	200%	0	0	0	0	0	165	0	0	0	0	165	0	0	0	165																																																																																																																																																									
Knowsley 007	Knowsley 007	331									40%			40%						40%	200%	0	0	0	0	0	57.3	0	0	0	0	57.3	0	0	0	57.3																																																																																																																																																									
Knowsley 008	Knowsley 008	342									100%			100%						100%	200%	0	0	0	0	0	0	81	0	0	0	0	81	0	0	0	81																																																																																																																																																								
Knowsley 009	Knowsley 009	333				100%								100%							200%	0	0	0	0	0	0	78.5	0	0	0	0	78.5	0	0	0	78.5																																																																																																																																																								
Liverpool 007	Knowsley 007	339								100%				100%						100%	200%	0	0	0	0	0	0	69.5	0	0	0	0	69.5	0	0	0	69.5																																																																																																																																																								
Selton 017	Knowsley 014	334												100%							200%	0	0	0	0	0	97	0	0	0	0	97	0	0	0	97																																																																																																																																																									
Knowsley 014	Knowsley 014	389												50%						50%	200%	0	0	0	24.75	0	0	24.75	0	0	0	0	24.75	0	0	0	24.75																																																																																																																																																								
West Lancashire 012	Knowsley 008	388	50%									50%			50%					50%	200%	0	24.5	0	0	0	0	24.5	0	0	24.5	0	0	24.5	0	0	24.5	0																																																																																																																																																							
Liverpool 004	Knowsley 004	377												100%						100%	200%	0	0	0	0	0	38.5	0	0	0	0	38.5	0	0	0	38.5																																																																																																																																																									
Liverpool 004	Knowsley 004	366												100%						100%	200%	0	0	0	0	0	48	0	0	0	0	48	0	0	0	48																																																																																																																																																									
Selton 026	Knowsley 006	360				50%								50%						50%	200%	0	0	0	22.5	0	0	22.5	0	0	0	0	22.5	0	0	0	22.5																																																																																																																																																								
Selton 026	Knowsley 006	366												100%						100%	200%	0	0	0	0	0	43	0	0	0	0	43	0	0	0	43																																																																																																																																																									
Selton 018	Knowsley 008	82				100%								100%						100%	200%	0	0	0	0	0	41	0	0	0	0	41	0	0	0	41																																																																																																																																																									
Knowsley 007	Knowsley 006	36				50%								50%						50%	200%	0	0	0	19	0	0	19	0	0	0	0	19	0	0	0	19																																																																																																																																																								
Knowsley 010	Knowsley 010	34				100%								100%						100%	200%	0	0	0	18.5	0	0	18.5	0	0	0	0	18.5	0	0	0	18.5																																																																																																																																																								
Liverpool 003	Knowsley 003	73								100%				100%						100%	200%	0	0	0	0	0	36.5	0	0	0	0	36.5	0	0	0	36.5																																																																																																																																																									
Liverpool 002	Knowsley 002	121								100%				100%						100%	200%	0	0	0	0	0	36	0	0	0	0	36	0	0	0	36																																																																																																																																																									
Selton 020	Knowsley 002	72				100%								100%						100%	200%	0	0	0	0	0	36	0	0	0	0	36	0	0	0	36																																																																																																																																																									
Knowsley 011	Knowsley 005	70				50%								50%						50%	200%	0	0	0	17.5	0	0	17.5	0	0	0	0	17.5	0	0	0	17.5																																																																																																																																																								
Liverpool 005	Knowsley 005	70												100%						100%	200%	0	0	0	0	0	35	0	0	0	0	35	0	0	0	35																																																																																																																																																									
Liverpool 013	Knowsley 009	69								100%				100%						100%	200%	0	0	0	0	0	34.5	0	0	0	0	34.5	0	0	0	34.5																																																																																																																																																									
Selton 019	Knowsley 009	69												100%						100%	200%	0	0	0	0	0	34	0	0	0	0	34	0	0	0	34																																																																																																																																																									
Liverpool 021	Knowsley 001	66				100%								100%						100%	200%	0	0	0	0	0	33	0	0	0	0	33	0	0	0	33																																																																																																																																																									
Selton 027	Knowsley 005	64												100%						100%	200%	0	0	0	0	0	32	0	0	0	0	32	0	0	0	32																																																																																																																																																									
Knowsley 009	Knowsley 009	63				50%								50%						50%	200%	0	0	0	15.75	0	0	15.75	0	0	0	0	15.75	0	0	0	15.75																																																																																																																																																								
St. Helens 004	Knowsley 004	58	50%											50%						50%	200%	0	14.5	0	0	0	0	14.5	0	0	14.5	0	0	0	0	14.5	0																																																																																																																																																								
Knowsley 002	Knowsley 002	57	50%											50%						50%	200%	0	14.5	0	0	0	0	14.5	0	0	14.5	0	0	0	0	14.5	0																																																																																																																																																								
Halton 002	Knowsley 002	55												100%						100%	200%	0	0	0	0	0	13.75	0	0	0	0	13.75	0	0	0	13.75																																																																																																																																																									
Knowsley 017	Knowsley 004	54				50%								50%						50%	200%	0	0	0	13.5	0	0	13.5	0	0	0	0	13.5	0	0	0	13.5																																																																																																																																																								
Knowsley 003	Knowsley 003	53												50%						50%	200%	0	13.25	0	0	0	0	13.25	0	0	13.25	0	0	0	0	13.25	0																																																																																																																																																								
St. Helens 005	Knowsley 005	53	50%											50%						50%	200%	0	13.25	0	0	0	0	13.25	0	0	13.25	0	0	0	0	13.25	0																																																																																																																																																								
Liverpool 008	Knowsley 002	52												100%						100%	200%	0	0	0	0	0	26	0	0	0	0	26	0	0	0	26																																																																																																																																																									
St. Helens 019	Knowsley 019	52	100%											100%						100%	200%	0	13	0	0	0	0	13	0	0	13	0	0	0	0	13	0																																																																																																																																																								
Selton 025	Knowsley 025	51				100%								100%						100%	200%	0	0	0	0	0	26	0	0	0	0	26	0	0	0	26																																																																																																																																																									
Knowsley 012	Knowsley 012	51				50%								50%						50%	200%	0	12.75	0	0	0	0	12.75	0	0	12.75	0	0	0	0	12.75	0																																																																																																																																																								
Liverpool 012	Knowsley 012	51												100%						100%	200%	0	0	0	0	0	25.5	0	0	0	0	25.5	0	0	0	25.5																																																																																																																																																									
Selton 031	Knowsley 001	51				100%								100%						100%	200%	0	0	0	0	0	25.5	0	0	0	0	25.5	0	0	0	25.5																																																																																																																																																									
Liverpool 011	Knowsley 011	49												100%						100%	200%	0	0	0	0	0	24.5	0	0	0	0	24.5	0	0	0	24.5																																																																																																																																																									
Liverpool 018	Knowsley 009	49												100%						100%	200%	0	0	0	0	0	24.5	0	0	0	0	24.5	0	0	0	24.5																																																																																																																																																									
Selton 021	Knowsley 009	49												100%						100%	200%	0	0	0	0	0	24.5	0	0	0	0	24.5	0	0	0	24.5																																																																																																																																																									
Knowsley 010	Knowsley 010	48				50%								50%						50%	200%	0	12	0	0	0	0	12	0	0	0	0	12	0	0	0	12																																																																																																																																																								
Liverpool 027	Knowsley 008	48												100%						100%	200%	0	0	0	0	0	11.75	0	0	0	0	11.75	0	0	0	11.75																																																																																																																																																									
St. Helens 006	Knowsley 006	47	50%											50%						50%	200%	0	11.75	0	0	0	0	11.75	0	0	11.75	0	0	0	0	11.75	0																																																																																																																																																								
St. Helens 001	Knowsley 001	46	50%											50%						50%	200%	0	11.5	0	0	0	0	11.5	0	0	0	0	11.5	0	0	0	11.5																																																																																																																																																								
Liverpool 017	Knowsley 005	45												100%						100%	200%	0	0	0	0	0	22.5	0	0	0	0	22.5	0	0	0	22.5																																																																																																																																																									
Knowsley 016	Knowsley 016	45				100%								100%						100%	200%	0	0	0	0	0	22	0	0	0	0	22	0	0	0	22																																																																																																																																																									
St. Helens 007	Knowsley 005	45	50%											50%						50%	200%	0	11.25	0	0	0	0	11.25	0	0	11.25	0	0	0	0	11.25	0																																																																																																																																																								
Selton 033	Knowsley 003	44												100%						100%	200%	0	0	0	0	0	22.5	0	0	0	0	22.5	0	0	0	22.5																																																																																																																																																									
Liverpool 006	Knowsley 006	44												100%						100%	200%	0	0	0	0	0	22	0	0	0	0	22	0	0	0	22																																																																																																																																																									
Liverpool 025	Knowsley 004	44												100%						100%	200%	0	0	0	0	0	22	0	0	0	0	22	0	0	0	22																																																																																																																																																									
Selton 033	Knowsley 003	44												100%						100%	200%	0	0	0	0	0	22	0	0	0	0	22																																																																																																																																																													

Trip Distribution Analysis

[illegible]

Appendix L Distribution Percentages and Traffic Flow Diagrams



NOTES:

Differences due to rounding

PROJECT:

Penrhyn Road, Knowsley Business Park

TIME PERIOD:

All Time Periods

DATE:

November 2021

JOB NUMBER:

C21054

PLAN TITLE:

Traffic Figure Diagrams

Proposed Trip Distribution - HGV's (B8 Warehouse Use)

DRAWN BY:

GP

FIGURE:

001