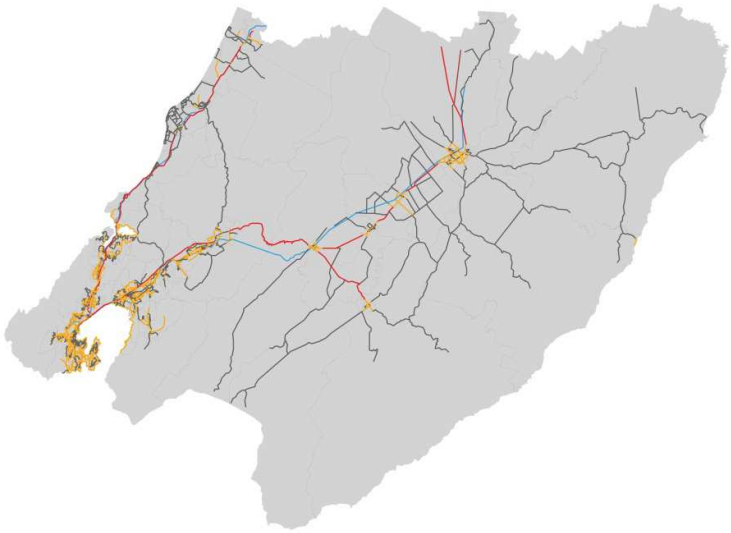
OPUS INTERNATIONAL CONSULTANTS AND ARUP

WELLINGTON TRANSPORT MODELS

Contract No C3079



TN5A: Bus Intercept Survey Analysis

Date: December 2012

ARUP OPUS

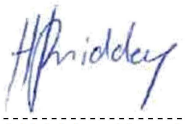
Wellington Transport Models

TN5A : Bus Intercept Survey Analysis

prepared for

Greater Wellington Regional Council

Prepared By



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Date: December 2012
Reference: x:\tp-modelling\07 data requests\2013\126_randleoia_june 13\tn5a bus intercept survey analysis final.docx
Status: Final
Revision: 1

Document History and Status

Issue	Rev	Issued To	Qty	Date	Reviewed	Approved
First Draft	-	Nick Sargent - GW	1	28-10-11	Bruce Johnson	Fraser Fleming
Final	-	Nick Sargent - GW	1	04-04-12	Marius Roman	David Dunlop
Final	1	Nick Sargent - GW	1 Hard & 1 CD	06-12-12	Marius Roman	David Dunlop

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John Bolland: _____
(Peer Reviewer)

Nick Sargent: _____
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Contents

1 Introduction

This technical note describes analysis of the bus intercept surveys. These intercept surveys were carried out to inform the development of the strategic Wellington Public Transport Model (WPTM) as part of the project.

2 Survey Description

Details of development of the survey methodology, sampling framework and survey administration have been reported in other documents prepared for Greater Wellington Regional Council (GWRC), including:

- TN4 - Bus and Rail Intercept Survey Methodology, which describes survey development and testing by TDG;
- TN2 - Survey Sampling Methodology, prepared by Opus and Arup, which describes the approach used to select routes for survey; and
- Survey reports prepared by TDG and Research NZ.

The data collected in the surveys was coded, including geocoding of address details, by the survey firms and supplied to Opus and Arup in spreadsheet files. A consolidated spreadsheet based survey dataset was created for the analysis presented in this report.

The main bus intercept surveys were carried out on 30 to 31 August, and 5 to 9 September 2011. Twenty eight different bus routes were surveyed in the AM peak (7am-9am). Most of these were surveyed in the Inter peak also (a representative period 11am-1pm). No PM peak period surveys were undertaken. A total of 2751 forms were completed, and 2740 retained after geocoding. The number of passengers refusing forms was not recorded.

There were no extreme weather events during the survey period. New Zealand was hosting the Rugby World Cup during September and October. This may have affected travel patterns, for example more tourists than usual. A game between South Africa and Wales was held in Wellington on Sunday 11 September. It is not expected to have directly affected the surveys, but may have had an indirect impact.

In addition, two pilot surveys were carried out before the main surveys. The first was on the Island Bay route (Route 1). These had slightly different questions to the main surveys. It did not ask about journey start time or time to destination. The second pilot survey was on the Karori-Lyall Bay route (Route 3). During this, one of the buses broke down on the inbound leg resulting in some loss of data. Affected questionnaires were removed from the final dataset.

The pilot survey data was combined with the main data, giving a total of 2976 records. The dates that each bus route was surveyed on are detailed in Table 2-1.

Table 2-1: Dates of Intercept Bus Surveys

Survey	Date	Routes No's
Pilot Survey 1	Thursday 30 June	1
Pilot Survey 2	Friday 5 August	3
Main Surveys	Tuesday 30 August	31, 24, 10
	Wednesday 31 August	46, 21
	Monday 5 September	2, 17, 220, 7,11
	Tuesday 6 September	18, 14, 57, 83, 110
	Wednesday 7 September	53, 54, 91, 120, 211
	Thursday 8 September	262, 121, 130, 150, 160
	Friday 9 September	280, 23, 44

Table 2-2 lists the survey questions. A copy of the full survey questionnaire is included in the Appendix A. A summary of the question responses is in Appendix B.

Table 2-2: Questions on the Main Bus Intercept Survey Form

No.	Question
1	Where did you come from before catching this bus?
2	Where is that place? - please provide an address OR intersection/landmark nearby
3	What time did you start your trip from that place?
4	How did you get to the bus stop where you got on this bus?
5	This bus trip is part of your journey to what destination?
6	Where is that place? - please provide an address OR intersection/landmark nearby
7	How will you finish your journey when you get off this bus?
8	How long will it take you to reach your final destination after getting off this bus?
9	What bus ticket are you using for this bus trip today?
10	Gender?
11	Which age category are you in?
12	Do you have a driver's licence?
13	Was a car available to you as an alternative to taking the bus for this trip?

The number of returned forms for each route and time period is shown in Table 2-3. The records are also categorised by whether they have complete, partial or no geocoded origin-destination (O-D) information. Complete records have both origin and destination, partial records have only one and the others have none. A graphical representation of this data can also be seen in Figure 2-1.

Table 2-3: Survey Records and Status of O-D Information by Route

Route	Name	Survey Records			Geocoded Origin and Destination		
		Total	AM	IP	Complete	Partial	None
1	Island Bay - Wellington	157	157	0	138	8	11
2	Miramar - Wellington	61	37	24	50	10	1
3	The Green Route (Karori - Wellington - Lyall Bay)	79	79	0	73	4	2
7	Kingston - Wellington	206	106	100	192	14	0
10	Newtown - Wellington	94	94	0	90	2	2
11	Seatoun - Wellington	132	84	48	113	18	1
14	The Silver Route (Kilbirnie - Wilton)	170	114	56	160	8	2
17	Victoria University - Wellington	120	99	21	110	8	2
18	Campus Connection (Miramar - Karori)	90	48	42	88	2	0
21	Karori - Wellington - Vogeltown	126	104	22	122	4	0
23	Houghton Bay/Southgate - Wellington - Mairangi	128	68	60	123	5	0
24	Miramar Heights - Wellington	51	50	1	46	5	0
31	Miramar North Express (Miramar - Wellington)	46	46	0	45	1	0
44	Strathmore - Wellington - Khandallah	190	110	80	180	10	0
46	Broadmeadows - Wellington	24	24	0	24	0	0
53	Johnsonville West (Johnsonville Hub - McLintock St)	32	30	2	32	0	0
54	Churton Park - Wellington	59	54	5	58	1	0
57	Woodridge - Wellington	45	45	0	44	1	0
83	Eastbourne - Lower Hutt - Wellington	94	46	48	84	10	0
91	Airport Flyer (Hutt Valley - Airport)	213	146	66	195	16	2
110	Upper Hutt (Emerald Hill - Petone)	174	113	61	151	22	1
120	Stokes Valley - Lower Hutt	84	71	13	66	17	1
121	Valley Heights (Gracefield - Stokes Valley)	85	71	14	70	13	2
130	Petone - Naenae	116	69	47	95	17	4
150	Western Hills (Kelson - Lower Hutt - Maungaraki)	67	56	11	61	5	1
160	Wainuiomata North - Lower Hutt	88	46	42	76	11	1
211	Porirua - Courtenay Place	70	61	9	70	0	0
220	Titahi Bay - Ascot Park	94	54	40	70	18	6
262	Paraparaumu Beach - Paraparaumu (via Mazengarb Rd)	56	27	29	46	9	1
280	Waikanae Station - Waikanae Beach	25	6	19	15	8	2
	TOTAL	**2976**	**2115**	**860**	**2687**	**247**	**42**

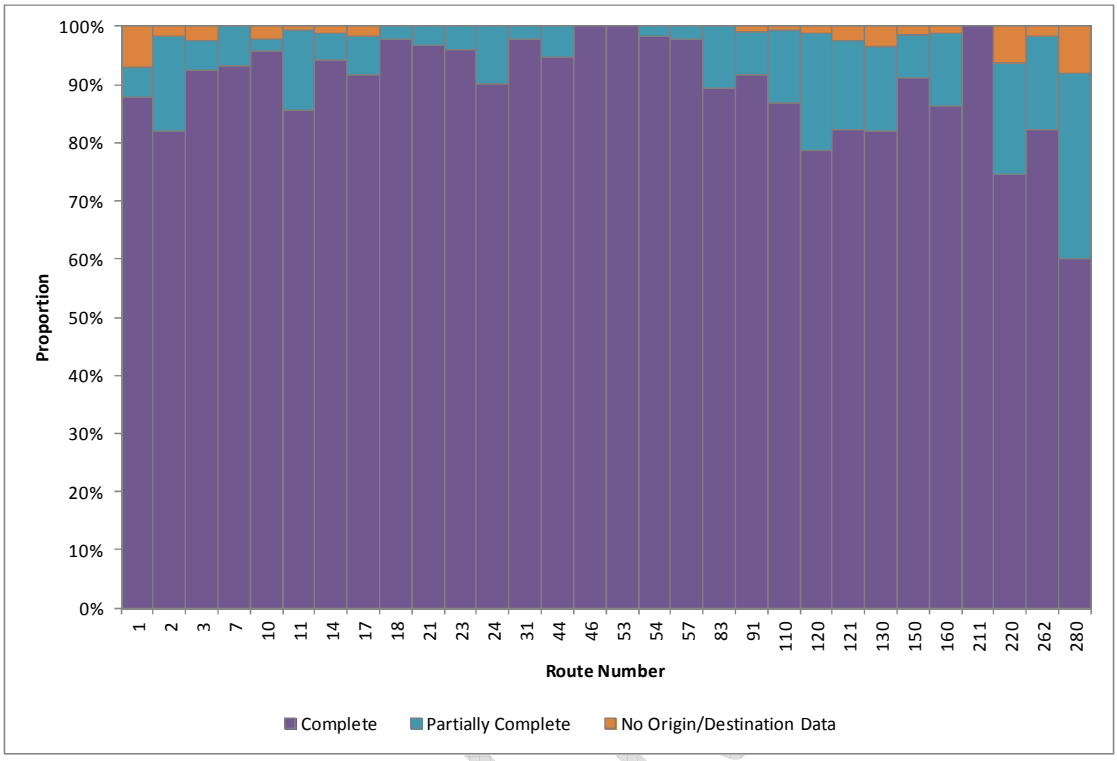


Figure 2-1: Proportion of Records with Complete/Partial/No Origin/Destination Data

3 Sampling Rates

The table below compares the number of samples for each route with the average patronage obtained from the weekday Electronic Ticketing Machine (ETM) Data. For the ETM data, AM is defined as trips starting between 7am and 9am. IP is defined as trips starting between 9am and 4pm, this value is then converted to an average two hour period for comparison with the surveys.

Table 3-1: Survey Records and Sampling Rate by Route, AM Peak Period

Route	Name	Surveys Total	Surveys AM	ETM Weekday AM Average	AM %	Target %	Difference
1	Island Bay – Wellington						
2	Miramar – Wellington						
3	The Green Route (Karori - Wellington - Lyall Bay)						
7	Kingston – Wellington						
10	Newtown – Wellington						
11	Seatoun – Wellington						
14	The Silver Route (Kilbirnie - Wilton)						
17	Victoria University – Wellington						
18	Campus Connection (Miramar - Karori)						
21	Karori - Wellington – Vogeltown						
23	Houghton Bay/Southgate - Wellington – Mairangi						
24	Miramar Heights – Wellington						
31	Miramar North Express (Miramar - Wellington)						
44	Strathmore - Wellington – Khandallah						
46	Broadmeadows – Wellington						
53	Johnsonville West (Johnsonville Hub - McLintock St)						
54	Churton Park – Wellington						
57	Woodridge – Wellington						
83	Eastbourne - Lower Hutt – Wellington						
91	Airport Flyer (Hutt Valley - Airport)						
110	Upper Hutt (Emerald Hill - Petone)						
120	Stokes Valley - Lower Hutt						
121	Valley Heights (Gracefield - Stokes Valley)						
130	Petone – Naenae						
150	Western Hills (Kelson - Lower Hutt - Maungaraki)						
160	Wainuiomata North - Lower Hutt						
211	Porirua - Courtenay Place						
220	Titahi Bay - Ascot Park						
262	Paraparaumu Beach - Paraparaumu (via Mazengarb Rd)						
280	Waikanae Station - Waikanae Beach						
	Total						

Table 3-2: Survey Records and Sampling Rate by Route, Inter Peak Period

Route	Name	Surveys Total	Surveys IP	ETM Weekday IP Average	IP %	Target %	Difference
1	Island Bay – Wellington						
2	Miramar – Wellington						
3	The Green Route (Karori - Wellington - Lyall Bay)						
7	Kingston – Wellington						
10	Newtown – Wellington						
11	Seatoun – Wellington						
14	The Silver Route (Kilbirnie - Wilton)						
17	Victoria University – Wellington						
18	Campus Connection (Miramar - Karori)						
21	Karori - Wellington – Vogeltown						
23	Houghton Bay/Southgate - Wellington – Mairangi						
24	Miramar Heights – Wellington						
31	Miramar North Express (Miramar - Wellington)						
44	Strathmore - Wellington – Khandallah						
46	Broadmeadows – Wellington						
53	Johnsonville West (Johnsonville Hub - McLintock St)						
54	Churton Park – Wellington						
57	Woodridge – Wellington						
83	Eastbourne - Lower Hutt – Wellington						
91	Airport Flyer (Hutt Valley - Airport)						
110	Upper Hutt (Emerald Hill - Petone)						
120	Stokes Valley - Lower Hutt						
121	Valley Heights (Gracefield - Stokes Valley)						
130	Petone – Naenae						
150	Western Hills (Kelson - Lower Hutt - Maungaraki)						
160	Wainuiomata North - Lower Hutt						
211	Porirua - Courtenay Place						
220	Titahi Bay - Ascot Park						
262	Paraparaumu Beach - Paraparaumu (via Mazengarb Rd)						
280	Waikanae Station - Waikanae Beach						
	Total						

At a high-level, achieveing recorded sample rates equal to or higher than the target sample rate implies that we can have confidence in the recorded data for trips originating from the areas/routes that the sample was collected on. Conversely, sample rates lower than the target implies that the travel patterns / data should be used with more caution.

This is a generalisaiton as the 'completeness' of the questionnaires is an important factor that has not been captured in the tables above and will differ depending on the surveyed data in question.

4 Analysis of Survey Responses

4.1 Origin and Destination

The survey data contains several fields for origin and destination address – street number, building name, street name, suburb and nearest landmark. The geocoding process returned a latitude and longitude based on these locations, making assumptions when some information was missing.

The bus stops where the passenger boarded and alighted were recorded for each record. This data is 99.5% complete for the main surveys and second pilot survey, with only one record missing a boarding stop and five missing an alighting stop. However, the initial pilot survey (Route 1) has only 33% of records with complete bus stop data, and many of the partial records use a different bus stop numbering format.

The geocoding and bus stop data are currently being reviewed in detail using GIS software. Initially there were found to be issues with the coding of route direction which are currently being resolved.

4.2 Time Period

The records are categorised into AM peak (AM) and Inter peak (IP). AM is defined as the passengers boarding the bus between 7am and 9am give or take a few minutes leeway if the bus was almost at the end of its route. IP is similarly defined as passengers boarding the bus between 11am and 1pm.

Question three asked passengers for the start time of the journey (prior to boarding the bus), with 92% providing a response. Overall, these matched well with the time periods defined, with a few outliers. For example start times of 11am for an AM Peak journey (see Figure 4-1 and Figure 4-2 below). This issue is concentrated on a few routes, suggesting it may be due to some services being wrongly recorded as AM. The IP results show a small number of trips starting well before the defined period, reflecting examples of some long journeys such as those observed on the Airport Flyer route where some respondents had recorded the start of their trip as being in Auckland.

These issues were fixed prior to using the data for matrix building.

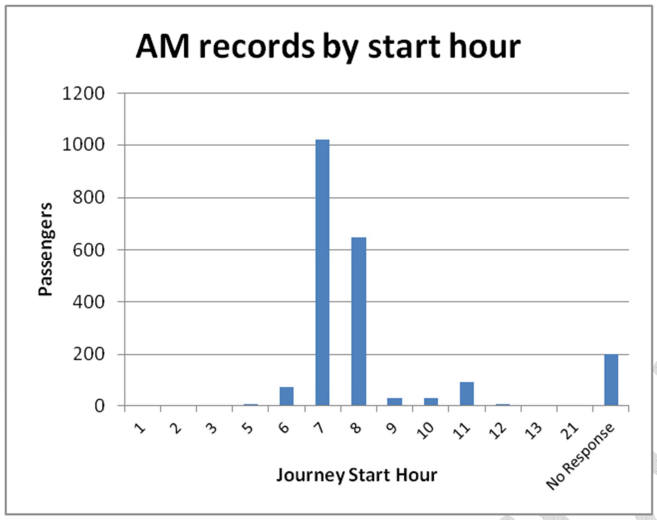


Figure 4-1: AM Records by Journey Start Hour

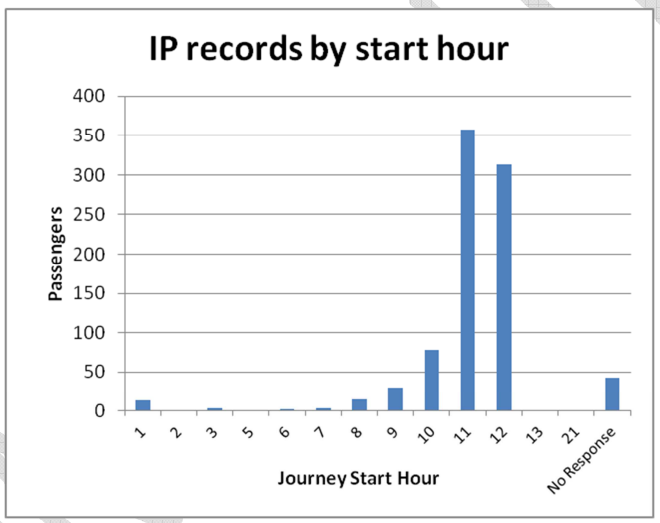


Figure 4-2: IP Records by Journey Start Hour

4.3 Access / Egress Time

The time that each passenger boarded the bus was not recorded, so the access time cannot be easily calculated.

Passengers were asked for the time in minutes to their final destination after exiting the bus, and 88% provided a response. Some of the responses were given as a range of values, such as “15-20”. In these cases an average value was calculated. The results are shown in the histogram below. The time that each passenger alighted from the bus was not recorded.

Note that neither of these questions was asked in the initial pilot survey.

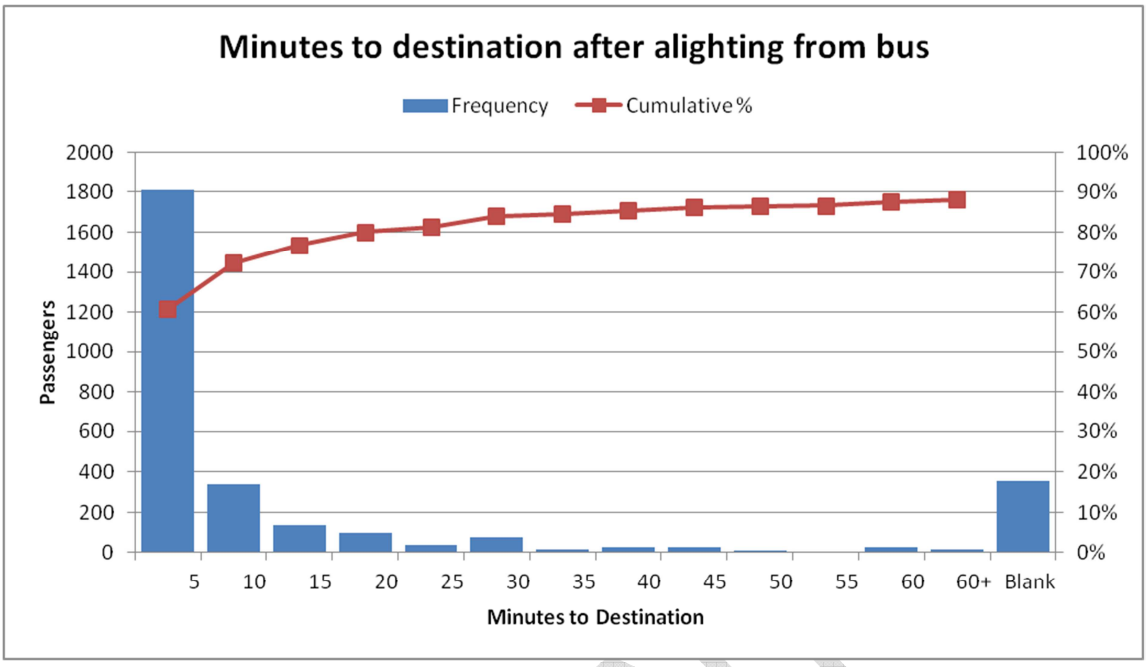
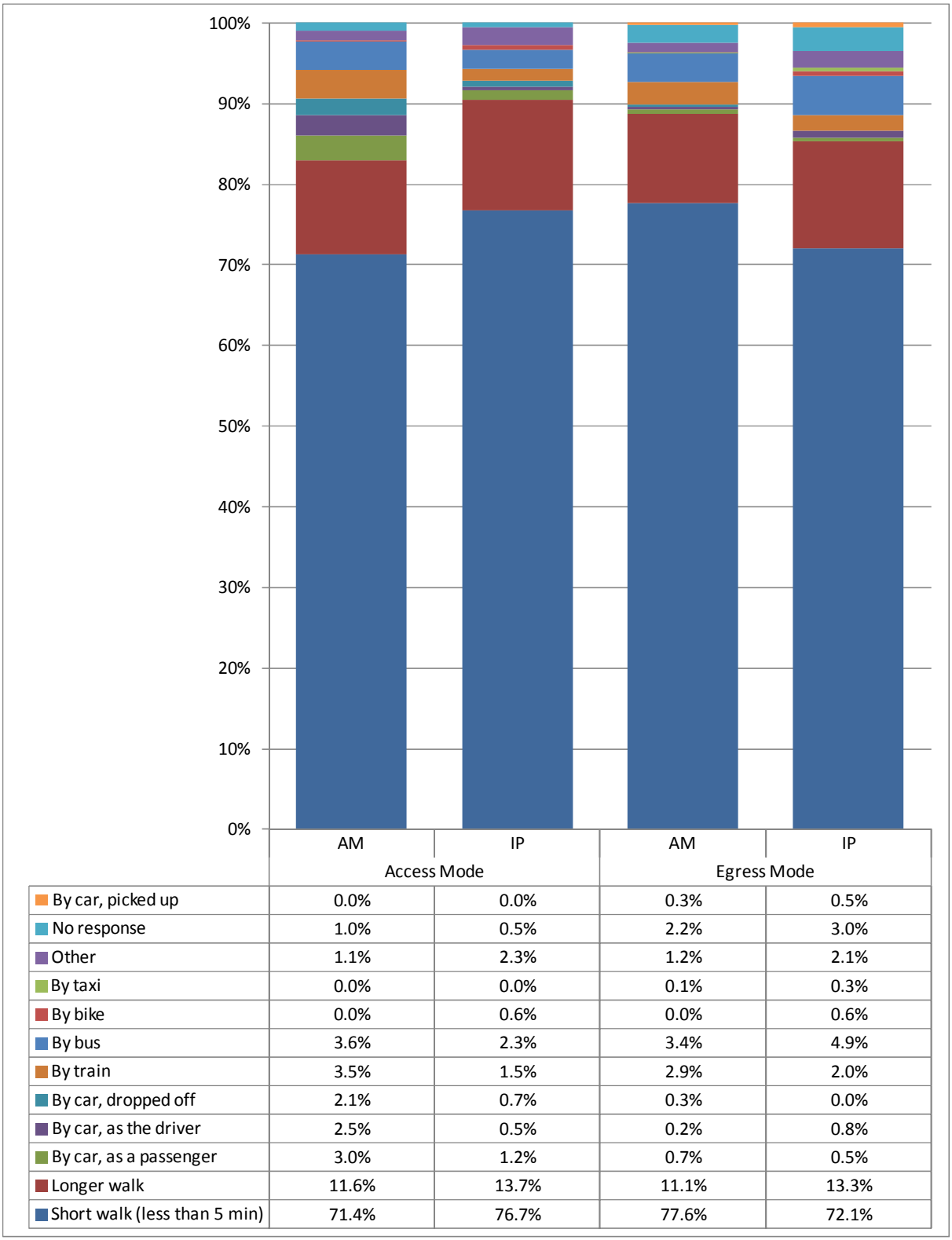


Figure 4-3: Minutes to destination after alighting from bus

4.4 Access / Egress Mode

Question four and question seven relate to access and egress mode. Good response rates were obtained, 99% and 98% respectively. Some of the 'Other' responses could be categorised further – e.g. "Walk and by bus", but this is a small number so is considered inconsequential, and may introduce errors.



	Access Mode		Egress Mode	
	AM	IP	AM	IP
By car, picked up	0.0%	0.0%	0.3%	0.5%
No response	1.0%	0.5%	2.2%	3.0%
Other	1.1%	2.3%	1.2%	2.1%
By taxi	0.0%	0.0%	0.1%	0.3%
By bike	0.0%	0.6%	0.0%	0.6%
By bus	3.6%	2.3%	3.4%	4.9%
By train	3.5%	1.5%	2.9%	2.0%
By car, dropped off	2.1%	0.7%	0.3%	0.0%
By car, as the driver	2.5%	0.5%	0.2%	0.8%
By car, as a passenger	3.0%	1.2%	0.7%	0.5%
Longer walk	11.6%	13.7%	11.1%	13.3%
Short walk (less than 5 min)	71.4%	76.7%	77.6%	72.1%

Figure 4-4: Access and Egress Mode by Time Period

Transfers are access or egress from a non-walk mode, including car, train, bus, bike and taxi. Transfers to the bus (access) make up 15% of journeys in the AM, and 7% in the IP. This difference may be affected by the higher numbers of commuters in the AM peak, who are more likely to park and ride. Transfers from the bus (egress) make up 8% of journeys during the AM and 10% during the IP.

Table 4-1 compares egress mode (How will you finish your journey when you get off this bus?) with egress time (How long will it take you to reach your final destination after getting off this bus?). It shows that in general they correspond, with longer times being more common on train and bus egress mode. However, it suggests there may have been confusion about which section of the journey each question referred to. For example, there are trips with an egress mode of "short walk" but where the egress time is longer than 5 minutes.

A similar table cannot be produced for access because the access time is not known.

Table 4-1: Distribution of egress time for egress modes

	Egress Time (min)														TOTAL	
Egress Mode	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**60+**	**-**		**%**
Short walk (less than 5 min)	1,711	158	35	37	17	24	4	9	12	4	1	5	2	243	2,262	76%
Longer walk	42	147	77	21	7	19	2	5	1	1	-	-	-	27	349	12%
By car, as a passenger	7	4	2	1	-	1	-	-	-	-	-	-	1	2	18	1%
By car, as the driver	5	3	1	-	1	-	-	-	-	-	-	-	-	1	11	0%
By car, dropped off	-	-	1	-	1	-	-	-	1	-	-	-	-	4	7	0%
By train	8	2	-	7	5	8	2	6	7	4	2	13	4	10	78	3%
By bus	18	15	10	21	4	16	6	4	6	-	-	3	4	7	114	4%
By bike	1	2	1	1	-	-	-	-	-	-	-	-	1	-	6	0%
By taxi	-	2	2	-	-	1	-	-	-	-	-	-	-	1	6	0%
Other	9	3	4	3	3	5	2	2	-	-	-	3	4	5	43	1%
No response	5	3	3	3	1	-	-	-	-	-	-	1	-	56	72	2%
By car, picked up	3	1	-	2	-	3	-	-	-	-	-	-	-	1	10	0%
TOTAL	1,810	340	136	96	39	77	16	26	27	9	3	25	16	356		
%	61%	11%	5%	3%	1%	3%	1%	1%	1%	0%	0%	1%	1%	12%		

4.5 Trip Purpose

Question one and question five relate to trip purpose - where the journey is from and to. These questions have very good response rates of over 99%. The combination of origin and destination purpose was used to classify overall trip purpose (see Table 4-2). The trip purpose categories correspond to those used in WTSM, as does the classification system (based on Figure 3-1 in Technical Note 9 from the original model reports, BECA SKM October 2002).

Origin / Destination Purpose

1. Home
2. Usual workplace
3. On Employer Business
4. School
5. Polytechnic or University
6. Shopping
7. Social, sport, recreational
8. On personal business (visit to doctor, bank etc)
9. Other
10. No response

Table 4-2: Classification of Records into Trip Purposes

		Destination Purpose									
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Origin Purpose	**1**	-	HBW	BU	HBEd	HBEd	HBSh	HBO	HBSh	HBO	-
	2	HBW	BU	BU	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	3	BU	BU	BU	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	4	HBEd	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	5	HBEd	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	6	HBSh	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	7	HBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	8	HBSh	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	9	HBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	NHBO	-
	10	-	-	-	-	-	-	-	-	-	-

Where,
NHBO = Non home-based other
HBW = Home-based work
HBEd = Home-based education
HBSh = Home-based shopping
HBO = Home-based other
BU = Business

Once classified as per Table 4-2 above, the results in Table 4-3 were obtained. This shows that in the AM peak, Home Based Work makes up the majority of journeys (57%), with Home Based Education also significant (24%). In the Inter peak, the trips are more evenly spread over the categories.

Table 4-3: Survey Records by Trip Purpose and Time Period

		AM	AM%	IP	IP %
Home Based Work	HBW	1198	**57%**	114	**13%**
Home Based Education	HBEd	498	**24%**	155	**18%**
Home Based Shopping - including personal business	HBSh	87	**4%**	223	**26%**
Home Based Other – combined Home Based Other and Home Based Social	HBO	96	**5%**	126	**15%**
Non-Home Based Other	NHBO	118	**6%**	165	**19%**
Business Trips – combining Home Based and Non Home Based Employers' Business.	BU	75	**4%**	33	**4%**
Invalid / Unclassified	-	43	**2%**	44	**5%**

4.6 Age

Passengers were asked which age group they belonged to. Those aged 0-15 years made up 9% of respondents. The policy was to survey 15 year olds and above, but only to survey those younger than 15 with the consent of a parent or accompanying adult. In some cases there may have been mature looking 13 and 14 year olds whom the interviewers assumed were of eligible age in the sample. In other cases, there may have been under 15's that were accompanied by an adult or older sibling who completed the form. For these reasons, the proportion of children travelling is not accurately represented in the survey results but still compares well with results from the ETM data analysis. This showed that 13% of trips during the AM and IP periods (combined) were child trips.

4.7 Gender

Question ten asked about gender, showing 58% of passengers were female, 39% male with the rest giving no response. There is no significant difference in this split between the AM and IP periods. A comparison with the responses to question 12 showed that males were more likely than females to have a driver's licence (70% to 61%). This corresponds well with the responses to question 13, which showed that males were also more likely to have a car available as an alternative (42% to 36%).

4.8 Driver's Licence

Overall, 64% of passengers had a driver's licence. This varied by age, as would be expected (see Figure 4-5).

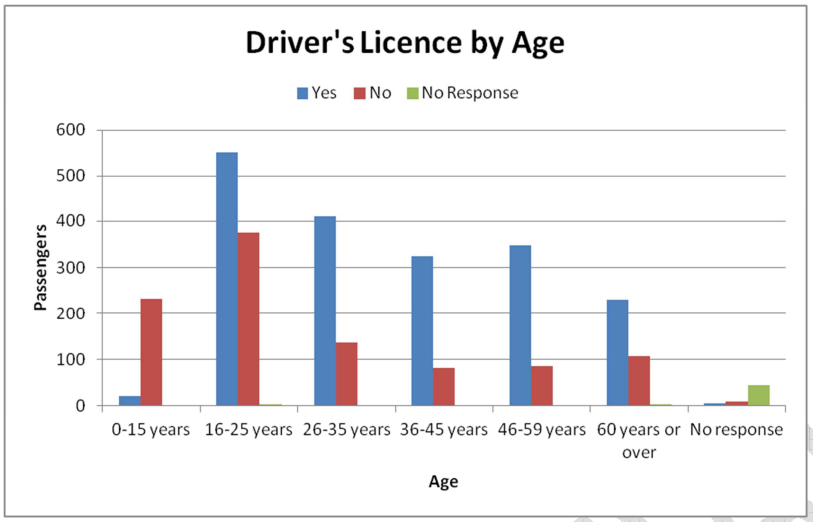


Figure 4-5: Driver's licence by age

The table below compares driver's licence status and those who had a car available as an alternative when making their trip. 6% of passengers had a car available as an alternative but did not have a licence – this may be due to error, or people who have the option of being driven by another.

Table 4-4: Driver's Licence vs. Car Available

	Car available			
Driver's Licence	**Yes**	**No**	**No Response**	**TOTAL**
Yes	950	937	4	**1891**
No	171	839	18	**1028**
No Response	4	5	48	**57**
TOTAL	**1125**	**1781**	**70**	**2976**

4.9 Ticket Type

Passengers also recorded which ticket type they were travelling on. A graph of ticket type vs. age is shown below (Figure 4-6). There are a few discrepancies such as people under 65 using a Super Gold card, or adults on school passes (could be teachers or university students). However these cases make up only a very small proportion of the total.

The results show that overall Snapper or Smart Card is the most popular payment method, followed by cash. This pattern is the case in all age groups except 60 years and over, where Super Gold is the most popular.

Note that ticket type '10 trip' does not appear to have been an option on the main survey form. Instead people wrote it in themselves. This could mean that more people may have used these cards but classified them as 'Other'.

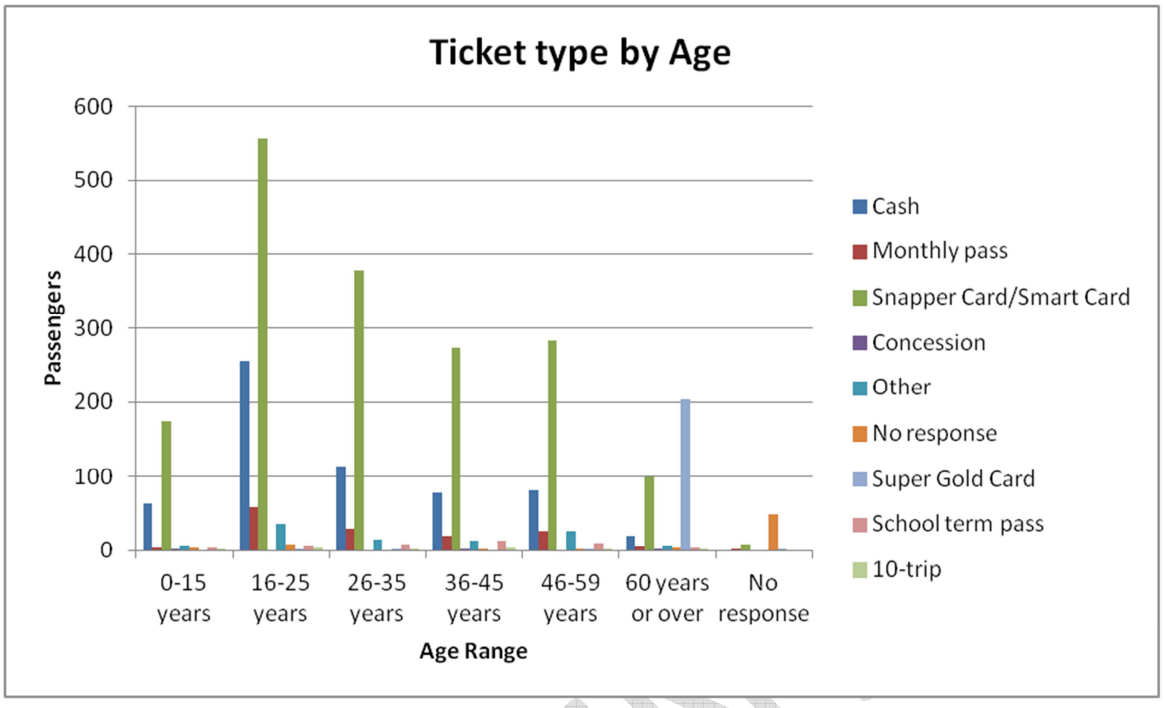


Figure 4-6: Ticket Type by Age

5 Issues for Further Work

The following issues have been identified for further consideration in ongoing analysis and model development tasks. These will be addressed in subsequent technical notes, in particular TN7 – PT Matrix Development:

- Dealing with child trips, given that the survey process does not provide a reliable basis for directly identifying travel characteristics of those under 15 years of age;
- Checking quality of survey data with regards to boarding and alighting bus stops – checking to date has revealed some coding issues;
- Decisions on which trip purposes to represent in the WPTM model; and
- Consideration of any route specific characteristics to inform travel model development, for example consideration of Airport Flyer trips in relation to development of the WTSM Airport Model.

Appendix A – Survey Questionnaire

Bus Passenger Survey

Understanding the journeys people make each day is important for establishing patterns of travel, and helps us to plan for the future. In the absence of the census this year, please assist us by completing this questionnaire on journey origin and destination. All information provided will remain strictly confidential. Thank you

greater WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Q1 **Where did you come from before catching this bus?** *(please select one box; eg ☑)*

☐ Home ☐ Usual workplace ☐ On Employer Business ☐ School ☐ Polytechnic or University

☐ Shopping ☐ Social, sport, recreational ☐ On personal business (visit to doctor, bank etc)

☐ Other (please write down) _____

Q2 **Where is that place? - please provide an address OR intersection/landmark nearby** (*please write down*)

STREET NUMBER_____ OR BUILDING NAME_____

STREET NAME AND TYPE_____eg Tui St, Tui Rd, Tui Pl

SUBURB_____

NEAREST INTERSECTION/LANDMARK_____

Q3 **What time did you start your trip from that place?** ____:____ *(nearest minute eg 8:05)*

Q4 **How did you get to the bus stop where you got on this bus?** *(please select one box)*

☐ Short walk (less than 5 min) ☐ Longer walk ☐ By car, as a passenger ☐ By car, as the driver

☐ By car, dropped off ☐ By train ☐ By bus ☐ By bike ☐ By taxi

☐ Other (please write down) _____

Q5 **This bus trip is part of your journey to what destination?** *(please select one box)*

☐ Home ☐ Usual workplace ☐ On Employer Business ☐ School ☐ Polytechnic or University

☐ Shopping ☐ Social, sport, recreational ☐ On personal business (visit to doctor, bank etc)

☐ Other (please write down) _____

Please continue over the page →

Q6 **Where is that place? - please provide an address OR intersection/landmark nearby** (*please write down*)

STREET NUMBER_____ OR BUILDING NAME_____

STREET NAME AND TYPE_____eg Tui St, Tui Rd, Tui Pl

SUBURB_____

NEAREST INTERSECTION/LANDMARK_____

Q7 **How will you finish your journey when you get off this bus?** *(please select one box)*

☐ Short walk (less than 5 min) ☐ Longer walk ☐ By car, as a passenger ☐ By car, as the driver

☐ By car, picked up ☐ By train ☐ By bus ☐ By bike ☐ By taxi

☐ Other (please write down) eg. Bus then walk _____

Q8 **How long will it take you to reach your final destination after getting off this bus?**
_____*(minutes)*

Q9 **What bus ticket are you using for this bus trip today?** *(please select one box)*

☐ Cash ☐ Monthly pass ☐ Snapper Card/Smart Card ☐ School term pass ☐ Super Gold Card

☐ Other (please write down) _____

Q10 **Gender?** *(please select one box)*

☐ Male ☐ Female

Q11 **Which age category are you in?** *(please select one box)*

☐ 0-15 years ☐ 16-25 years

☐ 26-35 years ☐ 36-45 years

☐ 46-59 years ☐ 60 years or over

Q12 **Do you have a driver's licence?** *(please select one box)*

☐ Yes ☐ No

Q13 **Was a car available to you as an alternative to taking the bus for this trip?**
(please select one box)

☐ Yes ☐ No

Please keep hold of this form, and hand it to one of the surveyors when you get off the bus.
Thank you for completing this survey.

Appendix B –Question Responses Summary

Question & Answers	AM	IP
Q1 Where did you come from before catching this bus?		
Home	1907	433
Usual workplace	51	82
On Employer Business	8	20
School	11	34
Polytechnic or University	13	50
Shopping	21	101
Social, sport, recreational	12	31
On personal business (visit to doctor, bank etc)	12	44
Other	67	62
No response	13	3
Q4 How did you get to the bus stop where you got on this bus?		
Short walk (less than 5 min)	1510	660
Longer walk	245	118
By car, as a passenger	64	10
By car, as the driver	53	4
By car, dropped off	45	6
By train	74	13
By bus	77	20
By bike	1	5
By taxi	0	0
Other	24	20
No response	22	4
Q5 This bus trip is part of your journey to what destination?		
Home	63	275
Usual workplace	1238	114
On Employer Business	59	10
School	390	32
Polytechnic or University	147	95
Shopping	39	96
Social, sport, recreational	31	74
On personal business (visit to doctor, bank etc)	52	81
Other	75	74
No response	21	9
Q7 How will you finish your journey when you get off this bus?		
Short walk (less than 5 min)	1641	620
Longer walk	235	114
By car, as a passenger	14	4
By car, as the driver	4	7
By car, dropped off	7	0
By train	61	17
By bus	72	42
By bike	1	5
By taxi	3	3
Other	25	18

Question & Answers	AM	IP
Q7 How will you finish your journey when you get off this bus?		
No response	46	26
By car, picked up	6	4
Q9 What bus ticket are you using for this bus trip today?		
Cash	396	219
Monthly pass	122	23
Snapper Card/Smart Card	1396	378
Concession	3	0
Other	69	35
No response	46	22
Super Gold Card	33	174
School term pass	37	9
10-trip	13	0
Q10 Gender?		
Male	832	328
Female	1232	508
No Response	51	24
Q11 Which age category are you in?		
0-15 years	231	25
16-25 years	620	309
26-35 years	421	128
36-45 years	321	85
46-59 years	339	93
60 years or over	137	206
No response	46	14
Q12 Do you have a driver's licence?		
Yes	1360	531
No	713	314
No Response	42	15
Q13 Was a car available to you as an alternative to taking the bus for this trip?		
Yes	875	250
No	1191	589
No Response	49	21