NTA Passenger Transport Surveys at Dublin, Cork and Shannon Airports 2016

Final Report

Contents

Contents

1. Introduction

1.1 Background to the Survey

In October 2016, the NTA, in conjunction with the co-operation of daa (formerly known as the Dublin Airport Authority) and Shannon Airport Authority (SAA) undertook a survey of air passengers at Dublin Airport, Cork Airport and Shannon Airport. The main purpose of the survey was to obtain essential travel data for a part of the calibration and update of the NTA's five Regional (Transport) Models System (RMS).

A similar survey of passengers at Dublin Airport was previously undertaken by the Dublin Transportation Office in 2001 as part of a study of surface access arrangements for the Airport prior to the construction of Metro North. Following on from this, in 2011, the NTA appointed Amárach Research to undertake the passenger survey at Dublin Airport. A key purpose of the previous 2011 survey was to update the 2001 data in the light of the significant changes that had occurred at Dublin Airport and the major improvements in transport infrastructure and services providing surface access to the Airport in the intervening 10 years. The Dublin Port Tunnel had opened in December 2006 and Terminal 2 began operation in October 2010.

Similarly, the 2016 survey aimed to examine how Dublin Airport, Shannon Airport and Cork Airport passengers' mode of travel and travel patterns have changed over the intervening five year period. As Ireland's busiest Airport, Dublin Airport had a passenger throughput of nearly 28 million passengers in 2016 (sum of arriving and departing passengers). The launch of Terminal 2 in 2010 has facilitated Dublin Airport with *additional* throughput capacity of over 12 million passengers per annum. Cork Airport has a passenger throughput of approximately 2 million passengers per annum, while Shannon Airport has approximately 1.5 million passengers per annum at present. See for example

http://www.cso.ie/en/releasesandpublications/er/as/aviationstatistics2016/ and

http://pdf.cso.ie/www/pdf/20170418092006_Aviation_Statistics_2016_full.pdf

In Autumn 2016, the NTA appointed Kantar Millward Brown to undertake the passenger survey at Dublin, Cork and Shannon Airports. As was the case in the 2001 and 2011 survey, the 2016 survey was undertaken with the full co-operation and involvement of daa and Shannon Airport Authority (SAA). The Authorities worked closely with Kantar Millward Brown on the preparations for the survey, the design of the survey questionnaire and the survey pilot. In addition, daa and SAA provided all the security arrangements and personnel necessary to enable Kantar Millward Brown surveyors to have access to Airport passengers.

The 2016 survey considered the changes in the airport environment, such as the changes in the airport physical environment, increased air travel, introduction of new carriers, and expansion to include both Cork and Shannon airports. For direct comparison, which can be found in the Appendix, we have compared results from November 2011 to October 2016 for Dublin Airport only.

1.2 Research Objectives

The main aim of the survey was to obtain concise factual information on daily and weekly travel patterns as well as data on the travel behaviour of passengers travelling both to and from Dublin, Cork and Shannon Airports.

The 2016 survey focused mainly on obtaining landside travel data with consideration given to trip origins, trip destinations, journey purpose, arrival times, departure times and travel mode(s).

The aims of the survey were to obtain:

a. Accurate data on departing passenger's mode of surface transport (to and from each given airport) as well as geographic origin of trips

b. Daily and weekly profiles of travel patterns to and from each given airport and hence assist in informing both the NTA and the airport authorities in planning for the current and future surface access needs of each given airport

c. Auxiliary information on purpose of journey, car availability, vehicle occupancy, overnight stays at hotels, etc.

The research required information to be captured from two distinct types of passengers; passengers who live in the Republic of Ireland and Northern Ireland and are travelling out of the country, and passengers who reside outside of Ireland, have been in Ireland and are now returning home. The questionnaire was tailored as such.

1.3 Research Methodology and Sampling

As per previous studies in 2001 and 2011, it was decided that the best survey methodology to obtain this data was via direct face to face interviews with air passengers at departure gates and departure areas to ask questions about both journeys to and from the three State Airports Dublin, Shannon and Cork. All Kantar Millward Brown interviewers in the Airports are BSAT-trained and security-vetted. It was agreed with daa and SAA that all interviewers would wear their ID and ensure co-operation with any other interviewing being conducted on behalf of daa, CSO or Fáilte Ireland.

Interviews were conducted face to face by interviewers on HAPI (hand held) devices with passengers at departure gates and departure areas. Passengers in transit were <u>excluded</u> from the questionnaire, the script was set up to screen these respondents out. It was necessary to have two separate survey versions, one for passengers who reside in the Island of Ireland, and one for those who reside outside of Ireland and are visiting the Island of Ireland. In the rest of this report, "Ireland" refers to the Island of Ireland.

For both passenger sets, the journey to the Airports were made on the same day the survey took place (although many departing passengers "overnight" in proximity to the airport, especially for very early morning flights). For the Island of Ireland residents, their return journey from the Airports would take place at a date in the future, while for those visiting Ireland, their journey from the airports took place at a date in the past.

The total sample size required was 6,000 interviews in total; 5,000 at Dublin Airport, 500 at Shannon Airport and 500 at Cork Airport. The sampling approach considered flight times, the layout of airports, gate proximity and the time available for interviewing. The sampling frame was set for interviewing to take place on Monday to Friday only, from around 7am to 7pm with some earlier interviews in Dublin airport from about 6am. Pre-7AM flights are very significant at Dublin Airport in particular, however, the purpose of the NTA survey pertains mainly to surface access travel between 7AM and 7PM. At Dublin airport we ensured that all times of the day were covered (during the survey period of 7AM to 7PM) at both terminals with interviewers at different gates. For Cork and Shannon airports, where the sample size required was much lower, we ensured a good spread of days and times of day, taking into account flights times as both airports vary from very busy to very quiet times. A detailed explanation of the sample frame is included in the appendices.

1.4 Questionnaire Design

The NTA provided Kantar Millward Brown with the questionnaire used in the previous research that took place in 2011. Building on the questionnaire from 2011, the NTA and Kantar Millward Brown worked together to review and amend the original questionnaire to tailor it for the 2016 survey needs. It was agreed that the 2016 survey would include a question with a pre-coded list of transport services that serve Dublin Airport, Cork Airport and Shannon Airport. Each airport had a tailored list of bus service providers; both public and private operators. The survey was also shared with daa and SAA ahead of the pilot. The questionnaire was tailored to capture both the residents of Ireland, and those visiting Ireland; the script was set up to filter respondents by Irish resident and by visitor.

In September 2016 the contents of both survey questionnaires were agreed between the NTA, daa, SAA and the survey company, Kantar Millward Brown. A copy of the final questionnaire is included in the appendix. Both the Resident and the Visitor questionnaires included the following fields:

- The origin of trips to the Airport and the destination of trips from the Airport,

- Flight number,

- Mode of travel used, including a new question which asked if Rail travel was used for any part of the journey to the airport

- Parking arrangements of car users

- Number of passengers travelling together (Group size),

- Purpose of trip abroad (Irish residents) and purpose of trip to Ireland (Non-Irish residents 'Visitors')

- Date of journey from the Airport.

1.5 Fieldwork

Pilot

A series of pilot interviews was conducted on 19th September with travellers in Dublin Airport. The interviewers gave comprehensive feedback in terms of passenger response, questionnaire flow and overall passenger understanding of the questionnaire itself. There were some minor changes made to the questionnaire based on the pilot feedback, but overall it seemed to work very well and not cause passengers any confusion. On average the questionnaire took 7 minutes to complete. The questionnaire was then finalised by the NTA, and consequently shared with the daa and SAA, along with the sampling frame and interviewer allocations for the full October fieldwork. Interviewing schedules were shared with daa and SAA prior to the research, as well as continuous updates throughout the fieldwork.

Interviewer Briefing

An interviewer briefing meeting took place on 29th September in Kantar Millward Brown office in Dublin with the airport interviewers, and the project manager from the National Transport Authority was in attendance. Interviewers received full briefing instructions and documents on sampling, approach, questionnaire details. Particular emphasis was placed on the requirements for address capture, an integral element to the research.

Fieldwork

The main aim of the survey was to obtain concise factual information on daily and weekly travel patterns as well as data on the behaviour of passengers travelling both to and from Dublin, Cork and Shannon Airports. As per the information from the brief, late July and early August represent the busiest times for passenger activity at Dublin Airport. However, October and November are the busiest times in regard to general traffic movements on the road network. Consequently, the survey was conducted in October to ensure that a representative sample of passengers was

captured during the busiest time for general traffic with a view to model calibration and to avoid impact of the bank holiday weekend and mid-term holidays.

The interviewing was scheduled over a three-week period, starting on Monday 3rd October, with some additional interviewing to even out the spread of interviewing days, with final interviews completed on Thursday 27th October. Interviewing at both Shannon Airport and Cork Airport took place from Monday 3rd October to Monday 24th October.

Interviewing took place on Monday to Friday only. To ensure a representative sample, shift times were spread across a time range of 7am to 7pm, with a 6am start option for Dublin airport due to the number of flights early morning. Interviewers were instructed to get a mix of passenger type, i.e. Transatlantic, Regional and Continental, and interviewers in Dublin Airport were given gate ranges to target, dividing interviews across both terminals.

The following chapters of this report give the survey results separately for the three airports; Dublin, Cork and Shannon, and are broken into three categories; survey sample, main survey findings and summary of the key findings.

Analysis, Data processing and Weighting of data

Once interviewing was completed a comprehensive suite of quality control checks were carried out and the data was processed by Kantar Millward Brown. This included providing respondent level data directly to the NTA for integration into their modelling database and for geo-coding. Following this, data geo-coded with longitude and latitudes was returned to Kantar Millward Brown.

As fieldwork was conducted across all hours of the day (7am-7pm) in order to capture different types of passengers, this did not take into account the total throughput of passengers at Dublin airport, and in particular how this varies across the day and day of week, by airport. Therefore, an agreed system of weights was provided by the NTA, based on actual passenger numbers by time of departure as received from the daa and SAA, averaged across a three-hour time-period and then offset by 30 minutes to take into account the time of the interview versus time of departure. These weights were agreed between the NTA and Kantar Millward Brown and applied to the data in order to ensure it was representative of travelling passengers by proportionately weighting each survey response by the estimated throughout at that time and day of week. Further details of the weighting approach are appended.

A tabular specification was then setup and data tables run with all questions being analysed by specific crossbreaks to provide the basis for this report.

2.   Survey Sample – DUBLIN

2.1   Number of passengers surveyed

Number of interviews carried out by day

Figure 1.1 shows the breakdown of interviews completed by day of week, showing that 5,042 interviews were conducted in Dublin airport over the survey period.
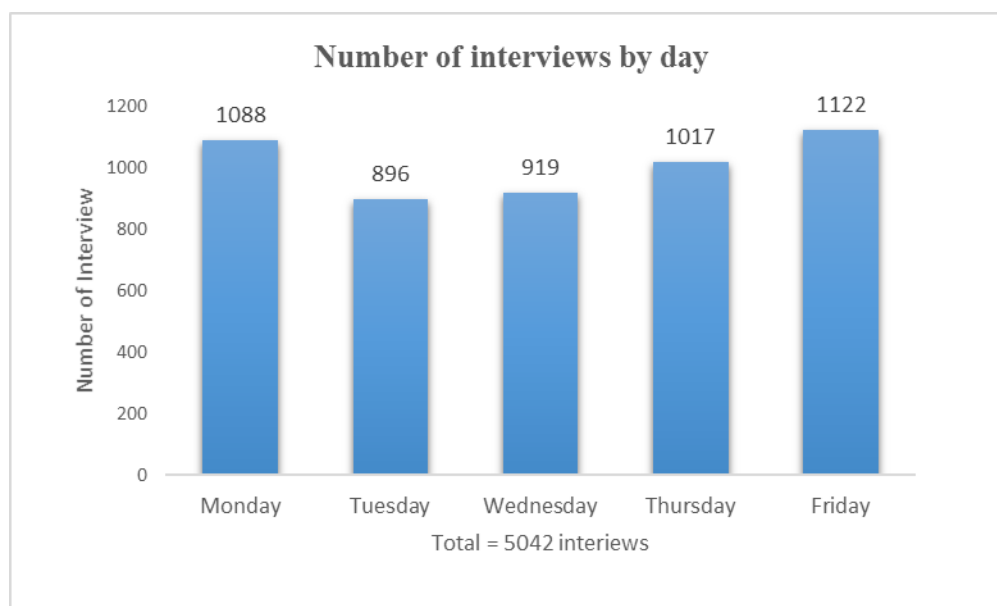
Sample by Country of Residence

Figure 1.2 shows the breakdown of participating passengers by residence which was evenly distributed between Irish residents from Republic of Ireland/Northern Ireland and visitors from overseas. No quota was enforced in advance.
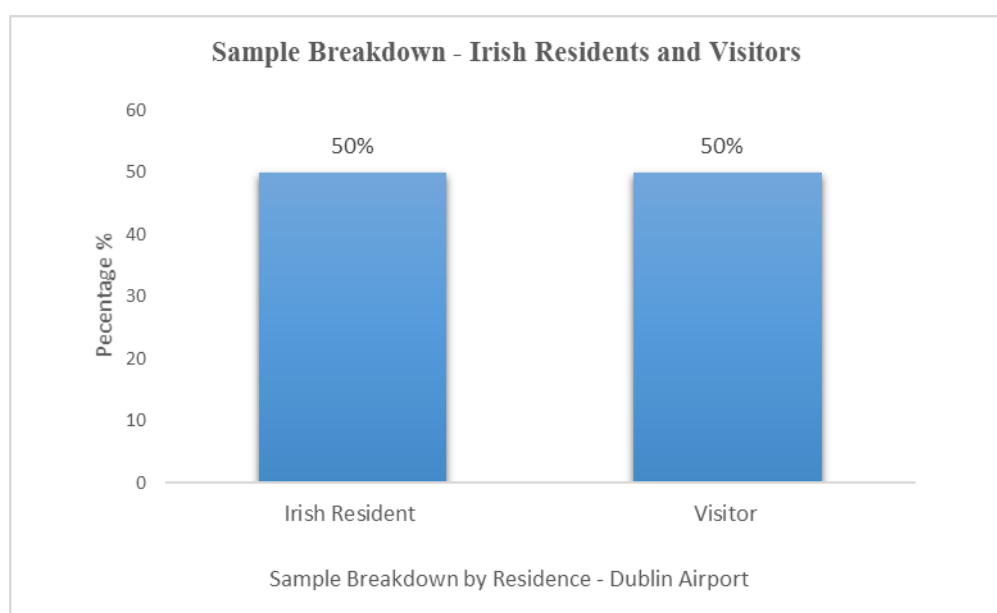
2.2   Sample by Country of Residence and terminal

Table 1.3 below shows the breakdown of passengers represented in the survey in both Terminal 1 and Terminal 2, and broken out by Irish resident and visitors (Non Irish residents). Interviewers were instructed to interview any passengers in the departure gates or departure areas from Ireland, both Republic and Northern Ireland, and overseas visitors, bar passengers in transit.

Table 1.3 Passengers by residency and terminal

The table shows that the sample fell out evenly, with the sample achieved relatively even between Irish residents with 2,533 interviews and visitors with 2,509 interviews.

Terminal	Total	%	Confidence Interval @ 95% +/-	Confidence Range %
1	3125	**62**	1.3	61 – 63
2	1917	**38**	1.3	37 – 39
Total	5042	100		

Terminal	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range %
1	1614	**64**	1.9	62 – 66
2	919	**36**	1.9	34 – 38
Total	2533	100		

Terminal	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
1	1511	**60**	1.9	58 – 62
2	998	**40**	1.9	38 – 42
Total	2509	100		

2.3   Sample by Gender and Age

Figure 2.1 shows the breakdown of all participating passengers by gender, with 48% male and 52% female.

Gender Profile

Male	Female
48%	52%

Gender Profile - Dublin Airport
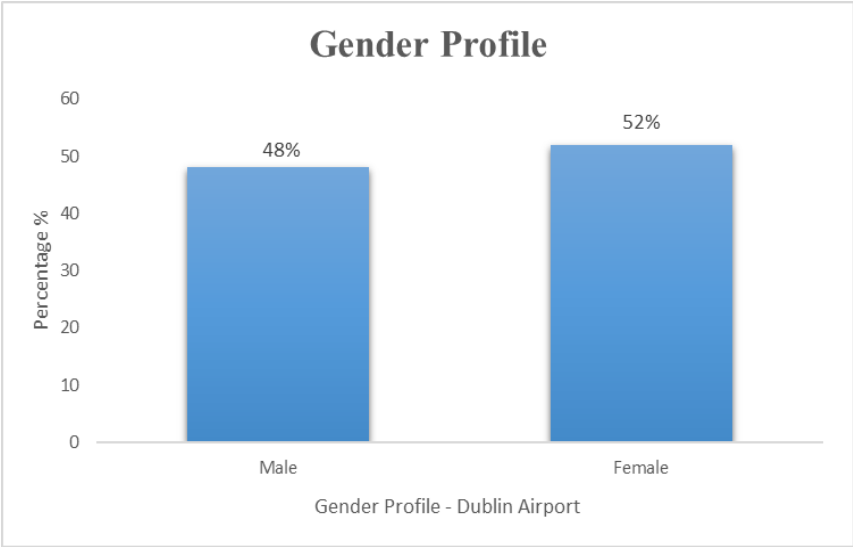
Figure 2.2 below shows the age profile of participating passengers. This profile shows that the survey obtained a broad spread of passengers, whose age profile matches the typical profile of people travelling through the airport, with 25 – 34 year olds representing a higher proportion of those being interviewed.

Figure 2.2 – Age profile of survey participants

Age Profile

18-24	25-34	35-44	45-54	55-64	65+
10%	27%	21%	16%	14%	11%

Age Profile at Total Level - Dublin Airport
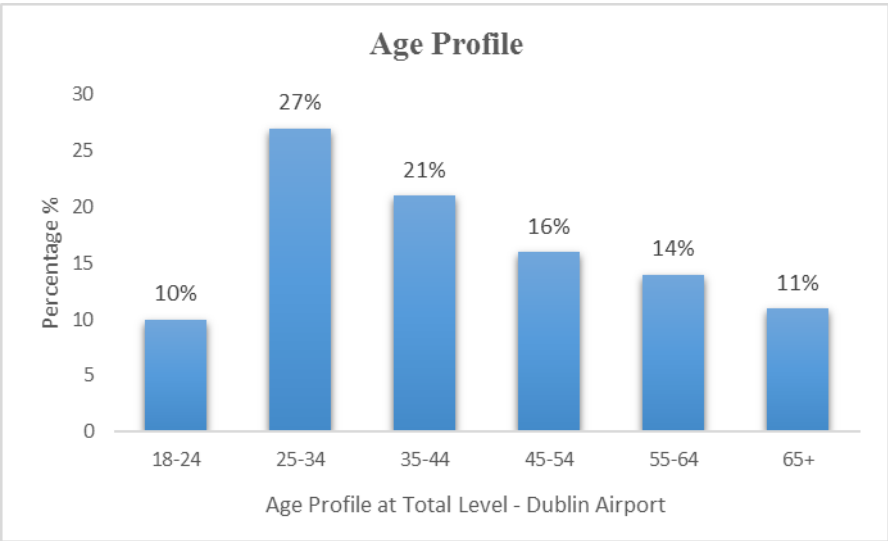
In the appendices we have included details of where in Ireland visitors and residents had travelled from on the day of the interview.

3. Main Survey Findings - DUBLIN

3.1 Introduction

This section summarises the main survey findings under the following headings:

- Modes of travel

- Passenger arrival and departure times and journey times to the Airport,

- Choice of bus service and rail providers

- Parking Arrangements, Drop-off and Car Availability,

- Nationality of visiting passengers (more accurately, their Country of Residence),

- Purpose of trip abroad (Irish residents) and of trip to Ireland (Non-Irish residents 'Visitors')

- Trip duration

3.2 Mode of travel

Table 2.1 below shows the number of passengers who travelled to the airport by each mode – broken down by Irish residents and visitors, and at a total level. Percentage mode share is then calculated and displayed, along with confidence intervals and bands.

Table 2.1i – Total mode of travel to/from the Airport

Mode	Total no of interviews	% of total sample	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	1642	33	1.3	32 – 34
Taxi	1278	25	1.2	24 – 26
Passenger in Car	798	16	1.0	15 – 17
Drove own Car/Van	708	14	1.0	13 – 15
Rental Car/Van	323	6	0.7	5 – 7
Hotel Shuttle Bus	212	4	0.5	3 – 5
Motorcycle	0	0	*+0.06*	*0 – 0.06*
Bicycle	4	0	*0.09*	*0.03 – 0.2*
On Foot	9	0	*0.12*	*0.09 – 0.34*
Other (Please Specify)	69	1	*0.3*	*1.1 – 1.7*
Total	5043	100		
totals affected by weighting (Wilson Method supplied by NTA)				

Table 2.1ii – Irish resident mode of travel to/from the Airport

Mode	Irish Resident	%	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	831	**33**	1.8	31 – 35
Taxi	406	**16**	1.4	15 – 17
Passenger in Car	507	**20**	1.6	18 – 22
Drove own Car/Van	689	**27**	1.7	25 – 29
Rental Car/Van	12	**0**	0.0	0
Hotel Shuttle Bus	49	**2**	0.5	1 – 3
Motorcycle	0	**0**	0.0	0
Bicycle	2	**0**	0.0	0
On Foot	2	**0**	0.0	0
Other (Please Specify)	34	**1**	0.4	1
Total	2532	100		

Table 2.1iii – Visitors mode of travel to/from the Airport

Mode	Visitors	%	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	811	**32**	1.8	31 – 35
Taxi	872	**35**	1.9	33 – 37
Passenger in Car	291	**12**	1.3	11 – 13
Drove own Car/Van	18	**1**	0.4	1
Rental Car/Van	311	**12**	1.3	11 – 13
Hotel Shuttle Bus	162	**6**	0.9	5 – 7
Motorcycle	0	**0**	0.0	0
Bicycle	2	**0**	0.0	0
On Foot	7	**0**	0.0	0
Other (Please Specify)	35	**1**	0.4	1
Total	2510	100		

Figure 3.1(i) – % Mode share of passengers to the Airport

Figure 3.1(i) below shows the mode share of passengers who travelled to the airport by each mode at a total level. A third (33%) travelled by Bus or Coach and 30% travelled by private car, with a quarter (25%) using a taxi.

Fig 3.1 (i) Mode Share of Passengers to Dublin Airports

Visitor mode share
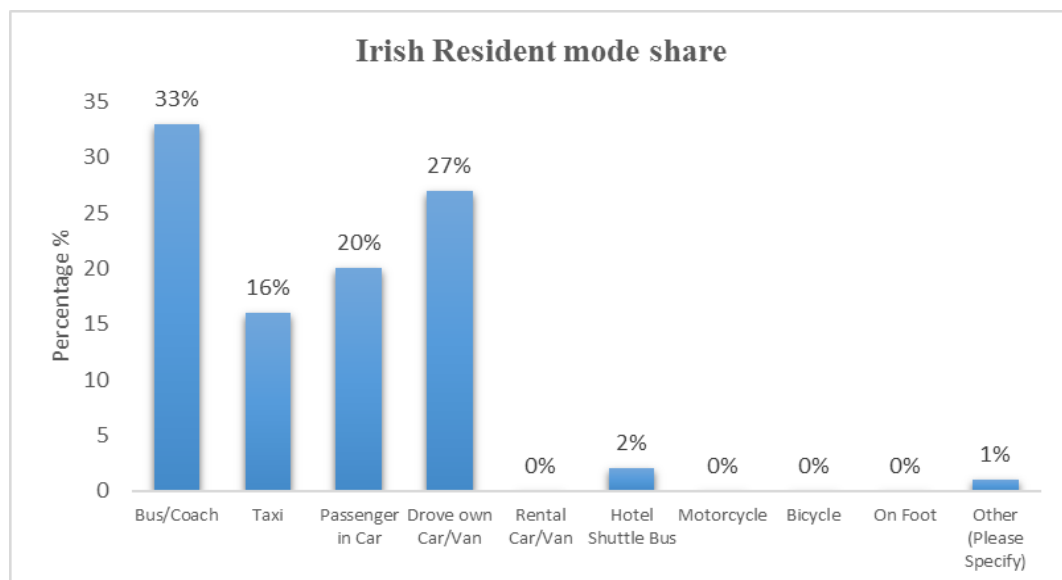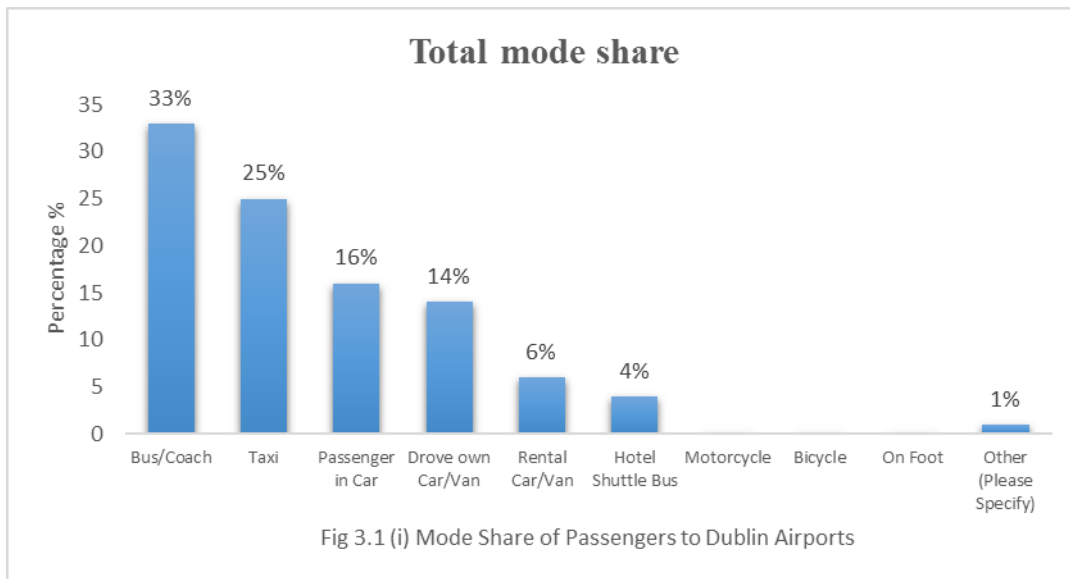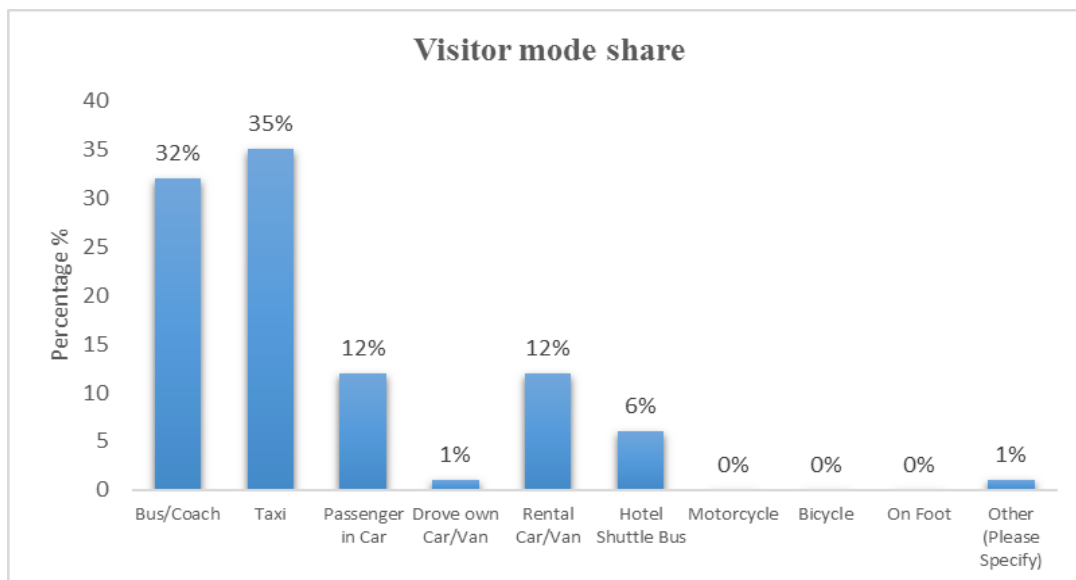
3.3   Arrival and departure profiles and travel times

Figure 3.1 below gives the reported time profile of surveyed passengers arriving at Dublin Airport for both Irish residents, overseas visitors and at a total level. Please note that no interviewing was completed before 6AM or after 7PM, reflective of the periods modelled by the NTA. Again, it is important to note that one of the busier times of day at Dublin Airport is before 7AM but this was not surveyed in detail. There are other surveys carried out which may provide more accurate information on the very early morning flights, e.g., by Fáilte Ireland or daa itself. Approximately 30 flights depart from Dublin before 7AM every weekday with those passengers arriving at the airport before 6AM. Passengers surveyed around 7AM within the terminals had generally arrived between 6AM and 7AM.As such, it is important to note that this NTA survey is perhaps not highly accurate for the period outside of the survey hours.

Figure 3.1 i– Time profile of arrivals at the Airport at total level
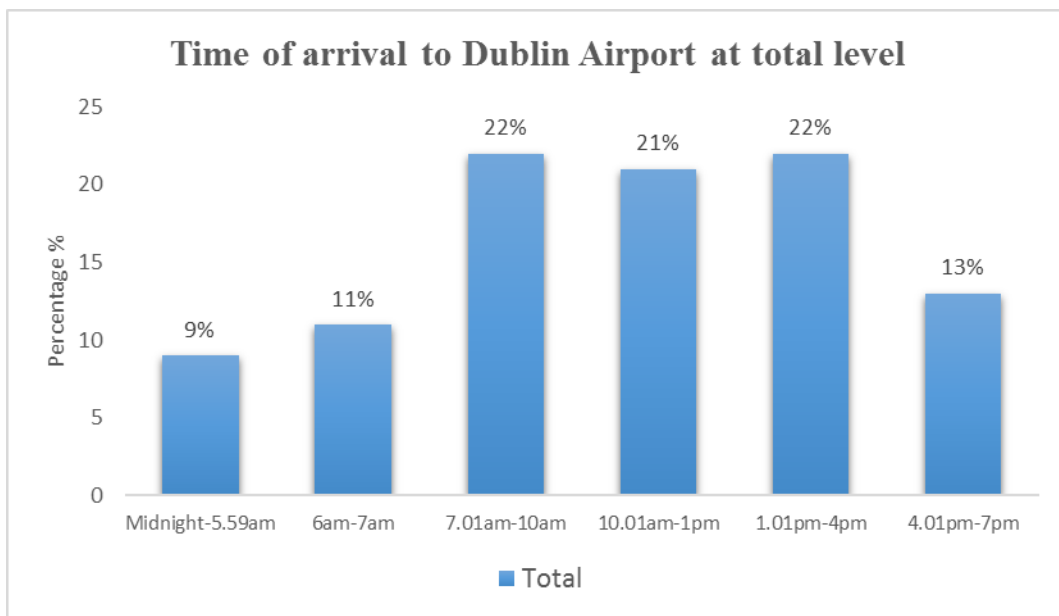
Figure 3.1 ii– Irish resident time profile of arrivals at the Airport

Time of arrival to Dublin Airport by Irish residents
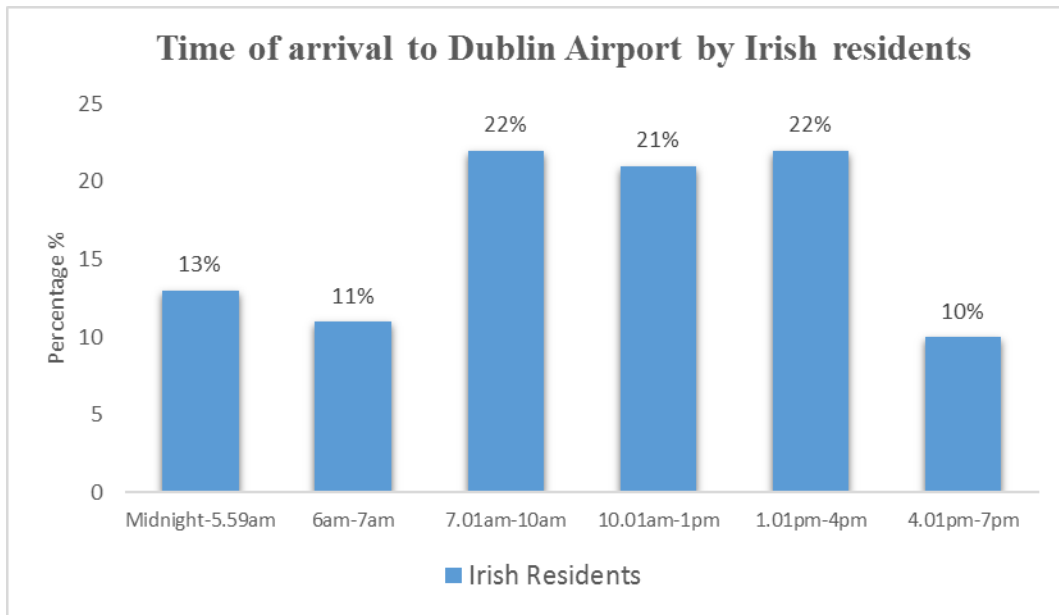
Figure 3.1 iii– Visitors time profile of arrivals at the Airport
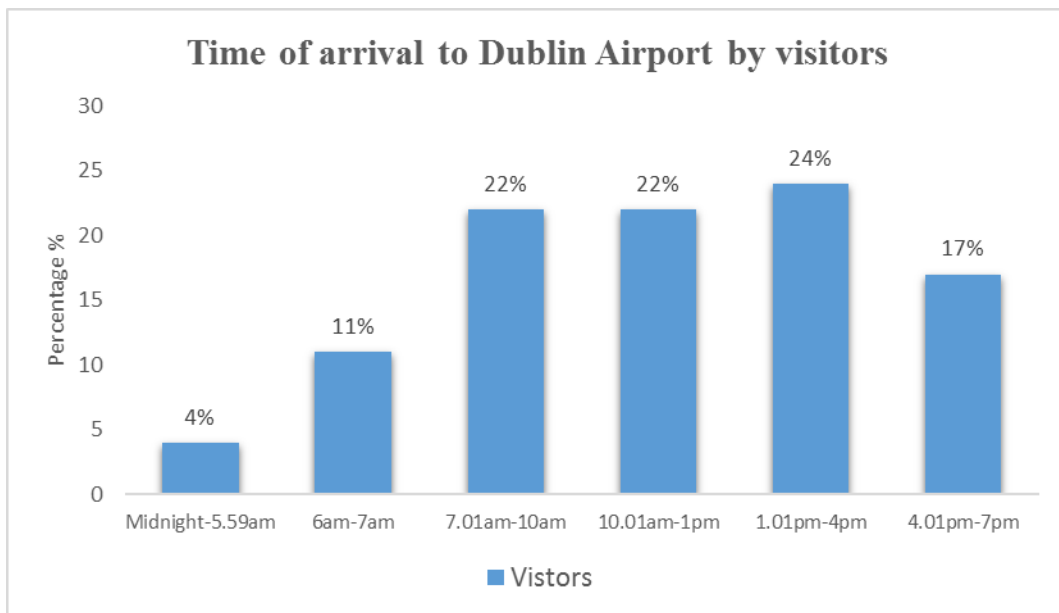
Time of arrival to Dublin Airport by visitors

Irish residents are more likely to take earlier flights before 6am than overseas visitors (13% vs 4% respectively).

Figure 3.2i– Time profile of Irish residents return time back to Dublin Airport

Figure 3.2i shows the stated time that Irish residents expect to arrive back to Dublin Airport, with 51% expecting to arrive back after 4pm.
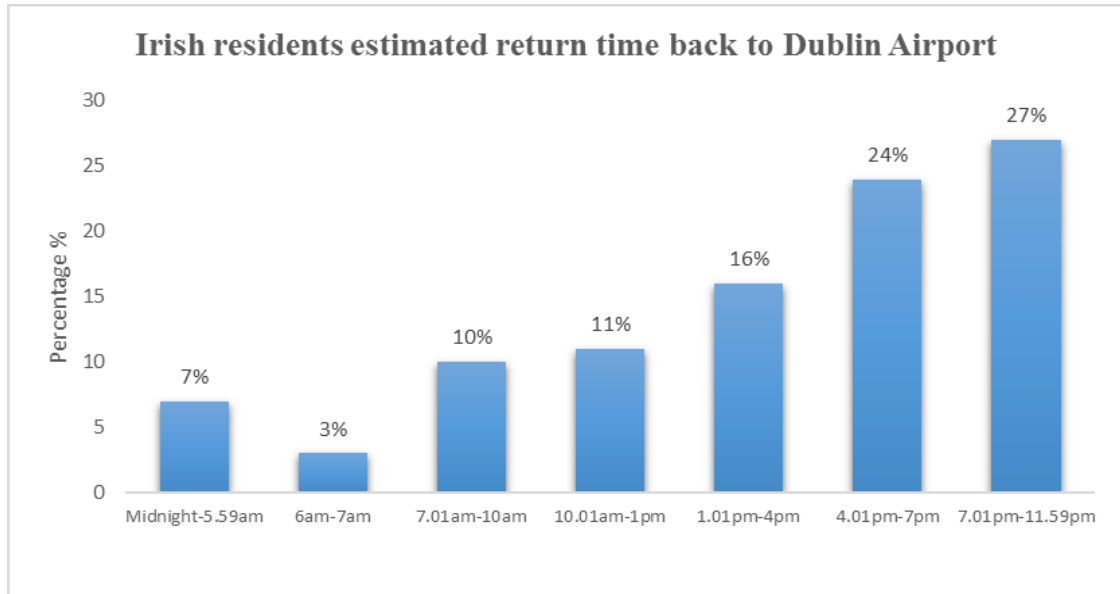
Figure 3.2ii– Time profile of Visitors arrival time to Dublin Airport

Figure 3.2ii shows the estimated time that visitors arrived at Dublin Airport on their incoming journey, with 26% recalling arriving between 7-10am.
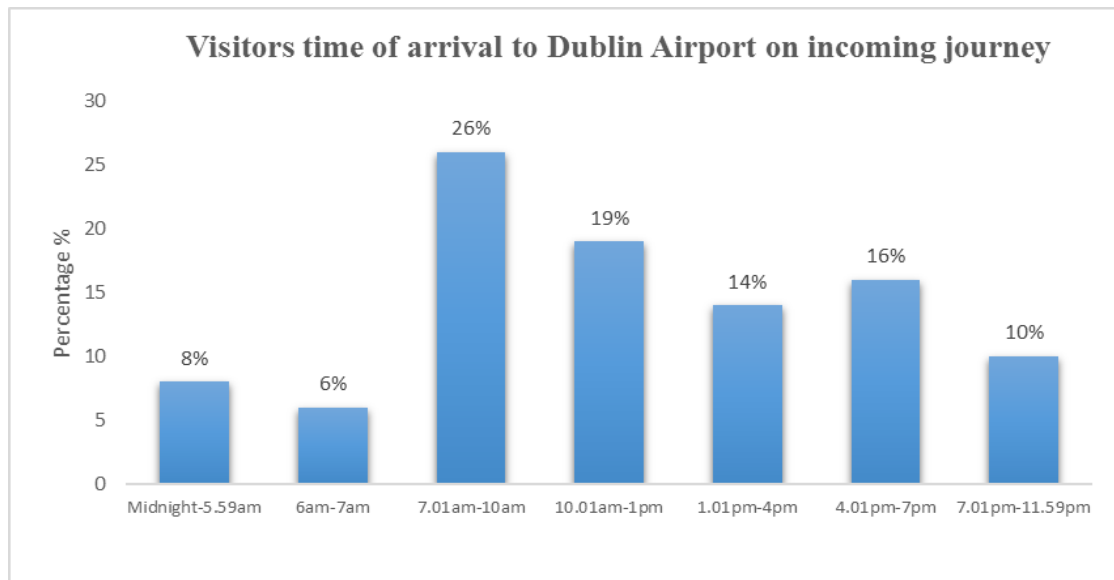
Figure 3.3i – Journey time to the Airport

Figure 3.3i gives the journey time to Dublin at an overall level, showing 59% travel for between 16 minutes and an hour to get to the airport.

Figure 3.3ii – Journey time to the Airport

Figure 3.3ii gives the journey time to Dublin Airport for Irish residents
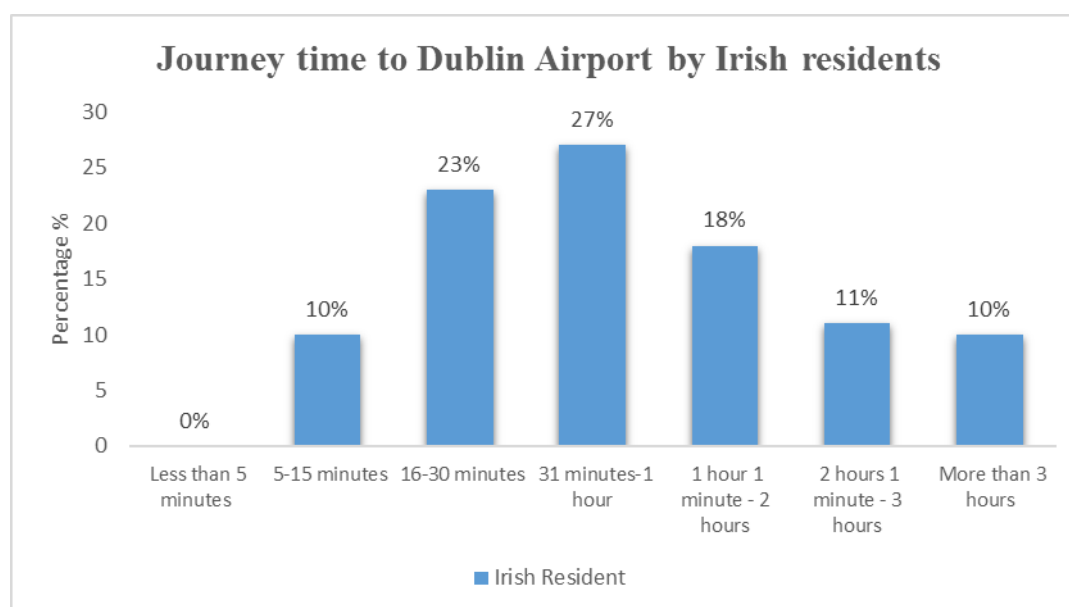
Irish residents took longer on average to travel to Dublin airport than overseas visitors.

Figure 3.3iii – Journey time to the Airport

Figure 3.3iii gives the journey time to Dublin Airport for visitors. 10% of residents took more than 3 hours to reach Dublin Airport; for visitors this fraction was 5%.
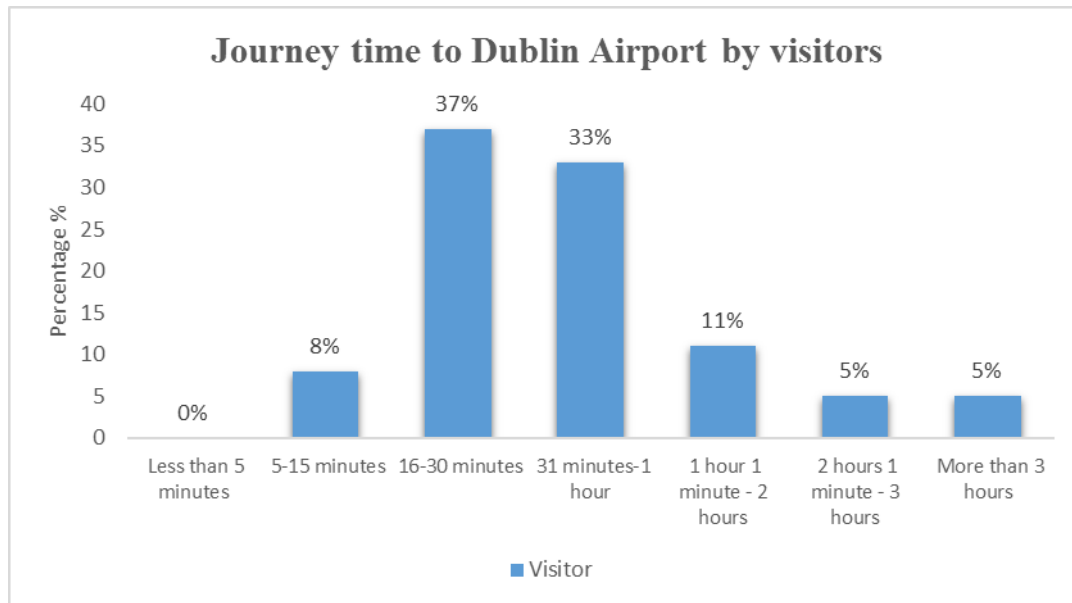
3.4 Overnight stay at hotel, B&B or hostel – Dublin

Note that in this survey, approximately 70% of departing Visitor passengers from Dublin Airport spent the previous night in a hotel, bed-and-breakfast or hostel (questionnaire responses weighted by estimated passenger volumes).. The equivalent percentage for departing Resident passengers (North or South of Ireland) was 21%. This will account in part for some of the differences in journey times to access Dublin Airport.

3.5 Choice of bus service provider

For the 2016 Airport Passenger Survey, we included the following Bus Service Providers for travel to Dublin Airport. The pre-coded list was developed in consultation with the NTA and listed in the questionnaire for efficiency of capturing data. Below is the list of bus options categorized into three headings; Public Service Obligation Buses, Airport Service Commercial Buses, Other Private Buses.

Public Service Obligation Buses (PSO)
Dublin Bus e.g. Route 16, 41, 102, 747
Bus Éireann e.g. Route 133

Airport Service Commercial Buses
Dublin Bus (Airlink) e.g. Route 757
Aircoach e.g. Route 700, 702, 703, 704X, 705X

Airport Hopper by Dualway e.g. Tallaght to Dublin Airport, Maynooth to Dublin Airport
Ard Cavan e.g. Wexford to Dublin Airport
City Scope e.g. Dundrum to Dublin Airport via Red Cow
EirEagle e.g. Galway, Limerick Service

Other Commercial Buses
Dublin Coach e.g. M7, N7, M9 Service
GoBe e.g. Cork to Dublin
JJ Kavanagh & Sons e.g. Route 717, 735, 736
John McGinley Coaches e.g. Route A
Wexford Bus e.g. Route 740
Translink e.g. Route X1, X2, X3
Other (to be specified by respondent, Hotel/Parking Shuttles)

Figure 3.7 (i) (ii) (iii) – Bus service providers

Figure 3.7 (i) – (iii) show the breakdown of passengers who travelled by bus to the airport by their choice of bus service provider, for all providers, and combined totals for Public and Private Providers for Irish residents, visitor and at a total level. Specific airport buses were used by 53% of bus users overall, 63% of visitors using the bus and 42% of Irish residents using the bus; residents using the buses are also likely to take Bus Éireann 23% or Dublin Bus 9%.

Bus provider categories by Irish residents

	Dublin Bus	Bus Eireann	Airlink	PSO Bus (net)	Airport Bus (net)	Other Commerical Bus (net)	Other/Hotel Shuttles	Don't know
Irish Residents	9%	23%	11%	32%	42%	5%	10%	6%

Bus provider categories by visitors

	Dublin Bus	Bus Eireann	Airlink	PSO Bus (net)	Airport Bus (net)	Other Commerical Bus (net)	Other/Hotel Shuttles	Don't know
Visitors	9%	8%	37%	17%	63%	6%	10%	4%
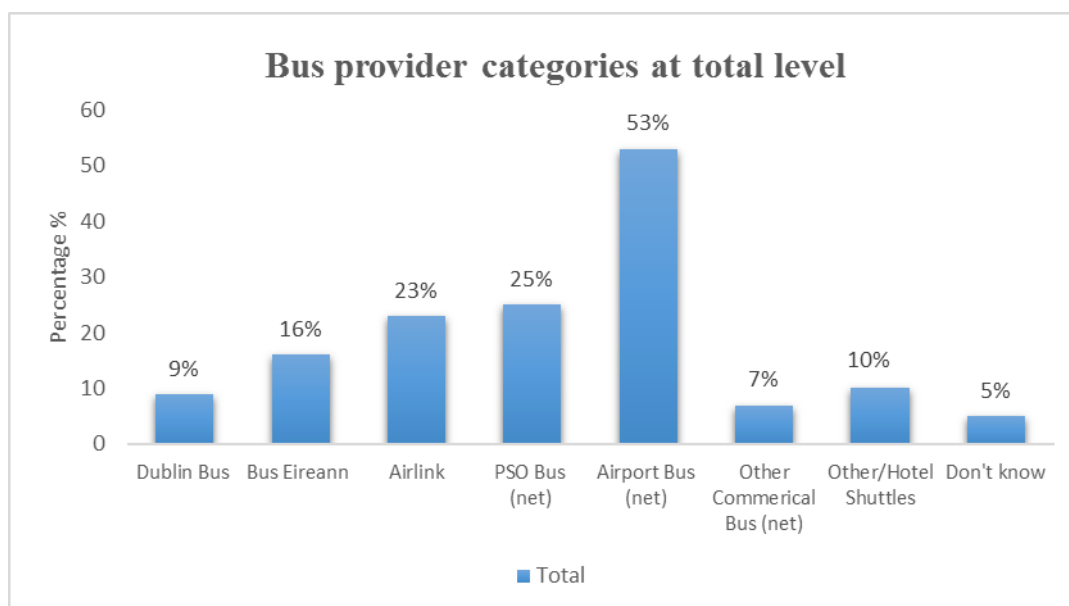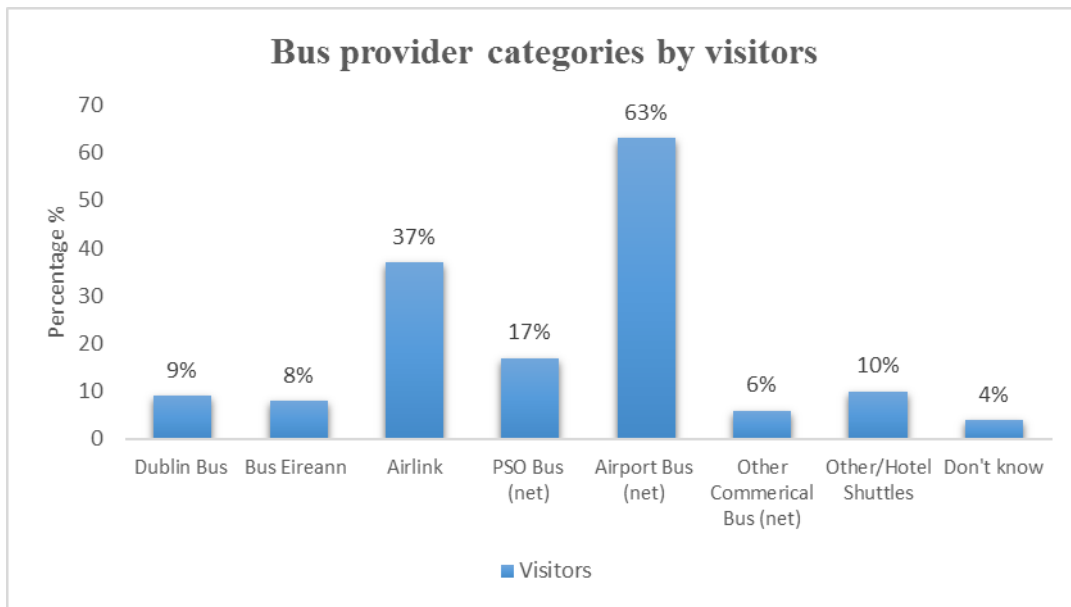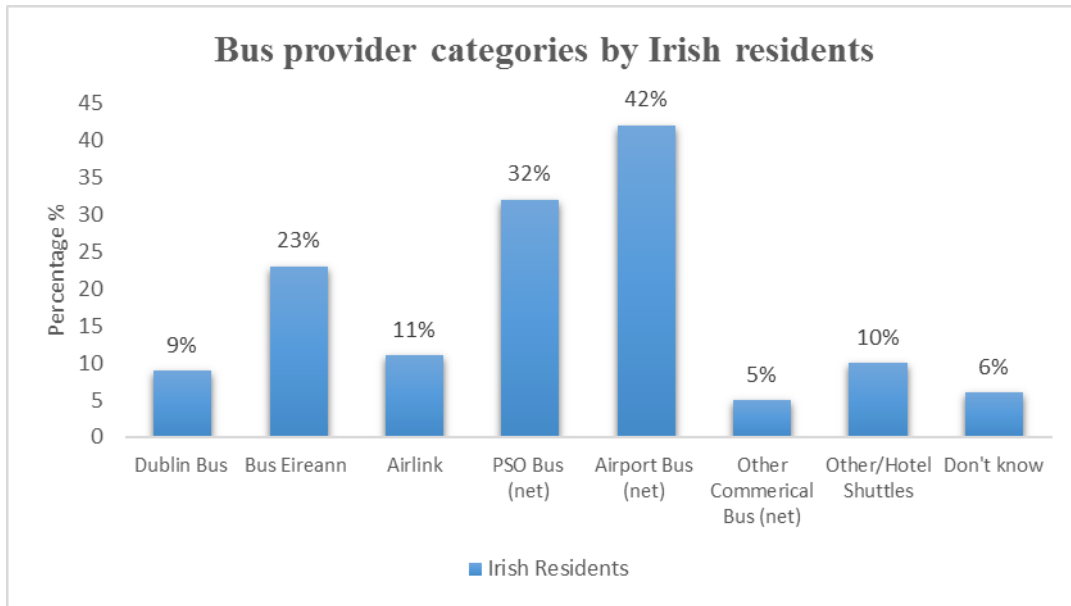
Figure 3.8 (i) (ii) (iii) (iv) – Rail Travel

A new question was added to the survey in 2016 to ascertain if any passengers use rail travel as part of their journey to the airport. Given that there is no direct rail access to Dublin Airport, 2% of all passengers interviewed for this survey had used rail; either DART, Irish Rail or Luas as part of their journey to Dublin Airport.

Fig 3.8(ii) displays the Rail Mode share based on those who used rail (n=95).

Rail travel profile at total level

Category	Percentage
No	98%
Yes - Luas	0%
Yes - DART	0%
Yes - Irish Rail	2%

Percentage % Rail Travel Total Level
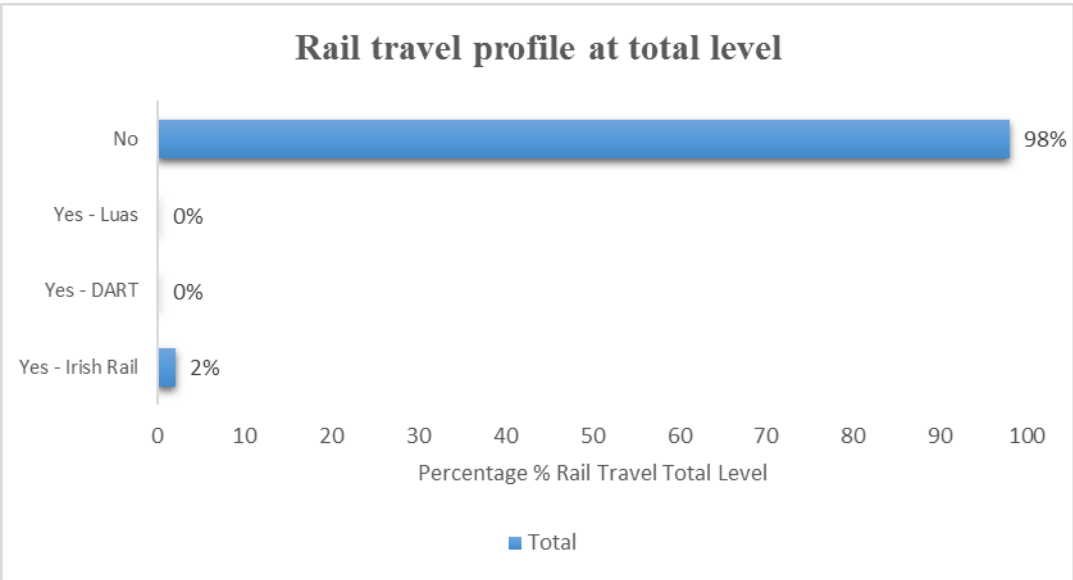
■ Total

Figure 3.8 (ii)- (iv) Rail travel absolute numbers of interviews at Total Level Irish Resident Level and Visitor Level

Rail travel breakdown at total level

Category	Absolutes
Yes - Irish Rail	76
Yes - DART	1
Yes - Luas	18

■ Total
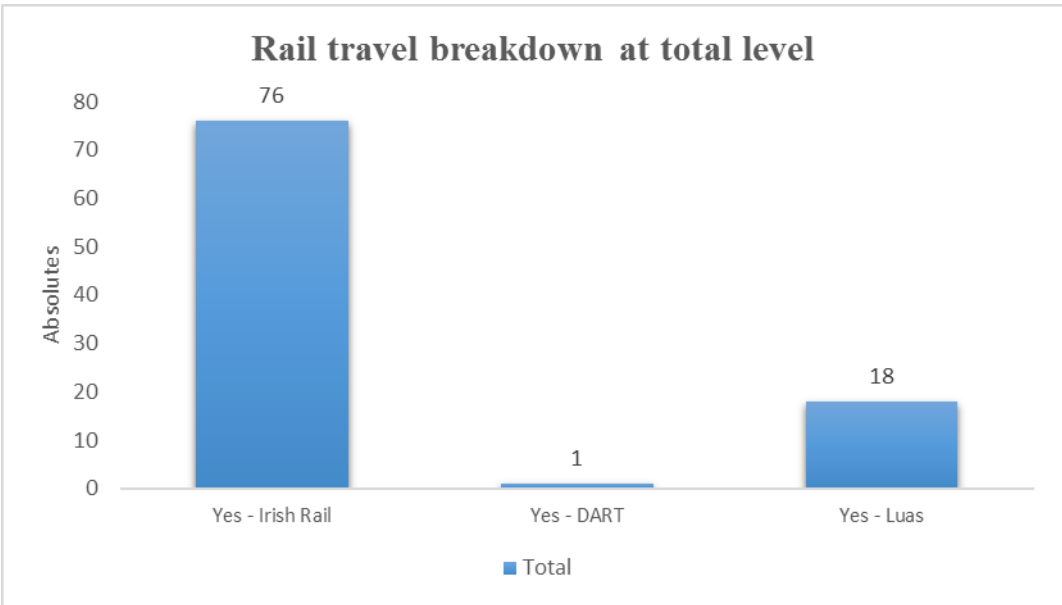
(Based on absolute numbers of interviews n = 95 who used Rail as part of journey to the Airport.

Rail travel profile by Irish residents

Absolutes

| Yes - Irish Rail: 57 | Yes - DART: 1 | Yes - Luas: 9 |

■ Irish Residents

Rail travel profile by visitors

Absolutes

| Yes - Irish Rail: 17 | Yes - DART: 0 | Yes - Luas: 7 |

■ Visitors
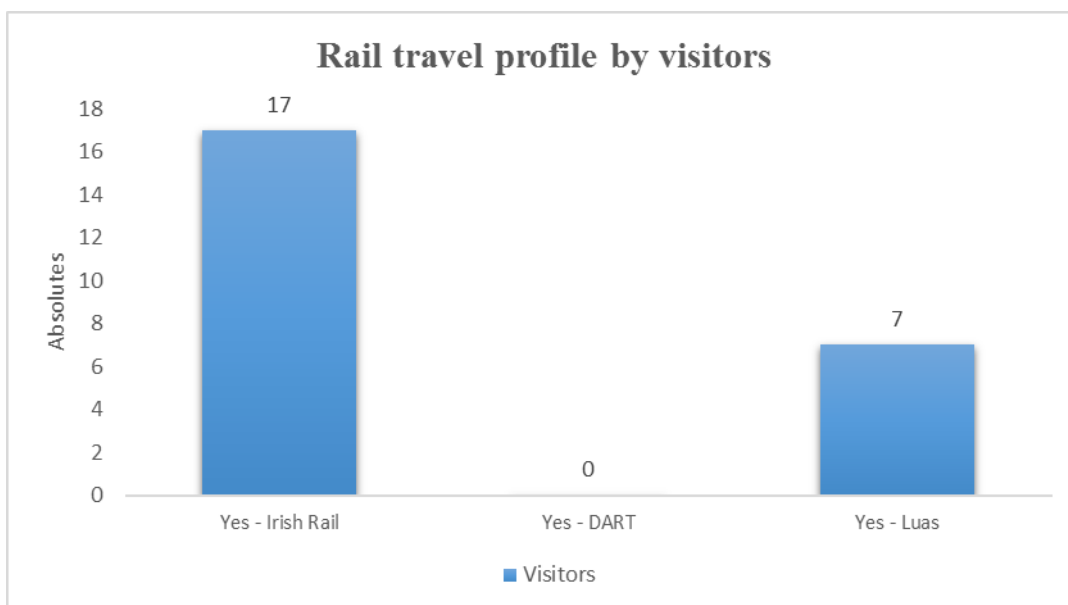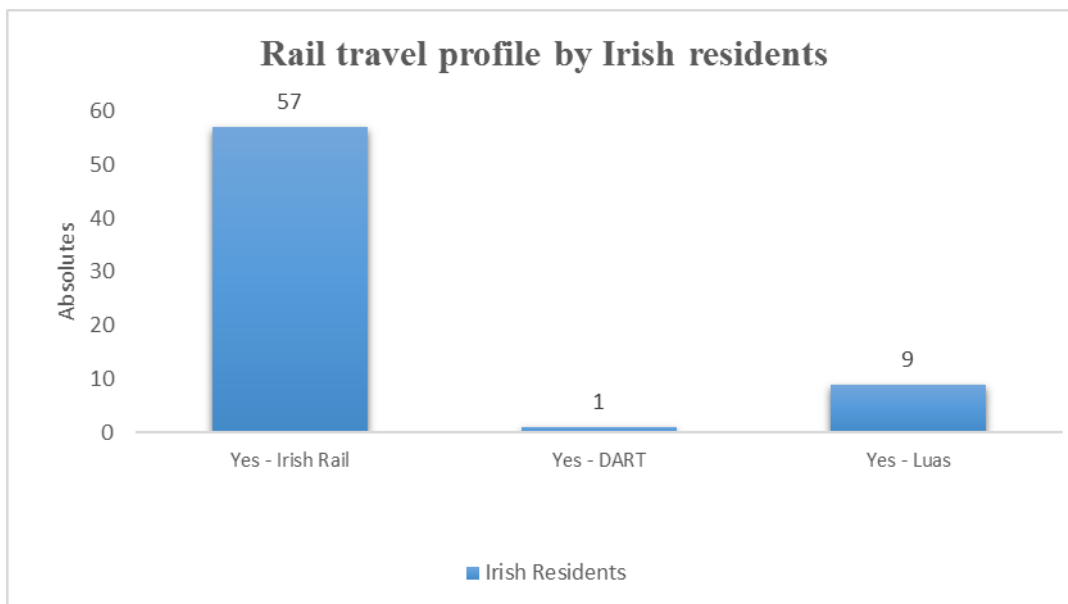
3.6   Parking and Dropping off arrangements

Table 3.3 gives the breakdown of passengers who were driven to the airport as a passenger in a private car and if the driver drove away after dropping them off or if the driver parked the car and accompanied the passenger to the terminal. This question was asked of all those coded as 'Passenger in Car' at Q.8 'How did you get most of the way to the airport today?'. A quarter of Irish residents were accompanied into the terminal, compare to 8% of overseas visitors.

Table 3.9 (i) – Private car users by those parking and not parking

Private Car	Total	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	647	**81**	2.7	78 – 84
Park the car and accompany you into the terminal?	149	**19**	2.7	16 – 21
Total	798*	100		
*totals affected by weighting				

Private Car	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	379	**75**	3.8	71 – 79
Park the car and accompany you into the terminal?	127	**25**	3.8	21 – 29
Total	507*	100		
*totals affected by weighting				

Private Car	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	268	**92**	3.1	89 – 95
Park the car and accompany you into the terminal?	23	**8**	3.1	5 – 11
Total	291	100		
*totals affected by weighting				

Figure 3.9 (i) (ii) (iii) – Private car users by those parking and not parking

Figure 3.9 (i) below shows private car users parking arrangements at total level with 81% being dropped off, with 92% of overseas visitors and 75% of Irish residents being dropped off.
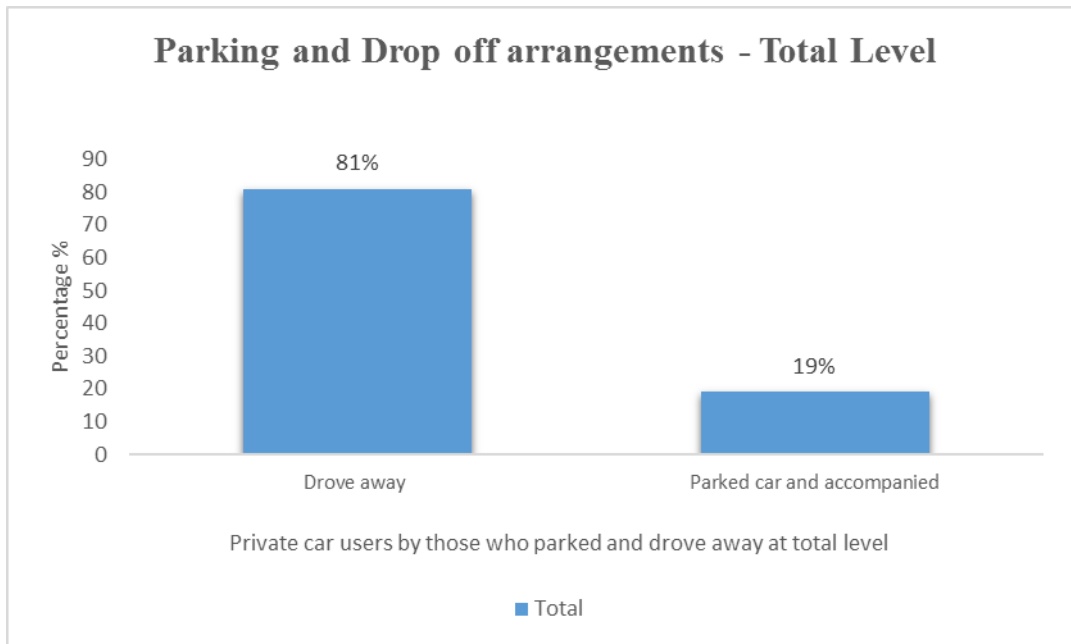
Figure 3.9 (ii) shows private car users parking arrangements by Irish residents.
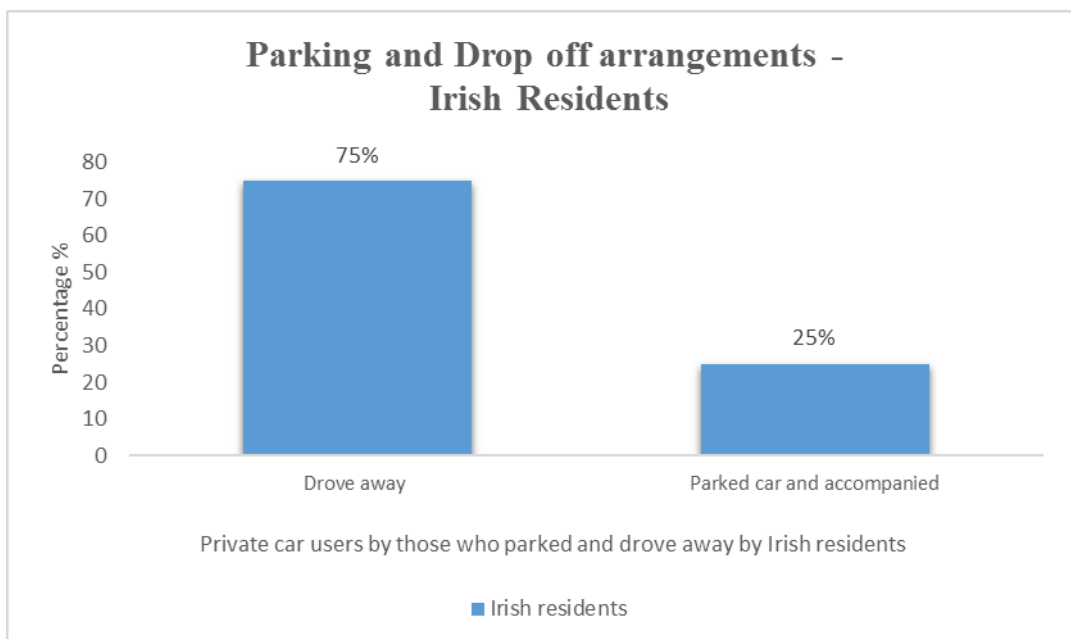
Figure 3.3 (iii) showing private car users parking arrangements by visitors.

Parking and Drop off arrangements - visitors

Private car users by those who parked and drove away by visitors

■ Visitors
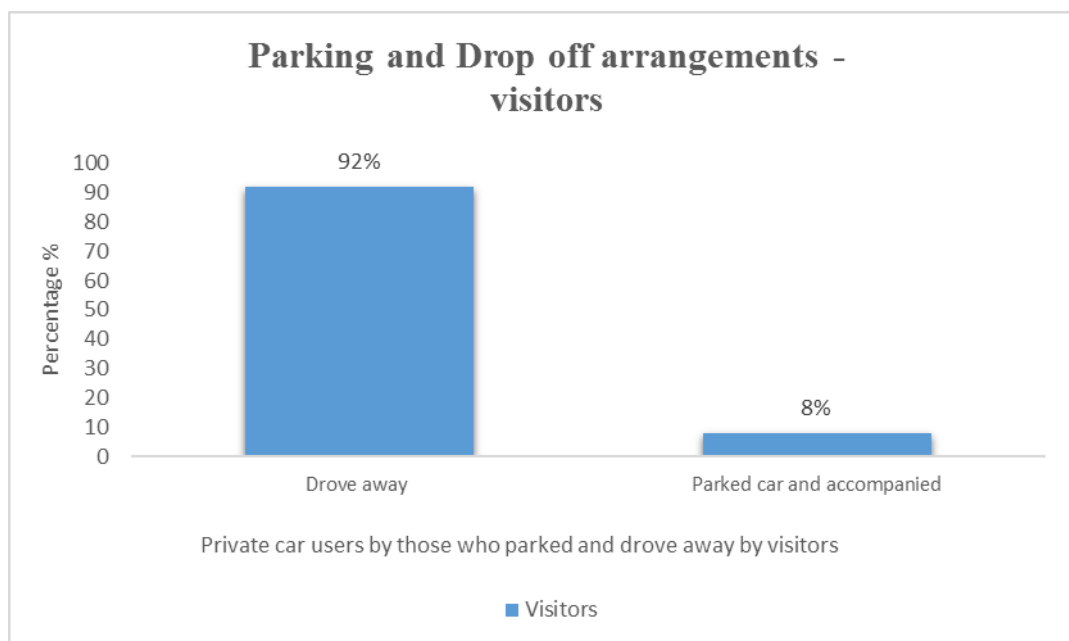
Table 3.4 – Car Available

For those who did not drive themselves to the airport, the table below shows if they had a car/van <u>available</u> to drive to the airport today, and displayed on a bar chart also. At an overall level 29% of those who didn't drive themselves had a car available, 51% for Irish residents and 12% for overseas residents. This data is instrumental for modelling purposes but may be of little general interest.

Car Available?	Total	%	Confidence Interval @ 95% +/-	Confidence Range %
Yes	3093	**29**	1.4	28 – 30
No	1241	**71**	1.4	70 – 72
Total	4334	100		

Car Available?	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range %
Yes	937	**51**	2.3	49 – 53
No	906	**49**	2.3	47 – 51
Total	1843	100		

Car Available?	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range
Yes	304	**12**	1.3	11 – 13
No	2187	**88**	1.3	87 – 89
Total	2491	100		

Figure 3.4 (i) showing Car availability of those who did not drive to the Airport.

Car availability at Total Level

Car availability of those who did not drive to Dublin Airport at total level

■ Total

Car availability by Irish Residents

Car availability of those who did not drive to the Airport by Irish residents

■ Irish residents

Car availability by visitors

Car availability of those who did not drive to the Airport by visitors

■ Visitors
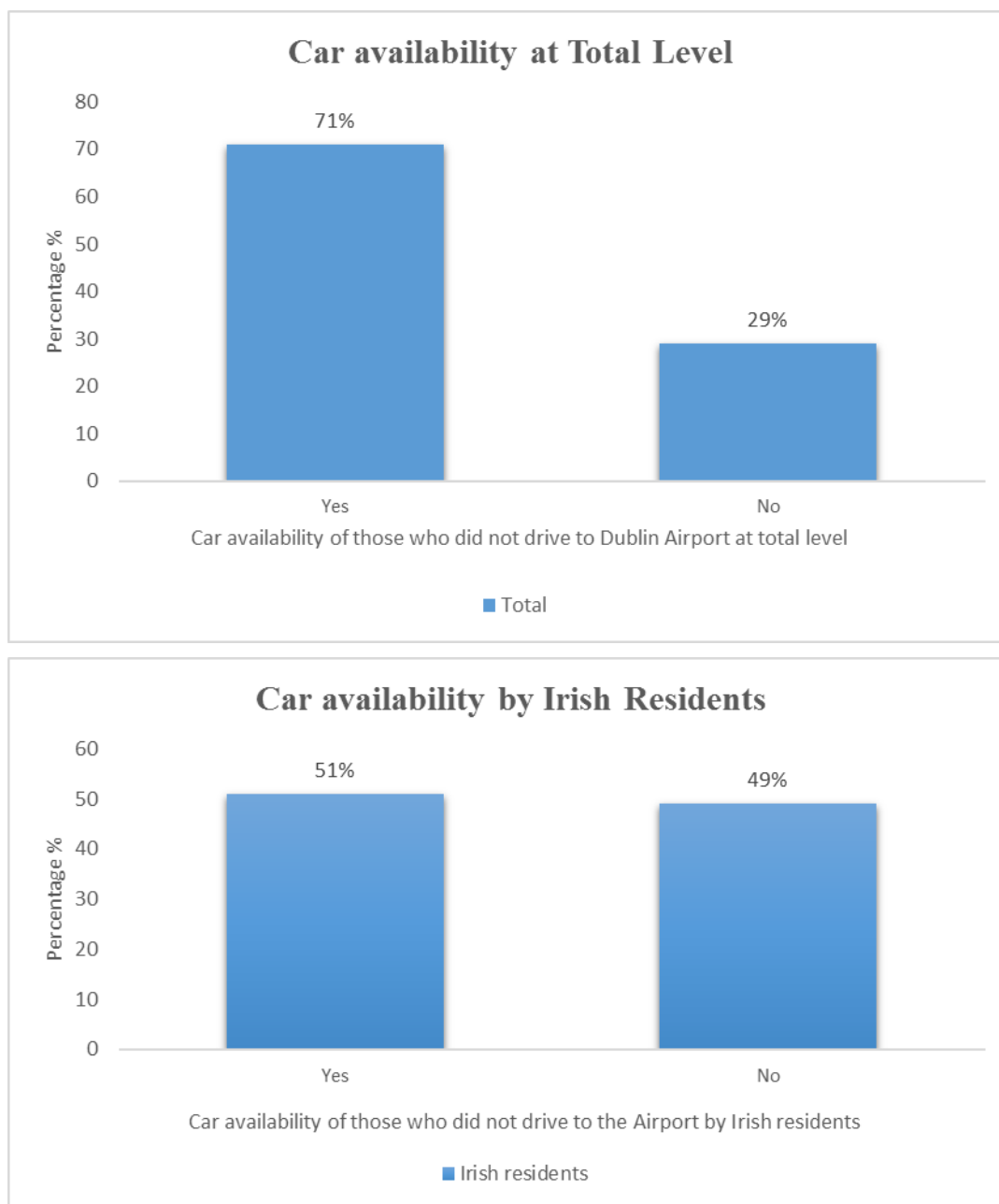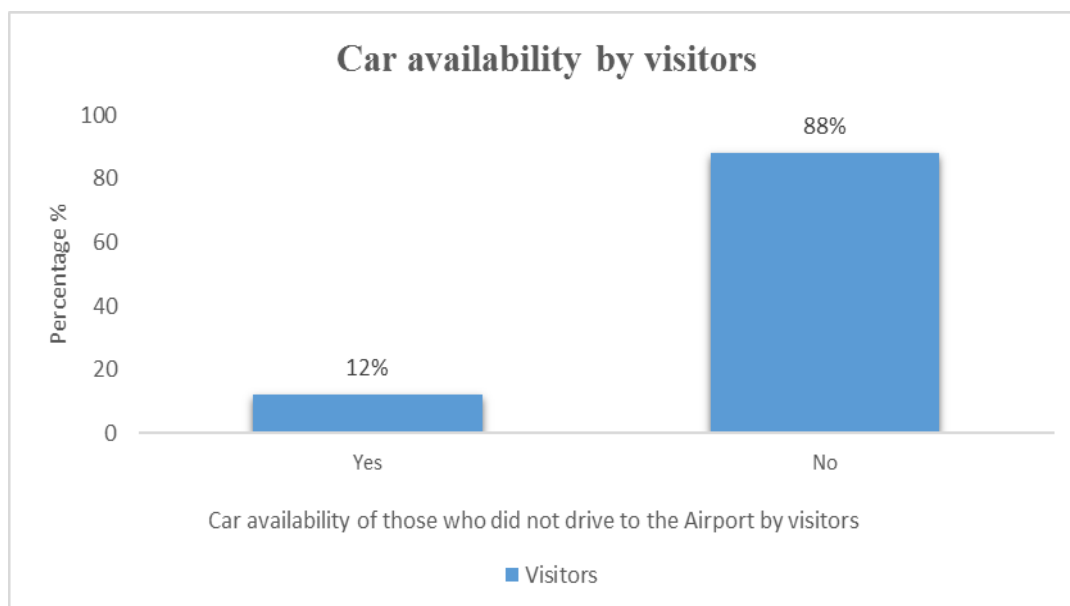
3.7 Nationality (Country of Residence) of visiting passengers

Figure 3.9 below gives a breakdown of the country of residence of passengers who had visited Ireland. The key European markets (Great Britain, France and Germany) are displayed and USA is second only to GB (Great Britain). We have grouped together a 'Rest of Europe' but for reference, the sample includes 2.8% Holland (i.e., the Netherlands), 1.9% Spain and 1.4% Italy. A full breakdown of visitors by country of residence is available in the appendix. [Note: this survey did not cover very early flights from 5AM – 6AM, or so, many of which are short-haul to Britain. I.e., the accurate percentage for Britain might be somewhat higher than reported here].

Figure 3.9 Country of residence of visiting passengers
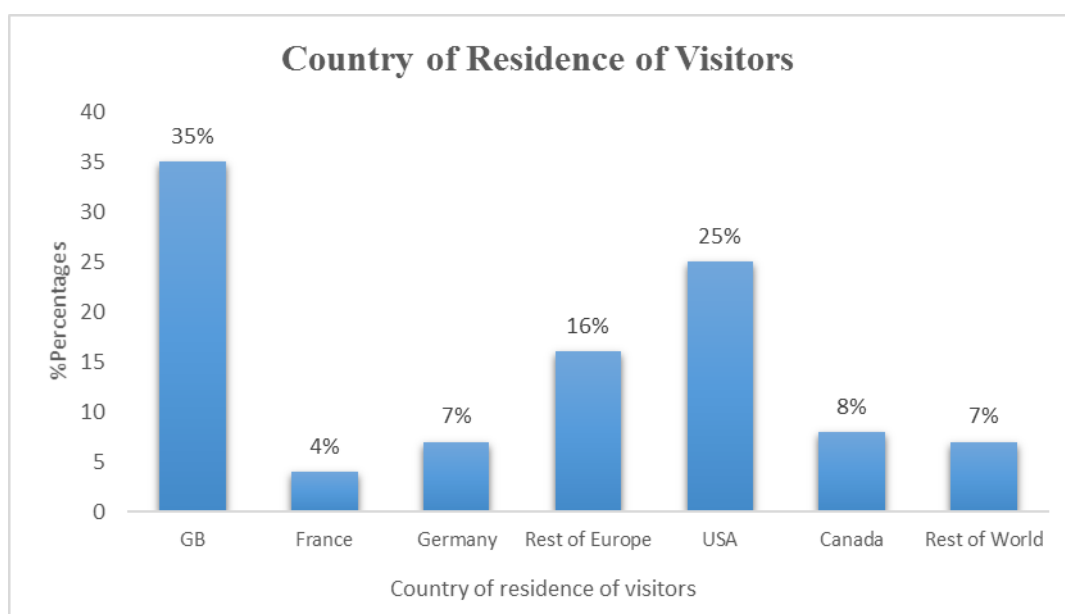
3.8   Trip purpose

Table 3.5 gives a breakdown of trip purpose for Irish residents and visitors. The main purpose for both cohorts (47% Irish residents and 46% visitors) are making a trip for Holiday/Leisure, followed by Business/Work Purposes (24% and 29% respectively – which suggests more inward trade) and visiting Relatives/Family (26% and 23% respectively).

Table 3.5 Purpose of trip abroad (Irish Residents) and trip to Ireland (Visitors)

Trip Purpose	Total Passengers	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	2358	**47**	1.4	46 – 48
Business/Work	1339	**26**	1.2	26 – 28
Visit Relatives/Family	1234	**24**	1.2	23 – 25
To Emigrate	35	**1**	0.3	1
Other*	76	**2**	0.4	2
Total	5042	100		

Trip Purpose	Irish Residents	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	1201	**47**	1.9	45 – 49
Business/Work	602	**24**	1.7	22 – 26
Visit Relatives/Family	662	**26**	1.7	24 – 28
To Emigrate	30	**1**	0.4	1
Other*	37	**1**	0.4	1
Total	2532	100		

Trip Purpose	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	1157	**46**	1.9	44 – 48
Business/Work	737	**29**	1.8	27 – 31
Visit Relatives/Family	572	**23**	1.6	21 – 25
To Emigrate	5	**0**	0.0	0
Other*	39	**2**	0.4	1
Total	2510	100		

*"Other" might include, for example, attending a funeral

Figure 3.5 illustrates the trip purpose at Irish resident level, visitor level and total level.

Trip purpose by at total level

Trip purpose by Irish residents

Trip purpose by visitors

Percentage %

- Holiday/Leisure: 46%
- Business/Work: 29%
- Visit Relatives/Family: 23%
- To Emigrate: 0%
- Other: 1%

Trip purpose by visitors
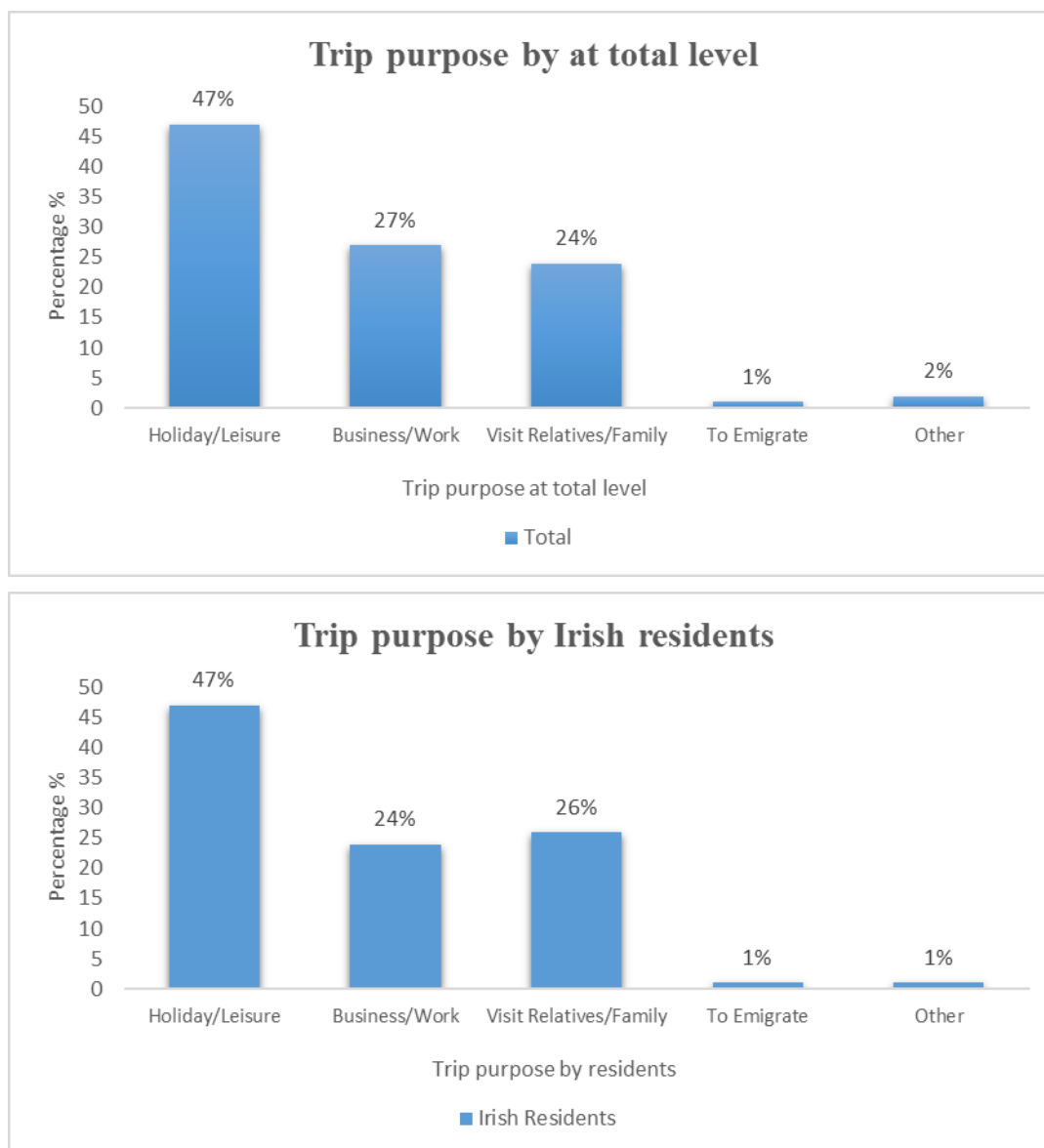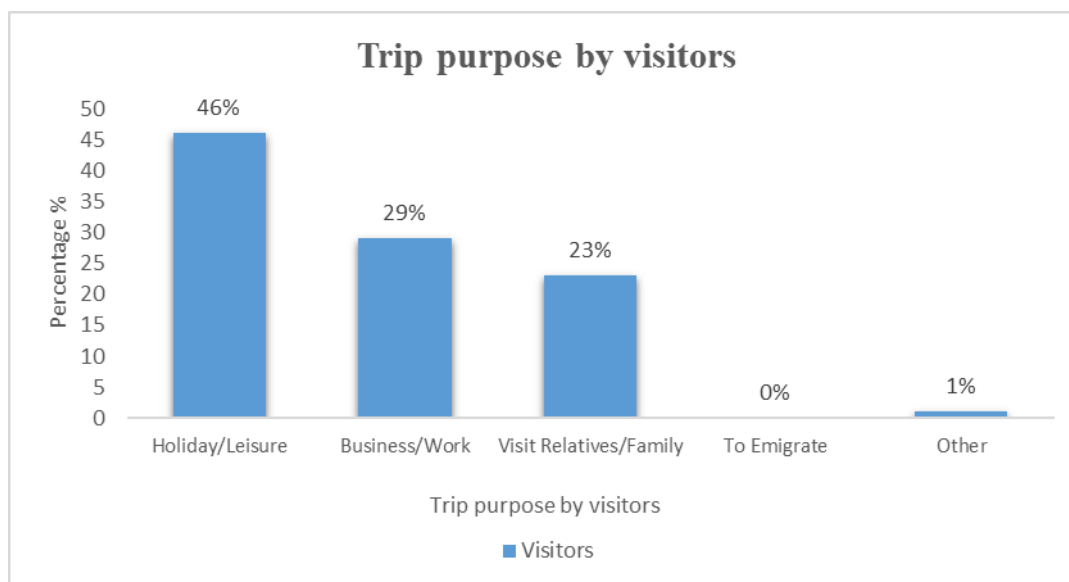
■ Visitors

3.9   Trip duration

An analysis was also undertaken of the durations of trips abroad (in the case of Irish residents) and trips to Ireland (in the case of visitors). Figure 3.11 shows the breakdown of the duration of trips abroad for Irish residents, while Figure 3.12 shows the breakdown of the duration of trips by visitors to Ireland. In October 2016 56% of Irish residents interviewed were travelling for less than a week and 71% of overseas visitors were in Ireland for less than a week.

Figure 3.11 – Duration of trips abroad (Irish Residents)
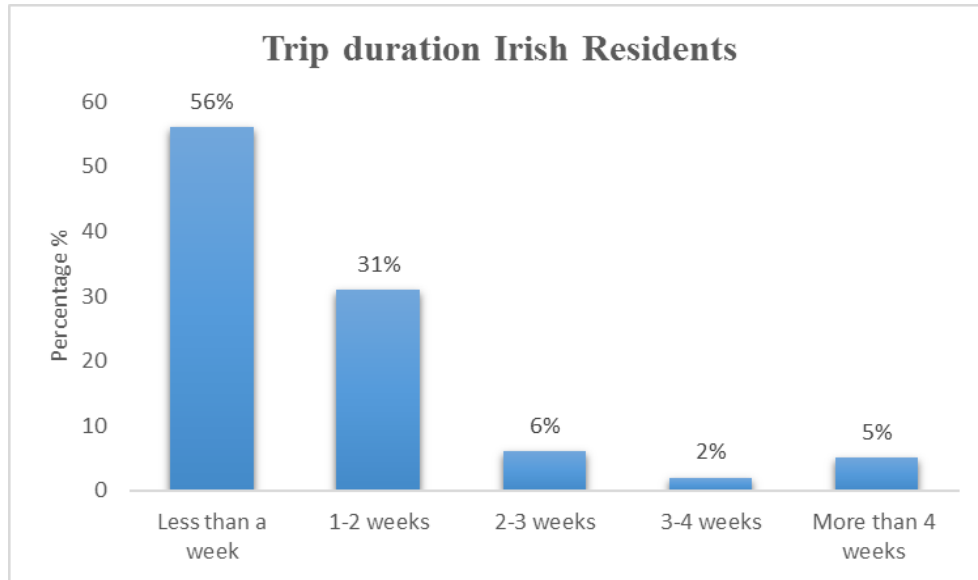
Figure 3.12 – Duration of trips abroad (Visitors)
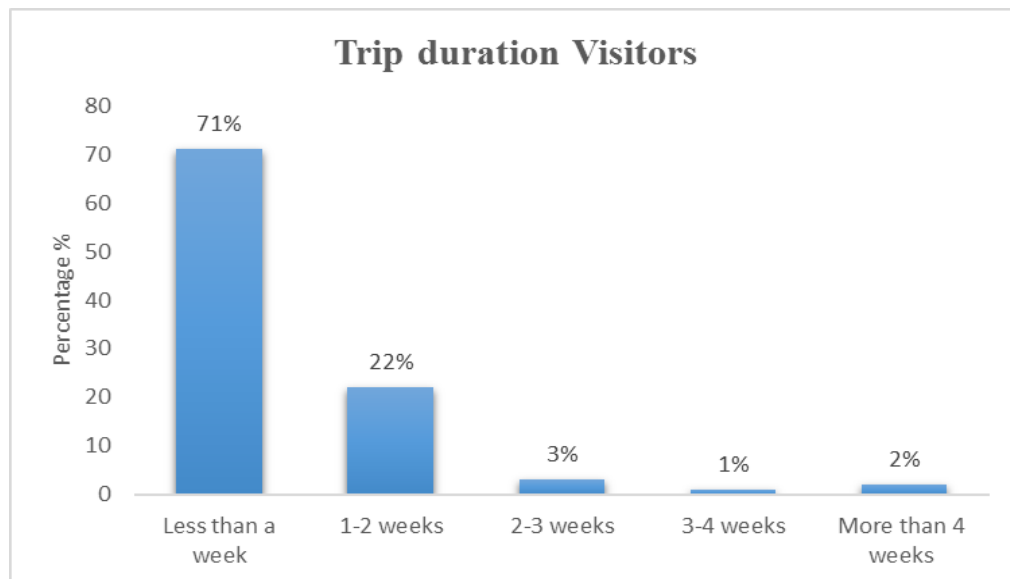
4. Summary of Key Findings – DUBLIN

- In this research 25 – 34 year olds represented a higher proportion than other age groups in Dublin airport at 27%.

- Half of those interviewed were Irish residents and half were overseas with no quota having been enforced. The larger overseas markets were GB (35%), USA (25%), Canada (8%) Germany (7%), and France (4%).

- The main purpose of travel was holiday/leisure (47% Irish residents and 46% Visitors), followed by Business/Work Purposes (24% and 29% respectively) and visiting Relatives/Family (26% and 23% respectively).

- In terms of transport mode share used for travelling to Dublin airport, 33% travelled by bus/coach and 30% travelled by private car, with 25% using a taxi.

- Irish residents are more likely to travel to the airport by car (47%), than overseas visitors (25%), who use more taxis (35%) or bus/coach (32%).

- Among those travelling by bus, dedicated airport buses were used by 53% of bus users overall, 63% of visitors using the bus and 42% of Irish residents using the bus; residents using the buses are also likely to take Bus Éireann (23%) or Dublin Bus (9%).

- Among those travelling by private car to get to Dublin airport 81% were dropped off rather than accompanied into the terminal; with 92% of these overseas visitors and 75% of Irish residents being dropped off at the terminal.

- Of those who did not drive to the airport, 29% had a car available, 51% among Irish residents and 12% for overseas residents.

- In terms of travel time 59% travelled between 16 minutes and an hour to get to the airport. Irish residents took longer on average to travel to Dublin airport than overseas visitors. 10% of Irish residents took more than 3 hours and for visitors this figure was 5%.

- Irish residents are more likely to take earlier flights before 6AM than overseas visitors (13% vs 4% respectively).

- In October 2016, 56% of Irish residents interviewed were travelling for less than a week and 71% of overseas visitors were in Ireland for less than a week.

5. Survey Sample – Cork

5.1 Number of passengers surveyed

The table below shows the breakdown of interviews completed by day of week, showing that 506 interviews were conducted in Cork over the survey period.

Number of interviews by day. Total n = 506
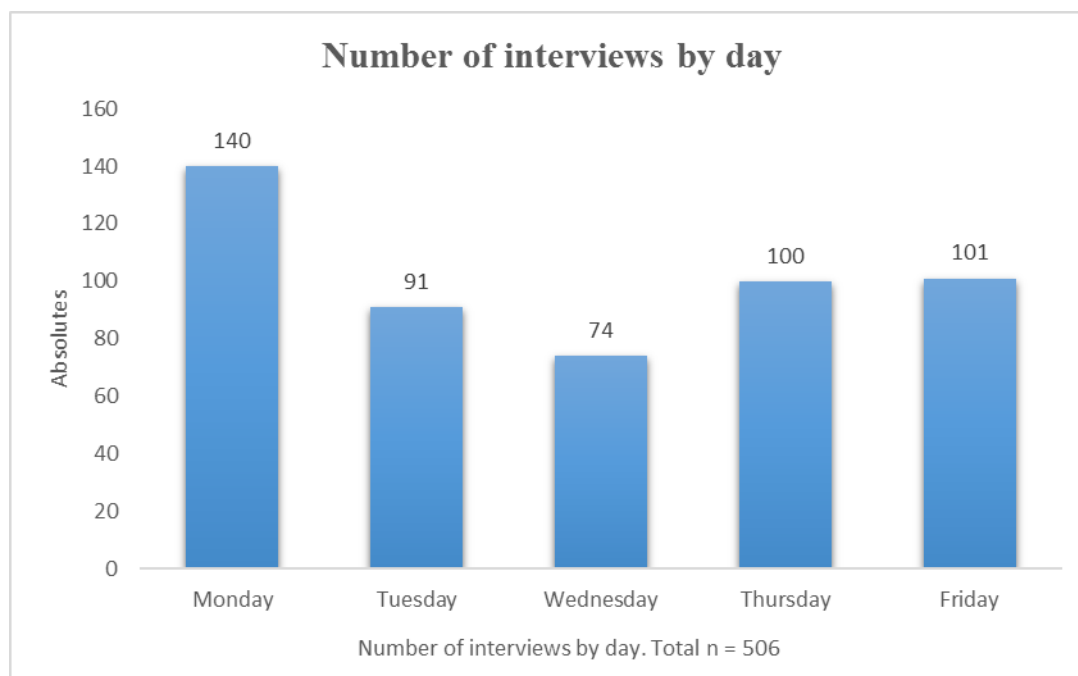
5.2 Sample by nationality and departure pier

Table 5.2 shows the breakdown of passengers by Irish resident and visitors (Non Irish residents) for the survey conducted at Cork Airport. Interviewers were instructed to interview any passengers in departure gates or departure areas from Ireland, both Republic and Northern Ireland, and overseas visitors, bar passengers in transit. The survey achieved a share of 55% Irish residents and 45% visitors. No quota was enforced.

Table 5.2 Passengers by residency – Cork

			%	Confidence Interval @ 95% +/-	Confidence Range %
Irish Resident	277		**55**	4.3	51 – 59
Visitors	229		**45**	4.3	41 – 59
Total	506		100		

Sample by Country of Residence – Cork

The Figure 5.2i shows the breakdown of participating passengers by residence
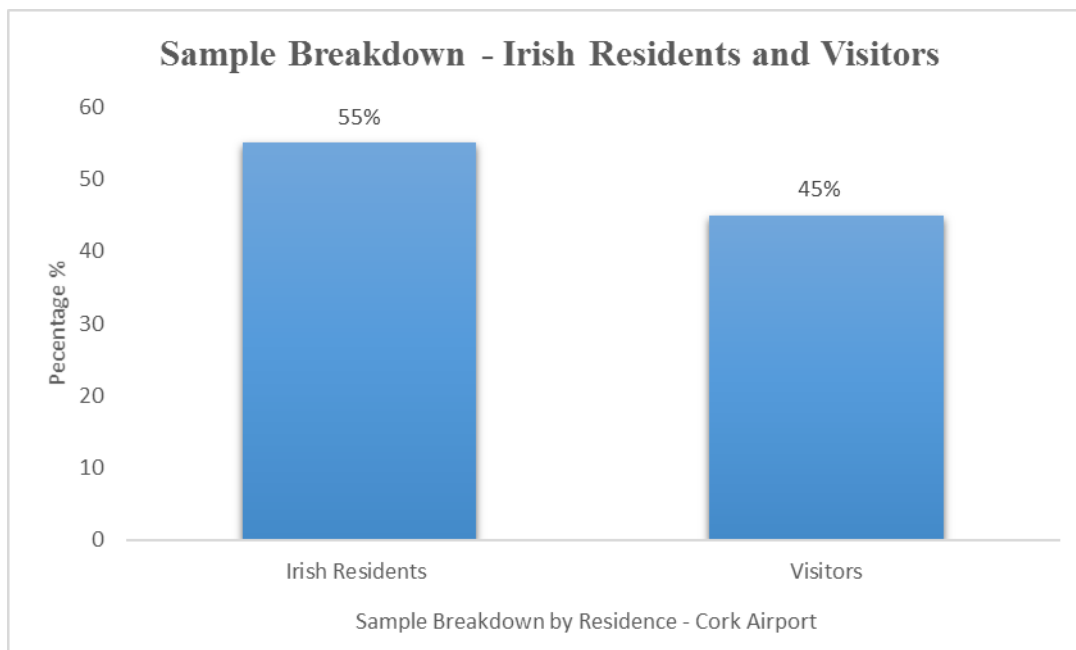
5.3   Sample by Gender and Age

The Figure 5.2ii shows the breakdown of participating passengers by gender, with 56% males and 44% females.
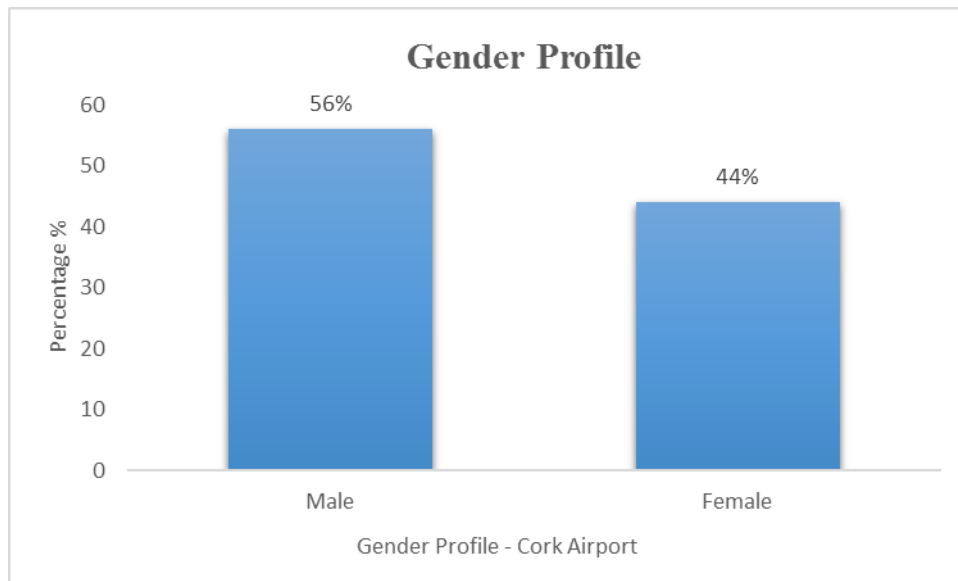
Figure 5.3 shows the age profile of participating passengers, 27% aged 18 – 34 years, 37% 35 – 54 years and 36% aged 55 years or older.

Figure 5.3 – Age profile of survey participants – Cork
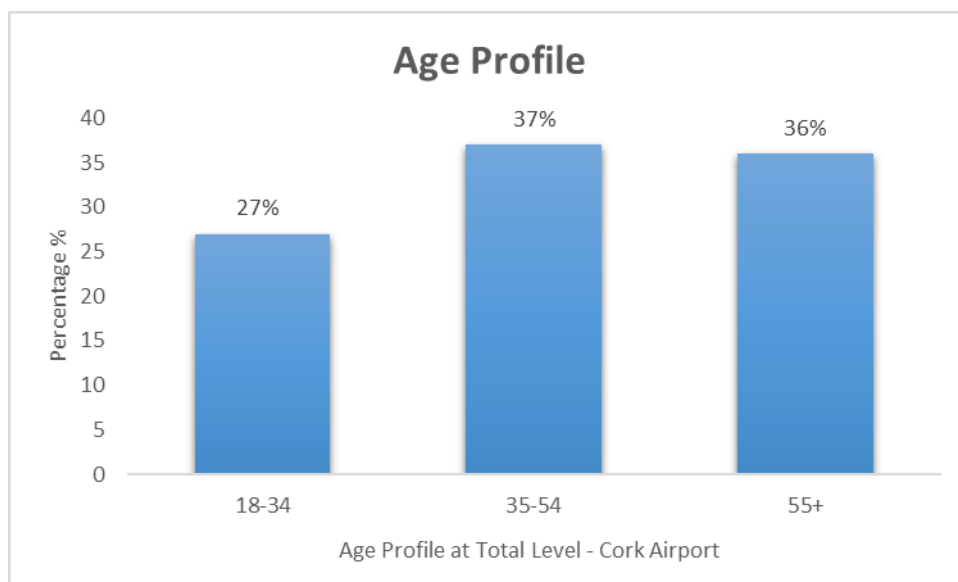
6. Main Survey Findings – Cork

6.1   Introduction

This chapter summarises the main survey findings for Cork Airport under the following headings:

- Modes of travel

- Passenger arrival and departure times and journey times to the Airport,

- Origins of passengers travelling to the Airport – i.e. the patterns of travel,

- Choice of bus service and rail providers

- Parking arrangements of private car users

- Nationality of visiting passengers,

- Purpose of trip abroad (Irish residents) and of trip to Ireland (Non-Irish residents),

- Trip duration

6.2   Mode of travel and reason for mode choice

Table 5.2 shows the number of passengers who travelled to the Airport by each mode – broken down by Irish residents and visitors.

Table 5.2 – Mode of travel to Cork Airport

Mode	Total	%	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	68	13	2.9	10 – 16
Taxi	94	19	3.4	16 – 22
Passenger in Car	162	32	4.1	28 – 36
Drove own Car/Van	89	18	3.3	15 – 21
Rental Car/Van	64	13	2.9	10 – 16
Hotel Shuttle Bus	17	3	1.5	1 – 5
Motorcycle	0	0	0.0	0
Bicycle	0	0	0.0	0
On Foot	6	1	0.9	0 – 2
Other (Please Specify)	6	1	0.9	0 – 2
Total	506	100		

Mode	Irish Resident	%	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	24	9	3.4	6 – 12
Taxi	35	13	3.8	8 – 16
Passenger in Car	104	37	5.7	31 – 43
Drove own Car/Van	86	31	5.4	26 – 36
Rental Car/Van	4	1	1.6	0 – 4
Hotel Shuttle Bus	16	6	2.8	3 – 9
Motorcycle	0	0	0	0
Bicycle	0	0	0	0
On Foot	4	1	1.6	0 – 4
Other (Please Specify)	5	2	1.6	0 – 4
*Total	277	100		

Mode	Visitors	%	Confidence interval @ 95% +/-	Confidence Range %
Bus/Coach	44	19	5.1	14 – 24
Taxi	59	26	5.7	20 – 32
Passenger in Car	58	26	5.7	20 – 32
Drove own Car/Van	3	1	1.3	0 – 2
Rental Car/Van	59	26	5.7	20 – 32
Hotel Shuttle Bus	1	0	0.0	0
Motorcycle	0	0	0.0	0
Bicycle	0	0	0.0	0
On Foot	2	1	1.3	0 – 2
Other (Please Specify)	2	1	1.3	0 – 2
*Total	229	100		

Figure 6.1 – % Mode share of passengers to the Airport

Figure 6.1 below shows the mode share of passengers who travelled to Cork Airport by each transport mode, broken out at Irish resident level, visitor level and total level.

Mode share Total

Mode share Irish Residents

Mode share Visitors

NTA Survey at Dublin, Cork and Shannon Airports 2016   **NTA**
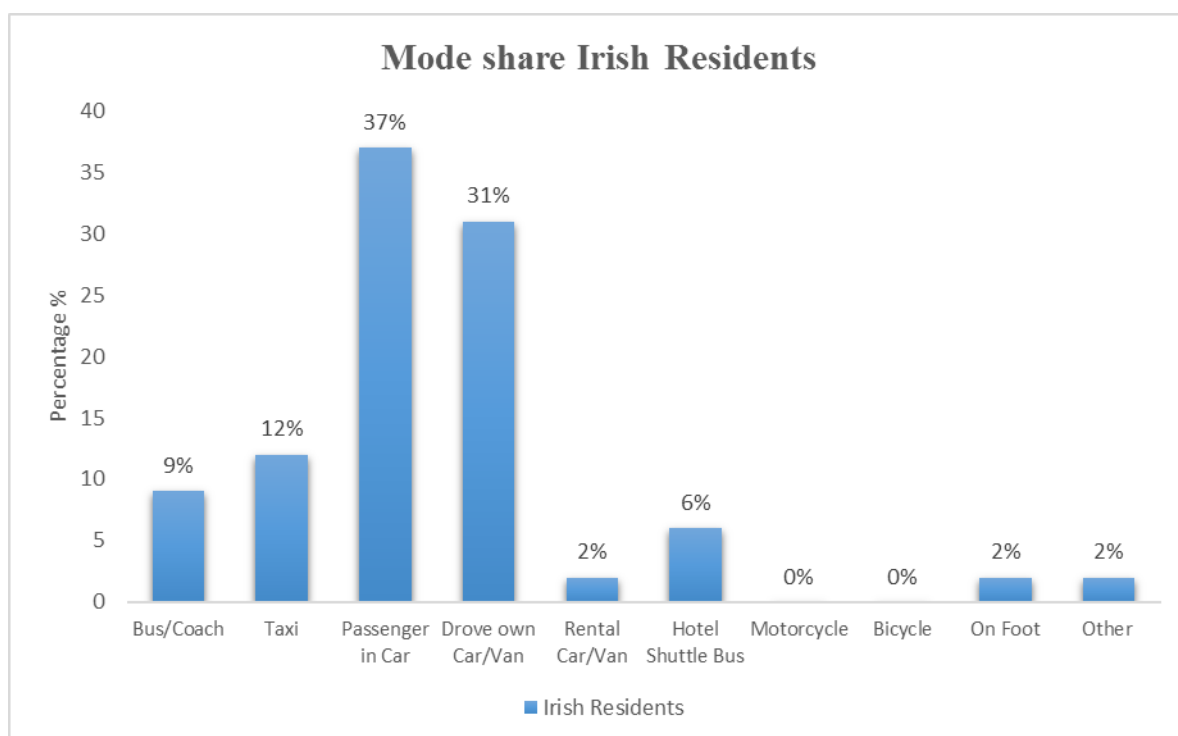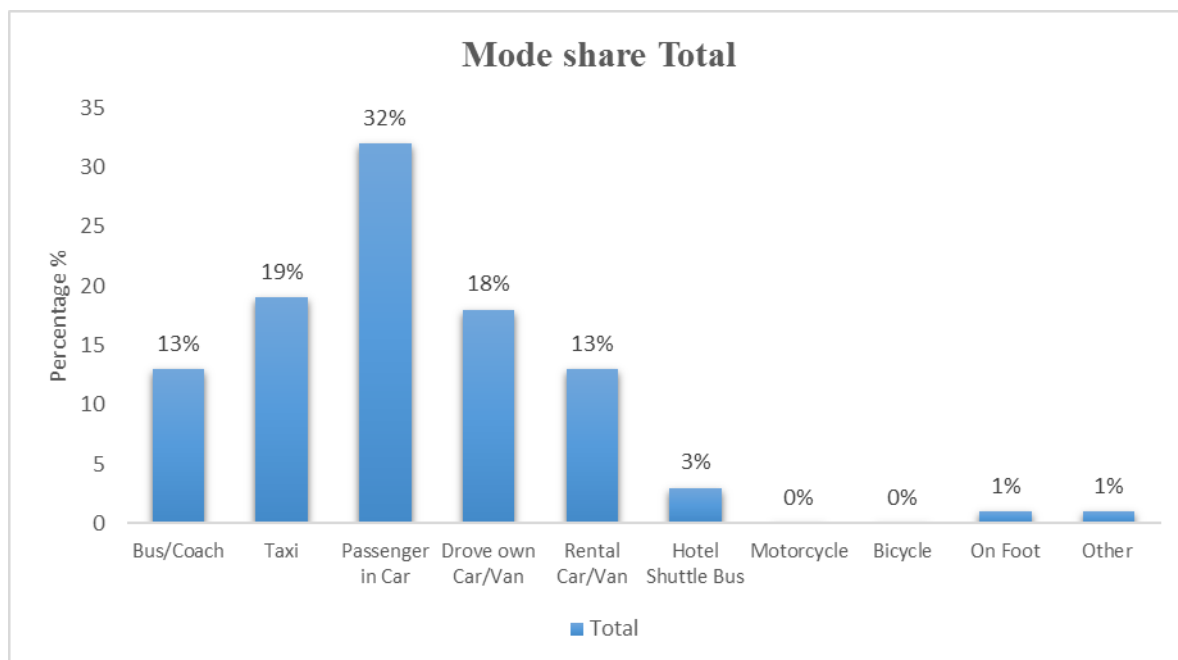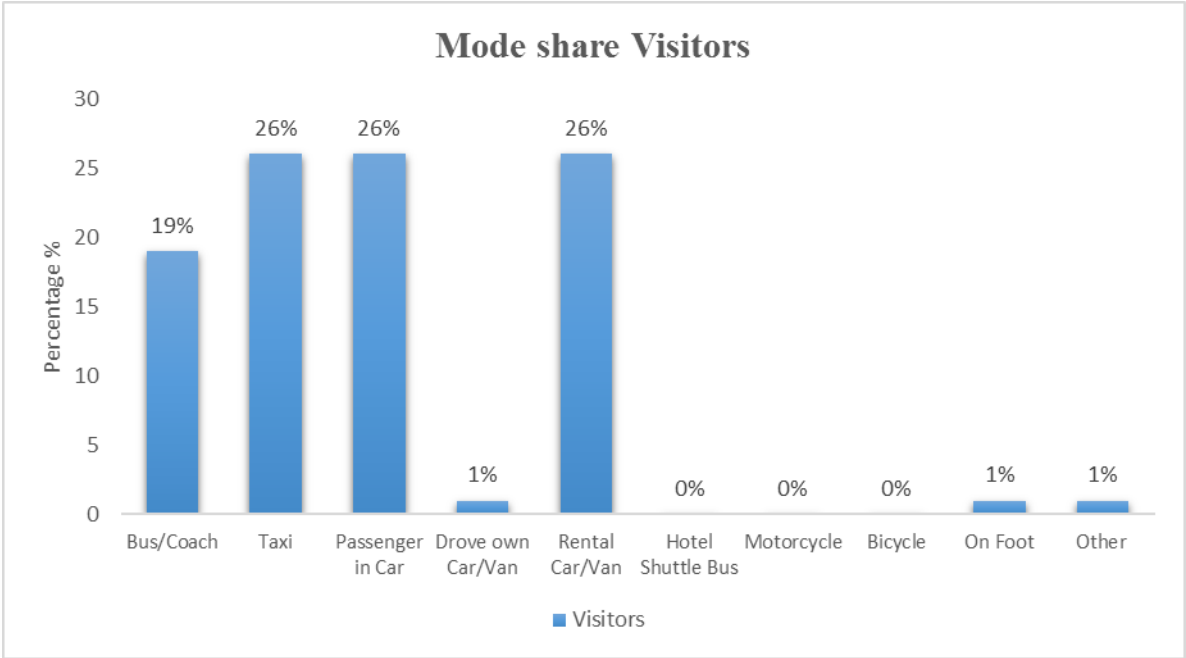
6.3 Arrival and departure profiles and travel times

Figure 6.2 gives the time profile of passengers arriving at Cork Airport, while figure 6.3 shows the equivalent profile for passenger trips from the Cork.

Figure 6.2 – Time profile of arrivals at the Airport

Time of arrival to Cork Airport by Visitors

Time of arrival to Cork Airport by Visitors

■ Visitors

Figure 6.3

Time of Irish residents estimated return time to Cork Airport

Percentage %

- Midnight-5.59am: 11%
- 6am-7am: 1%
- 7.01am-10am: 5%
- 10.01am-1pm: 10%
- 1.01pm-4pm: 14%
- 4.01pm-7pm: 17%
- 7.01pm-11.59pm: 40%

Time of Irish residents estimated return time to Cork Airport

■ Irish Residents

Time of Visitors arrival to Cork Airport on incoming journey

Percentage %

- Midnight-5.59am: 5%
- 6am-7am: 1%
- 7.01am-10am: 15%
- 10.01am-1pm: 24%
- 1.01pm-4pm: 24%
- 4.01pm-7pm: 14%
- 7.01pm-11.59pm: 16%

Time of Visitors arrival on incoming journey

■ Visitors

A total of 56% of incoming passengers arrive after 7pm – 50% of residents and 16% of visitors.

Figure 6.4 – Journey time to the Airport

Figure 6.4 gives the reported estimated journey time to Cork Airport.

Journey time to Cork Airport at total level

Journey time to Cork Airport by Irish residents

Journey time to Cork Airport by visitors
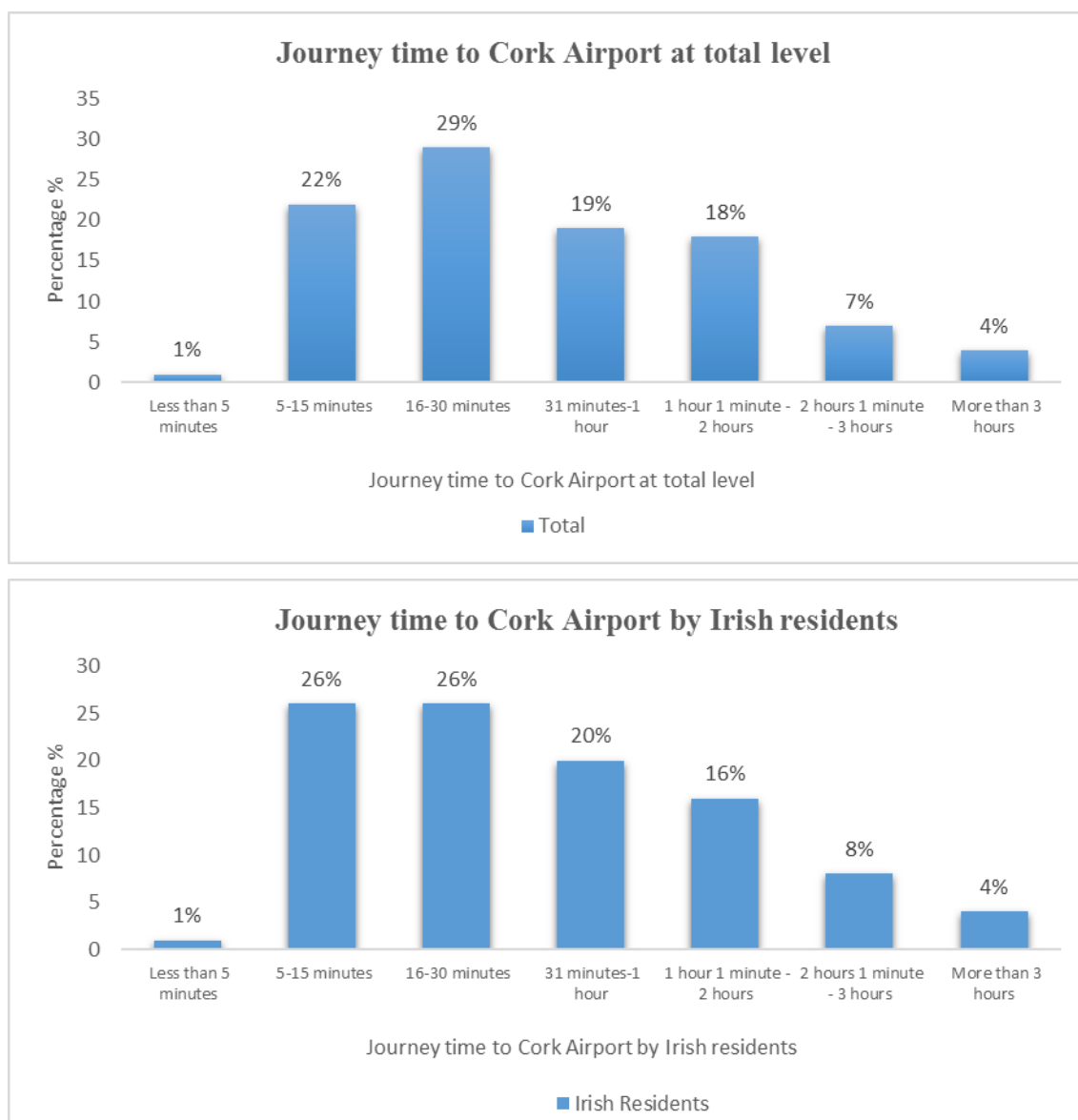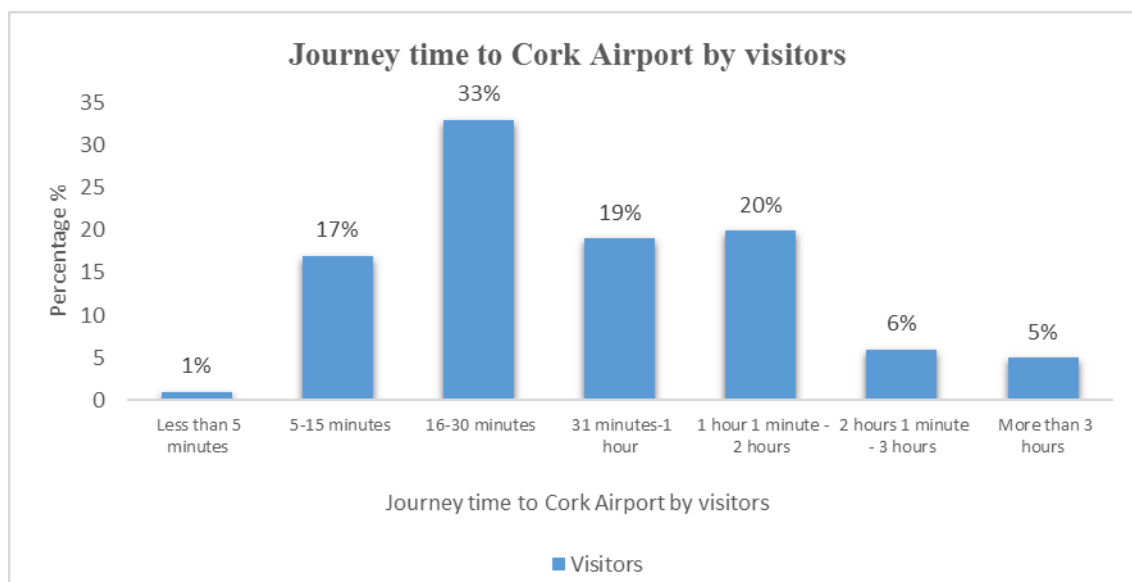
Approximately 4% – 5% of intending passengers reported to take more than 3 hours to travel to Cork Airport. Those who take less than 5 minutes, 2% in total, suggests they began their journey from a hotel close to the Airport.

6.4 Overnight stay at hotel, B&B or hostel – Cork

Note that in this survey, approximately 66% of departing Visitor passengers from Cork Airport spent the previous night in a hotel, bed-and-breakfast or hostel (questionnaire responses weighted by estimated passenger volumes). The equivalent percentage for departing Resident passengers (North or South of Ireland) was 11%. This will account in part for some of the differences in journey times to access Cork Airport.

6.5 Choice of bus service provider

Figure 6.6 shows the breakdown of passengers who travelled by bus to the Airport by their choice of bus service provider. The following Bus Service Providers were included for Cork Airport. This list was developed in consultation with the NTA and pre coded in the questionnaire.

Bus Éireann, eg., Route 226, 226A

City Link, eg., Route 251

Other (Specify)

Figure 6.6 – Bus service provider

Bus providers to Cork Airport Irish Residents

Percentage %

Bus Eireann	49%
City Link	0%
Other	51%
Don't know	0%

■ Irish Residents

Bus providers to Cork Airport Visitors

Percentage %

Bus Eireann	65%
City Link	2%
Other	28%
Don't know	5%

■ Visitors
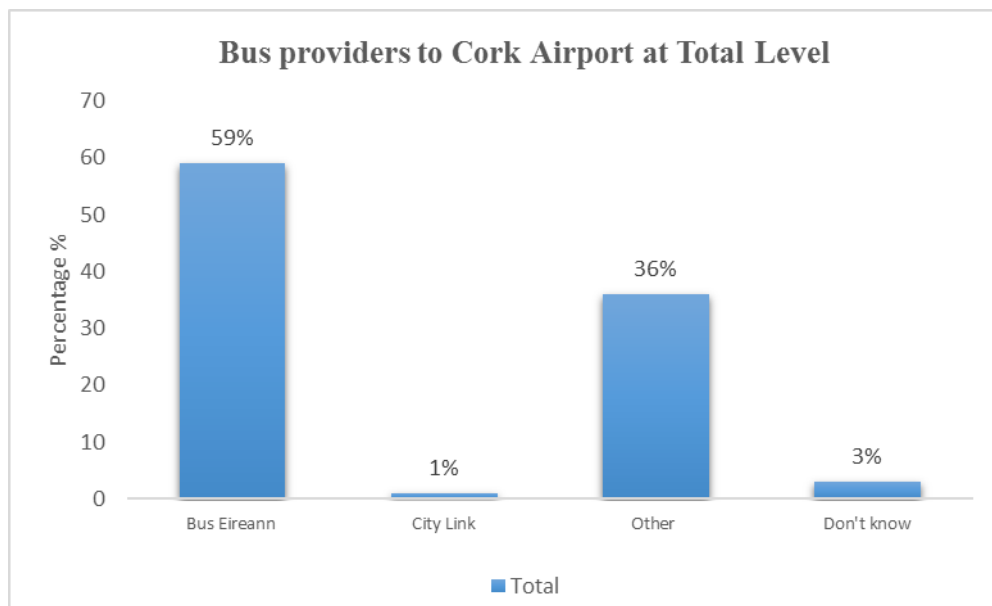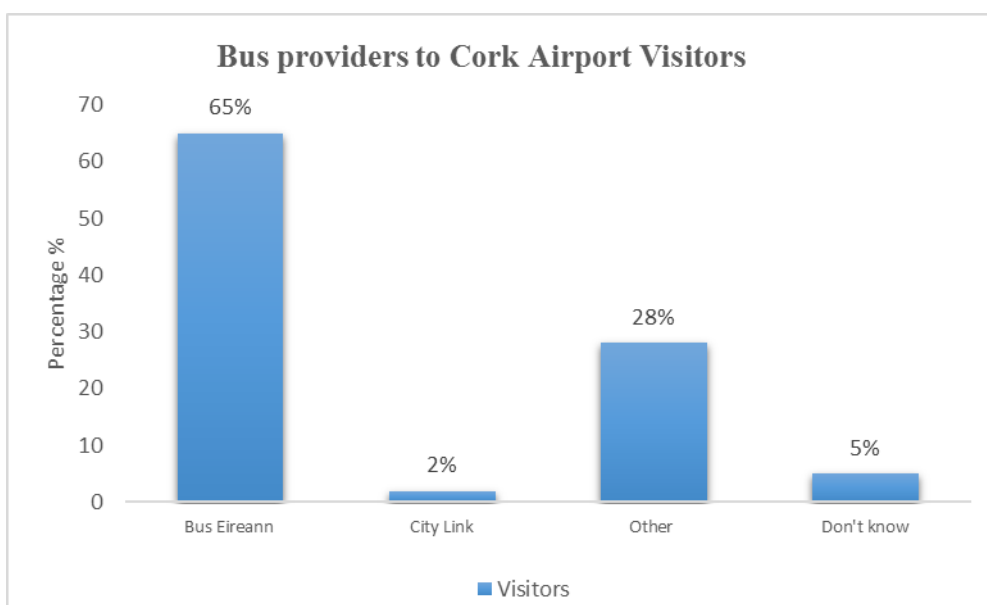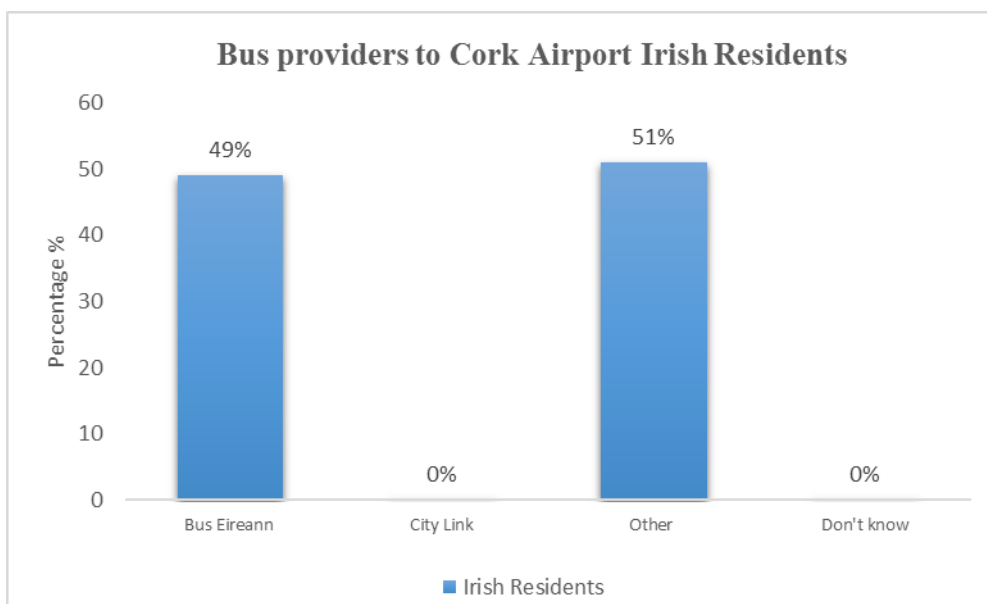
Of those who got travelled by bus (weighted n = 68), the majority of them travelled by Bus Éireann. Those who selected 'Other', when asked to specify, stated that they travelled by Private Coach, Aircoach or Airport Shuttle.

Figure 6.7 – Rail Travel

A new question was added to the survey in 2016 to ascertain if any passengers use rail travel as part of their journey to the airport.

Rail Providers

Category	Percentage
No	99%
Yes - Luas	0%
Yes - DART	0%
Yes - Irish Rail	1%

Rail travel used for any part of journey to Cork Airport
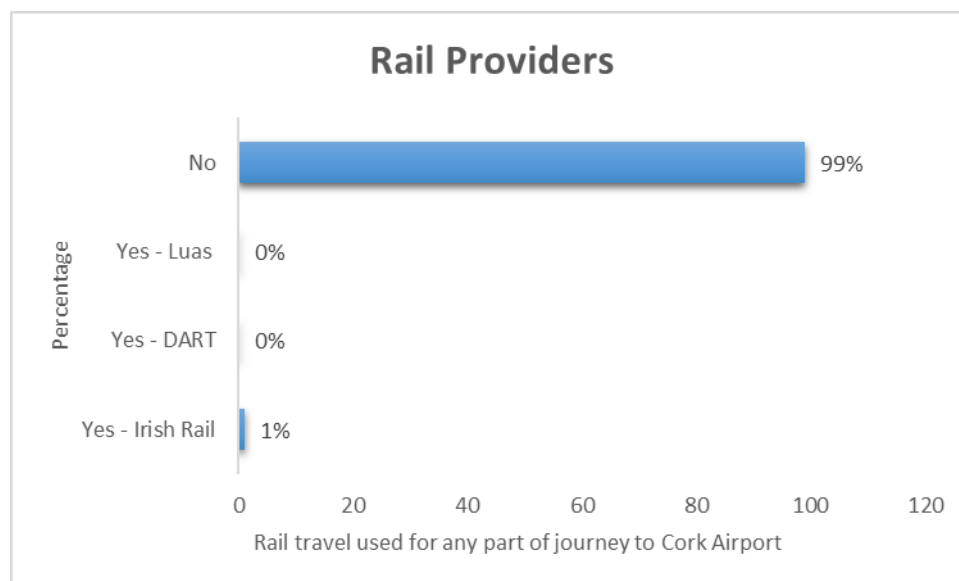
6.6 Parking arrangements

Table 6.3 gives the breakdown of passengers who were driven to the airport as a passenger in a private car and if the driver drove away after dropping them off or if the driver parked the car and accompanied the passenger to the terminal. This question was asked of all those coded as 'Passenger in Car' at Q.8 'How did you get most of the way to the airport today?'. It's interesting to note that 9% of Irish residents who were driven to Cork airport parked the car and were accompanied to the terminal, versus 25% in Dublin Airport.

Table 6.3 – Private car users by those parking and not parking

Private Car	Total	%	Confidence interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	147	**91**	4.4	87 – 95
Park the car and accompany you into the terminal?	15	**9**	4.4	5 – 13
Total	162	100		

Private Car	Irish Resident	%	Confidence interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	95	**91**	5.5	85 – 97
Park the car and accompany you into the terminal?	9	**9**	5.5	3 – 15
Total	104	100		

Private Car	Visitors	%	Confidence interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	53	**90**	7.4	84 – 98
Park the car and accompany you into the terminal?	6	**10**	7.7	2 – 18
Total	59	100		

Car Availability

Of those who did not drive themselves to the airport, the table below shows whether or not they had a car/van <u>available</u> to drive to the airport today, and this is also displayed on bar chart by Irish resident, visitor and total overleaf.

Table 6.4 – Car Available

Car Available?	Total	%	Confidence interval @ 95% +/-	Confidence Range %
Yes	147	**35**	4.6	30 – 40
No	270	**65**	4.6	60 – 70
Total	417	100		

Car Available?	Irish Resident	%	Confidence interval @ 95% +/-	Confidence Range %
Yes	140	**73**	6.3	67 – 79
No	52	**27**	6.3	21 – 33
Total	192	100		

Car Available?	Visitors	%	Confidence interval @ 95% +/-	Confidence Range %
Yes	8	**4**	2.6	1 – 7
No	218	**96**	2.6	93 – 99
Total	226	100		

Car availability by Total (Cork)
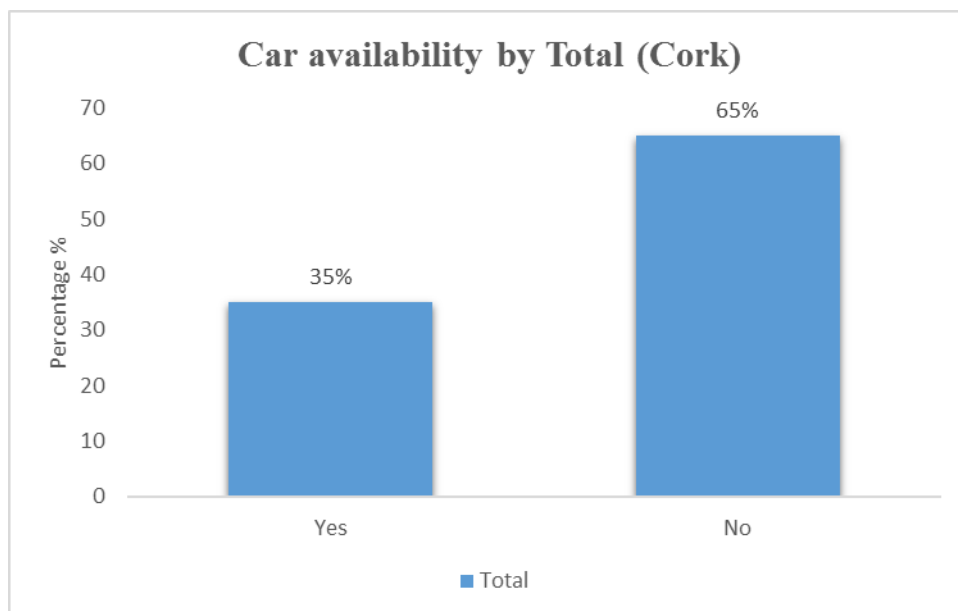
Car availability by Irish Residents (Cork)
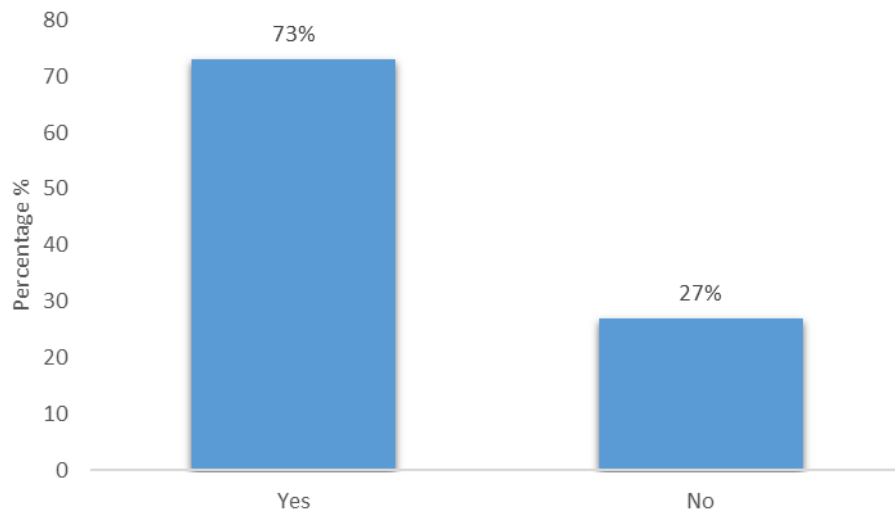
Car availability by Visitors (Cork)
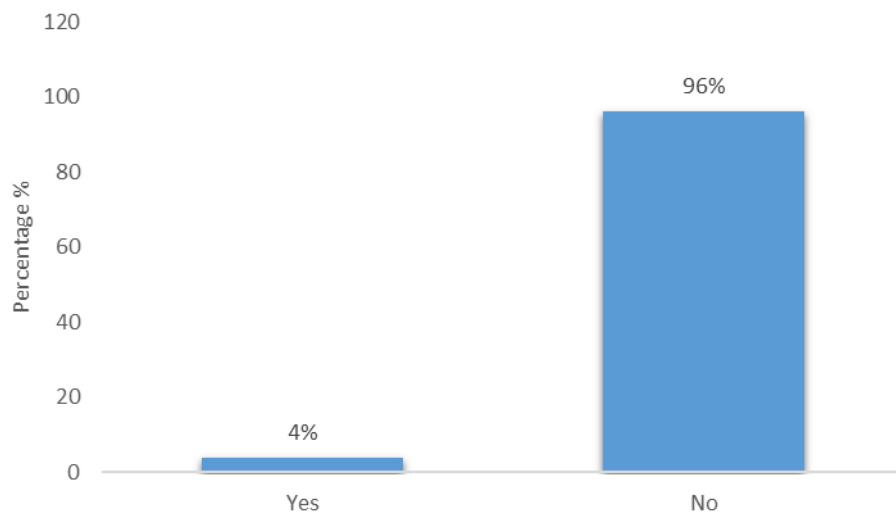
6.7   Nationality of visiting passengers

Figure 6.8 gives a breakdown of the country of residence of surveyed passengers who had visited Ireland (generally the same as the nationality of the visitor). The key European markets Great Britain, France and Germany, are displayed in the below graph. Fifty-four percent of the visitor sample are coming from Great Britain. While interestingly, a high proportion of respondents came from Holland (19%).

Figure 6.8 Country of residence of visiting passengers
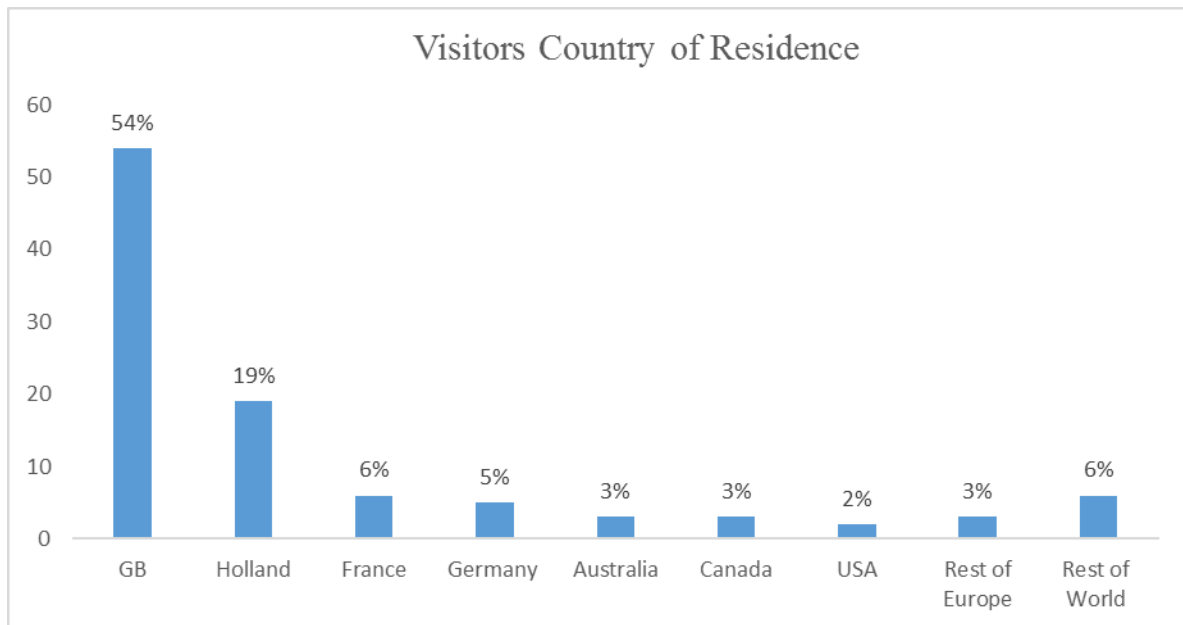
Canada at 3% of visitors, is on par with visitors from the USA. For consistency, we have grouped together a 'Rest of Europe' but for reference, the sample includes Spain (1%), Belgium (1%) and Sweden (1%). However, unlike Dublin and Shannon, Holland is not included in the 'Rest of Europe' figure due to the high proportion of visitors from Holland (19%). A full breakdown of visitors by nationality is available in the appendix

6.8   Trip Purpose

Table 6.5 below gives a breakdown of trip purpose for Irish residents and visitors. A higher proportion of visitors are here for Business/Work versus the proportion of Irish residents travelling outbound for Business/Work, 34% and 21% respectively – which again, like Dublin Airport, may suggest more inward trade or foreign investment. The following figure represents this graphically.

Table 6.5 Purpose of trip abroad (Irish Residents) and trip to Ireland (Visitors)

Trip Purpose	Total Passengers	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	243	48	4.4	44 – 52
Business/Work	137	27	3.9	23 – 31
Visit Relatives/Family	102	20	3.5	16 – 24
To Emigrate	1	0	0.0	0
Other	23	5	1.7	2 – 6
Total	506	100		

Trip Purpose	Irish Residents	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	164	59	5.8	53 – 65
Business/Work	59	21	4.8	16 – 26
Visit Relatives/Family	43	16	4.3	12 – 20
To Emigrate	1	0	0.0	0
Other	10	4	2.3	2 – 6
Total	277	100		

Trip Purpose	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	79	34	6.1	28 – 40
Business/Work	78	34	6.1	28 – 40
Visit Relatives/Family	59	26	5.7	20 – 32
To Emigrate	0	0	0.0	0
Other	13	6	4.4	2 – 10
Total	229	100		

Figure 6.5 illustrates the trip purpose at total level in percentage terms and purpose percentage of Irish residents and visitors.

Trip purpose by Irish residents

Trip purpose by visitors
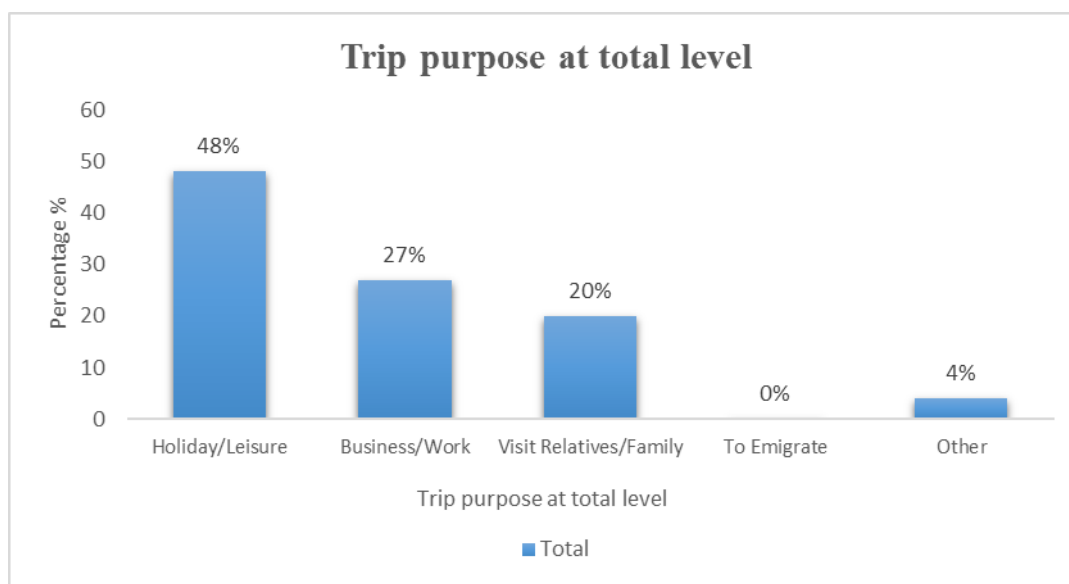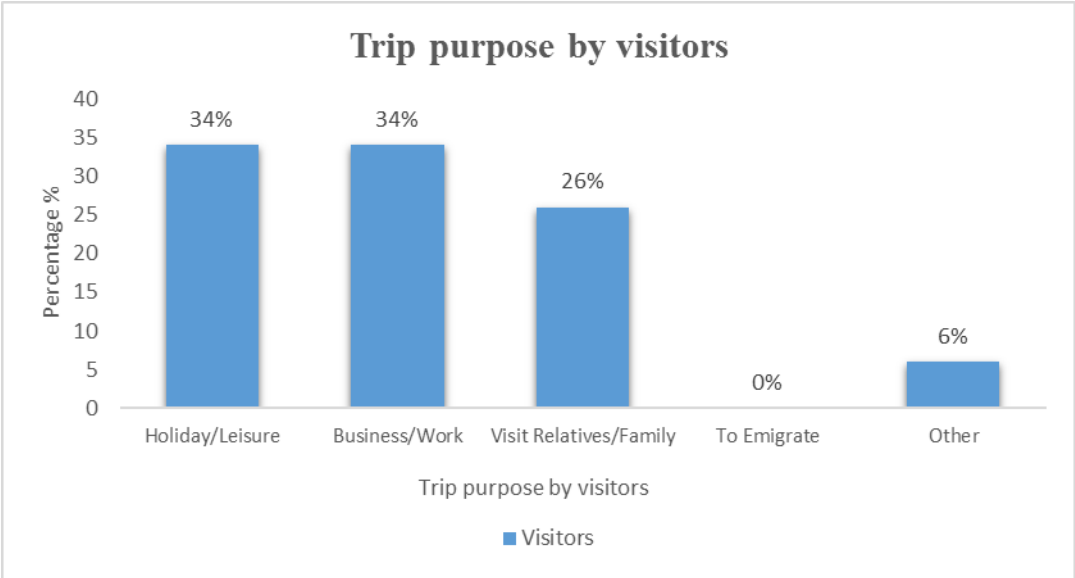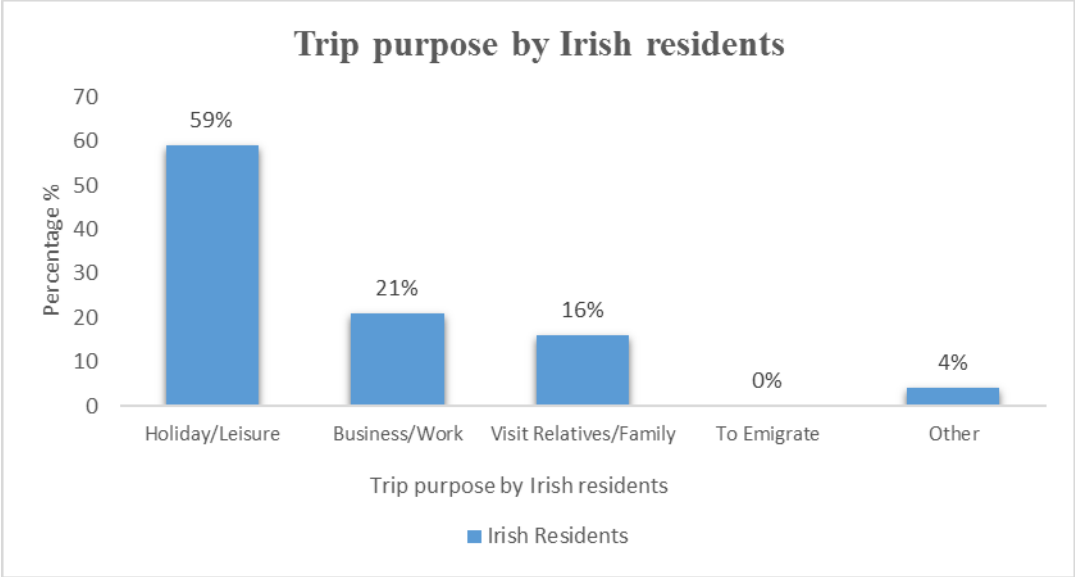
6.9   Trip Duration

An analysis was also undertaken of the durations of trips abroad (in the case of Irish residents) and trips to Ireland (in the case of visitors). Figure 3.11 shows the breakdown of the duration of trips abroad for Irish residents, while Figure 3.12 shows the breakdown of the duration of trips by visitors to Ireland. 90% of Irish residents are going on a trip up to 2 weeks, while 18% of those visiting Ireland are going for a trip of up to 2 weeks.

Figure 3.10 – Duration of trips abroad (Irish Residents)
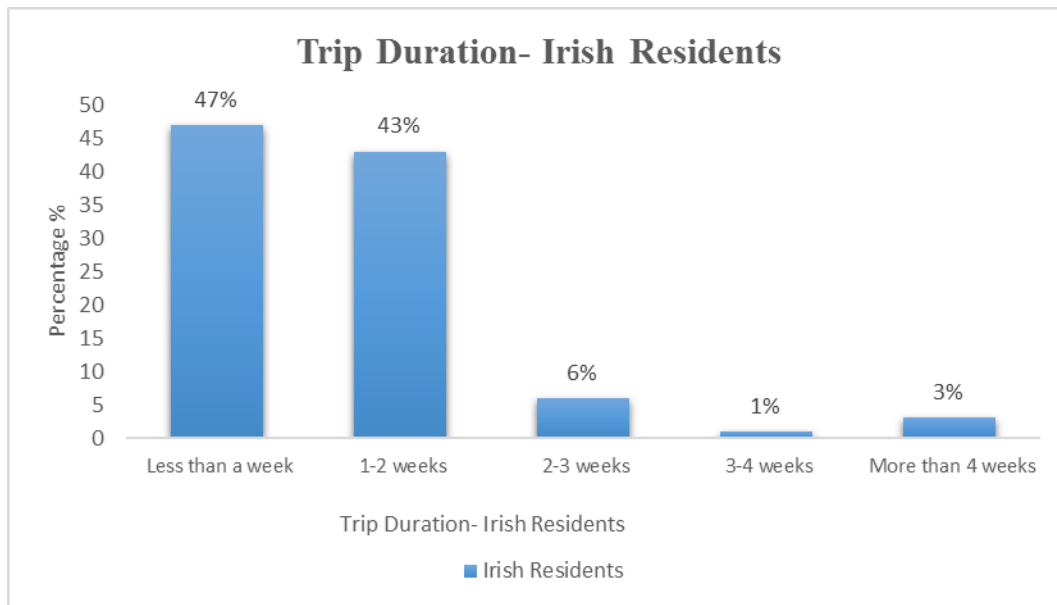
Figure 3.12– Duration of trips to Ireland (Visitors)
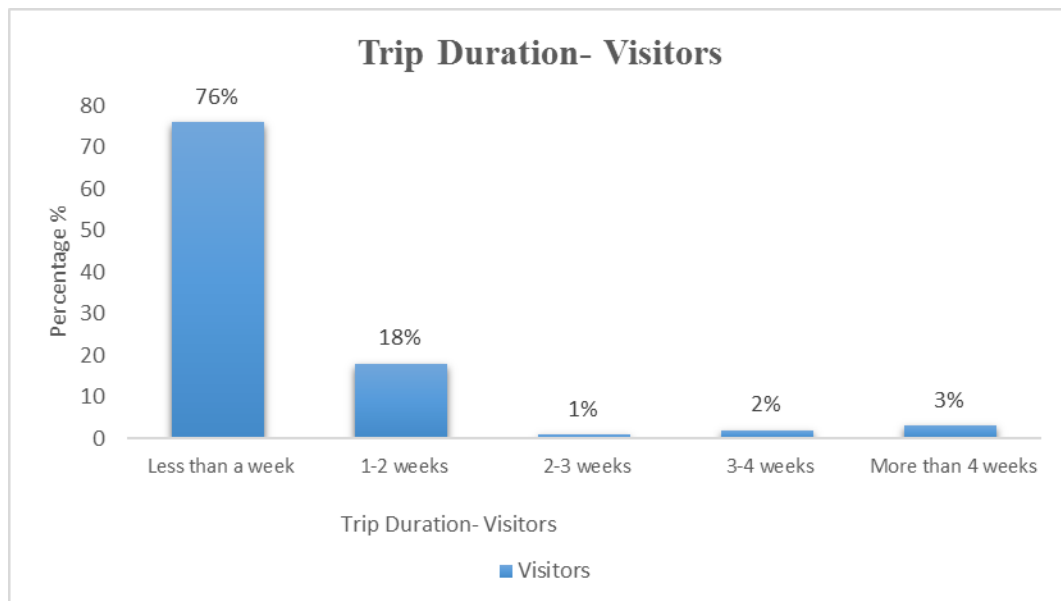
7. Summary of Key Findings – CORK

- The Cork age profile is split into three cohorts: 18 – 34, 35 – 54 and 55+. 35 – 54 year olds represented a higher proportion than any other age group in Cork at 37%, followed closely by 55+ which represented 36% of the sample.

- There was no quota enforced on passenger breakdown, it was left to fall out naturally, resulting in 55% Irish residents and 45% visitors 56% males and 44% females. The largest proportion of visitors were from Great Britain (54%). Interestingly, 19% of the Cork visitor sample came from Holland, compared to 2% of Dublin sample and 0% of Shannon sample.

- The main purpose of travel for Irish residents was holiday/leisure at 59%, followed by Business/Work Purposes (21%) and visiting Relatives/Family (16%). For visitors, we see the same proportion of visitors being here for Holiday/Leisure, as we do for Business/Work (35%).

- In terms of transport mode share used for travelling to Cork airport, 50% travelled by private car, 19% by taxi, 13% by rental car and 13% by bus/coach. Irish residents are more likely to travel to Cork airport by private car (68%) than overseas visitors (27%) who use more taxis (25%), rental cars (26%) or bus/coach (19%).

- Among those travelling by bus, the majority travelled by Bus Éireann (59%) on Route 226 and 226a. One percent of the total sample used City Link. Those who selected 'Other' (36%), when asked to specify, stated that they travelled by Private Coach, Aircoach or Airport Shuttle.

- Ninety-one percent of all passengers who travelled in a private car were dropped off rather than accompanied into the terminal, this was the same proportion for both Irish residents and visitors. Of those who did not drive to the airport, 35% had a car available, 73% among Irish residents and 4% for visitors.

- For travel time, a similar proportion of passengers travelled to the airport in 30 minutes and under, 53% Irish residents 51% of visitors, while approximately 4-5% of intending passengers take more than 3 hours to travel to Cork airport.

- Overseas visitors are more likely to take earlier flights, with 16% of visitors arriving at the airport between 6am-7am, versus 3% of Irish residents. The busiest time periods for arrival at Cork airport is 10am-1pm, with 39% of Irish residents and 44% of visitors arriving at that time.

- In October 2016, 47% of Irish residents were travelling for less than a week, versus 76% of Visitors. Of those who travelled between 1-2 weeks, 43% were Irish residents and 18% were visitors.

8. Survey Sample – SHANNON

8.1 Number of passengers surveyed

The chart below shows the breakdown of interviews completed by day of week, showing that 527 interviews were conducted in Shannon over the survey period.

Number of interviews by day

Day	Number
Monday	119
Tuesday	82
Wednesday	94
Thursday	99
Friday	132

Number of interviews by day
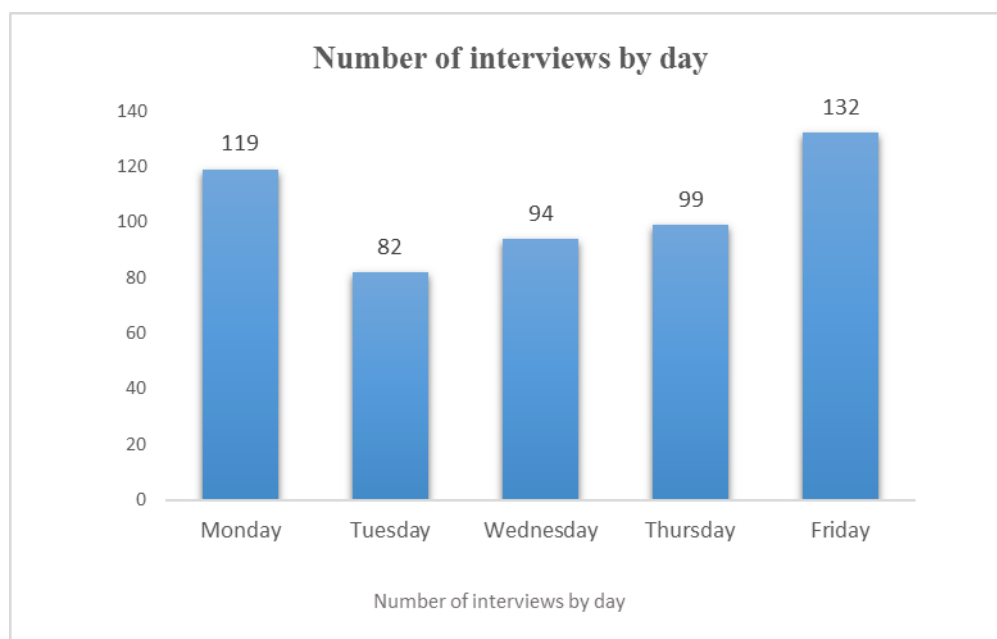
8.2 Sample by nationality and departure pier

Interviewers were instructed to interview any passengers in departure gates or departure areas from Ireland, both Republic and Northern Ireland, and overseas visitors, bar passengers in transit. The table below shows the breakdown of the sample in Shannon, achieving an even split between Irish residents and visitors with no quota enforced.

		%	Confidence Interval @ 95% +/-	Confidence Range %
Irish Resident	263	**50**	4.3	46 – 54
Visitors	264	**50**	4.3	46 – 54
Total	527	100		

Sample by Country of Residence

The Figure 8.2 shows the breakdown of participating passengers by residence

Sample Breakdown- Irish residents and Visitors
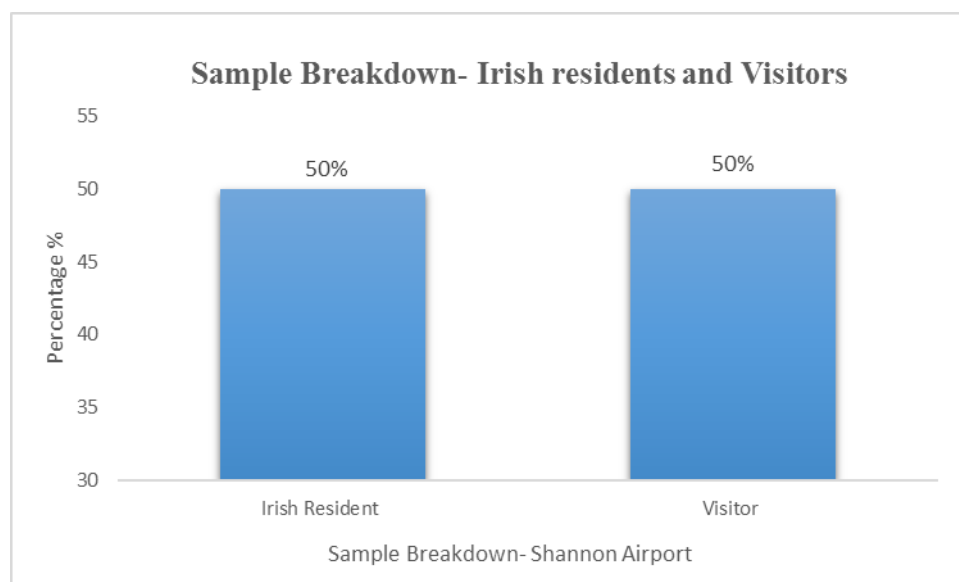
8.3 Sample by Gender and Age

The Figure 8.3 shows the breakdown of participating passengers by gender.

Figure 8.3 – Gender profile of survey participants
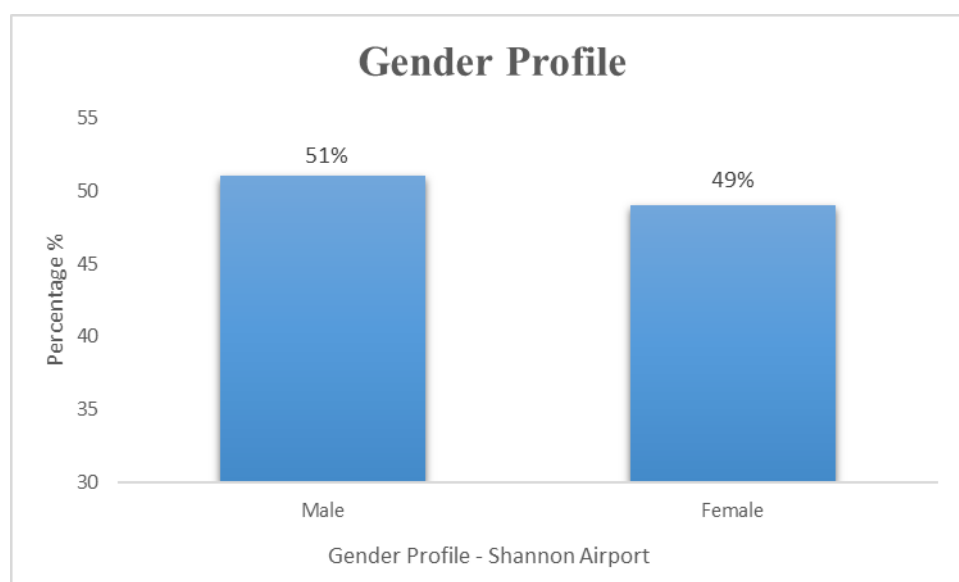
Figure 8.4 – Age profile of survey participants

Figure 8.4 shows the age profile of participating passengers

NTA Survey at Dublin, Cork and Shannon Airports 2016 **NTA**
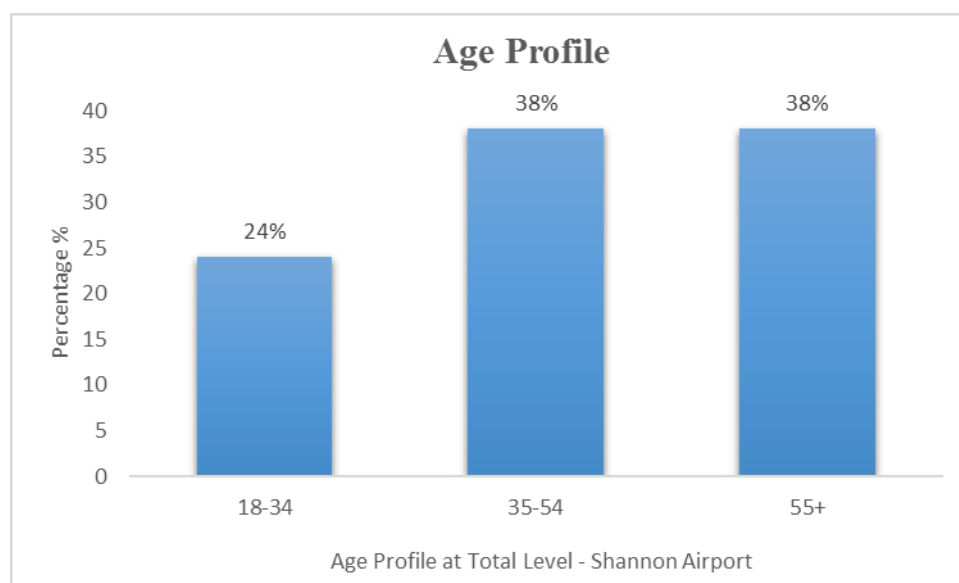
9. Main Survey Findings – Shannon Airport

9.1 Introduction

This chapter summarises the main survey findings under the following headings:

- Mode of travel,

- Passenger arrival and departure times and journey times to the Airport,

- Origins of passengers travelling to the Airport – i.e. the patterns of travel,

- Choice of bus service provider,

- Parking Arrangements, Drop-off and Car Availability,

- Nationality of visiting passengers,

- Purpose of trip abroad (Irish residents) and of trip to Ireland (Non-Irish residents),

- Trip duration

9.2 Mode of travel and reason for mode choice

Table 9.1 shows the number of passengers who travelled to Shannon Airport by each mode – broken down by 'Total', Irish residents and visitors.

Table 9.1 – Mode of travel to the Airport

Mode	Total	%	Confidence Interval @ 95% +/-	Confidence Range %
Bus/Coach	67	13	2.9	10 – 16
Taxi	41	8	2.3	6 – 10
Passenger in Car	177	34	4.0	30 – 38
Drove own Car/Van	106	20	3.4	17 – 23
Rental Car/Van	105	20	3.4	17 – 23
Hotel Shuttle Bus	1	0	0.0	0
Motorcycle	0	0	0.0	0
Bicycle	0	0	0.0	0
On Foot	8	2	1.2	1 – 3
Other (Please Specify)	21	4	1.7	2 – 6
*Total	527	100		
*totals affected by weighting and rounding				

Mode	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range %
Bus/Coach	38	14	4.2	10 – 18
Taxi	6	2	1.7	0 – 4
Passenger in Car	115	44	6.0	38 – 40
Drove own Car/Van	103	39	5.9	33 – 45
Rental Car/Van	1	0	0.0	0
Hotel Shuttle Bus	0	0	0.0	0
Motorcycle	0	0	0.0	0
Bicycle	0	0	0.0	0
On Foot	1	0	0.0	0
Other (Please Specify)	0	0	0.0	0
*Total	263	100		
*totals affected by weighting and roundig				

Mode	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Bus/Coach	29	11	3.8	7 – 15
Taxi	35	13	4.1	9 – 17
Passenger in Car	62	24	5.2	19 – 29
Drove own Car/Van	3	1	1.2	0 – 2
Rental Car/Van	104	39	5.9	33 – 45
Hotel Shuttle Bus	1	0	0.0	0
Motorcycle	0	0	0.0	0
Bicycle	0	0	0.0	0
On Foot	8	3	2.1	1 – 5
Other (Please Specify)	21	8	3.3	5 – 11
*Total	264	100		
*totals affected by weighting and rounding				

Figure 9.1 – Mode share of passengers to Shannon Airport

Mode share at total level

Mode	Total
Bus/Coach	13%
Taxi	8%
Passenger in Car	34%
Drove own Car/Van	20%
Rental Car/Van	20%
Hotel Shuttle Bus	0%
Motorcycle	0%
Bicycle	0%
On Foot	2%
Other	4%

Mode share Irish residents

Mode	Irish Resident
Bus/Coach	14%
Taxi	2%
Passenger in Car	44%
Drove own Car/Van	39%
Rental Car/Van	0%
Hotel Shuttle Bus	0%
Motorcycle	0%
Bicycle	0%
On Foot	0%
Other	0%

Mode share Visitors

Overall, car/van is the main mode of transport for both Irish residents and visitors. A total of 83% of Irish residents travel by car to Shannon airport, either as passenger (44%) or driving their own car/van (39%), and visitors travelled by rental car/van (39%).

9.3 Arrival and departure profiles and travel times

Figure 9.2 gives the time profile of passengers arriving at Shannon Airport, while figure 9.3(i) and (ii) show the equivalent profile for passenger trips from the Airport, the first being the time visitors arrived at Shannon Airport on their incoming trip, and second table being the time that Irish residents are expected to arrive back to Shannon Airport.

Figure 9.2 – Time profile of arrivals at Shannon Airport

Time of arrival to Shannon Airport at total level

6am-7am: 15%
7.01am-10am: 37%
10.01am-1pm: 23%
1.01pm-4pm: 21%
4.01pm-7pm: 3%

Time of arrival to Shannon Airport at total level

■ Total

Time of arrival to Shannon Airport by Irish residents

6am-7am: 10%
7.01am-10am: 40%
10.01am-1pm: 20%
1.01pm-4pm: 31%
4.01pm-7pm: 0%

Time of arrival to Shannon Airport by nationality

■ Irish Residents

Time of arrival to Shannon Airport by visitors

Time of arrival to Shannon Airport by visitors

■ Visitors

Figure 9.3– Irish residents estimated return time back to the Airport

Irish residents estimated return time back to Shannon Airport

Irish residents estimated return time back to Shannon Airport

Visitors time of arrival at Shannon Airport on incoming journey

Bar chart showing percentage of visitors by estimated time of arrival on incoming journey:
- Midnight-5.59am: 6%
- 6am-7am: 24%
- 7.01am-10am: 17%
- 10.01am-1pm: 16%
- 1.01pm-4pm: 20%
- 4.01pm-7pm: 11%
- 7.01pm-11.59pm: 7%

Y-axis: Percentage %
X-axis: Visitors estimated time of arrival on incoming journey

Twenty-four percent of visitors arrive at Shannon airport between 6am-7am. The estimated return times of residents are spread quite evenly throughout the day from 10am onwards, with 20% arriving back between 7.01am-11.59pm.

Figure 9.4 – Journey time to the Airport

Figure 9.4 gives the journey time to Shannon Airport

Journey time to Shannon Airport at total level

Bar chart showing percentage by journey time to Shannon Airport at total level:
- 5-15 minutes: 13%
- 16-30 minutes: 26%
- 31 minutes-1 hour: 27%
- 1 hour 1 minute - 2 hours: 22%
- 2 hours 1 minute - 3 hours: 10%
- More than 3 hours: 2%

Y-axis: Percentage %
X-axis: Journey time to Shannon Airport at total level

Legend: ■ Total

Journey time to Shannon Airport by Irish residents

Journey time to Shannon Airport by Visitors

Compared with Dublin (7%) and Cork (4%), for Shannon Airport 2% of passengers report their access journey taking more than 3 hours.

9.4   Overnight stay at hotel, B&B or hostel – Shannon Airport

Note that in this survey, approximately 65% of departing Visitor passengers from Shannon Airport spent the previous night in a hotel, bed-and-breakfast or hostel (questionnaire responses weighted by estimated passenger volumes). The equivalent percentage for departing Resident passengers (North or South of Ireland) was 0.8%. This will account in part for some of the differences in journey times to access Shannon Airport.

9.5   Choice of bus service provider

Figure 9.6 shows the breakdown of passengers who travelled by bus to the Airport by their choice of bus service provider. We included the following Bus Service Providers for Shannon Airport. The list was developed in consultation with the NTA and pre coded in the questionnaire. Those who stated 'Other' travelled by private coach, or couch tour bus providers.

Bus Éireann e.g., Route 51, X51, 343

JJ Kavanagh & Sons e.g., Route 735

Other

Figure 9.6 – Bus service provider
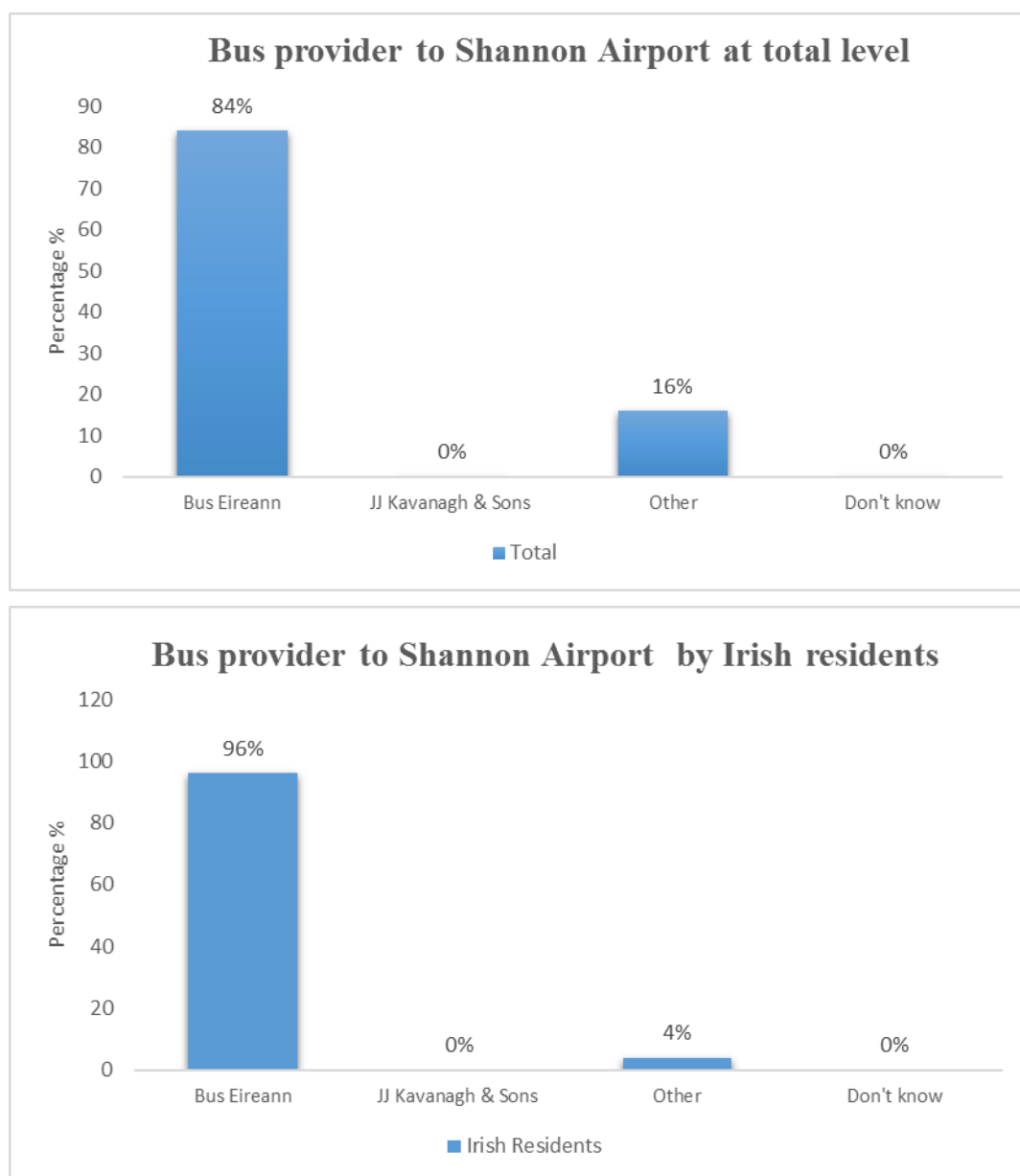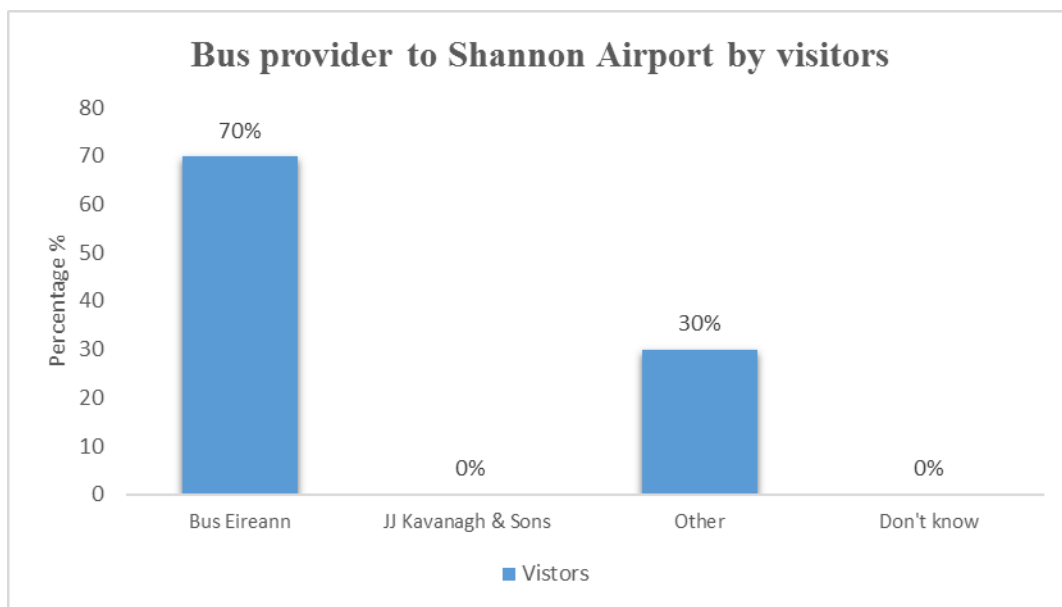
Bus provider to Shannon Airport at total level

Bus Eireann	JJ Kavanagh & Sons	Other	Don't know
84%	0%	16%	0%

■ Total

Bus provider to Shannon Airport by Irish residents

Bus Eireann	JJ Kavanagh & Sons	Other	Don't know
96%	0%	4%	0%

■ Irish Residents

Bus provider to Shannon Airport by visitors

Rail Travel

A new question was added to the survey in 2016 to ascertain if any passengers use rail travel as part of their journey to the airport. No one interviewed in Shannon had used rail for any part of their journey.

9.6 Parking arrangements

Table 9.3 gives the breakdown of passengers who were driven to the airport as a passenger in a private car and if the driver drove away after dropping them off or if the driver parked the car and accompanied the passenger to the terminal. This question was asked of all those coded as 'Passenger in Car' at Q.8 'How did you get most of the way to the airport today?'.

Table 9.3 – Private car passengers dropped off by those parking and not parking

Private Car Passenger	Total	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	129	**74**	6.7	65 – 79
Park the car and accompany you into the terminal?	46	**26**	6.5	19 – 33
Not applicable	2	**1**	1.5	0 – 3
Total*	175	100		
*totals affected by weighting				

Private Car	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	84	**73**	8.1	65 – 81
Park the car and accompany you into the terminal?	28	**25**	7.9	17 – 33
Not applicable	2	**2**	2.6	0– 5
Total*	115	100		
*totals affected by weighting				

Private Car	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Drive away after dropping you?	45	**72**	11.2	61 – 83
Park the car and accompany you into the terminal?	18	**28**	11.2	17 – 39
Not applicable	0	**0**	0	0
Total*	62	100		
*totals affected by weighting				

Of the Irish resident sample, there is commonality between Shannon and Dublin in that the percentage of Irish residents who were accompanied to the terminal is 25% for both airports, while Cork is 9%.

Parking and Drop Off arrangements at Total level

Parking and Drop Off arrangements - Irish Residents

Parking and Drop Off arrangements - Visitors
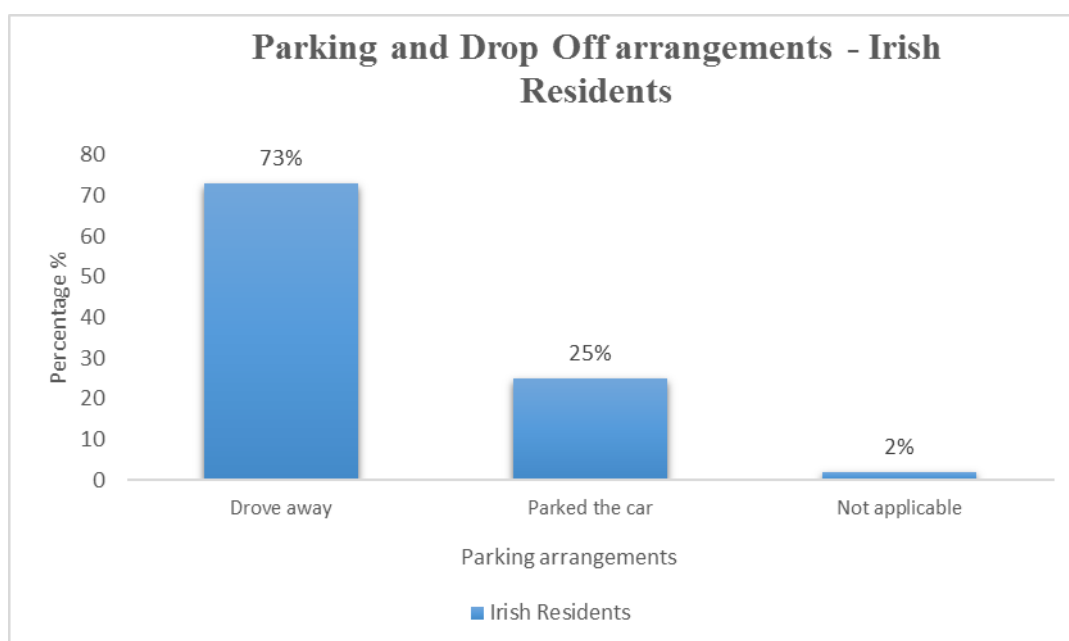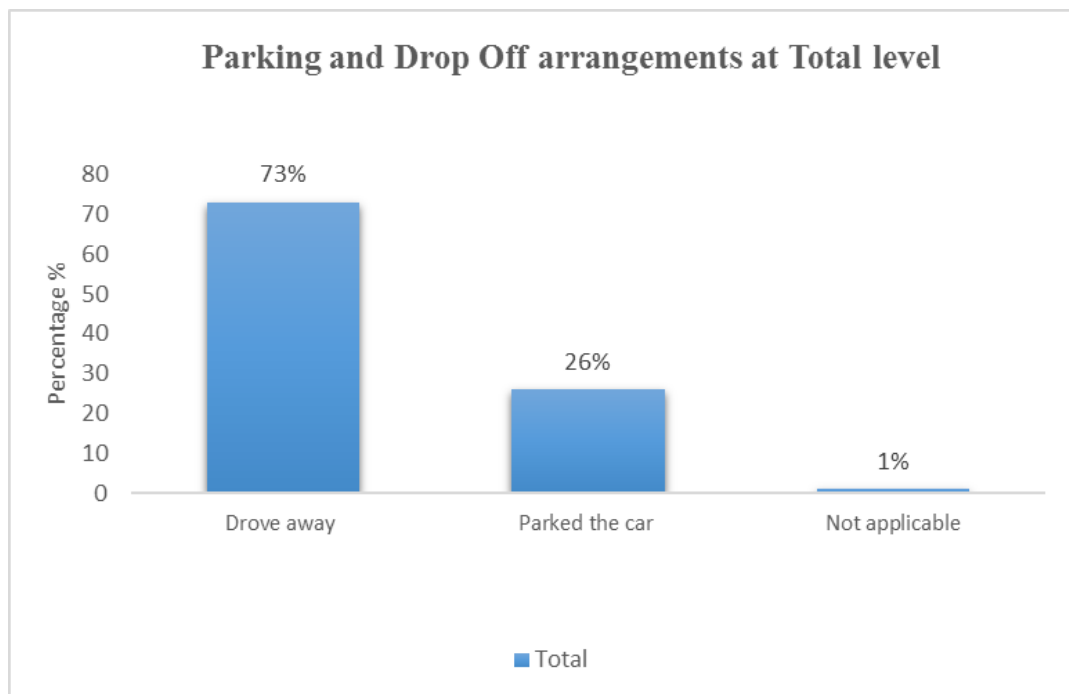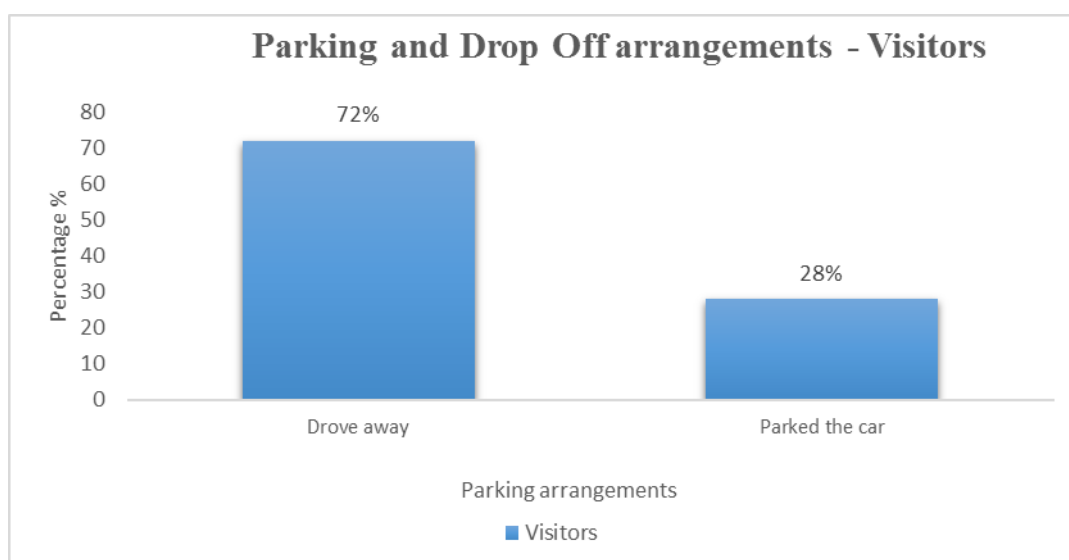
Table 9.4 Of those who did not drive themselves to the airport, the table below shows whether or not they had a car/van available to drive to the airport today

Table 9.4 – Car Available – Shannon Airport

Car Available?	Total	%	Confidence Interval @ 95% +/-	Confidence Range
Yes	251	**60**	4.7	55 – 65
No	169	**40**	4.7	35 – 45
Total*	421	100		

*totals affected by weighting

Car Available?	Irish Resident	%	Confidence Interval @ 95% +/-	Confidence Range
Yes	126	**79**	6.3	73 – 85
No	34	**21**	6.3	15 – 27
Total*	160	100		

*totals affected by weighting

Car Available?	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range
Yes	125	**48**	6.1	42 – 54
No	135	**52**	6.1	46 – 58
Total*	260	100		

*totals affected by weighting

Car availability at total level

Percentage %

60%	40%
Yes	No

Car availability at total level
Base n = 421, those who did not drive themselves to Shannon Airport today

■ Total

Car availability by Irish residents

Percentage %

79%	21%
Yes	No

Car availability by Irish residents
Base n = 421, those who did not drive themselves to Shannon Airport today

■ Irish Residents

Car availability by visitors
Base n = 421, those who did not drive themselves to Shannon Airport today

9.7 Nationality of visiting passengers

Figure 9.7 gives a breakdown of the country of residence of passengers who had visited Ireland. The key European markets are Great Britain (England, Scotland, Wales), Germany, France, are displayed in the below graph. Fifty percent of the visitor sample in Shannon are from the USA. We have grouped together the 'Rest of Europe' but for reference, the sample includes 4% Poland, 1% Italy and 2% Switzerland. A full breakdown of visitors by nationality is available in the appendix.

Figure 9.7 Country of residence of visiting passengers, departing from Shannon
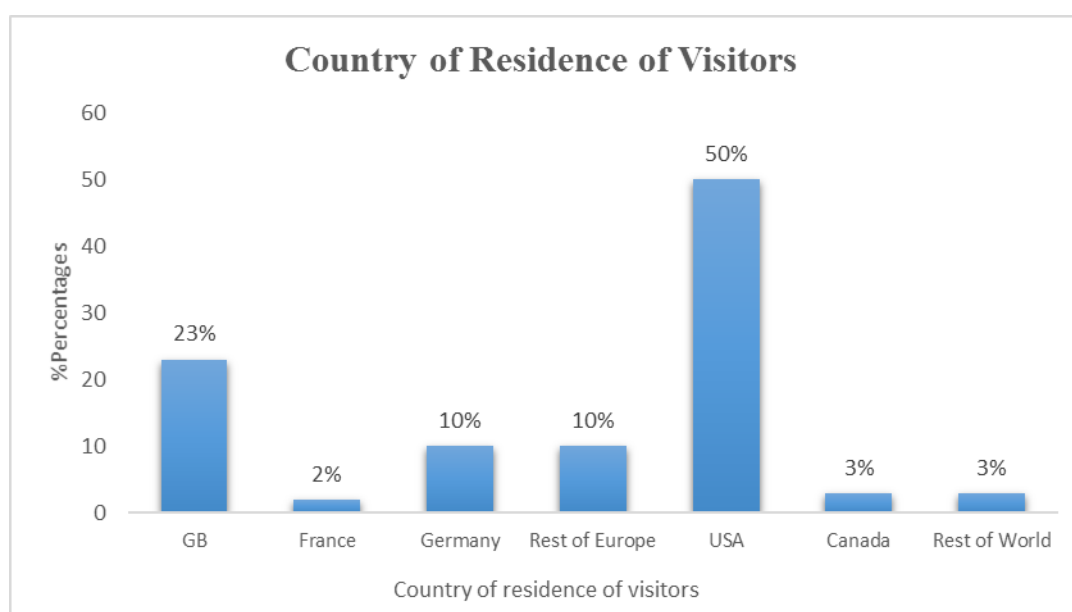
9.8 Trip Purpose

Table 9.5 gives a breakdown of trip purpose for Irish residents and visitors departing from Shannon Airport. At total level, compared to Cork (20%) and Dublin (24%), 11% of passengers main purpose is to visit relatives/family.

Table 9.5 Purpose of trip abroad (Irish Residents) and trip to Ireland (Visitors)

Trip Purpose	Total Passengers	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	297	56	4.0	52 – 60
Business/Work	167	32	3.8	28 – 36
Visit Relatives/Family	56	11	2.5	8 – 14
To Emigrate	2	0	0.0	0
Other	6	1	0.8	0 – 2
Total	528	100		

Trip Purpose	Irish Residents	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	144	55	6.0	49 – 61
Business/Work	86	33	5.7	27 – 39
Visit Relatives/Family	25	9	3.6	6 – 14
To Emigrate	2	1	1.2	0 – 2
Other	6	2	1.7	0 – 4
Total	263	100		

Trip Purpose	Visitors	%	Confidence Interval @ 95% +/-	Confidence Range %
Holiday/Leisure	153	58	6.0	52 – 64
Business/Work	81	31	5.6	25 – 37
Visit Relatives/Family	30	11	3.8	7 – 15
To Emigrate	0	0	0.0	0
Other	0	0	0.0	0
Total	264	100		

Trip purpose at total level (Shannon)

Percentage %

Holiday/Leisure	Visit Relatives/Family	Business/Work	To Emigrate	Other
56%	32%	11%	0%	1%

■ Total

Trip purpose by Irish residents (Shannon)

Percentage %

Holiday/Leisure	Visit Relatives/Family	Business/Work	To Emigrate	Other
55%	33%	10%	1%	2%

■ Irish Residents

Trip purpose by visitors (Shannon)

- Holiday/Leisure: 58%
- Visit Relatives/Family: 31%
- Business/Work: 11%
- To Emigrate: 0%
- Other: 0%

■ Visitors

9.9 Trip duration

An analysis was also undertaken of the durations of trips abroad (in the case of Irish residents) and trips to Ireland (in the case of visitors). Figure 9.10 shows the breakdown of the duration of trips abroad for Irish residents, while Figure 9.11 shows the breakdown of the duration of trips by visitors to Ireland.

Figure 9.10 – Duration of trips abroad (Irish Residents) departing from Shannon

Trip Duration- Irish Residents

- Less than a week: 49%
- 1-2 weeks: 33%
- 2-3 weeks: 12%
- 3-4 weeks: 1%
- More than 4 weeks: 5%

Trip Duration- Irish Residents

■ Irish Residents
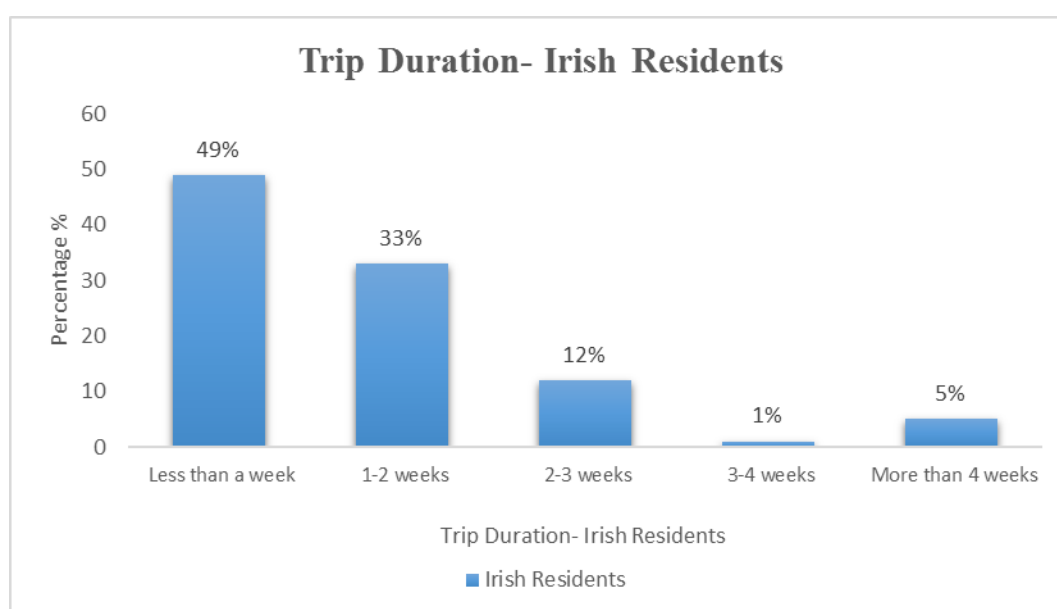
Figure 9.11– Duration of trips to Ireland (Visitors) departing from Shannon
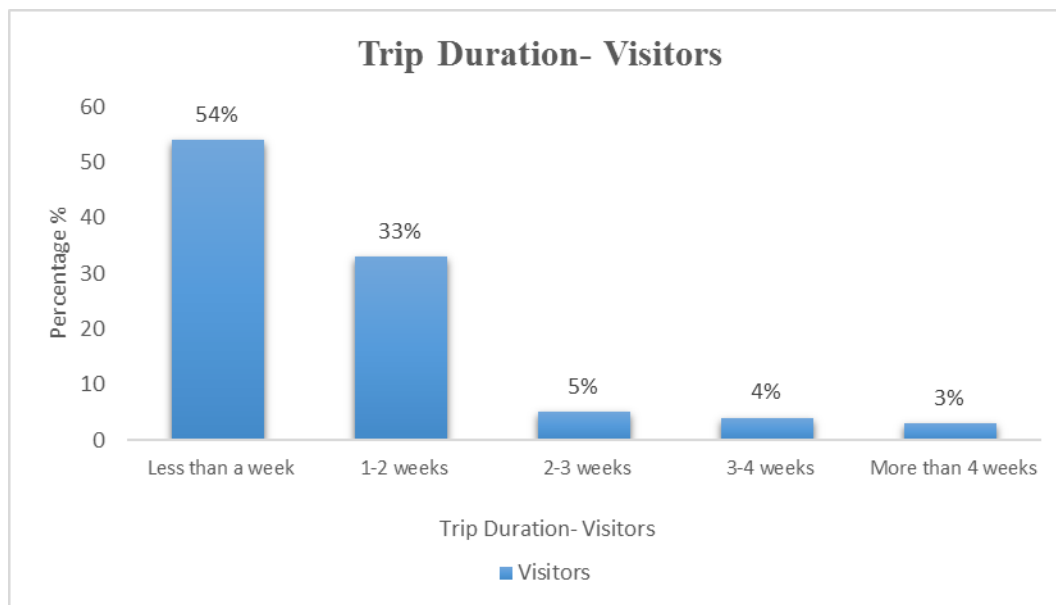
10.   Summary of Key Findings – Shannon

- The Shannon age profile is split into three cohorts: 18 – 34, 35 – 54 and 55+. The same proportion was made up of an even percent of 35 – 54 and 55+ (38%) each, with the remaining 24% coming from the 18-34 age group. There were slightly more males than females interviewed in Shannon.

- There was no quota enforced on passenger breakdown, it was left to fall out naturally, and like Dublin was a 50/50 split between Irish residents and visitors and 51% / 49% for males and females. The largest proportion of visitors were from USA (50%), followed by Great Britain (23%) and 10% from Germany.

- The main purpose of travel was very similar across both Irish residents and visitors. Holiday/leisure came out on top with 55% Irish residents and 58% visitors, followed by Business/Work Purposes (33% for Irish residents and 31% for visitors) and visiting Relatives/Family (10% and 11% respectively).

- In terms of transport mode share used for travelling to Shannon airport, 54% travelled by private car, 8% by taxi, 20% by rental car and 13% by bus/coach. Irish residents are more likely to travel to Shannon airport by private car, either as a passenger in car or driving themselves (83%) than overseas visitors (25%) who use more rental cars (39%) or taxis (13%) or bus/coach (11%).

- Seventy-three percent of all passengers who travelled in a private car were dropped off rather than accompanied into the terminal. Of those who did not drive to the airport, 60% had a car available, 79% among Irish residents and 48% for visitors.

- For travel time to the airport, 53% of passengers travelled to the airport in 16 minutes to 1 hour. A higher proportion of visitors had a shorter journey time to the airport versus Irish residents with 23% of visitors taking 5-15 minutes to get to Shannon airport versus 4% of Irish residents. Approximately 1-2% of intending passengers take more than 3 hours to travel to Shannon airport.

- Overseas visitors are more likely to take earlier flights, with 20% of visitors arriving at the airport between 6am-7am, versus 10% of Irish residents. The busiest time periods for arrival at Shannon airport is 10am-1pm, with 40% of Irish residents and 34% of visitors arriving at that time.

- In October 2016, 49% of Irish residents were travelling for less than a week, versus 54% of Visitors. An equal proportion of Irish residents and visitors (both 33%) travelled between 1-2 weeks.

Appendices

Appendix A   Comparison with 2011 NTA Survey

This section compares 2016 Dublin Airport Survey against the 2011 Dublin Airport Survey to show how the data metrics have changed since 2011. The comparisons are shown through charts below which are broken out looking at Irish residents and visitors. The blue bars represent 2011 while the orange bars represent 2016. There are different questions between the 2011 and the 2016 survey so only metrics that are comparable are included in this section.

The following is outlined and compared

- Survey sample
    - The number of interviews broken out by day
    - Terminals used
    - Nationality of respondents
- Mode share of respondents
- Bus providers
- Private car users
- Journey time to the Airport
- Trip purpose

Survey sample comparison

Number of interviews carried out

The chart below represents the number of interviews carried out over the days of the week. In 2011 a total of 12,007 surveys were completed across two wave, and in 2016 5,042 surveys were conducted across one wave. While the 2011 sample is larger, a sample of 5,000 is statistically robust. The 2011 survey included weekends (5 days of interviewing; 3 week days and both weekend days), while the 2016 survey was designed and conducted on weekdays and excluded weekends.

Number of Interviews
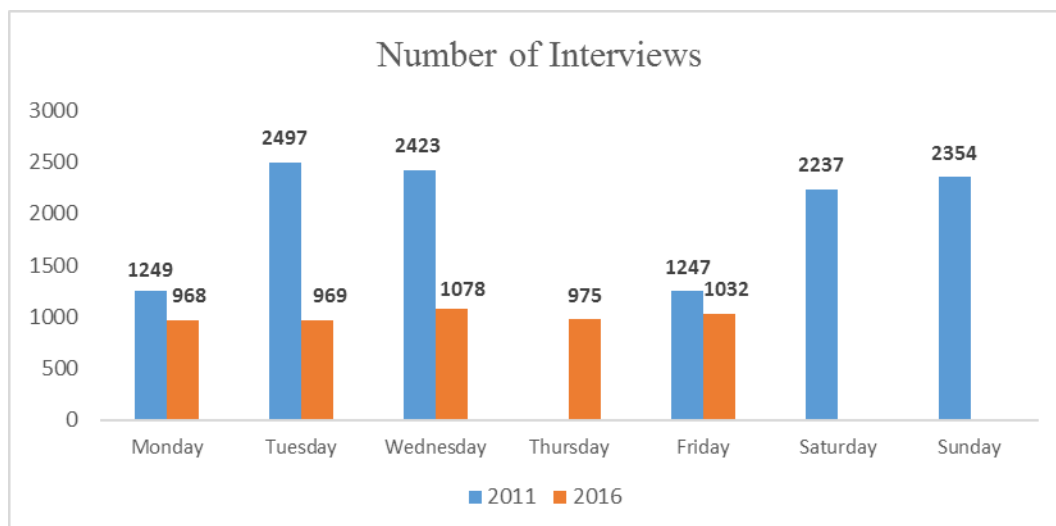
Nationality of respondents

Irish residents have increased by 1% to give a 50/50 split.

Nationality of Respondents
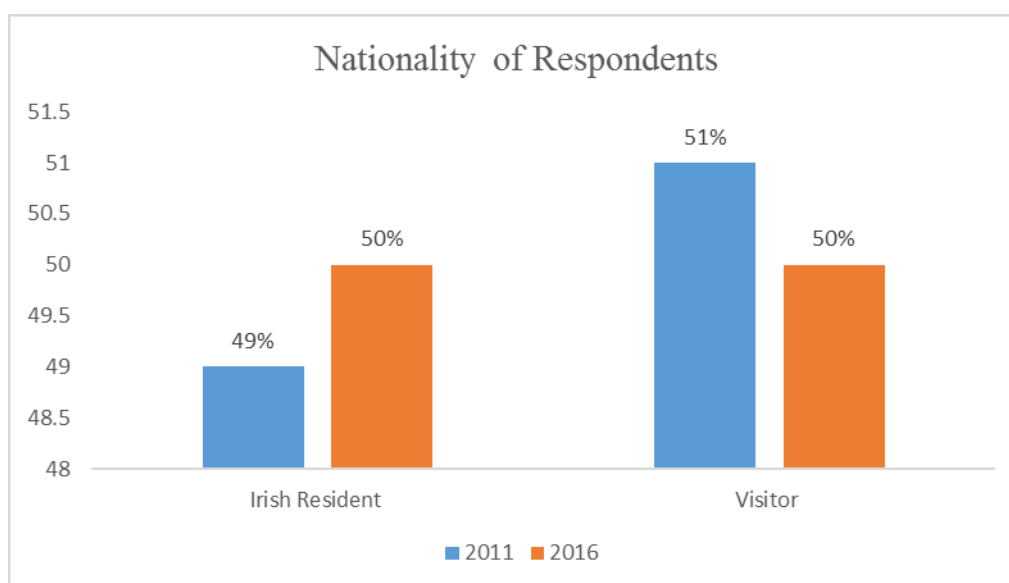
Visitor Nationalities

Looking at the nationality of visitors, there has been a decrease in visitors surveyed from Great Britain while there has been an increase in visitors from USA (13% to 25%) and Canada (1% to 8%).

Visitor Nationality
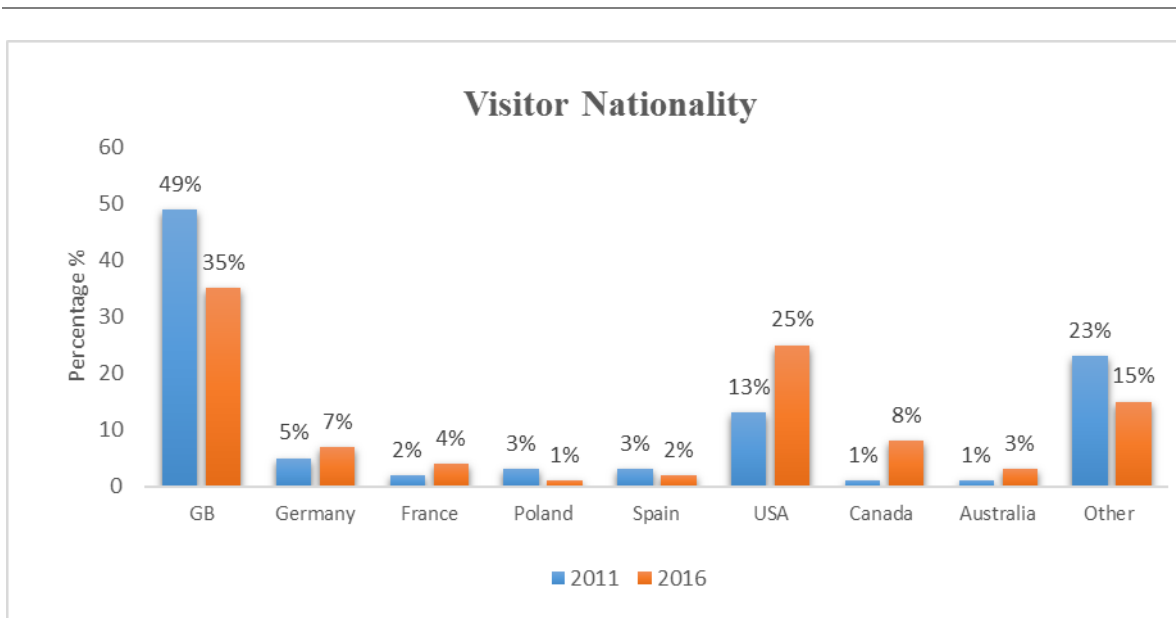
Terminal comparison

Irish Residents terminal comparison

As per the chart below, the terminal usage of Irish residents sees an increase in Terminal One from 57% to 64%, and a decrease in those interviewed travelling via Terminal Two.
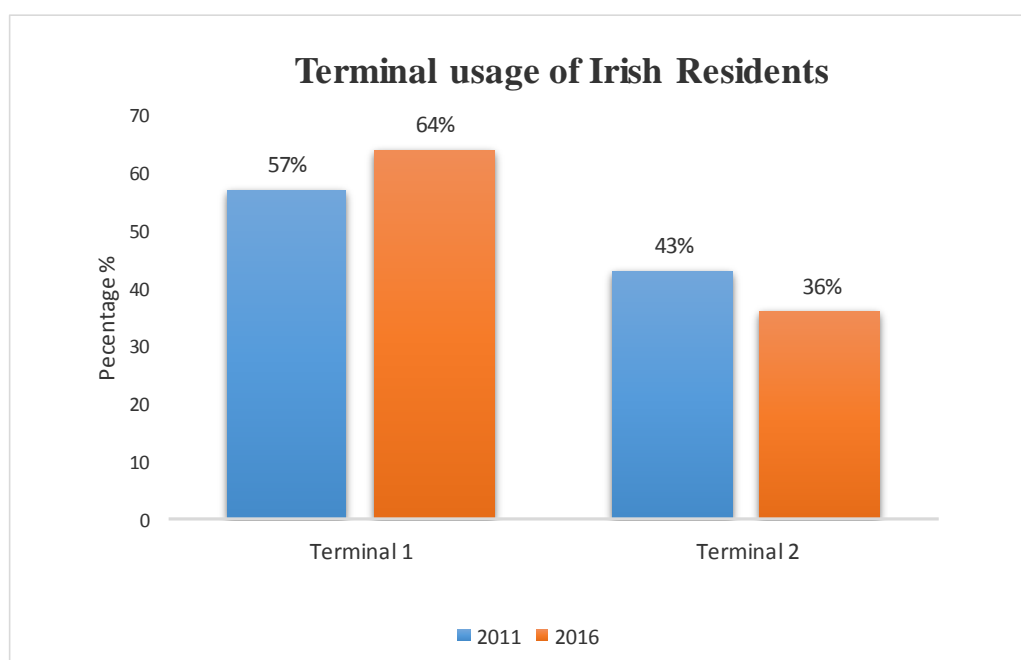
Visitors terminal comparison

The terminal divide remains similar to 2011 with 60% of visitors travelling via Terminal One.

Terminal usage of Visitors
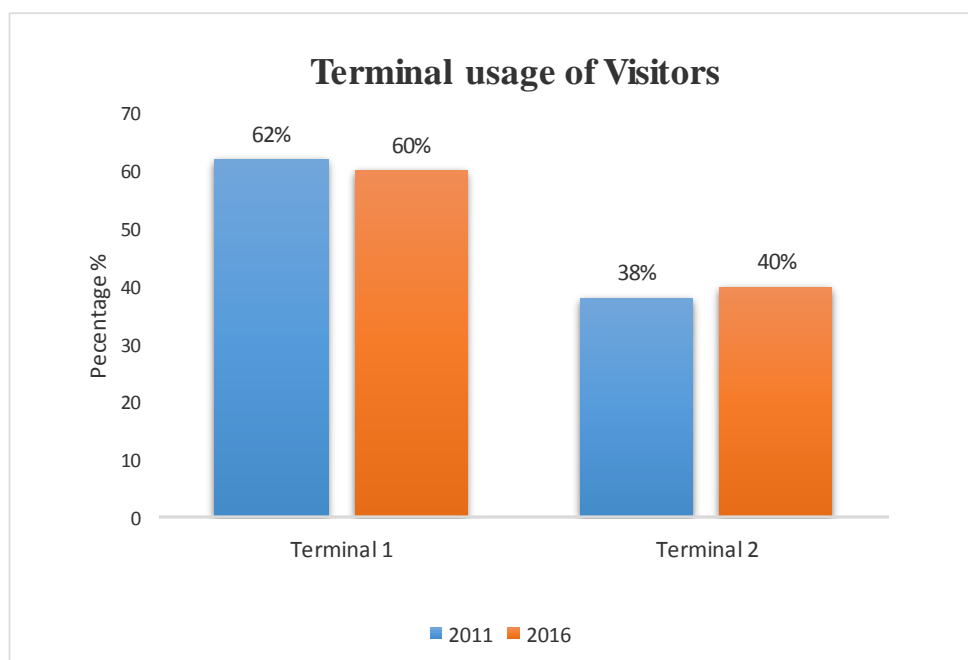
Mode share of respondents

Mode share of Irish Residents

Mode share levels remain relatively stable, however, there are small movements in the increase of Bus/Coach, decrease in use of private cars and Taxi's. Perhaps this can be attributed to the increase of accessible bus services to the Airport? That being said, private car accounts for almost half of respondent's mode to the Airport at 48%.

% Mode share of Irish Residents
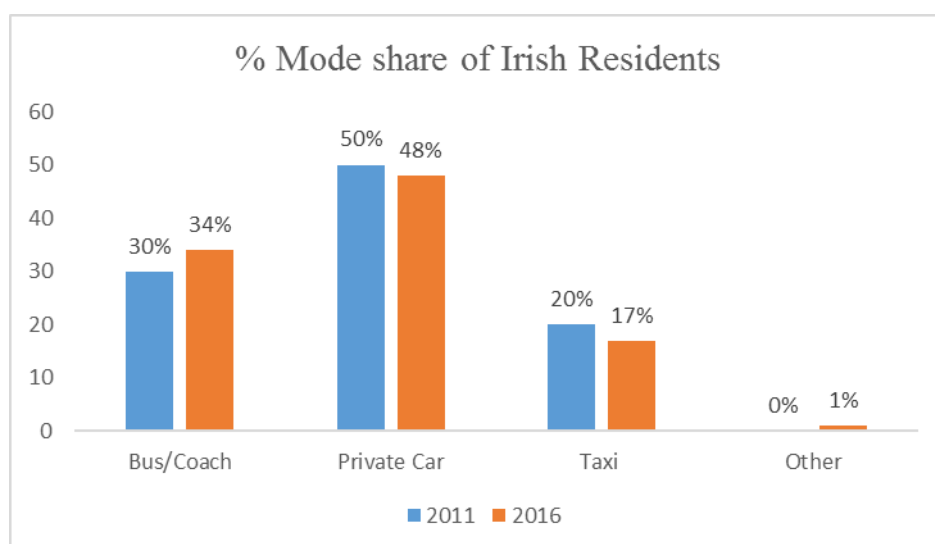
Mode share of Visitors

Bus and Coach remains the most used mode by visitors. Taxis have increased while the use of private cars has decreased..

% Mode share of Visitors
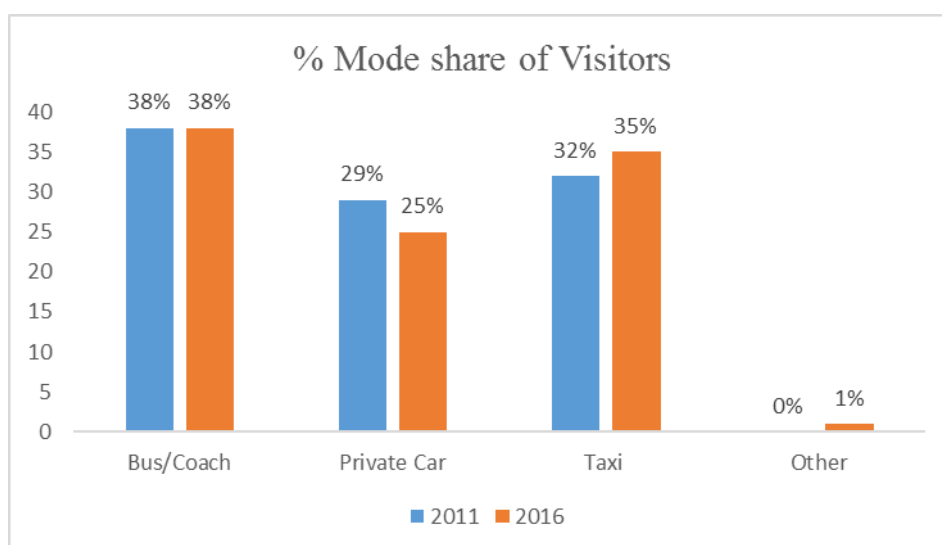
Bus providers used by respondents

Bus providers usage by Irish Residents

Dublin Bus and Aircoach has decreased while the use of Bus Éireann (16% to 23%), Airlink (3% to 11%) and Other Private Buses has increased (20-27%). This finding alligns to the suggestion that Irish residents may be opting for emerging bus services to the airport.

Bus Providers of Irish Residents
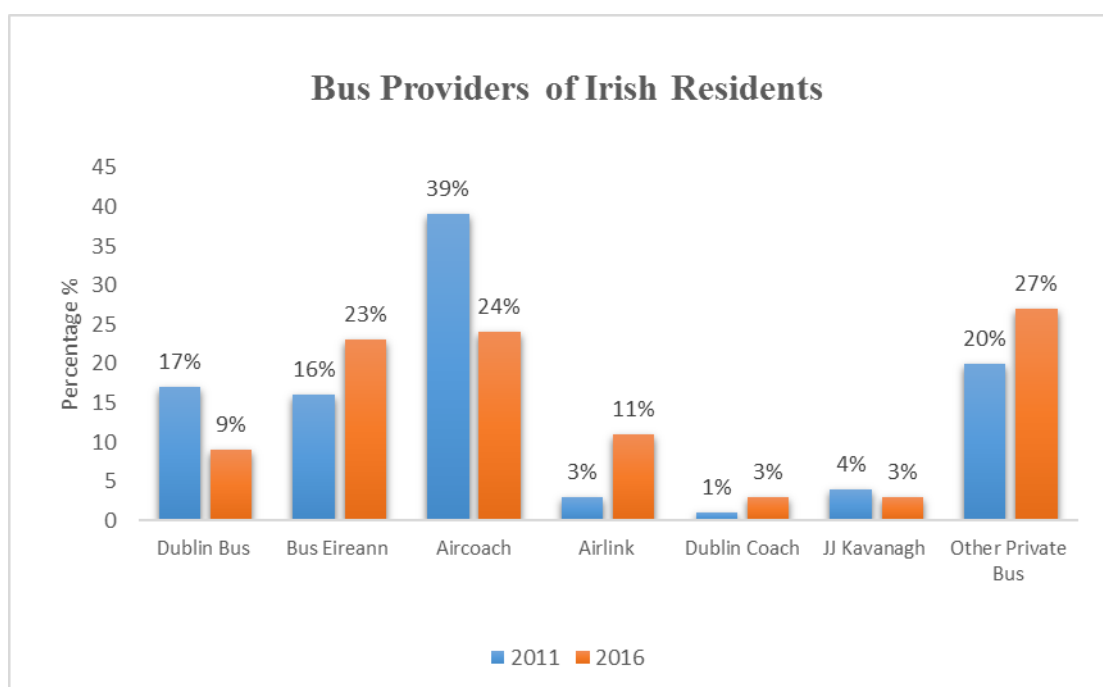
Bus Providers of Visitors

Dublin Bus and Aircoach has decreased by almost half, the use of Airlink has increased significantly and Other Private Buses has doubled.
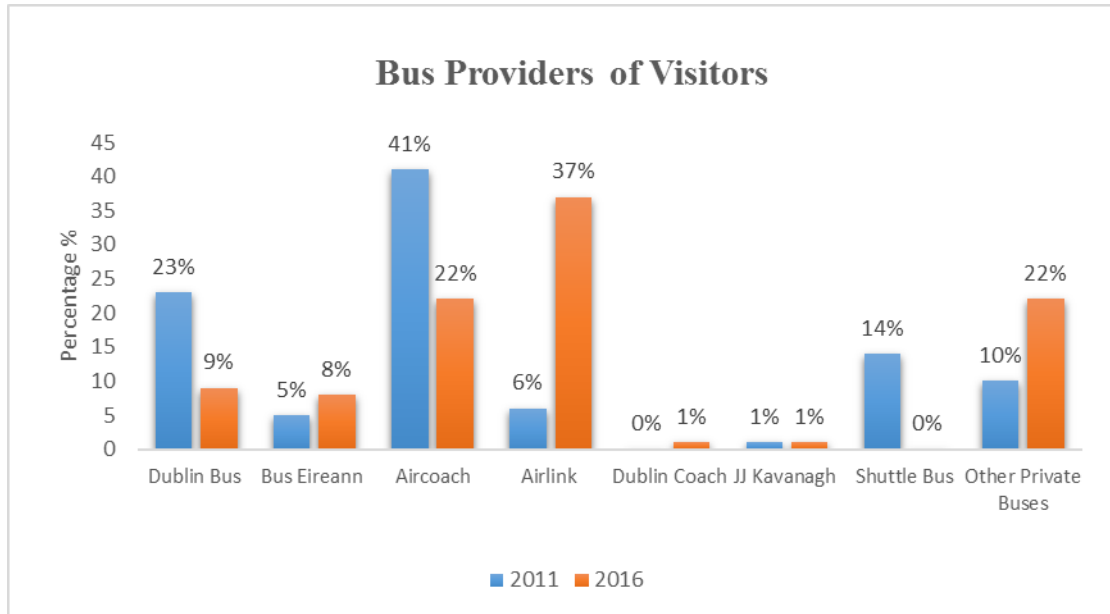
Private car users

Private car users of Irish Residents

While the majority of Irish residents are dropped to the Airport without using the carpark, more respondents are parking and being accompanied into the airport (7% to 19%).
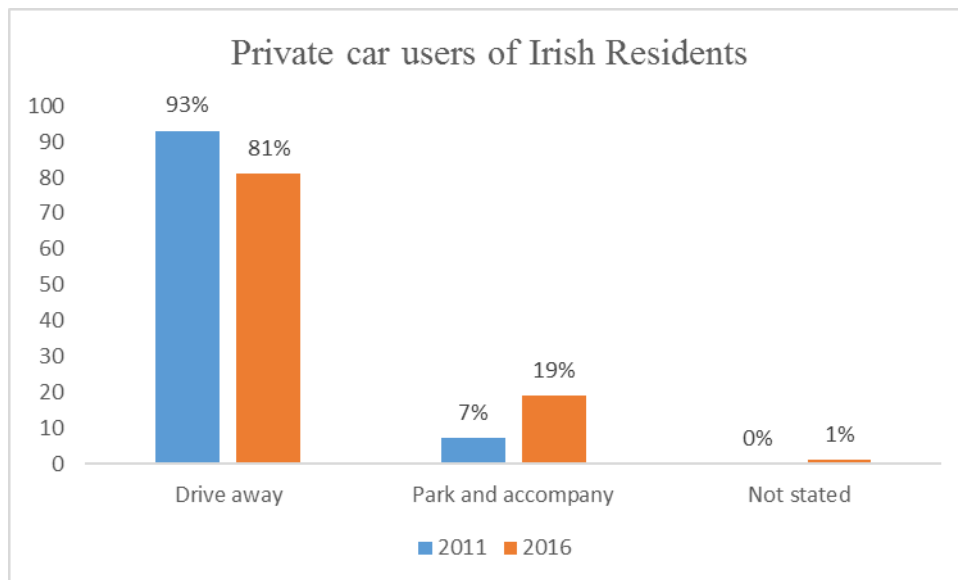
Private car users of Visitors

Visitor behaviour remains stable in terms of driving and parking.

Private car users of Visitors

	Drive away	Park and accompany	Not stated
2011	91%	9%	0%
2016	92%	8%	0%
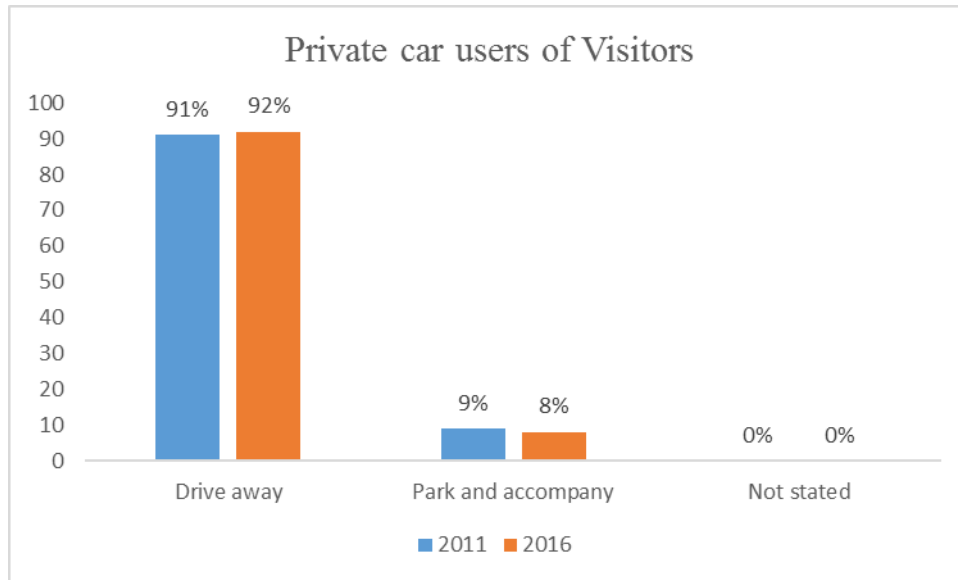
Journey time to the Airport

Journey time to the Airport at a total level

While 39% are arriving in the airport in less than a half hour, journey times overall are taking longer, with less respondents (46% down to 39% in 2016) arriving in less than half an hour and more respondents taking more than two hours to travel to the airport (13% up to 16% in 2016).

Journey time to Dublin Airport at total level

	Less than 30 minutes	30 minutes -1 hour	1 hour - 2 hours	More than 2 hours
2011	46%	27%	14%	13%
2016	39%	29%	16%	16%
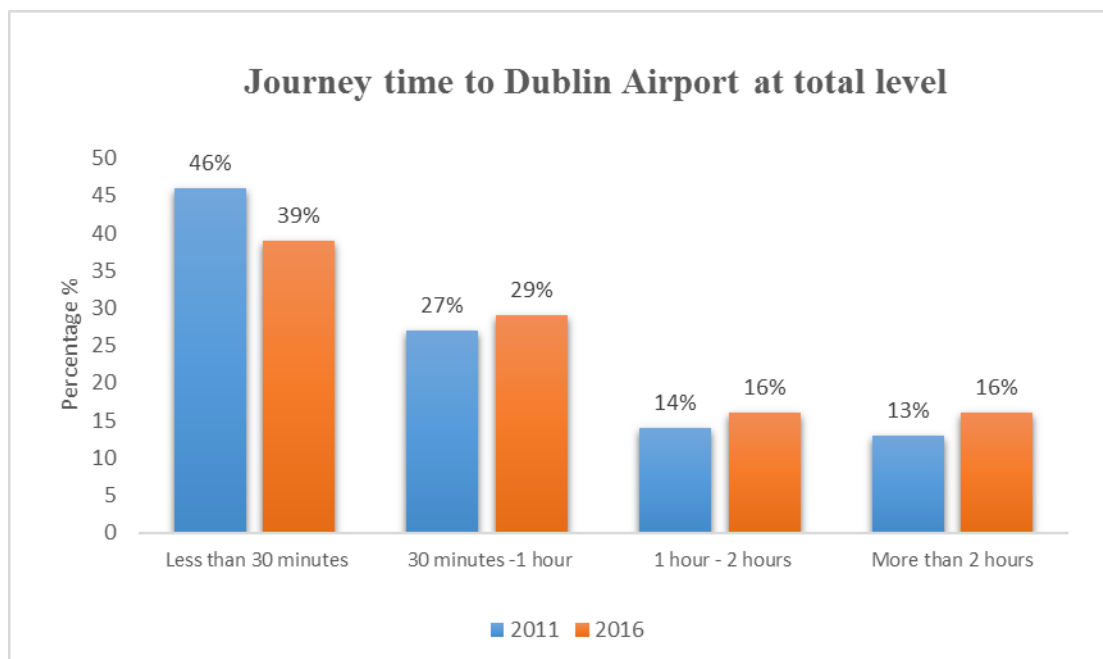
Trip purpose

Trip purpose of Irish Residents

There is an increase in respondents travelling for Holiday/Leisure (31% to 47%), and Business/Work (21% to 24%) while there is a decrease of visiting Family/Relatives.
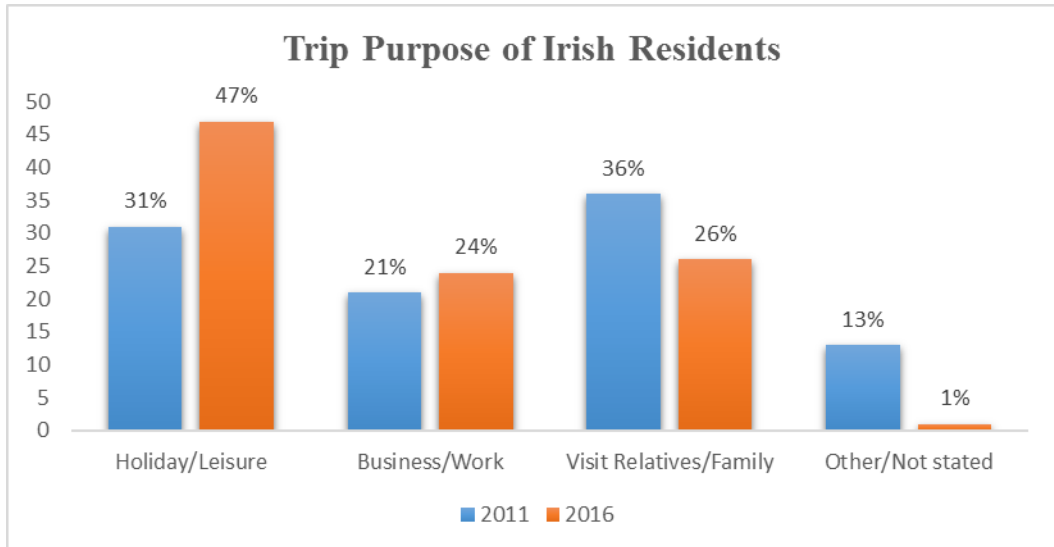
Trip purpose of Visitors

Similar to Irish residents, there is an increase of visitors travelling for Holiday/Leisure (35% to 46%), a decrease of those interviewed who are visiting Family/Relatives (36% to 23%). There has been a significant increase of 4% to 29% of visitors travelling for Business/Work.
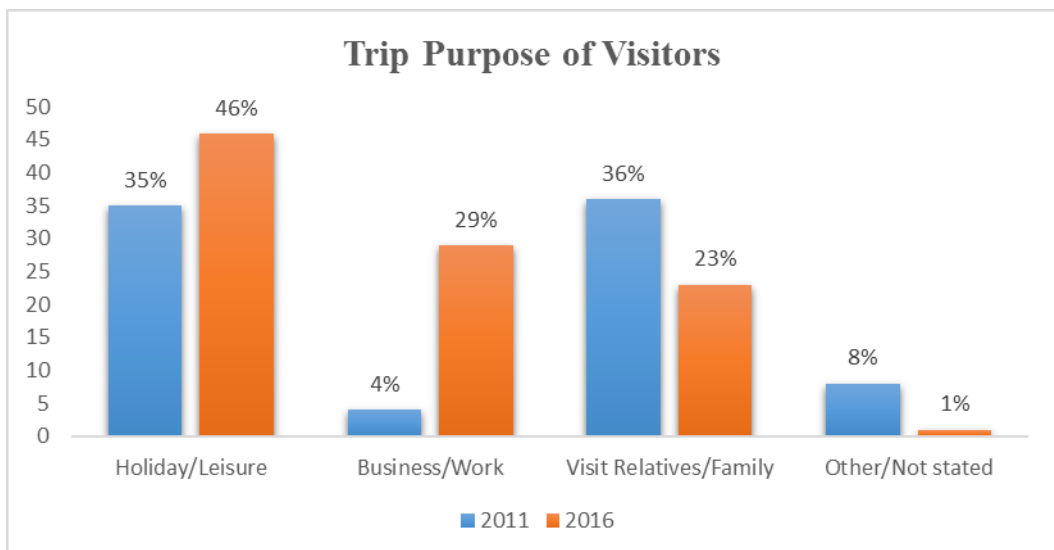
Number of passengers surveyed

DUBLIN

Table A1 shows the number of passengers interviewed on each day, alongside the average group size and number of passengers represented in the survey sample on each of these days. daa figures were also provided for total passenger throughput at the airport for each day of the surveys, giving also a calculation of the % passenger survey sample rate obtained on survey days. Interviews were conducted Monday to Friday.

Table A1 – Passengers surveyed in Dublin

Day	Date	Passenger Throughput	Interviews Conducted	% Sample Rate
Monday	3rd October	41266	394	7.8%
Tuesday	4th October	33978	200	4.0%
Wednesday	5th October	32950	424	8.4%
Thursday	6th October	36049	316	6.3%
Friday	7th October	41682	193	3.8%
Monday	10th October	40668	281	5.6%
Tuesday	11th October	32106	247	4.9%
Wednesday	12th October	32197	153	3.0%
Thursday	13th October	36268	353	7.0%
Friday	14th October	41761	298	5.9%
Monday	17th October	39615	317	6.3%
Tuesday	18th October	32291	303	6.0%
Wednesday	19th October	32543	245	4.9%
Thursday	20th October	36252	291	5.8%
Friday	21st October	41139	520	10.3%
Monday	24th October	39054	149	3.0%
Tuesday	25th October	33894	100	2.0%
Wednesday	26th October	38149	191	3.8%
Thursday	27th October	41546	45	0.9%
Total			**5042**	

CORK

Table A2 shows the number of passengers interviewed on each day, alongside the average group size and number of passengers represented in the survey sample on each of these days. daa figures were also provided for total passenger throughput at the airport for each day of the surveys, giving also a calculation of the % passenger survey sample rate obtained on survey days

Table A2 – Passengers surveyed in Cork

Day	Date	Passenger Throughput	Interviews Conducted	% Sample Rate
Monday	3rd October	3,442	43	8.50%
Tuesday	4th October	2,998	24	4.74%
Wednesday	5th October	2,414	24	4.74%
Thursday	6th October	3,101	21	4.15%
Friday	7th October	3,242	20	3.95%
Monday	10th October	3,345	62	12.25%
Tuesday	11th October	2,754	19	3.75%
Wednesday	12th October	2,361	51	10.08%
Thursday	13th October	3,018	15	2.96%
Friday	14th October	3,040	20	3.95%
Monday	17th October	3,310	29	5.73%
Tuesday	18th October	2,734	44	8.69%
Wednesday	19th October	2,156	0	0%
Thursday	20th October	3,259	64	12.65%
Friday	21st October	3,136	60	11.86%
Monday	24th October	2,935	10	1.98%
Tuesday	25th October	2,783	0	0
Wednesday	26th October	2,619	1	0.2%
Total			**506**	

SHANNON

Table A3 shows the number of passengers interviewed on each day, alongside the average group size and number of passengers represented in the survey sample on each of these days. SAA figures were also provided for total passenger throughput at the airport for each day of the surveys, giving also a calculation of the % passenger survey sample rate obtained on survey days

Table A3 – Passengers surveyed in Shannon

Day	Date	Passenger Throughput	Interviews Conducted	% Sample Rate
Monday	3rd October	5,056	20	3.80%
Tuesday	4th October	3,702	30	5.69%
Wednesday	5th October	4,477	42	7.97%
Thursday	6th October	4,707	46	8.73%
Friday	7th October	5,814	64	12.14%
Monday	10th October	4,814	25	4.74%
Tuesday	11th October	3,757	16	3.04%
Wednesday	12th October	3,957	25	4.74%
Thursday	13th October	4,396	2	0.38%
Friday	14th October	5,559	34	6.45%
Monday	17th October	4,755	0	0%
Tuesday	18th October	3,983	35	6.64%
Wednesday	19th October	3,733	27	5.12%
Thursday	20th October	4,234	37	7.02%
Friday	21st October	5,884	48	9.12%
Monday	24th October	n/a	62	11.76%
Total			527	

Appendix B

Survey Questionnaires

Q. A1 Interviewer Record Airport

1: Dublin   **Continue to QA**

2: Cork   **Continue to QA**

3: Shannon   **Continue to QA**

INTRODUCTION

INTERVIEWER: **READ OUT**

SCRIPTER: INTRODUCTION SCREEN

Good morning/afternoon/evening. I'm _____ from Millward Brown. We are carrying out a survey on behalf of the NTA with airport passengers in departure areas and gates. The survey will take 5-6 minutes and I'd be grateful for your help in answering some questions

Q. A   Are you a resident of Republic of Ireland, Northern Ireland, visiting Ireland or are you transferring between flights?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

1: Resident of Republic of Ireland   **Continue to Q1**

2: Resident of Northern Ireland   **Continue to Q1**

3: Visiting Ireland   **Continue to QB**

4: In transit / transferring   **CLOSE**

Q. B Where do you currently live?

SCRIPTER: LIST PROVIDED

FILTER: ASK QA Code 3

1.ROI	13. Austria	25. Hong Kong / Macau	37. New Zealand	49. South Korea
2. Northern Ireland	14. Brazil	26. Hungary	38. Nigeria	50. Spain
3. Eng/IoM/ Ch Isl	15. Bulgaria	27. Iceland	39. Norway	51. Sweden
4. Scotland	16. Canada	28. India	40. Pakistan	52. Switzerland
5. Wales	17. Ctr America/ Mexico	29. Italy	41. Philippines	53. Taiwan
6. France	18. China	30. Japan	42. Poland	54. Turkey
7. Germany	19. Cyprus	31. Latvia	43. Portugal	55. Other European
8. Belgium	20. Czech Rep	32. Lithuania	44. Romania	56. Other Asia
9. Holland	21. Denmark	33. Luxembourg	45. Russia	57. Other SA
10. USA	22. Estonia	34. Malaysia / Singapore	46. Slovakia	58. Other Africa
11. Argentina	23. Finland	35. Malta	47. Slovenia	59. Other (Specify)
12. Australia	24. Greece	36. Middle East	48. South Africa	

Q. 1 What is your flight number?

INTERVIEWER: Record Flight Number

SCRIPTER: Allow up to six digits/letters

FILTER: ASK ALL

Q. 2 How many passengers are travelling in your group including you?

SCRIPTER: Allow up to 3 digits

FILTER: ASK ALL

Q.3   Did you stay 'overnight' at a hotel/B&B/hostel en route to this airport?

INTERVIEWER: SINGLE CODE ONLY

SCRIPTER: SINGLE CODE

FILTER: ALL

    1: Yes   - continue to Q4b

    2: No   - continue to Q4a

Q.4a   From what address did you begin your journey to the airport today? Please be assured that we don't link any addresses to individual surveys, we only ask addresses to assess where people travel to the airport from.

INTERVIEWER: Record Address, Street/Road, City/Town/Village, Townland (if rural), County, Postcode (if known)

SCRIPTER: Text box

FILTER: Those who code 2 @ Q3

Q.4b   From which Hotel/B&B/Hostel address did you begin your journey to the airport today?

INTERVIEWER: Record Hotel or B&B Address, Street/Road, City/Town/Village, local town, County,

 SCRIPTER: Text boxes

FILTER: Those who code 1 @ Q3

Q. 5 What time did you arrive at this airport today?

SCRIPTER: 24 hour clock – allow 4 digits

FILTER: ALL

Q. 6 What time did you begin your journey to this airport?

INTERVIEWER: Record time as 4 digits (24 hours clock)

SCRIPTER: 24 hour clock – allow 4 digits

FILTER: ALL

Q6b So it took _____ (Interviewer to calculate time) to get to the airport today?

INTERVIEWER: Calculate journey time to airport. Record in hours and minutes in 4 digits

SCRIPTER: New Screen. Allow 4 digits

FILTER: ALL

Q.7   What is the main purpose of your journey?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL

1: Holiday/Leisure

2: Visit Relatives/Family

3: Business/Work

4: To Emigrate

99: Other

Q.8   How did you get most of the way to the airport today?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL

1: Bus/Coach

2: Taxi

3: Drove own Car/Van

4: Passenger in Car

5: Rental Car/Van

6: Hotel Shuttle Bus

7: Motorcycle

8: Bicycle

9: On Foot

10: Another Flight

99: Other (Please Specify)

Q.9   Did you travel by Irish Rail, DART or Luas at any part of your trip to this airport?

INTERVIEWER: MULTICODE

SCRIPTER: MULTICODE

FILTER: ALL

    1: Yes – Irish Rail

    2: Yes - DART

    3: Yes - Luas

    4: No – SINGLE CODE

Q.10A   If you arrived by bus/coach what bus/coach company provided the service?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL WHO CODE 1 AT Q8 (BUS) and Code 1 @ Q.A1 (DUBLIN AIRPORT)

1: Dublin Bus eg. Route 16, 41, 102

2: Dublin Bus (Airlink) eg. Route 747, 757

3: Aircoach eg. Route 700, 702, 703, 704X, 705X

4: Airport Hopper by Dualway eg. Tallaght to Dublin Airport, Maynooth to Dublin Airport

5: City Scope eg. Dundrum to Dublin Airport via Red Cow

6: Ard Cavan eg. Wexford to Dublin Airport

7: Bus Éireann eg. Route 747, 133

8: Dublin Coach eg. M7, N7, M9 Service

9: EirEagle eg. Galway, Limerick Service

10: GoBe eg. Cork to Dublin

11: JJ Kavanagh & Sons eg. Route 717, 735, 736

12: John McGinley Coaches eg. Route A

13: Wexford Bus eg. Route 740

14: Translink eg. Route X1, X2, X3

15: Other (Specify)

99: Don't know

Q.10B   If you arrived by bus/coach what bus/coach company provided the service?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL WHO CODE 1 AT Q8 (BUS) and Code 2 @ Q.A1 (CORK AIRPORT)

1: Bus Éireann eg. Route 226, 226a

2: City Link eg. Route 251

3: Other (Specify)

99: Don't know

Q.10C   If you arrived by bus/coach what bus/coach company provided the service?

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL WHO CODE 1 AT Q8 (BUS) and Code 3 @ Q.A1 (SHANNON AIRPORT)

1: Bus Éireann eg. Route 51, X51, 343

2: JJ Kavanagh & Sons eg. Route 735

3: Other (Specify)

99: Don't know

Q11 If you were driven to the airport as a passenger did the person with you:

INTERVIEWER: SINGLE CODE ONLY

SCRIPTER: SINGLE CODE

FILTER: ALL who Code 4 @ Q8

    1: Drive away after dropping you?

    2: Park the car and accompany you into the terminal?

    99: Not applicable

Q.12   Did you have a car/van available to drive yourself to the airport today?

INTERVIEWER: SINGLE CODE ONLY

SCRIPTER: SINGLE CODE

FILTER: ASK Q8 NOT code 3

    1: Yes

    2: No

RESIDENT OF IRELAND SECTION – to be asked of those who code 1 OR 2 @ Q.A

Q. 14 Thinking about your return journey, will you be returning through this Airport?

INTERVIEWER: Read Out

SCRIPTER: Single Code

FILTER: ALL who code 1 or 2 @ Q.A

1: Yes

2: No

Q. 15 Where will you be returning to?

INTERVIEWER: Read Out

SCRIPTER: Single Code

FILTER: ALL who code 1 or 2 @ Q.A and Code 2 @ Q14 – exclude Airport coded @ QA1

1. Dublin Airport
2. Shannon Airport
3. Cork Airport
4. Belfast Airports
5. Other Airport
6. Seaport

Q. 16 On what date will you return to this airport?

INTERVIEWER: Record Date and Month eg. 20th October would be 2010. Please enter 9999 if N/A

SCRIPTER: Allow 4 digits

FILTER: ALL who code 1 or 2 @ Q.A

Q. 17 About what time will you arrive back at this airport?

INTERVIEWER: Record time as 4 digits (24 hours clock) eg. 2030. Please enter 9999 if N/A

SCRIPTER: Allow 4 digits

FILTER: ALL who code 1 or 2 @ Q.A

Q.18   How do you intend to get back to your final destination from this airport (when you return)? If more than one mode then select mode that will be used for most of the journey

INTERVIEWER: **SINGLE CODE ONLY**

SCRIPTER: SINGLE CODE

FILTER: ALL who code 1 or 2 @ Q.A

1: Bus/Coach

2: Taxi

3: Drove own Car/Van

4: Passenger in Car

5: Rental Car/Van

6: Hotel Shuttle Bus

7: Motorcycle

8: Bicycle

9: On Foot

10: Another Flight

99: Other (Please Specify)

```


```

Q.19   Do you intend to travel by Irish Rail, DART or Luas at any part of your trip home on your return?

INTERVIEWER: MULTICODE

SCRIPTER: MULTICODE

FILTER: ALL who code 1 or 2 @ Q.A

1: Yes – Irish Rail

2: Yes - DART

3: Yes - Luas

4: No

Q. 20 Will your destination be different or the same as the one you started at today?

INTERVIEWER: SINGLE CODE ONLY

SCRIPTER: SINGLE CODE

FILTER: ALL who code 1 or 2 @ Q.A

1: Same address as given at beginning of survey

2: Different address than given at beginning of survey

Q.20 A What will be your return address?

INTERVIEWER: Record Address, Street/Road, City/Town/Village, Townland (if rural), County, Postcode (if known)

SCRIPTER: Text boxes (1 screen per line of address)

FILTER: ALL who code 1 or 2 @ Q.A AND Code 2 @ Q20

<table>
<tr><td></td></tr>
</table>

Q.21   How long do you expect the journey will take you to get to the address above (approximately)?

INTERVIEWER: Record in hours and minutes in 4 digits eg. 30 minutes is 0030

SCRIPTER: New Screen. Allow 4 digits

FILTER: ALL who code 1 or 2 @ Q.A

<table>
<tr><td></td><td></td><td></td><td></td></tr>
</table>

Q. 13 When did you last fly out of Ireland (Republic or Northern Ireland)

INTERVIEWER: Record Month and Year eg. April 2016 would be 0416

SCRIPTER: Allow 4 digits

FILTER: ALL who code 1 or 2 @ Q.A

1:

<table>
<tr><td></td><td></td><td></td><td></td></tr>
</table>

2: Or, never flew before/first time

OVERSEAS VISITORS SECTION – to be asked of those who code 3 @ Q.A

Q14X When you arrived into Ireland did you come through this airport?

INTERVIEWER: Single code

SCRIPTER: Single Code

FILTER: ALL who code 3 @ Q.A

1: Yes

2: No

Q14Xi Where did you arrive into Ireland?

INTERVIEWER: Single code

SCRIPTER: Single Code

FILTER: ALL who code 3 @ Q.A and code 2 @ Q14Xi – Exclude Code given @ QA1 from this list

7. Dublin Airport
8. Shannon Airport
9. Cork Airport
10. Belfast Airports
11. Other Airport
12. Seaport

Q. 15X On what date did you arrive at this airport/in this country?

INTERVIEWER: Record Date and Month eg. 20th September would be 2009. Please enter 9999 if N/A

SCRIPTER: Allow 4 digits

FILTER: ALL who code 3 @ Q.A

Q. 16X Approximately what time did you arrive at this airport?

INTERVIEWER: Record time as 4 digits (24 hours clock) eg. 2030. Please enter 9999 if N/A

SCRIPTER: Allow 4 digits

FILTER: ALL who code 3 @ Q.A

Q.17X   How did you get to your first destination from this airport? (If more than one mode used then select mode used for most of the journey)

1: Bus/Coach

2: Taxi

3: Drive own Car/Van

4: Passenger in Car

5: Rental Car/Van

6: Hotel Shuttle Bus

7: Motorcycle

8: Bicycle

9: On Foot

10: Another Flight

99: Other (Please Specify)

```

```

Q.18X   Did you travel by Irish Rail, DART or Luas for any part of this first trip?

1: Yes – Irish Rail

2: Yes – DART

3: Yes - Luas

4: No

Q.19X When you arrived at this Airport what was your first destination – Please provide the full address

Q.20X How long did it take you to get the address above (approximately)?

Q. 13X When did you last fly out of this country?

1:

2: Or, never first time

INTERVIEWER: READ OUT: And now, finally some classification questions just to ensure we interview a broad cross section of people.

AGE: Which of these age groups do you fit into

SCRIPTER: Single Code

FILTER: ASK ALL

1: 18-24

2: 25-34

3: 35-44

4: 45-54

5: 55-64

6: 65+

7: Refused

RECORD TERMINAL

INTERVIEWER: RECORD TERMINAL

SCRIPTER: text box

FILTER: ALL who code 1 @ Q.AX (Dublin Only)

1: T1

2: T2

RECORD GATE OF DEPARTURE

INTERVIEWER: RECORD DEPARTURE GATE

SCRIPTER: text box

FILTER: ASK ALL

For quality control purposes, can I please ask your name and contact number of email address. Please be assured that this information will never be used for any purpose other than the verification of this interview.

SCRIPTER: text box

FILTER: ASK ALL

INTERVIEWER: Please thank respondent for participating in survey.

Appendix C

Confidence Intervals for Count data and Proportions

(This Appendix is intended for more technically-minded readers).

Count data is non-negative – e.g., the number of passengers in a sample of size N carried out over D days reporting that they travelled from Co. Donegal might be X (with X = 0, 1, 2, 3, etc.). If we segregate the total sample into G groups of counties, or local authorities, then the measured proportion of respondents from Local Authority i, is $p_i = (X_i / N)$, with $\Sigma(X_i) = N$, summing over all Local Authorities. X could also be the number of respondents who state that they used Taxi (or Bus, etc.) for most of their journey to reach the Airport in question, in which case $p = (X / N)$ would represent the mode share by Taxi.

The sample count, X, in any given case, is merely one measurement in one survey where we have only sampled a very small fraction of the total passenger throughput.

When, and only when, we obtain a sufficiently large number for X (typically X > 25) we may be able to use the "central limit theorem" to estimate a 95% confidence interval for X, thereby enabling us to assess the probable accuracy of the one single sample measurement that we have made. This is the often-quoted "margin of error", which is given by $p_{95} = p \pm z_{0.025} \times sqrt[\, p(1-p) / N \,]$, where $p = (X / N)$ is the proportion in question. $z_{0.025} \approx -1.96$ is the fairly well known value of the normal variate for 2.5% probability, and p_{95} denotes the 95% confidence interval for the true proportion, based on the single measured proportion, p.

In some cases the value of X may be very small (e.g., less than 10) and the above assumption is no longer valid when computing a confidence interval. The "standard" two-sided confidence interval will usually in this case produce a negative part to the interval, which is of course meaningless.

Wilson (1927) developed a somewhat more accurate two-sided confidence interval for a sample proportion with the desirable property that it is never negative, and it has better coverage properties according to Brown, Cai and DasGupta (2001). The details below are abstracted from the following website, but is also contained in the review paper by Brown, Cai and DasGupta (2001). See:

http://itl.nist.gov/div898/handbook/prc/section2/prc241.htm

The Wilson method (from 1927) constructs a non-symmetric and non-negative confidence interval as follows:

Let p = (X / N) = the sample proportion for the count in question, X, with total sample size N.

Let k = $z_{\alpha/2}$ = $-z_{(1 - \alpha/2)}$ = standard normal variate such that the area to the left of k equals α/2. With α = 0.05 (95% confidence), k = – 1.959964. For algebraic convenience, let a = k^2 / (2N); b = k^2 / (4 N^2) and c = 1 + (k^2 / N.)

The Upper Limit, UL, of the Wilson interval is:

UL = [p + a –k x sqrt[[p(1 – p)/ N] + b]] / c

The Lower Limit, LL, of the Wilson interval is:

UL = [p + a + k x sqrt[[p(1 – p)/ N] + b]] / c

References:

Wilson, E. B. "Probable Inference, the Law of Succession, and Statistical Inference," *Journal of the American Statistical Association,* Vol. **22**, 209-212 (1927).

Lawrence D. Brown, T. Tony Cai and Anirban DasGupta "Interval Estimation for a Binomial Proportion", *Statistical Science, Vol. 16, No. 2, 101 – 133 (2001).*

See Engineering Statistics Handbook of the USA's National Institute of Standards and Technology:

http://itl.nist.gov/div898/handbook/prc/section2/prc241.htm

Appendix D   Airport Catchment (not weighted)

N.B. dots indicate geo-location of survey participants but should only be taken as approximately indicative of passengers' origins on day of departure.
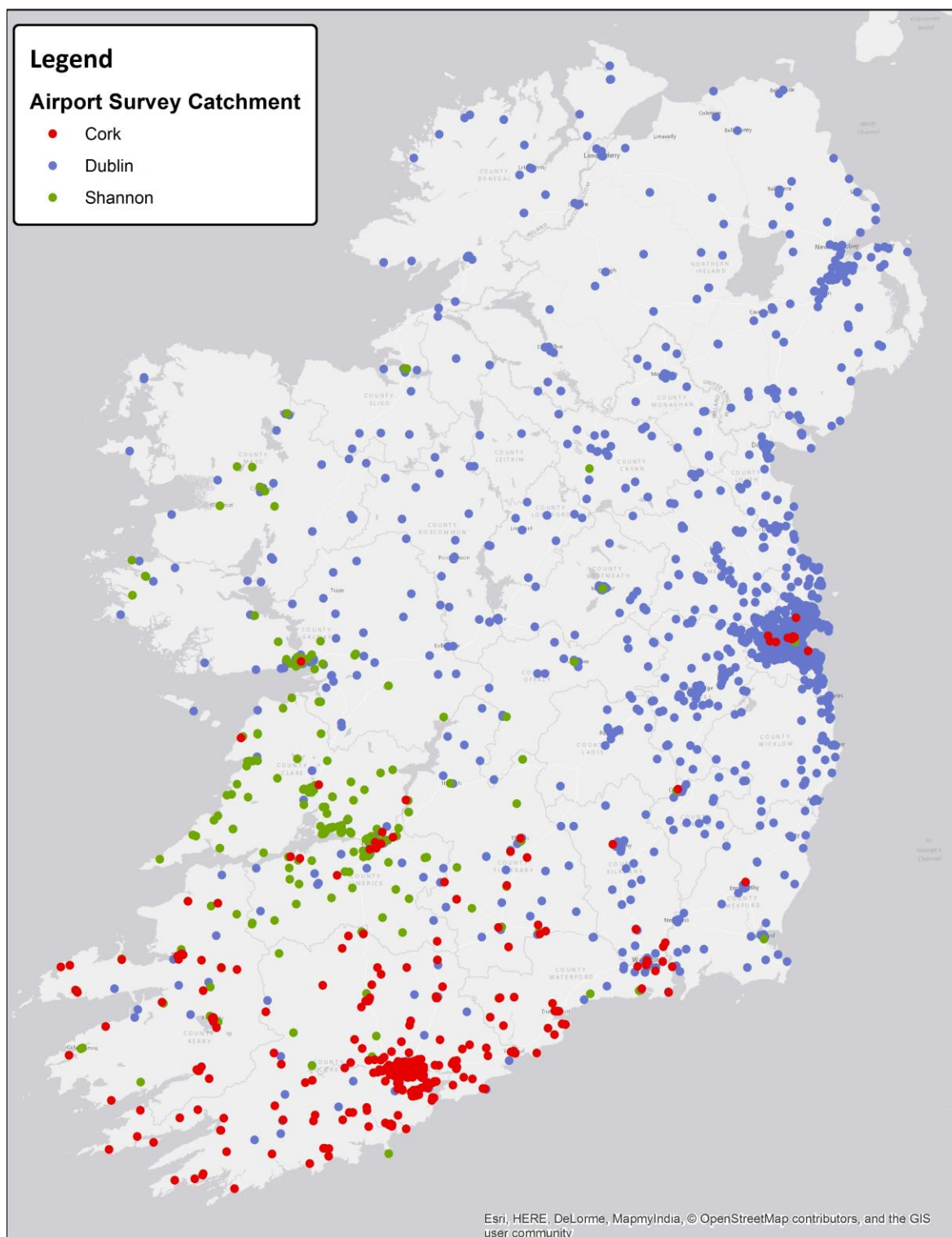
Appendix E

Trip Rates to each State Airport for Residents by County / Local Authority

(The "error bars" in the charts below indicate a 95% confidence interval for the estimated trip rate in each case).

Having collected and processed the respondent data from the State Airport Survey for 2016, the NTA has combined this information with the estimates for normally resident population from Census 2016. For residents of Northern Ireland the same exercise has been undertaken using estimates for the populations of the six counties, in order to give an all-island estimate of (a) trip-making, and (b) catchment areas for Dublin, Shannon and Cork Airports, respectively.

It may be worth re-iterating that the survey pertains to October 2016 and the charts below relate to respondents who stated thay they are / were Resident in Ireland (including either the Republic of Ireland or Northern Ireland). Note also that a fraction of respondents spent the prior night at a hotel and therefore their Origin may not quite accurately reflect their county of residence. This nuance may be dealt with in subsequent analysis and reporting by the NTA.

Residents: Population-based Average Weekday Trip Rate per 100,000 to Dublin Airport (approx)
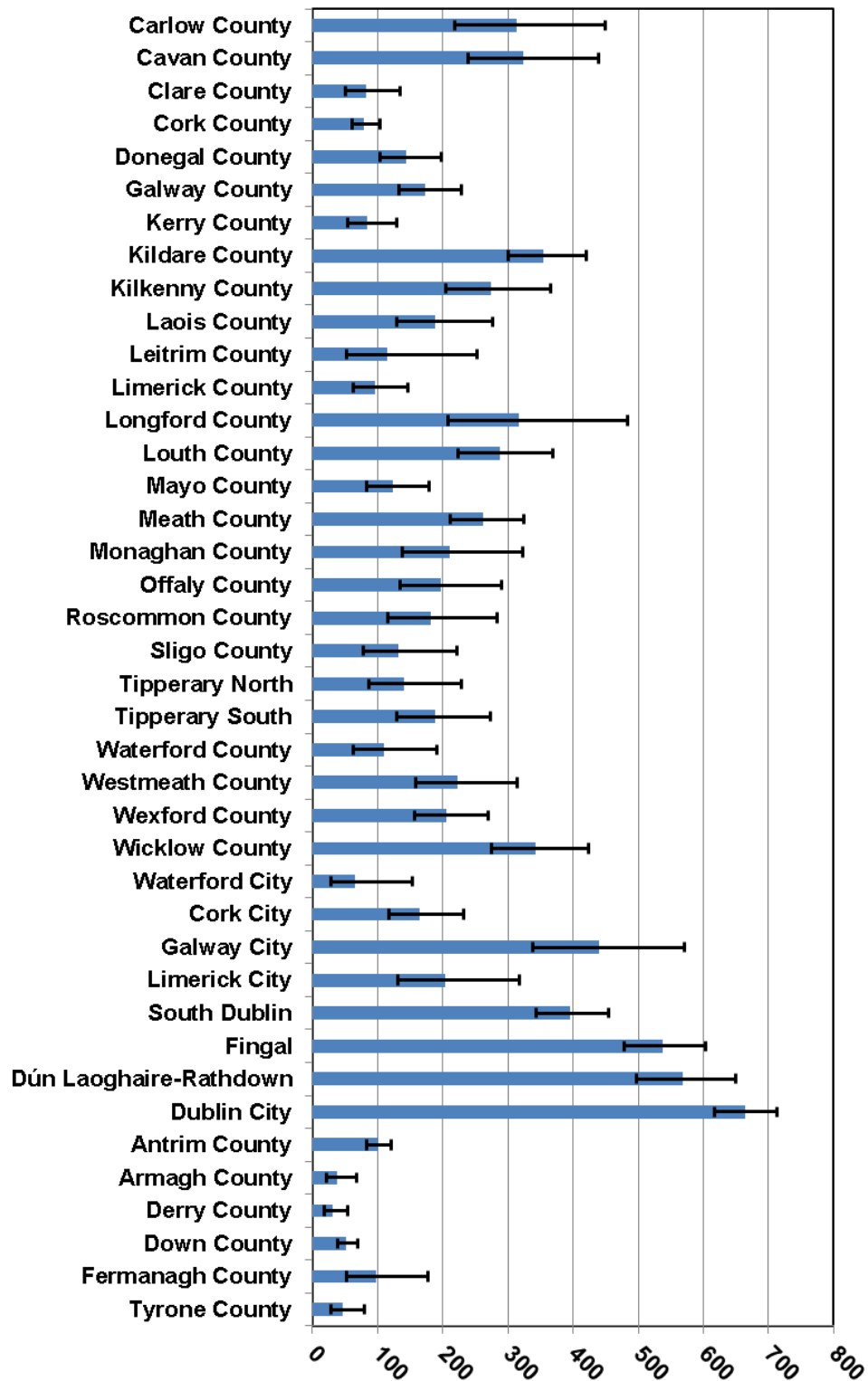
Figure R1: estimated weekday number of trips made to Dublin Airport per 100,000 of population from each county and Local Authority. The black lines indicate a 95% confidence interval for each rate, independently.

County or Local Authority	Population Estimate 2016	Raw Count of Resident Passengers	Computed Rate per 100,000 to Dublin Airport
All Island	6,576,705	2,472	231.5
			To match weekday average Resident Passengers
Tyrone County	183081.5	14	47.1
Fermanagh County	63564.3	10	96.9
Down County	546878.8	46	51.8
Derry County	254154.2	13	31.5
Armagh County	179995.9	11	37.6
Antrim County	635745.4	104	100.8
Dublin City	537,190	579	663.8
Dún Laoghaire-Rathdown	213,519	197	568.2
Fingal	292,327	255	537.3
South Dublin	276,066	177	394.9
Limerick City	57,364	19	204.0
Galway City	75,691	54	439.4
Cork City	123,019	33	165.2
Waterford City	47,079	5	65.4
Wicklow County	142,332	79	341.8
Wexford County	149,605	50	205.8
Westmeath County	88,396	32	223.0
Waterford County	67,562	12	109.4
Tipperary South	88,182	27	188.6
Tipperary North	70,123	16	140.5
Sligo County	65,357	14	131.9
Roscommon County	64,436	19	181.6
Offaly County	78,003	25	197.4
Monaghan County	61,273	21	211.1
Meath County	194,942	83	262.2
Mayo County	130,425	26	122.8
Louth County	128,375	60	287.9
Longford County	40,810	21	316.9
Limerick County	135,313	21	95.6

Leitrim County	31,972	6	115.6
Laois County	84,732	26	189.0
Kilkenny County	99,118	44	273.4
Kildare County	222,130	128	354.9
Kerry County	147,554	20	83.5
Galway County	177,215	50	173.8
Donegal County	158,755	37	143.5
Cork County	412,826	53	79.1
Clare County	118,627	16	83.1
Cavan County	76,092	40	323.8
Carlow County	56,875	29	314.0

Residents: Population-based Average Weekday Trip Rate per 100,000 to Shannon Airport (approx)
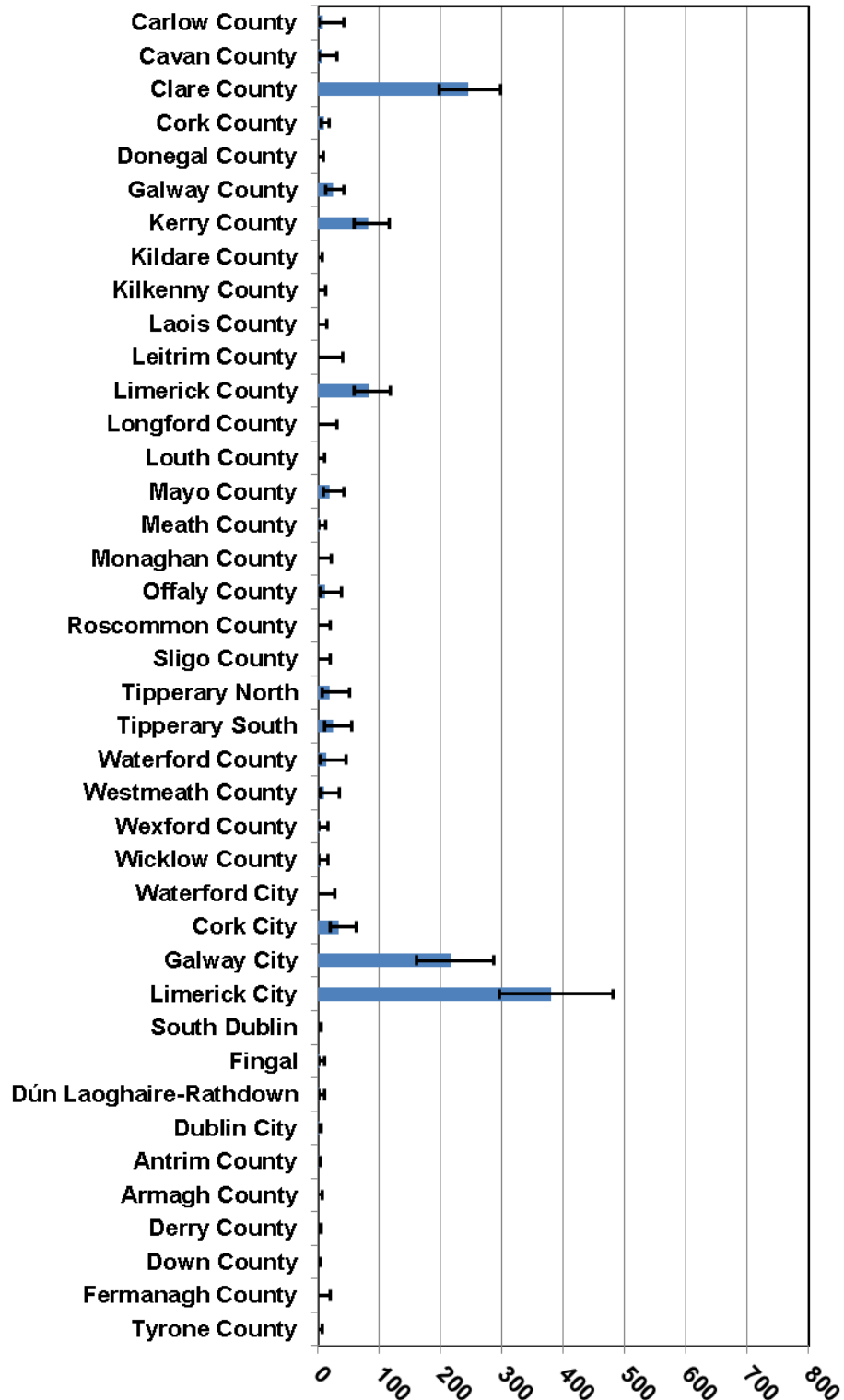
Figure R2: estimated weekday number of trips made to Shannon Airport per 100,000 of population from each county and Local Authority. The black lines indicate a 95% confidence interval for each rate, independently.

County or Local Authority	Population Estimate 2016	Raw Count of Resident Passengers	Computed Rate per 100,000 to Shannon Airport
All Island	6,576,705	275	17.5
			To match weekday average Resident Passengers
Tyrone County	183081.5	0	0.0
Fermanagh County	63564.3	0	0.0
Down County	546878.8	0	0.0
Derry County	254154.2	0	0.0
Armagh County	179995.9	0	0.0
Antrim County	635745.4	1	0.7
Dublin City	537,190	1	0.8
Dún Laoghaire-Rathdown	213,519	1	2.0
Fingal	292,327	2	2.9
South Dublin	276,066	0	0.0
Limerick City	57,364	52	379.9
Galway City	75,691	39	216.0
Cork City	123,019	10	34.1
Waterford City	47,079	0	0.0
Wicklow County	142,332	1	2.9
Wexford County	149,605	1	2.8
Westmeath County	88,396	2	9.5
Waterford County	67,562	2	12.4
Tipperary South	88,182	5	23.8
Tipperary North	70,123	3	17.9
Sligo County	65,357	0	0.0
Roscommon County	64,436	0	0.0
Offaly County	78,003	2	10.7
Monaghan County	61,273	0	0.0
Meath County	194,942	1	2.2
Mayo County	130,425	6	19.3
Louth County	128,375	0	0.0
Longford County	40,810	0	0.0
Limerick County	135,313	27	83.6

Leitrim County	31,972	0	0.0
Laois County	84,732	0	0.0
Kilkenny County	99,118	0	0.0
Kildare County	222,130	0	0.0
Kerry County	147,554	29	82.4
Galway County	177,215	10	23.7
Donegal County	158,755	0	0.0
Cork County	412,826	9	9.1
Clare County	118,627	69	243.8
Cavan County	76,092	1	5.5
Carlow County	56,875	1	7.4

Residents: Population-based Average Weekday Trip Rate per 100,000 to Cork Airport (approx)
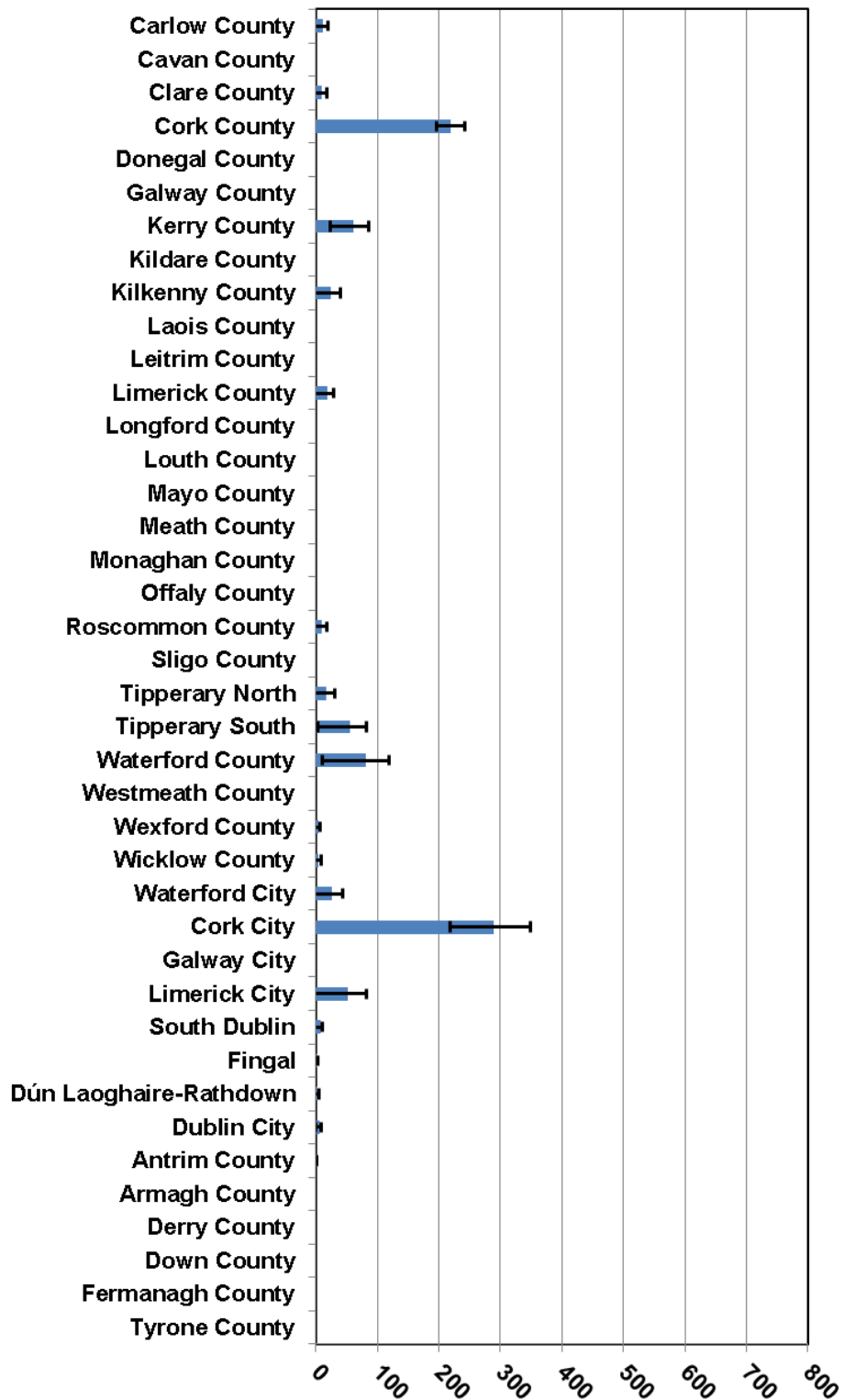
Figure R3: estimated weekday number of trips made to Cork Airport per 100,000 of population from each county and Local Authority. The black lines indicate a 95% confidence interval for each rate, independently.

County or Local Authority	Population Estimate 2016	Raw Count of Resident Passengers	Computed Rate per 100,000 to Cork Airport
All Island	6,576,705	275	25.2
			To match weekday average Resident Passengers
Tyrone County	183081.5	0	0.0
Fermanagh County	63564.3	0	0.0
Down County	546878.8	0	0.0
Derry County	254154.2	0	0.0
Armagh County	179995.9	0	0.0
Antrim County	635745.4	1	0.9
Dublin City	537,190	5	5.6
Dún Laoghaire-Rathdown	213,519	1	2.8
Fingal	292,327	1	2.1
South Dublin	276,066	3	6.5
Limerick City	57,364	5	52.5
Galway City	75,691	0	0.0
Cork City	123,019	59	288.9
Waterford City	47,079	2	25.6
Wicklow County	142,332	1	4.2
Wexford County	149,605	1	4.0
Westmeath County	88,396	0	0.0
Waterford County	67,562	9	80.2
Tipperary South	88,182	8	54.6
Tipperary North	70,123	2	17.2
Sligo County	65,357	0	0.0
Roscommon County	64,436	1	9.3
Offaly County	78,003	0	0.0
Monaghan County	61,273	0	0.0
Meath County	194,942	0	0.0
Mayo County	130,425	0	0.0
Louth County	128,375	0	0.0
Longford County	40,810	0	0.0
Limerick County	135,313	4	17.8

Leitrim County	31,972	0	0.0
Laois County	84,732	0	0.0
Kilkenny County	99,118	4	24.3
Kildare County	222,130	0	0.0
Kerry County	147,554	15	61.2
Galway County	177,215	0	0.0
Donegal County	158,755	0	0.0
Cork County	412,826	150	218.9
Clare County	118,627	2	10.2
Cavan County	76,092	0	0.0
Carlow County	56,875	1	10.6

Appendix F   Visitors' Country of Residence Breakdown

Dublin Airport (Unweighted Count)

Sorted Alphabetically	Count	%	Sorted Numerically	Count	%
Argentina	3	0.1%	USA	769	30.0%
Australia	70	2.7%	England	693	27.0%
Austria	16	0.6%	Germany	180	7.0%
Belgium	41	1.6%	Canada	133	5.2%
Brazil	13	0.5%	France	98	3.8%
Bulgaria	1	0.0%	Scotland	98	3.8%
Canada	133	5.2%	Holland	73	2.8%
China	7	0.3%	Australia	70	2.7%
Central America	3	0.1%	Spain	49	1.9%
Czech Republic	13	0.5%	Belgium	41	1.6%
Denmark	22	0.9%	Italy	36	1.4%
England	693	27.0%	Switzerland	29	1.1%
Finland	26	1.0%	Finland	26	1.0%
France	98	3.8%	Denmark	22	0.9%
Germany	180	7.0%	Sweden	16	0.6%
Greece	5	0.2%	Austria	16	0.6%
Holland	73	2.8%	Middle East	14	0.5%
Hong Kong	3	0.1%	Wales	13	0.5%
Hungary	13	0.5%	Brazil	13	0.5%
Iceland	2	0.1%	Czech Rep	13	0.5%
India	7	0.3%	Hungary	13	0.5%
Israel	4	0.2%	Portugal	10	0.4%
Italy	36	1.4%	Poland	8	0.3%
Japan	4	0.2%	Mexico	8	0.3%
Jersey	2	0.1%	Other (Unspecified)	7	0.3%
Latvia	3	0.1%	China	7	0.3%
Lithuania	3	0.1%	India	7	0.3%
Luxembourg	6	0.2%	Russia	7	0.3%
Malaysia	2	0.1%	Other Asia	6	0.2%
Mexico	8	0.3%	Romania	6	0.2%
Middle East	14	0.5%	Luxembourg	6	0.2%
New Zealand	4	0.2%	Other European	6	0.2%
Nigeria	1	0.0%	Greece	5	0.2%

Northern Ireland	4	0.2%		ROI	5	0.2%
Norway	3	0.1%		New Zealand	4	0.2%
Other (Unspecified)	7	0.3%		Japan	4	0.2%
Other Africa	2	0.1%		Northern Ireland	4	0.2%
Other Asia	6	0.2%		Israel	4	0.2%
Other European	6	0.2%		Turkey	4	0.2%
Other SA	3	0.1%		South Africa	4	0.2%
Pakistan	1	0.0%		Lithuania	3	0.1%
Philippines	2	0.1%		Norway	3	0.1%
Poland	8	0.3%		Argentina	3	0.1%
Portugal	10	0.4%		Hong Kong	3	0.1%
ROI	5	0.2%		Latvia	3	0.1%
Romania	6	0.2%		Slovakia	3	0.1%
Russia	7	0.3%		Slovenia	3	0.1%
Scotland	98	3.8%		Central America	3	0.1%
Slovakia	6	0.2%		Iceland	2	0.1%
South Africa	4	0.2%		Malaysia	2	0.1%
South Korea	1	0.0%		Jersey	2	0.1%
Spain	50	1.9%		Thailand	2	0.1%
Sweden	16	0.6%		Other Africa	2	0.1%
Switzerland	29	1.1%		Philipines	2	0.1%
Thailand	2	0.1%		Nigeria	1	0.0%
Turkey	4	0.2%		South Korea	1	0.0%
USA	769	30.0%		Bulgaria	1	0.0%
Wales	13	0.5%		Pakistan	1	0.0%

Cork Airport (Unweighted Count)

Sorted Alphabetically	Count	%
Australia	7	3.0%
Belgium	5	2.2%
Brazil	1	0.4%
Canada	5	2.2%
Central America	1	0.4%
Denmark	1	0.4%
England	125	54.1%
France	13	5.6%
Germany	9	3.9%
Holland	41	17.7%
Middle East	1	0.4%
New Zealand	1	0.4%
Norway	1	0.4%
Other (Specify)	1	0.4%
Other Asia	1	0.4%
Other European	2	0.9%
ROI	1	0.4%
Scotland	1	0.4%
South Africa	1	0.4%
South America	1	0.4%
Spain	1	0.4%
Sweden	1	0.4%
Switzerland	1	0.4%
USA	7	3.0%
Wales	3	1.3%

Shannon Airport (Unweighted Count)

Sorted Alphabetically	Count	%
Australia	6	2.4%
Belgium	1	0.4%
Canada	6	2.4%
Central America	1	0.4%
Czech Republic	1	0.4%
England	56	22.4%
Finland	1	0.4%
France	7	2.8%
Germany	16	6.4%
Greece	1	0.4%
Holland	1	0.4%
Italy	3	1.2%
Lituania	1	0.4%
Middle East	1	0.4%
Nigeria	1	0.4%
Poland	14	5.6%
Romania	1	0.4%
Scotland	9	3.6%
South Korea	1	0.4%
Spain	1	0.4%
Switzerland	2	0.8%
USA	119	47.6%

Appendix F

Weighting Dublin

Weighting was applied to survey responses by time-of-day and day-of-week.

As departing passengers were surveyed approximately uniformly and randomly through the day, then their responses should be weighted proportionately to the passenger volumes around that time of day, and also day of week, because a proportionate number of like passengers were *not* sampled.

For Dublin the weighting applied was TABLE 3 below assuming a 30 minute time-lag for interview to departure. For interest, we have included the full weighting options developed by the NTA

			Weight by Day of Week	0.2157	0.1777	0.1824	0.2016	0.2226
Sub-total Hours	744547		Total by Day:	160603	132269	135839	150115	165721
Weight by Hour	Total by Hour		Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday
0.0019	1396	0	00:00 - 00:59	320	76	747	0	253
0.0007	540	1	01:00 - 01:59	0	0	0	0	540
0.0001	92	2	02:00 - 02:59	0	0	92	0	0
0.0000	0	3	03:00 - 03:59	0	0	0	0	0
0.0000	0	4	04:00 - 04:59	0	0	0	0	0
0.0090	6736	5	05:00 - 05:59	1322	906	1164	1226	2118
0.1103	82102	6	06:00 - 06:59	17993	16104	14996	15785	17224
0.0844	62823	7	07:00 - 07:59	14289	11025	10994	13100	13415
0.0418	31148	8	08:00 - 08:59	6308	6949	4965	6284	6642
0.0605	45038	9	09:00 - 09:59	10463	7732	9141	7995	9707
0.0439	32664	10	10:00 - 10:59	6192	7538	5713	5678	7543
0.0724	53915	11	11:00 - 11:59	11310	9738	9209	11785	11873
0.0809	60202	12	12:00 - 12:59	14368	9614	11641	11282	13297
0.0645	48023	13	13:00 - 13:59	11249	8491	7204	11645	9434
0.0476	35433	14	14:00 - 14:59	6872	7318	6673	7011	7559
0.0450	33489	15	15:00 - 15:59	8709	4316	5581	6590	8293
0.0742	55209	16	16:00 - 16:59	11714	10741	10754	10300	11700
0.0867	64548	17	17:00 - 17:59	12314	11006	13183	14472	13573
0.0638	47516	18	18:00 - 18:59	10296	6788	9142	8886	12404
0.0518	38579	19	19:00 - 19:59	7585	6605	6114	8558	9717
0.0375	27904	20	20:00 - 20:59	5841	4899	5410	6100	5654
0.0145	10795	21	21:00 - 21:59	2145	1338	1863	2060	3389
0.0086	6394	22	22:00 - 22:59	1312	1085	1253	1358	1386
0.0000	1	23	23:00 - 23:59	1	0	0	0	0

Weighting Dublin: Day-of-Week, Monday = 1
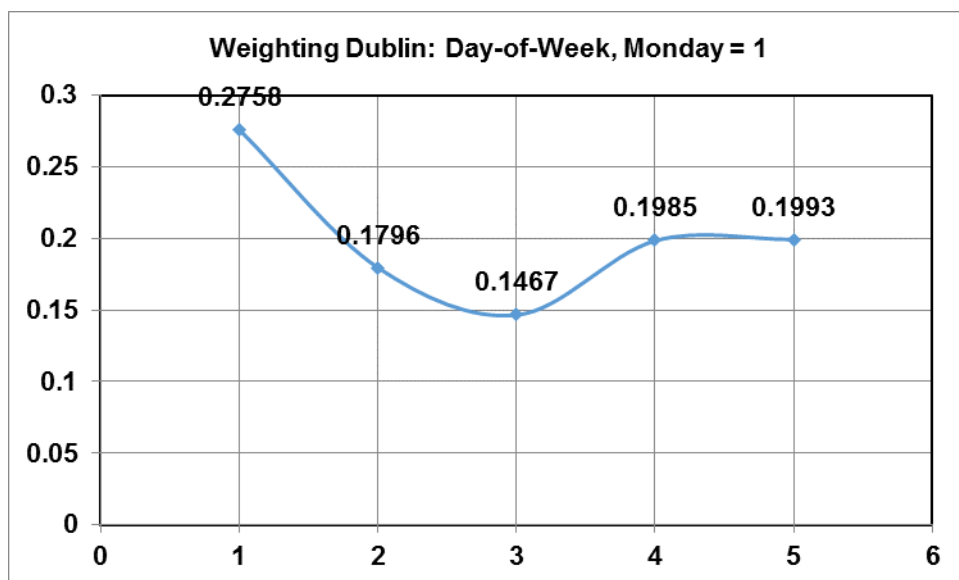
Sub-total Week-days						
744547						
Dublin Table 1						
Numerical Weightings (Raw No. Records / Total PAX)						
Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
00:00 - 00:59	0.0004	0.0001	0.0010	0.0000	0.0003	0.0019
01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0007	0.0007
02:00 - 02:59	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001
03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
05:00 - 05:59	0.0018	0.0012	0.0016	0.0016	0.0028	0.0090
06:00 - 06:59	0.0242	0.0216	0.0201	0.0212	0.0231	0.1103
07:00 - 07:59	0.0192	0.0148	0.0148	0.0176	0.0180	0.0844
08:00 - 08:59	0.0085	0.0093	0.0067	0.0084	0.0089	0.0418
09:00 - 09:59	0.0141	0.0104	0.0123	0.0107	0.0130	0.0605
10:00 - 10:59	0.0083	0.0101	0.0077	0.0076	0.0101	0.0439
11:00 - 11:59	0.0152	0.0131	0.0124	0.0158	0.0159	0.0724
12:00 - 12:59	0.0193	0.0129	0.0156	0.0152	0.0179	0.0809
13:00 - 13:59	0.0151	0.0114	0.0097	0.0156	0.0127	0.0645
14:00 - 14:59	0.0092	0.0098	0.0090	0.0094	0.0102	0.0476
15:00 - 15:59	0.0117	0.0058	0.0075	0.0089	0.0111	0.0450
16:00 - 16:59	0.0157	0.0144	0.0144	0.0138	0.0157	0.0742
17:00 - 17:59	0.0165	0.0148	0.0177	0.0194	0.0182	0.0867
18:00 - 18:59	0.0138	0.0091	0.0123	0.0119	0.0167	0.0638
19:00 - 19:59	0.0102	0.0089	0.0082	0.0115	0.0131	0.0518
20:00 - 20:59	0.0078	0.0066	0.0073	0.0082	0.0076	0.0375
21:00 - 21:59	0.0029	0.0018	0.0025	0.0028	0.0046	0.0145
22:00 - 22:59	0.0018	0.0015	0.0017	0.0018	0.0019	0.0086
23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sub-totals:	0.2157	0.1777	0.1824	0.2016	0.2226	

Weighting Dublin: Hour-of-Departure, Midnight - 1AM = 1
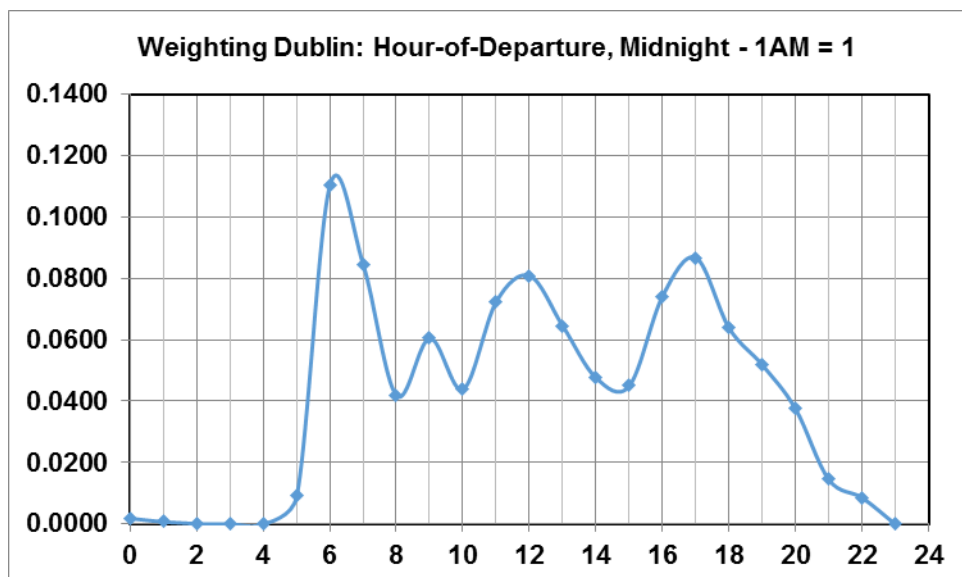
Dublin Table 2

Test using Kepler's Rule over three hours! Checking logic.

	Hour-of-Day	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total	Hours
0	00:00 - 00:59	0.0003	0.0001	0.0007	0.0000	0.0003	0.0014	
1	01:00 - 01:59	0.0001	0.0000	0.0002	0.0000	0.0005	0.0008	
2	02:00 - 02:59	0.0000	0.0000	0.0001	0.0000	0.0001	0.0002	
3	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
4	04:00 - 04:59	0.0003	0.0002	0.0003	0.0003	0.0005	0.0015	
5	05:00 - 05:59	0.0052	0.0044	0.0044	0.0046	0.0058	0.0244	
6	06:00 - 06:59	0.0196	0.0171	0.0161	0.0173	0.0189	0.0891	
7	07:00 - 07:59	0.0182	0.0150	0.0143	0.0167	0.0174	0.0816	
8	08:00 - 08:59	0.0112	0.0104	0.0090	0.0103	0.0111	0.0520	
9	09:00 - 09:59	0.0122	0.0102	0.0106	0.0098	0.0119	0.0546	
10	10:00 - 10:59	0.0104	0.0107	0.0092	0.0095	0.0116	0.0514	
11	11:00 - 11:59	0.0147	0.0126	0.0121	0.0143	0.0153	0.0691	
12	12:00 - 12:59	0.0179	0.0127	0.0141	0.0153	0.0167	0.0767	
13	13:00 - 13:59	0.0148	0.0114	0.0106	0.0145	0.0131	0.0644	
14	14:00 - 14:59	0.0106	0.0094	0.0088	0.0104	0.0107	0.0500	
15	15:00 - 15:59	0.0120	0.0079	0.0089	0.0098	0.0117	0.0503	
16	16:00 - 16:59	0.0152	0.0130	0.0138	0.0139	0.0154	0.0714	
17	17:00 - 17:59	0.0160	0.0138	0.0163	0.0173	0.0175	0.0808	
18	18:00 - 18:59	0.0137	0.0100	0.0125	0.0131	0.0163	0.0656	
19	19:00 - 19:59	0.0104	0.0085	0.0087	0.0110	0.0127	0.0514	
20	20:00 - 20:59	0.0074	0.0062	0.0066	0.0078	0.0080	0.0360	
21	21:00 - 21:59	0.0035	0.0025	0.0032	0.0035	0.0046	0.0173	
22	22:00 - 22:59	0.0017	0.0013	0.0015	0.0017	0.0020	0.0081	
23	23:00 - 23:59	0.0004	0.0003	0.0004	0.0003	0.0004	0.0017	
	Sub-totals:	0.2157	0.1777	0.1824	0.2016	0.2226	1.0000	

Weighting Dublin: Hour-of-Departure, Midnight - 1AM = 0
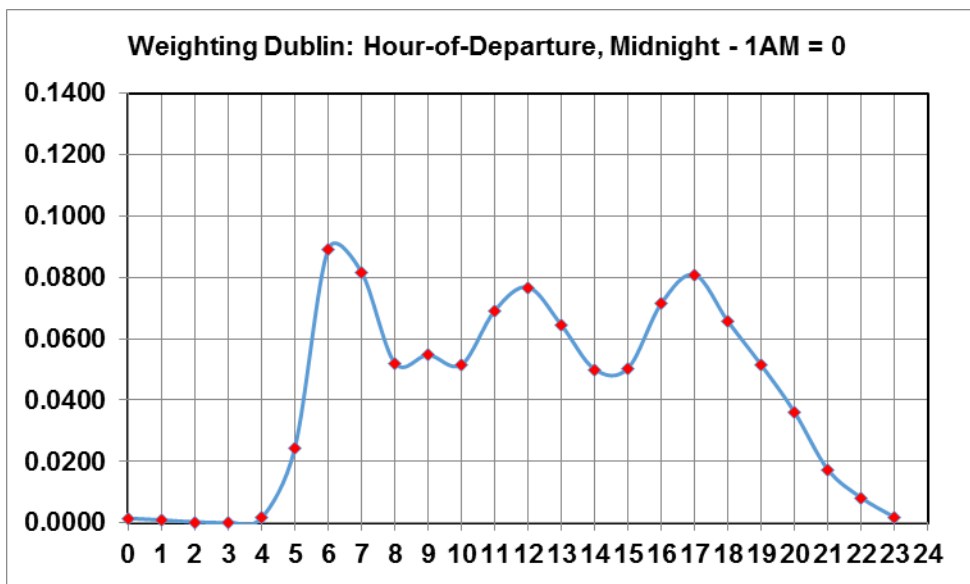
Dublin Table 3: Weights based on Time of Interview, with time-lag to departure

Count backwards time-lag from interview to flight departure

. E.g., 30 minutes - half still in this depart hour and half in next depart hour

Time-lag = -30 minutes

Interpolate using Table 2:

	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0							
1	00:00 - 00:59	0.0002	0.0000	0.0004	0.0000	0.0004	0.0011
2	01:00 - 01:59	0.0000	0.0000	0.0001	0.0000	0.0003	0.0005
3	02:00 - 02:59	0.0000	0.0000	0.0001	0.0000	0.0001	0.0001
4	03:00 - 03:59	0.0001	0.0001	0.0001	0.0001	0.0002	0.0008
5	04:00 - 04:59	0.0028	0.0023	0.0023	0.0025	0.0031	0.0130
6	05:00 - 05:59	0.0124	0.0108	0.0103	0.0110	0.0123	0.0567
7	06:00 - 06:59	0.0189	0.0161	0.0152	0.0170	0.0181	0.0853
8	07:00 - 07:59	0.0147	0.0127	0.0116	0.0135	0.0142	0.0668
9	08:00 - 08:59	0.0117	0.0103	0.0098	0.0101	0.0115	0.0533
10	09:00 - 09:59	0.0113	0.0104	0.0099	0.0097	0.0117	0.0530
11	10:00 - 10:59	0.0126	0.0116	0.0107	0.0119	0.0134	0.0602
12	11:00 - 11:59	0.0163	0.0126	0.0131	0.0148	0.0160	0.0729
13	12:00 - 12:59	0.0164	0.0120	0.0123	0.0149	0.0149	0.0706
14	13:00 - 13:59	0.0127	0.0104	0.0097	0.0124	0.0119	0.0572
15	14:00 - 14:59	0.0113	0.0087	0.0089	0.0101	0.0112	0.0501
16	15:00 - 15:59	0.0136	0.0105	0.0114	0.0119	0.0136	0.0608
17	16:00 - 16:59	0.0156	0.0134	0.0150	0.0156	0.0165	0.0761
18	17:00 - 17:59	0.0148	0.0119	0.0144	0.0152	0.0169	0.0732
19	18:00 - 18:59	0.0120	0.0093	0.0106	0.0121	0.0145	0.0585
20	19:00 - 19:59	0.0089	0.0073	0.0077	0.0094	0.0104	0.0437
21	20:00 - 20:59	0.0055	0.0044	0.0049	0.0057	0.0063	0.0267
22	21:00 - 21:59	0.0026	0.0019	0.0023	0.0026	0.0033	0.0127
23	22:00 - 22:59	0.0010	0.0008	0.0010	0.0010	0.0012	0.0049
	23:00 - 23:59	0.0003	0.0002	0.0006	0.0002	0.0004	0.0016
	Sub-totals:	0.2157	0.1777	0.1824	0.2016	0.2226	1.0000

Weighting Dublin: Hour-of-Interview, Midnight - 1AM = 0

Dublin Table 4: Weights cut-off outside 7AM to 6PM and re-normalised to 100%.
As requested by Kantar Millward Brown. For Dublin Airport this is 14 Hours.

Dublin2016			1.13059	1.12973	1.13822	1.12871	1.1419	Dublin2016 PAX weighting
No. Interviews								Sub-total Hours
0	0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	0.0000
0	1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	5	04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	6	05:00 - 05:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0968
101	7	06:00 - 06:59	0.0214	0.0181	0.0173	0.0192	0.0207	0.0758
298	8	07:00 - 07:59	0.0166	0.0144	0.0132	0.0152	0.0163	0.0605
412	9	08:00 - 08:59	0.0132	0.0116	0.0111	0.0114	0.0131	0.0601
587	10	09:00 - 09:59	0.0128	0.0118	0.0113	0.0109	0.0134	0.0683
607	11	10:00 - 10:59	0.0142	0.0131	0.0122	0.0135	0.0153	0.0827
571	12	11:00 - 11:59	0.0185	0.0143	0.0149	0.0168	0.0183	0.0800
551	13	12:00 - 12:59	0.0185	0.0136	0.0140	0.0169	0.0170	0.0648
547	14	13:00 - 13:59	0.0144	0.0118	0.0110	0.0140	0.0136	0.0568
498	15	14:00 - 14:59	0.0128	0.0098	0.0101	0.0114	0.0128	0.0690
333	16	15:00 - 15:59	0.0153	0.0118	0.0129	0.0134	0.0155	0.0863
221	17	16:00 - 16:59	0.0176	0.0152	0.0171	0.0176	0.0188	0.0830
179	18	17:00 - 17:59	0.0167	0.0134	0.0164	0.0171	0.0193	0.0664
106	19	18:00 - 18:59	0.0136	0.0105	0.0121	0.0136	0.0166	0.0496
0	20	19:00 - 19:59	0.0101	0.0083	0.0087	0.0106	0.0118	0.0000
0	21	20:00 - 20:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	22:00 - 22:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5041		23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
		Sub-totals:	0.2157	0.1777	0.1824	0.2016	0.2226	

14-Hour Weighting Dublin: Hour-of-Interview, Kepler-Averaged over PAX.
Midnight - 1AM = 0

— 14-Hour Weights, Dublin 2016   ---■--- Dublin PAX Raw, Sched Depart Time

Dublin Table 5: Weights cut-off outside 7AM to 6PM and re-normalised to 100%.

As requested by Kantar Millward Brown. For Dublin Airport this is 14 Hours.
No Survey Interviews in yellow cell either.

Dublin2016			1.13059	1.12973	1.13822	1.24746	1.1419	
No. Interviews								Dublin2016 PAX
0	0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	5	04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	6	05:00 - 05:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
101	7	06:00 - 06:59	0.0214	0.0181	0.0173	0.0000	0.0207	0.0776
298	8	07:00 - 07:59	0.0166	0.0144	0.0132	0.0169	0.0163	0.0774
412	9	08:00 - 08:59	0.0132	0.0116	0.0111	0.0126	0.0131	0.0617
587	10	09:00 - 09:59	0.0128	0.0118	0.0113	0.0121	0.0134	0.0613
607	11	10:00 - 10:59	0.0142	0.0131	0.0122	0.0149	0.0153	0.0697
571	12	11:00 - 11:59	0.0185	0.0143	0.0149	0.0185	0.0183	0.0844
551	13	12:00 - 12:59	0.0185	0.0136	0.0140	0.0186	0.0170	0.0818
547	14	13:00 - 13:59	0.0144	0.0118	0.0110	0.0155	0.0136	0.0663
498	15	14:00 - 14:59	0.0128	0.0098	0.0101	0.0126	0.0128	0.0580
333	16	15:00 - 15:59	0.0153	0.0118	0.0129	0.0148	0.0155	0.0704
221	17	16:00 - 16:59	0.0176	0.0152	0.0171	0.0195	0.0188	0.0881
179	18	17:00 - 17:59	0.0167	0.0134	0.0164	0.0189	0.0193	0.0848
106	19	18:00 - 18:59	0.0136	0.0105	0.0121	0.0151	0.0166	0.0678
0	20	19:00 - 19:59	0.0101	0.0083	0.0087	0.0118	0.0118	0.0507
0	21	20:00 - 20:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	22:00 - 22:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5041		23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Sub-totals:	0.2157	0.1777	0.1824	0.2016	0.2226	1.0000

14-Hour Weighting Dublin: Hour-of-Interview, Kepler-Averaged over PAX. Midnight - 1AM = 0

Legend: 14-Hour Weights, Dublin 2016 — Dublin PAX Raw, Sched Depart Time
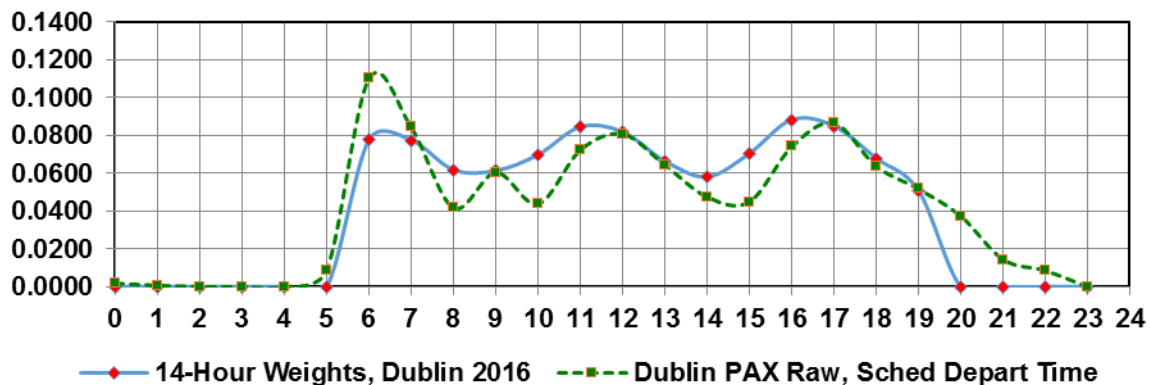
Cork Weighting

For Cork, Table 4 below was used for weighting, assuming 30 minute time-lag from interview to departure. Weighted for 13-Hour Survey and zero outside 7AM to 8PM at Cork.

For interest, the rest of the weight options have been included below

			Weight by Day of Week	0.2758	0.1796	0.1467	0.1985	0.1993
Sub-total Hours	47245		Total by Day:	13032	8486	6931	9378	9418
Weight by Hour	Total by Hour		Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday
0.0000	0	0	00:00 - 00:59	0	0	0	0	0
0.0000	0	1	01:00 - 01:59	0	0	0	0	0
0.0000	0	2	02:00 - 02:59	0	0	0	0	0
0.0000	0	3	03:00 - 03:59	0	0	0	0	0
0.0000	0	4	04:00 - 04:59	0	0	0	0	0
0.0420	1986	5	05:00 - 05:59	600	326	308	339	413
0.1738	8209	6	06:00 - 06:59	2260	1602	1455	1145	1747
0.1007	4757	7	07:00 - 07:59	1077	759	692	1251	978
0.0000	0	8	08:00 - 08:59	0	0	0	0	0
0.0000	0	9	09:00 - 09:59	0	0	0	0	0
0.1069	5050	10	10:00 - 10:59	1455	1007	384	1078	1126
0.0716	3382	11	11:00 - 11:59	846	552	804	567	613
0.0563	2659	12	12:00 - 12:59	1043	313	239	283	781
0.0319	1506	13	13:00 - 13:59	699	0	275	0	532
0.1153	5449	14	14:00 - 14:59	936	1610	406	1800	697
0.0598	2825	15	15:00 - 15:59	1110	182	563	606	364
0.0513	2426	16	16:00 - 16:59	650	443	429	442	462
0.0693	3276	17	17:00 - 17:59	656	920	346	894	460
0.0789	3727	18	18:00 - 18:59	951	565	925	597	689
0.0078	369	19	19:00 - 19:59	186	0	0	0	183
0.0320	1513	20	20:00 - 20:59	563	96	105	376	373
0.0000	0	21	21:00 - 21:59	0	0	0	0	0
0.0023	111	22	22:00 - 22:59	0	111	0	0	0
0.0000	0	23	23:00 - 23:59	0	0	0	0	0
			Total by Day:	13032	8486	6931	9378	9418
			Weight by Day of Week	0.2758	0.1796	0.1467	0.1985	0.1993

Weighting Cork: Day-of-Week, Monday = 1
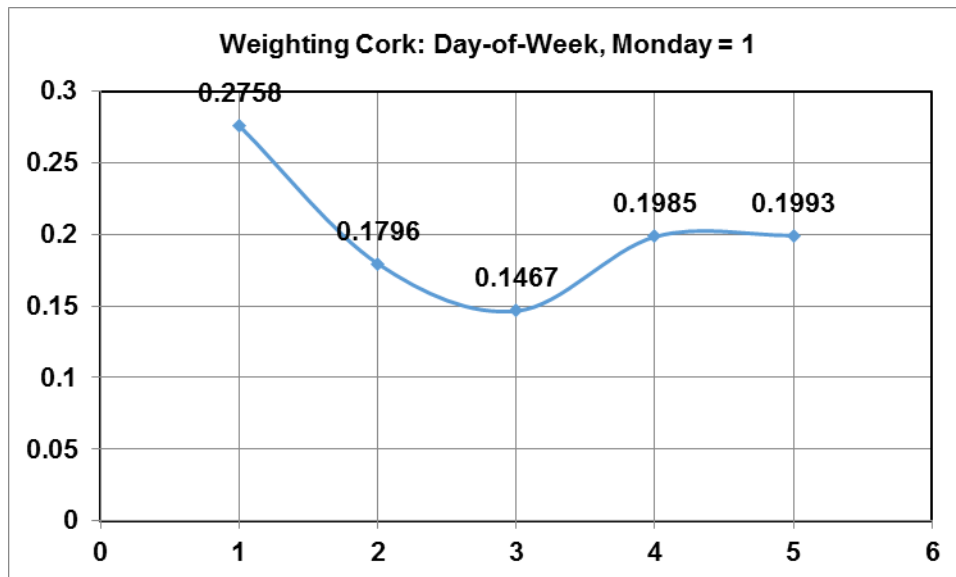
Numerical Weightings (Raw No. Records / Total PAX)

Sub-total Week-days

47245

Numerical Weightings (Raw No. Records / Total PAX)

Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
05:00 - 05:59	0.0127	0.0069	0.0065	0.0072	0.0087	0.0420
06:00 - 06:59	0.0478	0.0339	0.0308	0.0242	0.0370	0.1738
07:00 - 07:59	0.0228	0.0161	0.0146	0.0265	0.0207	0.1007
08:00 - 08:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
09:00 - 09:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10:00 - 10:59	0.0308	0.0213	0.0081	0.0228	0.0238	0.1069
11:00 - 11:59	0.0179	0.0117	0.0170	0.0120	0.0130	0.0716
12:00 - 12:59	0.0221	0.0066	0.0051	0.0060	0.0165	0.0563
13:00 - 13:59	0.0148	0.0000	0.0058	0.0000	0.0113	0.0319
14:00 - 14:59	0.0198	0.0341	0.0086	0.0381	0.0148	0.1153
15:00 - 15:59	0.0235	0.0039	0.0119	0.0128	0.0077	0.0598
16:00 - 16:59	0.0138	0.0094	0.0091	0.0094	0.0098	0.0513
17:00 - 17:59	0.0139	0.0195	0.0073	0.0189	0.0097	0.0693
18:00 - 18:59	0.0201	0.0120	0.0196	0.0126	0.0146	0.0789
19:00 - 19:59	0.0039	0.0000	0.0000	0.0000	0.0039	0.0078
20:00 - 20:59	0.0119	0.0020	0.0022	0.0080	0.0079	0.0320
21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22:00 - 22:59	0.0000	0.0023	0.0000	0.0000	0.0000	0.0023
23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sub-totals:	0.2758	0.1796	0.1467	0.1985	0.1993	1.0000

Weighting Cork: Hour-of-Departure, Midnight - 1AM = 1
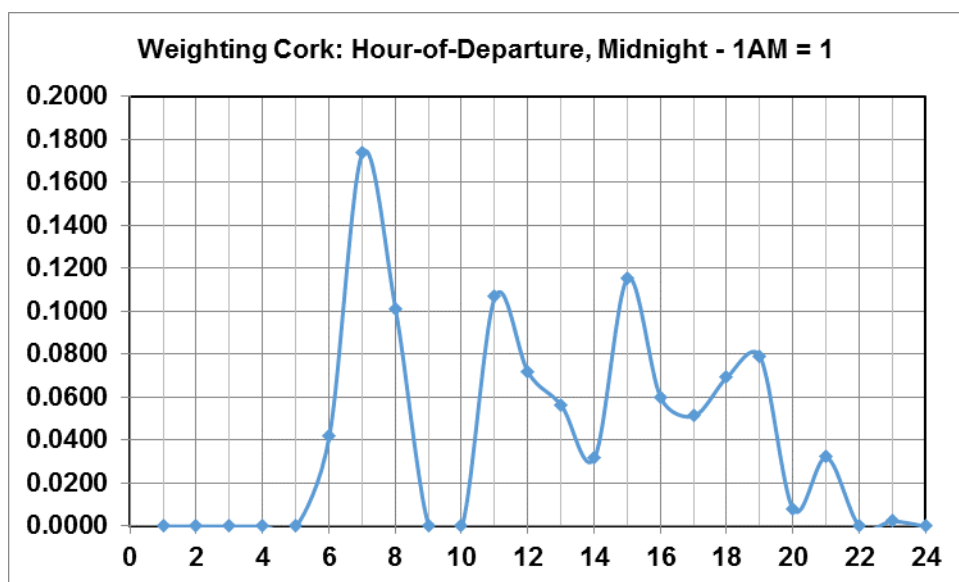
Cork Table 2

Averaged using Kepler's Rule over three hours. (Need to check logic).

Problem b/c at Cork Airport there appear to be zero sched departs from 8AM to 10AM.

	Hour-of-Day	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	04:00 - 04:59	0.0021	0.0012	0.0011	0.0012	0.0015	0.0070
5	05:00 - 05:59	0.0164	0.0103	0.0095	0.0088	0.0120	0.0570
6	06:00 - 06:59	0.0378	0.0264	0.0241	0.0218	0.0296	0.1396
7	07:00 - 07:59	0.0232	0.0164	0.0149	0.0217	0.0200	0.0961
8	08:00 - 08:59	0.0038	0.0027	0.0024	0.0044	0.0035	0.0168
9	09:00 - 09:59	0.0051	0.0036	0.0014	0.0038	0.0040	0.0178
10	10:00 - 10:59	0.0235	0.0162	0.0083	0.0172	0.0181	0.0832
11	11:00 - 11:59	0.0207	0.0124	0.0135	0.0128	0.0154	0.0749
12	12:00 - 12:59	0.0202	0.0064	0.0072	0.0060	0.0151	0.0548
13	13:00 - 13:59	0.0168	0.0068	0.0062	0.0073	0.0127	0.0499
14	14:00 - 14:59	0.0196	0.0234	0.0087	0.0275	0.0130	0.0922
15	15:00 - 15:59	0.0213	0.0098	0.0109	0.0165	0.0092	0.0676
16	16:00 - 16:59	0.0154	0.0101	0.0093	0.0115	0.0094	0.0558
17	17:00 - 17:59	0.0149	0.0165	0.0097	0.0163	0.0106	0.0679
18	18:00 - 18:59	0.0164	0.0112	0.0143	0.0116	0.0120	0.0654
19	19:00 - 19:59	0.0080	0.0023	0.0036	0.0034	0.0063	0.0237
20	20:00 - 20:59	0.0086	0.0014	0.0015	0.0053	0.0059	0.0227
21	21:00 - 21:59	0.0020	0.0007	0.0004	0.0013	0.0013	0.0057
22	22:00 - 22:59	0.0000	0.0016	0.0000	0.0000	0.0000	0.0016
23	23:00 - 23:59	0.0000	0.0004	0.0000	0.0000	0.0000	0.0004
	Sub-totals:	0.2758	0.1796	0.1467	0.1985	0.1993	1.0000

Weighting Cork: Hour-of-Departure, Midnight - 1AM = 0

Cork Table 3: Weights based on Time of Interview, with time-lag to departure
Count backwards time-lag from interview to flight departure.
E.g., 30 minutes - half still in this depart hour and half in next depart hour
Time-lag =   -30 minutes
Interpolate using Table 2:

0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	03:00 - 03:59	0.0011	0.0006	0.0005	0.0006	0.0007	0.0035
5	04:00 - 04:59	0.0093	0.0057	0.0053	0.0050	0.0067	0.0320
6	05:00 - 05:59	0.0271	0.0183	0.0168	0.0153	0.0208	0.0983
7	06:00 - 06:59	0.0305	0.0214	0.0195	0.0217	0.0248	0.1179
8	07:00 - 07:59	0.0135	0.0095	0.0087	0.0131	0.0117	0.0564
9	08:00 - 08:59	0.0045	0.0031	0.0019	0.0041	0.0037	0.0173
10	09:00 - 09:59	0.0143	0.0099	0.0048	0.0105	0.0110	0.0505
11	10:00 - 10:59	0.0221	0.0143	0.0109	0.0150	0.0167	0.0791
12	11:00 - 11:59	0.0205	0.0094	0.0104	0.0094	0.0152	0.0648
13	12:00 - 12:59	0.0185	0.0066	0.0067	0.0067	0.0139	0.0523
14	13:00 - 13:59	0.0182	0.0151	0.0074	0.0174	0.0129	0.0710
15	14:00 - 14:59	0.0204	0.0166	0.0098	0.0220	0.0111	0.0799
16	15:00 - 15:59	0.0183	0.0100	0.0101	0.0140	0.0093	0.0617
17	16:00 - 16:59	0.0152	0.0133	0.0095	0.0139	0.0100	0.0618
18	17:00 - 17:59	0.0156	0.0139	0.0120	0.0139	0.0113	0.0667
19	18:00 - 18:59	0.0122	0.0068	0.0090	0.0075	0.0092	0.0446
20	19:00 - 19:59	0.0083	0.0018	0.0026	0.0044	0.0061	0.0232
21	20:00 - 20:59	0.0053	0.0010	0.0009	0.0033	0.0036	0.0142
22	21:00 - 21:59	0.0010	0.0011	0.0002	0.0007	0.0007	0.0036
23	22:00 - 22:59	0.0000	0.0010	0.0000	0.0000	0.0000	0.0010
	23:00 - 23:59	0.0000	0.0002	0.0000	0.0000	0.0000	0.0002
	Sub-totals:	0.2758	0.1796	0.1467	0.1985	0.1993	1.0000

Weighting Cork: Hour-of-Interview, Midnight - 1AM = 0
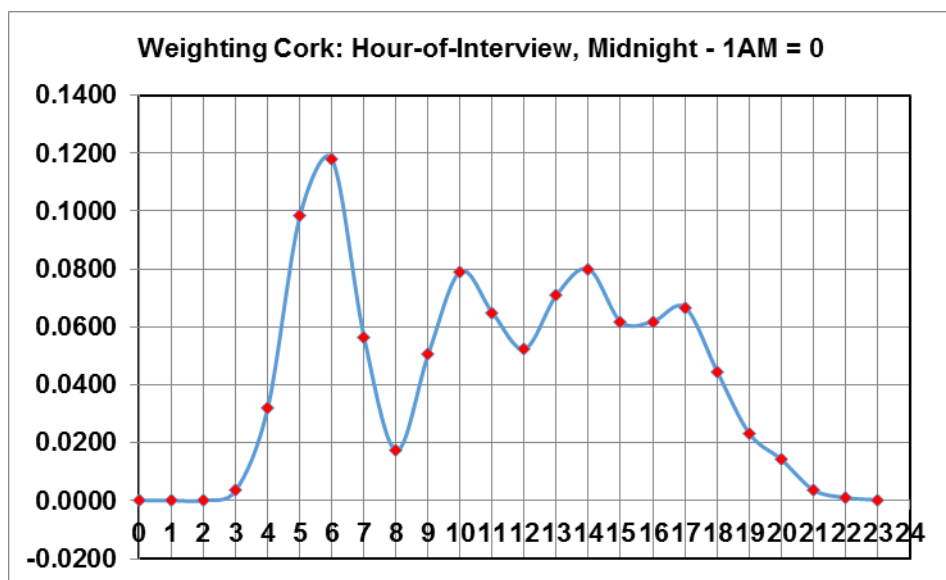
Cork Table 4: Weights cut-off outside 7AM to 8PM and re-normalised to 100%.
As requested by Kantar Millward Brown. For Cork Airport this is 13 Hours.

Cork2016			1.36821	1.37916	1.41717	1.30687	1.40298	
No. Interviews								
0	0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	5	04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	6	05:00 - 05:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	7	06:00 - 06:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	8	07:00 - 07:59	0.0184	0.0131	0.0123	0.0171	0.0164	0.0773
39	9	08:00 - 08:59	0.0061	0.0043	0.0027	0.0054	0.0052	0.0237
46	10	09:00 - 09:59	0.0196	0.0136	0.0068	0.0137	0.0154	0.0692
53	11	10:00 - 10:59	0.0303	0.0197	0.0154	0.0196	0.0234	0.1085
54	12	11:00 - 11:59	0.0280	0.0130	0.0147	0.0123	0.0214	0.0893
61	13	12:00 - 12:59	0.0253	0.0091	0.0094	0.0087	0.0195	0.0720
85	14	13:00 - 13:59	0.0249	0.0208	0.0105	0.0228	0.0180	0.0971
57	15	14:00 - 14:59	0.0279	0.0229	0.0139	0.0287	0.0156	0.1090
47	16	15:00 - 15:59	0.0251	0.0138	0.0143	0.0183	0.0131	0.0845
34	17	16:00 - 16:59	0.0207	0.0184	0.0134	0.0182	0.0140	0.0847
9	18	17:00 - 17:59	0.0214	0.0191	0.0170	0.0182	0.0158	0.0915
2	19	18:00 - 18:59	0.0167	0.0093	0.0127	0.0098	0.0129	0.0614
0	20	19:00 - 19:59	0.0113	0.0025	0.0036	0.0057	0.0086	0.0318
0	21	20:00 - 20:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	22:00 - 22:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
506		23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Sub-totals:	0.2758	0.1796	0.1467	0.1985	0.1993	1.0000

13-Hour Weighting Cork: Hour-of-Interview, Midnight - 1AM = 0

13-Hour Weighting Cork: Hour-of-Interview, Kepler-Averaged over PAX. Midnight - 1AM = 0

13-Hour Weights, Cork 2016 — Cork PAX Raw, Sched Depart Time
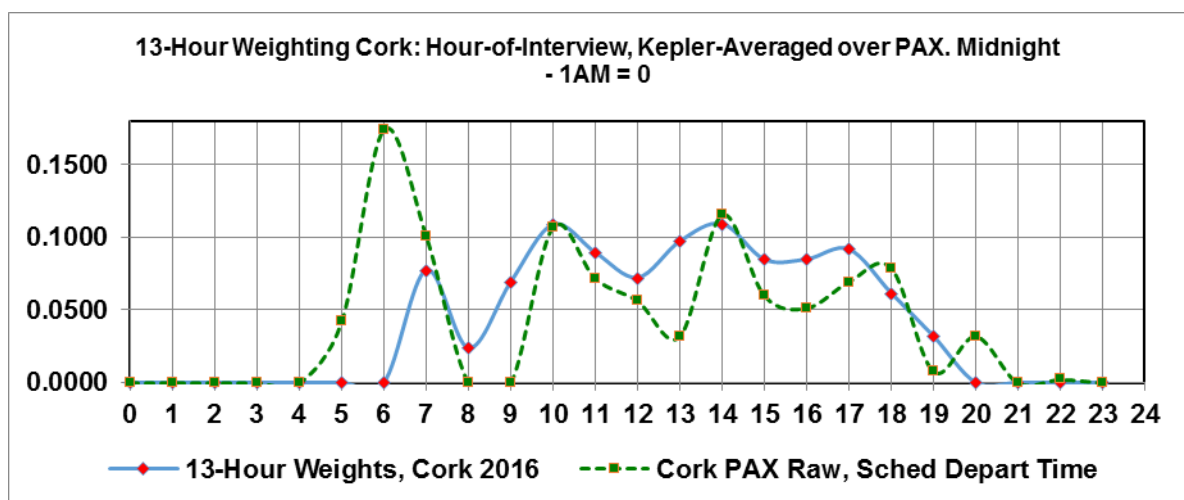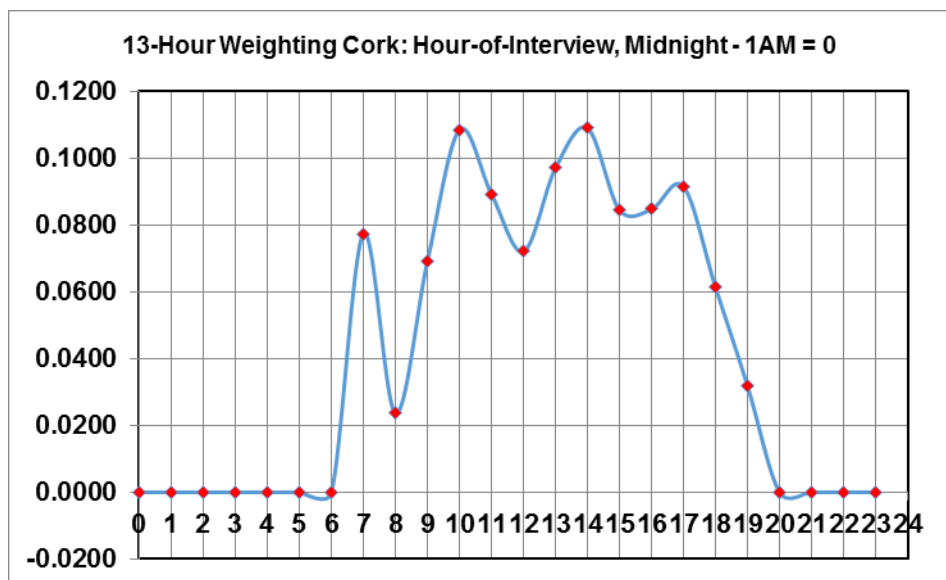
Cork Table 5: Weights cut-off outside 7AM to 8PM and re-normalised to 100%.

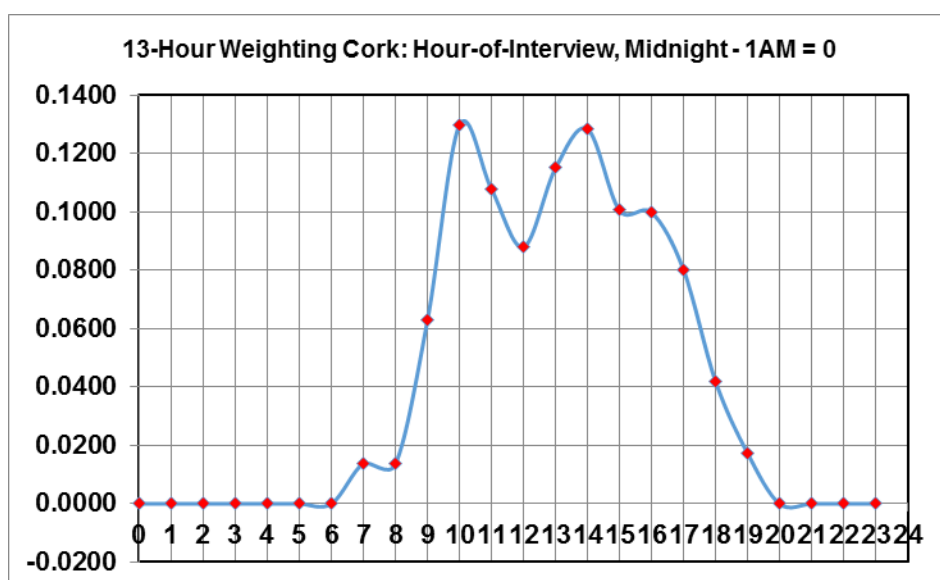As requested by Kantar Millward Brown. For Cork Airport this is 13 Hours.

No Survey Interviews in yellow cell either.

Cork2016			1.77013	1.45485	1.58956	1.47619	1.81987	
No. Interviews								
0	0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	5	04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	6	05:00 - 05:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	7	06:00 - 06:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	8	07:00 - 07:59	0.0000	0.0138	0.0000	0.0000	0.0000	0.0138
39	9	08:00 - 08:59	0.0000	0.0045	0.0030	0.0061	0.0000	0.0136
46	10	09:00 - 09:59	0.0254	0.0143	0.0076	0.0155	0.0000	0.0628
53	11	10:00 - 10:59	0.0392	0.0208	0.0173	0.0222	0.0304	0.1299
54	12	11:00 - 11:59	0.0362	0.0137	0.0165	0.0139	0.0277	0.1079
61	13	12:00 - 12:59	0.0328	0.0096	0.0106	0.0098	0.0253	0.0880
85	14	13:00 - 13:59	0.0322	0.0219	0.0118	0.0257	0.0234	0.1151
57	15	14:00 - 14:59	0.0362	0.0241	0.0156	0.0325	0.0202	0.1285
47	16	15:00 - 15:59	0.0324	0.0145	0.0160	0.0207	0.0170	0.1006
34	17	16:00 - 16:59	0.0268	0.0194	0.0150	0.0205	0.0182	0.1000
9	18	17:00 - 17:59	0.0000	0.0202	0.0190	0.0206	0.0205	0.0803
2	19	18:00 - 18:59	0.0000	0.0000	0.0142	0.0111	0.0167	0.0420
0	20	19:00 - 19:59	0.0147	0.0027	0.0000	0.0000	0.0000	0.0173
0	21	20:00 - 20:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	22:00 - 22:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
506		23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Sub-totals:	0.2758	0.1796	0.1467	0.1985	0.1993	1.0000

13-Hour Weighting Cork: Hour-of-Interview, Midnight - 1AM = 0

13-Hour Weighting Cork: Hour-of-Interview, Kepler-Averaged over PAX. Midnight - 1AM = 0

Legend: 13-Hour Weights, Cork 2016 — Cork PAX Raw, Sched Depart Time
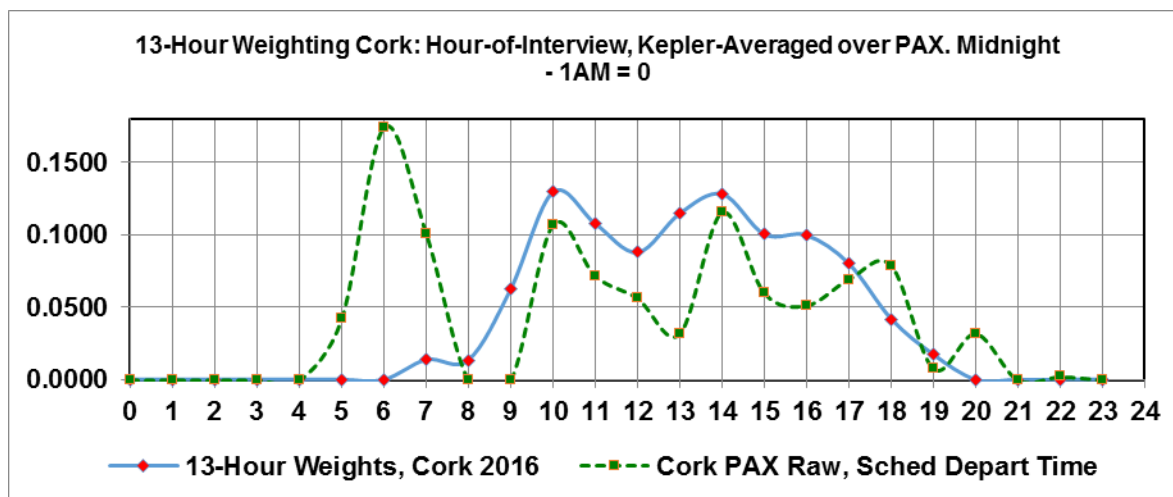
Shannon Weighting

For Shannon, Table 4 below was used for weighting, assuming 30 minute time-lag from interview to departure. Weighted for 11-Hour Survey and zero outside 7AM to 6PM at Shannon.

For interest, the rest of the weight options have been included below

			Weight by Day of Week	0.2261	0.1566	0.1790	0.1875	0.2508
Sub-total Hours	35207		Total by Day:	7961	5513	6302	6600	8831
Weight by Hour	Total by Hour		Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday
0.0000	0		00:00 - 00:59	0	0	0	0	0
0.0001	2		01:00 - 01:59	0	0	0	0	2
0.0084	296		02:00 - 02:59	0	149	0	147	0
0.0147	516		03:00 - 03:59	200	0	146	3	167
0.0115	406		04:00 - 04:59	63	190	153	0	0
0.0001	5		05:00 - 05:59	0	5	0	0	0
0.0085	301		06:00 - 06:59	0	89	202	0	10
0.1061	3737		07:00 - 07:59	967	799	306	678	987
0.1046	3682		08:00 - 08:59	823	549	1139	742	429
0.0186	655		09:00 - 09:59	0	0	0	167	488
0.0429	1509		10:00 - 10:59	548	234	533	4	190
0.1672	5888		11:00 - 11:59	1159	1135	966	966	1662
0.0767	2701		12:00 - 12:59	564	332	404	354	1047
0.0497	1751		13:00 - 13:59	510	136	111	563	431
0.0078	273		14:00 - 14:59	6	79	98	40	50
0.0259	911		15:00 - 15:59	1	0	4	556	350
0.0382	1344		16:00 - 16:59	685	0	98	0	561
0.1382	4866		17:00 - 17:59	1016	666	852	1116	1216
0.1018	3583		18:00 - 18:59	789	528	924	796	546
0.0219	771		19:00 - 19:59	102	146	86	98	339
0.0034	120		20:00 - 20:59	0	110	10	0	0
0.0203	716		21:00 - 21:59	0	133	87	370	126
0.0333	1174		22:00 - 22:59	528	233	183	0	230
0.0000	0		23:00 - 23:59	0	0	0	0	0
			Total by Day:	7961	5513	6302	6600	8831
			Weight by Day of Week	0.2261	0.1566	0.1790	0.1875	0.2508

Weighting Shannon: Day-of-Week, Monday = 1
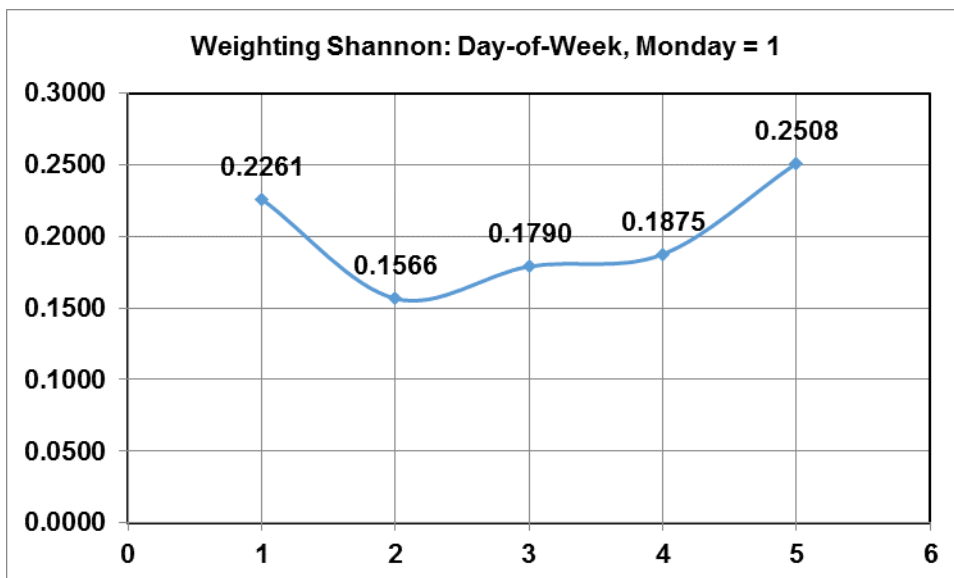
Sub-total Week-days						
35207						

Numerical Weightings (Raw No. Records / Total PAX)

Hour-ofDay	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001
02:00 - 02:59	0.0000	0.0042	0.0000	0.0042	0.0000	0.0084
03:00 - 03:59	0.0057	0.0000	0.0041	0.0001	0.0047	0.0147
04:00 - 04:59	0.0018	0.0054	0.0043	0.0000	0.0000	0.0115
05:00 - 05:59	0.0000	0.0001	0.0000	0.0000	0.0000	0.0001
06:00 - 06:59	0.0000	0.0025	0.0057	0.0000	0.0003	0.0085
07:00 - 07:59	0.0275	0.0227	0.0087	0.0193	0.0280	0.1061
08:00 - 08:59	0.0234	0.0156	0.0324	0.0211	0.0122	0.1046
09:00 - 09:59	0.0000	0.0000	0.0000	0.0047	0.0139	0.0186
10:00 - 10:59	0.0156	0.0066	0.0151	0.0001	0.0054	0.0429
11:00 - 11:59	0.0329	0.0322	0.0274	0.0274	0.0472	0.1672
12:00 - 12:59	0.0160	0.0094	0.0115	0.0101	0.0297	0.0767
13:00 - 13:59	0.0145	0.0039	0.0032	0.0160	0.0122	0.0497
14:00 - 14:59	0.0002	0.0022	0.0028	0.0011	0.0014	0.0078
15:00 - 15:59	0.0000	0.0000	0.0001	0.0158	0.0099	0.0259
16:00 - 16:59	0.0195	0.0000	0.0028	0.0000	0.0159	0.0382
17:00 - 17:59	0.0289	0.0189	0.0242	0.0317	0.0345	0.1382
18:00 - 18:59	0.0224	0.0150	0.0262	0.0226	0.0155	0.1018
19:00 - 19:59	0.0029	0.0041	0.0024	0.0028	0.0096	0.0219
20:00 - 20:59	0.0000	0.0031	0.0003	0.0000	0.0000	0.0034
21:00 - 21:59	0.0000	0.0038	0.0025	0.0105	0.0036	0.0203
22:00 - 22:59	0.0150	0.0066	0.0052	0.0000	0.0065	0.0333
23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sub-totals:	0.2261	0.1566	0.1790	0.1875	0.2508	1.0000

Weighting Shannon: Hour-of-Departure, Midnight - 1AM = 1
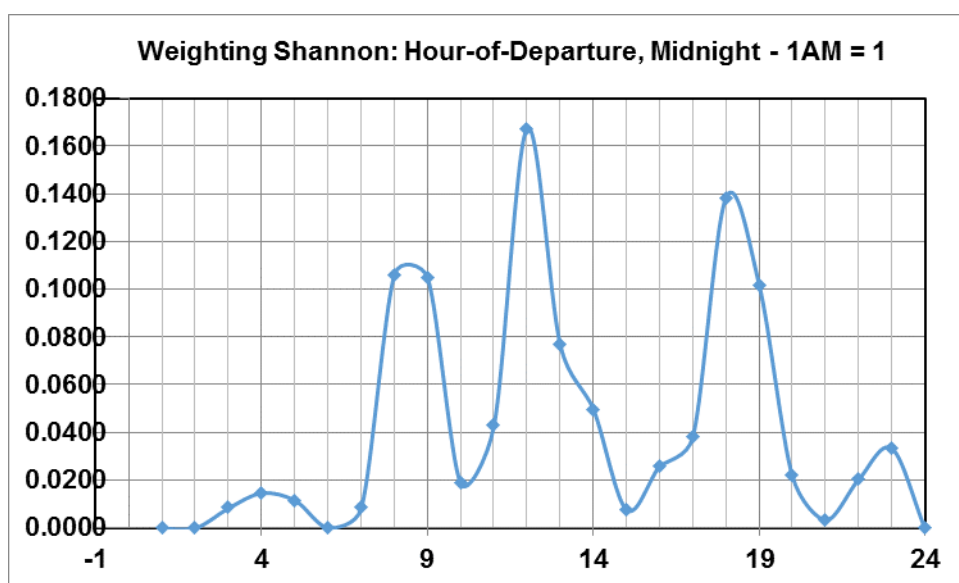
	Hour-of-Day	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	01:00 - 01:59	0.0000	0.0007	0.0000	0.0007	0.0000	0.0014
2	02:00 - 02:59	0.0009	0.0028	0.0007	0.0028	0.0008	0.0081
3	03:00 - 03:59	0.0041	0.0016	0.0035	0.0008	0.0032	0.0131
4	04:00 - 04:59	0.0021	0.0036	0.0036	0.0000	0.0008	0.0102
5	05:00 - 05:59	0.0003	0.0014	0.0017	0.0000	0.0000	0.0034
6	06:00 - 06:59	0.0046	0.0055	0.0053	0.0032	0.0049	0.0234
7	07:00 - 07:59	0.0222	0.0181	0.0121	0.0164	0.0208	0.0896
8	08:00 - 08:59	0.0202	0.0142	0.0230	0.0181	0.0151	0.0905
9	09:00 - 09:59	0.0065	0.0037	0.0079	0.0067	0.0122	0.0370
10	10:00 - 10:59	0.0159	0.0098	0.0147	0.0054	0.0138	0.0595
11	11:00 - 11:59	0.0272	0.0242	0.0227	0.0200	0.0373	0.1314
12	12:00 - 12:59	0.0186	0.0123	0.0127	0.0139	0.0297	0.0873
13	13:00 - 13:59	0.0124	0.0045	0.0045	0.0125	0.0134	0.0472
14	14:00 - 14:59	0.0025	0.0021	0.0024	0.0061	0.0046	0.0178
15	15:00 - 15:59	0.0033	0.0004	0.0010	0.0107	0.0095	0.0249
16	16:00 - 16:59	0.0178	0.0032	0.0059	0.0079	0.0180	0.0528
17	17:00 - 17:59	0.0262	0.0151	0.0210	0.0249	0.0283	0.1155
18	18:00 - 18:59	0.0202	0.0138	0.0219	0.0208	0.0177	0.0945
19	19:00 - 19:59	0.0057	0.0058	0.0060	0.0056	0.0090	0.0321
20	20:00 - 20:59	0.0005	0.0034	0.0010	0.0022	0.0022	0.0093
21	21:00 - 21:59	0.0025	0.0041	0.0026	0.0070	0.0035	0.0197
22	22:00 - 22:59	0.0100	0.0050	0.0039	0.0018	0.0050	0.0256
23	23:00 - 23:59	0.0025	0.0011	0.0009	0.0000	0.0011	0.0056
	Sub-totals:	0.2261	0.1566	0.1790	0.1875	0.2508	1.0000

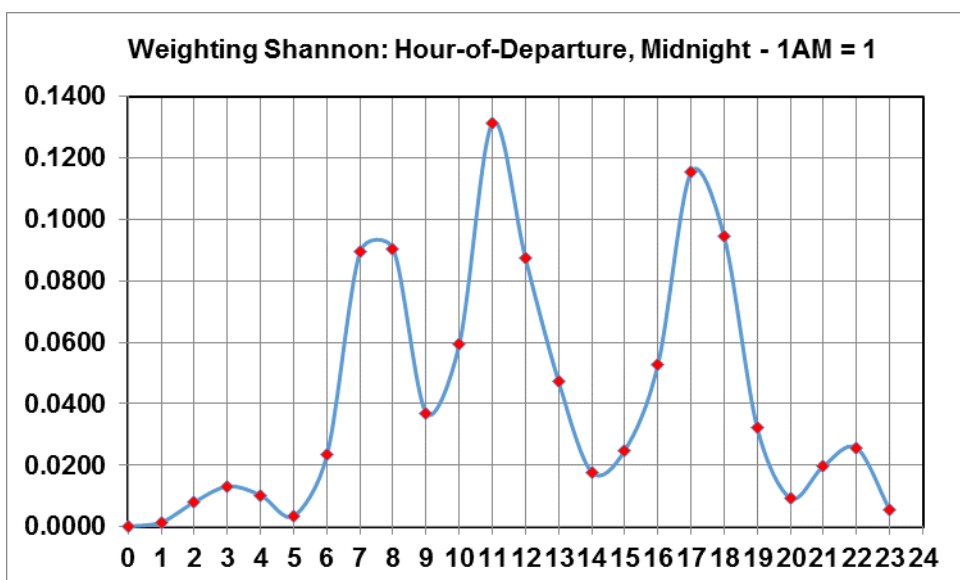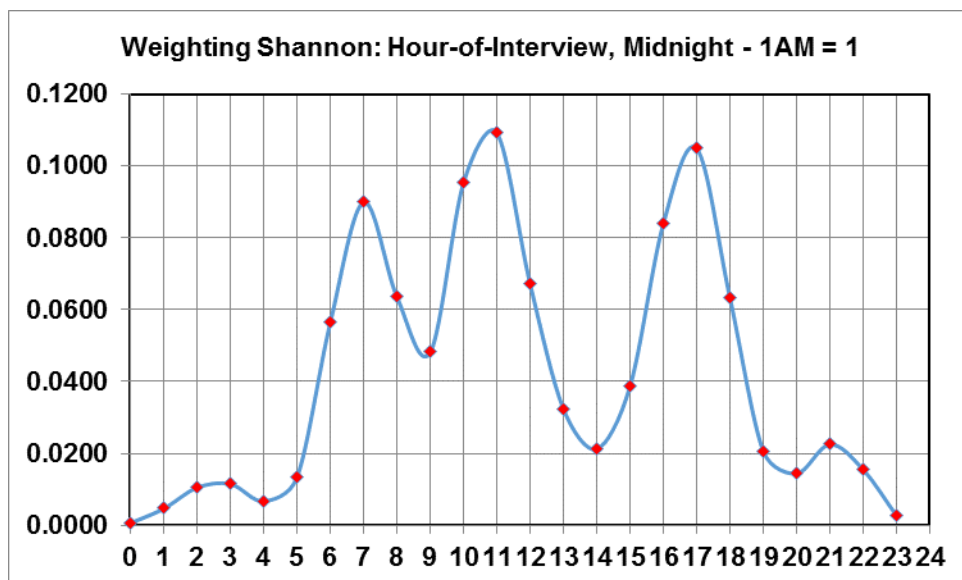Weighting Shannon: Hour-of-Departure, Midnight - 1AM = 1

Table 3: Weights based on Time of Interview, with time-lag to departure

Count backwards time-lag from interview to flight departure.

E.g., 30 minutes - half still in this depart hour and half in next depart hour

Time-lag = -30 minutes
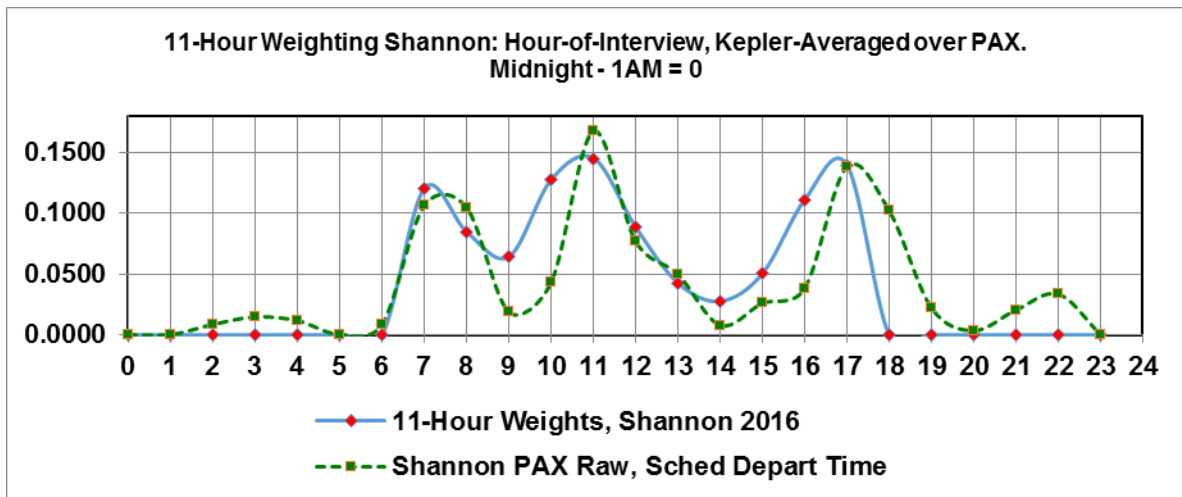
Interpolate using Table 2:

0	Time of Interview	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
1	00:00 - 00:59	0.0000	0.0004	0.0000	0.0003	0.0000	0.0007
2	01:00 - 01:59	0.0005	0.0018	0.0003	0.0017	0.0004	0.0047
3	02:00 - 02:59	0.0025	0.0022	0.0021	0.0018	0.0020	0.0106
4	03:00 - 03:59	0.0031	0.0026	0.0035	0.0004	0.0020	0.0116
5	04:00 - 04:59	0.0012	0.0025	0.0026	0.0000	0.0004	0.0068
6	05:00 - 05:59	0.0024	0.0035	0.0035	0.0016	0.0025	0.0134
7	06:00 - 06:59	0.0134	0.0118	0.0087	0.0098	0.0128	0.0565
8	07:00 - 07:59	0.0212	0.0162	0.0176	0.0172	0.0179	0.0901
9	08:00 - 08:59	0.0133	0.0089	0.0155	0.0124	0.0136	0.0637
10	09:00 - 09:59	0.0112	0.0068	0.0113	0.0061	0.0130	0.0483
11	10:00 - 10:59	0.0215	0.0170	0.0187	0.0127	0.0256	0.0955
12	11:00 - 11:59	0.0229	0.0182	0.0177	0.0170	0.0335	0.1094
13	12:00 - 12:59	0.0155	0.0084	0.0086	0.0132	0.0215	0.0673
14	13:00 - 13:59	0.0074	0.0033	0.0034	0.0093	0.0090	0.0325
15	14:00 - 14:59	0.0029	0.0013	0.0017	0.0084	0.0071	0.0213
16	15:00 - 15:59	0.0105	0.0018	0.0035	0.0093	0.0138	0.0389
17	16:00 - 16:59	0.0220	0.0091	0.0134	0.0164	0.0232	0.0841
18	17:00 - 17:59	0.0232	0.0145	0.0215	0.0229	0.0230	0.1050
19	18:00 - 18:59	0.0129	0.0098	0.0140	0.0132	0.0134	0.0633
20	19:00 - 19:59	0.0031	0.0046	0.0035	0.0039	0.0056	0.0207
21	20:00 - 20:59	0.0015	0.0038	0.0018	0.0046	0.0028	0.0145
22	21:00 - 21:59	0.0062	0.0046	0.0032	0.0044	0.0042	0.0227
23	22:00 - 22:59	0.0062	0.0031	0.0024	0.0009	0.0030	0.0156
	23:00 - 23:59	0.0012	0.0006	0.0004	0.0000	0.0005	0.0028
	Sub-totals:	0.2261	0.1566	0.1790	0.1875	0.2508	1.0000

Weighting Shannon: Hour-of-Interview, Midnight - 1AM = 1

(Chart x-axis: 0 to 24; y-axis: 0.0000 to 0.1200)

Shannon Table 4: Weights cut-off outside 7AM to 6PM and re-normalised to 100%.

As requested by Kantar Millward Brown. For Shannon Airport this is 11 Hours.

No. Interviews		Time of In	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
Shannon2016			1.3169	1.48485	1.34713	1.29454	1.24688	
No. Interviews								Shannon2016 PAX weighting
0	0	Time of In	Monday	Tuesday	Wednesday	Thursday	Friday	Sub-total Hours
0	1	0:00 - 00:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	1:00 - 01:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	2:00 - 02:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	3:00 - 03:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	5	4:00 - 04:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	6	5:00 - 05:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	7	6:00 - 06:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
45	8	7:00 - 07:5	0.0279	0.0240	0.0237	0.0223	0.0224	0.1202
68	9	8:00 - 08:5	0.0175	0.0133	0.0208	0.0160	0.0170	0.0847
73	10	9:00 - 09:5	0.0147	0.0100	0.0152	0.0079	0.0162	0.0640
80	11	0:00 - 10:5	0.0284	0.0252	0.0252	0.0165	0.0319	0.1271
89	12	1:00 - 11:5	0.0302	0.0271	0.0239	0.0220	0.0418	0.1449
19	13	2:00 - 12:5	0.0204	0.0125	0.0116	0.0171	0.0269	0.0885
42	14	3:00 - 13:5	0.0098	0.0049	0.0046	0.0120	0.0112	0.0426
28	15	4:00 - 14:5	0.0038	0.0019	0.0023	0.0109	0.0088	0.0277
20	16	5:00 - 15:5	0.0139	0.0026	0.0047	0.0121	0.0172	0.0504
4	17	6:00 - 16:5	0.0290	0.0136	0.0181	0.0212	0.0289	0.1107
0	18	7:00 - 17:5	0.0306	0.0215	0.0289	0.0296	0.0287	0.1392
0	19	8:00 - 18:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	20	9:00 - 19:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	21	0:00 - 20:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	1:00 - 21:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	2:00 - 22:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
506		23:00 - 23:5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Sub-totals	0.2261	0.1566	0.1790	0.1875	0.2508	1.0000

11-Hour Weighting Shannon: Hour-of-Interview, Kepler-Averaged over PAX.
Midnight - 1AM = 0

Shannon Table 5: Weights cut-off outside 7AM to 6PM and re-normalised to 100%.

As requested by Millward Brown. For Shannon Airport this is 11 Hours.
No Survey Interviews in yellow cells either.

Shannon2016			1.3169	2.07405	1.40135	1.41547	1.61792	
No. Interviews								Shannon2016 PAX
0	0	Time of Intervie	Monday	Tuesday	Wednesda	Thursday	Friday	Sub-total Hours
0	1	00:00 - 00:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	2	01:00 - 01:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	3	02:00 - 02:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	4	03:00 - 03:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	5	04:00 - 04:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	6	05:00 - 05:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	7	06:00 - 06:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
45	8	07:00 - 07:59	0.0279	0.0335	0.0246	0.0243	0.0290	0.1394
68	9	08:00 - 08:59	0.0175	0.0185	0.0217	0.0000	0.0221	0.0798
73	10	09:00 - 09:59	0.0147	0.0140	0.0158	0.0086	0.0210	0.0741
80	11	10:00 - 10:59	0.0284	0.0352	0.0262	0.0180	0.0413	0.1491
89	12	11:00 - 11:59	0.0302	0.0378	0.0249	0.0240	0.0542	0.1711
19	13	12:00 - 12:59	0.0204	0.0174	0.0121	0.0187	0.0349	0.1035
42	14	13:00 - 13:59	0.0098	0.0000	0.0000	0.0132	0.0146	0.0375
28	15	14:00 - 14:59	0.0038	0.0000	0.0000	0.0119	0.0115	0.0272
20	16	15:00 - 15:59	0.0139	0.0000	0.0048	0.0132	0.0223	0.0542
4	17	16:00 - 16:59	0.0290	0.0000	0.0188	0.0232	0.0000	0.0710
0	18	17:00 - 17:59	0.0306	0.0000	0.0301	0.0324	0.0000	0.0930
0	19	18:00 - 18:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	20	19:00 - 19:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	21	20:00 - 20:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	22	21:00 - 21:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0	23	22:00 - 22:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
506		23:00 - 23:59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Sub-totals:	0.2261	0.1566	0.1790	0.1875	0.2508	1.0000

11-Hour Weighting Shannon: Hour-of-Interview, Kepler-Averaged over PAX. Midnight - 1AM = 0

— 11-Hour Weights, Shannon 2016
-■- Shannon PAX Raw, Sched Depart Time