Starburst UK Ltd

Matrix Park, Swansea

Transport Statement

23-00860/TS/01

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CORUN
Transport and Highway Engineering

DOCUMENT SIGNATURE AND MODIFICATION SHEET

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1 INTRODUCTION

1.1 Background

1.1.1 This Transport Statement (TS) has been produced by Corun Associates Ltd (Corun) on behalf of Starburst UK Ltd, to examine the highway and transportation issues associated with a proposed industrial unit development on land to the north of the existing Matrix Park site in Swansea.

1.1.2 The proposals are for the construction of four new B1(C)/B2/B8 industrial units comprising a total of 7,601m^2 GFA, on brownfield land to the north of the existing Matrix Park site.

1.1.3 The proposed site layout is included at **Appendix A**.

1.1.4 The aim of the report is to demonstrate that there are no reasons, in highway and transportation terms, why the site should not be granted planning permission.

1.2 Scope of Assessment

1.2.1 In pre-application discussions with Swansea Council, it was agreed that a TS would be sufficient to assess the traffic impact of the proposed development, following an initial traffic survey and TRICS analysis, discussed later on in this report.

1.2.2 The potential impact of the development was considered too low to justify analysis of junctions that currently do not experience any capacity issues.

1.2.3 This report will therefore discuss the following key transportation issues arising from the proposals:

(i) the existing site location and transport infrastructure;

(ii) analysis of personal injury traffic accident data;

(iii) the site's compliance with applicable transport policy;

(iv) the development proposal; and

(v) anticipated development-generated vehicular traffic.

2 EXISTING CONDITIONS

2.1 Site Summary and Context

2.1.1 The proposed development site (herein referred to as the 'site'), is located north of the existing Matrix Park site in Swansea.

2.1.2 Matrix Park is located in the south of the wider established Swansea Enterprise Park area in the north of Swansea, and currently consists of two separate business park use units, with an associated car parking area to the west.

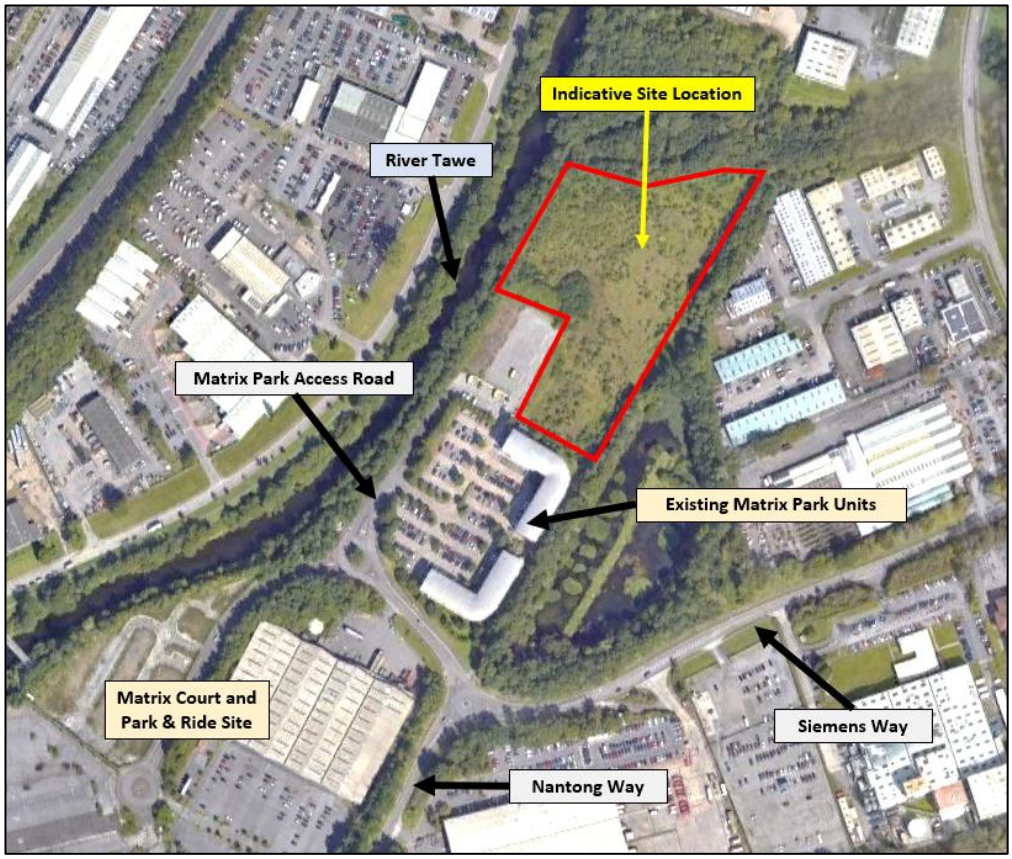
2.1.3 The proposals are for development on an area of brownfield land to the north of the Matrix Park site. The development land is further bordered by the River Tawe to the west, forested land to the north, and business park units to the east.

2.1.4 Matrix Park is accessed in the west through an un-named access road. The access road also continues north into a further gated operational parking area located to the north of the existing units.

2.1.5 The site will take access via an extension of the existing Matrix Park access road.

2.1.6 **Figure 2.1** shows the location of the development site with an indicative red line boundary. The site is also shown in a wider strategic context in **Figure 2.2**.

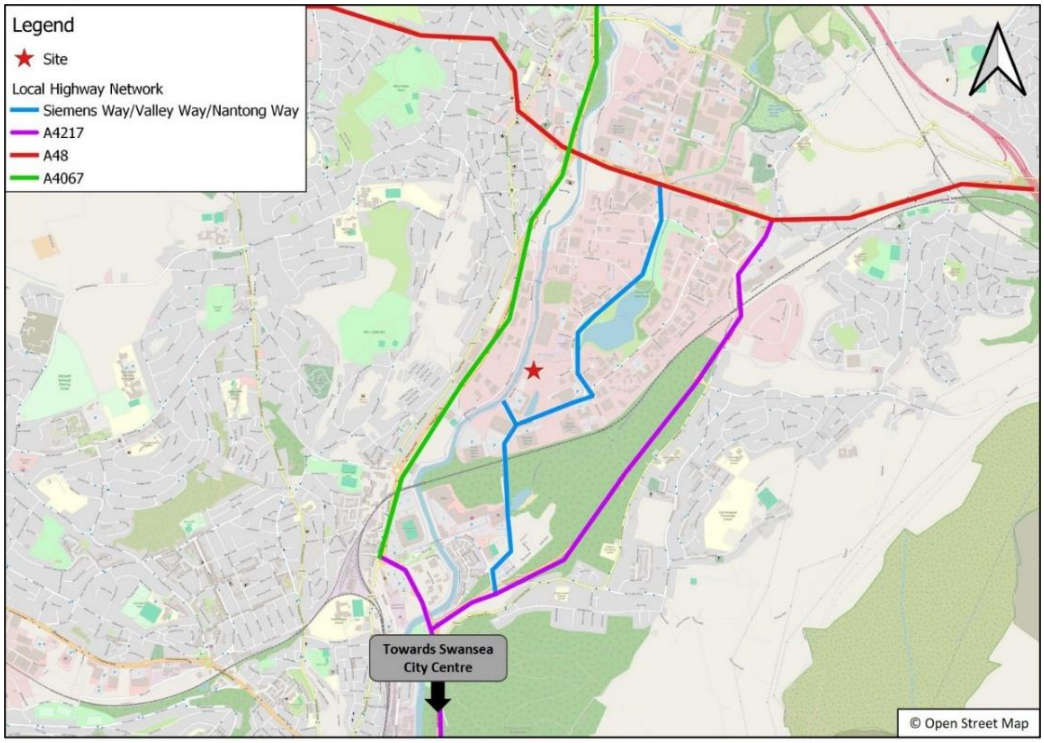
Figure 2.1: Site in local context with indicative red line boundary



2.2 Local Highway Network

2.2.1 Directly south of Matrix Park, the access road connects to a 3-arm roundabout, which also provides access into the Matrix Court located to the south. This roundabout connects to the wider highway network via a further 3-arm roundabout with Siemens Way and Nantong Way approximately 100m further south.

Figure 2.2: Site in wider strategic context



2.2.2 Siemens Way and Nantong Way form part of the key access road network routing through the Llansamlet business park area in the north of the wider Swansea area. In the vicinity of the site, these roads are currently subject to a 20mph speed limit.

2.2.3 The Llansamlet access road network connects into the wider A-Road network, via the A4217 to the south (approximately 1km) and the A48 to the north (approximately 2km). The A48 provides access to the M4 Junction 45 (approximately 5km).

2.2.4 The A4217 provides a route south into Swansea city centre (approximately 5km).

2.3 Pedestrian Facilities

2.3.1 The Matrix Park access road leading into the site has a footway along its eastern edge for its entire length. This footway route connects to onward pedestrian facilities along both Siemens Way and Nantong Way, where onward connections to pedestrian routes through the wider Swansea area are available.

2.3.2 At the roundabout with Matrix Park and Matrix Court, a connection onto an off-road pedestrian and cycle path routing along the River Tawe is available. This off-road route continues north, south, and west through the local area.

2.3.3 Table 3.3 in The Chartered Institution of Highways and Transportation (CIHT) document 'Providing for Journeys on Foot' identifies suggested acceptable walking distances for pedestrians to a range of local facilities. The preferred maximum walking distance specified for commuting trips is 2km. **Figure 2.3** identifies the walking catchment to the site based on this suggested maximum walking distance.

Figure 2.3: 2km walking catchment from site

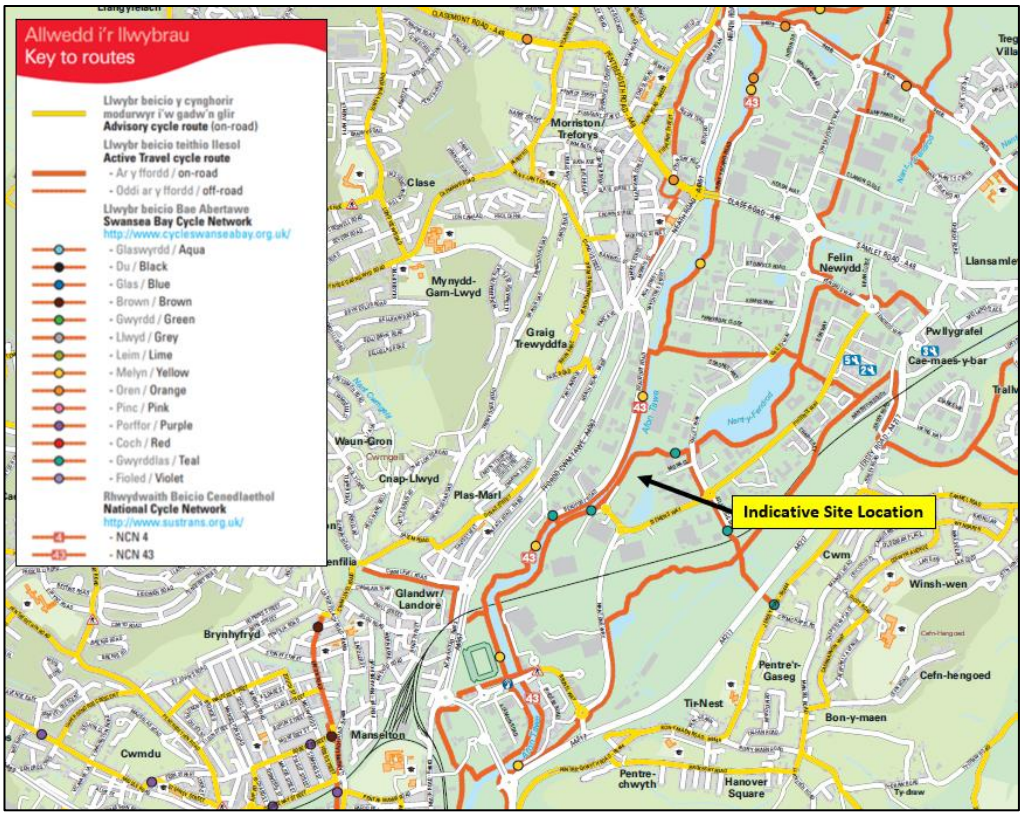
2.3.4 **Figure 2.3** identifies that the residential areas of Morriston, Plasmarl and Brynhyfryd are located within a 2km walking catchment of the site.

2.3.5 This maximum acceptable walking distance is however not definitive, and 'acceptable' walking distances vary between individuals and circumstances. As such, there is no reason that residents outside this 2km walking catchment area could not also access the site by foot, if desired.

2.4 Cycle Facilities

2.4.1 Cycling facilities within Swansea are outlined on the Swansea Bay cycle map published by Swansea Council. An extract of this map for the local site area is shown in **Figure 2.4**.

Figure 2.4: Swansea Bay Cycle Map Extract



Source – www.swansea.gov.uk/cycling

2.4.2 As identified previously, at the roundabout with the Matrix Park access road, a connection onto an off-road pedestrian and cycle path routing along the River Tawe is available. This route forms part of a designated off-road cycle route in the Swansea Bay Cycle Network, which also provides a connection into the National Cycle Route 43.

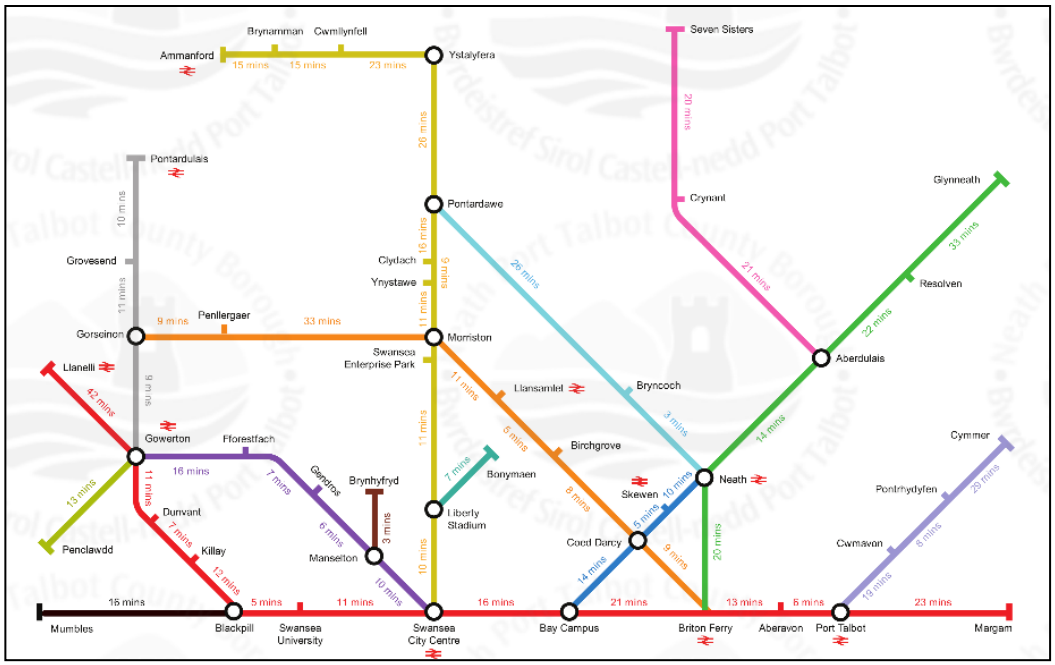
2.4.3 There are fourteen different routes in the Swansea Bay Cycle Network, with each assigned a different colour. The network was developed with routes which take the most direct and flattest journey, suitable for all kinds of bike. The routes are a combination of both on-road and off-road sections, with route colours replicated on signs across the network. **Figure 2.5** shows a tube style map of the entire Swansea Bay Cycle Network, along with approximate cycle times between key points on the network.

2.4.4 As identified on the network map, Swansea city centre to the south, can be accessed in an approximate 15-minute cycle ride from the site, with Morriston to the north also accessible within an approximate 10-minute cycle ride.

2.4.5 The cycle network in the vicinity of the site provides direct access into the following Swansea Bay Cycle Network routes:

- **Yellow 'Swansea Valley' Route** – A 18-mile off-road route following Swansea's old canal, railway, and river routes running between Ammanford and Swansea city centre.
- **Green 'Bon-Y-Maen Junction' Route** – A small largely off-road route providing direct access from Bonymaen to the Swansea Enterprise Park.

Figure 2.5: Swansea Bay Cycle Network 'Tube Map'



Source: www.cycleswanseabay.org.uk

2.4.6 In the vicinity of the site, the following National Cycle Routes can also be accessed:

- **National Cycle Route 43** – A 32-mile partially (57%) traffic free route running between Swansea and Clydach**.** Through Swansea, this route follows the same route as the Swansea Bay Cycle Network Yellow route.

2.5 Public Transport Facilities

Bus

2.5.1 Guidance relating to the accessibility of development proposals to public transport is provided in the Institution of Highways and Transportation (IHT) document 'Planning for Public Transport in Development' (March 1999). The IHT guidance recommends that:

> *"'new developments should be located so that public transport trips involve a walking distance of less than 400m from the nearest bus stop …".*

2.5.2 The nearest bus stops to the site are located along Siemens Way approximately a 500m walk from the site. Although located slightly beyond the IHT suggested 400m distance, this distance is not definitive, and is not anticipated to provide a barrier to accessing the stop. The Siemens Way stops provide access to the First Bus service 34.

2.5.3 Approximately 250m further east from the Siemens Way stops (totalling an approximate 750m walk from the site), the Atlantic Close stops along Phoenix Way also provide access to the First Bus service 31. The Plasmarl bus stops along Neath Road to the west of the site (via the footpath and footbridge across the River Tawe) can also be accessed in an approximate 750m walk from the site. These stops provide access to the First Bus services 4/4A and X6.

2.5.4 Although both these stops are again beyond the IHT 400m suggested walking distance, a total walk distance of approximately 750m from the site would not form a definitive barrier for more mobile employees at the site.

2.5.5 A summary of the approximate frequency of these bus services accessible from the site is provided in **Table 2.1**.

Table 2.1: Approximate frequencies of bus services accessible from the site

Service	Route	Approximate service frequency and operating hours		
		Mon-Fri	Saturday	Sunday
Siemens Way Stop				
First Bus Service 31	Swansea– Morriston Hospital	60-minutes	60-minutes	30-minutes
Atlantic Close Stop				
First Bus Service 34	Swansea– Neath	60-minutes	60-minutes	No Service
Plasmarl Stop				
First Bus 4 / 4A	Singleton Hospital – Morriston Hospital (via City Centre)	20-minutes	20-minutes	30-minutes
First Bus X6	Swansea - Pontardawe	30-minutes	30-minutes	120-minutes

Note: As per timetable data available as of May 2024

2.5.6 When combined, the bus service available in the location of the site offer access to regular services routing through the wider Swansea area.

Rail

2.5.7 The nearest railway stations are Llansamlet station, and Swansea station located approximately 3.7km and 4.3km from the site respectively. Although outside a reasonable walking distance for most, both stations can be accessed within an approximate 15-minute cycle ride from the site.

2.5.8 Llansamlet station provides access to regular rail services to Neath (circa 8-minutes), Port Talbot Parkway (circa 20-minutes), Bridgend (circa 35-minutes), and Cardiff Central (circa 60-minutes).

2.5.9 Swansea station offers additional rail services to Gowerton (circa 11-minutes), Llanelli (circa 20-minutes), and Carmarthen (circa 45-minutes).

2.5.10 With the opportunity for a multi-modal cycle trip, rail travel to the site via Llansamlet and Swansea stations are viable options, especially for staff commuting trips.

2.6 Sustainable Transport Summary

2.6.1 The site is located in the south of the wider established Swansea Enterprise Park area and connects into the existing pedestrian and cycle facilities through this area.

2.6.2 The site is located in close proximity to off-road cycle routes along the Swansea Bay Cycle Network, which connect to key destinations in the wider Swansea area, including Swansea city centre.

2.6.3 The site has accessibility to a range of regular bus services operating through the local area. The site is also accessible to rail services as part of multimodal cycle journeys which can support longer distance journeys.

2.6.4 It is evident therefore that the site is in an excellent location to promote and encourage travel by walking, cycling, and public transport modes, especially for staff at the site.

2.7 Local Highway Safety

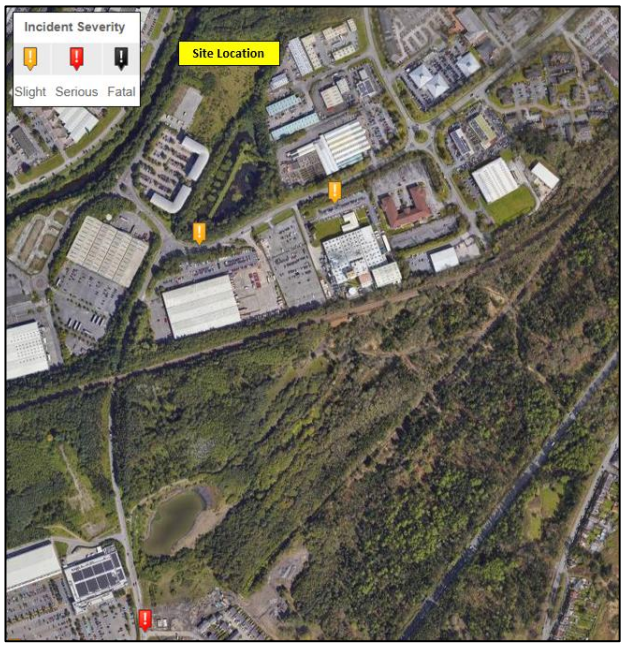
2.7.1 A review has been carried out on local highway network safety in order to establish whether there are any current accident clusters or blackspots in the vicinity of the site, or at the study network junctions that could be exacerbated by the development proposal. In this instance, a cluster is identified as a closely defined area of five or more accidents.

2.7.2 The website www.crashmap.co.uk has been interrogated to provide a review of accidents in the surrounding area.

2.7.3 CrashMap uses data collected by the police about road traffic crashes occurring on British roads where someone has been injured (PIAs). This data is approved by the National Statistics Authority and reported on by the Department for Transport each year. The website uses data obtained directly from official sources and compiled in an easy-to-use format showing each incident on a map. Incidents are plotted to within 10 metres of their location and the data includes all incidents up to the end of 2022.

2.7.4 **Figure 2.6** identifies the CrashMap identified PIAs within the vicinity of the site for the 5-year period between 2018 and 2022 (the latest available 5-year period of data).

Figure 2.6: CrashMap extract



Source – www.crashmap.co.uk (data extracted May 2024)

2.7.5 **Figure 2.6** identifies that there have been 3 recorded PIAs in the vicinity of the site over the 5-year period from 2018 to 2022. No incidents have been recorded along the Matrix Park site access road.

2.7.6 One slight PIA occurred just east of the Siemens Way / Nantong Way roundabout junction in 2022. This is an isolated incident that involved car vehicles only.

2.7.7 Another slight incident occurred further east along Siemens Way in 2021. This is another isolated PIA that occurred off the main highway network, within the access junction area of one of the industrial units along the road.

2.7.8 The other PIA was a serious incident that occurred further south along Nantong Way in 2019. This is again an isolated incident and involved a cycle casualty.

2.7.9 In summary, although all PIAs are regrettable, the CrashMap data suggests that there are no existing highway safety issues within the immediate area of the development site. The anticipated increase in traffic generated by the proposed development (as discussed later in this report) is highly unlikely to exacerbate the existing safety record to a significant enough level to warrant concern.

3 LOCAL AND NATIONAL PLANNING GUIDANCE

3.1 Overview

3.1.1 In preparing this TS, the site has been considered in the context of relevant transport planning policy guidance at national, regional and local level. The following documents have been reviewed:

3.1.2 In transport terms, the relevant policy guidance that applies to this site are contained in the following documents:

- Planning Policy Wales (Edition 12, February 2024);
- Technical Advice Note (Wales) 18 – Transport (2007);
- Future Wales – The National Plan 2040 (February 2021); and
- Swansea Local Development Plan (LDP) 2010 - 2025, adopted February 2019.

3.1.3 Consideration is also given to the following legislation, which has an emphasis on sustainable transport provision:

- Active Travel Wales Act 2013; and
- Well-being of Future Generations (Wales) Act 2015.

3.2 Summary

3.2.1 The overarching desire at all tiers of planning policy guidance is to influence a modal shift from single-occupancy car travel towards more sustainable modes such as walking, cycling, and public transport.

3.2.2 In order to achieve this, it is recognised that development should be located such that the need to travel is reduced, especially by private car, by locating development where there is good access to high-quality public transport, walking and cycling provision.

3.2.3 Policy 12 of Future Wales: The National Plan 2040 also states the following:

> *"Where car parking is provided for new non-residential development, planning authorities should seek a minimum of 10% of car parking spaces to have electric vehicle charging points."*

3.3 Conclusion

3.3.1 As identified in **Section 2**, the site is located within an established business park area and is in an excellent location to promote and encourage travel by walking, cycling, and public transport modes.

3.3.2 As identified in **Section 4**, 10% of the total car parking provision at the site will be provided as EV charging spaces. This therefore meets the Future Wales policy target.

3.3.3 The site is therefore concluded to be compliant with transport planning policy at a local and national level.

4 DEVELOPMENT PROPOSAL

4.1 Proposed Development

4.1.1 The proposals are for the construction of four new B1(C)/B2/B8 industrial units to the north of the existing Matrix Park site. The proposed new units will total 7,601m^2 GFA as follows:

- Unit A (1,382m^2)
- Unit B (2,148m^2)
- Unit C (2,456m^2)
- Unit D (1,615m^2)

4.1.2 The proposed site layout is provided at **Appendix A**,

4.2 Access

4.2.1 The site will take access via an extension of the existing Matrix Park access road, which will continue north into the site.

4.2.2 As identified on the swept path drawing contained in **Appendix A**, the internal site layout has been designed with sufficient space and turning areas to accommodate a max legal 16.5m articulated vehicle, which is able to arrive and depart in a forward gear.

4.2.3 The existing pedestrian footway along the eastern edge of the Matrix Park access road will also be continued north into the site.

4.3 Parking

4.3.1 Swansea Council's parking standards are set out in the Supplementary Planning Guidance (SPG) document 'City and County of Swansea Parking Standards' adopted in March 2012. This sets out detailed parking requirements according to land use and type of development across the county. These parking standards differ across six distinct zones identified within the document. The proposed development could be considered to fall within 'Zone 5'.

4.3.2 The parking standards aim to set a maximum level of parking to be provided at developments, in line with national and regional policies to encourage a move to more sustainable modes of transport.

4.3.3 The parking standards for the 'Industry' category state that 1 non-operational parking space should be provided per 80m^2 GFA.

4.3.4 Based on these standards a maximum of 95 non-operational parking spaces are required for the proposed units.

4.3.5 The proposed development includes 95 parking spaces in line with the maximum requirements. These spaces will be provided as follows:

- Standard Spaces – 80 spaces;
- Disabled Spaces – 5 spaces (5% of total provision); and
- EV Charging Spaces – 10 spaces (10.5% of total provision).

4.3.6 An additional 5 motorcycle parking spaces will also be provided at the site.

4.3.7 A loading bay space will also be provided at the entrance points within each proposed unit as follows:

- Unit A – 9 loading bay spaces;
- Unit B – 13 loading bay spaces;
- Unit C – 16 loading bay spaces; and
- Unit D – 8 loading bay spaces.

4.3.8 Three covered cycle stores will also be provided across the site, which will provide parking for up to 24 cycles. This provision will help to encourage this sustainable mode of travel at the site, especially given the close proximity of the site to the local cycle route that runs alongside the river, easy access to which is located immediately south of the site.

5 SITE TRAFFIC

5.1 Introduction

5.1.1 Estimated traffic flows for the proposed new units have been forecast using the TRICS database. TRICS is a nationally accepted database providing information relating to the total number of trips generated by various land uses based on existing traffic surveys at similar sites throughout the United Kingdom.

5.1.2 From the TRICS database, a trip rate is derived which provides the number of expected trips per unit of measurement (in this case per 100m^2 GFA).

5.1.3 Trip rates have been extracted to represent the weekday 12-hour period between 07:00 and 19:00, which is anticipated to be the busiest period across the week for the proposed employment use. Minimal trips are anticipated from the proposed use over the weekend period.

5.1.4 A copy of the TRICS output is included at **Appendix B**.

5.2 Proposed Development Anticipated Traffic Generation

5.2.1 To calculate the anticipated traffic generation for the proposed new B1(C)/B2/B8 units, the TRICS category '02 Employment, C – Industrial Unit' category was utilised.

5.2.2 In order to extract a representative sample of survey sites from the TRICS database, the following parameters were applied:

- All sites in Greater London and Ireland excluded;
- Includes only 'Edge of Town' and 'Suburban Area' sites, within an 'Industrial Zone';
- Sites identified as undertaken during the Covid period excluded.

5.2.3 **Table 5.1** shows the anticipated vehicle trip generation the proposed development during a typical weekday period.

Table 5.1: Proposed development, anticipated weekday vehicular trip generation (based on 7,601m^2 GFA)

Time Period	Trip Rates (per 100m^2 GFA)			Total Trips (all vehicles)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
07:00 - 08:00	0.273	0.032	0.305	21	2	23
08:00 - 09:00	0.276	0.074	0.350	21	6	27
09:00 - 10:00	0.195	0.131	0.326	15	10	25
10:00 - 11:00	0.184	0.137	0.321	14	10	24
11:00 - 12:00	0.129	0.158	0.287	10	12	22
12:00 - 13:00	0.179	0.226	0.405	14	17	31
13:00 - 14:00	0.126	0.155	0.281	10	12	22
14:00 - 15:00	0.113	0.124	0.237	9	9	18
15:00 - 16:00	0.095	0.195	0.290	7	15	22
16:00 - 17:00	0.043	0.329	0.372	3	25	28
17:00 - 18:00	0.121	0.114	0.235	9	9	18
18:00 - 19:00	0.046	0.079	0.125	3	6	9
12-Hour Trip Rate	**-**	**-**	**-**	**136**	**133**	**269**

5.2.4 **Table 5.1** shows that the proposed development is anticipated to generate 269 two-way vehicular trips over the 12-hour weekday period between 07:00 to 19:00. This equates to approximately one additional trip on the highway network every 2.5 minutes across this period.

5.2.5 The weekday peak hour in total two-way trips is anticipated between 12:00 to 13:00, with 31 two-way vehicular trips.

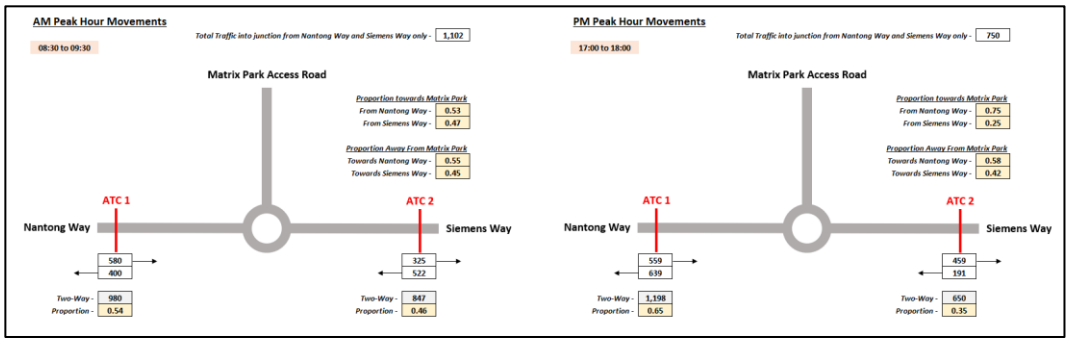
5.2.6 During the traditional weekday highway peak hours of 08:00 to 09:00 and 17:00 to 18:00, the proposed development is anticipated to generate 27 two-way vehicular trips, and 18 two-way vehicular trips respectively.

5.3 Development Impact on Local Highway Network

5.3.1 To determine the level of traffic impact that the proposed development will have on the surrounding highway network, ATC surveys were conducted on Nantong Way and Siemens Way. These surveys were undertaken on Tuesday 7th and Wednesday 8th of November 2023, which covered the weekday AM and PM peak hour period between 07:00 to 10:00 and 16:00 to 19:00 respectively. A copy of the ATC survey data is contained at **Appendix C**.

5.3.2 The ATC survey identified that the highway peak hours in total traffic flow along the surveyed roads occurred between 08:30 to 09:30 during the AM period, and between 17:00 to 18:00 in the PM period. A summary of the surveyed traffic flows at each ATC over this period is shown in **Figure 5.1**.

Figure 5.1: Peak hour ATC survey flows



5.3.3 During the identified weekday AM highway peak hour period of 08:30 to 09:30, the proposed development would be anticipated to generate 16 arrival and 8 departure trips (based on the TRICS trip rates). As shown in **Figure 5.2**, if these trips are distributed at the Siemens Way / Nantong Way roundabout junction based on the observed total traffic proportions at ATC sites, the proposed development would be anticipated to increase total traffic flow along Nantong Way and Siemens Way by approximately just +1.2% and +1.4% respectively.

5.3.4 During the identified weekday PM highway peak hour period of 17:00 to 18:00, the proposed development would be anticipated to generate 9 arrival and 9 departure trips (based on the TRICS trip rates). As shown in **Figure 5.3**, if these trips are distributed at the Siemens Way / Nantong Way roundabout junction based on the observed total traffic proportions at each ATC site, the proposed development would be anticipated to increase total traffic flow along Nantong Way and Siemens Way by approximately just +1.0% and +0.9% respectively.

Figure 5.2: Proposed development impact – Weekday highway AM peak hour period

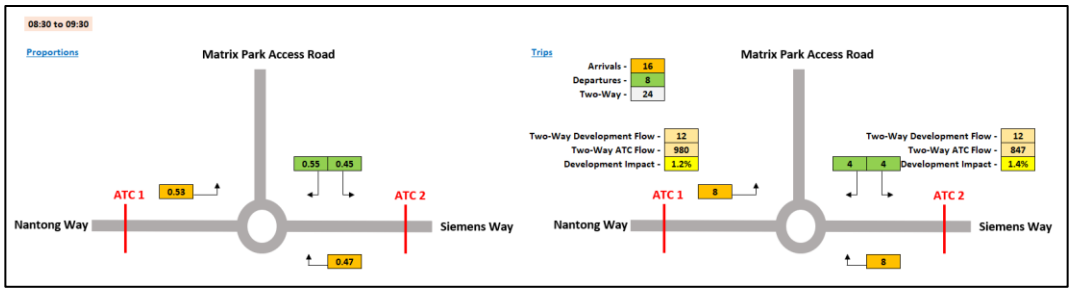
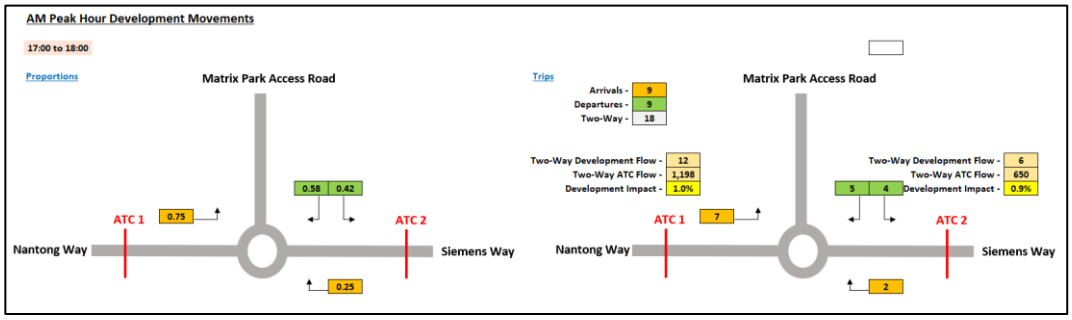


Figure 5.3: Proposed development impact – Weekday highway PM peak hour period



5.3.5 This level of impact along both Nantong Way and Siemens Way across these peak hour periods is negligible and would be within what might normally be anticipated from daily fluctuations in traffic flows along these roads. As such, the proposed development is anticipated to have a minimal impact on capacity across the local highway network.

6 SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 This Transport Statement has been produced by Corun Associates Ltd on behalf of Starburst UK Ltd, to examine the highway and transportation issues associated with a proposed industrial unit development on land to the north of the existing Matrix Park site in Swansea.

6.1.2 Matrix Park is located in the south of the wider established Swansea Enterprise Park area in the north of Swansea, and currently consists of two separate business park use units, with an associated car parking area to the west.

6.1.3 The proposals are for the construction of four new B1(C)/B2/B8 industrial units to the north of the existing Matrix Park site. The proposed new units will total 7,601m^2 GFA as follows:

- Unit A (1,382m^2)
- Unit B (2,148m^2)
- Unit C (2,456m^2)
- Unit D (1,615m^2)

6.1.4 The site is located within an established business park area and is in an excellent location to promote and encourage travel by walking, cycling, and public transport modes.

6.1.5 The site will take access via an extension of the existing Matrix Park access road. The access road will continue north into the site.

6.1.6 The internal site layout has been designed with sufficient space and turning areas to accommodate a max legal 16.5m articulated vehicle.

6.1.7 The existing pedestrian footway along the eastern edge of the Matrix Park access road will also continue north into the site.

6.1.8 The proposed development includes 95 parking spaces to be provided as follows:

- Standard Spaces – 80 spaces;
- Disabled Spaces – 5 spaces (5% of total provision); and
- EV Charging Spaces – 10 spaces (10.5% of total provision).

6.1.9 An additional 5 motorcycle parking spaces will also be provided at the site.

6.1.10 A loading bay space will also be provided at the entrance points within each proposed unit as follows:

- Unit A – 9 loading bay spaces;
- Unit B – 13 loading bay spaces;
- Unit C – 16 loading bay spaces; and
- Unit D – 8 loading bay spaces.

6.1.11 Three covered cycle stores will be provided across the site, which will provide parking for up to 24 cycles. This provision will help encourage this mode of travel at the site, especially given the close proximity and easy access to the traffic-free cycle route along the river, access to which is provided immediately to the south of the site.

6.1.12 The proposed development is anticipated to generate 269 two-way vehicular trips over the 12-hour weekday period between 07:00 to 19:00. This equates to approximately one additional trip on the highway network every 2.5 minutes across this period.

6.1.13 The weekday peak hour in total two-way trips is anticipated between 12:00 to 13:00, with just 31 two-way vehicular trips.

6.1.14 During the traditional weekday highway peak hours of 08:00 to 09:00 and 17:00 to 18:00, the proposed development is anticipated to generate just 27 two-way vehicular trips, and 18 two-way vehicular trips respectively.

6.1.15 Minimal trips are anticipated from the proposed use over the weekend period.

6.1.16 The proposed development is anticipated to have a negligible impact on capacity across the local highway network; the additional traffic will be absorbed within daily fluctuations in traffic flow.

6.1.17 A review of the accident record on the local highway network in the vicinity of the site, does not identify any significant underlying highway safety issues, and the increase in traffic generated by the proposed development is highly unlikely to exacerbate the existing safety record to a significant enough level to warrant concern.

6.2 Conclusion

6.2.1 The site is concluded to be compliant with existing transport planning policy at local and national level.

6.2.2 There are no reasons in highway and transportation terms why the proposed development should not be granted consent.

APPENDIX A

Proposed Site Layout and Swept Path Analysis

Nant-y-fendrod

ED Bay

Def

River Tawe Afon

Tree root limit

SWALE

CYCLE STORE (6 no cycles)

UNIT (1382 SQ.M)

UNIT (2448 SQ.M)

UNIT (2486 SQ.M)

CYCLE STORE (6 no cycles)

Motorcycles CYCLE STORE (4 no cycles)

UNIT (1815 SQ.M)

SWALE

El Sub Sta

Matrix Beta

Matrix Park

Pond

Pond

Weir

Sewage Pipe

Christopher Court

1

3

5

1

4

14

12

10

Gilsea Business Park

9

6

1

N

TITLE:
Proposed Industrial Units.

CLIENT:
Starburst Ltd.

SITE ADDRESS
Matrix Park,
Swansea Enterprise Park.

SCALES:
1:1250 @ A3

DRAWING NO.	REV:
222190/1	A

A2
ORIGINAL PLOT SIZE

NOTES:

1) All dimensions in millimetres unless otherwise stated.

This drawing is based on [Company's Name] Drawing No:

Rev	Date	Details	Drawn by	Checked by
B	Mar'24	New Layout Added	MA	MA
A	Mar'24	New Layout Added	MA	MA

CORUN
Transport and Highway Engineering
Corun Associates Ltd
Swansea
E swansea@corun.uk.com
W www.corun.uk.com

CLIENT:
STARBURST LTD

PROJECT:
MATRIX PARK
SWANSEA

TITLE:
SWEPT PATH ANALYSIS
16.5m ARTICULATED HGV

STATUS:
PRELIMINARY

SCALE:	DATE:	DRAWN:	CHECKED:
1:250@A2	FEB'24	MA	MA

JOB NO:	DRAWING NO:	REVISION:
23-00860	SP03	B

APPENDIX B

TRICS Output

Calculation Reference: AUDIT-751101-240424-0409

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
04	EAST ANGLIA		
	NF	NORFOLK	2 days
	PB	PETERBOROUGH	1 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
	WM	WEST MIDLANDS	2 days
08	NORTH WEST		
	BP	BLACKPOOL	1 days
	LC	LANCASHIRE	2 days
09	NORTH		
	CU	CUMBERLAND	1 days
10	WALES		
	CF	CARDIFF	1 days
11	SCOTLAND		
	FI	FIFE	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:	150 to 14125 (units: sqm)
Range Selected by User:	150 to 67459 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 03/05/23

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	2 days
Wednesday	1 days
Thursday	8 days
Friday	1 days

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

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	6
Edge of Town	7

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	13

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	3 days - Selected
Servicing vehicles Excluded	18 days - Selected

Secondary Filtering selection:

Use Class:

Not Known	13 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
5,001 to 10,000	2 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	5 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
75,001 to 100,000	3 days
125,001 to 250,000	6 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	6 days
1.1 to 1.5	7 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	13 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	13 days

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

LIST OF SITES relevant to selection parameters

1 BP-02-C-01 POWDER COATINGS BLACKPOOL
CHORLEY ROAD
BLACKPOOL
LITTLE CARLETON
Edge of Town
Industrial Zone
Total Gross floor area: 1010 sqm
Survey date: THURSDAY 20/06/19 Survey Type: MANUAL

2 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

3 CU-02-C-01 STEEL FABRICATION CUMBERLAND
BLACKDYKE ROAD
CARLISLE
KINGSTOWN IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 715 sqm
Survey date: FRIDAY 15/10/21 Survey Type: MANUAL

4 DV-02-C-02 ENERGY RECOVERY FACILITY DEVON
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 Survey Type: MANUAL

5 FI-02-C-02 GLASS SPECIALISTS FIFE
DICKSON STREET
DUNFERMLINE

Edge of Town
Industrial Zone
Total Gross floor area: 1240 sqm
Survey date: THURSDAY 20/04/23 Survey Type: MANUAL

6 LC-02-C-03 TIMBER SUPPLIES LANCASHIRE
GOLDEN HILL LANE
LEYLAND

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 150 sqm
Survey date: TUESDAY 06/11/18 Survey Type: MANUAL

7 LC-02-C-06 STEEL FABRICATION LANCASHIRE
TOLLGATE ROAD
BURSCOUGH

Edge of Town
Industrial Zone
Total Gross floor area: 700 sqm
Survey date: THURSDAY 21/04/22 Survey Type: MANUAL

8 NF-02-C-03 SHEET METAL CONTRACTOR NORFOLK
ELVIN WAY
NORWICH
HELLESDON
Edge of Town
Industrial Zone
Total Gross floor area: 260 sqm
Survey date: THURSDAY 07/11/19 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-02-C-04	EXHIBITION DESIGN & MANUF.	NORFOLK
	FLETCHER WAY		
	NORWICH		
	UPPER HELLESDON		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	690 sqm	
	Survey date: THURSDAY	*14/11/19*	*Survey Type: MANUAL*
10	PB-02-C-01	STEEL FABRICATOR	PETERBOROUGH
	NEWARK ROAD		
	PETERBOROUGH		
	FENGATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	1772 sqm	
	Survey date: THURSDAY	*29/09/22*	*Survey Type: MANUAL*
11	WK-02-C-01	MACHINE ENGINEERING	WARWICKSHIRE
	CASTLE MOUND WAY		
	RUGBY		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	9216 sqm	
	Survey date: WEDNESDAY	*10/11/21*	*Survey Type: MANUAL*
12	WM-02-C-04	FOUNDRY	WEST MIDLANDS
	STOURVALE ROAD		
	STOURBRIDGE		
	LYE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	4324 sqm	
	Survey date: TUESDAY	*21/11/17*	*Survey Type: MANUAL*
13	WM-02-C-05	INDIAN CATERING	WEST MIDLANDS
	ICKNIELD STREET		
	BIRMINGHAM		
	HOCKLEY		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	256 sqm	
	Survey date: MONDAY	*22/11/21*	*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
BO-02-C-01	Undertaken during identified Covid period
EC-02-C-02	Undertaken during identified Covid period
GS-02-C-02	Undertaken during identified Covid period
HC-02-C-01	50% B1 office Use
LC-02-C-05	Undertaken during identified Covid period
NN-02-C-01	Undertaken during identified Covid period
TV-02-C-02	Undertaken during identified Covid period
VG-02-C-01	Undertaken during identified Covid period

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	2	4958	0.010	2	4958	0.000	2	4958	0.010
05:30 - 06:00	2	4958	0.081	2	4958	0.000	2	4958	0.081
06:00 - 06:30	3	3719	0.009	3	3719	0.000	3	3719	0.009
06:30 - 07:00	3	3719	0.143	3	3719	0.009	3	3719	0.152
07:00 - 07:30	12	3143	0.156	12	3143	0.008	12	3143	0.164
07:30 - 08:00	12	3143	0.117	12	3143	0.024	12	3143	0.141
08:00 - 08:30	12	3143	0.159	12	3143	0.021	12	3143	0.180
08:30 - 09:00	12	3143	0.117	12	3143	0.053	12	3143	0.170
09:00 - 09:30	13	2921	0.092	13	2921	0.047	13	2921	0.139
09:30 - 10:00	13	2921	0.103	13	2921	0.084	13	2921	0.187
10:00 - 10:30	13	2921	0.084	13	2921	0.058	13	2921	0.142
10:30 - 11:00	13	2921	0.100	13	2921	0.079	13	2921	0.179
11:00 - 11:30	13	2921	0.058	13	2921	0.092	13	2921	0.150
11:30 - 12:00	13	2921	0.071	13	2921	0.066	13	2921	0.137
12:00 - 12:30	13	2921	0.092	13	2921	0.100	13	2921	0.192
12:30 - 13:00	13	2921	0.087	13	2921	0.126	13	2921	0.213
13:00 - 13:30	13	2921	0.092	13	2921	0.092	13	2921	0.184
13:30 - 14:00	13	2921	0.034	13	2921	0.063	13	2921	0.097
14:00 - 14:30	13	2921	0.071	13	2921	0.061	13	2921	0.132
14:30 - 15:00	13	2921	0.042	13	2921	0.063	13	2921	0.105
15:00 - 15:30	13	2921	0.058	13	2921	0.084	13	2921	0.142
15:30 - 16:00	13	2921	0.037	13	2921	0.111	13	2921	0.148
16:00 - 16:30	13	2921	0.032	13	2921	0.205	13	2921	0.237
16:30 - 17:00	13	2921	0.011	13	2921	0.124	13	2921	0.135
17:00 - 17:30	13	2921	0.053	13	2921	0.074	13	2921	0.127
17:30 - 18:00	13	2921	0.068	13	2921	0.040	13	2921	0.108
18:00 - 18:30	12	3061	0.038	12	3061	0.060	12	3061	0.098
18:30 - 19:00	12	3061	0.008	12	3061	0.019	12	3061	0.027
19:00 - 19:30	3	3391	0.000	3	3391	0.010	3	3391	0.010
19:30 - 20:00	3	3391	0.000	3	3391	0.000	3	3391	0.000
20:00 - 20:30	2	4958	0.000	2	4958	0.000	2	4958	0.000
20:30 - 21:00	2	4958	0.000	2	4958	0.000	2	4958	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.023			1.773			3.796

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.*

Parameter summary

Trip rate parameter range selected:	150 - 14125 (units: sqm)
Survey date date range:	01/01/16 - 03/05/23
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	8

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/C - INDUSTRIAL UNIT
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	2	4958	0.000	2	4958	0.000	2	4958	0.000
05:30 - 06:00	2	4958	0.000	2	4958	0.000	2	4958	0.000
06:00 - 06:30	3	3719	0.000	3	3719	0.000	3	3719	0.000
06:30 - 07:00	3	3719	0.018	3	3719	0.009	3	3719	0.027
07:00 - 07:30	12	3143	0.016	12	3143	0.005	12	3143	0.021
07:30 - 08:00	12	3143	0.011	12	3143	0.013	12	3143	0.024
08:00 - 08:30	12	3143	0.013	12	3143	0.011	12	3143	0.024
08:30 - 09:00	12	3143	0.024	12	3143	0.019	12	3143	0.043
09:00 - 09:30	13	2921	0.032	13	2921	0.011	13	2921	0.043
09:30 - 10:00	13	2921	0.045	13	2921	0.026	13	2921	0.071
10:00 - 10:30	13	2921	0.032	13	2921	0.008	13	2921	0.040
10:30 - 11:00	13	2921	0.037	13	2921	0.018	13	2921	0.055
11:00 - 11:30	13	2921	0.021	13	2921	0.011	13	2921	0.032
11:30 - 12:00	13	2921	0.026	13	2921	0.024	13	2921	0.050
12:00 - 12:30	13	2921	0.045	13	2921	0.032	13	2921	0.077
12:30 - 13:00	13	2921	0.018	13	2921	0.024	13	2921	0.042
13:00 - 13:30	13	2921	0.024	13	2921	0.013	13	2921	0.037
13:30 - 14:00	13	2921	0.013	13	2921	0.013	13	2921	0.026
14:00 - 14:30	13	2921	0.011	13	2921	0.013	13	2921	0.024
14:30 - 15:00	13	2921	0.011	13	2921	0.013	13	2921	0.024
15:00 - 15:30	13	2921	0.013	13	2921	0.016	13	2921	0.029
15:30 - 16:00	13	2921	0.008	13	2921	0.016	13	2921	0.024
16:00 - 16:30	13	2921	0.011	13	2921	0.011	13	2921	0.022
16:30 - 17:00	13	2921	0.000	13	2921	0.005	13	2921	0.005
17:00 - 17:30	13	2921	0.000	13	2921	0.000	13	2921	0.000
17:30 - 18:00	13	2921	0.003	13	2921	0.000	13	2921	0.003
18:00 - 18:30	12	3061	0.000	12	3061	0.000	12	3061	0.000
18:30 - 19:00	12	3061	0.000	12	3061	0.000	12	3061	0.000
19:00 - 19:30	3	3391	0.000	3	3391	0.000	3	3391	0.000
19:30 - 20:00	3	3391	0.000	3	3391	0.000	3	3391	0.000
20:00 - 20:30	2	4958	0.000	2	4958	0.000	2	4958	0.000
20:30 - 21:00	2	4958	0.000	2	4958	0.000	2	4958	0.000
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.432			0.311			0.743

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

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

APPENDIX C

ATC Survey Summary

ATC 1 - Nantong Way

Hourly Time Period		S'bound	N'bound	Two-way
00:00	01:00	18	25	43
00:15	01:15	20	26	46
00:30	01:30	24	32	56
00:45	01:45	25	28	53
01:00	02:00	26	25	51
01:15	02:15	21	17	38
01:30	02:30	18	10	28
01:45	02:45	14	7	21
02:00	03:00	11	7	18
02:15	03:15	9	6	15
02:30	03:30	9	8	17
02:45	03:45	11	8	19
03:00	04:00	16	9	25
03:15	04:15	17	11	28
03:30	04:30	22	20	42
03:45	04:45	25	30	55
04:00	05:00	31	39	70
04:15	05:15	41	47	88
04:30	05:30	51	62	113
04:45	05:45	64	77	141
05:00	06:00	85	95	180
05:15	06:15	105	108	213
05:30	06:30	132	139	271
05:45	06:45	150	162	312
06:00	07:00	160	185	345
06:15	07:15	181	219	400
06:30	07:30	199	251	450
06:45	07:45	229	300	529
07:00	08:00	261	391	652
07:15	08:15	291	464	755
07:30	08:30	316	522	838
07:45	08:45	340	587	927
08:00	09:00	362	579	941
08:15	09:15	379	596	975
08:30	09:30	400	580	980
08:45	09:45	391	522	913
09:00	10:00	374	496	870
09:15	10:15	377	436	813
09:30	10:30	371	410	781
09:45	10:45	382	415	797
10:00	11:00	395	430	825
10:15	11:15	389	462	851
10:30	11:30	377	444	821
10:45	11:45	364	436	800
11:00	12:00	376	458	834
11:15	12:15	377	479	856
11:30	12:30	396	527	923
11:45	12:45	448	549	997
15:45	16:45	520	486	1,006
16:00	17:00	531	496	1,027
16:15	17:15	577	514	1,091
16:30	17:30	622	514	1,136
16:45	17:45	653	530	1,183
17:00	18:00	639	559	1,198
17:15	18:15	530	534	1,064
17:30	18:30	428	509	937
17:45	18:45	311	466	777
18:00	19:00	269	381	650
18:15	19:15	242	331	573
18:30	19:30	204	274	478
18:45	19:45	182	224	406
19:00	20:00	156	198	354
19:15	20:15	122	171	293
19:30	20:30	104	161	265
19:45	20:45	92	134	226
20:00	21:00	93	121	214
20:15	21:15	85	105	190
20:30	21:30	91	86	177
20:45	21:45	97	88	185
21:00	22:00	89	69	158
21:15	22:15	82	60	142
21:30	22:30	69	51	120
21:45	22:45	43	29	72
22:00	23:00	45	30	75
22:15	23:15	47	27	74
22:30	23:30	44	24	68
22:45	23:45	44	26	70
23:00	00:00	25	28	53
23:15	00:15	22	28	50
23:30	00:30	16	23	39
23:45	00:45	17	32	49

ATC 2 - Siemens Way

Hourly Time Period		E'bound	W'bound	Two-way
00:00	01:00	3	14	17
00:15	01:15	4	9	13
00:30	01:30	3	9	12
00:45	01:45	2	9	11
01:00	02:00	2	12	14
01:15	02:15	2	11	13
01:30	02:30	1	8	9
01:45	02:45	1	8	9
02:00	03:00	1	5	6
02:15	03:15	2	5	7
02:30	03:30	4	9	13
02:45	03:45	4	8	12
03:00	04:00	5	12	17
03:15	04:15	5	12	17
03:30	04:30	4	13	17
03:45	04:45	6	18	24
04:00	05:00	12	27	39
04:15	05:15	13	34	47
04:30	05:30	23	40	63
04:45	05:45	38	56	94
05:00	06:00	45	66	111
05:15	06:15	60	95	155
05:30	06:30	64	129	193
05:45	06:45	69	142	211
06:00	07:00	82	154	236
06:15	07:15	99	163	262
06:30	07:30	92	126	218
06:45	07:45	128	136	264
07:00	08:00	216	177	393
07:15	08:15	309	195	504
07:30	08:30	438	250	688
07:45	08:45	528	278	806
08:00	09:00	541	278	819
08:15	09:15	542	297	839
08:30	09:30	522	325	847
08:45	09:45	473	328	801
09:00	10:00	452	332	784
09:15	10:15	401	345	746
09:30	10:30	378	351	729
09:45	10:45	374	369	743
10:00	11:00	366	384	750
10:15	11:15	396	383	779
10:30	11:30	384	372	756
10:45	11:45	380	364	744
11:00	12:00	400	372	772
11:15	12:15	396	376	772
11:30	12:30	435	404	839
11:45	12:45	445	448	893
15:45	16:45	355	572	927
16:00	17:00	281	483	764
16:15	17:15	243	465	708
16:30	17:30	173	438	611
16:45	17:45	149	385	534
17:00	18:00	191	459	650
17:15	18:15	186	402	588
17:30	18:30	197	375	572
17:45	18:45	186	323	509
18:00	19:00	164	283	447
18:15	19:15	149	250	399
18:30	19:30	121	206	327
18:45	19:45	99	171	270
19:00	20:00	85	146	231
19:15	20:15	66	113	179
19:30	20:30	60	97	157
19:45	20:45	48	92	140
20:00	21:00	40	86	126
20:15	21:15	37	84	121
20:30	21:30	28	84	112
20:45	21:45	28	80	108
21:00	22:00	23	79	102
21:15	22:15	20	68	88
21:30	22:30	20	62	82
21:45	22:45	15	45	60
22:00	23:00	16	50	66
22:15	23:15	15	53	68
22:30	23:30	14	51	65
22:45	23:45	13	47	60
23:00	00:00	9	24	33
23:15	00:15	5	21	26
23:30	00:30	5	16	21
23:45	00:45	5	13	18