


EFSAC TECHNICAL NOTE**Prepared on behalf of Landiplomacy Ltd**

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SITE: Ongar Road, Abridge

1.0 INTRODUCTION

Ardent Consulting Engineers (ACE) has been commissioned by Landiplomacy Ltd ('the Applicant') to support the proposed development at land adjacent to 44 Ongar Road, Abridge, RM4 1UH ('the site'). (refer to **Figure 1**).



Figure 1: Site Location

The application seeks planning permission for the construction of 2 x two-storey detached residential dwellings. The existing site relates to land between numbers 42 and 44 Ongar Road containing a number of outbuildings.

The EFSAC Interim Air Pollution Mitigation Strategy produced by Epping Forest District Council (EFDC) has provided greater clarity regarding the approach being taken by EFDC and guiding developers to address their schemes with reference to Appendix 2 of said Strategy document.

Following clarity of a number of points with the EFDC Officer responsible for reviewing the impacts upon the EFSAC, this EFSAC Technical Note has been produced to summarise the approach taken to assessing the impacts of the development upon the EFSAC and the local road network in that area.

2.0 METHODOLOGY

In order to assess the impacts of the development upon the EFSAC, the following methodology has been used for the proposed development scenario:

- Obtain TRICS data of Privately Owned Houses for vehicle movements for weekdays and weekends;
- Apply vehicle movements onto EFSAC network using Journey to Work Census data as a proxy for movement patterns.

3.0 TRIP GENERATION

Although there are some outbuildings on the site at present, given they are associated with neighbouring properties (42 and 44 Ongar Road) we have not allowed for any specific vehicle movements from the existing site.

As has been outlined above, the following process has been followed, with the data provided at **Appendix A**.

TRICS Data

The following trip rate selections were made:

- All regions excluding Greater London, Ireland, Scotland and Wales;
- Suburban, Edge of Town and Neighbourhood Centre locations;

- Privately Owned Houses selected; and
- Trip rate based upon number of units (between 6 to 20 units – 6 being the minimum selection possible).

The same process has been undertaken to calculate weekend trip rates, noting that the level of vehicular movement will be different on weekends than weekdays. To this end, the same parameters were used to filter out suitable sites, albeit that there are fewer surveys on weekends in the TRICS database so the number of units was increased to between 6 and 100. The results are considered appropriate for analysis.

As the focus of the impacts upon the EFSAC area is Annual Average Daily Traffic (AADT), the data from TRICS covering 7am to 7pm daily level doesn't fully cover the required period. Given residential developments would be expected to have a volume of overnight movements, an increase of 25% has been applied to take this into account. This approach has been taken and agreed elsewhere in the EFDC area.

The resultant daily (7am to 7pm) vehicle movements (two-way) for the proposed site (2 dwellings) are shown in **Table 3.1**, along with the calculated AADT.

Table 3.1: Proposed Vehicle Movements (source: TRICS)

Vehicles	Two-Way Vehicle Trip Rate (07:00 – 19:00) (rate in brackets 25% overnight increase)	Calculated AADT Vehicles including 25% increase for overnight (2 Dwellings)
Weekday	4.637 (5.796)	12
Weekend	4.379 (5.474)	11
Calculated AADT	-	11

*Figures subject to rounding

In AADT terms, the proposed scheme would be predicted to generate 11 two-way vehicle movements per day AADT (an average of 5 weekdays and 2 weekend daily movements).

The AADT figure is expected to comprise almost exclusively of car driver movements, with deliveries mainly in the form of panel vans and dot.com vehicles which are generally already on the network as part of delivering to other properties through programmed logistics routes. As a result, the AADT has been based upon a 0% HDV proportion.

Application of Extant Trips onto Road Network

In order to apply the AADT vehicle trips onto the local road network, the Journey to Work Census Data for the ward in which the site resides (Epping Forest 010) has been used, with the data set to "journey to work".

The Datashine Commute website (commute.datashine.org.uk) was used to select the Epping Forest 010 Super Output Area with car driver as the selected mode of travel from the site. This allows an analysis of all journeys from the Epping Forest 010 Super Output Area to their place of work Super Output Area as a proxy for all vehicle movements to and from the existing site.

The calculation of routes is provided at **Appendix B**.

Following this, the percentage of vehicle drivers to / from each of the Super Output Areas was calculated. This was then applied to the overall AADT figure of 11 to calculate vehicle movements to / from each Super Output Area.

The vast majority (93%) of all trips do not pass through or close to the EFSAC area. However, a number of routes were identified that would result in vehicles passing through the EFSAC. **Figure 3.1** overleaf illustrates these routes:

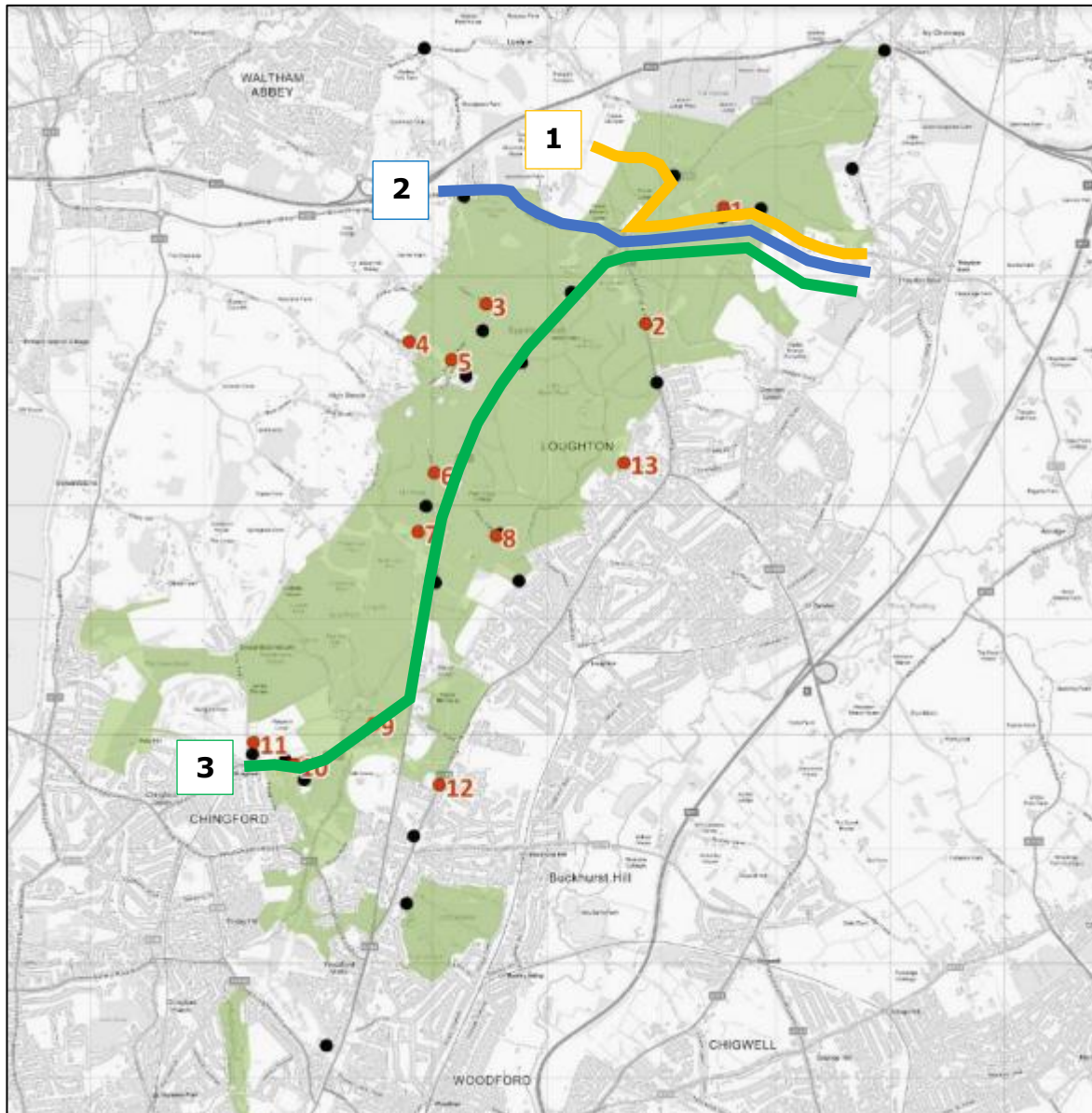


Figure 3.1 – Roads Assessed in the EFSAC

Figure 3.2 overleaf shows the site in relation to the EFSAC area.



Figure 3.2 – The Site in relation to the EFSAC Area

These routes as shown on **Figure 3.1** have been summarised in **Table 3.2** below:

Table 3.2: Breakdown of AADT on routes through EFSAC (source: Datashine Commute and TRICS)

Route	Direction	Total Percentage of Overall AADT Trips	AADT Vehicles
1. B172 / Epping Road / Crown Hill	West	4%	0
2. B172 / A121	West	1%	0
3. B172 / Epping Road / Ranger's Road	West / South	2%	0
Calculated AADT	-	7%	<1

*Figures subject to rounding

In total, 7% of AADT movements from the proposed site are predicted to pass through parts of the EFSAC network, with the overall number of vehicles being less than 1 (two-way) movement per day.

4.0 FURTHER MITIGATION AND SUMMARY

This EFSAC Technical Note has been produced in light of the new guidance contained with the EFDC Interim Air Pollution Mitigation Strategy.

In order to review of the localised effects of the development proposals, the TRICS database has been reviewed to calculate the AADT of the proposed residential development.

The Journey to Work Census Data has been assessed to calculate the proposed vehicle distribution from the site.

This Technical Note provides further information in order for the application to be judged for its impacts upon roads in the EFSAC by reviewing the impacts of the vehicle generations onto roads within the EFSAC using both TRICS analysis and Census data for Journey to Work for car drivers.

The conclusion is that the proposed development at the site would result in an increase of less than 1 two-way vehicle movement per day in AADT level on roads within the EFSAC, and on that basis no further assessment is required.

Paragraph 2.2 of Appendix 2 (EFSAC Interim Air Pollution Mitigation Strategy) states that:

'The triggers for determining if the transport impact of a development proposal being brought forward need to be assessed in relation to its effects on the EFSAC are:

- a) If the development proposal is not specifically proposed for allocation within the emerging Local Plan (in relation to residential developments this will apply to proposals for six or more dwellings or those greater than 0.2 Ha recognising that a small sites windfall allowance has been included in the evidence work); or*

b) if the development proposal represents a variation (which results to an increase in the quantum of development or changes the proposed use) from the site's land use allocation as set out in the emerging Local Plan.

As the proposed development of the site results in an uplift of 2 dwellings, it is considered that no further analysis is required given it falls beneath the triggers outlined above (specifically being fewer than six additional dwellings and smaller than 0.2 hectares in size).

It is acknowledged that the development will be subject to a charging regime based upon the number of units to cover both recreational impacts within the EFSAC, and that this is accepted by the applicant.

It is also understood that a charge is to be levied on any new dwellings as part of the Interim Air Pollution Mitigation Strategy and again this is accepted by the applicant. It is understood that this charge is currently £335 per dwelling.

On the basis of the above, it is considered that there will be a slight increase in AADT (1 two-way vehicle movement) within the EFSAC area, with the site falling below the triggers for further analysis - it is considered that no further analysis or monitoring specific to this development is therefore necessary.

Appendices

Appendix A

TRICS Data

Calculation Reference: AUDIT-437201-210528-0538

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	1 days
04	EAST ANGLIA	
	NF NORFOLK	2 days
	SF SUFFOLK	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 8 to 18 (units:)
 Range Selected by User: 6 to 20 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 09/09/20

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	4 days
Friday	2 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	1 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	6
Village	1

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

Secondary Filtering selection:

Use Class:

C3 7 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
25,001 to 50,000	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	2 days
50,001 to 75,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	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	5 days
1.1 to 1.5	1 days
1.6 to 2.0	1 days

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

Travel Plan:

No 7 days

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

PTAL Rating:

No PTAL Present 7 days

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

LIST OF SITES relevant to selection parameters

1	KC-03-A-05 ROCHESTER ROAD NEAR CHATHAM BURHAM Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 8 Survey date: FRIDAY 22/09/17	DETACHED & SEMI -DETACHED	KENT	Survey Type: MANUAL
2	MS-03-A-03 BEMPTON ROAD LIVERPOOL OTTERSPOOL Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 15 Survey date: FRIDAY 21/06/13	DETACHED	MERSEYSIDE	Survey Type: MANUAL
3	NF-03-A-03 HALING WAY THETFORD Edge of Town Residential Zone Total No of Dwellings: 10 Survey date: WEDNESDAY 16/09/15	DETACHED HOUSES	NORFOLK	Survey Type: MANUAL
4	NF-03-A-10 HUNSTANTON ROAD HUNSTANTON Edge of Town Residential Zone Total No of Dwellings: 17 Survey date: WEDNESDAY 12/06/18	MIXED HOUSES & FLATS	NORFOLK	Survey Type: MANUAL
5	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 10 Survey date: WEDNESDAY 10/05/17	TERRACED HOUSES	NORTH YORKSHIRE	Survey Type: DIRECTIONAL ATC COUNT
6	SF-03-A-05 VALE LANE BURY ST EDMUNDS Edge of Town Residential Zone Total No of Dwellings: 18 Survey date: WEDNESDAY 09/09/15	DETACHED HOUSES	SUFFOLK	Survey Type: MANUAL
7	TW-03-A-02 WEST PARK ROAD GATESHEAD Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 16 Survey date: MONDAY 07/10/13	SEMI -DETACHED	TYNE & WEAR	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
SH-03-A-06	N/A
SY-03-A-03	N/A
WK-03-A-02	N/A

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	7	13	0.085	7	13	0.255	7	13	0.340
08:00 - 09:00	7	13	0.138	7	13	0.383	7	13	0.521
09:00 - 10:00	7	13	0.085	7	13	0.170	7	13	0.255
10:00 - 11:00	7	13	0.191	7	13	0.128	7	13	0.319
11:00 - 12:00	7	13	0.128	7	13	0.223	7	13	0.351
12:00 - 13:00	7	13	0.277	7	13	0.223	7	13	0.500
13:00 - 14:00	7	13	0.191	7	13	0.181	7	13	0.372
14:00 - 15:00	7	13	0.128	7	13	0.138	7	13	0.266
15:00 - 16:00	7	13	0.234	7	13	0.223	7	13	0.457
16:00 - 17:00	7	13	0.181	7	13	0.138	7	13	0.319
17:00 - 18:00	7	13	0.309	7	13	0.128	7	13	0.437
18:00 - 19:00	7	13	0.298	7	13	0.202	7	13	0.500
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.245			2.392			4.637

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:	8 - 18 (units:)
Survey date range:	01/01/13 - 09/09/20
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	3

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.

Calculation Reference: AUDIT-437201-210528-0540

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	CH CHESHIRE	2 days
	MS MERSEYSIDE	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: No of Dwellings
 Actual Range: 22 to 80 (units:)
 Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 20/10/20

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:

Sunday 7 days

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

Selected survey types:

Manual count 7 days
 Directional ATC Count 0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre) 3
 Edge of Town 4

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:

Residential Zone 7

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

Secondary Filtering selection:

Use Class:

C3 7 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	1 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days
1.6 to 2.0	2 days

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

Travel Plan:

No 7 days

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

PTAL Rating:

No PTAL Present 7 days

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

LIST OF SITES relevant to selection parameters

1	CA-03-A-03 SUGAR WAY PETERBOROUGH WOODSTON Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 28 Survey date: SUNDAY 11/05/08	SEMI DETACHED HOUSES	CAMBRIDGESHIRE	Survey Type: MANUAL
2	CH-03-A-03 SPRING GARDENS CREWE Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 80 Survey date: SUNDAY 19/10/08	SEMI-DETACHED	CHESHIRE	Survey Type: MANUAL
3	CH-03-A-04 LIME TREE AVENUE CREWE Edge of Town Residential Zone Total No of Dwellings: 25 Survey date: SUNDAY 19/10/08	DETACHED/SEMI-DET.	CHESHIRE	Survey Type: MANUAL
4	MS-03-A-02 RIVERSIDE DRIVE LIVERPOOL AIGBURTH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 31 Survey date: SUNDAY 05/09/10	DETACHED	MERSEYSIDE	Survey Type: MANUAL
5	NY-03-A-02 CLOTHERHOLME ROAD RIPON Edge of Town Residential Zone Total No of Dwellings: 22 Survey date: SUNDAY 21/09/08	DETACHED	NORTH YORKSHIRE	Survey Type: MANUAL
6	NY-03-A-04 BOROUGHBRIDGE HORSEFAIR Edge of Town Residential Zone Total No of Dwellings: 23 Survey date: SUNDAY 14/09/08	PRIVATE HOUSING	NORTH YORKSHIRE	Survey Type: MANUAL
7	SH-03-A-02 GATCOMBE WAY TELFORD PRIORSLEE Edge of Town Residential Zone Total No of Dwellings: 57 Survey date: SUNDAY 21/06/09	DETACHED	SHROPSHIRE	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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	7	38	0.049	7	38	0.045	7	38	0.094
08:00 - 09:00	7	38	0.053	7	38	0.102	7	38	0.155
09:00 - 10:00	7	38	0.090	7	38	0.184	7	38	0.274
10:00 - 11:00	7	38	0.195	7	38	0.267	7	38	0.462
11:00 - 12:00	7	38	0.233	7	38	0.316	7	38	0.549
12:00 - 13:00	7	38	0.278	7	38	0.226	7	38	0.504
13:00 - 14:00	7	38	0.259	7	38	0.192	7	38	0.451
14:00 - 15:00	7	38	0.229	7	38	0.237	7	38	0.466
15:00 - 16:00	7	38	0.248	7	38	0.199	7	38	0.447
16:00 - 17:00	7	38	0.222	7	38	0.154	7	38	0.376
17:00 - 18:00	7	38	0.173	7	38	0.135	7	38	0.308
18:00 - 19:00	7	38	0.154	7	38	0.139	7	38	0.293
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.183			2.196			4.379

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:	22 - 80 (units:)
Survey date range:	01/01/08 - 20/10/20
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	0
Number of Sundays:	7
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

Appendix B

Journey to Work Census Routes

