

BRYAN G HALL

CONSULTING CIVIL & TRANSPORTATION PLANNING ENGINEERS

Project Name:	Dearne Valley Parkway, Barnsley				
Client:	Gregory Property Group				
Subject:	Car Parking Technical Note				
BGH Reference:	20-262-005.02				
Date:	November 2022				
Prepared by:	D McLean	Checked by:	A Bradley	Overview by:	M Crabtree

Introduction

1. This Note has been prepared by Bryan G Hall (BGH) following the receipt of a third Highways consultation response from Barnsley Metropolitan Borough Council (BMBC) in October 2022, in relation to planning application number 2021/0479. The response is in relation to concerns regarding the proposed level of parking provision for a mixed B2/B8 industrial estate.
2. The planning application seeks permission for a B2/B8 industrial estate on land served from the A6195 Dearne Valley Parkway, Birdwell, Barnsley, South Yorkshire. Consultation comments were previously received from National Highways in June 2021, which were addressed in a previous Note prepared by BGH dated September 2021 (document reference 20-262-003.01). No further comments have been raised by National Highways.
3. Highways consultation responses have been provided previously by BMBC in March 2022 and August 2022, concerns raised in these previous responses have been addressed by BGH in various responses.
4. This Note seeks to alleviate BMBC's remaining concerns regarding the proposed level of car parking provision and to ultimately remove any Highways objections on the application.

Car Parking Standards

5. The car parking standards for new developments within Barnsley are contained within Table 1 of the Barnsley Supplementary Planning Document (SPD) Parking (2019). Table 1 of this report summarises the recommended parking provision based on these standards for both B2 and B8 land uses and it also details how many parking spaces the proposed development will provide.
6. Additional parking spaces have been included within the service yards to further increase the parking provision; it is envisaged that these spaces will only be required in the event that proposed units come forward as B2 land use as this is likely to generate a larger parking demand than B8 use.

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Table 1: Required and Proposed Parking Provision

Unit	GFA of unit (m ²)	B2 - 1 space per 50m ² >2500 or 1 space per 60m ² between 500m ² and 2500m ²	B8 - 1 space per 60m ² up to 300m ² GFA, plus 1 space per 100m ² up to 1,000m ² GFA, plus 1 space per 150m ² GFA thereafter	Number of Spaces Proposed (without service yard parking)	Number of Spaces Proposed in service yard	Total spaces proposed including service yard
Unit 1	2,375.00	40	21	24	16	40
Unit 2	5,216.00	104	40	52	59	111
Unit 3	3,995.00	80	32	42	19	61
Total	11,586	224	93	118	94	212

7. Based on the Parking SPD for B8 land use it is recommended that the proposed development provides 1 space per 60m² up to 300m² GFA plus 1 space per 100m² up to 1,000m² GFA plus 1 space per 150m² GFA thereafter. The number of spaces recommended based on the guidance is therefore 93 spaces for B8 land use. As indicated in Table 1 the number of spaces proposed without service yard parking is 118 in total and each Unit provides a suitable number of parking spaces.
8. Based on the Parking SPD for B2 land use it is recommended that the proposed development provides 1 space per 60m² GFA for Unit 1, and 1 space per 50m² GFA for Units 2 and 3. In line with the recommended rates, the proposed development would require 224 spaces to accommodate a scenario whereby all units are occupied for B2 uses. The proposed number of parking spaces including parking within the service yards is 212 and is therefore 12 spaces fewer than the recommended 224. The recommended number of parking spaces is considered excessive, and this level of parking provision would be an over-provision for this site. It is therefore proposed to provide a total of 212 parking spaces. This Note will further demonstrate that the proposed level of car parking is sufficient through a car parking accumulation exercise.

TRICS Trip Rates

9. To estimate the number of vehicles which will arrive and depart the site across the day, the TRICS database has been interrogated to obtain hourly trip rates across the day for a B2 land use. Sites similar to the proposed development have been included within the TRICS output, with two sites being removed, one site was removed as it was surveyed when COVID-19 restrictions were in place and a second site was removed due to the office provision at the site being higher than expected for a B2 site.

10. The TRICS output is attached at **Appendix BGH1** and the resulting trip rates are detailed in Table 2.

Table 2: B2 Trip Rates per 100sqm

Time	Arrivals	Departures
05:00	0.098	0
06:00	0.011	0
07:00	0.896	0.081
08:00	0.252	0.126
09:00	0.147	0.116
10:00	0.091	0.077
11:00	0.035	0.084
12:00	0.109	0.137
13:00	0.151	0.189
14:00	0.144	0.109
15:00	0.312	0.165
16:00	0.119	0.872
17:00	0.067	0.273
18:00	0.046	0.151
19:00	0	0
20:00	0	0

11. In order to be robust, trip rates marginally higher than the ones used within the TA have been used for the purposes of the car parking accumulation exercise.

Car Parking Accumulation

12. The trip rates in Table 2 have been applied to each unit, and the accumulation and percentage occupancy of each unit is detailed in Table 3. Full details of the car park accumulation is provided in **Appendix BGH2**.

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Table 3: B2 Trip Rates

Time	Unit 1 (40 spaces)		Unit 2 (111 spaces)		Unit 3 (61 spaces)	
	Accumulation	Occupancy	Accumulation	Occupancy	Accumulation	Occupancy
05:00	2	6%	5	5%	4	6%
06:00	3	6%	6	5%	4	7%
07:00	22	55%	48	43%	37	61%
08:00	25	62%	55	49%	42	69%
09:00	26	64%	56	51%	43	71%
10:00	26	65%	57	51%	44	72%
11:00	25	62%	55	49%	42	69%
12:00	24	60%	53	48%	41	67%
13:00	23	58%	51	46%	39	64%
14:00	24	60%	53	48%	41	66%
15:00	28	69%	61	55%	46	76%
16:00	10	24%	21	19%	16	27%
17:00	5	12%	11	10%	8	13%
18:00	2	6%	5	5%	4	6%
19:00	2	6%	5	5%	4	6%
20:00	2	6%	5	5%	4	6%

13. It can be seen from Table 3 that all units will comfortably be able to accommodate the expected parking demand. A maximum occupancy of 76% can be seen for Unit 3 at 15:00. A robust Travel Plan will be in place which will further reduce the parking demand. In addition to this, the site is located within an area which is in the process of significant ongoing development, including the provision of pedestrian and cycle links. This will encourage journeys to and from the site on foot and by bike, thereby reducing the number of car trips associated with the development. It is therefore considered that the level of parking provision at this development, as stated in the recommended parking standards within the Parking SPD, should be considered on its own merits.
14. This exercise predicts that there will be no overspill car parking onto the industrial estate access road or local highway network.

Summary and Conclusions

15. This Note has been prepared by BGH to address concerns raised by BMBC Highways relating to the proposed car park provision.
16. It has been demonstrated that the proposed level of car parking is sufficient and that all development generated trips will be accommodated within each unit's car park in the event that the entire development comes forward with B2 land use.
17. It is therefore considered that there are no justifiable transport reasons for this planning application to be refused.

Appendices

Appendix BGH1 – TRICS Output

Appendix BGH2 – Car Parking Accumulation

APPENDIX BGH 1

Calculation Reference: AUDIT-604801-221007-1052

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
08	NORTH WEST	
	AC CHESHIRE WEST & CHESTER	1 days
12	CONNAUGHT	
	RO ROSCOMMON	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: 8100 to 20700 (units: sqm)
 Range Selected by User: 7000 to 25000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 10/11/21

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:

Wednesday 3 days

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

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town 3

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

Selected Location Sub Categories:

Industrial Zone 2
 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.

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Secondary Filtering selection:

Use Class:

Not Known

3 days

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

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000

2 days

10,001 to 15,000

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

75,001 to 100,000

1 days

125,001 to 250,000

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

3 days

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

Travel Plan:

No

3 days

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

PTAL Rating:

No PTAL Present

3 days

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

LIST OF SITES relevant to selection parameters

- | | | |
|---|--|--|
| 1 | AC-02-C-02
JUPITER DRIVE
CHESTER
CHESTER W. EMP. PARK
Edge of Town
Industrial Zone
Total Gross floor area: 8100 sqm
Survey date: WEDNESDAY 19/11/14 | INDUSTRIAL MATERIALS

CHESHIRE WEST & CHESTER

Survey Type: MANUAL |
| 2 | RO-02-C-01
N66
ATHLONE

Edge of Town
No Sub Category
Total Gross floor area: 11250 sqm
Survey date: WEDNESDAY 24/09/14 | PHARMACEUTICAL SUPPLIES

ROSCOMMON

Survey Type: MANUAL |
| 3 | WK-02-C-01
CASTLE MOUND WAY
RUGBY

Edge of Town
Industrial Zone
Total Gross floor area: 9216 sqm
Survey date: WEDNESDAY 10/11/21 | MACHINE ENGINEERING

WARWICKSHIRE

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 SURVEYS

Site Ref	Survey Date	Reason for Deselection
DN-02-C-01	28/09/20	COVID-19 RESTRICTIONS
WS-02-C-02	23/01/14	Higher percentage of office than expected

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

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	9216	0.098	1	9216	0.000	1	9216	0.098
06:00 - 07:00	1	9216	0.011	1	9216	0.000	1	9216	0.011
07:00 - 08:00	3	9522	0.896	3	9522	0.081	3	9522	0.977
08:00 - 09:00	3	9522	0.252	3	9522	0.126	3	9522	0.378
09:00 - 10:00	3	9522	0.147	3	9522	0.116	3	9522	0.263
10:00 - 11:00	3	9522	0.091	3	9522	0.077	3	9522	0.168
11:00 - 12:00	3	9522	0.035	3	9522	0.084	3	9522	0.119
12:00 - 13:00	3	9522	0.109	3	9522	0.137	3	9522	0.246
13:00 - 14:00	3	9522	0.151	3	9522	0.189	3	9522	0.340
14:00 - 15:00	3	9522	0.144	3	9522	0.109	3	9522	0.253
15:00 - 16:00	3	9522	0.312	3	9522	0.165	3	9522	0.477
16:00 - 17:00	3	9522	0.119	3	9522	0.872	3	9522	0.991
17:00 - 18:00	3	9522	0.067	3	9522	0.273	3	9522	0.340
18:00 - 19:00	3	9522	0.046	3	9522	0.151	3	9522	0.197
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.478			2.380			4.858

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:	8100 - 20700 (units: sqm)
Survey date range:	01/01/14 - 10/11/21
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
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.

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

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
06:00 - 07:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
07:00 - 08:00	3	9522	0.011	3	9522	0.011	3	9522	0.022
08:00 - 09:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
09:00 - 10:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
10:00 - 11:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
11:00 - 12:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
12:00 - 13:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
13:00 - 14:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
14:00 - 15:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
15:00 - 16:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
16:00 - 17:00	3	9522	0.014	3	9522	0.014	3	9522	0.028
17:00 - 18:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
18:00 - 19:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.045			0.045			0.090

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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Licence No: 604801

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

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
06:00 - 07:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
07:00 - 08:00	3	9522	0.007	3	9522	0.004	3	9522	0.011
08:00 - 09:00	3	9522	0.021	3	9522	0.018	3	9522	0.039
09:00 - 10:00	3	9522	0.025	3	9522	0.025	3	9522	0.050
10:00 - 11:00	3	9522	0.021	3	9522	0.018	3	9522	0.039
11:00 - 12:00	3	9522	0.007	3	9522	0.018	3	9522	0.025
12:00 - 13:00	3	9522	0.014	3	9522	0.018	3	9522	0.032
13:00 - 14:00	3	9522	0.035	3	9522	0.014	3	9522	0.049
14:00 - 15:00	3	9522	0.007	3	9522	0.007	3	9522	0.014
15:00 - 16:00	3	9522	0.004	3	9522	0.014	3	9522	0.018
16:00 - 17:00	3	9522	0.000	3	9522	0.007	3	9522	0.007
17:00 - 18:00	3	9522	0.000	3	9522	0.004	3	9522	0.004
18:00 - 19:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.141			0.147			0.288

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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Licence No: 604801

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

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
06:00 - 07:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
07:00 - 08:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
08:00 - 09:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
09:00 - 10:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
10:00 - 11:00	3	9522	0.004	3	9522	0.000	3	9522	0.004
11:00 - 12:00	3	9522	0.000	3	9522	0.004	3	9522	0.004
12:00 - 13:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
13:00 - 14:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
14:00 - 15:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
15:00 - 16:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
16:00 - 17:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
17:00 - 18:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
18:00 - 19:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.012			0.024

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.

BRYAN G HALL JOSEPH'S WELL LEEDS

Licence No: 604801

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

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
06:00 - 07:00	1	9216	0.011	1	9216	0.000	1	9216	0.011
07:00 - 08:00	3	9522	0.007	3	9522	0.000	3	9522	0.007
08:00 - 09:00	3	9522	0.004	3	9522	0.000	3	9522	0.004
09:00 - 10:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
10:00 - 11:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
11:00 - 12:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
12:00 - 13:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
13:00 - 14:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
14:00 - 15:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
15:00 - 16:00	3	9522	0.000	3	9522	0.004	3	9522	0.004
16:00 - 17:00	3	9522	0.000	3	9522	0.014	3	9522	0.014
17:00 - 18:00	3	9522	0.000	3	9522	0.018	3	9522	0.018
18:00 - 19:00	3	9522	0.000	3	9522	0.007	3	9522	0.007
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.043			0.065

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.

BRYAN G HALL JOSEPH'S WELL LEEDS

Licence No: 604801

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

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	1	9216	0.087	1	9216	0.000	1	9216	0.087
06:00 - 07:00	1	9216	0.011	1	9216	0.000	1	9216	0.011
07:00 - 08:00	3	9522	0.840	3	9522	0.060	3	9522	0.900
08:00 - 09:00	3	9522	0.210	3	9522	0.102	3	9522	0.312
09:00 - 10:00	3	9522	0.077	3	9522	0.053	3	9522	0.130
10:00 - 11:00	3	9522	0.025	3	9522	0.025	3	9522	0.050
11:00 - 12:00	3	9522	0.025	3	9522	0.046	3	9522	0.071
12:00 - 13:00	3	9522	0.056	3	9522	0.095	3	9522	0.151
13:00 - 14:00	3	9522	0.091	3	9522	0.133	3	9522	0.224
14:00 - 15:00	3	9522	0.098	3	9522	0.067	3	9522	0.165
15:00 - 16:00	3	9522	0.266	3	9522	0.119	3	9522	0.385
16:00 - 17:00	3	9522	0.095	3	9522	0.798	3	9522	0.893
17:00 - 18:00	3	9522	0.056	3	9522	0.249	3	9522	0.305
18:00 - 19:00	3	9522	0.042	3	9522	0.147	3	9522	0.189
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.979			1.894			3.873

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.

BRYAN G HALL JOSEPH'S WELL LEEDS

Licence No: 604801

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

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	1	9216	0.000	1	9216	0.000	1	9216	0.000
06:00 - 07:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
07:00 - 08:00	3	9522	0.039	3	9522	0.007	3	9522	0.046
08:00 - 09:00	3	9522	0.018	3	9522	0.007	3	9522	0.025
09:00 - 10:00	3	9522	0.035	3	9522	0.032	3	9522	0.067
10:00 - 11:00	3	9522	0.039	3	9522	0.032	3	9522	0.071
11:00 - 12:00	3	9522	0.004	3	9522	0.018	3	9522	0.022
12:00 - 13:00	3	9522	0.035	3	9522	0.021	3	9522	0.056
13:00 - 14:00	3	9522	0.025	3	9522	0.042	3	9522	0.067
14:00 - 15:00	3	9522	0.039	3	9522	0.035	3	9522	0.074
15:00 - 16:00	3	9522	0.035	3	9522	0.025	3	9522	0.060
16:00 - 17:00	3	9522	0.011	3	9522	0.053	3	9522	0.064
17:00 - 18:00	3	9522	0.004	3	9522	0.007	3	9522	0.011
18:00 - 19:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.284			0.279			0.563

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.

BRYAN G HALL JOSEPH'S WELL LEEDS

Licence No: 604801

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

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	1	9216	0.011	1	9216	0.000	1	9216	0.011
06:00 - 07:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
07:00 - 08:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
08:00 - 09:00	3	9522	0.004	3	9522	0.000	3	9522	0.004
09:00 - 10:00	3	9522	0.004	3	9522	0.000	3	9522	0.004
10:00 - 11:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
11:00 - 12:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
12:00 - 13:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
13:00 - 14:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
14:00 - 15:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
15:00 - 16:00	3	9522	0.004	3	9522	0.004	3	9522	0.008
16:00 - 17:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
17:00 - 18:00	3	9522	0.004	3	9522	0.011	3	9522	0.015
18:00 - 19:00	3	9522	0.000	3	9522	0.000	3	9522	0.000
19:00 - 20:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
20:00 - 21:00	1	9216	0.000	1	9216	0.000	1	9216	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.015			0.042

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 BGH 2

Unit 1

Time	Total In	Total Out	Accumulation	Occupancy
AM Peak				
05:00	2	0	2	6%
06:00	0	0	3	6%
07:00	21	2	22	55%
08:00	6	3	25	62%
09:00	3	3	26	64%
10:00	2	2	26	65%
11:00	1	2	25	62%
12:00	3	3	24	60%
13:00	4	4	23	58%
14:00	3	3	24	60%
15:00	7	4	28	69%
16:00	3	21	10	24%
17:00	2	6	5	12%
18:00	1	4	2	6%
19:00	0	0	2	6%
20:00	0	0	2	6%

Total Occupied
Spaces
0

Total Number of
spaces
40

Unit 2

Time	Total In	Total Out	Accumulation	Occupancy
AM Peak				
05:00	5	0	5	5%
06:00	1	0	6	5%
07:00	47	4	48	43%
08:00	13	7	55	49%
09:00	8	6	56	51%
10:00	5	4	57	51%
11:00	2	4	55	49%
12:00	6	7	53	48%
13:00	8	10	51	46%
14:00	8	6	53	48%
15:00	16	9	61	55%
16:00	6	45	21	19%
17:00	3	14	11	10%
18:00	2	8	5	5%
19:00	0	0	5	5%
20:00	0	0	5	5%

Total Occupied
Spaces
0

Total Number of
spaces
111

Unit 3

Time	Total In	Total Out	Accumulation	Occupancy
AM Peak				
05:00	4	0	4	6%
06:00	0	0	4	7%
07:00	36	3	37	61%
08:00	10	5	42	69%
09:00	6	5	43	71%
10:00	4	3	44	72%
11:00	1	3	42	69%
12:00	4	5	41	67%
13:00	6	8	39	64%
14:00	6	4	41	66%
15:00	12	7	46	76%
16:00	5	35	16	27%
17:00	3	11	8	13%
18:00	2	6	4	6%
19:00	0	0	4	6%
20:00	0	0	4	6%

Total Occupied
Spaces
0

Total Number of
spaces
61

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