

TRAFFIC AND TRANSPORTATION ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPEMNT AT
MERLIN PARK, CO. GALWAY

Galway City Council
Project No. G477
19th March 2021



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OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

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DOCUMENT CONTROL & HISTORY

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**PROPOSED RESIDENTIAL DEVELOPMENT AT MERLIN PARK,
CO. GALWAY**

**GALWAY CITY COUNCIL
TRAFFIC AND TRANSPORTATION ASSESSMENT**

PROJECT NO. G477

19TH MARCH 2021

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1. INTRODUCTION

O'Connor Sutton Cronin & Associates (OCSC) have been commissioned to undertake this assessment with respect to the proposed residential development at Merlin Park, Co. Galway. The site location can be seen in *Figure 1* below.



Figure 1: Indicative Site Location Map

The proposed development comprises of 103 no. residential units which will consist of a mix of housings and apartments. The development proposals include a provision of crèche which can facilitate approximately 20 children and also 144 no. car parking spaces (*138 no. spaces for residential units and 6 no. spaces for crèche unit*) in total to serve residential and crèche units.

The subject site area is approximately 2.73 hectares and it is immediately bounded by existing residential development to the south-west and the Coillte Mhuirlinne estate to the north and east.

It is noted that the proposed development will connect to the existing Coillte Mhuirlinne Estate and share the existing site entrance on Castlepark Road.

The purpose of this report is to provide a detailed and conservative assessment of the development proposals and the potential traffic impact on the operation of the local road network.

In carrying out the above, this assessment has given due consideration to the relevant guidelines including:

- *Traffic & Transport Assessment Guidelines (2014)* as published by the former National Roads Authority (NRA) now Transport Infrastructure Ireland (TII);
- *Guidelines for Traffic Impact Assessment (1997)* as published by the Chartered Institute of Highways & Transportation;
- *Galway City Council Development Plan 2017-2023*.

2. STUDY METHODOLOGY

Section 6 of this report interrogates the Traffic and Transport Assessment Guidelines as published by Transport Infrastructure Ireland (TII) in 2014 for guidance and requirements for detailed traffic modelling within this application. Please refer to Section 6 for further details on the requirements of detailed design traffic modelling for any new development.

The number of residential units proposed within this application and potential additional trips estimated indicate the proposed development is significantly below the thresholds for a detailed traffic assessment set by TII. Please refer to Section 4 of this report for the trip estimates for the proposed development. The traffic generation potential of the development was assessed using the Trics¹ planning database. This database contains information on thousands of sites in Ireland and the U.K. and can be used to predict the traffic that will be generated by numerous types of development.

As a result of Covid 19 and the associated restrictions put in place to combat its spread have had a significant impact travel patterns and traffic levels across the country. In order to ensure the data used as the basis for this assessment was accurate, OCSC contacted a number of surveyors with regards to obtaining recent survey data for the local area which could be used to inform this assessment. However, no suitable data was available.

As per the above statement, it has not been possible to obtain the latest the traffic survey data due to the current restriction on workplaces and travel and there is no any recent traffic survey data is available to use under this circumstance.

¹ Trip Rate Information Computer System

3. THE RECEIVING ENVIRONMENT

The receiving environment is sub-urban in nature. As mentioned previously, the additional traffic generated by the proposed development is expected to have a negligible impact on the operation of the wider network based on the scale of the development and the number of units proposed. While there is expected to be substantial variation in the type of traffic travelling on the links locally, during the peak travel hours they would be expected to predominantly consist of commuter trips.

4. CHARACTERISTICS OF THE DEVELOPMENT

EXISTING SITE OVERVIEW

The development site is currently a green-field site with an overall site area of c. 2.73 hectares. An overview of the proposed development is outlined as the figure below.



Figure 2: Existing Site Overview

As noted in the introduction, the proposed development will connect to the existing Coillte Mhuirlinne Estate and share the site junction entrance on Castlepark Road.

PROPOSED DEVELOPMENT OVERVIEW

The proposed development will consist of 103 no. residential units comprising:

- 17 no. apartment units (includes 3 no. forest apartment units);
- 86 no. housing units;
- A small crèche.

The proposed layout is shown in Figure 3 following.

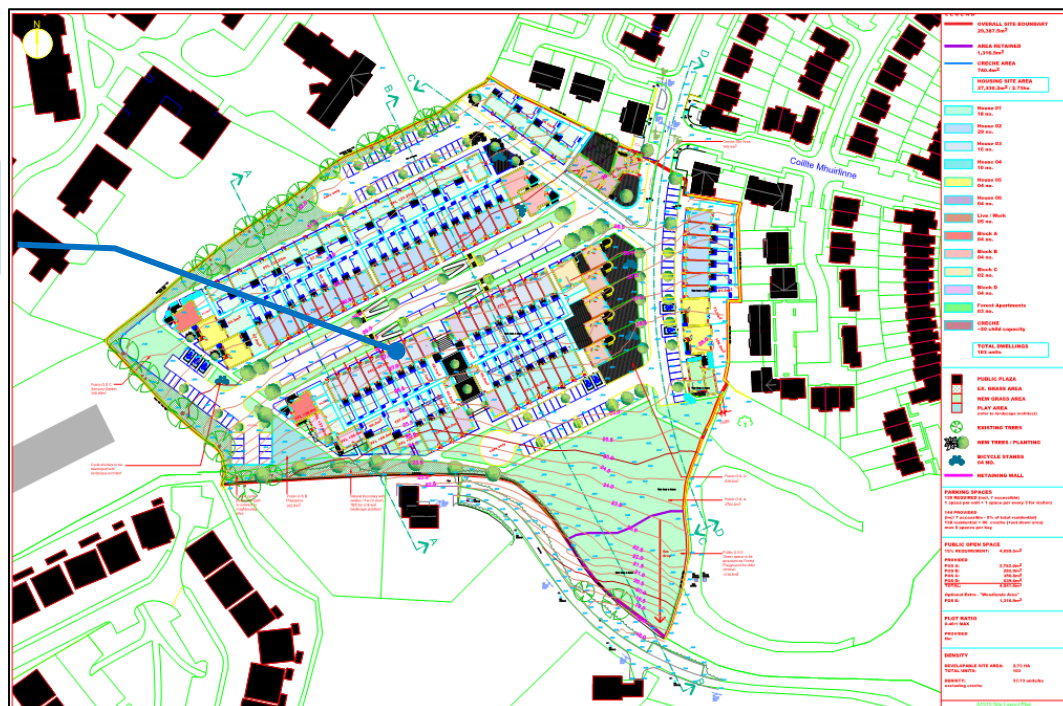


Figure 3: Indicative Site Layout

It is proposed to provide 144 no. car parking spaces in total across throughout the site which include 7 no. accessible spaces.

TRIP GENERATION

The traffic generation potential of the proposed development has been estimated using the Trics software modelling database which is an industry standard tool. When developing traffic generation estimates for any development, a number of surveys are selected from the database based on a range of factors including development type, size, location, public

transport etc. The results are then used to establish trip rates for the development in question which are ultimately used to derive estimates for traffic generation. Although the crèche is a part of the development proposals, it is not expected to be a primary trip generator based on the scale of the crèche. The Trics output files relative to this assessment can be found in *Appendix A* of this report.

The Trip Generation for the proposed housing units is shown in Table 1 below.

Time Range	Housing	
	<i>Arrivals</i>	<i>Departures</i>
00:00-01:00	0	0
01:00-02:00	0	0
02:00-03:00	0	0
03:00-04:00	0	0
04:00-05:00	0	0
05:00-06:00	0	0
06:00-07:00	0	0
07:00-08:00	6	21
08:00-09:00	10	32
09:00-10:00	12	13
10:00-11:00	10	13
11:00-12:00	12	13
12:00-13:00	13	14
13:00-14:00	13	14
14:00-15:00	15	15
15:00-16:00	21	15
16:00-17:00	23	15
17:00-18:00	26	13
18:00-19:00	24	15
19:00-20:00	0	0
20:00-21:00	0	0
21:00-22:00	0	0
22:00-23:00	0	0
23:00-24:00	0	0
<i>Daily Trips:</i>	185	191

Table 1: Estimated Trip Generation for Housing Units

Based on Table 1, the proposed housing units are expected to generate approximately 375 additional trips over a 24 hour period. Of these,

approximately 10 arrivals and 32 departures are expected during the A.M. peak hour (08:00-09:00) while approximately 26 arrivals and 13 departures are expected in the P.M. peak hour (17:00-18:00).

The Trip Generation for the proposed apartment units is shown in Table 1 below.

Time Range	<u>Apartments</u>	
	<i>Arrivals</i>	<i>Departures</i>
00:00-01:00	0	0
01:00-02:00	0	0
02:00-03:00	0	0
03:00-04:00	0	0
04:00-05:00	0	0
05:00-06:00	0	0
06:00-07:00	0	0
07:00-08:00	1	2
08:00-09:00	1	3
09:00-10:00	2	2
10:00-11:00	1	1
11:00-12:00	1	1
12:00-13:00	1	1
13:00-14:00	1	2
14:00-15:00	1	1
15:00-16:00	2	2
16:00-17:00	2	2
17:00-18:00	3	2
18:00-19:00	2	2
19:00-20:00	0	0
20:00-21:00	0	0
21:00-22:00	0	0
22:00-23:00	0	0
23:00-24:00	0	0
<i>Daily Trips:</i>	20	21

Table 2: Estimated Trip Generation for Apartment Units

As can be seen above, the proposed apartment units are expected to generate approximately 41 additional trips over a 24 hour period. Of these, approximately 1 arrivals and 3 departures are expected during the A.M. peak hour (08:00-09:00) while approximately 3 arrivals and 2 departures are expected in the P.M. peak hour (17:00-18:00).

SITE ACCESSIBILITY

Bus

There is a number of existing bus stops along Castlepark road. The closest bus stop is located approximately 500m (7 min) walk from the proposed development.

The bus route serving these stops is listed as follow:

- 401 Eyre Square - Salthill;

The existing bus services are operated by Bus Eireann and the location of the nearest bus stop can be seen in Figure 4 below.

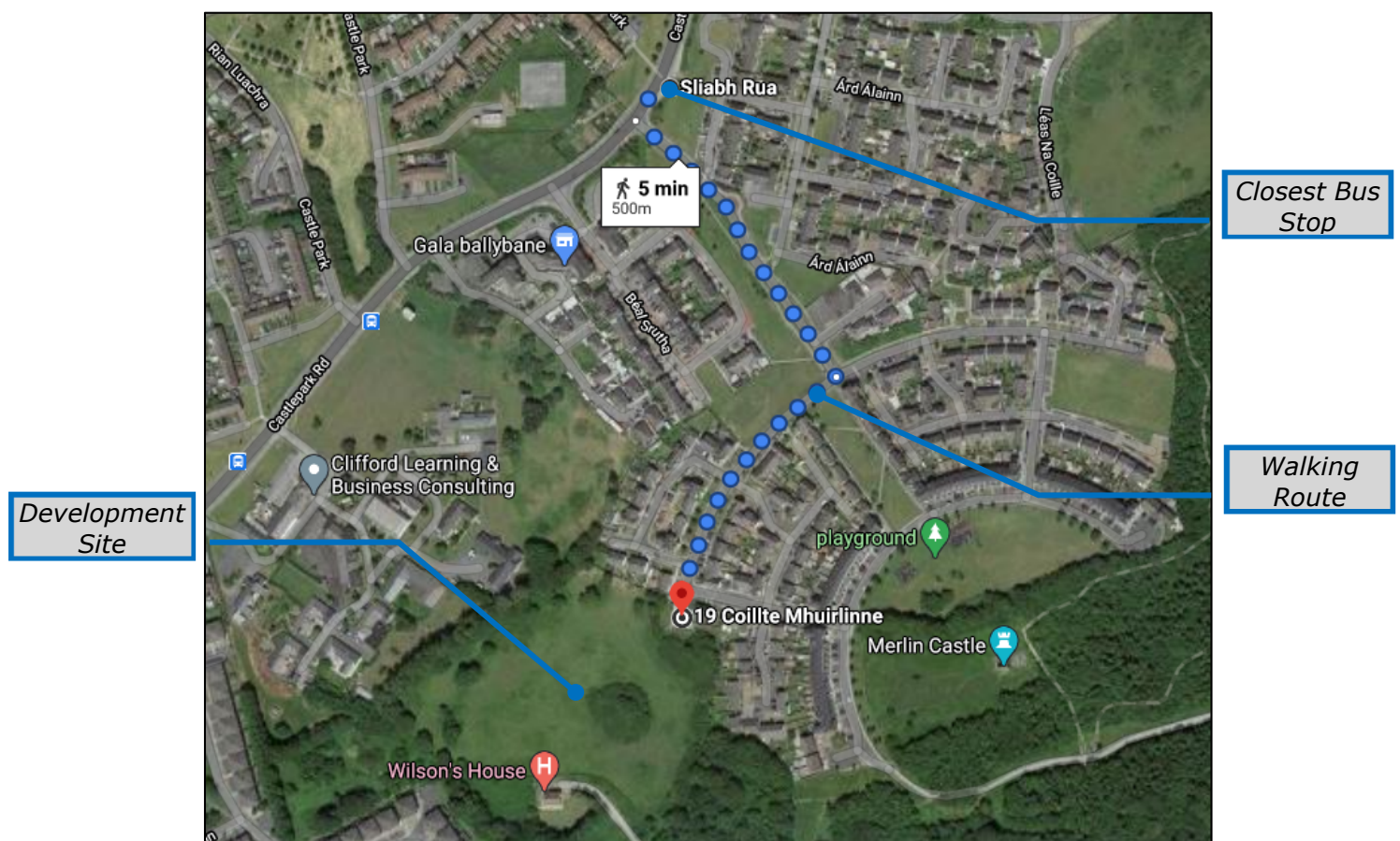


Figure 4: Walking Route to nearest bus stop

More details of these bus services can be found at www.galwaytransport.info.

Rail

The 401 bus route service links the proposed development to the Galway Rail Station which provides access to the following rail service:

- Dublin Heuston – Galway service;
- Galway – Limerick service;
- Galway – Limerick (Connections with Cork and Tralee) service.

The bus route to the Galway Rail Station from the proposed development are shown in the figure below.

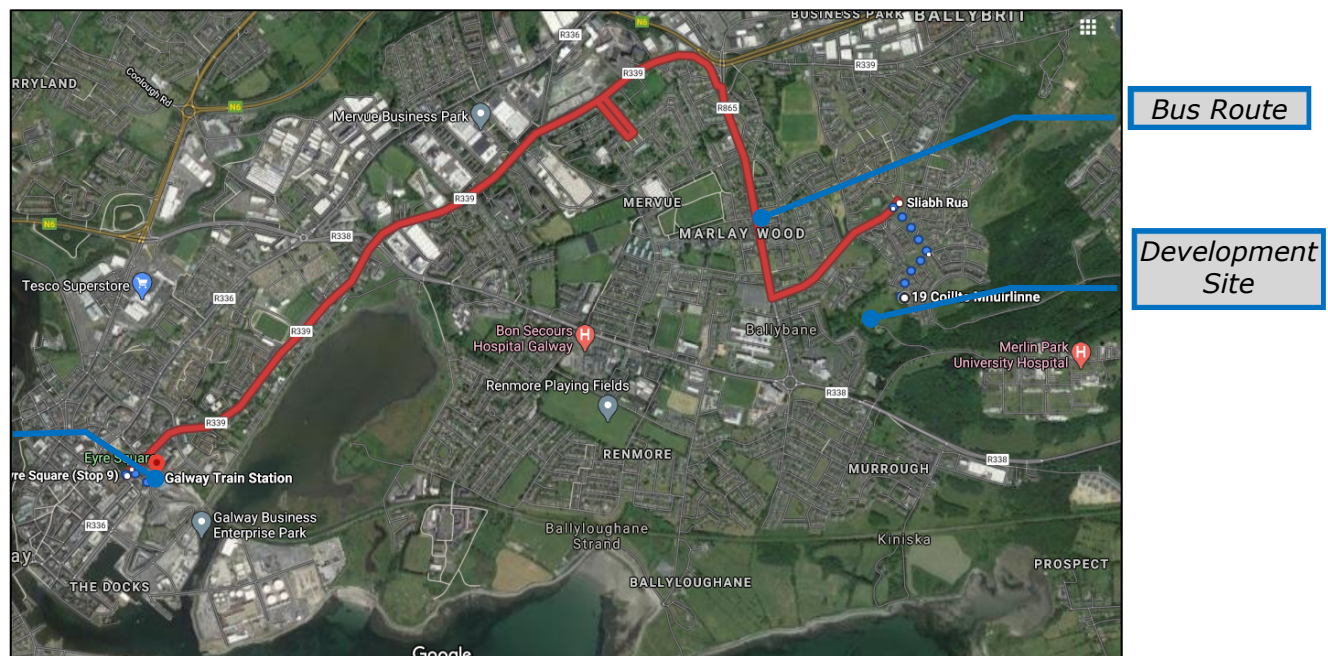


Figure 5: 401 Bus Route to Galway Rail Station

More details of these rail services can be found at www.irishrail.ie.

5. POTENTIAL IMPACT OF DEVELOPMENT CONSTRUCTION

Relative to the operation stage, the construction period will be temporary in nature. Construction traffic is expected to consist of the following categories:

- Private vehicles owned and driven by site construction staff and by full time site supervisory staff and occasional professional supervisory staff i.e. design team members and supervisory staff from utility companies;
- Materials delivery and removal vehicles.

It is difficult to assess the exact quantum of traffic that will be generated during the construction period as it will vary throughout the construction process as different activities have different associated transportation needs. However, the following points are noted with regard to construction traffic:

- In general, the construction day will begin and end outside of peak travel hours. As a result, the majority of workers travelling to and from the site will arrive before the a.m. peak hour and depart after the p.m. peak hour;
- No on-site parking will be provided for use by critical staff only with the remainder of staff encouraged to travel by the numerous public transport options serving the locality;
- Adequate on-site compounding will be provided to prevent any potential overflow onto the local transport network;
- The potential for construction staff to be brought to the site in vans/minibuses will be investigated;
- Excavation and materials delivery vehicles travelling to and from the site will be spread across the course of the working day meaning the number of HGV's travelling during the peak hours will be relatively low.

Overall it is expected that the level of traffic generated by the construction works will be less than that generated by the operational phase of the development during the peak traffic hours. As a result, a detailed analysis

of this stage has not been deemed necessary and the impact is considered to be negligible.

Prior to construction, it is expected that a Construction Management Plan will be submitted by the contractor to the Local Authority for agreement prior to the commencement of construction, giving details on the following:

- Daily and weekly working hours;
- Agreed haul routes for incoming materials;
- Licensed hauliers to be used;
- Disposal sites;
- Travel arrangements for construction personnel;
- Appropriate on-site parking arrangements for construction personnel to prevent overspill parking on the local road network;
- Temporary construction entrances to be provided;
- Wheel wash facilities if required;
- Road cleaning and sweeping measures to be put in place if required;
- Temporary construction signage to be put in place and maintained;
- Any proposed traffic management measures such as temporary traffic lights and signage on any public roads.

6. POTENTIAL IMPACT OF DEVELOPMENT OPERATION

In order to assess the actual impact of the operational development on the local road network, the *Traffic & Transport Assessment Guidelines* from TII have been consulted. These guidelines provide an indication of when the potential impact of a development requires further detailed assessment and analysis.

Section 2 of the TII Guidelines sets out a series of thresholds for when a Traffic & Transport Assessment is required. The primary thresholds are set out in Table 2.1 of the guidance, and are as follows:

- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road;
- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive;
- Residential development in excess of 200 dwellings;
- Retail and leisure development in excess of 1,000m²;
- Office, education and hospital development in excess of 2,500m²;
- Industrial development in excess of 5,000m²;
- Distribution and warehousing in excess of 10,000m².

It is noted that the proposed development is well below the 200 residential unit threshold. As outlined previously, the proposed development has been estimated that it will approximately generate 46 trips during morning peak and 44 trips during evening peak only in total, which means it is expected to have negligible impact to the local traffic network. Hence, it is considered that the primary threshold has not been breached based on the nature and scale of the development.

The potential additional trips generated by the proposed development are expected will not affect the National Road due to the location of the development site. Therefore, the advisory thresholds are set out in Table 2.2 of the guidance are considered not suitable to be applied in this instance.

In addition, Section 2 of TII Guidance sets out a further series of sub-thresholds where if two or more are breached, a detailed assessment is recommended.

These thresholds criteria are listed in following:

- The character and total number of trips in / out combined per day are such that as to cause concern;
- The site is not consistent with national guidance or local plan policy or accessibility criteria contained in the Development Plan;
- The development is part of incremental development that will have significant transport implications;
- The development may generate traffic at peak times in heavily trafficked/ congested area or near a junction with a main traffic route;
- The development may generate traffic, particularly heavy vehicles in a residential area;
- There are concerns over the development's potential effects on road safety;
- The development is in a tourist area with potential to cause congestion;
- The planning authority considers that the proposal will result in a material change in trips patterns or raises other significant transport implications.

Again, it is considered that the proposed development does not breach more than two of these criteria based on the nature and scale of the proposed development.

Taking the above into consideration, the development is shown to be below all applicable thresholds set by the TII Guidance which is the industry standard in this regard. As a result, the impact of the development is considered to be negligible and further detailed analysis is not deemed necessary.

7. DO NOTHING SCENARIO

The do nothing scenario would involve leaving the subject site in its current underdeveloped state. This would have a negative impact on the overall development of the area while simultaneously showing no real benefit in transportation terms.

8. REMEDIAL/MITIGATION MEASURES

The assessment has shown that no mitigation measures are required from a capacity point of view. As a result, none are proposed.

9. MONITORING

While it considered that the proposed development will not have negative impact on the operation of the local network based on the scale of the development, it is nevertheless recommended that the local area should be monitored in terms of transportation efficiencies into the future.

Joshua Tai (BE, MIEI)

Civil Engineer

O'Connor Sutton Cronin & Associates

APPENDIX **A**: **T**RICS **O**UTPUT **F**ILES

Calculation Reference: AUDIT-322901-210318-0357

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	RI EAST RIDING OF YORKSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
12	CONNAUGHT	
	GA GALWAY	1 days
13	MUNSTER	
	WA WATERFORD	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	MG MONAGHAN	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: 9 to 135 (units:)
 Range Selected by User: 6 to 372 (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: 01/01/12 to 08/09/20

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
Tuesday	4 days
Wednesday	2 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
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:

Development Zone	1
Residential Zone	2

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 9 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	3 days
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	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:

5,001 to 25,000	2 days
50,001 to 75,000	3 days
125,001 to 250,000	1 days
250,001 to 500,000	2 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 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:

No 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	CA-03-C-03	BLOCKS OF FLATS		CAMBRIDGESHIRE
	CROMWELL ROAD			
	CAMBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total No of Dwellings:	82		
	Survey date: MONDAY	18/09/17		Survey Type: MANUAL
2	CB-03-C-02	BLOCK OF FLATS		CUMBRIA
	BRIDGE LANE			
	PENRITH			
	Edge of Town			
	No Sub Category			
	Total No of Dwellings:	35		
	Survey date: WEDNESDAY	11/06/14		Survey Type: MANUAL
3	GA-03-C-01	FLATS		GALWAY
	BALLYLOUGHANE ROAD			
	GALWAY			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total No of Dwellings:	34		
	Survey date: THURSDAY	31/10/13		Survey Type: MANUAL
4	MG-03-C-01	BLOCK OF FLATS		MONAGHAN
	MALL ROAD			
	MONAGHAN			
	Edge of Town Centre			
	No Sub Category			
	Total No of Dwellings:	28		
	Survey date: FRIDAY	06/09/13		Survey Type: MANUAL
5	MS-03-C-03	BLOCK OF FLATS		MERSEYSIDE
	MARINERS WHARF			
	LIVERPOOL			
	QUEENS DOCK			
	Suburban Area (PPS6 Out of Centre)			
	Development Zone			
	Total No of Dwellings:	9		
	Survey date: TUESDAY	13/11/18		Survey Type: MANUAL
6	NT-03-C-01	HOUSES (SPLIT INTO FLATS)		NOTTINGHAMSHIRE
	LAWRENCE WAY			
	NOTTINGHAM			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total No of Dwellings:	56		
	Survey date: TUESDAY	08/11/16		Survey Type: MANUAL
7	NT-03-C-02	HOUSES (SPLIT INTO FLATS)		NOTTINGHAMSHIRE
	CASTLE MARINA ROAD			
	NOTTINGHAM			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total No of Dwellings:	135		
	Survey date: WEDNESDAY	09/11/16		Survey Type: MANUAL
8	RI-03-C-01	FLATS		EAST RIDING OF YORKSHIRE
	465 PRIORY ROAD			
	HULL			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:	20		
	Survey date: TUESDAY	13/05/14		Survey Type: MANUAL
9	WA-03-C-01	BLOCKS OF FLATS		WATERFORD
	UPPER YELLOW ROAD			
	WATERFORD			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:	51		
	Survey date: TUESDAY	12/05/15		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
AN-03-C-02	Public Transport
BD-03-C-01	Public Transport
BD-03-C-02	Public Transport
BD-03-C-03	Public Transport
CB-03-C-03	Public Transport
CO-03-C-01	Public Transport
DC-03-C-02	Public Transport
DL-03-C-12	Public Transport
DL-03-C-14	Public Transport
DL-03-C-15	Public Transport
DL-03-C-16	Public Transport
DS-03-C-03	Public Transport
DV-03-C-01	Public Transport
EB-03-C-01	Public Transport
ES-03-C-01	Public Transport
EX-03-C-01	Public Transport
EX-03-C-02	Public Transport
HC-03-C-01	Public Transport
HF-03-C-03	Public Transport
LU-03-C-01	Public Transport
LU-03-C-02	Public Transport
LU-03-C-03	Public Transport
MS-03-C-02	Public Transport
NF-03-C-01	Public Transport
NF-03-C-02	Public Transport
SA-03-C-01	Public Transport
SF-03-C-01	Public Transport
SF-03-C-03	Public Transport
SR-03-C-01	Public Transport
SR-03-C-02	Public Transport
SR-03-C-03	Public Transport
SY-03-C-01	Public Transport
WM-03-C-04	Public Transport

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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	9	50	0.067	9	50	0.140	9	50	0.207
08:00 - 09:00	9	50	0.058	9	50	0.184	9	50	0.242
09:00 - 10:00	9	50	0.104	9	50	0.142	9	50	0.246
10:00 - 11:00	9	50	0.064	9	50	0.069	9	50	0.133
11:00 - 12:00	9	50	0.082	9	50	0.073	9	50	0.155
12:00 - 13:00	9	50	0.080	9	50	0.080	9	50	0.160
13:00 - 14:00	9	50	0.082	9	50	0.100	9	50	0.182
14:00 - 15:00	9	50	0.087	9	50	0.078	9	50	0.165
15:00 - 16:00	9	50	0.113	9	50	0.089	9	50	0.202
16:00 - 17:00	9	50	0.113	9	50	0.104	9	50	0.217
17:00 - 18:00	9	50	0.187	9	50	0.091	9	50	0.278
18:00 - 19:00	9	50	0.133	9	50	0.096	9	50	0.229
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.170			1.246			2.416

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: 9 - 135 (units:)
 Survey date range: 01/01/12 - 08/09/20
 Number of weekdays (Monday-Friday): 9
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 33

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-322901-210318-0347

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	3 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	CH CHESHIRE	3 days
12	CONNAUGHT	
	GA GALWAY	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: 9 to 918 (units:)
 Range Selected by User: 4 to 4334 (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: 01/01/12 to 08/10/20

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:

Monday	3 days
Tuesday	4 days
Wednesday	1 days
Thursday	2 days
Friday	1 days

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

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	1
Edge of Town	8

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	9
No Sub Category	2

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

11 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	5 days
15,001 to 20,000	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	3 days
25,001 to 50,000	1 days
50,001 to 75,000	3 days
75,001 to 100,000	2 days
125,001 to 250,000	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	2 days
1.1 to 1.5	9 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	9 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	11 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CH-03-A-09	TERRACED HOUSES	CESHIRE
	GREYSTOKE ROAD		
	MACCLESFIELD		
	HURDSFIELD		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	24	
	Survey date: MONDAY	24/11/14	Survey Type: MANUAL
2	CH-03-A-10	SEMI-DETACHED & TERRACED	CESHIRE
	MEADOW DRIVE		
	NORTHWICH		
	BARNTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	40	
	Survey date: TUESDAY	04/06/19	Survey Type: MANUAL
3	CH-03-A-11	TOWN HOUSES	CESHIRE
	LONDON ROAD		
	NORTHWICH		
	LEFTWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	24	
	Survey date: THURSDAY	06/06/19	Survey Type: MANUAL
4	ES-03-A-03	MIXED HOUSES & FLATS	EAST SUSSEX
	SHEPHAM LANE		
	POLEGATE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	212	
	Survey date: MONDAY	11/07/16	Survey Type: MANUAL
5	ES-03-A-04	MIXED HOUSES & FLATS	EAST SUSSEX
	NEW LYDD ROAD		
	CAMBER		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	134	
	Survey date: FRIDAY	15/07/16	Survey Type: MANUAL
6	ES-03-A-05	MIXED HOUSES & FLATS	EAST SUSSEX
	RATTLE ROAD		
	NEAR EASTBOURNE		
	STONE CROSS		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	99	
	Survey date: WEDNESDAY	05/06/19	Survey Type: MANUAL
7	GA-03-A-04	SEMI DET. & BUNGALOWS	GALWAY
	R347 CAHEROYN ROAD		
	ATHENRY		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	21	
	Survey date: TUESDAY	09/10/12	Survey Type: MANUAL
8	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK		
	SCUNTHORPE		
	Edge of Town		
	No Sub Category		
	Total No of Dwellings:	432	
	Survey date: MONDAY	12/05/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total No of Dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
10	NY-03-A-12	TOWN HOUSES	NORTH YORKSHIRE
	RACECOURSE LANE		
	NORTHALLERTON		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	47	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
11	SH-03-A-05	SEMI-DETACHED / TERRACED	SHROPSHIRE
	SANDCROFT		
	TELFORD		
	SUTTON HILL		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	54	
	Survey date: THURSDAY	24/10/13	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
AG-03-A-01	off parking available
AN-03-A-09	no public transport
CA-03-A-05	Public Transport
CC-03-A-01	Public Transport
CH-03-A-08	Public Transport
DC-03-A-08	Public Transport
DH-03-A-01	Public Transport
DL-03-A-10	Public Transport
DN-03-A-02	no public transport
DN-03-A-03	Public Transport
DN-03-A-04	Public Transport
DN-03-A-06	no public transport
DO-03-A-03	no public transport
DS-03-A-02	Public Transport
DV-03-A-01	Public Transport
DV-03-A-02	Public Transport
DV-03-A-03	Public Transport
EX-03-A-02	Public Transport
FA-03-A-01	Public Transport
FA-03-A-02	Public Transport
HC-03-A-21	Public Transport
HC-03-A-22	no public transport
HF-03-A-03	no public transport
HI-03-A-14	Public Transport
KC-03-A-03	Public Transport
KC-03-A-04	no public transport
KC-03-A-06	no public transport
KC-03-A-07	Public Transport
LC-03-A-30	Public Transport
LN-03-A-03	Public Transport
LT-03-A-01	no public transport
LT-03-A-02	no public transport
MS-03-A-03	Public Transport
NE-03-A-03	no public transport
NF-03-A-01	Public Transport
NF-03-A-02	Public Transport
NF-03-A-03	Public Transport
NF-03-A-05	no public transport
NF-03-A-06	no public transport
NF-03-A-09	Public Transport
NF-03-A-11	Public Transport
NF-03-A-12	Public Transport
NF-03-A-13	no public transport
NF-03-A-14	no public transport

MANUALLY DESELECTED SITES (Cont.)

Site Ref	Reason for Deselection
NF-03-A-16	Public Transport
NY-03-A-08	Public Transport
NY-03-A-09	Public Transport
PS-03-A-01	Public Transport
RO-03-A-03	Public Transport
RO-03-A-04	no public transport
SF-03-A-04	Public Transport
SF-03-A-05	Public Transport
ST-03-A-06	Public Transport
ST-03-A-07	Public Transport
SY-03-A-01	Public Transport
TY-03-A-02	Public Transport
VG-03-A-01	Public Transport
WA-03-A-04	Public Transport
WK-03-A-02	Public Transport
WK-03-A-03	Public Transport
WL-03-A-02	Public Transport
WM-03-A-05	Public Transport
WS-03-A-05	Public Transport
WS-03-A-06	Public Transport
WS-03-A-09	Public Transport
WX-03-A-01	Public Transport
WX-03-A-01	Public Transport
WX-03-A-01	Public Transport
WX-03-A-01	Public Transport
WX-03-A-01	Public Transport

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	11	105	0.071	11	105	0.246	11	105	0.317
08:00 - 09:00	11	105	0.116	11	105	0.370	11	105	0.486
09:00 - 10:00	11	105	0.135	11	105	0.147	11	105	0.282
10:00 - 11:00	11	105	0.122	11	105	0.146	11	105	0.268
11:00 - 12:00	11	105	0.141	11	105	0.152	11	105	0.293
12:00 - 13:00	11	105	0.139	11	105	0.155	11	105	0.294
13:00 - 14:00	11	105	0.150	11	105	0.157	11	105	0.307
14:00 - 15:00	11	105	0.171	11	105	0.177	11	105	0.348
15:00 - 16:00	11	105	0.241	11	105	0.176	11	105	0.417
16:00 - 17:00	11	105	0.272	11	105	0.174	11	105	0.446
17:00 - 18:00	11	105	0.307	11	105	0.151	11	105	0.458
18:00 - 19:00	11	105	0.281	11	105	0.169	11	105	0.450
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.146			2.220			4.366

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Parameter summary

Trip rate parameter range selected: 9 - 918 (units:)
 Survey date range: 01/01/12 - 08/10/20
 Number of weekdays (Monday-Friday): 42
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 32
 Surveys manually removed from selection: 70

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



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