Project:	**Former MSD Facility, Breakspear Road South**		
Our reference:	100108003		
Prepared by:	Chris Mills	**Date:**	May 2023
Approved by:	Mark Fitch	**Checked by:**	Alex Keene
Subject:	Response to Air Quality Neutral Assessment Comments		

1. Introduction

1.1. This note responds to London Borough of Hillingdon (LBH) air quality neutral calculations related to planning application ref 72870/APP/2022/3126 for the redevelopment of the former Merck Sharpe Dohme (MSD) facility off Breakspear Road South. LBH suggest that the proposed development is required to pay a sum £472,727.42, accounting for the 5% travel plan discount. This is on the basis of a gross internal floor area (GIA) of 7,170m^2 and daily trip generation of 296 vehicles and follows the approach set out in the London Plan Air Quality Neutral Guidance, February 2023[1].

1.2. This document has been produced to set out the updated air quality neutral assessment and the assumptions used to support the calculations, such that agreement can be reached with LBH over the final conclusions and any amounts due under Section 106 agreements.

2. Proposed development trip rate calculation

LBH calculation

2.1. LBH has assumed a total trip rate of 296 vehicles daily and has assumed the site is operational 7 days a week to give an annual trip rate of 108,040.

Proposed development response

2.2. The LBH trip rate has included an element of double counting of HGVs from the proposed development, based on the information provided within the Transport Assessment.

2.3. The total daily trips associated with the proposed development are 258. This also includes trips associated with bicycles which should be discounted from the air quality neutral calculation. Therefore, the total daily trips are 252.

2.4. The current calculation by LBH assumed the site is operational 7 days a week. This is not reflective of actual operation, which will be focused on weekdays and Saturdays, reflecting the operating hours of the construction sites which this facility will be supporting. It is likely that Saturday would also see a vastly reduced number of associated trips (typically Saturday construction activity in London is

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[1] London Plan Air Quality Neutral Guidance, February 2023, available at Air Quality Neutral LPG (london.gov.uk)

required to cease by 1300). Nevertheless, in order to be conservative, the calculated trip rate has assumed 6 day operations.

2.5. On this basis, the annual trip rate for the development is calculated to be ((252 / 7) * 6) * 365 = 78,840 annual trips.

2.6. Therefore the sum of compensation calculated is £258,040.50, accounting for the 5% travel plan discount.

3. Benchmarking calculation

LBH Calculation

3.1. LBH has assumed the total GIA of 7,170m^2 and has assigned a benchmark trip rate of 6.5 trips per sqm in accordance with the latest guidance[1], assuming a storage and distribution facility. This gives a total benchmark trip generation calculation of 7,170 * 6.5 = 46,605.

Proposed development response – land use consideration

3.2. It is agreed the GIA is 7,170m^2, however, 1,290 m^2 of this will be office space rather than storage and distribution. Therefore, only 5,880 m^2 of building space should be assigned to storage and distribution. Therefore, the buildings' benchmark should be 58,860 on the basis of the below.

1,290 * 16 (benchmark for office space)	=	20,640
5,880 * 6.5 (benchmark for storage and distribution)	=	38,220
Total	=	58,860

3.3. Accounting for the updated benchmark trip rate and actual trip rate for the development, the sum of compensation calculated is £153,741.25, accounting for the 5% travel plan discount.

Proposed development response – review of benchmarking trip rate

3.4. Whilst it is accepted the latest Air Quality Neural Guidance[1] has been adopted, it should be noted that this is new guidance and contains areas of ambiguity around the approach to benchmarking. For example, paragraph 4.1.4 states:

"The TEB only estimates car or light van trips undertaken directly by the

development occupiers (residents, businesses etc and their staff /

customers). The TEB does not include 'operational' trips generated by the

developments. Deliveries and servicing, taxis or heavy vehicle movements

from non-occupiers' assessment of these trips, for example, should be

captured in the wider air quality impact assessment where one is required

and should therefore be excluded from TEB calculations."

3.5. It is therefore not clear as to whether the assessment should only take account of the trip generation associated with cars and light goods vehicles and whether the benchmarking trip rates reflect only

this element of a potential site's trip generation. This is particularly unclear in the case of storage and distribution uses, where deliveries and servicing may be considered a core function of the site and which are often undertaken by vehicles directly linked to the occupier.

3.6.   The Air Quality Neural Guidance[1] notes that:

Trip rate benchmarks are based on data from the Trip Rate Information Computer System (TRICS) 8 and are defined for different land uses and different areas of London.

3.7.   No further information is provided on the derivation of the annual trip rates, although a footnote states that:

TRICS provides information based on observed trip rates from developments, and these will be monitored and updated where necessary.

3.8.   To understand this better, Mott MacDonald has undertaken a review of potential sites within TRICS which may have been considered in the setting of the benchmark. It should be noted that the latest version of TRICS is in fact version 7, with version 8 being currently developed. It is believed that the reference to TRICS 8 is actually to v7.8, with the most recent release of this, v7.8.4, having been in December 2021.

3.9.   TRICS has subsequently been updated and a review of the latest version of TRICS, v7.9.4, has been undertaken for sites within London and the South-East of England (the latter having been considered to increase the potential number of sites which could be selected).

3.10.   Analysis of TRICS v7.9.4 has identified limited sites in London and the South-East of England for Commercial Warehousing in the last 10 years. All London sites were found to be in Outer London Boroughs. A summary of the daily (weekday) trip rates per 100sqm for different vehicle types are provided for these uses in Table 1, alongside a comparison of the equivalent rates for the proposed development. The relevant outputs from TRICS are provided in an Appendix to this note.

Table 1 – Comparison of trip rates from TRICS outputs for Commercial Warehousing and proposed development (daily trip rates/100sqm)[2]

Site Selection	Cars & LGVs / 100sqm	OGVs / 100sqm	Total Vehicles[3] / 100sqm
London & South-East England	3.7	1.1	4.9
London	3.9	1.0	5.0
Proposed Development[4]	2.9	0.6	3.6

3.11.   For the purposes of clarity and comparison to the benchmark levels identified in the Air Quality Neutral Guidance[1], the London trip rates have been adjusted to present an annual trip rate per sqm, assuming that the average weekday activity will reflect activity on at least 6 of the 7 days of the week, and this comparison is provided in Table 2. Given the ambiguity in the guidance, this has been presented for Cars & LGVs, Cars, LGVs & OGVs and Total Vehicles. As can be seen, the

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[2] Rounded to nearest decimal place

[3] Includes motorcycles, taxis, cyclists and public service vehicles

[4] Proposed Development trip rates based on 205 car and LGV trips and 44 OGV trips (two-way) per day. Forecast three motorcycle trips and six bicycle trips are included in Total Vehicles

benchmark level is significantly below that from TRICS regardless of the way the guidance is applied for vehicle type.

Table 2 – Comparison of trip rates from TRICS outputs for Commercial Warehousing and proposed development (annual trip rate/sqm)

Trip Rates	Air Quality Neutral Guidance	TRICS Trip Rate Cars & LGVs	TRICS Trip Rate Cars, LGVs & OGVs	TRICS Trip Rate Total Vehicles[2]
Annual Trip Rate / sqm	6.5	12.1	15.3	15.7

3.12. The trip rates identified within TRICS, based on weekday surveys, would provide a significantly greater benchmark level compared to those identified in the AQN guidance (which are identified to be based on TRICS). It is therefore considered that the benchmark rates used within the Air Quality Neutral guidance are not suitable for comparison for storage and warehousing sites. The nearest equivalent annual trip rates from TRICS shown in Table 2 provide a corrected benchmark.

3.13. For clarity, Table 3 presents the annual trips rates per sqm based on the revised TRICS benchmark compared to the equivalent rates for the proposed development. This has been based on an assumption of activity six days a week for both the benchmark trip rate and the proposed development.

Table 3 – Comparison of trip rates from TRICS outputs for Commercial Warehousing and proposed development (annual trip rates/sqm)

Site Selection	Cars & LGVs / sqm	OGVs / sqm	Total Vehicles[5] / sqm
TRICS (London Only)	12.1	15.3	15.7
Proposed Development	8.9	10.9	11.3

3.14. As shown in Table 3, and in line with the trends identified in Table 1, the overall annual vehicle trip rate associated with the proposed development, based on surveys of the operator's sites, is considerably lower than the nearest equivalent warehousing sites within TRICS. This is true when considering the level of light vehicles (cars & LGVs) only or light and heavy vehicles (cars, LGVs and OGVs).

3.15. The proposed development would, therefore, be expected to generate less vehicle trips than that associated with the corrected benchmark for this use. This is without taking into account the office element of the site, which would be expected to further increase the benchmark level to be assessed against. It also assumes a similar calculation from average daily to annual trips for both the benchmark and the proposed development, which in itself is considered a conservative approach given the explanation provided in paragraph 2.4 of this note and as such does not require additional financial contributions to mitigate any effects.

[5] Includes motorcycles, taxis, cyclists and public service vehicles

4. Summary

4.1. Mott MacDonald has undertaken a review of LBH's air quality calculation for the proposed development at the Former MSD Facility on Breakspear Road South.

4.2. The review has identified that there has been an overestimation of the potential annual trip generation associated with the proposed development, resulting in a significant overestimation of any potential mitigating contribution that would be required.

4.3. The review has also indicated that the approach to the calculation of the benchmarking annual trip generation is likely to result in an underestimation of the benchmark given the application of a single storage and distribution trip rate to the whole site when in fact a proportion of the site will be an office and administration building.

4.4. In addition, it is considered that the guidance note the calculation is based on, while being ambiguous, significantly underestimates what could be considered a suitable benchmark level of activity for a storage and warehousing facility, as evidence from a review of TRICS. When utilising a corrected benchmark, the proposed development would be expected to generate fewer trips than this benchmark. As such, the proposed development would not be expected to be required to make a mitigating contribution as part of the Air Quality Neutral calculation.

Calculation Reference: AUDIT-704113-230313-0305

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:
01   GREATER LONDON
      BE   BEXLEY   1 days
      HD   HILLINGDON   1 days
      HO   HOUNSLOW   1 days
02   SOUTH EAST
      BO   BEDFORD   1 days
      EX   ESSEX   1 days
      HC   HAMPSHIRE   2 days
      MW   MEDWAY   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: 3500 to 20400 (units: sqm)
Range Selected by User: 950 to 80000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 27/09/21

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:
Monday   1 days
Wednesday   1 days
Thursday   4 days
Friday   2 days

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

Selected survey types:
Manual count   8 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)   2
Edge of Town   6

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

Selected Location Sub Categories:
Industrial Zone   7
Commercial Zone   1

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

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included   4 days - Selected
Servicing vehicles Excluded   5 days - Selected

Secondary Filtering selection:

Use Class:
n/a	2 days
B8	6 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
Population within 1 mile:
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days

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

Population within 5 miles:
125,001 to 250,000	5 days
250,001 to 500,000	1 days
500,001 or More	2 days

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

Car ownership within 5 miles:
0.6 to 1.0	3 days
1.1 to 1.5	5 days

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

Travel Plan:
Yes	2 days
No	6 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	5 days
1a (Low) Very poor	1 days
1b Very poor	1 days
2 Poor	1 days

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

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

LIST OF SITES relevant to selection parameters

1 BE-02-F-01   FRESH FRUIT DISTRIBUTOR   BEXLEY
   THAMES ROAD
   CRAYFORD

   Edge of Town
   Industrial Zone
   Total Gross floor area: 20400 sqm
        Survey date: THURSDAY   20/09/18   _Survey Type: MANUAL_
2 BO-02-F-01   DRINKS WHOLESALER   BEDFORD
   CAMBRIDGE ROAD
   BEDFORD

   Edge of Town
   Industrial Zone
   Total Gross floor area: 3500 sqm
        Survey date: THURSDAY   15/10/20   _Survey Type: MANUAL_
3 EX-02-F-01   SPORTS SUPPLEMENTS   ESSEX
   BRUNEL WAY
   COLCHESTER
   SEVERALLS INDUSTRIAL PK
   Edge of Town
   Industrial Zone
   Total Gross floor area: 6560 sqm
        Survey date: FRIDAY   18/05/18   _Survey Type: MANUAL_
4 HC-02-F-02   LOGISTICS   HAMPSHIRE
   RUTHERFORD ROAD
   BASINGSTOKE

   Suburban Area (PPS6 Out of Centre)
   Commercial Zone
   Total Gross floor area: 13200 sqm
        Survey date: THURSDAY   16/06/16   _Survey Type: MANUAL_
5 HC-02-F-03   PPE DISTRIBUTION   HAMPSHIRE
   WARSASH ROAD
   PARK GATE

   Edge of Town
   Industrial Zone
   Total Gross floor area: 3665 sqm
        Survey date: MONDAY   27/09/21   _Survey Type: MANUAL_
6 HD-02-F-01   FOOD DISTRIBUTOR   HILLINGDON
   NINE ACRES CLOSE
   HAYES

   Edge of Town
   Industrial Zone
   Total Gross floor area: 8673 sqm
        Survey date: THURSDAY   27/09/18   _Survey Type: MANUAL_
7 HO-02-F-01   LOGISTICS AND FREIGHT   HOUNSLOW
   ASCOT ROAD
   FELTHAM

   Suburban Area (PPS6 Out of Centre)
   Industrial Zone
   Total Gross floor area: 13500 sqm
        Survey date: WEDNESDAY   23/11/16   _Survey Type: MANUAL_
8 MW-02-F-02   COMMERCIAL WAREHOUSING   MEDWAY
   MILLS ROAD
   AYLESFORD
   QUARRY WOOD
   Edge of Town
   Industrial Zone
   Total Gross floor area: 11200 sqm
        Survey date: FRIDAY   22/09/17   _Survey Type: MANUAL_

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

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.229	1	3500	0.029	1	3500	0.258
06:00 - 07:00	1	3500	0.200	1	3500	0.114	1	3500	0.314
07:00 - 08:00	8	10087	0.234	8	10087	0.099	8	10087	0.333
08:00 - 09:00	8	10087	0.290	8	10087	0.093	8	10087	0.383
09:00 - 10:00	8	10087	0.211	8	10087	0.113	8	10087	0.324
10:00 - 11:00	8	10087	0.149	8	10087	0.128	8	10087	0.277
11:00 - 12:00	8	10087	0.161	8	10087	0.181	8	10087	0.342
12:00 - 13:00	8	10087	0.165	8	10087	0.190	8	10087	0.355
13:00 - 14:00	8	10087	0.203	8	10087	0.187	8	10087	0.390
14:00 - 15:00	8	10087	0.135	8	10087	0.183	8	10087	0.318
15:00 - 16:00	8	10087	0.120	8	10087	0.192	8	10087	0.312
16:00 - 17:00	8	10087	0.115	8	10087	0.187	8	10087	0.302
17:00 - 18:00	8	10087	0.108	8	10087	0.301	8	10087	0.409
18:00 - 19:00	8	10087	0.103	8	10087	0.181	8	10087	0.284
19:00 - 20:00	2	11950	0.038	2	11950	0.201	2	11950	0.239
20:00 - 21:00	2	11950	0.017	2	11950	0.025	2	11950	0.042
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.478			2.404			4.882

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:	3500 - 20400 (units: sqm)
Survey date date range:	01/01/14 - 27/09/21
Number of weekdays (Monday-Friday):	8
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 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/F - WAREHOUSING (COMMERCIAL)
TAXIS
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
06:00 - 07:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
07:00 - 08:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
08:00 - 09:00	8	10087	0.002	8	10087	0.002	8	10087	0.004
09:00 - 10:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
10:00 - 11:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
11:00 - 12:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
12:00 - 13:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
13:00 - 14:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
14:00 - 15:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
15:00 - 16:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
16:00 - 17:00	8	10087	0.002	8	10087	0.002	8	10087	0.004
17:00 - 18:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
18:00 - 19:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
19:00 - 20:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
20:00 - 21:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.029	1	3500	0.029	1	3500	0.058
06:00 - 07:00	1	3500	0.000	1	3500	0.057	1	3500	0.057
07:00 - 08:00	8	10087	0.033	8	10087	0.048	8	10087	0.081
08:00 - 09:00	8	10087	0.027	8	10087	0.032	8	10087	0.059
09:00 - 10:00	8	10087	0.053	8	10087	0.033	8	10087	0.086
10:00 - 11:00	8	10087	0.058	8	10087	0.042	8	10087	0.100
11:00 - 12:00	8	10087	0.051	8	10087	0.046	8	10087	0.097
12:00 - 13:00	8	10087	0.046	8	10087	0.042	8	10087	0.088
13:00 - 14:00	8	10087	0.042	8	10087	0.056	8	10087	0.098
14:00 - 15:00	8	10087	0.047	8	10087	0.042	8	10087	0.089
15:00 - 16:00	8	10087	0.032	8	10087	0.037	8	10087	0.069
16:00 - 17:00	8	10087	0.033	8	10087	0.026	8	10087	0.059
17:00 - 18:00	8	10087	0.024	8	10087	0.029	8	10087	0.053
18:00 - 19:00	8	10087	0.024	8	10087	0.015	8	10087	0.039
19:00 - 20:00	2	11950	0.017	2	11950	0.029	2	11950	0.046
20:00 - 21:00	2	11950	0.017	2	11950	0.004	2	11950	0.021
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.533			0.567			1.100

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
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	3500	0.000	1	3500	0.000	1	3500	0.000
06:00 - 07:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
07:00 - 08:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
08:00 - 09:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
09:00 - 10:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
10:00 - 11:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
11:00 - 12:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
12:00 - 13:00	8	10087	0.002	8	10087	0.002	8	10087	0.004
13:00 - 14:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
14:00 - 15:00	8	10087	0.001	8	10087	0.001	8	10087	0.002
15:00 - 16:00	8	10087	0.001	8	10087	0.001	8	10087	0.002
16:00 - 17:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
17:00 - 18:00	8	10087	0.004	8	10087	0.002	8	10087	0.006
18:00 - 19:00	8	10087	0.000	8	10087	0.001	8	10087	0.001
19:00 - 20:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
20:00 - 21:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.007			0.015

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
06:00 - 07:00	1	3500	0.057	1	3500	0.000	1	3500	0.057
07:00 - 08:00	8	10087	0.004	8	10087	0.001	8	10087	0.005
08:00 - 09:00	8	10087	0.010	8	10087	0.000	8	10087	0.010
09:00 - 10:00	8	10087	0.000	8	10087	0.001	8	10087	0.001
10:00 - 11:00	8	10087	0.001	8	10087	0.000	8	10087	0.001
11:00 - 12:00	8	10087	0.004	8	10087	0.001	8	10087	0.005
12:00 - 13:00	8	10087	0.002	8	10087	0.000	8	10087	0.002
13:00 - 14:00	8	10087	0.002	8	10087	0.002	8	10087	0.004
14:00 - 15:00	8	10087	0.006	8	10087	0.002	8	10087	0.008
15:00 - 16:00	8	10087	0.000	8	10087	0.009	8	10087	0.009
16:00 - 17:00	8	10087	0.007	8	10087	0.014	8	10087	0.021
17:00 - 18:00	8	10087	0.002	8	10087	0.010	8	10087	0.012
18:00 - 19:00	8	10087	0.005	8	10087	0.005	8	10087	0.010
19:00 - 20:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
20:00 - 21:00	2	11950	0.000	2	11950	0.004	2	11950	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.100			0.049			0.149

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CARS
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.200	1	3500	0.000	1	3500	0.200
06:00 - 07:00	1	3500	0.143	1	3500	0.000	1	3500	0.143
07:00 - 08:00	8	10087	0.169	8	10087	0.029	8	10087	0.198
08:00 - 09:00	8	10087	0.219	8	10087	0.029	8	10087	0.248
09:00 - 10:00	8	10087	0.098	8	10087	0.032	8	10087	0.130
10:00 - 11:00	8	10087	0.040	8	10087	0.040	8	10087	0.080
11:00 - 12:00	8	10087	0.053	8	10087	0.079	8	10087	0.132
12:00 - 13:00	8	10087	0.061	8	10087	0.100	8	10087	0.161
13:00 - 14:00	8	10087	0.123	8	10087	0.093	8	10087	0.216
14:00 - 15:00	8	10087	0.064	8	10087	0.108	8	10087	0.172
15:00 - 16:00	8	10087	0.040	8	10087	0.104	8	10087	0.144
16:00 - 17:00	8	10087	0.051	8	10087	0.126	8	10087	0.177
17:00 - 18:00	8	10087	0.059	8	10087	0.237	8	10087	0.296
18:00 - 19:00	8	10087	0.059	8	10087	0.138	8	10087	0.197
19:00 - 20:00	2	11950	0.017	2	11950	0.155	2	11950	0.172
20:00 - 21:00	2	11950	0.000	2	11950	0.021	2	11950	0.021
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.396			1.291			2.687

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
06:00 - 07:00	1	3500	0.057	1	3500	0.057	1	3500	0.114
07:00 - 08:00	8	10087	0.030	8	10087	0.022	8	10087	0.052
08:00 - 09:00	8	10087	0.040	8	10087	0.030	8	10087	0.070
09:00 - 10:00	8	10087	0.059	8	10087	0.047	8	10087	0.106
10:00 - 11:00	8	10087	0.048	8	10087	0.046	8	10087	0.094
11:00 - 12:00	8	10087	0.056	8	10087	0.055	8	10087	0.111
12:00 - 13:00	8	10087	0.051	8	10087	0.045	8	10087	0.096
13:00 - 14:00	8	10087	0.035	8	10087	0.037	8	10087	0.072
14:00 - 15:00	8	10087	0.022	8	10087	0.029	8	10087	0.051
15:00 - 16:00	8	10087	0.042	8	10087	0.043	8	10087	0.085
16:00 - 17:00	8	10087	0.022	8	10087	0.030	8	10087	0.052
17:00 - 18:00	8	10087	0.020	8	10087	0.027	8	10087	0.047
18:00 - 19:00	8	10087	0.019	8	10087	0.026	8	10087	0.045
19:00 - 20:00	2	11950	0.004	2	11950	0.017	2	11950	0.021
20:00 - 21:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.505			0.511			1.016

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
06:00 - 07:00	1	3500	0.000	1	3500	0.000	1	3500	0.000
07:00 - 08:00	8	10087	0.002	8	10087	0.000	8	10087	0.002
08:00 - 09:00	8	10087	0.001	8	10087	0.000	8	10087	0.001
09:00 - 10:00	8	10087	0.000	8	10087	0.000	8	10087	0.000
10:00 - 11:00	8	10087	0.002	8	10087	0.000	8	10087	0.002
11:00 - 12:00	8	10087	0.001	8	10087	0.001	8	10087	0.002
12:00 - 13:00	8	10087	0.005	8	10087	0.000	8	10087	0.005
13:00 - 14:00	8	10087	0.004	8	10087	0.001	8	10087	0.005
14:00 - 15:00	8	10087	0.000	8	10087	0.004	8	10087	0.004
15:00 - 16:00	8	10087	0.005	8	10087	0.006	8	10087	0.011
16:00 - 17:00	8	10087	0.006	8	10087	0.002	8	10087	0.008
17:00 - 18:00	8	10087	0.001	8	10087	0.006	8	10087	0.007
18:00 - 19:00	8	10087	0.001	8	10087	0.001	8	10087	0.002
19:00 - 20:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
20:00 - 21:00	2	11950	0.000	2	11950	0.000	2	11950	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.021			0.049

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.*

Calculation Reference: AUDIT-704113-230313-0326

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:
01   GREATER LONDON
    BE   BEXLEY   1 days
    HD   HILLINGDON   1 days
    HO   HOUNSLOW   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: 8673 to 20400 (units: sqm)
Range Selected by User: 950 to 80000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 27/09/21

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   1 days
Thursday   2 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 undertaking using machines.

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

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

Selected Location Sub Categories:
Industrial Zone   3

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

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included   4 days - Selected
Servicing vehicles Excluded   5 days - Selected

Secondary Filtering selection:

Use Class:
n/a   1 days
B8   2 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
Population within 1 mile:
20,001 to 25,000   1 days
25,001 to 50,000   2 days

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

Population within 5 miles:
250,001 to 500,000   1 days
500,001 or More   2 days

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

Car ownership within 5 miles:
0.6 to 1.0   2 days
1.1 to 1.5   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:
Yes   2 days
No   1 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:
1a (Low) Very poor   1 days
1b Very poor   1 days
2 Poor   1 days

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

LIST OF SITES relevant to selection parameters

  1   BE-02-F-01   FRESH FRUIT DISTRIBUTOR   BEXLEY
     THAMES ROAD
     CRAYFORD

     Edge of Town
     Industrial Zone
     Total Gross floor area: 20400 sqm
       Survey date: THURSDAY   *20/09/18*   *Survey Type: MANUAL*

  2   HD-02-F-01   FOOD DISTRIBUTOR   HILLINGDON
     NINE ACRES CLOSE
     HAYES

     Edge of Town
     Industrial Zone
     Total Gross floor area: 8673 sqm
       Survey date: THURSDAY   *27/09/18*   *Survey Type: MANUAL*

  3   HO-02-F-01   LOGISTICS AND FREIGHT   HOUNSLOW
     ASCOT ROAD
     FELTHAM

     Suburban Area (PPS6 Out of Centre)
     Industrial Zone
     Total Gross floor area: 13500 sqm
       Survey date: WEDNESDAY   *23/11/16*   *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-F-01	Not London
EX-02-F-01	Not London
HC-02-F-02	Not London
HC-02-F-03	Not London
MW-02-F-02	Not London

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.258	3	14191	0.094	3	14191	0.352
08:00 - 09:00	3	14191	0.406	3	14191	0.101	3	14191	0.507
09:00 - 10:00	3	14191	0.209	3	14191	0.115	3	14191	0.324
10:00 - 11:00	3	14191	0.136	3	14191	0.136	3	14191	0.272
11:00 - 12:00	3	14191	0.174	3	14191	0.186	3	14191	0.360
12:00 - 13:00	3	14191	0.188	3	14191	0.254	3	14191	0.442
13:00 - 14:00	3	14191	0.237	3	14191	0.193	3	14191	0.430
14:00 - 15:00	3	14191	0.139	3	14191	0.155	3	14191	0.294
15:00 - 16:00	3	14191	0.143	3	14191	0.169	3	14191	0.312
16:00 - 17:00	3	14191	0.148	3	14191	0.214	3	14191	0.362
17:00 - 18:00	3	14191	0.164	3	14191	0.458	3	14191	0.622
18:00 - 19:00	3	14191	0.167	3	14191	0.247	3	14191	0.414
19:00 - 20:00	1	20400	0.044	1	20400	0.230	1	20400	0.274
20:00 - 21:00	1	20400	0.020	1	20400	0.029	1	20400	0.049
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.433			2.581			5.014

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:	8673 - 20400 (units: sqm)
Survey date date range:	01/01/14 - 27/09/21
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	5

*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.*

Mott MacDonald   Fleet Place   London   Licence No: 704113

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
TAXIS
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
08:00 - 09:00	3	14191	0.005	3	14191	0.005	3	14191	0.010
09:00 - 10:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
10:00 - 11:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
11:00 - 12:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
12:00 - 13:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
13:00 - 14:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
14:00 - 15:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
15:00 - 16:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
16:00 - 17:00	3	14191	0.002	3	14191	0.002	3	14191	0.004
17:00 - 18:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
18:00 - 19:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
19:00 - 20:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
20:00 - 21:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.007			0.014

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.040	3	14191	0.047	3	14191	0.087
08:00 - 09:00	3	14191	0.031	3	14191	0.038	3	14191	0.069
09:00 - 10:00	3	14191	0.049	3	14191	0.045	3	14191	0.094
10:00 - 11:00	3	14191	0.035	3	14191	0.049	3	14191	0.084
11:00 - 12:00	3	14191	0.042	3	14191	0.033	3	14191	0.075
12:00 - 13:00	3	14191	0.045	3	14191	0.049	3	14191	0.094
13:00 - 14:00	3	14191	0.052	3	14191	0.049	3	14191	0.101
14:00 - 15:00	3	14191	0.045	3	14191	0.033	3	14191	0.078
15:00 - 16:00	3	14191	0.038	3	14191	0.040	3	14191	0.078
16:00 - 17:00	3	14191	0.038	3	14191	0.028	3	14191	0.066
17:00 - 18:00	3	14191	0.031	3	14191	0.038	3	14191	0.069
18:00 - 19:00	3	14191	0.028	3	14191	0.019	3	14191	0.047
19:00 - 20:00	1	20400	0.020	1	20400	0.034	1	20400	0.054
20:00 - 21:00	1	20400	0.020	1	20400	0.005	1	20400	0.025
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.514			0.507			1.021

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
PSVS
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
08:00 - 09:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
09:00 - 10:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
10:00 - 11:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
11:00 - 12:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
12:00 - 13:00	3	14191	0.005	3	14191	0.005	3	14191	0.010
13:00 - 14:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
14:00 - 15:00	3	14191	0.002	3	14191	0.002	3	14191	0.004
15:00 - 16:00	3	14191	0.002	3	14191	0.002	3	14191	0.004
16:00 - 17:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
17:00 - 18:00	3	14191	0.007	3	14191	0.005	3	14191	0.012
18:00 - 19:00	3	14191	0.000	3	14191	0.002	3	14191	0.002
19:00 - 20:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
20:00 - 21:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.016			0.016			0.032

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.007	3	14191	0.002	3	14191	0.009
08:00 - 09:00	3	14191	0.009	3	14191	0.000	3	14191	0.009
09:00 - 10:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
10:00 - 11:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
11:00 - 12:00	3	14191	0.005	3	14191	0.000	3	14191	0.005
12:00 - 13:00	3	14191	0.002	3	14191	0.000	3	14191	0.002
13:00 - 14:00	3	14191	0.005	3	14191	0.005	3	14191	0.010
14:00 - 15:00	3	14191	0.009	3	14191	0.000	3	14191	0.009
15:00 - 16:00	3	14191	0.000	3	14191	0.007	3	14191	0.007
16:00 - 17:00	**3**	**14191**	**0.014**	**3**	**14191**	**0.026**	**3**	**14191**	**0.040**
17:00 - 18:00	3	14191	0.005	3	14191	0.012	3	14191	0.017
18:00 - 19:00	3	14191	0.009	3	14191	0.007	3	14191	0.016
19:00 - 20:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
20:00 - 21:00	1	20400	0.000	1	20400	0.005	1	20400	0.005
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.065			0.064			0.129

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
CARS
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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.197	3	14191	0.033	3	14191	0.230
08:00 - 09:00	3	14191	0.331	3	14191	0.038	3	14191	0.369
09:00 - 10:00	3	14191	0.106	3	14191	0.031	3	14191	0.137
10:00 - 11:00	3	14191	0.042	3	14191	0.033	3	14191	0.075
11:00 - 12:00	3	14191	0.063	3	14191	0.082	3	14191	0.145
12:00 - 13:00	3	14191	0.070	3	14191	0.143	3	14191	0.213
13:00 - 14:00	3	14191	0.148	3	14191	0.106	3	14191	0.254
14:00 - 15:00	3	14191	0.070	3	14191	0.080	3	14191	0.150
15:00 - 16:00	3	14191	0.040	3	14191	0.068	3	14191	0.108
16:00 - 17:00	3	14191	0.068	3	14191	0.143	3	14191	0.211
17:00 - 18:00	3	14191	0.096	3	14191	0.373	3	14191	0.469
18:00 - 19:00	3	14191	0.106	3	14191	0.186	3	14191	0.292
19:00 - 20:00	1	20400	0.020	1	20400	0.181	1	20400	0.201
20:00 - 21:00	1	20400	0.000	1	20400	0.025	1	20400	0.025
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.357			1.522			2.879

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.019	3	14191	0.014	3	14191	0.033
08:00 - 09:00	3	14191	0.038	3	14191	0.021	3	14191	0.059
09:00 - 10:00	3	14191	0.054	3	14191	0.040	3	14191	0.094
10:00 - 11:00	3	14191	0.059	3	14191	0.054	3	14191	0.113
11:00 - 12:00	3	14191	0.066	3	14191	0.068	3	14191	0.134
12:00 - 13:00	3	14191	0.063	3	14191	0.056	3	14191	0.119
13:00 - 14:00	3	14191	0.033	3	14191	0.035	3	14191	0.068
14:00 - 15:00	3	14191	0.021	3	14191	0.038	3	14191	0.059
15:00 - 16:00	3	14191	0.054	3	14191	0.052	3	14191	0.106
16:00 - 17:00	3	14191	0.031	3	14191	0.035	3	14191	0.066
17:00 - 18:00	3	14191	0.028	3	14191	0.033	3	14191	0.061
18:00 - 19:00	3	14191	0.031	3	14191	0.038	3	14191	0.069
19:00 - 20:00	1	20400	0.005	1	20400	0.015	1	20400	0.020
20:00 - 21:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.502			0.499			1.001

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	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 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.002	3	14191	0.000	3	14191	0.002
08:00 - 09:00	3	14191	0.002	3	14191	0.000	3	14191	0.002
09:00 - 10:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
10:00 - 11:00	3	14191	0.000	3	14191	0.000	3	14191	0.000
11:00 - 12:00	3	14191	0.002	3	14191	0.002	3	14191	0.004
12:00 - 13:00	3	14191	0.005	3	14191	0.000	3	14191	0.005
13:00 - 14:00	3	14191	0.005	3	14191	0.002	3	14191	0.007
14:00 - 15:00	3	14191	0.000	3	14191	0.002	3	14191	0.002
15:00 - 16:00	3	14191	0.009	3	14191	0.007	3	14191	0.016
16:00 - 17:00	3	14191	0.009	3	14191	0.005	3	14191	0.014
17:00 - 18:00	3	14191	0.002	3	14191	0.009	3	14191	0.011
18:00 - 19:00	3	14191	0.002	3	14191	0.002	3	14191	0.004
19:00 - 20:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
20:00 - 21:00	1	20400	0.000	1	20400	0.000	1	20400	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.038			0.029			0.067

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
Servicing Vehicles
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	14191	0.061	3	14191	0.063	3	14191	0.124
08:00 - 09:00	3	14191	0.063	3	14191	0.059	3	14191	0.122
09:00 - 10:00	3	14191	0.101	3	14191	0.085	3	14191	0.186
10:00 - 11:00	3	14191	0.092	3	14191	0.103	3	14191	0.195
11:00 - 12:00	3	14191	0.110	3	14191	0.101	3	14191	0.211
12:00 - 13:00	3	14191	0.108	3	14191	0.108	3	14191	0.216
13:00 - 14:00	3	14191	0.087	3	14191	0.087	3	14191	0.174
14:00 - 15:00	3	14191	0.068	3	14191	0.070	3	14191	0.138
15:00 - 16:00	3	14191	0.092	3	14191	0.087	3	14191	0.179
16:00 - 17:00	3	14191	0.068	3	14191	0.063	3	14191	0.131
17:00 - 18:00	3	14191	0.059	3	14191	0.068	3	14191	0.127
18:00 - 19:00	3	14191	0.054	3	14191	0.056	3	14191	0.110
19:00 - 20:00	1	20400	0.025	1	20400	0.049	1	20400	0.074
20:00 - 21:00	1	20400	0.020	1	20400	0.005	1	20400	0.025
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.008			1.004			2.012

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

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