

Proposed Roadside Service Area

Meifod Farm, Bontnewydd

CT/220097/TN01 – 29 June 2022

Introduction

1. SCP have been commissioned by Mr Brymer to provide transport planning advice in support of a pre-application submission for a proposed Roadside Service Area (RSA) on land adjacent to Meifod Roundabout at the new Caernarfon Bontnewydd bypass (A487), Ffordd Bont Saint, Bontnewydd, Gwynedd.
2. The site location is shown in relation to the local highway network on **Figure 1** below.

Figure 1 – Site Location Plan



Background

3. The A487 Caernarfon Bontnewydd bypass opened in February 2022 and is one of the Welsh Government's largest infrastructure projects in North Wales. The 9.8km long bypass has been built from the Goat Roundabout on the A499/A487 junction to the Plas Menai Roundabout, bypassing Llanwnda, Dinas, Bontnewydd and Caernarfon.
4. The Compulsory Purchase Order justification for the bypass proposals identified the Meifod Roundabout, located immediately north-west of the site, to be the busiest on the route with forecast 2033 daily traffic volumes of 25,570 vehicles. This roundabout was also identified as being the only roundabout on the newly constructed section of road with brown tourist route signs denoting the route into the tourist town of Caernarfon. Therefore, this area of the bypass is considered to be a key node and the site provides a highly accessible and convenient location for motorists on the new bypass.
5. This Technical Note has been produced to support the pre-application submission and demonstrate that safe and suitable access can be provided to the site.

Existing Conditions

6. The application site is located to the east of the A4871 Pwllheli Road, immediately south-east of Meifod Roundabout and the new A487 Caernarfon Bontnewydd bypass, as shown on **Figure 1** earlier.

Local Highway Network

7. The A4871 Pwllheli Road fronts the western site boundary and provides a connection between Bontnewydd, to the south, and Caernarfon to the north. The A4871 Pwllheli Road is subject to a 40mph speed limit to the north of the site and a 30mph speed limit to the south of the site.
8. Meifod Roundabout is a 4-arm roundabout located immediately north-west of the site whereby the A487 Caernarfon Bontnewydd bypass forms the eastern and western arms and the A4871 Pwllheli Road forms the northern and southern arms.
9. The A487 Caernarfon Bontnewydd bypass forms part of the strategic road network in North Wales and, as detailed earlier, provides a link between the Goat Roundabout on the A499/A487 junction to the Plas Menai Roundabout, bypassing Llanwnda, Dinas, Bontnewydd and Caernarfon. The A487 then continues north-east and connects with the A55 North Wales Expressway to the south-west of Bangor.

Road Safety Record

10. In order to identify critical locations on the network with a poor accident record, the personal injury accident data has been obtained from the online resource CrashMap for the most recently available 5-year period. The location and severity of any accidents within the study area during this period, are shown in **Figure 2** below.

Figure 2 – Road Safety Record



11. As can be seen from **Figure 2** above, only one accident was recorded in the study area during the 5-year study period, which took place approximately 50m south of the site and resulted in 'slight' severity injuries.

12. Whilst it is acknowledged that the accident record along the A4871 Pwllheli Road in the vicinity of the site is largely irrelevant due to the recent highway changes associated with the A487 Caernarfon Bontnewydd bypass, the recently constructed Meifod Roundabout and alignment of the A4871 Pwllheli Road northbound approach will act as a natural traffic calming feature in this location, helping to maintain lower traffic speeds in the vicinity of the site.
13. Therefore, the evidence presented above and illustrated in **Figure 2** demonstrates that the area in the vicinity of the site does not have any recurring highway safety problems that could be affected by the development proposals.

Proposed Development

14. The proposed development is for a new RSA on land adjacent to Meifod Roundabout at the new Caernarfon Bontnewydd bypass (A487), Ffordd Bont Saint, Bontnewydd, Gwynedd.
15. The application site is considered the optimum location on the new bypass given that it is located immediately south-east of the Meifod Roundabout which is a high-capacity junction that has been designed to a high standard. Furthermore, RSAs are required to provide important facilities for motorists to take a break and should therefore be provided at a location with high traffic flows in order to offer the greatest benefit to motorists. This location of the bypass is in such a location and has been identified to carry the highest volume of traffic along the bypass, with forecast 2033 daily traffic volumes of 25,570 vehicles.
16. The proposed site layout is provided in **Appendix A** and demonstrates the proposed RSA will comprise the following:
 - 274m² drive-thru restaurant with 59 parking spaces including 6 waiting bays, 2 disabled bays and 3 EV bays
 - 197m² drive-thru coffee shop with 34 parking spaces including 6 waiting bays, 2 disabled bays and 3 EV bays
 - 361m² PFS kiosk and forecourt with 6 fuel pumps for up to 12 LGVs and 2 fuel pumps for up to 3 HGVs
 - 4 HGV and coach parking spaces/rest areas
 - Park & Rest facility with 30 parking bays including 2 disabled bays
 - Bus stop and tourist information point
 - Additional parking for 46 cars including 3 disabled bays and 13 EV bays

- Picnic area, cycle storage and rewilding area etc.
17. As a whole, the proposed development provides a total of 4 HGV parking bays / waiting areas and 169 car parking bays including 12 drive-thru waiting bays, 9 disabled bays and 19 EV bays.
 18. Having regard to the above, the development proposal will provide essential roadside infrastructure allowing motorists and tourists to take a break from driving and refuel in an area which is currently lacking such facilities.

Proposed Access

19. Vehicular access to the development will be provided from the A4871 Pwllheli Road, as shown on drawing number SCP/220097/D01 Rev A, presented in **Appendix B**. The access has been designed with a 7.2m wide carriageway and to allow two 16.5m HGVs to access and egress the site simultaneously, as shown on drawing number SCP/220097/D01 Rev A, presented in **Appendix B**.
20. Junction visibility to the north of the site access has been calculated based on the visibility requirements set out in the TAN18 for a 40mph road, providing visibility splays that have an 'x' (minor arm setback distance) of 2.4m and a minimum 'y' (major road visibility) distance of 120m. To the south, the A4871 Pwllheli Road is subject to a 30mph speed limit and whilst the speed limit increases to 40mph on approach to the Meifod Roundabout, approximately 75m south of the proposed site access, it is considered appropriate to base the southern visibility splay on the visibility requirements set out in the TAN18 for a 30mph road (2.4m x 90m) for the following reasons:
 - The visibility requirements set out in the TAN18 for a 30mph road (2.4m x 90m) includes an allowance for motorists travelling at 10kph above the speed limit.
 - As detailed earlier, the recently constructed Meifod Roundabout and the alignment of the A4871 Pwllheli Road northbound approach will act as a natural traffic calming feature in this location, helping to maintain lower traffic speeds in the vicinity of the site.
21. As shown on drawing number SCP/220097/D01 Rev A, presented in **Appendix B**, the aforementioned visibility splays of 2.4m x 120m to the north and 2.4m x 90m to the south are achievable.

22. The proposed simple priority-controlled junction is considered acceptable and a ghost island right-turn lane is not considered necessary when having regard to the proposed traffic movements anticipated to turn right into the site, as detailed later, which estimates 1 vehicle will turn right every 10 minutes in the AM and PM peak hours and every 5 minutes in the Saturday peak hour. This level of traffic will not cause any material delay to through traffic on the A4871 Pwllheli Road.

Proposed Parking

23. Gwynedd Council do not currently have their own local parking standards, however, their parking requirements are currently assessed against the CSS Wales Parking Standards which outlines a requirement for the following:

Cafes & Drive-Thru Restaurants

- 1 commercial vehicle space
- 1 space per 3 non-resident staff
- 1 space per 14m² of dining area
- Restaurants including drive through facilities for ordering and collecting food by car must have an internal segregated access for this purpose and be provided with a minimum of 6 waiting spaces.

Petrol Filling Station

24. The CSS Wales Parking Standards do not contain any parking standards for PFSs and 'shops' is considered the most applicable use for this element of the site which has a requirement for the following:
- 2 commercial vehicle spaces
 - 1 space per 20m²
25. As shown on the site layout plan contained in **Appendix A**, a total of 169 car parking bays are proposed including 12 drive-thru waiting bays, 9 disabled bays and 19 EV bays which is in excess of the parking standards currently adopted by the Council and allows for ample space for staff and spikes in demand during busy periods such as bank holiday weekends.

26. The level of car parking proposed has also been compared against parking standards identified in the ‘*The Strategic Road Network and the Delivery of Sustainable Development*’ document. This document states the number of car parking spaces should be provided in accordance with 0.5% of the total car and light goods vehicles daily flow. The total parking provision of 179 car parking spaces is in excess of these standards when considering the forecast 2033 daily traffic volumes of 25,570 vehicles at the Meifod Roundabout, detailed earlier.
27. A total of 4 HGV and coach parking spaces are also provided which will help to provide additional HGV parking capacity along this section of the strategic road network.
28. In addition, cycle parking for the various uses on site is proposed in excess of the standards currently adopted by the Council.

Trip Generation

29. In order to estimate the trip generating potential of the proposed RSA, average trip rates from the industry-standard TRICS Database have been obtained. The selection criteria for the TRICS based trip rates is as follows:-
 - i) Hotel, Food & Drink;
 - ii) Motorway Service Areas;
 - iii) Multi modal surveys;
 - iv) Selection by GFA;
 - v) Sites in Greater London and Ireland not selected;
 - vi) Sites classified as ‘Edge of Town’ and ‘Free Standing’ selected;
30. The multi modal TRICS outputs for the existing site are presented in **Appendix C** and are summarised in **Table 1** below:-

Table 1 – Estimated Trip Rates (per Parking Space) Associated with the Proposed Development

Mode	Weekday AM (08:00 to 09:00)		Weekday PM (17:00 to 18:00)		Saturday (11:00-12:00)	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
Vehicles	5.511	5.138	5.302	5.494	11.515	10.121

31. When applied to the proposed RSA combined GFA (832m²), this results in the following estimated level of trip generation:-

Table 2 – Estimated Trip Generation Associated with the Proposed Development

Mode	Weekday AM (08:00 to 09:00)		Weekday PM (17:00 to 18:00)		Saturday (11:00-12:00)	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
Vehicles	46	43	44	46	96	84

Traffic Distribution

- 32. The majority of trips generated by the proposed development will be pass-by trips and diverted trips that are already on the network given that individuals will not make a dedicated / primary trip to the RSA.
- 33. The distribution for the site has therefore been based on the relative proportion of forecast 2033 traffic flows on all four approaches to Meifod Roundabout, as shown diagrammatically on **Traffic Flow Figure 1**.

Traffic Assignment

- 34. The trip generation estimates for the development are assigned to the network using the above distribution methodology and are shown on **Traffic Flow Figure 2**.
- 35. Whilst the majority of trips generated by the proposed development will be pass-by trips and diverted trips that are already on the network, the development will result in a change in turning movements at the Meifod Roundabout. Consequently, the proposed RSA will result in an increase of 43, 46 and 86 two-way vehicle movements in the AM, PM and Saturday peak hours respectively, as shown on **Traffic Flow Figure 2**.
- 36. Volumetrically, this equates to less than 1 additional vehicle movement per minute in the AM and PM peak hours which cannot be considered material, particularly given that the majority of trips are already on the network, and therefore, a detailed capacity assessment of the AM and PM peak hours should not be required. Whilst an additional 1-2 vehicle movements per minute are anticipated in the Saturday peak hour, this is also not considered material when considering the majority of trips are already on the network and the Meifod Roundabout is a high-capacity junction. Therefore, a detailed capacity assessment of the Saturday peak hour is also not considered necessary.
- 37. A detailed capacity assessment will be undertaken of the site access during the AM, PM and Saturday peak hours in the future assessment year of 2027 (year of application + 5 years).

TA Scope

38. The proposed structure and scope of the TA is set out below:-
- **Existing Conditions** – a detailed description will be provided of the site location, surrounding area, local highway network, existing traffic conditions and 5-year road safety record;
 - **Proposed Development** – a detailed description will be provided of the proposed development including the access strategy, servicing and car parking arrangements;
 - **Accessibility** – the location of the site with regard to the existing local sustainable transport infrastructure will be reviewed / assessed;
 - **Future Baseline Traffic Conditions** - the future baseline traffic conditions on the local highway network in relation to committed development traffic flows and traffic growth will be identified;
 - **Trip Generation and Distribution** – estimates of the number of vehicular trips generated by the development along with their distribution and assignment will be provided, in line with the approach detailed earlier in this note; and,
 - **Highway Impact** – a detailed operational assessment will be undertaken at the site access only.
39. SCP welcome Gwynedd Council's and the Welsh Government's pre-application comments/acceptance of the proposed scope of the TA.

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APPENDIX A



PARKING

DRIVE THRU COFFEE	- 34 SPACES (3 EV)
DRIVE THRU RESTAURANT	- 59 SPACES (3 EV)
FFS	- 36 SPACES (3 EV)
REST AREA	- 30 SPACES
PASSIVE EV	- 10 SPACES
TOTAL SPACES	- 169

A
05 Proposed Site Layout
1:500@A1

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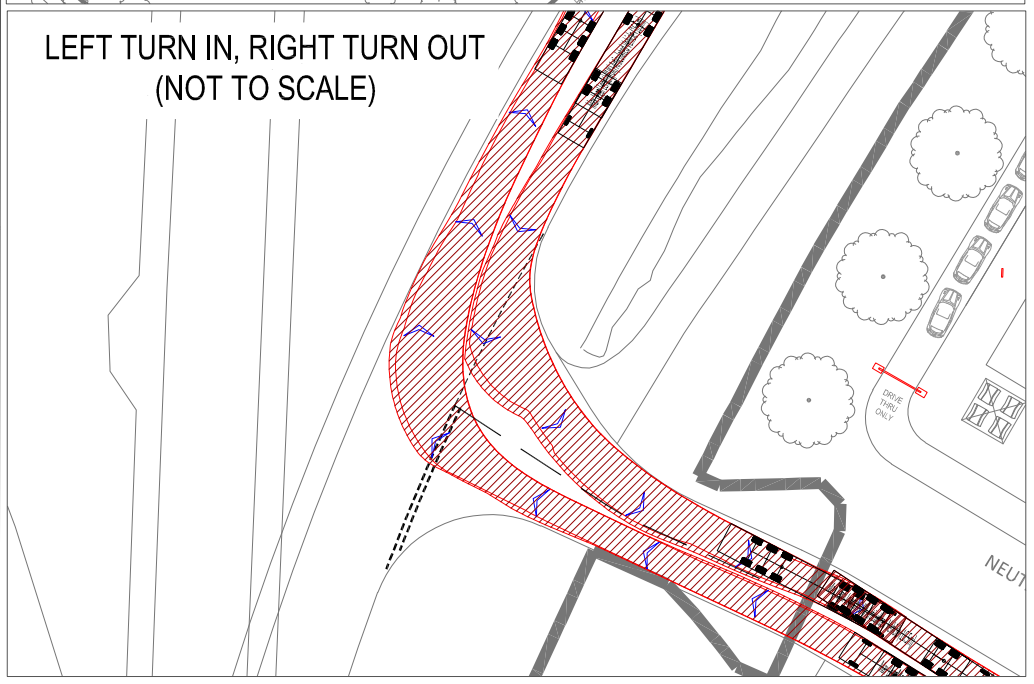
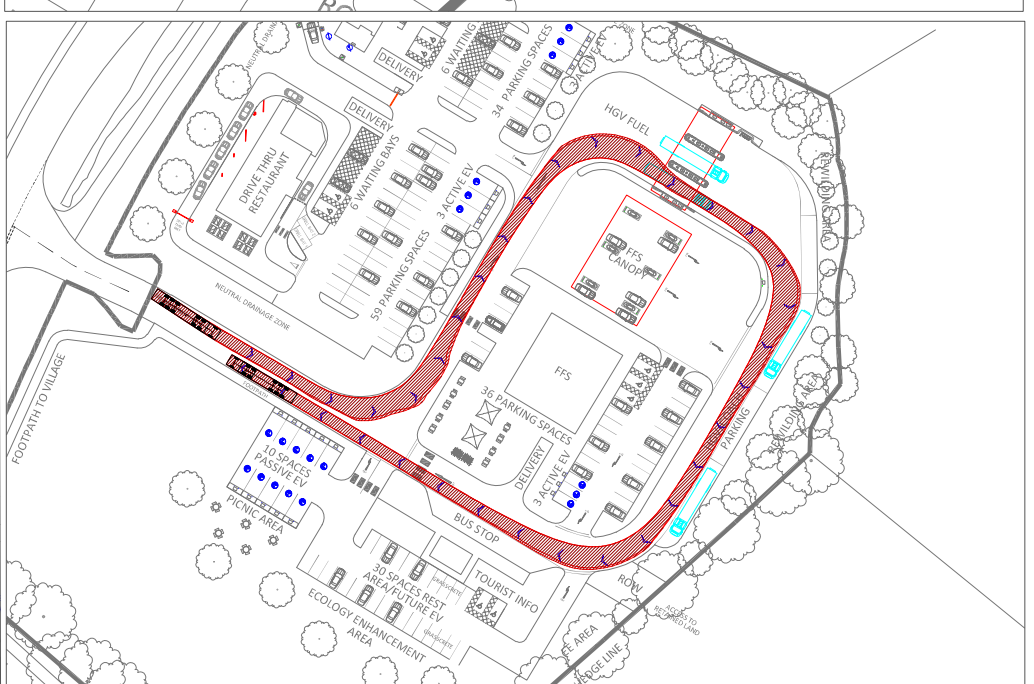
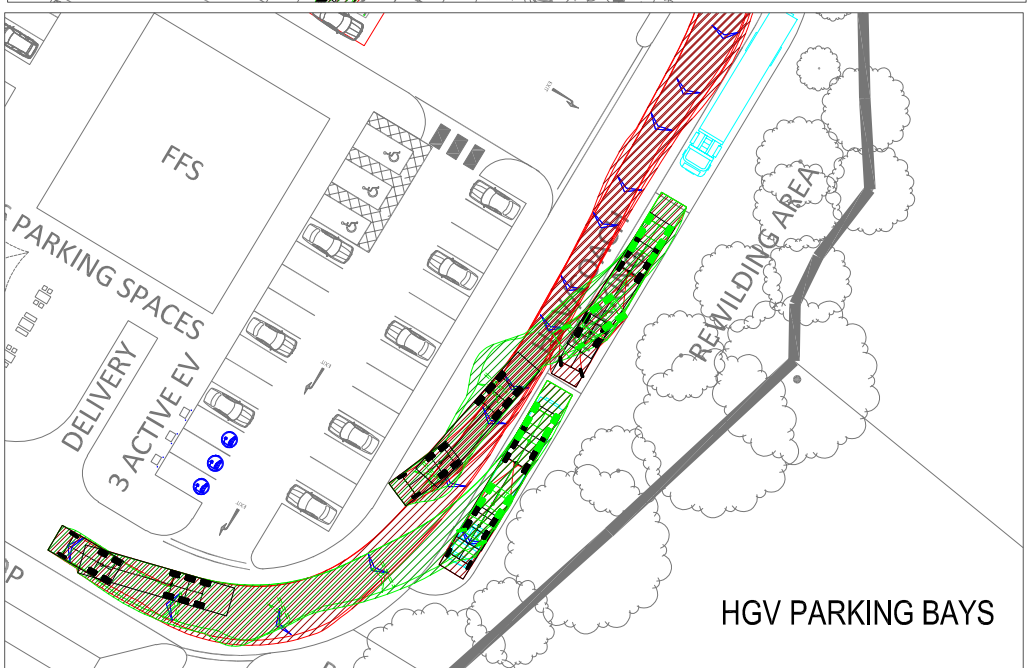
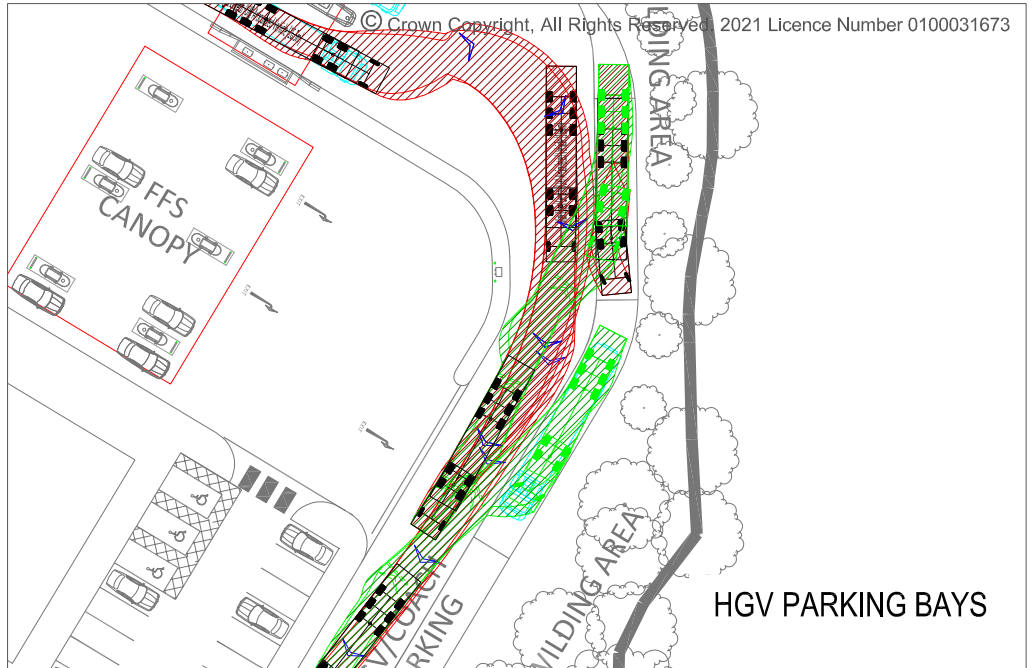
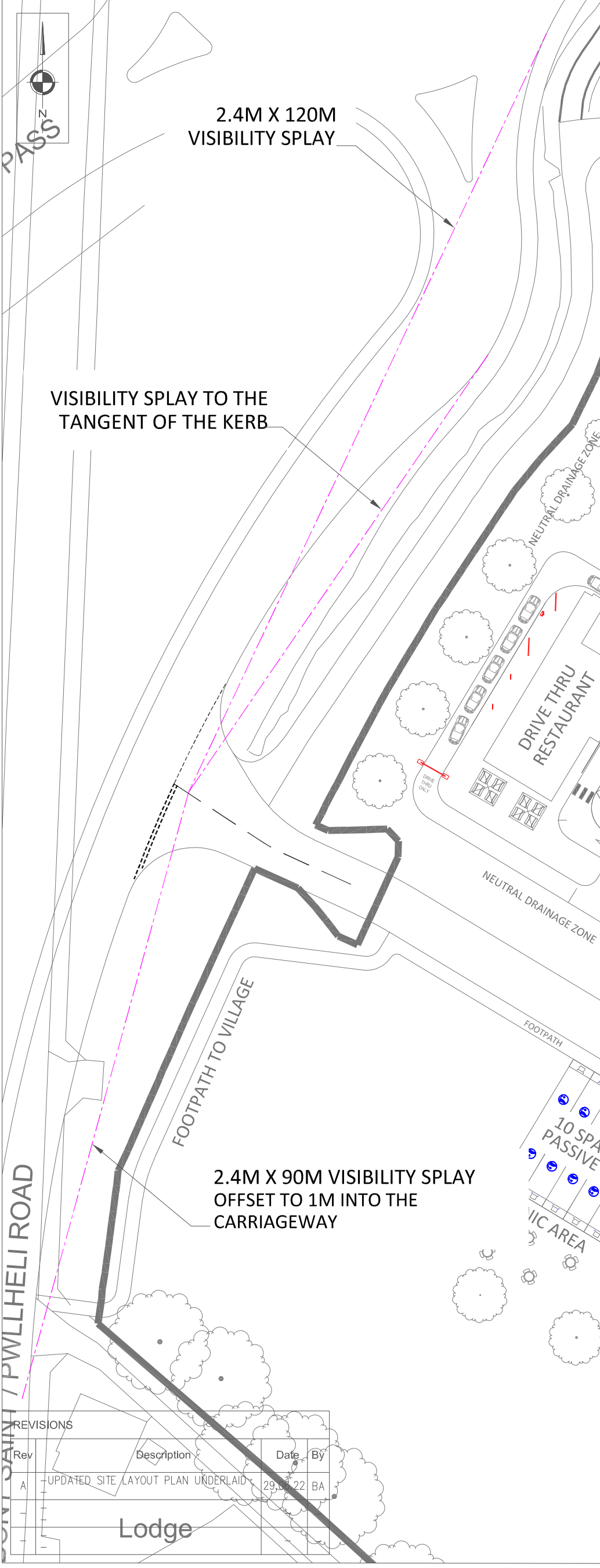
Project: PROPOSED SERVICE AREA
CAERNARFON BONTNEWYDD
BYPASS

Drawing: PROPOSED
SITE LAYOUT

Purpose: PRELIMINARY Date: 18.03.22
Scale: 1:500@A1 Drawn: MRK
Dwg. No: J9320 - 05 Revision: B

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APPENDIX B



Rev	Description	Date	By
A	UPDATED SITE LAYOUT PLAN UNDERLAID	29.05.22	BA

Lodge

SCP
Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk

Client	CORPORATE PROPERTY PARTNERS LTD
Project Title	MEIFOD FARM, BONTNEWYDD

Drawing Title	SWEPT PATH ANALYSIS AND VISIBILITY SPLAYS
---------------	-------------------------------------------

Scale	1:1000 @ A3
Date	03.05.2022
Approved/Unapproved	-

By	AM
Checked	CT
Status	PLANNING

Drawing No.	SCP/220097/D01
Revision	A

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APPENDIX C

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : F - MOTORWAY SERVICE AREAS (res./PFS/mot)

TOTAL VEHICLESSelected regions and areas:

02 SOUTH EAST	
KC KENT	1 days
03 SOUTH WEST	
DV DEVON	1 days
04 EAST ANGLIA	
CA CAMBRIDGESHIRE	1 days
05 EAST MIDLANDS	
LN LINCOLNSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
WY WEST YORKSHIRE	1 days
09 NORTH	
DH DURHAM	1 days
11 SCOTLAND	
SR STIRLING	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: 2500 to 6700 (units: sqm)
 Range Selected by User: 200 to 6930 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 27/10/18

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

Selected survey days:

Tuesday	4 days
Thursday	1 days
Friday	2 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	1
Free Standing (PPS6 Out 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	1
Out of Town	6

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

Secondary Filtering selection:Use Class:

n/a 7 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less 5 days

1,001 to 5,000 2 days

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

Population within 5 miles:

25,001 to 50,000 1 days

50,001 to 75,000 1 days

75,001 to 100,000 1 days

100,001 to 125,000 4 days

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

Car ownership within 5 miles:

0.5 or Less 1 days

1.1 to 1.5 5 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 7 days

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

PTAL Rating:

No PTAL Present 7 days

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

LIST OF SITES relevant to selection parameters

1	CA-06-F-01	SERVICE STATION	CAMBRIDGESHIRE
	A14		
	CAMBRIDGE		
	BOXWORTH		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	6000 sqm	
	Survey date: FRIDAY	12/10/12	Survey Type: MANUAL
2	DH-06-F-02	ROAD CHEF	DURHAM
	TURSDALE ROAD		
	NEAR DURHAM		
	BOWBURN		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	2500 sqm	
	Survey date: TUESDAY	20/11/12	Survey Type: MANUAL
3	DV-06-F-02	MOTO	DEVON
	M5 MOTORWAY		
	EXETER		
	SANDYGATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	6700 sqm	
	Survey date: TUESDAY	18/09/07	Survey Type: MANUAL
4	KC-06-F-01	ROADCHEF	KENT
	M20 (JUNCTION 8)		
	NEAR MAIDSTONE		
	EYHORNE STREET		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	4069 sqm	
	Survey date: TUESDAY	22/05/18	Survey Type: MANUAL
5	LN-06-F-01	MOTO	LINCOLNSHIRE
	A1/GREAT NORTH ROAD		
	NEAR GRANTHAM		
	GONERBY MOOR		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	3058 sqm	
	Survey date: FRIDAY	06/10/17	Survey Type: MANUAL
6	SR-06-F-01	MOTO	STIRLING
	JUNC.9 M9/M80		
	STIRLING		
	PIRNHILL		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	3250 sqm	
	Survey date: TUESDAY	01/05/07	Survey Type: MANUAL
7	WY-06-F-01	MOTO	WEST YORKSHIRE
	JUNCTION 38/39 M1		
	WAKEFIELD		
	NEAR WEST BRETTON		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	3600 sqm	
	Survey date: THURSDAY	13/09/07	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 06 - HOTEL, FOOD & DRINK/F - MOTORWAY SERVICE AREAS (res./PFS/mot

TOTAL VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	3058	1.766	1	3058	1.995	1	3058	3.761
07:00 - 08:00	7	4168	4.079	7	4168	4.082	7	4168	8.161
08:00 - 09:00	7	4168	5.511	7	4168	5.138	7	4168	10.649
09:00 - 10:00	7	4168	5.936	7	4168	5.751	7	4168	11.687
10:00 - 11:00	7	4168	6.526	7	4168	6.296	7	4168	12.822
11:00 - 12:00	7	4168	7.667	7	4168	6.834	7	4168	14.501
12:00 - 13:00	7	4168	8.568	7	4168	8.054	7	4168	16.622
13:00 - 14:00	7	4168	7.821	7	4168	8.346	7	4168	16.167
14:00 - 15:00	7	4168	6.392	7	4168	7.105	7	4168	13.497
15:00 - 16:00	7	4168	5.782	7	4168	6.169	7	4168	11.951
16:00 - 17:00	7	4168	6.450	7	4168	6.087	7	4168	12.537
17:00 - 18:00	7	4168	5.302	7	4168	5.494	7	4168	10.796
18:00 - 19:00	7	4168	5.025	7	4168	5.100	7	4168	10.125
19:00 - 20:00	7	4168	3.588	7	4168	3.839	7	4168	7.427
20:00 - 21:00	7	4168	2.440	7	4168	2.533	7	4168	4.973
21:00 - 22:00	1	4069	1.868	1	4069	1.868	1	4069	3.736
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			84.721			84.691			169.412

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

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

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Parameter summary

Trip rate parameter range selected:	2500 - 6700 (units: sqm)
Survey date range:	01/01/05 - 27/10/18
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : F - MOTORWAY SERVICE AREAS (res./PFS/mot)

TOTAL VEHICLESSelected regions and areas:

07 YORKSHIRE & NORTH LINCOLNSHIRE
 WY WEST YORKSHIRE 1 days
09 NORTH
 TW TYNE & WEAR 1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 2000 to 6398 (units: sqm)
 Range Selected by User: 200 to 6930 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 27/10/18

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

Selected survey days:

Saturday 2 days

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

Selected survey types:

Manual count 2 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:

Edge of Town 1
 Free Standing (PPS6 Out of Town) 1

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

Selected Location Sub Categories:

Out of Town 1
 No Sub Category 1

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

Secondary Filtering selection:Use Class:

n/a 2 days

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

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	2 days
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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	2 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
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This data displays the number of selected surveys with PTAL Ratings.

SCP York Street Manchester

Licence No: 726001

LIST OF SITES relevant to selection parameters

1	TW-06-F-01	MOTO		TYNE & WEAR
	A1(M)			
	WASHINGTON			
	BIRTLEY			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:		2000 sqm	
	Survey date: SATURDAY		20/10/18	Survey Type: MANUAL
2	WY-06-F-02	MOTO		WEST YORKSHIRE
	A1(M)			
	WETHERBY			
	Free Standing (PPS6 Out of Town)			
	Out of Town			
	Total Gross floor area:		6398 sqm	
	Survey date: SATURDAY		27/10/18	Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/F - MOTORWAY SERVICE AREAS (res./PFS/mot

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	2	4199	3.691	2	4199	3.489	2	4199	7.180
07:00 - 08:00	2	4199	5.180	2	4199	4.834	2	4199	10.014
08:00 - 09:00	2	4199	6.311	2	4199	6.121	2	4199	12.432
09:00 - 10:00	2	4199	6.954	2	4199	5.954	2	4199	12.908
10:00 - 11:00	2	4199	7.680	2	4199	7.609	2	4199	15.289
11:00 - 12:00	2	4199	11.515	2	4199	10.121	2	4199	21.636
12:00 - 13:00	2	4199	12.384	2	4199	12.563	2	4199	24.947
13:00 - 14:00	2	4199	12.134	2	4199	12.777	2	4199	24.911
14:00 - 15:00	2	4199	11.955	2	4199	12.277	2	4199	24.232
15:00 - 16:00	2	4199	9.717	2	4199	10.979	2	4199	20.696
16:00 - 17:00	2	4199	9.074	2	4199	9.443	2	4199	18.517
17:00 - 18:00	2	4199	9.193	2	4199	9.574	2	4199	18.767
18:00 - 19:00	2	4199	9.371	2	4199	8.812	2	4199	18.183
19:00 - 20:00	2	4199	7.276	2	4199	7.764	2	4199	15.040
20:00 - 21:00	2	4199	4.120	2	4199	3.537	2	4199	7.657
21:00 - 22:00	2	4199	2.822	2	4199	3.072	2	4199	5.894
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			129.377			128.926			258.303

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

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

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Parameter summary

Trip rate parameter range selected:	2000 - 6398 (units: sqm)
Survey date range:	01/01/05 - 27/10/18
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	2
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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