

Land between the A40(T) and the railway
line, near Llanllwch, Carmarthenshire

Transport Statement

16 February 2024

For and on behalf of
Mrs N Andreu and Mr A Davies



Project Ref: 2023-790

LvW Highways Ltd
Highway, Traffic & Transport Consultants
Blaenparc
Felingwm Uchaf
Carmarthen
SA32 7PR

Mbl: 07769 226695
E-mail: Karl.vonWeber@lvwhighways.com

This page is intentionally blank for double sided printing

Document Control Sheet

e. karl.vonweber@lvwhighways.com
w. www.lvwhighways.com

Wales Office:

Bleanparc
Felingwm Uchaf
Carmarthen
SA32 7PR

m. 07769 226695

England Office:

4 Mountway Close
Bishops Hull
Taunton
TA1 5LP

m. 07770 775835

Report Title:	Transport Statement
File Location:	790-TS-v2.docx

Client:	Mrs N Andreu and Mr A Davies
Project Number:	2023-790

Draft Report Issued:	v01 – 15/02/2024
Final Report Issued:	v02 – 16/02/2024

Prepared By:	Karl von Weber
Office:	Wales
Checked By:	

This report has been prepared for the exclusive use of the client and unless otherwise agreed in writing by LvW Highways Ltd, no other party may copy, reproduce, distribute, make use of, or rely on the contents of the report. No liability is accepted by LvW Highways Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided. Opinions and information provided in this report are on the basis of LvW Highways Ltd using reasonable skill, care and diligence and no explicit warranty is provided as to their accuracy. It should be noted and is expressly stated that no independent verification of any of the documents or information supplied to LvW Highways Ltd has been made.

© 2023 LvW Highways Ltd

Table of Contents

1	INTRODUCTION	1
	Existing Site	1
	Proposed Development	2
	Report Structure	2
2	EXISTING SITE CONDITIONS	3
	Context	3
	Site Location and Existing Use	3
	Active Travel Network.....	4
	Public Transport Network	9
	Accessibility and Sustainability Assessment Conclusions	10
	Census Data	10
	Highway Network	11
	Personal Injury Collision/Accident Data.....	12
	Summary	13
3	PROPOSED DEVELOPMENT	14
	Context	14
	Proposed Development	14
	Access Arrangements	14
	Car and Cycle Parking Provision	14
	Delivery and Servicing.....	16
4	TRIP GENERATION AND DEVELOPMENT IMPACT	17
	Context	17
	Proposed Trip Generation	17
	Trip Distribution	20
5	SUMMARY AND CONCLUSIONS.....	21

FIGURES

Figure 1: Site Location	1
Figure 2: Typical distance range for each mode of active travel	5
Figure 3: Manual for Street minimum footway widths	6
Figure 4: Footway widths (DfT 'Inclusive Mobility' 2002)	6
Figure 5: Walking isochrones for 400m, 1610m (1mile) and 3220m (2miles)	7
Figure 6: Public Rights of Way	7
Figure 7: Cycling isochrones 4km and 8km	8
Figure 8: National Cycle Network	8
Figure 9: Bus Stops	9
Figure 10: Bus services	9
Figure 11: Personal Injury Collisions 2018 to 2022	13

PLATES

Plate 1: Current Site Access	4
------------------------------------	---

TABLES

Table 1: Census 2011 & 2021 Journey to Work Data	11
Table 2: CSS Parking Standards 2008	15
Table 3: Indicative unit sizes	15
Table 4: Vehicular Trips for Proposed Use	19
Table 5: Summary of Daily Trips by Mode for Proposed Use	20

CHARTS

Chart 1: AADF on A40 near B&Q (CP40516) in April 2022	12
Chart 2: Vehicular Trips for Proposed Use	19

APPENDICES

Appendix A - Indicative site layout	
Appendix B - Vehicle swept paths	
Appendix C - TRICS data	

1 INTRODUCTION

- 1.1 LvW Highways Ltd (LvWH) has been commissioned by Mrs N Andreu and Mr A Davies to produce a Transport Statement (TS) in support a planning application for the proposed development of a plot of Land between the A40(T) and the railway line, near Llanllwch, Carmarthenshire.
- 1.2 The Local Planning Authority and Local Highway Authority are Carmarthenshire County Council (CCC).
- 1.3 In accordance with Part 1A of The Town and Country Planning (Development Management Procedures) (Wales) (Amended) Order 2016 (DMPO 2016), all major developments are required to be subject of pre-application consultation (PAC), prior to the Planning Application being validated by the Local Planning Authority.
- 1.4 The PAC process allows members of the public and statutory consultees the opportunity to comment on the development proposals which can then be taken considered and taken on-board within the final proposals.
- 1.5 This report has been prepared for the PAC process and will outline and assess any transport issues in relation to the site. It will consider the traffic generation of the development and potential impact on the surrounding transport network with any required mitigation measures outlined.

Existing Site

- 1.6 As shown in **Figure 1**, the site considered as part of this PAC is located on a vacant parcel of land between the A40(T) and the South Wales London – Fishguard railway line near Llanllwch.

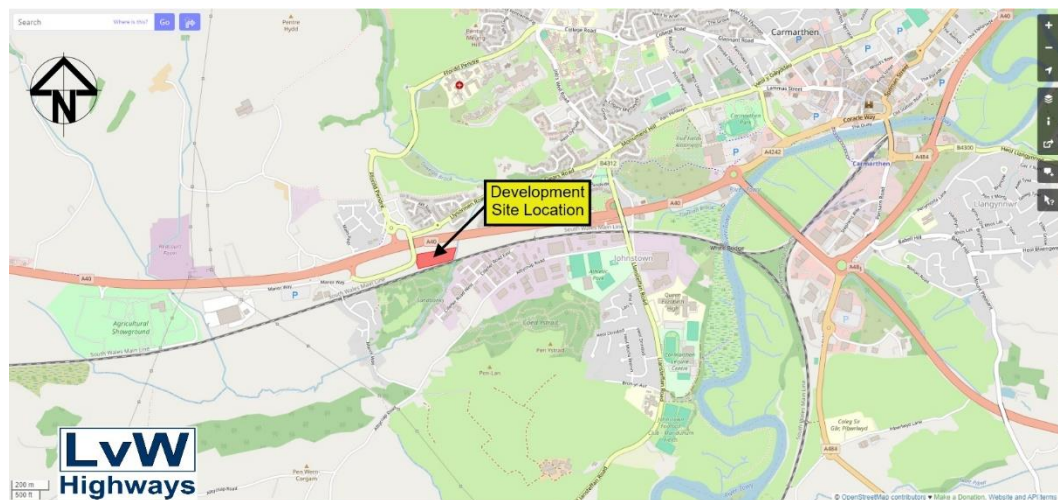


Figure 1: Site Location

- 1.7 The site lies east of the B4312 and the establish employment area of Carmarthen West, near Carmarthen Market and Showground at Nany Y Ci.
- 1.8 Access to the highway network is currently provided in the form of a gated priority junction onto the B4312 St. Clears Road which provides a route to the A40(T) and the residential settlements of Carmarthen West (via Ffordd Pendre), Carmarthen Town (via Llysonnen Road, Old St. Clears Road) and Llanllwch (via B4312 St. Clears Road, Manor Way).
- 1.9 The site itself is currently vacant and is accessed via a field gate.

Proposed Development

- 1.10 The proposed development will provide flexible employment space, the layout is indicative at the moment, but the site is capable of accommodating in the region of 1,650 square metres of floor space, although the current layout shows 1,200 sqm of GFA, arranged over 12 units of a mix of sizes and all single storey in height. The proposed use of all units will be B1-Business and B8-Storage or Distribution.
- 1.11 Access will be taken from an improved access on to the B4312 St. Clears Road leading to an internal access road along the northern border of the site, providing simple T-junctions into the internal car parking and servicing areas. The proposals will include new car parking areas to the front and sides of the buildings which will provide 51 car parking spaces, including disabled parking. A total of five car parking spaces will be provided with electric vehicle charging facilities.
- 1.12 Segregated pedestrian accesses will be provided along the access road. The internal access points will provide pedestrian routes between the car parking spaces and the units. An internal pedestrian link will also be provided along the frontage of the units, providing permeability for visitors and staff travelling on foot.

Report Structure

- 1.13 The aim of this TS is to identify existing and potential future traffic and transport impacts related to the site and its proposed development. The TS also provides an assessment of the potential transport impacts associated with the anticipated number of trips as a result of the development.
- 1.14 The remainder of this report is split into the following sections;
- Chapter 2: Existing Conditions – Describes the existing transport and highways conditions at the site and within the surrounding area;
 - Chapter 3: Proposed Development – Outlines the development proposals, including access arrangement, refuse and servicing strategy, car and cycle parking arrangements;
 - Chapter 4: Trip Generation – Outlines the trip generation associated with the proposed development and comments on the impacts of these trips on the surrounding transport and highways network; and
 - Section 5: Summary – Summary of the findings of this Transport Statement.

2 EXISTING SITE CONDITIONS

Context

- 2.1 This Chapter outlines the baseline transport conditions at the existing site and in the surrounding area with a focus on local transport infrastructure and services. The baseline conditions need to be established to fully understand the context of the proposed development and the associated traffic and transport impacts. This has been informed by a site audit undertaken by LvW Highways Ltd and desk-based research.

Site Location and Existing Use

Site Location

- 2.2 The site considered as part of this planning application is located on a vacant parcel of land; an existing and fully operational Park and Ride (P&R) to the west of the B4312 St. Clears Road and the highway bridge over the A40(T) within the West Carmarthen growth area.
- 2.3 The site lies on the outskirts of an established area of west Carmarthen, forming part of the Carmarthen West growth area. This is reflected in the sites local surroundings with a range of business, commercial and industrial uses west of the site, Carmarthen West link road to the north, with the residential properties bordering the link road to the north.

Existing Use

- 2.4 Whilst the site itself is currently vacant, the wider area of Carmarthen West is currently occupied by a range of business, commercial and industrial tenants, comprising the following land uses (we will refer to it as Nant Y Ci Business Park within this report):
- Carmarthen Showground;
 - Nant Y Ci Rural Business;
 - 3A's Leisure, caravan and mobile home sales and workshop including coffee shop and restaurant;
 - Carmarthen Cattle Market;
 - Nant Y Ci Park and Ride with electric charging for buses and welfare unit for drivers;
 - Carmarthen Veterinary Centre and Hospital; and a
 - B2 General Industrial unit for food manufacturing with ancillary retail shop and offices.
- 2.5 In total, the existing uses include a range of occupants.
- 2.6 As the Nant Y Ci Business Park is currently fully occupied and operational, it is proposed to undertake a traffic count (ATC) survey on the B4312 St. Clears Road to record the weekly two-way vehicle trip generation of the existing business park and use of the road prior to the full application being submitted.

Access

- 2.7 As shown in **Plate 1**, access to the site is currently provided in the form of a gated priority junction onto the B4312 St. Clears Road which provides a route to the wider Nant Y Ci Business Park, the A40(T) and the residential areas of Carmarthen.



Plate 1: Current Site Access

- 2.8 The B4312 at the site entrance is approximately 9.9m wide with 3m of road markings ladder hatching on a red surface running around the bend in the centre of the highway.
- 2.9 The main site access road is provided to a width of approximately 6.0m which is sufficient to allow the two-way flow of cars and light goods vehicles in accordance with Figure 7.1 of MfS. It is below the requirement of the minimum recommended carriageway width for industrial estate roads of 7.3m as outlined within FTA Designing for Deliveries Guide 2016. As such the existing access road will be improved suitable to accommodate the type of vehicle trips associated with the Business and Warehousing land uses.

Active Travel Network

- 2.10 Active Travel means walking and cycling (including the use of mobility scooters and electric wheelchairs) for everyday journeys. These include journeys to work, to the shops or to access services, such as health, leisure centres and bus/rail stations. Active travel is important in promoting healthier lifestyles and reducing the negative impacts of traffic upon neighbourhoods and communities.
- 2.11 To enable an assessment of the viability of walking and cycling as realistic modes for trips to and from the site as an alternative to the private car, it is appropriate to establish the maximum distance that people are generally prepared to walk and cycle and the destinations that existing within these distances.
- 2.12 In the Welsh Government publication “Active Travel Act Guidance July 2021” Table 4.1 provides a guide for network development in relation to reasonable distances that would be travelled by each respective mode. Table 4.1 is not descriptive of all active users and travel distances may be dependent upon a number of factors such as journey purpose, topography or suitability of route. We have presented Table 4.1 in **Figure 2**.

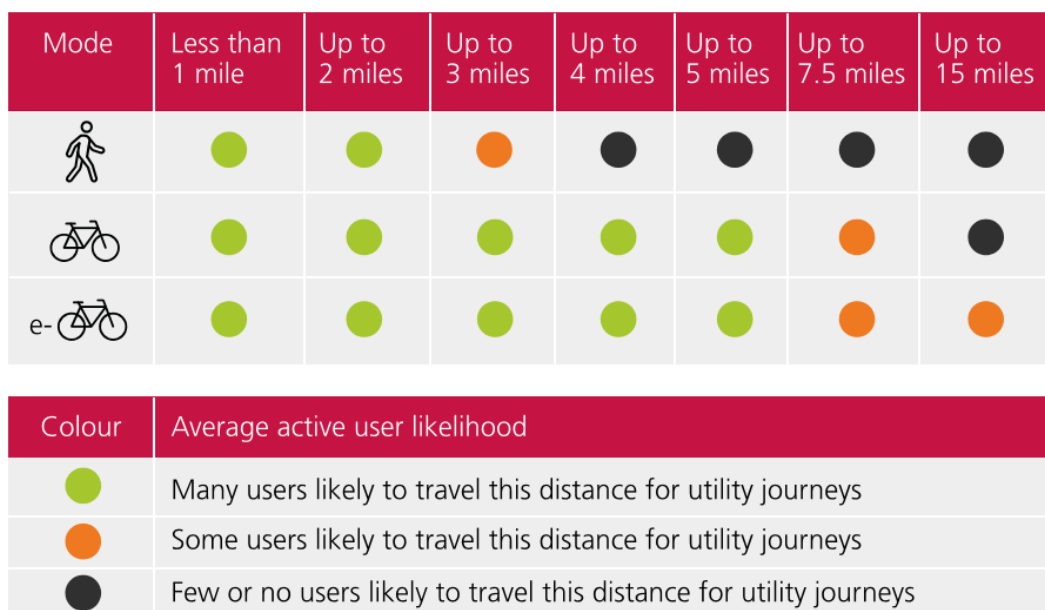


Figure 2: Typical distance range for each mode of active travel

- 2.13 In summary the Welsh Government consider walking a suitable alternative to car journeys for up to 2 miles and cycling up to 5 miles.
- 2.14 As part of the Learner Travel Statutory Provision and Operational Guidance (June 2014), Local Authorities are required to provide free transport for all pupils of compulsory school age (5-16) if their nearest suitable school is:
- Beyond 2 miles / 3.22 kilometres (if below the age of 8); or
 - Beyond 3 miles / 4.83 kilometres (if aged between 8 and 16).
- 2.15 A 400m walking distance to a bus stop and an 800m walking distance to a railway station has been widely adopted by many Highway Authorities. However, the reason why these distances have been selected is not clear. The most recent publication from CIHT (2015) acknowledges that the research is old and more work is required.
- Pedestrian Facilities***
- 2.16 There are segregated pedestrian footways along the B4312 St Clears Road and Manor Road all the way to the Showground past the Park and Ride facility. In the other direction there is a footway over the bridge and along Llysonnen Road into Carmarthen.
- 2.17 Manual for Streets considers the width of footways required for pedestrian activity and **Figure 3** shows the width of typical pedestrian users.

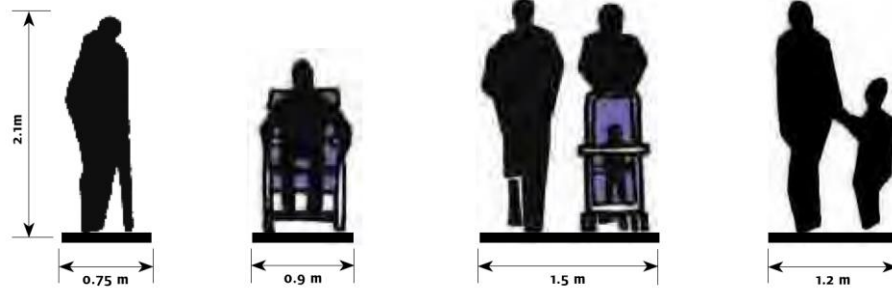


Figure 3: Manual for Street minimum footway widths

2.18

As shown in **Figure 4**, an extract from DfT's 'Inclusive Mobility' document (2002), a footway width of 1.5m is suitable for a wheelchair user and ambulant person side by side.

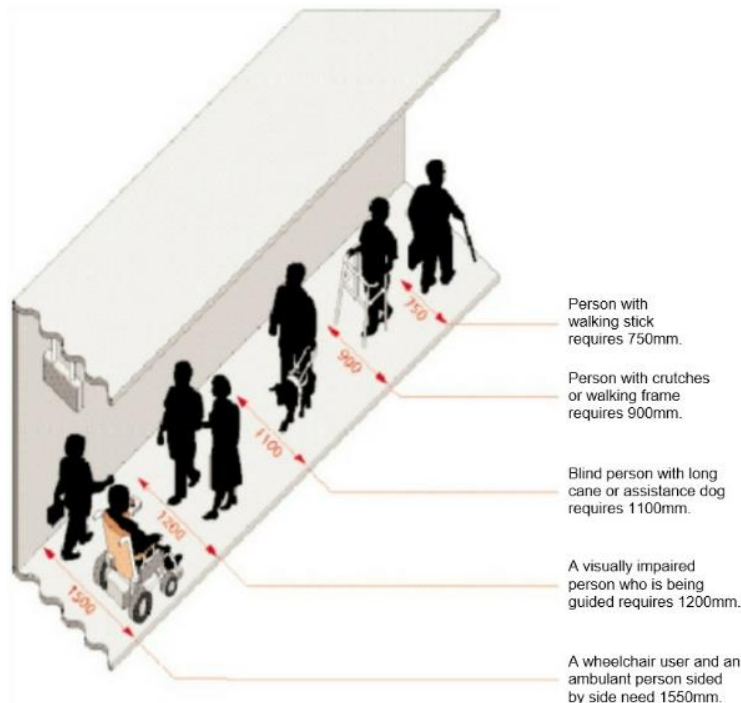


Figure 4: Footway widths (DfT 'Inclusive Mobility' 2002)

2.19

Figure 5 shows the pedestrian isochrones for 400m, 1.61km (1 mile), and 3.22km (2 miles) from the access of the proposed development site within walking distance of this notional point.

2.20

The isochrones for walking shows that many of the local areas are within the statutory walking distances.

2.21

We consider, that if these distances are presumed acceptable for primary school children, then they must be acceptable for adults.

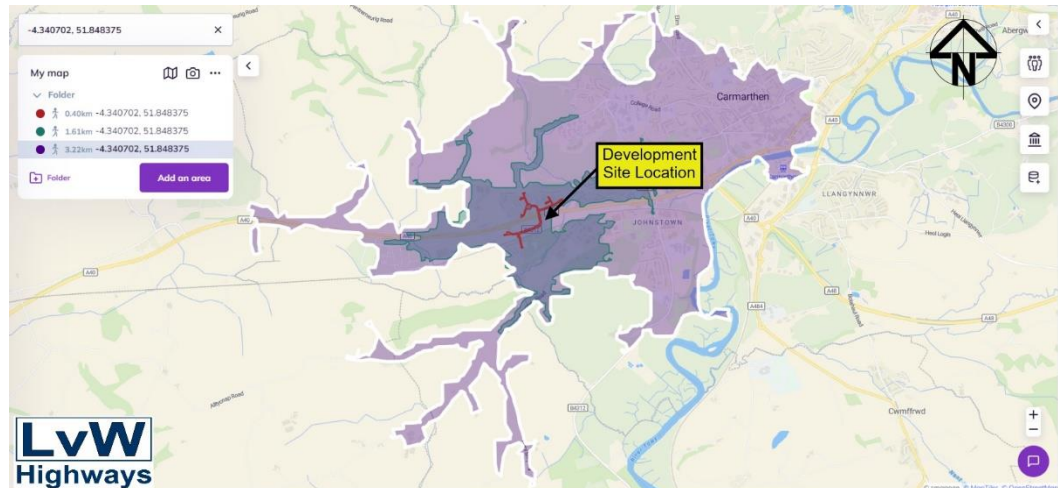


Figure 5: Walking isochrones for 400m, 1610m (1mile) and 3220m (2miles)

- 2.22 People will choose their mode based on their journey purpose, and it is reasonable to conclude that a proportion of journeys undertaken to and from the site will be on foot, particularly given the proximity of key facilities and services.
- 2.23 On the basis that there is an acceptable level of provision for pedestrians it is reasonable to expect that typical able bodied people are capable of walking at least 3.22km (2 miles) for day to day activities.
- 2.24 The thrust of sustainability policy is that there will be an increasing propensity for people to use non single car occupancy modes for local journeys, of which walking is one.

Public Rights of Way

- 2.25 There are many Public Rights of Way in and around the area with a few running near to the development site as can be seen in **Figure 6** which is an extract from the Counties map of public rights of way. There are no public rights of way running through or adjacent to the development site.



Figure 6: Public Rights of Way

Cycle Facilities

- 2.26 In the vicinity of the development site, cyclists are accommodated on the carriageway in line with the guidance contained in Manual for Streets, Manual for Streets 2 and The Highway Code.
- 2.27 The Institution of Highways and Transportation advises that the mean average length for cycling journeys is approximately 4 km although states that journeys of up to three times these distances are not uncommon for regular commuters.
- 2.28 The Welsh Government suggest that cycling for utility journeys could be undertaken for lengths of up to 8km (5 miles).
- 2.29 **Figure 7** shows the cycling isochrones for 4 and 8 kilometres from the access of the proposed development site. It shows that Carmarthen Town is within the 8km cycle distance suggested for pedal bicycles (see Figure 2 above).

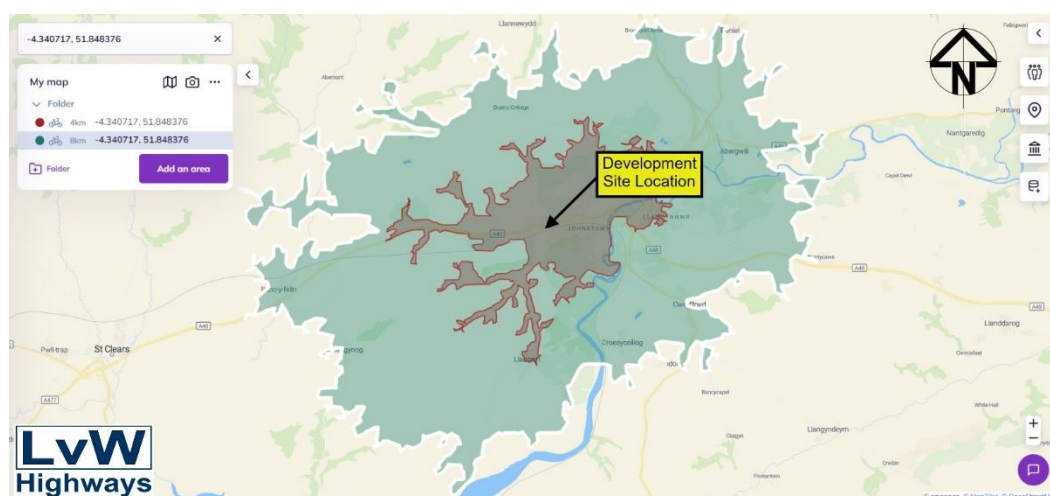


Figure 7: Cycling isochrones 4km and 8km

- 2.30 The National Cycle Network Route 4 runs east-west between Carmarthen and St. Clears along Alltynap Road as shown in **Figure 8**. There is a pedestrian crossing of the railway line linking the B4312 to the residential estate of Llanllwch and onto Alltynap Road. Cycling therefore offers an alternative to car travel for accessing the site especially for journeys between the significant population centres of Carmarthen.

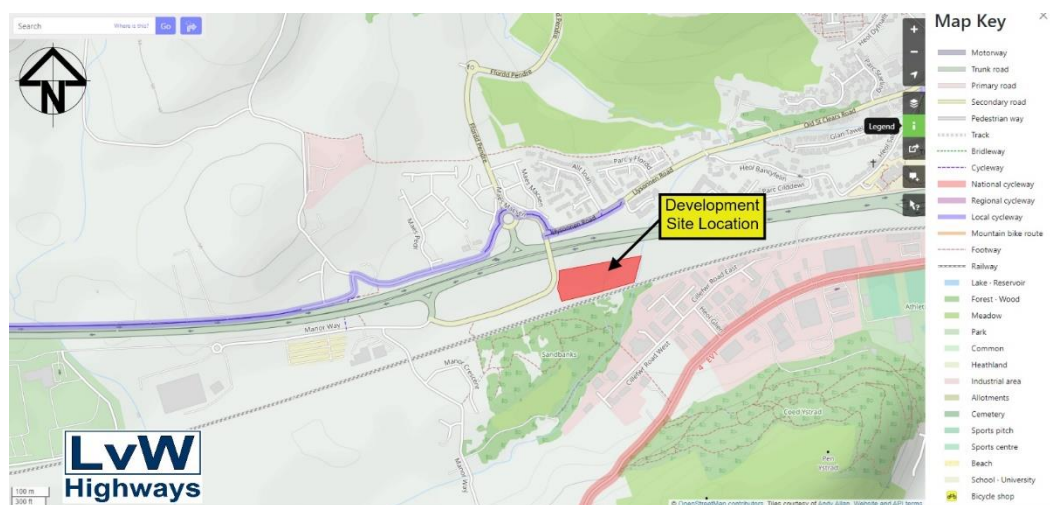


Figure 8: National Cycle Network

- 2.31 National Route 4 runs along Altynap Road, it is a long distance route between London and Fishguard via Reading, Bath, Bristol, Newport, Swansea, Carmarthen, Tenby, Haverfordwest and St. Davids.

Public Transport Network

- 2.32 There are a number of bus stops within the local area as shown in **Figure 9**. Some of these bus stops are within 500m of the site access. The Nant Y Ci park and ride site is just along the B4312 and off the un-named road leading to Nant Y Ci Business Park.

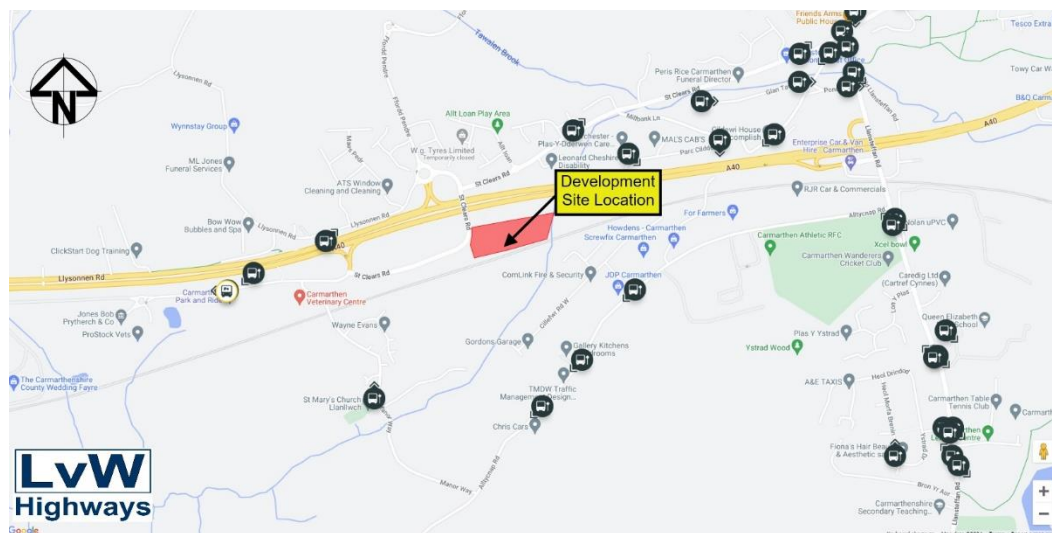


Figure 9: Bus Stops

- 2.33 The proximity of the proposed development site to these public transport services reduce the need to travel, especially by private car and promote the use of more sustainable travel modes.

Bus Services

- 2.34 The bus services using these bus stops are shown in **Figure 10**. These stops are within a five minute walking distance of the application site and provide access to the regular and frequent bus services to local destinations.

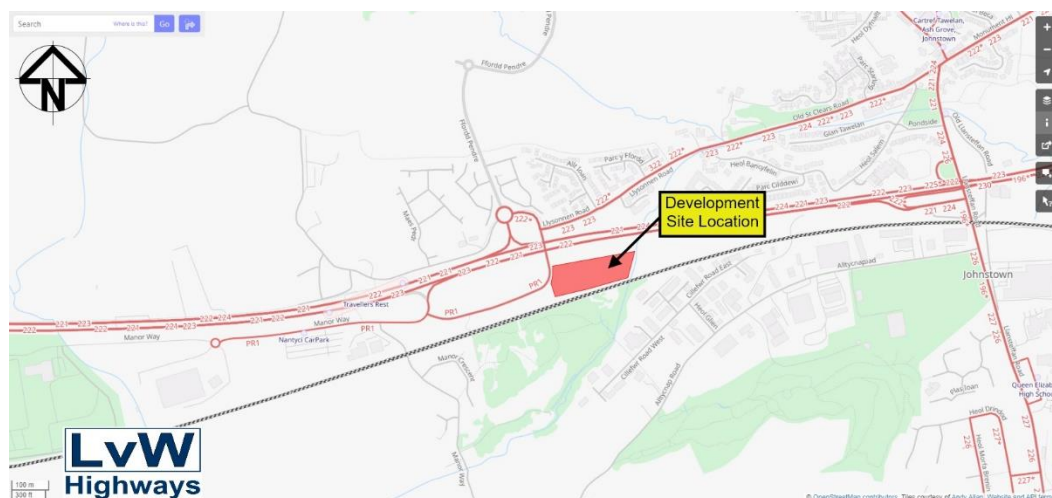


Figure 10: Bus services

- 2.35 Service PR1: Carmarthen Park and Ride Service PR1 offers a half hourly Park & Ride facility from Nant-y-ci car park to the Town Centre and to Glangwili Hospital.

For passengers starting their journey at Nantyci Car Park, parking remains free and bus travel will be only £1 for a day return ticket, with free travel for children under 16 if accompanied by an adult.

- 2.36 Fares for passengers on service PR1 starting their journey at the other stops will be comparable to other local bus services. 12 trip tickets and West Wales Rover tickets are valid. Wales Concessionary Pass holders can travel for free.
- 2.37 All current bus timetables are readily available on traveline cymru or transport for wales websites.

Rail Services

- 2.38 Carmarthen railway station is 3.4 km to the east of Llanllwch. It is managed by Transport for Wales Rail. The station is staffed, so tickets can be bought at the station or on the train or prior to travel. There are covered shelter available, along with a customer help point, timetable information boards and a digital CIS display to offer train running details. A car park is located near the station, with capacity for 85 vehicles.
- 2.39 The station, and all trains serving it, are operated by Transport for Wales Rail. There is a regular service pattern for trains in each direction, westwards to Milford Haven railway station and eastwards to Manchester Piccadilly via Llanelli, Swansea and Cardiff Central.

Accessibility and Sustainability Assessment Conclusions

- 2.40 Walking and cycling both offer viable modes of transport for access to the development site. These modes would be particularly effective at reducing car travel for local movements.
- 2.41 The site is connected by bus provision, particularly to the larger population centres in the district and neighbouring districts where services frequencies are hourly or sub-hourly.
- 2.42 The proximity of rail provision is accessible and provides services to local destinations at sub hourly frequencies.
- 2.43 The site is located in an area with good choices in non-car modes of transport due to its accessible and sustainable location.

Census Data

- 2.44 An analysis of Census 2011 and 2021 data has been undertaken to investigate the Method of travel to work modal split for the existing workplace population. The site is located within the Carmarthenshire 008 super output area, middle layer (MSOA). However as this only covers south Carmarthen, we have also considered the Carmarthenshire 006 and 007 MSA's, to cover the whole of Carmarthen Town. The data is contained in **Table 1**.

Carmarthenshire 006, 007 & 008	2011	2021
Work mainly at or from home	6.88%	21.45%
Underground, metro, light rail, tram	0.02%	0.02%
Train	1.08%	0.39%
Bus, minibus or coach	2.96%	0.98%
Taxi	0.34%	0.55%
Motorcycle, scooter or moped	0.51%	0.28%
Driving a car or van	72.65%	57.65%
Passenger in a car or van	5.45%	4.53%
Bicycle	0.61%	0.76%
On foot	9.28%	12.55%
Other method of travel to work	0.22%	0.84%

Table 1: Census 2011 & 2021 Journey to Work Data

2.45 It is worth noting that the most recently available Census data (2021) is now 13 years old and therefore it is likely that mode shares have changed in recent years. For example, recent changes in travel habits as a result of the COVID-19 pandemic (including an increase in working from home and greater emphasis on active travel) are also likely to result in a shift away from the private car.

2.46 Table 1 shows the difference of the two census data sets. It shows that in 2011 approximately 78% of journeys were made in private vehicles, this significantly reduced to 62% in 2021. This reduction was due to the significant increase of residents working from home.

Highway Network

2.47 The A40 is a trunk road which runs between London and Goodwick (Fishguard), and officially called The London to Fishguard Trunk Road (A40) in all legal documents and Acts.

2.48 At Carmarthen the A40 crosses the River Tywi twice with two 90-degree junctions and continues on 16 km (10 miles) of dual carriageway as far as St. Clears, where the dual carriageway ends at the junction with the A477 trunk road.

2.49 We know from data available on the DfT Road Traffic statistics web site, that the A40 near B&Q, towards the roundabout at Count Point 40516, carried 21221 vehicles in the eastbound direction and 20184 vehicle in the west bound direction, during an average day surveyed in April 2022. The hourly flows by direction is summarised in Chart 1 over the average day.

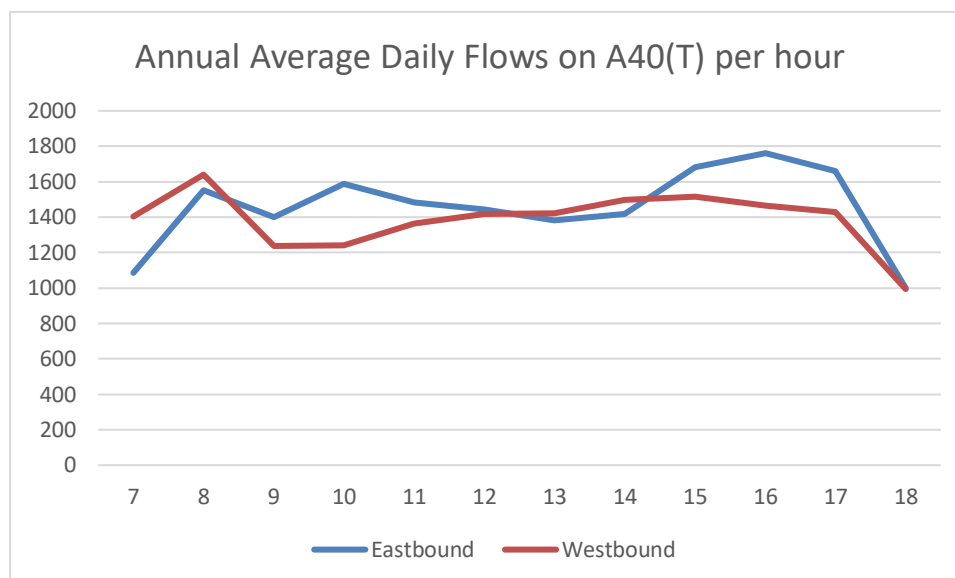


Chart 1: AADF on A40 near B&Q (CP40516) in April 2022

2.50 The B4312 St. Clears Road is the original route of the A40 before the bypass opened. It connects to the A40(T) at two left in and left out slip road junctions. For west bound traffic this junction is on the southern carriageway on the same side of the development site. For eastbound traffic, the B4312 crosses over the A40(T) and terminates at the Carmarthen West link road southern roundabout before connecting to the A40(T).

2.51 The B4312 St Clears Road takes the form of a single carriageway road measuring approximately 7.3m either side of the bend and 10m at the apex of the bend in the vicinity of the site access, with a 30mph speed limit. There are no parking restrictions on the highway along the site frontage.

Personal Injury Collision/Accident Data

2.52 The DfT (and the legislation) refers to this as an 'accident report', but we prefer to use the more accurate term 'collision'.

2.53 A review has been undertaken on local highway network safety in order to establish whether there are any current accident clusters or blackspots in the vicinity of the site that may be exasperated by the development proposals. In road safety management, an accident blackspot or black spot is a place where road traffic accidents have historically been concentrated over a period of time, usually between 3 and 5 years where 5 or more collisions occur at a junction or a short section of highway. However, there are no definitive specified criteria for accident black spots.

2.54 This data has been sourced from the national statistics authority and reported on by the Department for transport each year. The information uses data obtained directly from official sources and compiled in an easy-to-use format showing each collision on a map.

2.55 The DMRB publication GC 119 Road Safety Audit mentions that a road safety audit should consider as a minimum the most recent 36 months of data (i.e. 3 years).

2.56 An examination of the PIC's data indicates that there has been no fatal or serious collision recorded over a 5-year period review along the local highway network in and around Llanllwch as can be seen in **Figure 11**.

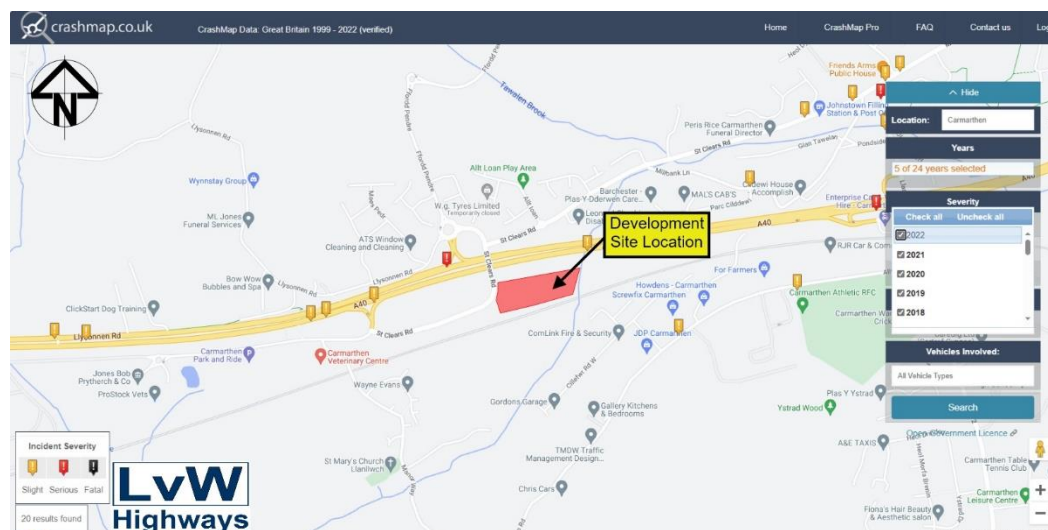


Figure 11: Personal Injury Collisions 2018 to 2022

- 2.57 The personal injury collision data does not appear to identify any significant highway safety issues or concentration of collisions i.e. 'black spot' within the immediate area of the development site to warrant further investigation.
- 2.58 There are no apparent clusters of incidents within the assessment period which highlight a particular highway safety concern. Further to this, the incidents represent no particular trend in casualty type and also have a low incident rate per year. In addition, considering the proximity to the main commercial units, none of the incidents involved HGV's or goods vehicles.
- 2.59 It is therefore considered that there are no existing road safety issues identified within the immediate vicinity of the site which may be exacerbated as a result of any future development of the site.
- 2.60 The traffic generated by the proposed development (as discussed later on in this report) is highly unlikely to exasperate the existing safety record to a significant level to warrant concern.

Summary

- 2.61 It is evident that the site is in a highly accessible edge of town location with a range of sustainable modes of transport on offer which would cater for future employment journeys to and from the site within a short walking distance.
- 2.62 A review of injury accident data indicates that there are no existing road safety issues identified within the immediate vicinity of the site which may be exacerbated as a result of any future redevelopment of the site.

3 PROPOSED DEVELOPMENT

Context

- 3.1 This chapter of the report provides an overview of the proposed development, including the proposed area schedule, access proposals, car and cycle parking provision and servicing strategy for the site.

Proposed Development

- 3.2 The proposed development will provide flexible employment space, the layout is indicative at the moment showing 1,200sqm of GFA, but the site is capable of accommodating in the region of 1,650 square metres of floor space, arranged over 12 units of a mix of sizes and all single storey in height. The proposed use of all units will be Business and Warehousing only and an indicative layout plan (supplied by others) is attached at **Appendix A**.
- 3.3 In order to provide a worst-case assessment, the 1,650sqm floor areas have been assessed as part of this Transport Statement in order to understand the impact on car and cycle parking requirements (Chapter 3) and the trip generation of the site (Chapter 4).

Access Arrangements

Vehicle Access

- 3.4 Vehicle access to the site will be provided in the form of a ghost island T-junction along the western border of the site, connecting to the B4312 St. Clears Road at the bend. The proposed access will provide a route to the internal car parking and servicing area. The type of access is considered safe and suitable for the quantum of development whilst also being in keeping with the wider business park.

Pedestrian Access

- 3.5 Pedestrian accesses will be provided at the vehicle access. The access will provide a direct connection to the units from the existing footway along the B4312 St. Clears Road. An internal pedestrian link will also be provided along the frontage of the units, providing permeability for visitors and staff travelling on foot.

Car and Cycle Parking Provision

Parking Provision

- 3.6 This new approach to transport, with the change from predicting and providing for cars to managing traffic and reducing car dependency, means a new role for parking provision and control which this revision has been prepared to address. **The aim as previously remains to ensure that new development or a change of use is accompanied by sufficient parking space for private cars and service vehicles to avoid the need for vehicles to park on street and thereby cause congestion, danger and visual intrusion** (my emphasis).
- 3.7 The parking standards guidance is determined by land use and location, with development being located in zones 1 to 6, with zone one being applicable to city centre and the centres of largest towns. The location of the application site is identified to be within the guidance for a development within Zone 3 Urban or Zone 4 Suburban or Near Urban (as described below) for parking calculation purposes.

Zone 3 - Urban. *Very much part of a substantial built up area with a number of basic local facilities within 400m walking distance. A range of bus routes offering*

up to 6 buses per hour; the range of destinations offering practical access to most but not all essential facilities. The curtilage of the site restricts, to an extent, what car parking can be provided. There are likely to be some restrictions on on-street parking and other available off-street parking is severely limited or non-existent.

Zone 4 – Suburban or Near Urban. *The outer edges of the largest towns; suburban locations in towns; the whole of smaller settlements offering a range of local facilities. There is an at least hourly bus service to the town centre and there may also be a railway station in the town. Local facilities include a local centre within 400m walking distance. Some other basic amenities such as a doctor's surgery are also available within the same walking distance.*

Assessment of Parking Standards

3.8 We have considered that the development falls within the parking standards land use category; e. Industry and Industrial warehousing.

3.9 The site area is 10,357m² and it is located adjacent to the existing Nant Y Ci Business Park, Mart and Showground in Zones 3-4.

3.10 **Table 2** shows the parking standards for Small Industrial units.

Type of Development	Operational	Non-operational
Small Industry (< 100m ²)	1 van space	1 space
Small Industry (< 235m ²)	1 van space	2 space

Table 2: CSS Parking Standards 2008

3.11 There are 4 buildings each divided into smaller units of either 75sqm or 150sqm. The indicative layout shows the following building and unit areas and summarised in **Table 3**.

Building	Unit	GFA sqm	Operational	Non-operational
Bldg 1	1	150	1 van space	2 spaces
	2	75	1 van space	1 space
Bldg 2	3	75	1 van space	1 space
	4	75	1 van space	1 space
	5	150	1 van space	2 spaces
Bldg 3	6	150	1 van space	2 spaces
	7	75	1 van space	1 space
	8	75	1 van space	1 space
Bldg 4	9	150	1 van space	2 spaces
	10	75	1 van space	1 space
	11	75	1 van space	1 space
	12	75	1 van space	1 space
Total			12 van spaces	16 spaces

Table 3: Indicative unit sizes

3.12 Therefore, it is proposed that the quantity of parking, is discussed with the Highway Authority Officers but it will, include provisions for employee and visitor car parking spaces (including electric vehicle spaces and disabled spaces), an addition of van parking spaces and HGV spaces.

3.13 An indicative layout is shown in Appendix A and shows 51 spaces however, it does not identify the disabled bays, the ULEV charging bays or the operational van spaces.

- 3.14 The adopted CSS Wales – Wales Parking Standards 2008 at appendix 2 – Layout of parking Areas; shows that the standard dimensions of car parking spaces are: 4.8m x 2.6m.
- 3.15 For Disabled Driver's Vehicles car parking spaces the standard dimensions of car parking spaces are: 4.8m x 3.6m. There is no indication of a requirement for a full 1.2m margin to three sides. However, a 1.2m wide clear access zone of yellow hatch marking will be provided in accordance with Part M guidance.
- 3.16 The CSS parking standards in its appendix 2 – Layout of parking areas, identifies that rigid vehicles require bays of 12.0m x 2.55m however, there are no dimensions for vans, so we assume that these are accommodated within the standard parking space.

Delivery and Servicing

- 3.17 Deliveries to the development will primarily consist of the following:
- Refuse vehicles;
 - Post, parcel and mail deliveries and collections;
 - Operational trips / courier services; and
 - Occasional Maintenance vehicles.
- 3.18 Deliveries will take place internally within the site utilising a designated shared loading bay. The loading bay usually measures 3.0m x 9.7m and will be designed to accommodate a 7.5t panel van; the most common type of delivery vehicle anticipated for the proposed land use.
- 3.19 It is not anticipated that deliveries / collections will take longer than 10 – 15 minutes, therefore considering the minimal dwell time for delivery vehicles, the provision of a shared servicing layby is considered proportionate to the scale of development.
- 3.20 Considering the type of units proposed, access for articulated HGVs is not considered to be required at the site. The largest vehicle to visit the site will be a refuse vehicle.
- 3.21 Swept path analysis has been attached at **Appendix B** which demonstrates how a 10.2m refuse vehicle can access the site in forward gear, manoeuvre, and exit the site in a forward gear.

4 TRIP GENERATION AND DEVELOPMENT IMPACT

Context

- 4.1 This section of the report outlines the anticipated trip generation associated with the proposed development whilst also assessing the development impact on the local transport network.

Existing Site

- 4.2 The site considered as part of this planning application is currently vacant and therefore does not generate any vehicle movements.

Wider Business Park

- 4.3 As noted above, the wider business park is currently fully occupied by a range of business, commercial and industrial tenants, including the following land uses:

- Carmarthen Showground;
- Nant Y Ci Rural Business;
- 3A's Leisure, caravan and mobile home sales and workshop including coffee shop and restaurant;
- Carmarthen Cattle Market;
- Nant Y Ci Park and Ride with electric charging for buses and welfare unit for drivers;
- Carmarthen Veterinary Centre and Hospital; and a
- B2 General Industrial unit for food manufacturing with ancillary retail shop and offices.

- 4.4 In order to establish the existing vehicle trip generation of the existing Nant Y Ci business park, it is our intention to have an ATC survey to be undertaken on the B4312 neat the site access. As is common practice, the full survey results will be submitted to the Highway Authority.

Proposed Trip Generation

- 4.5 As the proposed development is not built, one estimate of trips is based on information extracted from the TRICS® Version 7.10.4 database. TRICS is a database containing details of historic trip generations from sites across Britain for various land uses and provides an estimate of the likely levels of transport generation for the proposed use. The TRICS data depicts what has happened in the past, not what is going to happen in the future. The data results from TRICS is an attempt to project future trip rates based upon the selection criteria assumptions.

- 4.6 As required by the TRICS Good Practice Guide we have provided information below on the steps taken to filter the database to arrive at the results, so that the LHA receiving the data can fully understand how the data was obtained in the first place.

Proposed use – Industrial Estate

- 4.7 Based on the architects layout shown in Appendix A, it shown four units with a GFA of 1,200m². It has been mentioned that the site can accommodate up to 1,650sqm of floor space of Business and Warehousing. Any office space is ancillary to the

business, warehousing use, so for the TRICS assessment we will use the full site Gross Floor Area of 1,650sqm for a robust case.

Land use & trip rate selection - Proposed use

- 4.8 The TRICS selection criteria used are, 02/D - Industrial Estate
- A number of industrial buildings at the same site. If predominantly warehousing then include as 02/E or 02/F. If predominantly office then include as 02/B. If the estate contains significant retail generators then include as 16/B. Trip rates are calculated by Gross Floor Area, Employees, Site Area, or Parking Spaces.
- 4.9 The vehicle trip generation rates for the proposed development have been filtered using the following selection criteria:-
- Calculate trip rates for vehicles.
 - Regions of the development: England, Scotland and Wales, excluding Greater London and Ireland.

Primary Filtering

- Trip Rate Parameters: Gross Floor Area
- Parameter Range: From 552 to 4,500 (Average 3,059).
- Week days to include: Monday – Friday, excludes weekend.
- Location Types to include: Suburban Area, Edge of Town.

Secondary Filtering

- Population within 1 mile: default.
- Population within 5 miles: default.

4.10 The TRICS output is provided in detail in **Appendix C** and summarised below.

4.11 The trip rate has been calculated based on the Gross Floor Area of 1,650sqm.

4.12 **Table 4** shows the average hourly trips during the day as well as the daily flows that the development could typically have. These are calculated by multiplying the trip rates produced from the TRICS data with the GFA per 100sqm.

Time Range	Arrivals	Departures	Totals
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	10	3	13
08:00-09:00	12	7	19
09:00-10:00	11	8	19
10:00-11:00	12	10	22
11:00-12:00	12	13	25
12:00-13:00	11	12	23

13:00-14:00	11	10	21
14:00-15:00	9	11	20
15:00-16:00	10	9	19
16:00-17:00	8	13	21
17:00-18:00	5	11	16
18:00-19:00	2	3	5
19:00-20:00	0	0	0
20:00-21:00	0	0	0
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily trips:	113	110	223

Table 4: Vehicular Trips for Proposed Use

- 4.13 This clearly shows that if the development was operational, it is estimated that it could attract and produce 223 vehicle movements a day.
- 4.14 To visualise how these trips arrive and depart throughout a typical day, the arrivals and departures are plotted on **Chart 2**. It can be seen that an industrial estate development is at its busiest during the mid-day with smaller peak periods, one in the morning and the other in the afternoon to evening.

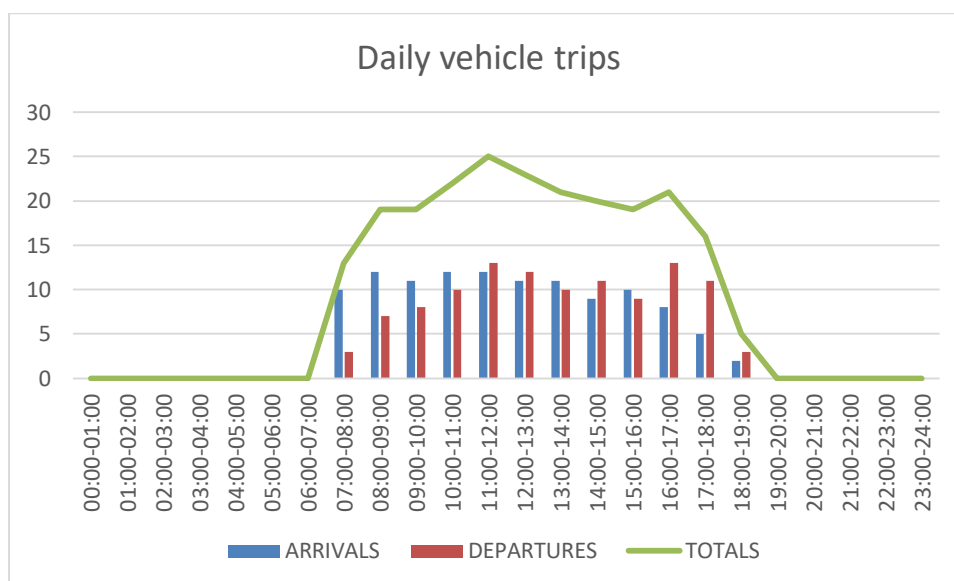


Chart 2: Vehicular Trips for Proposed Use

- 4.15 The development is likely to be at its busiest during mid-day and the data suggests that 25 vehicle movements will be generated during its busiest hour (11:00-12:00).
- 4.16 During the AM peak hour (08:00-09:00) it is anticipated that the proposed development could attract 12 vehicle movements (arrivals) and produce 7 vehicle movements (departures). To put this in context, vehicle movements per hour equates to on average, approximately one movement every three minutes. This is not considered to be significant.
- 4.17 During the PM peak hour (17:00-18:00) it is anticipated that the proposed development could attract 5 vehicle movements (arrivals) and produce 11 vehicle movements (departures). To put this in context, vehicle movements per hour

equates to on average, approximately one movement every three and a half minutes. This is not considered to be significant.

- 4.18 The TRICS data suggests that, based on typical trip rates, the proposed development has the potential to generate around 113 arrivals and 110 departures per day. It is considered that this very minor increase would not be detrimental to highway safety or the free movement of vehicles on the highway network.

Mode Share

- 4.19 The multi modal TRICS data provides information on the suggested number of trips made by various mode as shown in **Table 5**.

Summary of Daily Trip Rates:	ARRIVALS	DEPARTURES	TOTALS
Count Type: TOTAL VEHICLES	113	110	223
Count Type: TAXIS	0	0	0
Count Type: OGVS	4	4	8
Count Type: PSVS	0	0	0
Count Type: CYCLISTS	1	1	2
Count Type: CARS	64	63	127
Count Type: LGVS	42	42	84
Count Type: MOTOR CYCLES	0	0	0

Table 5: Summary of Daily Trips by Mode for Proposed Use

- 4.20 From the above it is clear that the greatest number of movements will be by cars and LGVs with a few number of OGV and bicycles.

Trip Distribution

- 4.21 Trip distribution refers to the estimate of origins and destinations of the new generated trips to and from the development site, which needs to be assigned across the highway network. Route assignment concerns the selection of routes between origin and destination.
- 4.22 Based on the surrounding area and location of the towns and villages, we have estimated that 80-90% of vehicles will access and depart from the site towards Pensarn Roundabout along the A40(T). The remaining 10-20% would depart and arrive either from the east or west along the B4312.
- 4.23 These estimates are not based on any calculations but an observation of the highway network.

5 SUMMARY AND CONCLUSIONS

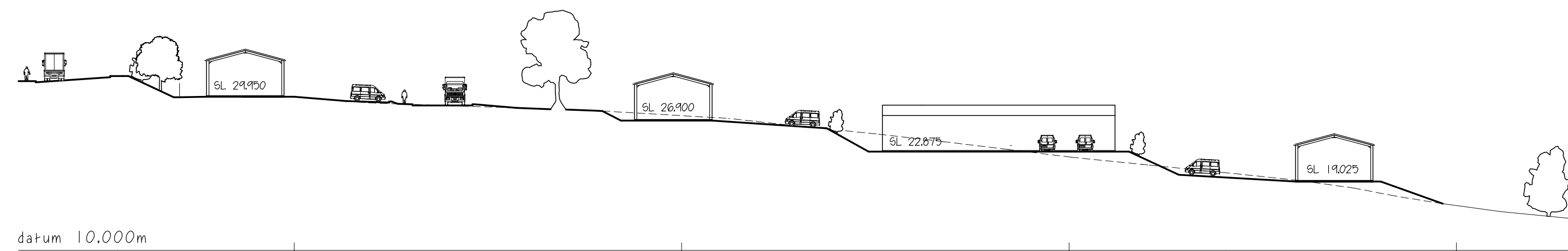
- 5.1 LvW Highways Ltd has been commissioned by Mrs N Andreu and Mr A Davies to produce a Transport Statement (TS) in support a planning application for the proposed development of an industrial estate which will have a combined Gross Floor Area (GFA) of between 1,200sqm and 1,650sqm on Land between the A40(T) and the railway line, near Llanllwch, Carmarthenshire.
- 5.2 The proposed development will provide flexible employment space, the layout is indicative at the moment showing 1,200sqm of GFA, but the site is capable of accommodating in the region of 1,650 square metres of floor space, arranged over of a mix of sizes units and all single storey in height. The proposed use of all units will be Business and Warehousing.
- 5.3 The site lies within an established employment area of Carmarthen West. This is reflected in the sites local surroundings with a range of business, commercial and industrial uses close to the site to the west and residential estates to the north and south.
- 5.4 The proposed development comprises the erection of four one-storey buildings which will have a combined Gross Floor Area (GFA) of 1,200sqm however, it is considered that the site could accommodate up to 1,650sqm of industrial units.
- 5.5 Vehicle access will be taken from the existing B4312 St Clears Road, providing an improved ghost island T-junction into the internal car parking and servicing area. The proposals will include a new car parking area to the front of the buildings which will provide 51 car parking spaces, including disabled parking bays and electric vehicle charging bays, in accordance with CCC parking standards.
- 5.6 Shared internal loading bays will be provided which is proportionate to the scale of development and types of occupiers anticipated at the site. Swept path analysis has been undertaken to demonstrate the suitability of this design.
- 5.7 The proposals will also include the provision of high quality cycle parking, in accordance with CCC standards, together with the provision of internal pedestrian routes on the key desire lines for future employees at the site, in accordance with the Policies of the Carmarthenshire Local Development Plan.
- 5.8 A robust trip generation methodology has been followed, using TRICS data. The proposed development is anticipated to result in nineteen two-way vehicle trips during the AM peak period (08:00-09:00), sixteen two-way vehicle trips during the PM peak period (17:00-18:00) and 223 two-way vehicle trips over the daily period (07:00-19:00).
- 5.9 The trip generation associated with the proposed development would be greater than the levels currently experienced on the site access and the local highway network. However, it can be concluded that the proposals would not lead to an unacceptable impact on highway safety, nor would they constitute a severe impact on the operation of the local highway network. As such, there are not considered to be any transport or highways related reasons why the proposals should be refused planning permission in accordance with PPW and CCC LDP.
- Closure**
- 5.10 LvW Highways Ltd has prepared this report with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on interpretation of data collected has been accepted in good faith as being accurate and fair.

- 5.11 This report is for the exclusive use of Mrs N Andreu and Mr A Davies no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from LvW Highways Ltd.
- 5.12 LvW Highways Ltd disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of work.

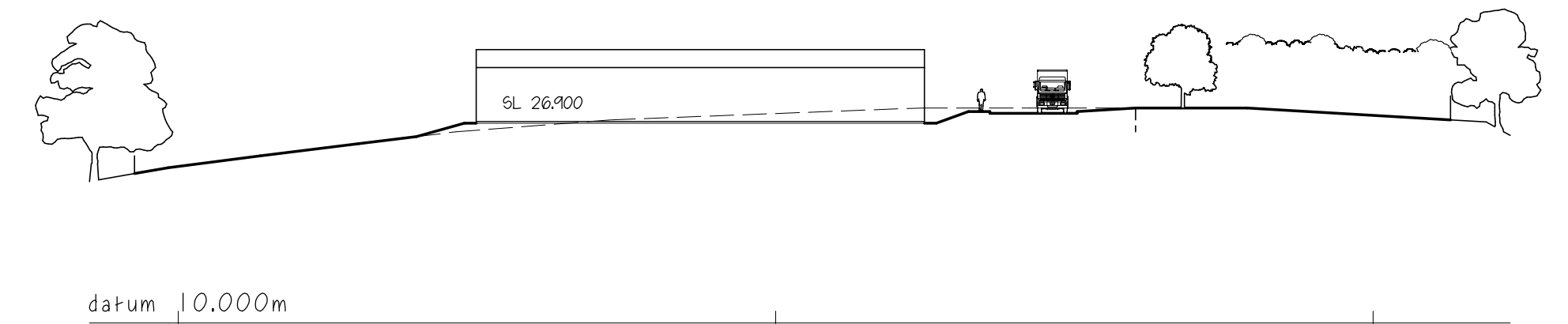
APPENDIX A

Indicative site layout

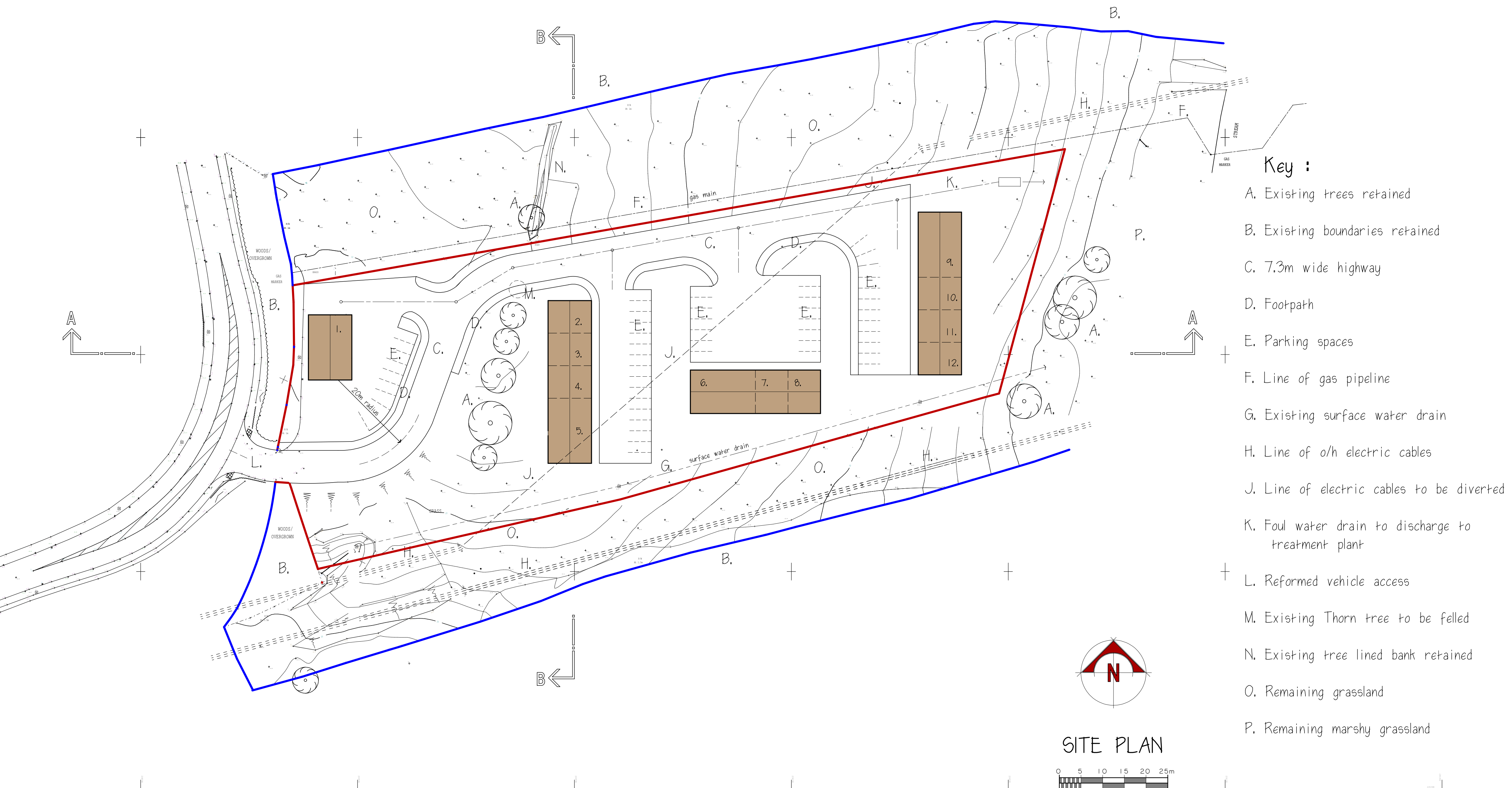
AMENDMENTS
A - Annotation 15-01-24
B - Red line added 22-01-24



SITE SECTION A-A



SITE SECTION B-B



Key :

- A. Existing trees retained
- B. Existing boundaries retained
- C. 7.3m wide highway
- D. Footpath
- E. Parking spaces
- F. Line of gas pipeline
- G. Existing surface water drain
- H. Line of o/h electric cables
- J. Line of electric cables to be diverted
- K. Foul water drain to discharge to treatment plant
- L. Reformed vehicle access
- M. Existing Thorn tree to be felled
- N. Existing tree lined bank retained
- O. Remaining grassland
- P. Remaining marshy grassland

SITE PLAN




Gordon Russell
Chartered Architect

Mount Pleasant, Llwynteg, Llannon,
Llanelli, Carm. SA14 8JW
Tel : 01269 845192

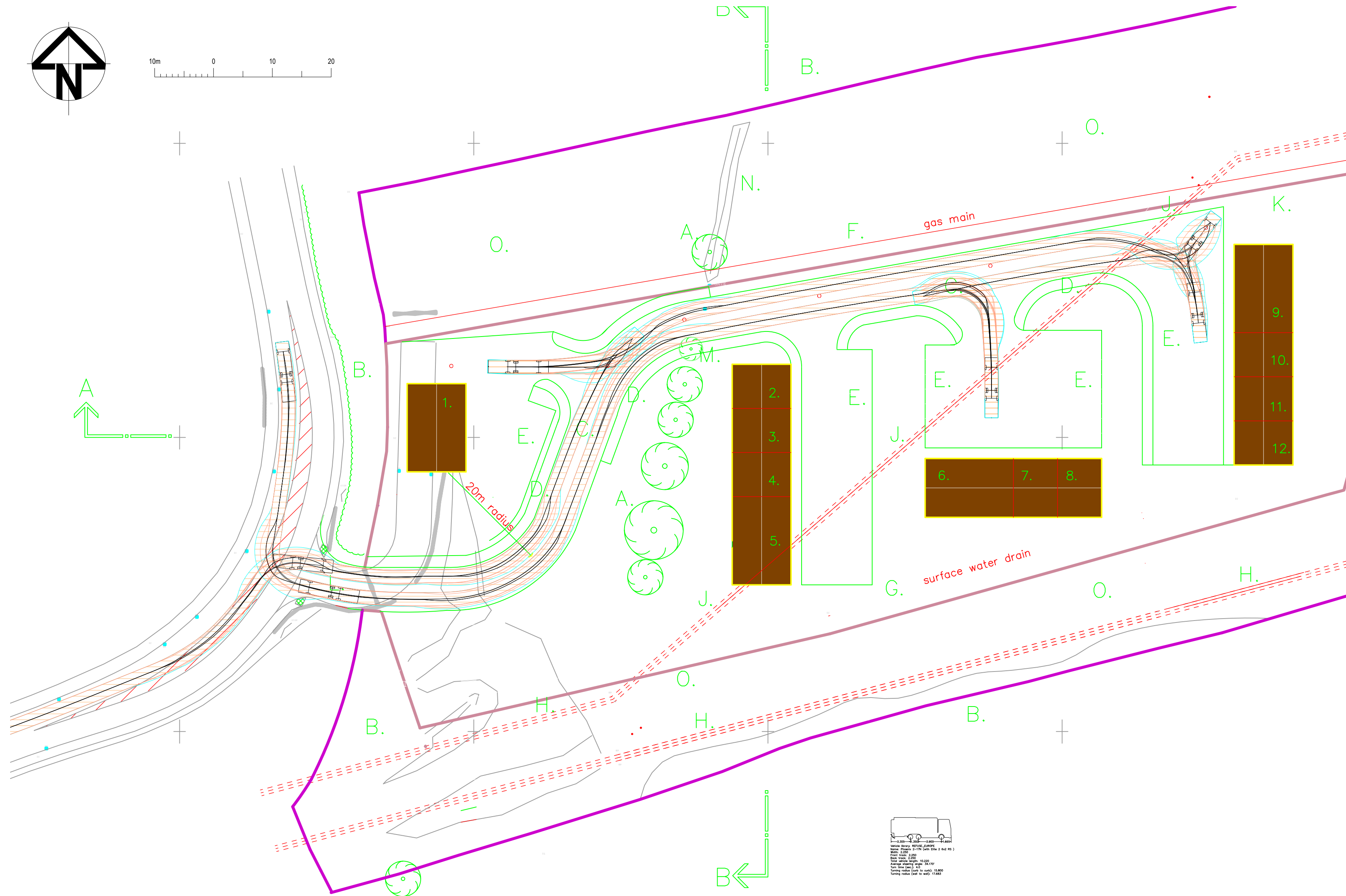
Project
LAND BETWEEN A40 AND
RAILWAY, LLANLLWCH
CARMARTHEN

Drawing : Revision
OUTLINE SITE PLAN
614/02B

Scale
1:500
(A1 sheet)

APPENDIX B

Vehicle swept paths



General Notes

1. ALL DIMENSIONS ARE INDICATIVE AND IN METRES UNLESS NOTED OTHERWISE.
2. DO NOT SCALE THIS DRAWING, USE FIGURED DIMENSIONS ONLY.
3. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (AOD) BASED ON THE TOPOGRAPHICAL SURVEY DRAWING SUPPLIED BY THE CLIENT.
4. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
6. THE SPECIFICATION IN ALL ASPECTS SHALL BE IN ACCORDANCE WITH THE CURRENT RESIDENTIAL DESIGN GUIDE AND SPECIFICATION IN FORCE WITHIN THE COUNTY AT THE TIME OF CONSTRUCTION.
7. COPYRIGHT OF THIS DRAWING IS RETAINED BY THE ENGINEER AND IT MUST NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT.

A	For Discussion	15.02.2024
No.	Revision/Issue	Date

Firm Name and Address
LvW Highways
LvW Highways Ltd Bloenparc Fellingwyl Uchaf Carmarthen SA32 7PR
Mbl: 07769 226695

Project Name and Address

Land between A40(T) and
Railway Line, Llanllwch,
Carmarthen.
Vehicle Swept Paths
Refuse Lorry

Project 2023-790	Sheet
Date 15.02.2024	VSP01
Scale 1:500@A2I	

APPENDIX C

TRICS data

Calculation Reference: AUDIT-452201-240215-0215

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
TOTAL VEHICLES

<u>Selected regions and areas:</u>		
02	SOUTH EAST	
	EX ESSEX	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	AK WAKEFIELD	3 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
	LC LANCASHIRE	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: 1138 to 4400 (units: sqm)
Range Selected by User: 552 to 4500 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 18/11/22

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

Selected survey days:

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

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

Selected survey types:

Manual count	9 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)	3
Edge of Town	6

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
Development Zone	1
Residential Zone	2
No Sub Category	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	4 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

Not Known	9 days
-----------	--------

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

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	4 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	6 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	3 days
1.6 to 2.0	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	9 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	9 days
-----------------	--------

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	AK-02-D-01	INDUSTRIAL ESTATE	WAKEFIELD
	CARR WOOD ROAD		
	CASTLEFORD		
	Edge of Town		
	Development Zone		
	Total Gross floor area:	1776 sqm	
	Survey date: MONDAY	22/05/17	Survey Type: MANUAL
2	AK-02-D-02	INDUSTRIAL ESTATE (PART)	WAKEFIELD
	PIONEER WAY		
	CASTLEFORD		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4328 sqm	
	Survey date: TUESDAY	23/05/17	Survey Type: MANUAL
3	AK-02-D-03	INDUSTRIAL ESTATE	WAKEFIELD
	THUNDERHEAD RIDGE RD		
	CASTLEFORD		
	GLASSHOUGHTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	3191 sqm	
	Survey date: MONDAY	15/05/17	Survey Type: MANUAL
4	DV-02-D-07	INDUSTRIAL ESTATE	DEVON
	BITTERN ROAD		
	EXETER		
	SOWTON IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3600 sqm	
	Survey date: MONDAY	03/07/17	Survey Type: MANUAL
5	EX-02-D-03	INDUSTRIAL ESTATE	ESSEX
	WYNCOLLS ROAD		
	COLCHESTER		
	SEVERALLS INDUSTRIAL PK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4876 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
6	GM-02-D-07	BUSINESS PARK	GREATER MANCHESTER
	VULCAN STREET		
	OLDHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	4400 sqm	
	Survey date: THURSDAY	22/10/15	Survey Type: MANUAL
7	LC-02-D-08	INDUSTRIAL ESTATE	LANCASHIRE
	NOOK LANE		
	BAMBER BRIDGE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4000 sqm	
	Survey date: TUESDAY	06/11/18	Survey Type: MANUAL
8	SF-02-D-03	INDUSTRIAL ESTATE	SUFFOLK
	LANDSEER ROAD		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	3550 sqm	
	Survey date: THURSDAY	17/09/20	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	WM-02-D-03	INDUSTRIAL ESTATE	WEST MIDLANDS
	JUNCTION ROAD		
	STOURBRIDGE		
	AUDNAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	1138 sqm	
	Survey date: TUESDAY	28/11/17	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/D - INDUSTRIAL ESTATE
 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	9	3318	0.579	9	3318	0.174	9	3318	0.753
08:00 - 09:00	9	3318	0.737	9	3318	0.452	9	3318	1.189
09:00 - 10:00	9	3318	0.666	9	3318	0.476	9	3318	1.142
10:00 - 11:00	9	3318	0.700	9	3318	0.583	9	3318	1.283
11:00 - 12:00	9	3318	0.723	9	3318	0.804	9	3318	1.527
12:00 - 13:00	9	3318	0.653	9	3318	0.727	9	3318	1.380
13:00 - 14:00	9	3318	0.666	9	3318	0.603	9	3318	1.269
14:00 - 15:00	9	3318	0.549	9	3318	0.663	9	3318	1.212
15:00 - 16:00	9	3318	0.603	9	3318	0.556	9	3318	1.159
16:00 - 17:00	9	3318	0.496	9	3318	0.807	9	3318	1.303
17:00 - 18:00	9	3318	0.288	9	3318	0.656	9	3318	0.944
18:00 - 19:00	9	3318	0.094	9	3318	0.194	9	3318	0.288
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			6.754			6.695			13.449

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:	1138 - 4400 (units: sqm)
Survey date date range:	01/01/15 - 18/11/22
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
 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	9	3318	0.000	9	3318	0.000	9	3318	0.000
08:00 - 09:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
09:00 - 10:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
10:00 - 11:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
11:00 - 12:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
12:00 - 13:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
13:00 - 14:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
14:00 - 15:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
15:00 - 16:00	9	3318	0.003	9	3318	0.000	9	3318	0.003
16:00 - 17:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
17:00 - 18:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
18:00 - 19:00	9	3318	0.000	9	3318	0.000	9	3318	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			0.003			0.009

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/D - INDUSTRIAL ESTATE
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	9	3318	0.007	9	3318	0.010	9	3318	0.017
08:00 - 09:00	9	3318	0.027	9	3318	0.020	9	3318	0.047
09:00 - 10:00	9	3318	0.030	9	3318	0.030	9	3318	0.060
10:00 - 11:00	9	3318	0.020	9	3318	0.013	9	3318	0.033
11:00 - 12:00	9	3318	0.030	9	3318	0.054	9	3318	0.084
12:00 - 13:00	9	3318	0.027	9	3318	0.013	9	3318	0.040
13:00 - 14:00	9	3318	0.030	9	3318	0.027	9	3318	0.057
14:00 - 15:00	9	3318	0.023	9	3318	0.037	9	3318	0.060
15:00 - 16:00	9	3318	0.040	9	3318	0.027	9	3318	0.067
16:00 - 17:00	9	3318	0.020	9	3318	0.017	9	3318	0.037
17:00 - 18:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
18:00 - 19:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.257			0.251			0.508

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/D - INDUSTRIAL ESTATE
 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									
07:00 - 08:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
08:00 - 09:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
09:00 - 10:00	9	3318	0.000	9	3318	0.003	9	3318	0.003
10:00 - 11:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
11:00 - 12:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
12:00 - 13:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
13:00 - 14:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
14:00 - 15:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
15:00 - 16:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
16:00 - 17:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
17:00 - 18:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
18:00 - 19:00	9	3318	0.000	9	3318	0.000	9	3318	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			0.009			0.015

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/D - INDUSTRIAL ESTATE
 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	9	3318	0.013	9	3318	0.000	9	3318	0.013
08:00 - 09:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
09:00 - 10:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
10:00 - 11:00	9	3318	0.000	9	3318	0.003	9	3318	0.003
11:00 - 12:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
12:00 - 13:00	9	3318	0.003	9	3318	0.000	9	3318	0.003
13:00 - 14:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
14:00 - 15:00	9	3318	0.003	9	3318	0.007	9	3318	0.010
15:00 - 16:00	9	3318	0.000	9	3318	0.003	9	3318	0.003
16:00 - 17:00	9	3318	0.007	9	3318	0.010	9	3318	0.017
17:00 - 18:00	9	3318	0.003	9	3318	0.013	9	3318	0.016
18:00 - 19:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.035			0.042			0.077

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/D - INDUSTRIAL ESTATE
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									
06:00 - 07:00									
07:00 - 08:00	9	3318	0.382	9	3318	0.070	9	3318	0.452
08:00 - 09:00	9	3318	0.415	9	3318	0.144	9	3318	0.559
09:00 - 10:00	9	3318	0.425	9	3318	0.204	9	3318	0.629
10:00 - 11:00	9	3318	0.385	9	3318	0.298	9	3318	0.683
11:00 - 12:00	9	3318	0.372	9	3318	0.409	9	3318	0.781
12:00 - 13:00	9	3318	0.372	9	3318	0.429	9	3318	0.801
13:00 - 14:00	9	3318	0.378	9	3318	0.338	9	3318	0.716
14:00 - 15:00	9	3318	0.285	9	3318	0.399	9	3318	0.684
15:00 - 16:00	9	3318	0.305	9	3318	0.325	9	3318	0.630
16:00 - 17:00	9	3318	0.288	9	3318	0.546	9	3318	0.834
17:00 - 18:00	9	3318	0.221	9	3318	0.529	9	3318	0.750
18:00 - 19:00	9	3318	0.070	9	3318	0.157	9	3318	0.227
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.898			3.848			7.746

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/D - INDUSTRIAL ESTATE
 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									
06:00 - 07:00									
07:00 - 08:00	9	3318	0.191	9	3318	0.094	9	3318	0.285
08:00 - 09:00	9	3318	0.291	9	3318	0.288	9	3318	0.579
09:00 - 10:00	9	3318	0.208	9	3318	0.238	9	3318	0.446
10:00 - 11:00	9	3318	0.291	9	3318	0.268	9	3318	0.559
11:00 - 12:00	9	3318	0.315	9	3318	0.332	9	3318	0.647
12:00 - 13:00	9	3318	0.251	9	3318	0.285	9	3318	0.536
13:00 - 14:00	9	3318	0.255	9	3318	0.234	9	3318	0.489
14:00 - 15:00	9	3318	0.238	9	3318	0.224	9	3318	0.462
15:00 - 16:00	9	3318	0.255	9	3318	0.204	9	3318	0.459
16:00 - 17:00	9	3318	0.188	9	3318	0.241	9	3318	0.429
17:00 - 18:00	9	3318	0.064	9	3318	0.121	9	3318	0.185
18:00 - 19:00	9	3318	0.023	9	3318	0.037	9	3318	0.060
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.570			2.566			5.136

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/D - INDUSTRIAL ESTATE
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									
06:00 - 07:00									
07:00 - 08:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
08:00 - 09:00	9	3318	0.003	9	3318	0.000	9	3318	0.003
09:00 - 10:00	9	3318	0.003	9	3318	0.000	9	3318	0.003
10:00 - 11:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
11:00 - 12:00	9	3318	0.003	9	3318	0.007	9	3318	0.010
12:00 - 13:00	9	3318	0.003	9	3318	0.000	9	3318	0.003
13:00 - 14:00	9	3318	0.003	9	3318	0.003	9	3318	0.006
14:00 - 15:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
15:00 - 16:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
16:00 - 17:00	9	3318	0.000	9	3318	0.003	9	3318	0.003
17:00 - 18:00	9	3318	0.000	9	3318	0.003	9	3318	0.003
18:00 - 19:00	9	3318	0.000	9	3318	0.000	9	3318	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.015			0.016			0.031

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.