

Rialto Digital Enterprise Hub & Residential Development

Traffic and Mobility Report

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Martin Rogers Consulting Ltd

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1.0 INTRODUCTION

CORA Consulting Engineers have appointed Dr Martin Rogers, Transport Planning Professional, to provide a Traffic and Mobility Report for a proposed Digital Enterprise Hub and Residential Development at the site of the former Rialto Cinema, Nenagh, County Tipperary.

The application involves the conversion of the old cinema in the centre of Nenagh into a co-working space for 60 No. people.

At the rear of the site, 13 No. social houses will be provided.

8 No. car parking spaces are provided for the Digital Enterprise Hub, with 7 No. car parking spaces provided for the social housing.

Within the Part 8 process, Tipperary County Council have requested that a report be submitted which estimates the traffic volumes generated by the proposed development and its impact on the local road network.

This report will address these requirements. In relation to the proposed digital enterprise hub, the report will estimate modal splits for the facility and use these as a basis for computing the person car trips generated by the proposal, the proportions parking both on site (within the 8 No. spaces provided) within the proposed development, and within the off-street spaces within the local road network. In relation to the social housing, output from the TRICS database will be used to estimate both the hour-on-hour trips generated by the residential units and the parking requirements arising.

Section 2 of this report relates to the Digital Enterprise Hub component of the proposed development. Output from the National Household Travel Survey (NHTS, December 2018) is utilised to generate modal splits for the Digital Enterprise Hub. The modal split for car driver is then used to estimate morning peak hour car trips to the proposed development. The on-site and off-site parking capacity within the local road network and its ability to cope with incident traffic from the proposal can then be assessed. Other modes are also discussed.

Section 3 of this report relates to the social housing component of the proposal. It utilises the TRICS Database to estimate the traffic generated by the proposed residential development throughout a typical working day, and estimates the parking accumulations arising from a 13-unit development, demonstrating the ability of the allotted 7 No. car parking spaces to cope with these accumulations.

Section 4 makes some concluding comments regarding the sustainability of the proposed development

Figure 1-1 indicates the general location for the proposed development within Nenagh town.

Figure 1-2 details a site layout plan for the proposed Social Housing Development.

Figure 1-3 details a site layout plan for the proposed Digital Enterprise Hub Development

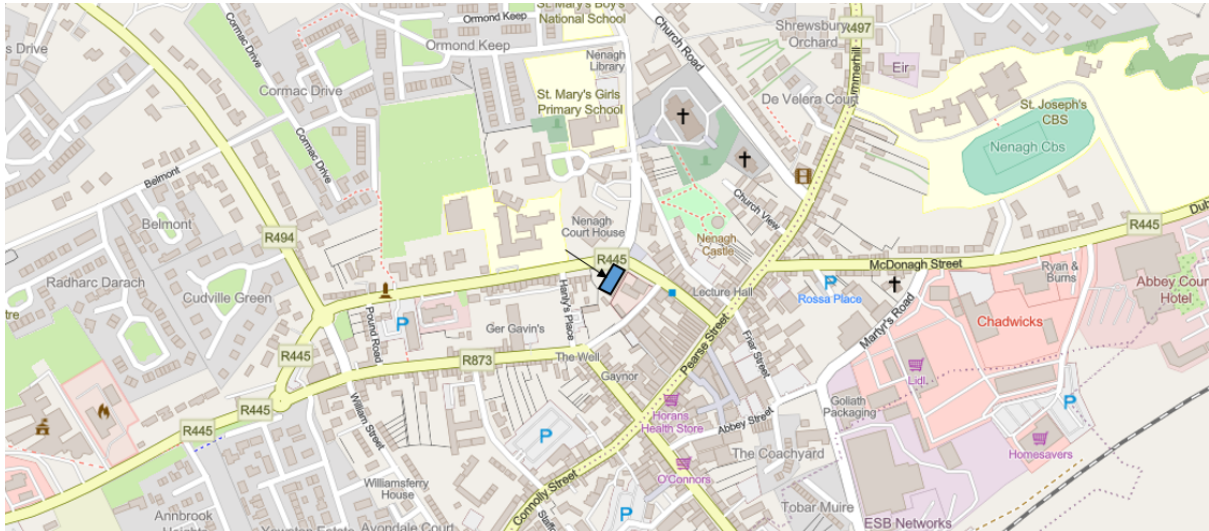


Figure 1-1: General site location within Nenagh town

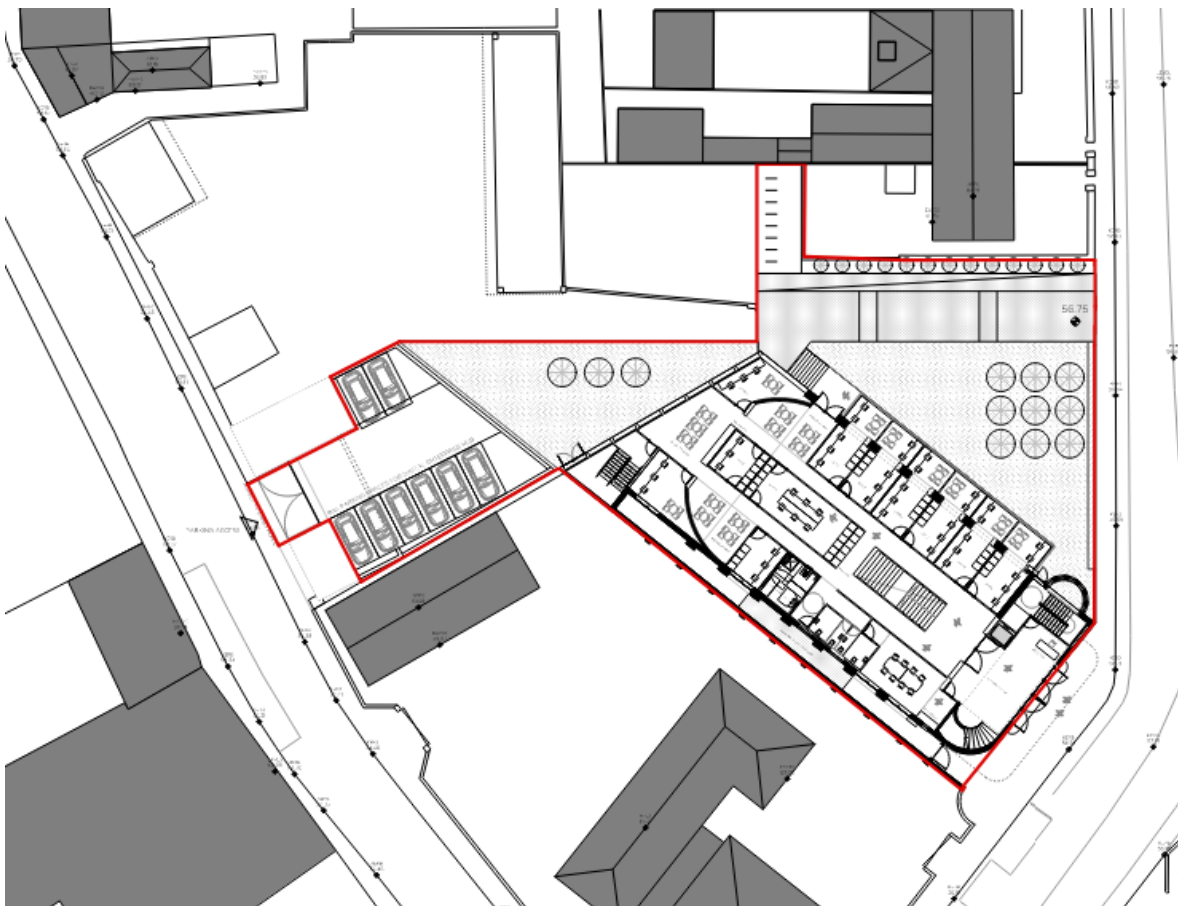


Figure 1-2: Site layout of proposed Digital Enterprise Hub Development

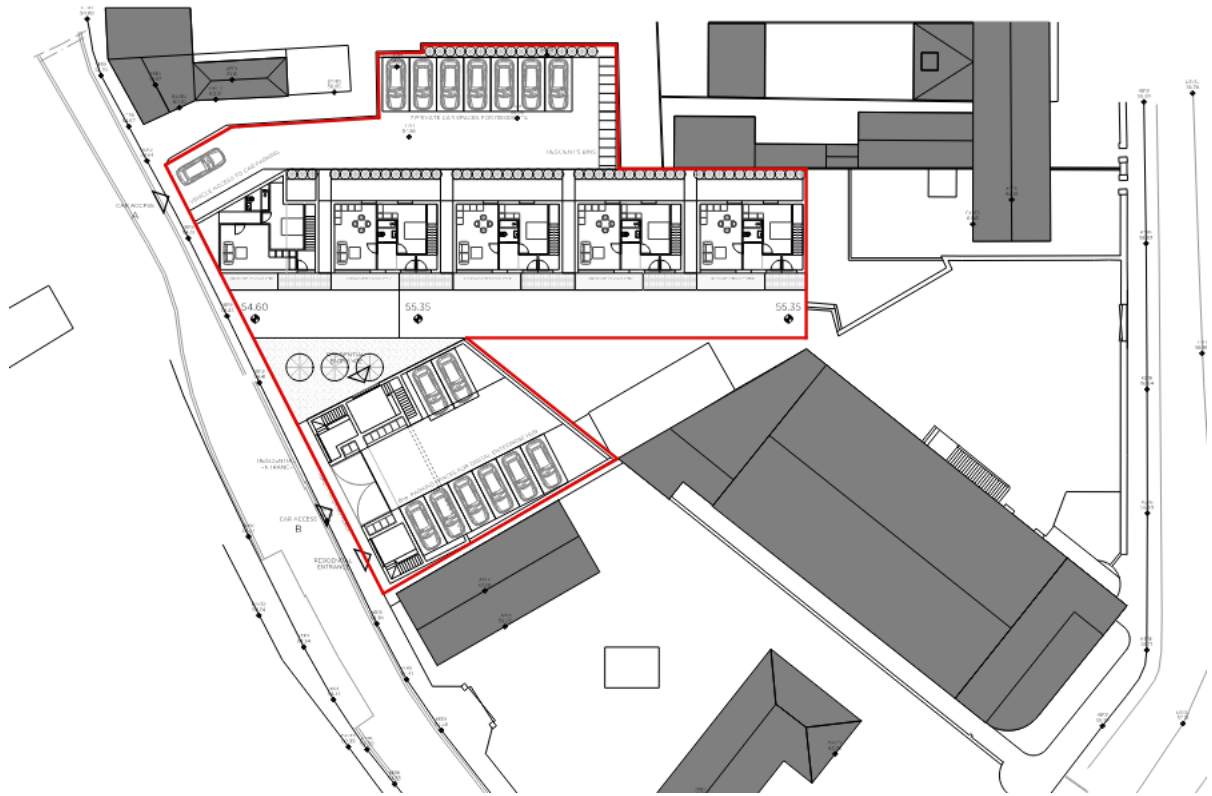


Figure 1-3: Site layout of proposed Social Housing Development

2.0 TRAFFIC IMPACT OF PROPOSED DIGITAL ENTERPRISE HUB

2.1 NATIONAL HOUSEHOLD TRAVEL SURVEY

The NHTS is defined as ‘a nationally representative study of Ireland’s travel habits’. It comprised a survey administered to 5,906 households with a 3-day travel diary to be completed by each household member aged over 4. A total of 10,289 diaries were completed, detailing 62,307 trips and detailing relevant factors such as distance travelled, journey duration, mode of transport, reason for journey, the day of travel, journey time and number of persons travelling, as well as all relevant demographic profiles.

To facilitate in-depth analysis and to allow for comparability, travel habits for 6 regions were examined within the NHTS as detailed below:

1. Dublin City (Dún Laoghaire- Rathdown, Fingal, Dublin City and South Dublin);
2. The Greater Dublin Area (All of Dublin in addition to Kildare, Meath and Wicklow);
3. The Regional Cities (Cork City, Galway City, Limerick City and Waterford City);
4. Urban Town (Towns with a population of over 10,000);
5. Rural Areas (All areas with a population of less than 1,500); and
6. Other Urban Areas (Towns with a population of between 1,500 and 10,000)

Region 6 – ‘other urban areas’ - includes Nenagh town, and this region is analysed in detail within this report.

The map below within Figure 2-1 indicates the location of ‘other urban areas’ in Ireland from which the sample has been drawn, including Nenagh town:

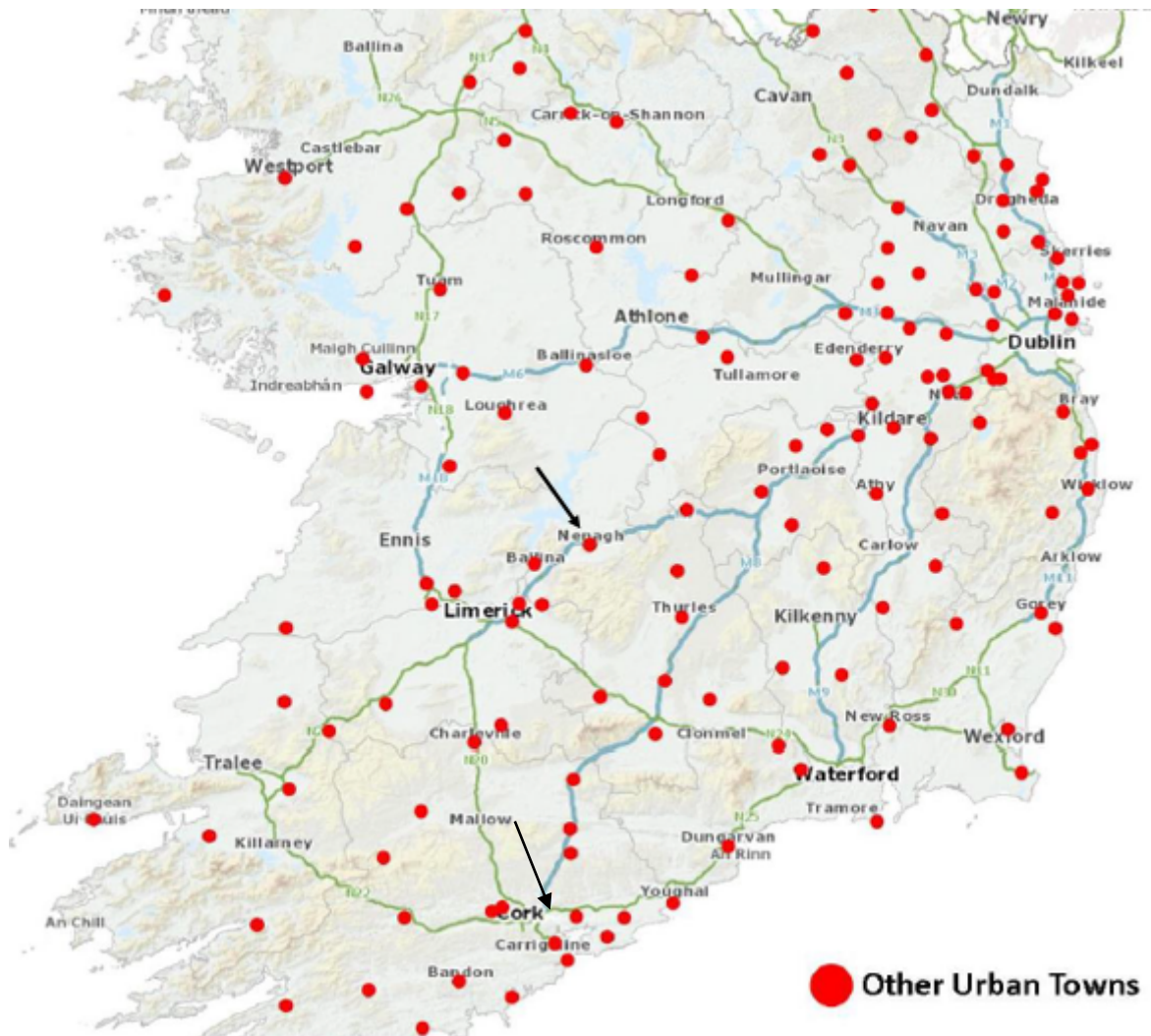


Figure 2-1: Location of 'other urban areas' in NHTS study area, with Nenagh identified

Figure 2-2 details the modal splits for different journey purposes:

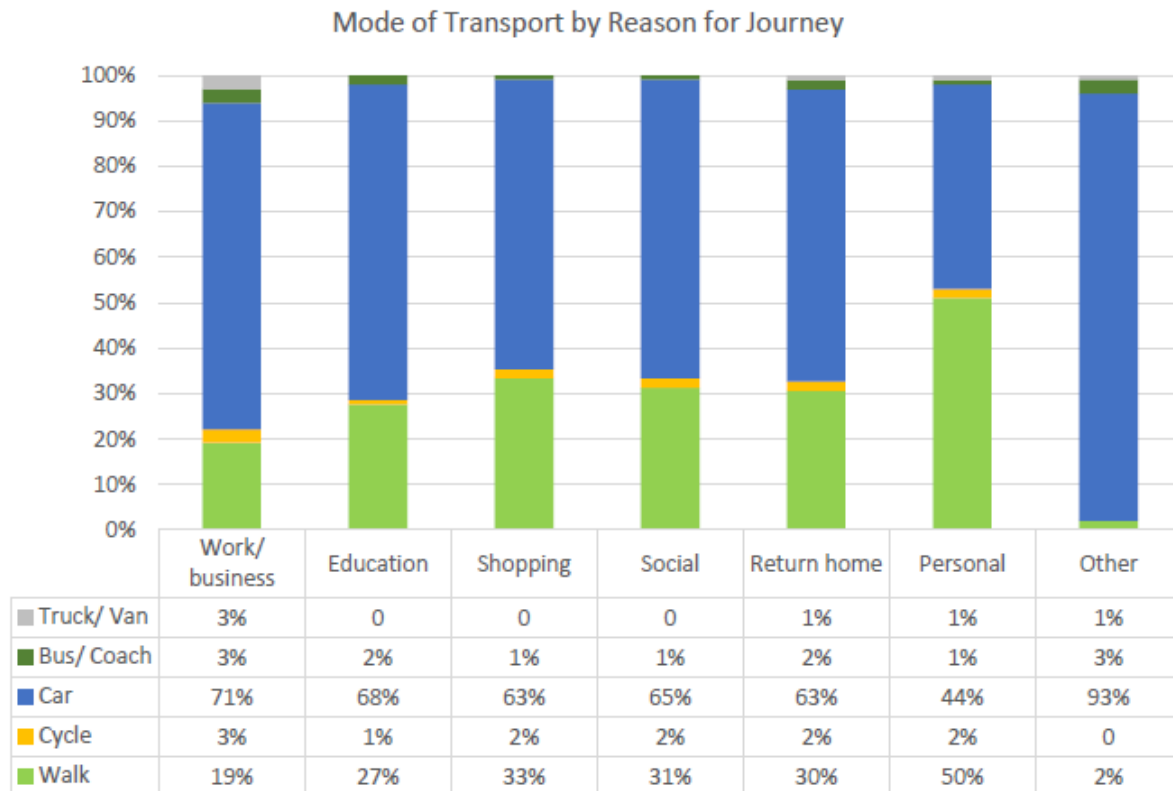


Figure 2-2: Modal splits for different trip purposes

In overall terms, the car was found to be the primary mode of transport within urban towns, accounting for 64% of all trips undertaken. Walking is the second most used mode of transport with 29% of travel being by foot. For work / business purposes in particular, the figures are as detailed within Table 2-1:

Transport Mode	WORK / BUSINESS
Car	71
Public Transport	3
Walk	19
Cycle	3
Other	3

Table 2-1: Modal splits for work / business-related trips

The relevant text from the NHTS is contained within Appendix 1 (Section 10 of NHTS).

2.2 CAR TRIPS GENERATED BY PROPOSED DIGITAL ENTERPRISE HUB ON A TYPICAL WORKING DAY

The proposed Digital Enterprise Hub will cater for 60 No. persons.

The above modal splits indicate that 71% will utilise a car to travel to the facility at the start of the working day.

This report assumes that each vehicle will have an occupancy of 1.2 No. persons per vehicle.

Therefore, the following number of car trips is predicted to be generated by the proposed digital enterprise hub:

ARRIVING CAR TRIPS AT DIGITAL ENTERPRISE HUB = $60 \times 0.71 \div 1.2 = 35$ No. car trips.

Assuming an occupancy rate over the working week of 80%, this equates to $35 \times 0.8 = 28$ No. car trips on a typical working day.

29% of these trips will be catered for by the 8 No. on-site car parking spaces available at the proposed development, dedicated to the digital enterprise hub.

Section 2.3 below details the off-street parking available within the town centre to cater for the remaining 18 No. car trips generated on a typical working day.

2.3 AVAILABLE OFF-STREET AND ON-STREET PARKING CLOSE TO PROPOSED DIGITAL ENTERPRISE HUB

There is a significant quantity off-street and on-street parking available close to the site of the proposed development.

Figure 2-3 details 7 No. off-street car parks in Nenagh within approximately 250 metres walk of the site of the proposed development:



Figure 2-3: 7 No. car parks close to the site of the proposed development

Table 2-2 details the number of car parking spaces in the 7 No. car parks detailed within Table 2-2.

	CAR PARK LOCATION	NUMBER OF SPACES
1	Hanly's Place	10
2	O'Rahilly Street	31
3	Scouts Hall	29
4	Friar Street	28
5	Abbey Street	49
6	John's Lane	155
7	Kenyon Street	130
TOTAL		432

Table 2-2: Number of off-street spaces in 7 No. car parks identified

The maximum stay at the above locations varies from four to six hours.

In addition, there is significant on-street parking close to the site, with on-street parking bays along Ashe Road, Kickham Street and Emmet Place.

2.4 ABILITY OF AVAILABLE OFF-SITE CAR PARKING TO COPE WITH DEMAND GENERATED BY PROPOSED DEVELOPMENT

Section 2.2 above estimates that 20 No. car trips to the proposed digital enterprise hub will require an off-site car parking space.

Section 2.3 identifies 432 No. off-street spaces available to digital hub users, with significant on-street parking also available for short-term (maximum 2-hours) use.

Therefore, users at the proposed digital hub would, on a typical working day, take up only 4.6% of off-street car parking spaces, with additional capacity also available on-street.

It can thus be concluded that adequate car parking exists for car trips generated by the proposed digital enterprise hub not accommodated by the 8 No. on-site dedicated car parking spaces for these patrons.

2.5 OTHER MODES USED TO TRAVEL TO THE DIGITAL ENTERPRISE HUB

The modal split data from the NHTS indicates that 19% of patrons (11 No. patrons) will walk to the hub, completely reasonable given the large residential districts within 1 km of the digital hub. Only 3% are predicted to cycle, equivalent to 2 No. patrons, though this figure may increase if cycle parking facilities are provided on site.

3.0 TRAFFIC IMPACT OF 13 NO. SOCIAL HOUSING UNITS

3.1 INTRODUCTION

Section 3.2 uses the TRICS database to estimate the trips generated by the proposed development during a typical working day, illustrating the low volumes generated by this development type, much less than standard housing.

Section 3.3 uses the TRICS data for the site to derive the parking accumulations during the day at the proposed social housing development.

3.2 TRIPS GENERATED BY PROPOSED SOCIAL HOUSING

The TRICS Database plays a central role in the process of trip estimation within both the UK and Ireland. It utilizes traffic survey information from 121 separate land use categories of land use in the database system, and allows its users to establish potential levels of trip generation for a wide range of development and location scenarios.

The TRICS evidence base contains over 7,150 transport surveys. The individual site records within the database contain comprehensive, detailed information on a site's local environment and surroundings; the composition and functions of a site; its on-site and off-site parking facilities; and hourly, directional transport count results covering a wide range of transport modes. Annual data collection programmes ensure that new transport surveys are added to the database every three months.

As a result of the TRICS system development and its frequent updating, TRICS has become the industry standard both within the UK and Ireland for assessing trip generation for major development projects.

Figure 3-1 details the typical daily flows for a 13-unit social housing development, the maximum departures during the morning peak hour, the maximum arrivals during the evening peak hour, and the total daily arrivals and departures:

TRIP RATE for Land Use 03 - RESIDENTIAL/B - AFFORDABLE/LOCAL AUTHORITY HOUSES

TOTAL VEHICLES

Calculation factor: 1 DWELLS

Estimated TRIP rate value per 13 DWELLS shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	34	0.039	0.513	9	34	0.158	2.053	9	34	0.197	2.566
08:00 - 09:00	9	34	0.141	1.839	9	34	0.253	3.293	9	34	0.394	5.132
09:00 - 10:00	9	34	0.128	1.668	9	34	0.161	2.053	9	34	0.289	3.763
10:00 - 11:00	9	34	0.178	2.309	9	34	0.145	1.882	9	34	0.323	4.191
11:00 - 12:00	9	34	0.138	1.796	9	34	0.135	1.753	9	34	0.273	3.549
12:00 - 13:00	9	34	0.168	2.181	9	34	0.138	1.796	9	34	0.306	3.977
13:00 - 14:00	9	34	0.099	1.283	9	34	0.164	2.138	9	34	0.263	3.421
14:00 - 15:00	9	34	0.188	2.438	9	34	0.181	2.352	9	34	0.369	4.790
15:00 - 16:00	9	34	0.303	3.934	9	34	0.220	2.865	9	34	0.523	6.799
16:00 - 17:00	9	34	0.240	3.132	9	34	0.174	2.266	9	34	0.414	5.388
17:00 - 18:00	9	34	0.342	4.447	9	34	0.224	2.908	9	34	0.566	7.355
18:00 - 19:00	9	34	0.224	2.908	9	34	0.164	2.138	9	34	0.388	5.046
19:00 - 20:00	1	19	0.316	4.105	1	19	0.158	2.053	1	19	0.474	6.158
20:00 - 21:00	1	19	0.158	2.053	1	19	0.105	1.368	1	19	0.263	3.421
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.662	34.596			2.380	30.960			5.042	65.556

Figure 3-1: Trips predicted to be generated by 13 No. social housing units (further details in Appendix 2)

The above figures indicate an average of only 32 arrivals and 32 departures per day, less than 2.5 No. inward and 2.5 No. trips outward per unit, with 1 No. vehicle departing every 18 minutes during the morning peak and 1 No. vehicle arriving every 13.5 minutes during the evening peak. These equate to very low traffic flows.

3.3 ADEQUACY OF PARKING PROVISION

The development plan requires 1 No. parking space per residential unit where these units are 1-bed. This would require 13 No. car parking spaces for full compliance.

However, the figures in Figure 3-1 detail trip rates significantly less than the rates derived for a standard residential development with privately owned units. For example, privately owned Irish housing units will typically generate morning peak departures of 7.6 No. vehicles, 240% greater than the local authority housing figure, and evening peak arrivals of 6.1 No. vehicles, 140% greater than the local authority housing arrival rate (see Figure 3-2).

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	12	30	0.082	1.071	12	30	0.223	2.893	12	30	0.305	3.964
08:00 - 09:00	12	30	0.255	3.321	12	30	0.585	7.607	12	30	0.840	10.928
09:00 - 10:00	12	30	0.247	3.214	12	30	0.283	3.679	12	30	0.530	6.893
10:00 - 11:00	12	30	0.220	2.857	12	30	0.272	3.536	12	30	0.492	6.393
11:00 - 12:00	12	30	0.236	3.071	12	30	0.264	3.429	12	30	0.500	6.500
12:00 - 13:00	12	30	0.253	3.286	12	30	0.225	2.929	12	30	0.478	6.215
13:00 - 14:00	12	30	0.297	3.857	12	30	0.338	4.393	12	30	0.635	8.250
14:00 - 15:00	12	30	0.319	4.143	12	30	0.319	4.143	12	30	0.638	8.286
15:00 - 16:00	12	30	0.404	5.250	12	30	0.382	4.964	12	30	0.786	10.214
16:00 - 17:00	12	30	0.426	5.536	12	30	0.261	3.393	12	30	0.687	8.929
17:00 - 18:00	12	30	0.473	6.143	12	30	0.332	4.321	12	30	0.805	10.464
18:00 - 19:00	12	30	0.368	4.786	12	30	0.357	4.643	12	30	0.725	9.429
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			3.580	46.535			3.841	49.930			7.421	96.465

Figure 3-2: Rates for 13 No. privately owned housing units (see Appendix 2 for further details)

Given that the social housing is predicted to generate a maximum of 60% of the trips generated by the same number of private housing units, the provision of 7 No. parking spaces for 13 No. units would appear appropriate.

4.0 FINAL COMMENT ON SUSTAINABILITY OF PROPOSED DEVELOPMENT IN TRANSPORT PLANNING TERMS

In relation to the proposed digital enterprise hub, it is predicted that the 8 No. dedicated car parking spaces will provide parking for just less than one-third of the car based arrivals, with the balance able to park in one of the significant number of available off-street parking facilities nearby.

In relation to the social housing, the TRICS database is utilised to demonstrate the very low flows generated by the proposed residential development.

Thus, in conclusion, the proposed development is fully sustainable in terms of its transport impact.

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APPENDIX

1

**NHTS SECTION
ON 'OTHER
URBAN AREAS'**

10 Other Urban Districts

Key Findings

- Tuesday is the most popular day for travel in other urban areas, with a fifth of trips happening on this day.
- Work/ business trips in other urban areas are most prevalent – accounting for one quarter, with a slightly lower number of trips for social reasons.
- Work or business constitutes the main reason people travel on Monday and Tuesday.
- There is a high proportion of people travelling on the weekend for social reasons.
- The vast majority of all trips are taken by car (two thirds) or walking (3 in 10).
- Daily travel times are somewhat constant throughout the day. The two peak times however are 8-9am and 2-3pm.
- Most trips take between 1 and 9 minutes and over 50% take less than 15 minutes across all times of day.
- The majority of all trips (61%) were less than 3km.
- The car is the main mode of transport for all age groups, apart from those aged 13 - 24, who are more likely to walk.
- The younger age groups, 4-12 have a larger share of the travel during the AM Peak and the PM Interpeak period.

10.1 Findings for Other Urban Districts

Other urban areas are defined as all areas that have a population of between 1,500 to 10,000. They are distributed across the country. The map below shows the spread of “Other Urban Districts” from which the sample was drawn. The regional spread of the other urban areas surveyed is detailed below.

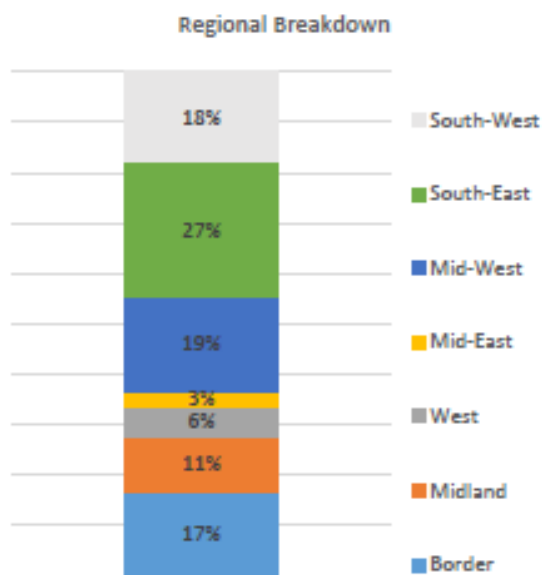
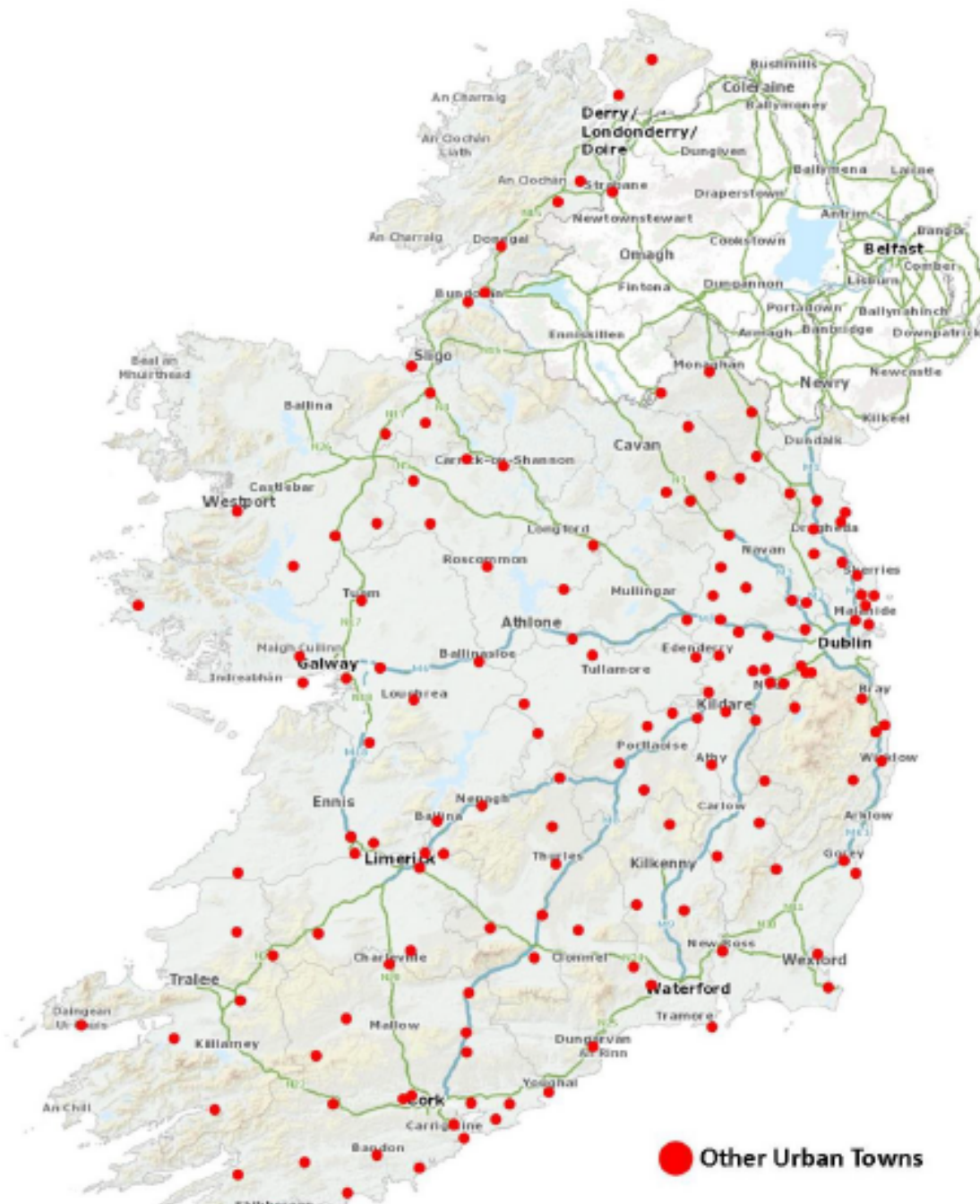


Figure 115: Regional breakdown for Other Urban Areas

366 households were surveyed, with 585 diaries collected and 3,676 trips recorded for participants in these areas.



Demographic overview

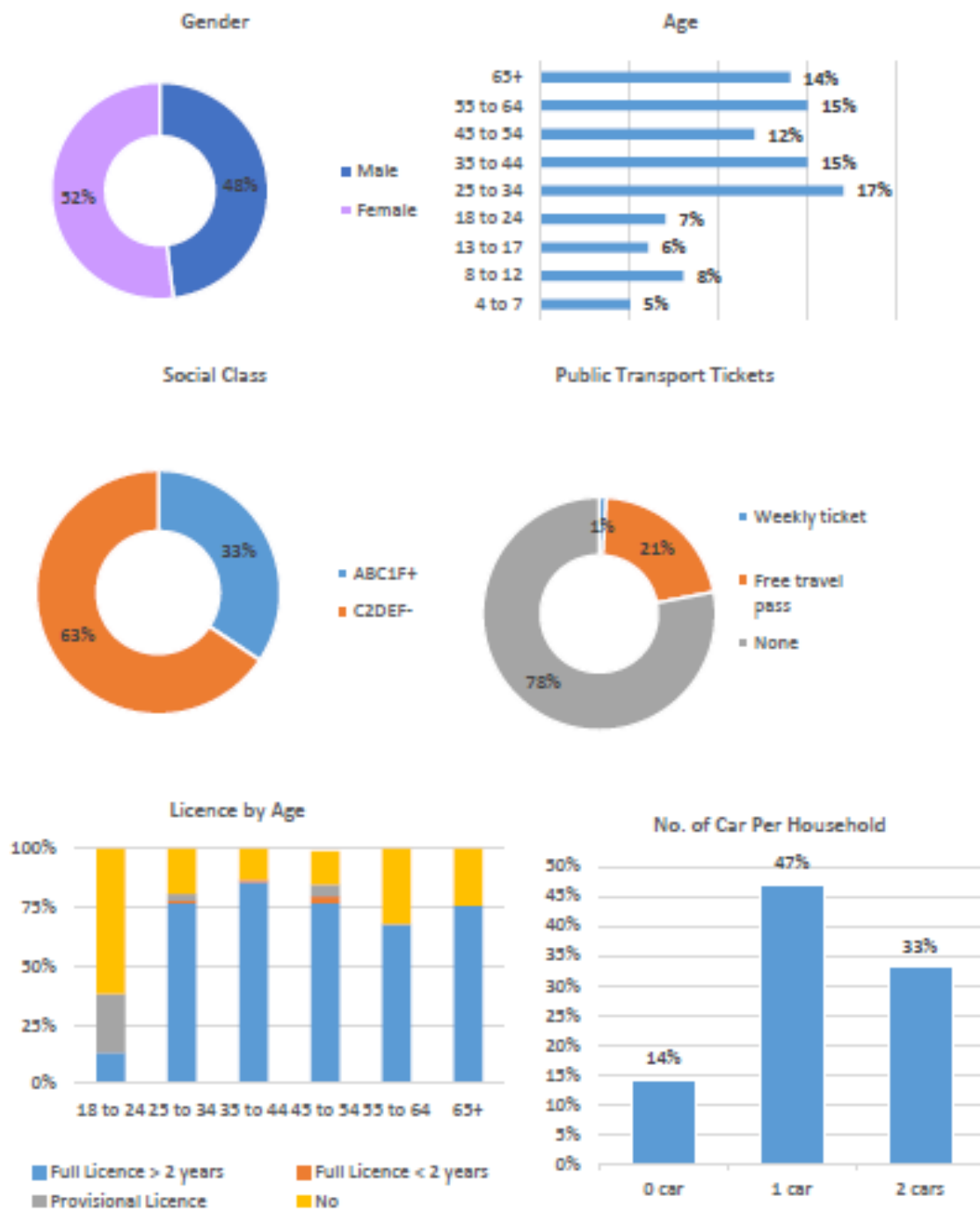


Figure 116: Other Urban Districts Demographics and Travel Habits - Overview

The population is nearly equally balanced across gender. Many respondents are between 25 and 44. There is a disproportionate number of people being from C2DEF. There is a higher number of people who hold a free travel pass at over 2 in 10. While nearly 6 in 10 have a full licence, almost 4 in 10 do not have a licence. 13% of 18 to 24-year olds have their full licences jumping to 77% for 25 to 34 year olds. Nearly half of respondents have 1 car and a third of households have 2 cars.

Trips taken by days of the week

Tuesday is the most popular day for trip making in other urban areas with a fifth of trips happening on a Tuesday. Similar proportions of trips occur on Wednesday and Thursday, with travel decreasing each day towards Sunday. Weekend travel accounts for only 15% of all trips.

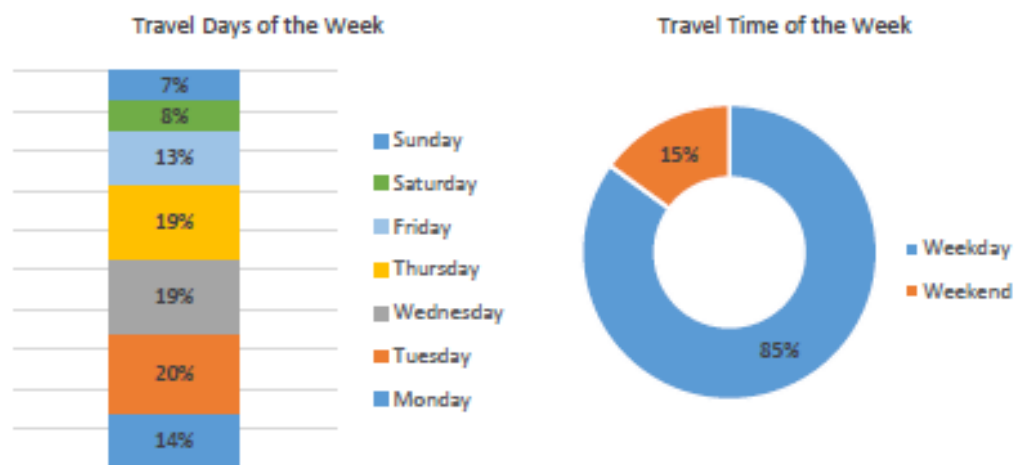


Figure 117: Travel days of the week: Other Urban Areas

Trips taken by reason for trip

When return home trips are excluded, trips for work/ business purposes in other urban areas are most popular – accounting for one quarter. A marginally less proportion of trips are for social reasons.



Figure 118: Trip by Reason: Other Urban Areas

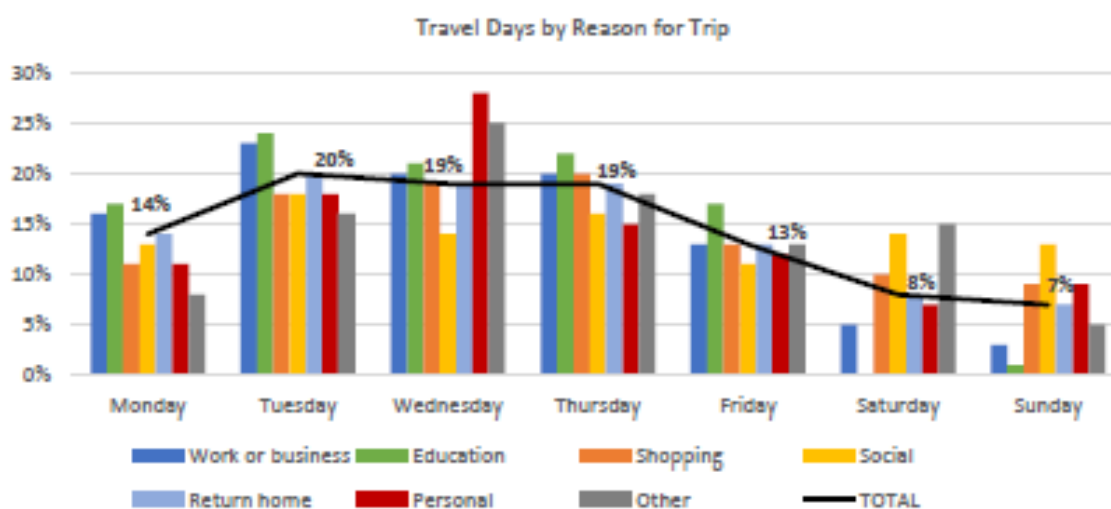


Figure 119: Reason for travel by days of the week: Other Urban Areas

Work/ business constitute the main reason people travel on Monday and Tuesday. Tuesday, Thursday and Friday see the highest number of people travelling for Education.

Shopping is balanced out throughout the week with Tuesday, Wednesday and Thursday being the most popular days for shopping trips. There is a high proportion of trip making for social purposes on Saturday and Sunday. Travel for personal reasons is considerably highest on Wednesdays at nearly 3 in 10 trips.

Trips taken by mode of transport

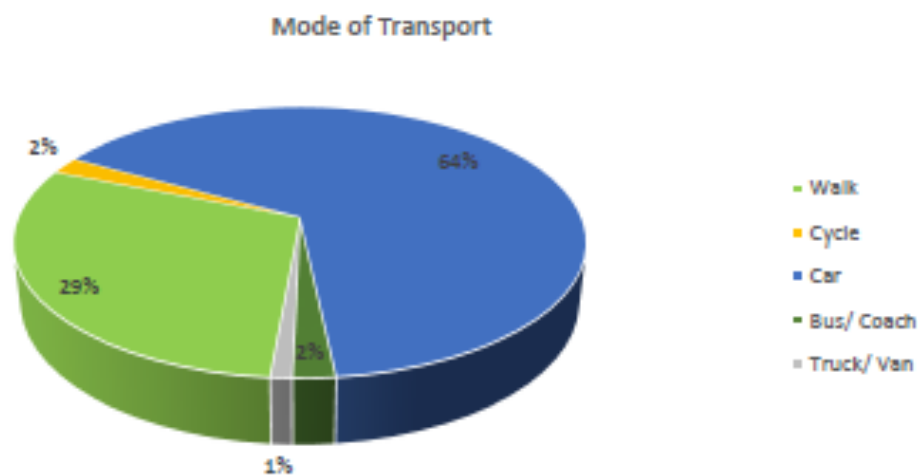


Figure 120: Modes of Transport: Other Urban Areas

In these areas, the vast majority of all trips are taken by car (64%) or walking (29%). As few as 2% of trips are taken by bus and this household survey captured no trips by train.

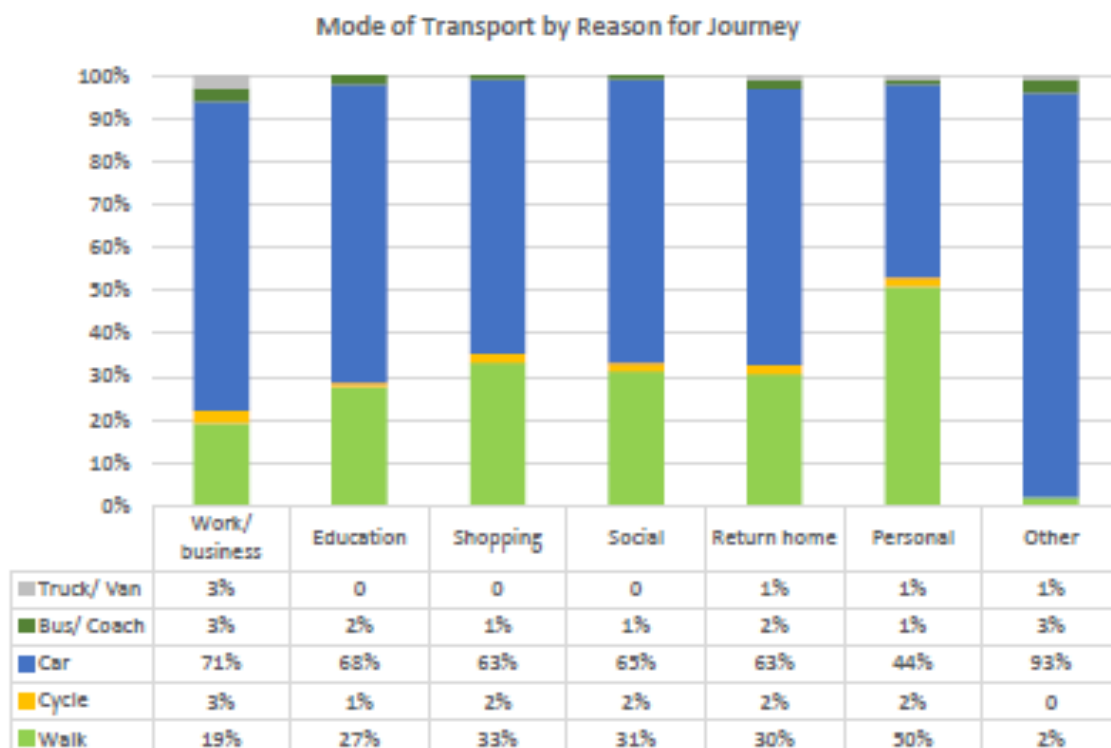


Figure 121: Mode of transport by reason for journey: Other Urban Areas

Trips taken by time of day

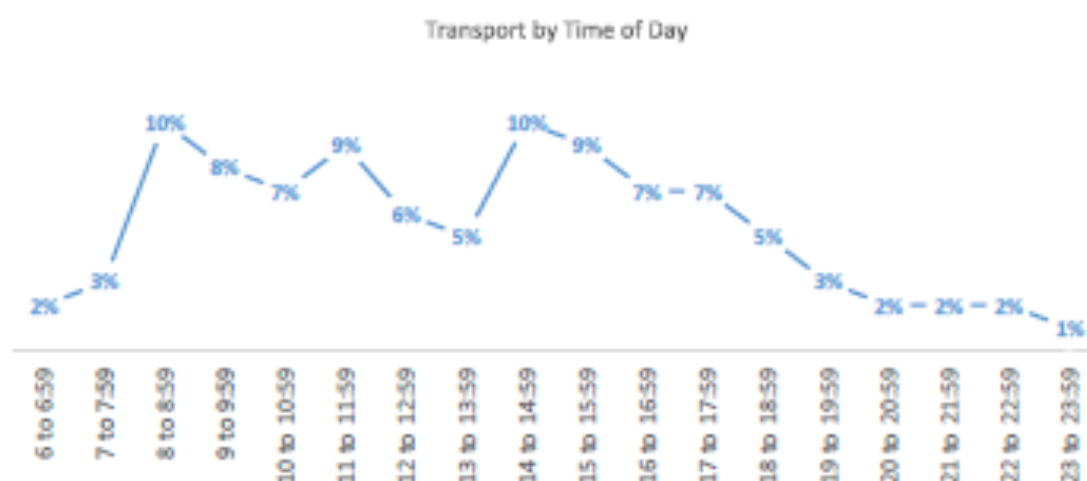


Figure 122: Transport by Time of Day: Other Urban Areas City

Daily travel times are somewhat constant throughout the day in other urban areas. The two peak times are 8-9am and 2-3pm. 10% of trips occur during each of these peak hours. After 3pm travel volumes decrease steadily until midnight.

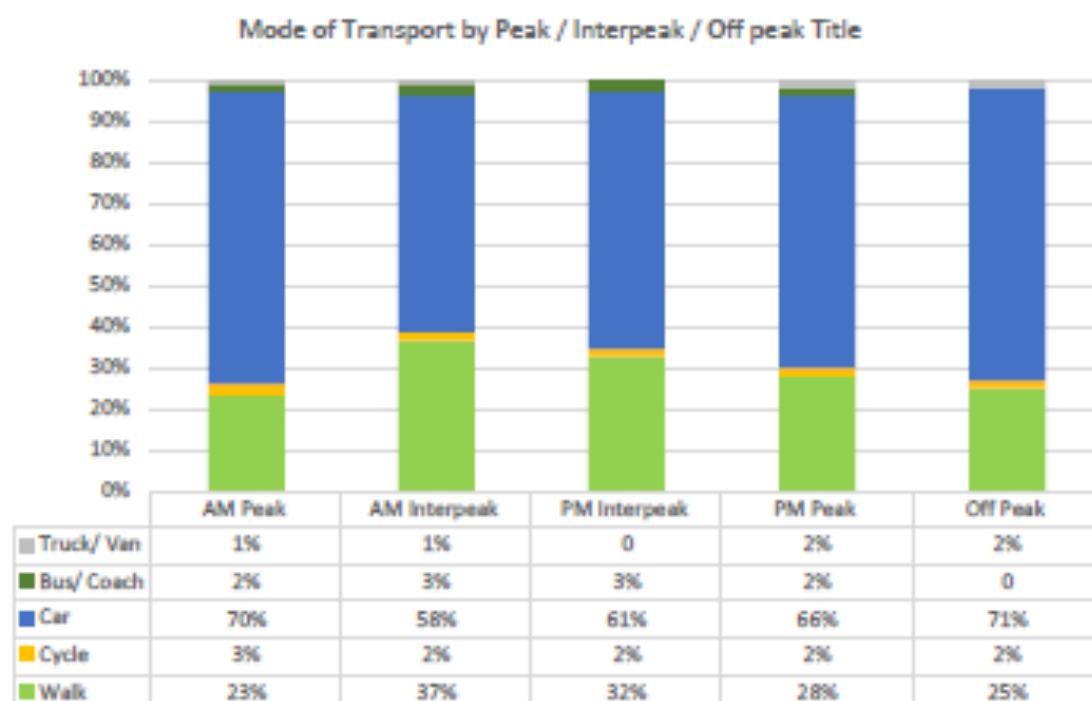


Figure 123: Mode of transport by travel period: Other Urban Areas

The dominant mode of transport across all times of day is the car. Walking is slightly more prevalent in the AM Interpeak. Car usage is highest during the AM peak and Off Peak with 7

in 10 trips during each period by car. Bus usage is highest during the PM Interpeak however; this is still comparatively low at only 3% of all trips taken during the period.

Trips taken by duration

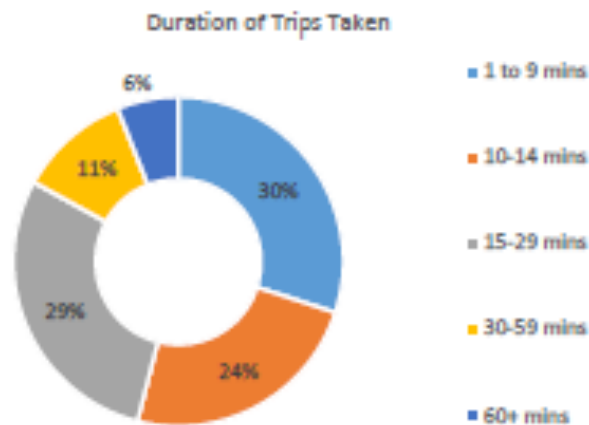


Figure 124: Duration of trips: Other Urban Areas

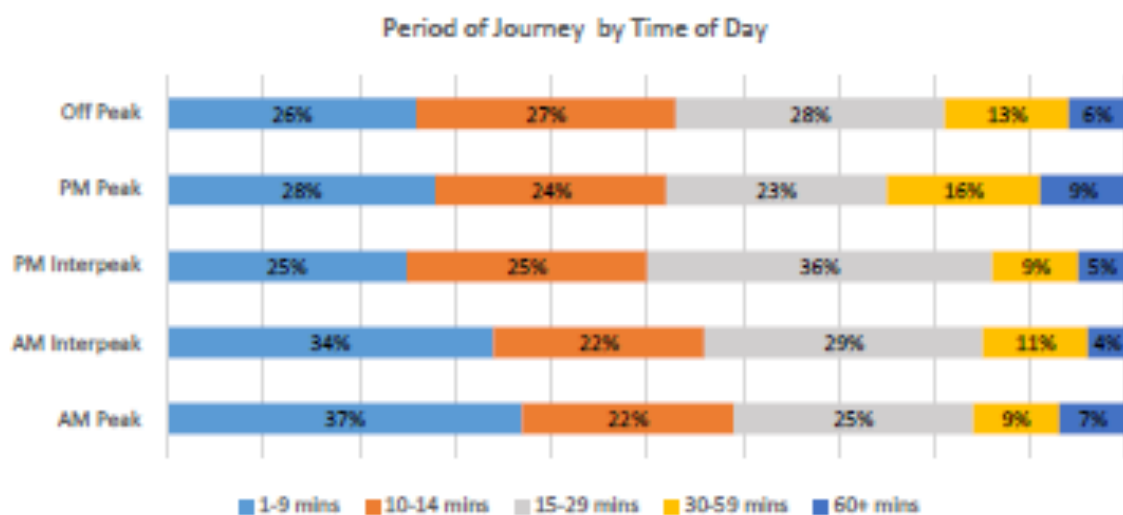


Figure 125: Time of Travel by Peak/Interpeak/Off Peak: Other Urban Areas City

Most trips take between 1 and 9 minutes with over 50% taking less than 15 minutes across all times of day. Across all time periods less than 20% of trips take over 30 minutes with the expectation being the PM peak where 25% trips are longer than 30 minutes.

Trips taken by distance

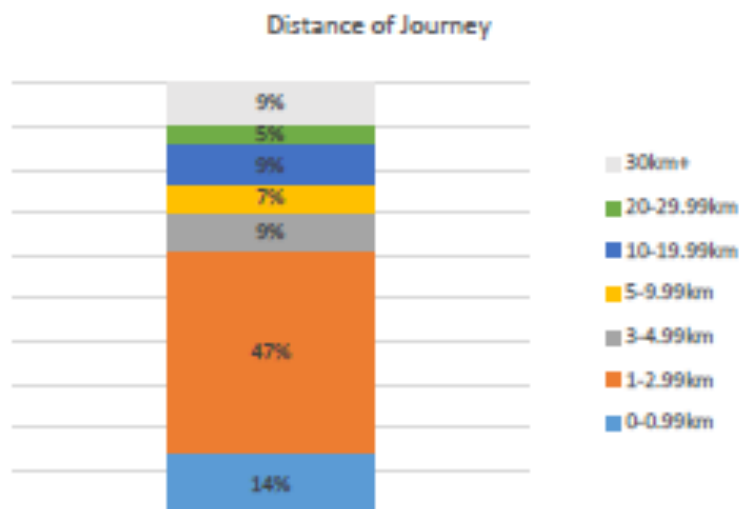


Figure 126: Distance of Journey: Other Urban Areas

The majority of all trips (61%) were less than 3km. Across the remaining distances there is an even spread of trips taken. Trips over 30km account for the lowest proportion of the total at 5%.

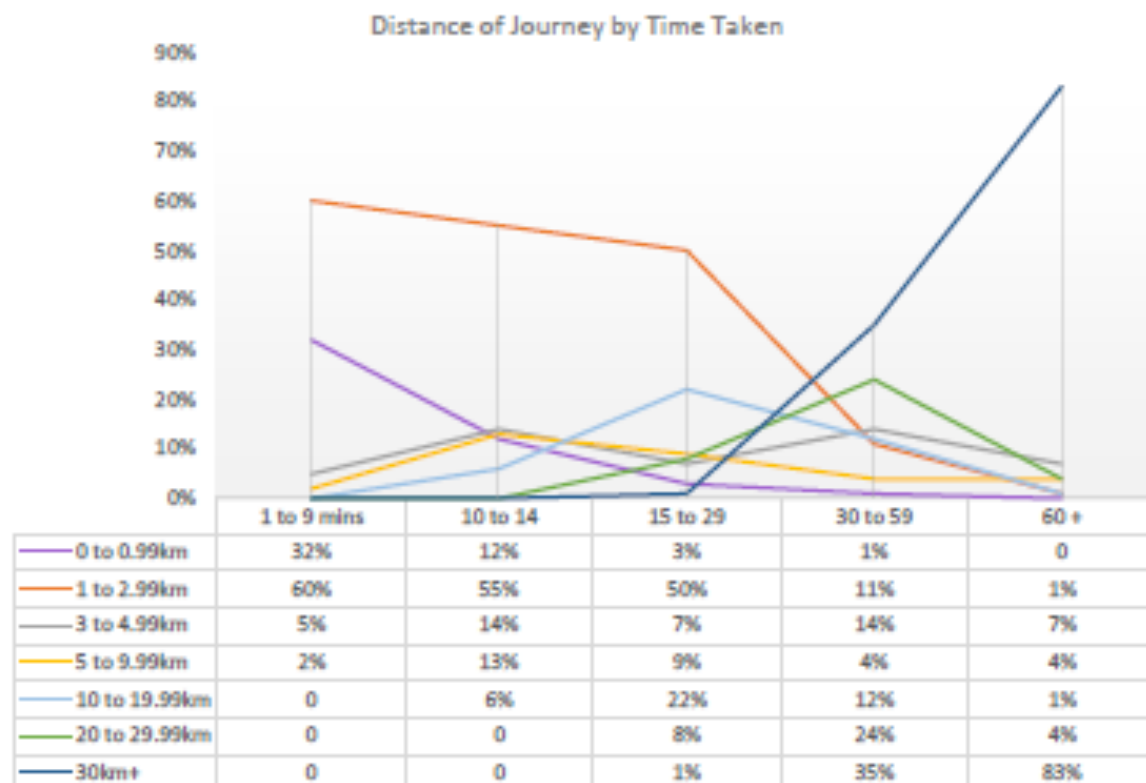


Figure 127: Trips by Duration and Time: Other Urban Areas

This graph demonstrates that:

- Of the trips that take less than 10 minutes just over 3 in 10 are less than 1km whilst 6 in 10 are between 1 and 3km.
- Of those taking 10 to 14 minutes just over 1 in 10 are less than 1km, just over 5 in 10 are between 1 and 3km and between 14% and 13% are between 3-5 and 5-10km.
- Of the trips taking between 15 and 29 minutes approximately half are between 1 and 3km, less than 1 in 10 are between 3-5 and 5-10km and just over 2 in 10 are between 10 and 20km.
- Of those trips that take between 30 and 59 minutes; the majority are over 5km, a quarter are between 20 to 30km and 35% are 30km or greater.
- Over 8 in 10 of all trips taking more than 60 minutes are over 30km.

Trips taken by demographics

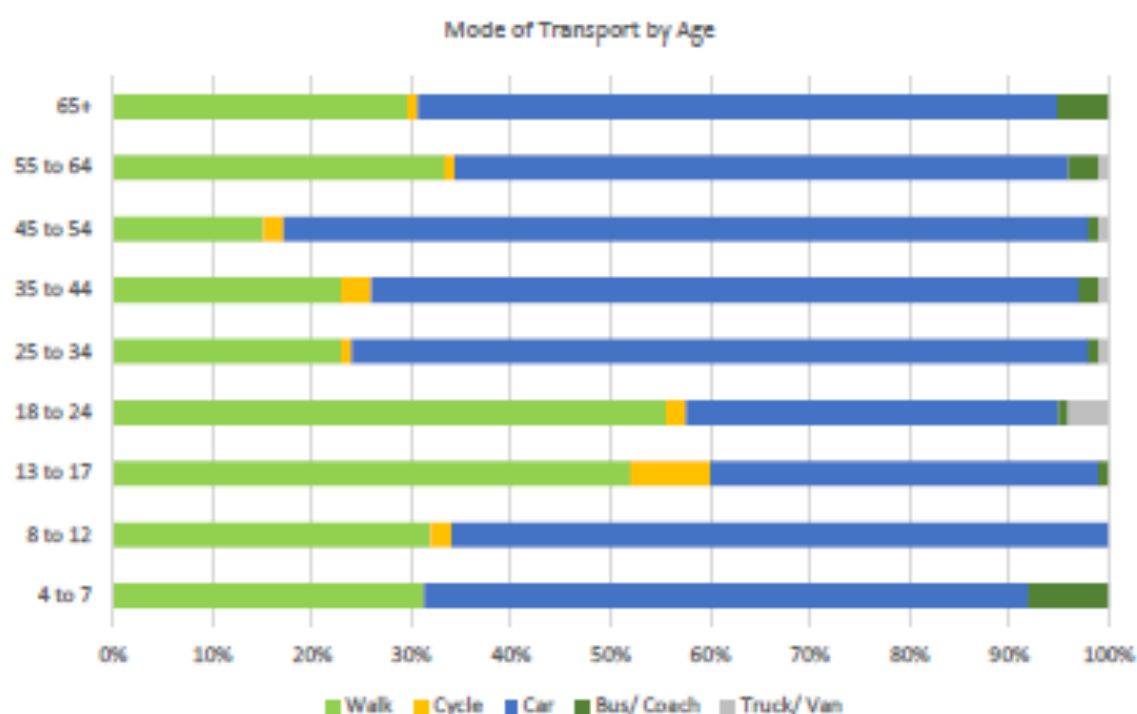
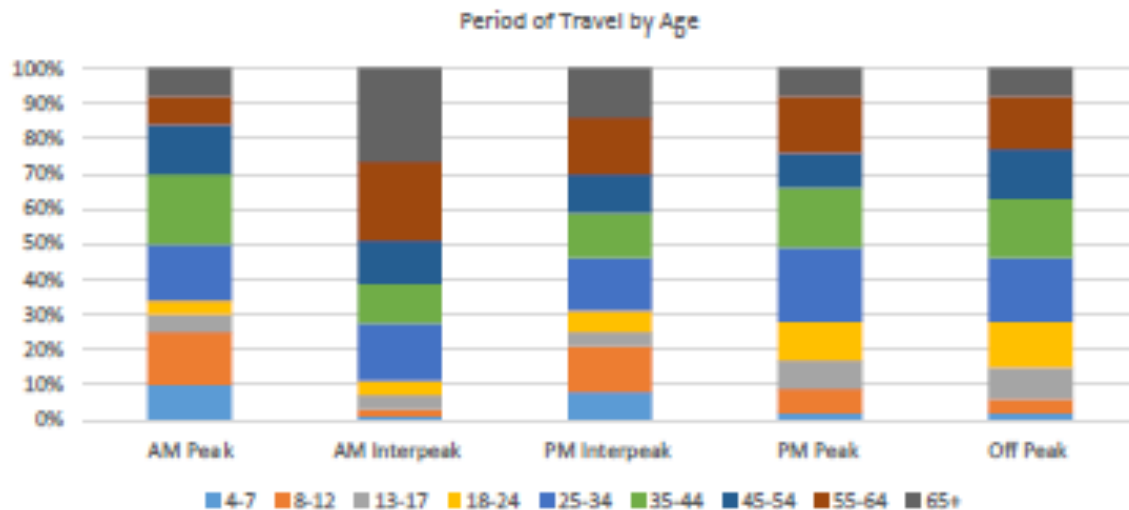


Figure 128: Age by mode of transport: Other Urban Areas

The car is the main mode of transport for all age groups except the 13-24 year olds. For these cohorts walking is most popular and makes up over half of all their trips. Car usage is highest for 45-54 year olds with 8 in 10 of this cohorts trips being by car.

The younger age groups (4-12) have a larger share of the travel during the AM Peak and the PM Interpeak period. This constitutes one quarter of all travel during the AM Peak and one

fifth during the PM Interpeak. Older cohorts are more likely to travel during the AM Interpeak. 55 years and older account for just under half of all trips during this period.



10.2 Summary of Other Urban Areas

Those living in other urban areas are similar to Dublin City and the Regional Cities in their higher levels of walking. There is no dominant trip purpose within the regions. Work/business and social trips are the most popular purposes at 25% each. The rates of shopping and education trips are roughly the same at one fifth each. This is in contrast to the dominant role of work/business in Dublin City and the GDA and education in the Regional Cities and urban towns. Travel patterns in other urban areas however are much more varied.

This is reflected in the travel volumes across the time of the day, with no single hour standing out as a peak. Travel volumes do not appear confined to the standard 'working week'. This is more evidence of the varied travel patterns of in these regions.

MRCCL

**TRANSPORT
PLANNING PROFESSIONAL**

APPENDIX

2

**TRICS OUTPUT
FOR SOCIAL
AND PRIVATE
HOUSING**

Calculation Reference: AUDIT-306901-231104-1141

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : B - AFFORDABLE/LOCAL AUTHORITY HOUSES
TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	BN BARNET	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LR LEICESTER	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
13	MUNSTER	
	TI TIPPERARY	1 days
15	GREATER DUBLIN	
	DL DUBLIN	2 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: 16 to 48 (units:)
 Range Selected by User: 8 to 50 (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: 01/01/15 to 04/11/21

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

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	2 days
Thursday	1 days
Friday	3 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)	4
Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	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:

Residential Zone	8
No Sub Category	1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	1 days - Selected
Servicing vehicles Excluded	10 days - Selected

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 (England) 2020 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	2 days
15,001 to 20,000	1 days
25,001 to 50,000	4 days
50,001 to 100,000	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	1 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	3 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	6 days
1.1 to 1.5	3 days

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

Travel Plan:

No	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	8 days
0 None	1 days

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

LIST OF SITES relevant to selection parameters

1	BN-03-B-01 LUTHER CLOSE EDGWARE	SEMI-DETACHED & TERRACED	BARNET
	Edge of Town Residential Zone Total No of Dwellings: 19 Survey date: THURSDAY 04/11/21		Survey Type: MANUAL
2	DL-03-B-02 MARIGOLD ROAD DUBLIN DARNDALE	TERRACED HOUSES	DUBLIN
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: 35 Survey date: MONDAY 19/10/15		Survey Type: MANUAL
3	DL-03-B-03 HOME PARK ROAD DUBLIN DRUMCONDRA	SEMI-DETACHED & TERRACED	DUBLIN
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 48 Survey date: TUESDAY 22/11/16		Survey Type: MANUAL
4	GM-03-B-01 NEWBOLD ROCHDALE	TERRACED HOUSES	GREATER MANCHESTER
	Suburban Area (PPS6 Out of Centre) No Sub Category Total No of Dwellings: 43 Survey date: WEDNESDAY 21/10/15		Survey Type: MANUAL
5	LR-03-B-01 COLEMAN ROAD LEICESTER	SEMI-DETACHED & TERRACED	LEICESTER
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 38 Survey date: FRIDAY 22/10/21		Survey Type: MANUAL
6	NF-03-B-01 NELSON ROAD NORTH GREAT YARMOUTH	TERRACED HOUSES	NORFOLK
	Edge of Town Centre Residential Zone Total No of Dwellings: 45 Survey date: WEDNESDAY 13/09/17		Survey Type: MANUAL
7	TI-03-B-01 LIMERICK ROAD NENAGH	MIXED HOUSES	TIPPERARY
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 43 Survey date: FRIDAY 27/05/16		Survey Type: MANUAL
8	WO-03-B-02 GOODREST WALK WORCESTER MERRIMANS HILL	TERRACED HOUSES	WORCESTERSHIRE
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings: 16 Survey date: MONDAY 14/11/16		Survey Type: MANUAL
9	WY-03-B-04 SVKES CLOSE BATLEY	TERRACED HOUSES	WEST YORKSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 17 Survey date: FRIDAY 19/10/18		Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/B - AFFORDABLE/LOCAL AUTHORITY HOUSES

TOTAL VEHICLES

Calculation factor: 1 DWELLS

Estimated TRIP rate value per 13 DWELLS shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	34	0.039	0.513	9	34	0.158	2.053	9	34	0.197	2.566
08:00 - 09:00	9	34	0.141	1.839	9	34	0.253	3.293	9	34	0.394	5.132
09:00 - 10:00	9	34	0.128	1.668	9	34	0.161	2.095	9	34	0.289	3.763
10:00 - 11:00	9	34	0.178	2.309	9	34	0.145	1.882	9	34	0.323	4.191
11:00 - 12:00	9	34	0.138	1.796	9	34	0.135	1.753	9	34	0.273	3.549
12:00 - 13:00	9	34	0.168	2.181	9	34	0.138	1.796	9	34	0.306	3.977
13:00 - 14:00	9	34	0.099	1.283	9	34	0.164	2.138	9	34	0.263	3.421
14:00 - 15:00	9	34	0.188	2.438	9	34	0.181	2.352	9	34	0.369	4.790
15:00 - 16:00	9	34	0.303	3.934	9	34	0.220	2.865	9	34	0.523	6.799
16:00 - 17:00	9	34	0.240	3.122	9	34	0.174	2.266	9	34	0.414	5.388
17:00 - 18:00	9	34	0.342	4.447	9	34	0.224	2.908	9	34	0.566	7.355
18:00 - 19:00	9	34	0.224	2.908	9	34	0.164	2.138	9	34	0.388	5.046
19:00 - 20:00	1	19	0.316	4.105	1	19	0.158	2.053	1	19	0.474	6.158
20:00 - 21:00	1	19	0.158	2.053	1	19	0.105	1.368	1	19	0.263	3.421
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.662	34.596			2.380	30.960			5.042	65.556

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: 16 - 48 (units :)
Survey date date range: 01/01/15 - 04/11/21
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: 2

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.

Calculation Reference: AUDIT-306901-231104-1106

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

TOTAL VEHICLESSelected regions and areas:

12 CONNAUGHT	
CS SLIGO	1 days
LT LEITRIM	1 days
MA MAYO	1 days
14 LEINSTER	
CC CARLOW	1 days
WC WICKLOW	2 days
16 ULSTER (REPUBLIC OF IRELAND)	
CV CAVAN	1 days
DN DONEGAL	3 days
MG MONAGHAN	1 days
17 ULSTER (NORTHERN IRELAND)	
DE DERRY	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: 6 to 50 (units:)
 Range Selected by User: 4 to 50 (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: 01/01/15 to 19/05/22

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 types:

Manual count	12 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	4
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	5
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.

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	5 days - Selected
Servicing vehicles Excluded	7 days - Selected

Secondary Filtering selection:

Use Class:

C3	12 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®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	5 days
5,001 to 10,000	6 days

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

Population within 5 miles:

5,000 or Less	2 days
5,001 to 25,000	8 days
25,001 to 50,000	1 days
50,001 to 75,000	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	5 days
1.1 to 1.5	4 days
1.6 to 2.0	3 days

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

Travel Plan:

No	12 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	12 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	CC-03-A-01 R417 ANTHY ROAD CARLOW	DETACHED HOUSES		CARLOW
	Edge of Town Residential Zone Total No of Dwellings:		23	
	Survey date:	WEDNESDAY	25/05/16	Survey Type: MANUAL
2	CS-03-A-03 TOP ROAD STRANDHILL STRANDHILL Neighbourhood Centre (PPS6 Local Centre) Village	MIXED HOUSES		SLIGO
	Total No of Dwellings:		30	
	Survey date:	THURSDAY	27/10/16	Survey Type: MANUAL
3	CV-03-A-03 R212 DUBLIN ROAD CAVAN PULLAMORE NEAR Edge of Town No Sub Category	DETACHED HOUSES		CAVAN
	Total No of Dwellings:		37	
	Survey date:	MONDAY	22/05/17	Survey Type: MANUAL
4	DE-03-A-04 GREENHALL HIGHWAY COLERAINE	SEMI-DETACHED & TERRACED		DERRY
	Edge of Town Residential Zone Total No of Dwellings:		38	
	Survey date:	THURSDAY	19/05/22	Survey Type: MANUAL
5	DN-03-A-06 GLENFIN ROAD BALLYBOFEY	DETACHED HOUSING		DONEGAL
	Edge of Town Residential Zone Total No of Dwellings:		6	
	Survey date:	WEDNESDAY	10/10/18	Survey Type: MANUAL
6	DN-03-A-07 ST ORANS ROAD BUNCRANA	DETACHED & SEMI-DETACHED		DONEGAL
	Edge of Town Centre Residential Zone Total No of Dwellings:		9	
	Survey date:	WEDNESDAY	29/05/19	Survey Type: MANUAL
7	DN-03-A-08 CHURCH ROAD CARNDONAGH	SEMI DETACHED & DETACHED		DONEGAL
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		36	
	Survey date:	WEDNESDAY	30/09/20	Survey Type: MANUAL
8	LT-03-A-02 ARD ALAINN CARRICK-ON-SHANNON GALLOW'S HILL Edge of Town Centre Residential Zone	BUNGALOWS		LEITRIM
	Total No of Dwellings:		10	
	Survey date:	MONDAY	22/05/17	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	MA-03-A-02	SEMI-DETACHED HOUSES	MAYO
	CONVENT ROAD CLAREMORRIS		
	Edge of Town Centre No Sub Category Total No of Dwellings: 31		
	Survey date: WEDNESDAY	15/09/21	Survey Type: MANUAL
10	MG-03-A-01	SEMI-DETACHED HOUSES	MONAGHAN
	ORIEL WAY MONAGHAN		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 49		
	Survey date: TUESDAY	12/10/21	Survey Type: MANUAL
11	WC-03-A-01	DETACHED HOUSES	WICKLOW
	STATION ROAD WICKLOW CORPORATION MURRAGH Edge of Town No Sub Category Total No of Dwellings: 50		
	Survey date: MONDAY	28/05/18	Survey Type: MANUAL
12	WC-03-A-02	DETACHED HOUSES	WICKLOW
	MARLTON ROAD WICKLOW FRIARSHILL Edge of Town Centre Residential Zone Total No of Dwellings: 45		
	Survey date: MONDAY	28/05/18	Survey Type: MANUAL

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

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

TOTAL VEHICLES

Calculation factor: 1 DWELLS

Estimated TRIP rate value per 13 DWELLS shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	12	30	0.082	1.071	12	30	0.223	2.893	12	30	0.305	3.964
08:00 - 09:00	12	30	0.255	3.321	12	30	0.585	7.607	12	30	0.840	10.928
09:00 - 10:00	12	30	0.247	3.214	12	30	0.283	3.679	12	30	0.530	6.893
10:00 - 11:00	12	30	0.220	2.857	12	30	0.272	3.536	12	30	0.492	6.393
11:00 - 12:00	12	30	0.236	3.071	12	30	0.264	3.429	12	30	0.500	6.500
12:00 - 13:00	12	30	0.253	3.286	12	30	0.225	2.929	12	30	0.478	6.215
13:00 - 14:00	12	30	0.297	3.857	12	30	0.338	4.393	12	30	0.635	8.250
14:00 - 15:00	12	30	0.319	4.143	12	30	0.319	4.143	12	30	0.638	8.286
15:00 - 16:00	12	30	0.404	5.250	12	30	0.382	4.964	12	30	0.786	10.214
16:00 - 17:00	12	30	0.426	5.536	12	30	0.261	3.393	12	30	0.687	8.929
17:00 - 18:00	12	30	0.473	6.143	12	30	0.332	4.321	12	30	0.805	10.464
18:00 - 19:00	12	30	0.368	4.786	12	30	0.357	4.643	12	30	0.725	9.429
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			3.580	46.535			3.841	49.930			7.421	96.465

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: 6 - 50 (units)
 Survey date date range: 01/01/15 - 19/05/22
 Number of weekdays (Monday-Friday): 12
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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