2013 Transportation Panel Survey

Prepared for

City of Vancouver

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Executive Summary

This report summarizes the results of the City of Vancouver's first annual transportation panel survey. The transportation panel survey will help to track progress towards transportation mode share targets and will eventually be a means of assessing the vehicle kilometres travelled by our residents. These two areas are both associated with specific targets outlined in the City of Vancouver's Greenest City Action Plan and Transportation 2040. As this survey tracks the travel characteristics of the same group from year to year it will also help to determine what transportation investments and policies have been the most effective in helping to provide sustainable transportation travel options for our residents.

The primary component of this survey is a travel diary where individuals who take the survey will record the trips that they make on a given day. This data was compared with other surveys that are typically used to assess transportation mode share. This included the National Household Survey (NHS) undertaken by Statistics Canada which asks the usual mode of travel to work (approximately 16% of all daily trips and the most regular) and TransLink's trip diary survey which is a daily travel diary. Both are undertaken about every five years.

The panel survey results are similar to the results of the NHS survey when comparing trips related to journey to work even though the survey methodologies are quite different. The journey to work trip is often the easiest trip to report as it is generally consistent from day to day. These account for about 16% of all trips.

When comparing to TransLink's trip diary survey, the panel survey has a higher number of trips reported, particularly for walking. This is likely due to the survey method which could affect the number of discretionary trips reported. In the trip diary one household member is responsible for collecting all the trip information for a household and there is potential that some of the other family member's trips could be under reported. In the panel survey the respondent is only responsible for their own trips which they would be less likely to under report. It could also be due to uncertainty in what is considered a trip. Through the panel survey, additional effort was directed towards an instructional video to help outline what constitutes a trip and how to fill out the survey.

As this survey is the first panel survey undertaken and the methodology is slightly different than the trip diary, future panel surveys will be needed to determine trends and to be able to assess vehicle kilometres travelled. However there are some key summaries that can be made from this data:

1) Sustainable mode share at **48%**-This survey indicates that with better capture of the walking trips the sustainable mode share is in the range of 48% for walk, bike and transit. It is expected that a large portion of the difference from the 44% sustainable mode share from TransLink's trip diary survey in 2011 is due to the better capture of walk trips and discretionary travel. It is not anticipated that there would be such a large change in walk trips and percentage of sustainable modesin the next panel survey.

2) Downtown Vancouver has the highest walk mode share with walking being the predominant mode of travel in this area.

3) 40% of city residents indicated that they regularly or occasionally cycle with the zones closest to the metro core being the highest and one zone as high as 60%. The highest cycling mode share areas with over 10% of daily trips on bike were the Vancouver Port (Strathcona and Grandview Woodlands) and Vancouver Kitsilano (West Point Grey and Kitsilano) transportation zones.

4) 42% of city residents indicated that they used transit as their usual mode of travel to work with the highest percentage in the downtown at 48% and other areas surrounded by rapid transit.

5) 72% of Vancouver residents have regular access to a private vehicle and the Vancouver Kerrisdale zone (Kerrisdale, Southlands, Dunbar, Arbutus Ridge) has the highest auto mode share with over ¾ of trips occurring by car either as a driver or passenger.

The next panel survey will be undertaken in fall of 2014 and at this point more commentary could be included on trends with a second year of data with the same methodology.

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1.   Introduction

Vancouver is recognized as one of the most livable cities in the world, due in no small part to the way in which the built environment respects and magnifies its natural surroundings. This delicate balance is put under pressure as the City grows to accommodate new residents and businesses. The Greenest City Action Plan and Transportation 2040 offer appealing visions of how the City of Vancouver's (the City's) transportation network plays a key role in shaping the future growth of the City.

In many respects, that vision is already taking shape, with the shifting live-work balance on the downtown peninsula supporting a greater number of trips by walking, cycling, and transit. The launch of the Canada Line and the 2010 Winter Olympics were a proving ground for demonstrating the latent demand for sustainable modes of transportation. The City's commitment to separated bike lanes and transit oriented development has also gone a long way to support more sustainable modes of transport. To build off of these successes and to design policies that can spread similar gains in sustainable mode split and reductions in vehicle kilometres travelled (VKT) to other parts of the City, it is critical to track the effectiveness of different initiatives as well as market conditions on changing travel behaviour. Beyond the City's current data sources, a Panel Survey, is the best tool to capture such trends.

> The City's role in transportation includes: building and maintaining infrastructure; shaping land use through guidelines and policies; managing demand through regulations and pricing; collaborating with adjacent communities and senior levels of government; and educating citizens.

1.1   Purpose

A panel of Vancouver residents is recruited to serve on the transportation panel. The Panel Survey is a one-day personal travel diary covering weekday trips by any mode or purpose of travel that captures accompanying household and personal demographic information. This excludes commercial driver trips, such as those driving trucks, buses, and taxis.

The objectives of the Panel Survey are to:

a)   Assess the travel mode share and number of trips for nine transportation zones in the City;

b)   Assess the annual vehicle kilometres travelled by City residents; and

c)   Determine factors that have contributed to changes in mode share, including measuring changes in opinions and attitudes.

The survey can potentially be expanded to track other pertinent measures, such as health metrics, in the future.

The 2013 Panel Survey will establish a benchmark of travel behaviour that will be tracked, allowing the City to accurately capture trends in the key parameters of mode share and distance driven. Over time, the City can then be better positioned to determine which of its policies and projects have resulted in the desired changes in travel behaviour. This survey approach is unique to previous regional travel surveys in that this survey will be longitudinal aim to measure relative annual change in travel behaviour amongst a group of panel members rather than comparing results of a new random sample of households every three to five years. It is anticipated that 2- 3 survey periods would need to be undertaken to start drawing conclusions on mode share change, reasons for mode shift and vehicle kilometers travelled. The panel survey will also be benchmarked against regional trip diary surveys and the NHS that occur approximately every 5 years.

1.2   Sustainability

Shifting mode share to active forms of transportation, including walking, cycling, and access to transit services, yields not only environmental, but also socio-economic benefits including:

- Climate change mitigation through reductions in fossil fuel usage and associated greenhouse gas (GHG) emissions;

- Avoided vehicle operating costs, collision costs, etc.

- Health benefits associated with:

  o   Incorporating physical activity into daily routines;

  o   Localized reductions in Criteria Air Contaminants (CACs);

- Enhanced community livability when taking into account:

  o   Social connectedness – residents more engaged within their own neighbourhoods

  o   Improved security – following Crime Prevention Through Environmental Design (CPTED) principles – due to greater use of the public realm;

  o   Avoided transportation costs into the housing affordability equation.

- Postponement of investments in infrastructure renewal due to lesser demand, which can be redirected to more pressing City needs.

Collecting trend data on these key areas provides evidence to support ongoing policy refinement and level of capital investment for sustainable modes as the City works towards its Transport 2040 targets.

1.3   Structure of the Report

This report is organized into six main sections as follows:

1. **Introduction** – This section provides the context and outlines the goals of the study.

2. **Survey Methodology** – This section describes the survey instrument and the process used to recruit the panel. It also explains the weighting and expansion of the panel to be statistically representative.

3. **Panel Characteristics** – This section corresponds to the 'Person File' in the survey data, and includes general demographic information on age, gender, and household income of Panel members. This section also sheds light on the Panel's vehicle ownership, car-sharing, transit, and cycling tendencies.

4. **Trip Characteristics** – This section corresponds to the 'Trip File' in the survey data and features the bulk of the analytical work in the report: comparing the Panel Survey results with TransLink's 2011 Regional Trip Diary survey data.

5. **Comparison to Talk Vancouver Panel** – This section provides a comparative analysis of the randomly recruited panel versus the voluntary Talk Vancouver panel.

6. **Findings and Next Steps** – This section highlights general themes from the inaugural Panel Survey, and lays out the work program over the coming months leading up to the 2014 Panel Survey.

2.   Survey Methodology

2.1   Survey Instrument

The survey instrument utilized in the 2011 Pilot Survey was developed to focus on the City's objectives of tracking mode share, vehicle-kilometres travelled (VKT), and other key parameters. The survey was designed in collaboration with City staff and market research experts. The resulting survey instrument seeks general structural alignment with TransLink's Regional Trip Diary Survey and is designed to be robust so that minimal changes will be required in future years. It also strikes a balance to minimize participant fatigue, especially since data will be collected over several years. Participants were entered into a random draw – winners received passes to City facilities and attractions – to incentivize participation while not biasing outcomes.

Residents were recruited by two methods: 1) random probability telephone sampling by Mustel Group and 2) Talk Vancouver online panel invitations sent by the City. For the telephone method Mustel Group conducted random probability sampling to best reflect the population demographics in the nine transportation zones. A parallel survey was conducted among the City's Talk Vancouver panel, an opt-in online panel established by the City of Vancouver in the fall of 2013 using a variety of recruitment efforts. Differences between the Mustel recruits and the Talk Vancouver panel are analyzed in Section 5.

The survey had two main components a "person component" and a "trip component".

In the person component of the questionnaire, the participants were asked to provide the following, as applicable to assist in expansion of the data and obtain general transportation characteristics:

- Demographic information (age, gender, employment, household income, ethnicity)
- Home and work addresses
- Degree of access to different modes of transportation (private vehicle, car-share, bicycle, transit)
- Usual travel habits

In the trip component, participants were required to provide the following details for all trips made during their assigned reporting day, which is used to estimate trip characteristics for the City including:

- Start/end location
- Time of day
- Purpose of trip
- Mode of transportation
- Odometer readings (for those who reported driving trips)

The complete survey instrument is included in **Appendix A**.

2.2   Data Collection and Sampling

The sampling strategy was designed to recruit a longitudinal panel representative of residents across Vancouver's nine sub-areas (referred to as transportation zones from here-on) that have also been used in TransLink's trip diary survey.   **Exhibit 2-1** shows how Vancouver's nine transportation zones relate to the 22 neighbourhood areas within the city.

Exhibit 2-1 *- Transportation Zones and Neighbourhood Zones in Vancouver*
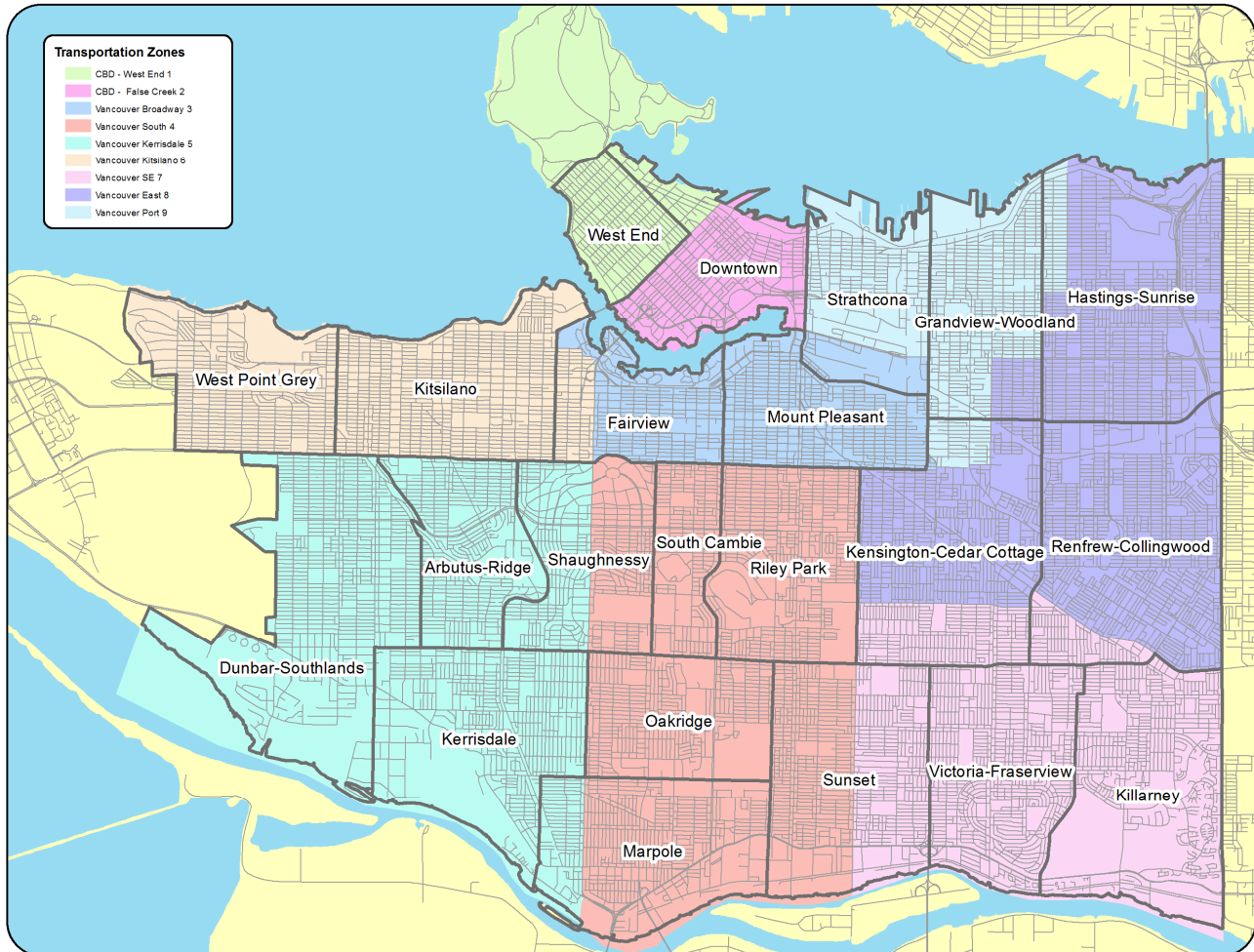
Exhibit 2-2 shows proportionate sampling targets, based on 2011 Census data required to achieve a representative total of 2,500 residents, excluding any recruiting efforts for the Talk Vancouver panel which was recruited separately. Initially, the Panel survey was designed to include only people aged 18 years or above. The rationale for this age group being that early in the study a question regarding an individual's health number was going to be asked. This was later expanded to include people 15 years and above. The total estimated 15+ population from the 2011 Census is approximately 510,450. Of the population 15+, a 0.5% random sample of residents was achieved, similar to previous trip diary surveys which instead use the household as the sampling unit.

Exhibit 2-2 – *Trip Diary Targets By Transportation Zone (Population 15+)*

	Transportation Zone	2011 Census Data			Proportionate Sample
		Total Population	Population 15+	Proportion 15+	
1	CBD – West End	60,198	57,263	11.2%	280
2	CBD – False Creek	56,284	52,436	10.3%	257
3	Vancouver Broadway	55,167	50,975	10.0%	250
4	Vancouver South	80,109	68,849	13.5%	337
5	Vancouver Kerrisdale	58,926	49,427	9.7%	242
6	Vancouver Kitsilano	61,719	54,539	10.7%	267
7	Vancouver SE	77,387	65,568	12.8%	321
8	Vancouver East	89,516	76,915	15.1%	377
9	Vancouver Port	38,402	34,478	6.8%	169
	Total	**577,708**	**510,449**		**2,500**

The panel recruitment process began in early October 2013, once fall travel patterns had stabilized. The recruitment process continued on throughout the fall, with the bulk of recruits registering in November. In the future it would be preferable to undertake the survey slightly earlier to capture more surveys in late September and October which are more representative of typical travel patterns. However, due to drier and warmer weather conditions that occurred through the fall of 2013 it is expected that this later timeline should still be representative of earlier fall conditions.

Mustel Group recruited panel participants using a random probability sampling method. The panel characteristics (e.g., age, gender, first generation ethnic) were closely monitored during recruitment. For the random probability sampling, Mustel Group's sample frame consisted of i) published landlines stratified by the City's nine transportation zone designations and ii) random-digit generated cell phone numbers within City of Vancouver rate centres. The random-digit cell phone sample enables expanded coverage to include residents without landlines. While the published landline sample was pre-tagged by zone, the cell phone sample can only be tagged by zone after the interview. City residency and the geographic zone was confirmed for all respondents during the interview process. Within selected households, respondents were chosen at random (e.g., next birthday) or targeted by age/gender as required.

Travel days for recording of trips were assigned at random with a goal to equalize the days of the week (Monday to Friday, as required).

Highlights from the recruiting sample include the following:

- A total of **2,787** respondents completed the trip diary, **2,517** from Mustel's telephone recruitment (of which approximately 20 respondents were aged between 15 and 17) and **270** from the Talk Vancouver panel. **Exhibit 2-3** presents a breakdown of these respondents by geographic sub-area. The target figures show the number of samples required in order to match the proportions from the census. **Exhibit 2-4** shows the geographic distribution of the panel members and Talk Vancouver members.

- **56%** of respondents were female, **44%** were male, in both the random sample and Talk Vancouver panels.

- **1,883** respondents had access to a private vehicle in the random sample, though only **1,697 (90%)** entered an odometer reading for their vehicle. Amongst the Talk Vancouver panel, **116** respondents had access to a private vehicle, though only **77 (63%)** entered an odometer reading for their vehicle.

A detailed breakdown of the recruitment process is included as **Appendix B**.

Exhibit 2-3 – Completed Trip Diaries by Transportation Zone

Transportation Zone		Mustel	Target	Δ Target	% Difference	Talk Vancouver	Mustel + Talk Vancouver
1	CBD – West End	266	287	-21	-7%	45	311
2	CBD – False Creek	169	263	-94	-36%	27	196
3	Vancouver Broadway	322	251	71	28%	42	364
4	Vancouver South	312	333	-21	-6%	38	350
5	Vancouver Kerrisdale	294	237	57	24%	23	317
6	Vancouver Kitsilano	348	271	77	28%	36	384
7	Vancouver SE	276	317	-41	-13%	8	284
8	Vancouver East	293	371	-78	-21%	19	312
9	Vancouver Port	237	170	67	39%	32	269
Total		**2,517**	**2,500**	**17**	**0%**	**270**	**2,787**

Exhibit 2-3 shows that some of the transportation zones were over sampled and some were under sampled. Clearly more samples provides a more statistically reliable dataset and a lower sample can compromise the confidence levels in reported data. The CBD-False Creek area in particular was difficult to recruit panel members and, as such, results for this area were combined with the CBD-West End to provide combined results for downtown. Some caution should be exercised when interpreting findings for the CVD-False Creek area. Confidence levels are dependent on the variable that is being measured. Section 4.2 provides a summary of the confidence levels of the reported mode shares by transportation zone which provides an assessment of the reliability of the data for tracking travel patterns.

Exhibit 2-4 – Geographic Distribution of Panel Members
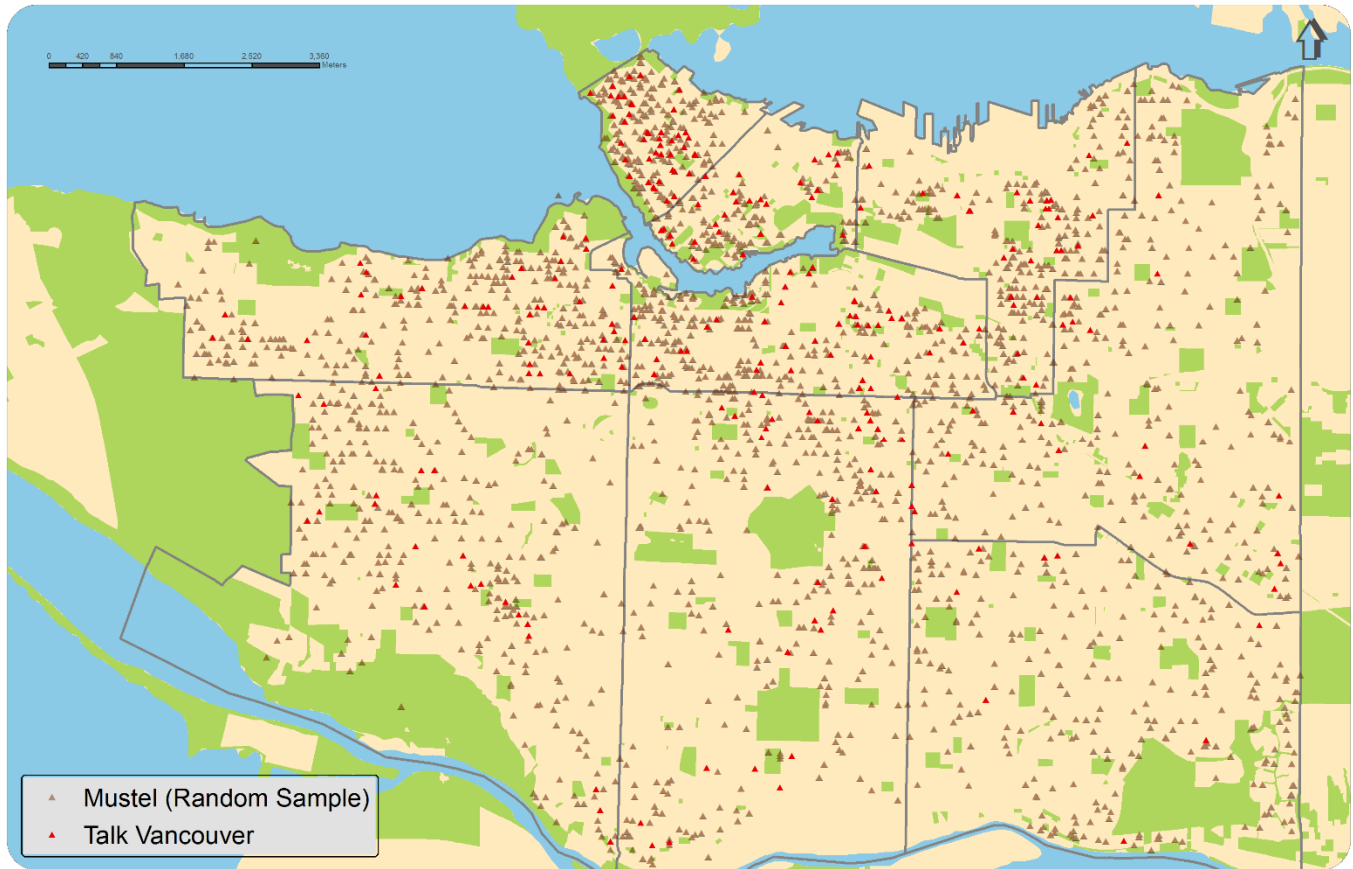
2.3   Survey Weighting and Expansion

The final survey data for the random sample only was expanded to the population of City of Vancouver residents aged 15+. The Talk Vancouver sample was not aggregated into the randomly recruited sample due to the over representation of areas and transportation travel characteristics of the sample. A firm specializing in sampling, mapping and census information, SM Research (Sampling, Modelling & Research Technologies Inc.), the firm that also provided the sample for survey recruitment, developed demographic projections for 2013 based on 2011 Census Data. Population forecasts were derived from the 2011 Census base population data by projecting change over the period 2011 to 2013 across a number of key demographic factors. The factors taken into account included birth rate, death rate, immigration and emigration for each age grouping within gender within the City's transportation zones. The factor changes were applied on a year-by-year basis to reach the final projections for 2013.

The travel survey represents 0.49 percent of the study area population (2,517 respondents out of 510,450 City of Vancouver residents over 15 years of age). As the data collected from this benchmark study is intended for transportation planning and forecasting purposes, this information must be expanded to the survey universe, that is, the total number of City of Vancouver residents of the same age group (15+).

To ensure a statistically representative sample, the weighting and expansion factors developed for the person and trip data collected in the COV Travel Survey 2013 matched known demographic characteristics for City of Vancouver transportation zones as well as age within gender.

2.3.1   Person Expansion

For the person data collected, the random survey sample was expanded on the basis of age categories within gender as well as within the City of Vancouver's geographic transportation zones. Note that although

there are nine such zones in the City, due to limited sample in geographic zone 2 (CBD – False Creek), this zone was combined with zone 1 (CBD West End) and treated as one to represent Downtown Vancouver in the expansion process.[1]

With 8 transportation zones and 3 age categories (15 to 34, 35 to 54 and 55 and over) within the two genders, this yielded a total of 48 weight expansion categories initially, plus additional expansion cells were included for respondents who refused age. Records with age refusal were represented as their actual proportion within the corresponding zone and gender. The number of age refusal records is very low at only 52 out of a total of 2,517 persons (2%). As a result, the age refusal expansion process has little to no overall effect on the age distribution. **Exhibit 2-5** shows the actual survey sample age and gender distribution prior to weighting.

Exhibit 2-6 shows the City's 2013 population estimates based on 2011 Census Data.

Exhibit 2-5 – Panel Survey Age and Gender Distribution

Gender	15-34	35-54	55+	Total
Male	3.94%	17.17%	22.73%	43.83%
Female	5.64%	21.02%	29.50%	56.17%
Total	**9.58%**	**38.19%**	**52.23%**	**100.00%**

Exhibit 2-6 – 2013 Demographic Projections (based on 2011 Census)

Gender	15-34	35-54	55+	Total
Male	17.57%	17.57%	13.53%	48.68%
Female	18.03%	18.00%	15.29%	51.32%
Total	**35.61%**	**35.57%**	**28.82%**	**100.00%**

Exhibit 2-7 illustrates the age and gender distribution of the survey sample versus the study area universe: (a) Mustel telephone recruits; (b) Talk Vancouver recruits. There is some over-sampling of older age groups (55-65 and 65+ age cohorts) and under-sampling of younger age groups (15-24 and 25-34 cohorts). The 15-34 age group is difficult to reach in any market research effort. This age group typically does not have a land line and cell phone lists do not contain the home location of cell owners, only the location where the cell phone was purchased. As such, it is expensive and difficult to target geographic transportation zones based on cell phone samples for younger age groups. This does present some challenges for tracking trends in travel behaviour, especially considering that this age group is most mobile, i.e., no children and not married.

The sample also features a higher proportion of female respondents. Both age and gender were weighted accordingly.

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[1] It was also decided to show the results of CBD-West End and False Creek in the report's analysis sections both individually and merged (sections 3-5,wherever relevant) to account for the low sampling in CBD-False Creek.

Exhibit 2-7 –Age and Gender Comparison (Unweighted Sample vs. Universe)
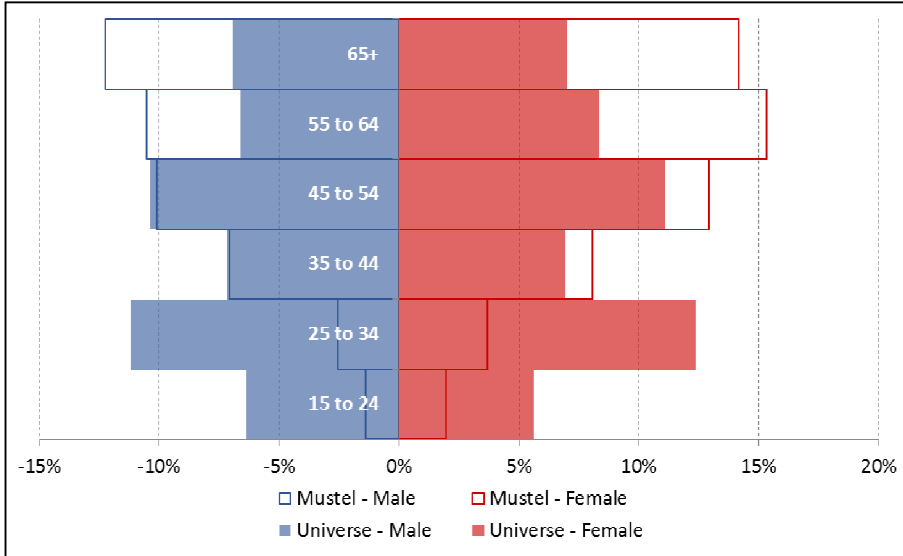
(a) Mustel Telephone Recruits (Unweighted Sample vs. Universe)
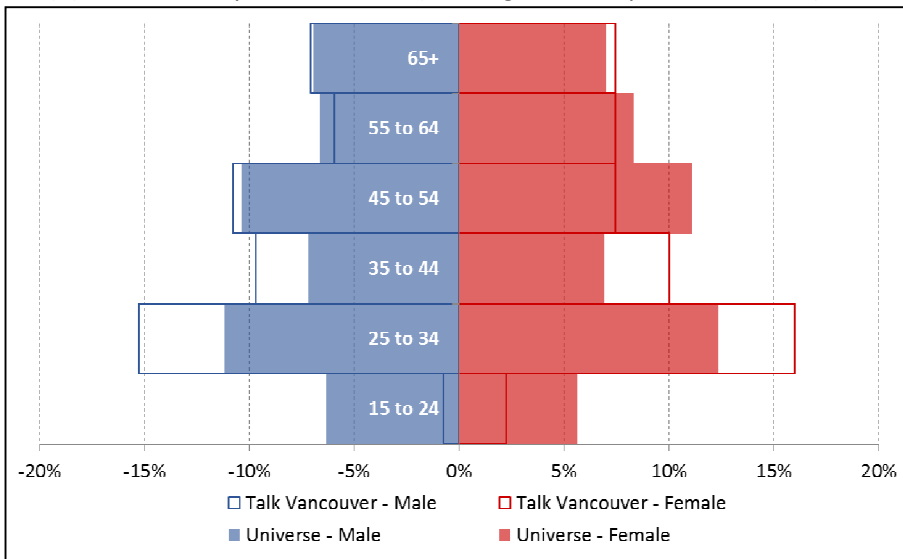
(b) Talk Vancouver Recruits (Unweighted Sample vs. Universe)

The expanded person weight above was then applied to trip data, but also included a weekday equalizer weight to balance out trip days of week (Monday to Friday). In the end, for the total sample size of 2,517 (for the random sample only) to be reflective of the entire 15+ COV population for this survey (510,450), the expansion factor applied to the dataset was 202.88. The expanded population includes people who reported 'rather not say' for the age question.

3.   Panel Characteristics

Key characteristics of the transportation panel are presented in the following thematic maps, which show the geographic distribution of these attributes. These summaries include only randomly recruited sample (after the weighting expansion) and not the Talk Vancouver sample as discussed in section 2.3. Only characteristics and trends of people aged 18+ are shown in this section[2].

The age distribution for each zone is presented in **Exhibit 3-1**. Note that the breakdown shown represents the expansion of the sample to the census control population by age group. The size of the pie chart represents the population size for the respective transportation zone. The CBD-West End, CBD-False Creek, Kitsilano, and Broadway zones have a high proportion of residents 34 and under.

Exhibit 3-1 – Age Distribution – Weighted Population
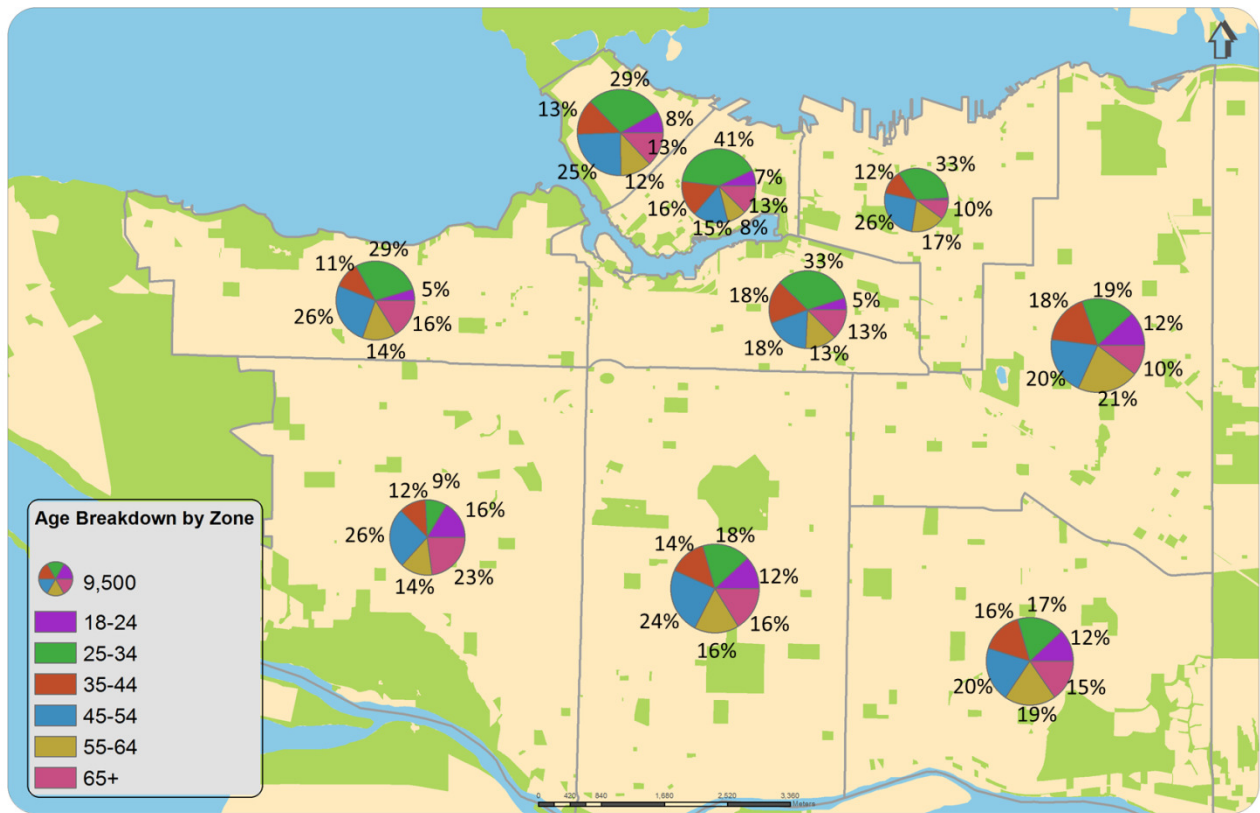
Household income can serve as a proxy for the transportation choices available to a panel member. The person's household income distribution is presented in **Exhibit 3-2**. Again, the size of the pie chart represents the population size for the respective transportation zone.

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2 TransLink's trip diary surveyed people aged five and above. The trip diary, however, only provided the age attribute by cohort. People aged 15, 16 and 17 were lumped in the 13-17 cohort. As such, while the data sampling and expansion details presented in this section include the 15-17 age cohort, it was decided to use the population 18+ as a basis for the analyses presented in this section as well as sections 4 and 5.

Exhibit 3-2 – Household Income Range – Weighted Population
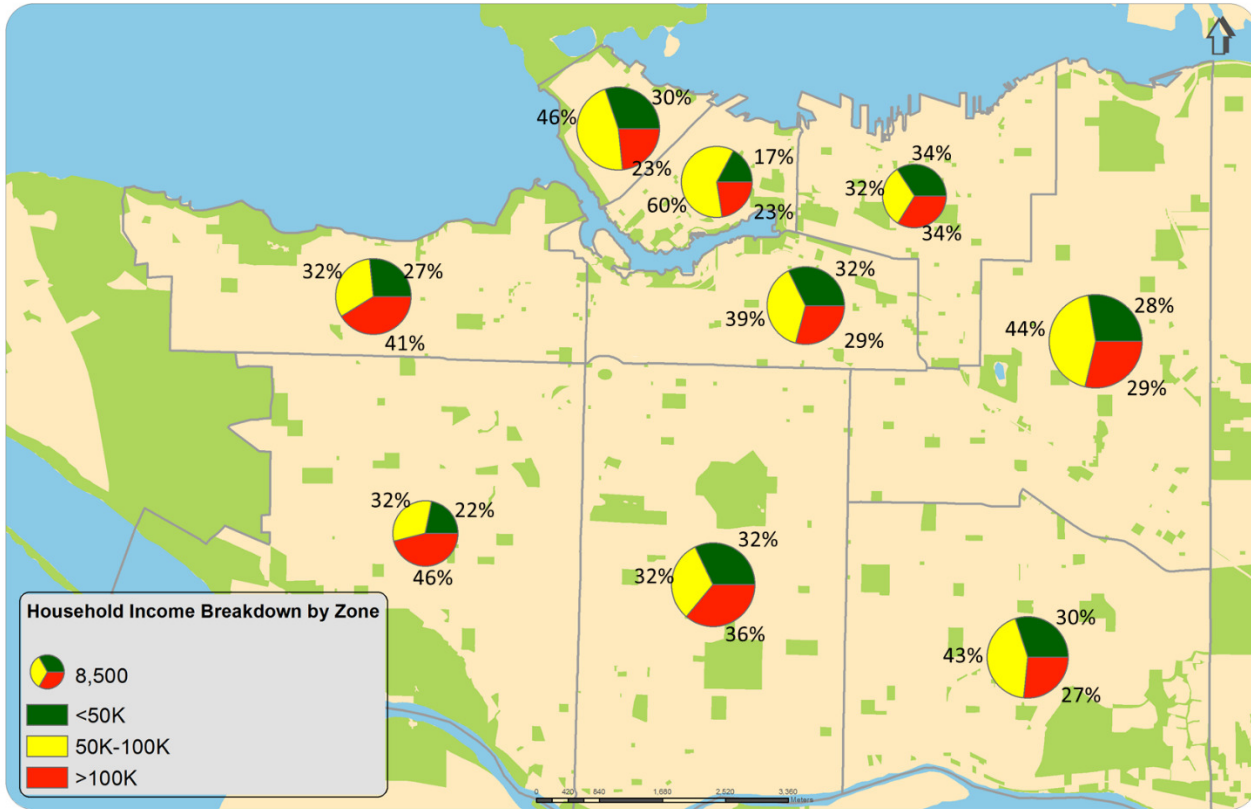
A key indicator in determining mode choice is access to a private vehicle. Those who have invested significant upfront costs to lease or own a vehicle are more likely to drive, since the incremental travel costs are relatively low. The distribution of those with access to a private vehicle is shown in **Exhibit 3-3**. The distribution generally follows that of household income with the exception of the CBD-False Creek transportation zone.

Car sharing programs such as Modo, Zipcar, and Car2Go have gained patronage in recent years. The distribution of those with regular access to a car-sharing program is shown in **Exhibit 3-4**. The Kitsilano zone has the highest concentration of car share patrons, followed by the CBD-False Creek and Port zones. The emerging car share market seems to be reducing the need to have access to a private vehicle.

Exhibit 3-3 – Private Vehicle Access
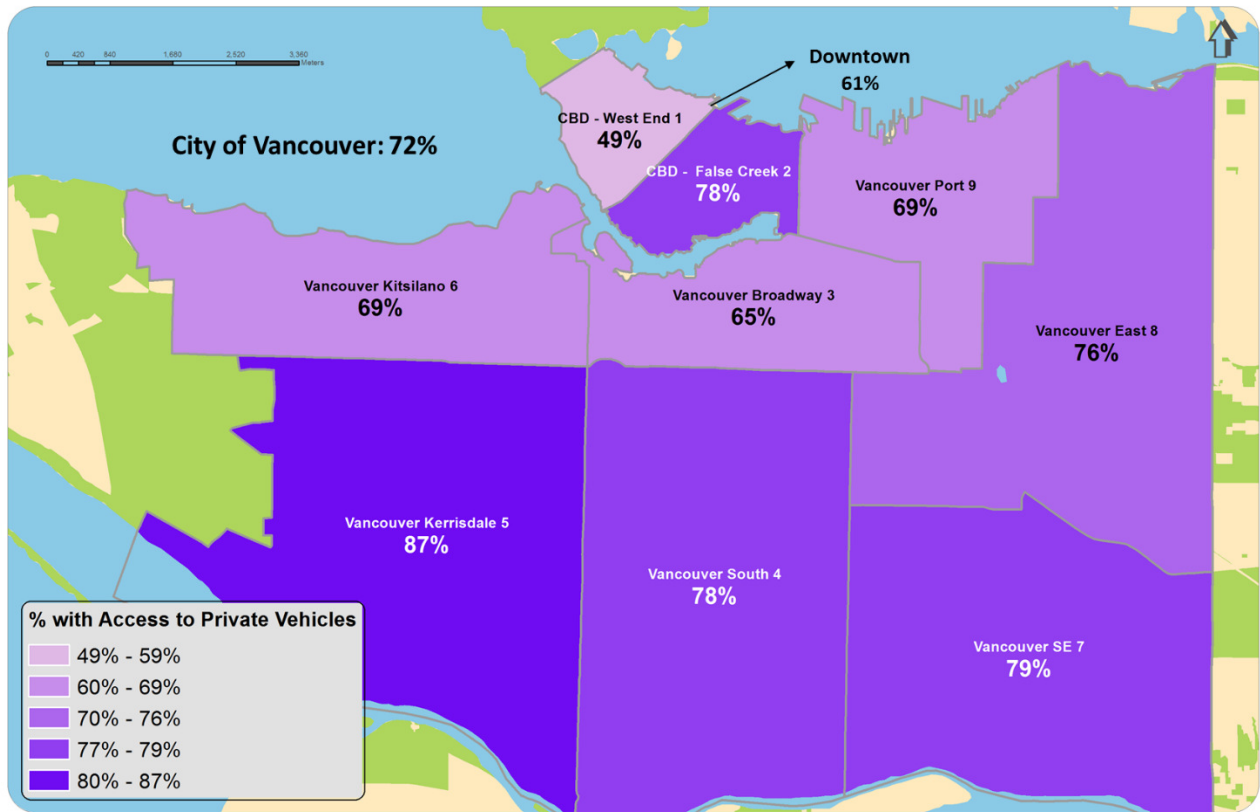
Exhibit 3-4 – Access to Car Sharing Program
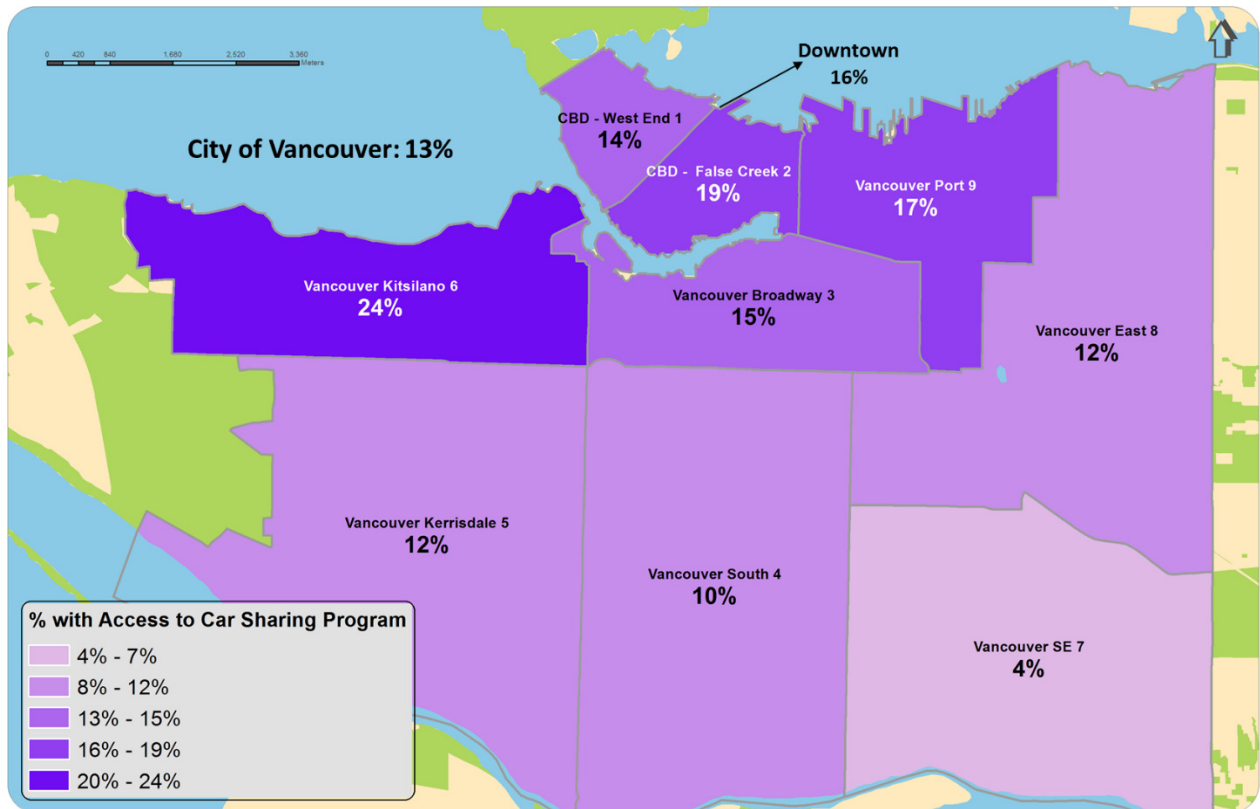
According to TransLink's 2011 Regional Trip Diary Survey, the largest transportation segment after drivers is made up of public transit patrons. **Exhibit 3-5** shows the distribution of regular transit users. In the panel

survey, regular transit users are represented by people who reported using transit as their main transportation mode for commuting (work/post-secondary trips). As expected, the pattern is nearly a mirror image of those with private vehicle access. While TransLink and ultimately the Province have responsibility for transit provision, the City can also take an active role in supporting transit usage by improving walking and cycling connections to bus stops and SkyTrain/Seabus stations.

Exhibit 3-6 and
Exhibit 3-7 show Vancouver residents' preference in terms of transit fare payment. In general, a higher percentage prefers using fare savers in comparison to transit passes (such as monthly passes). This result is somewhat expected specially that most of the city's residents have access to a private vehicle, whereas only the transit captive market would be expected to prefer transit passes.

Exhibit 3-5 – Regular Transit Users (People who identified transit as preferred commuting mode)
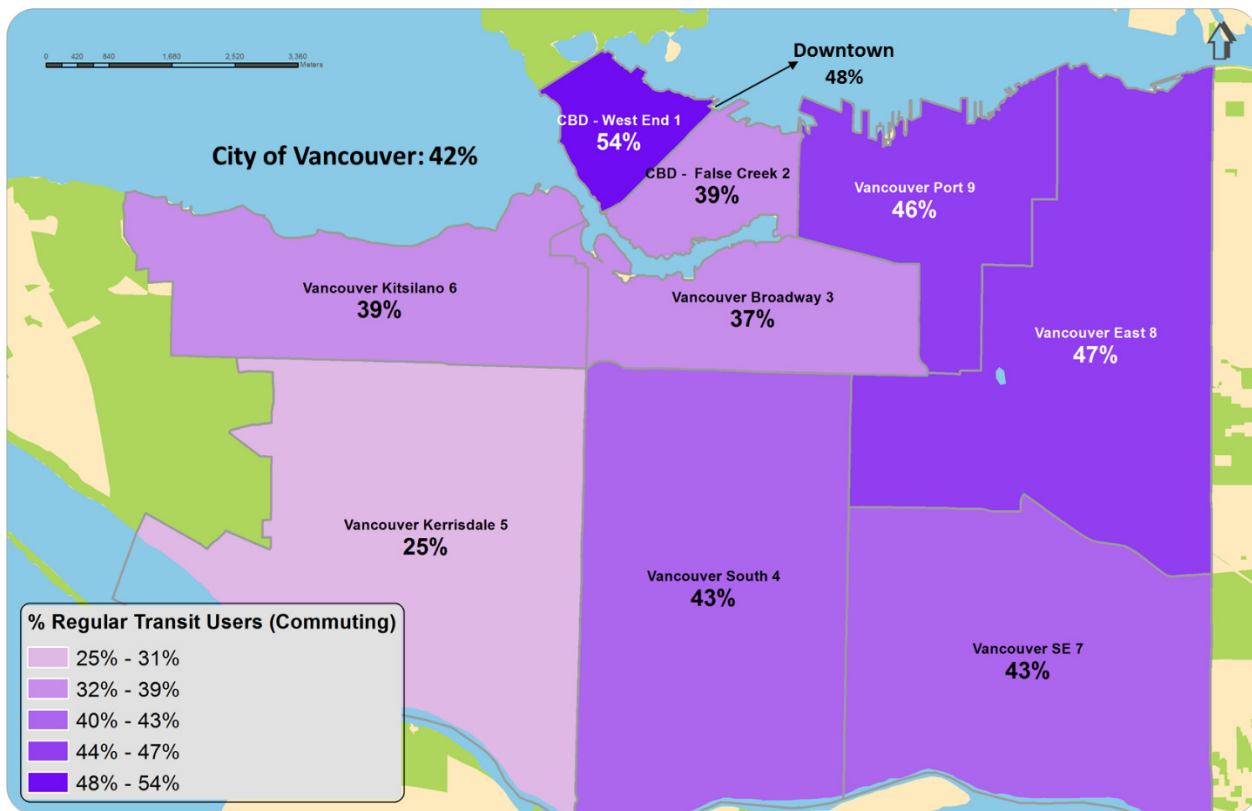
Exhibit 3-6 – *People Reporting Transit Passes as Favored Method of Payment*
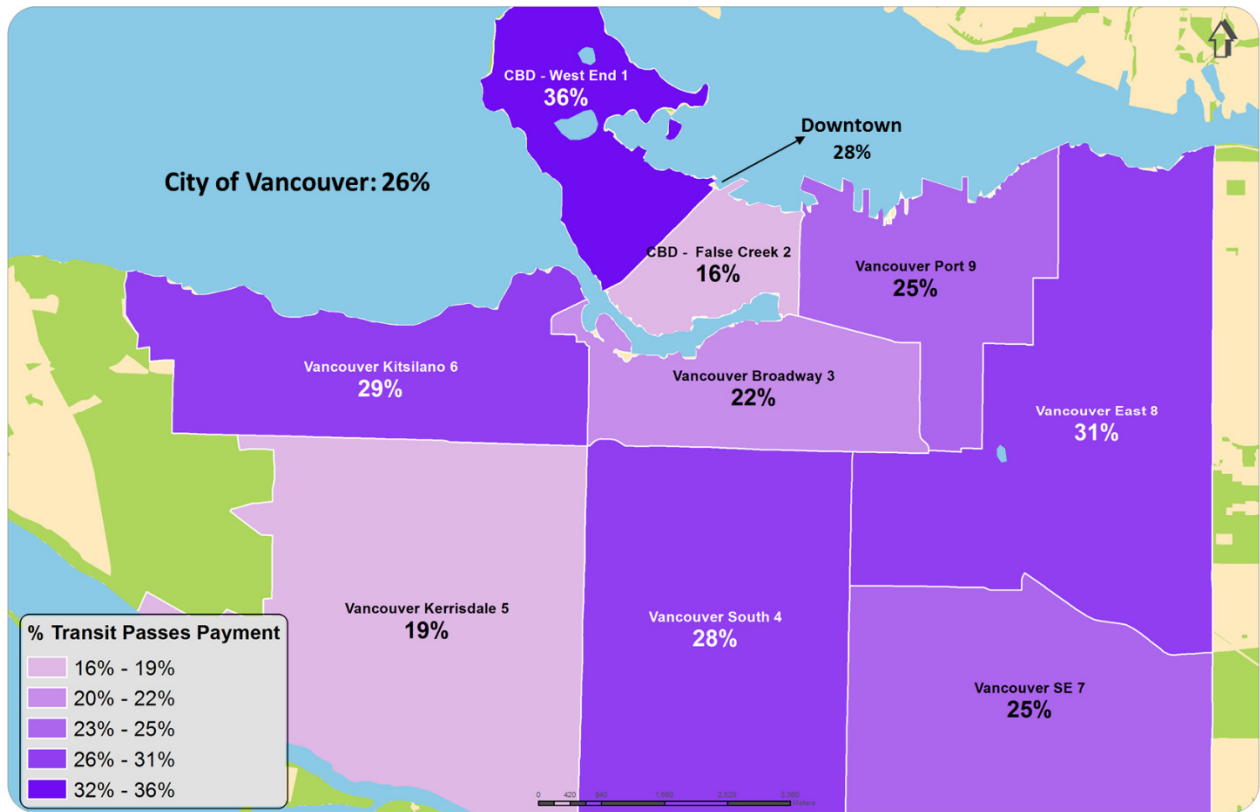
Exhibit 3-7 – People Reporting Fare Savers as Favored Method of Payment
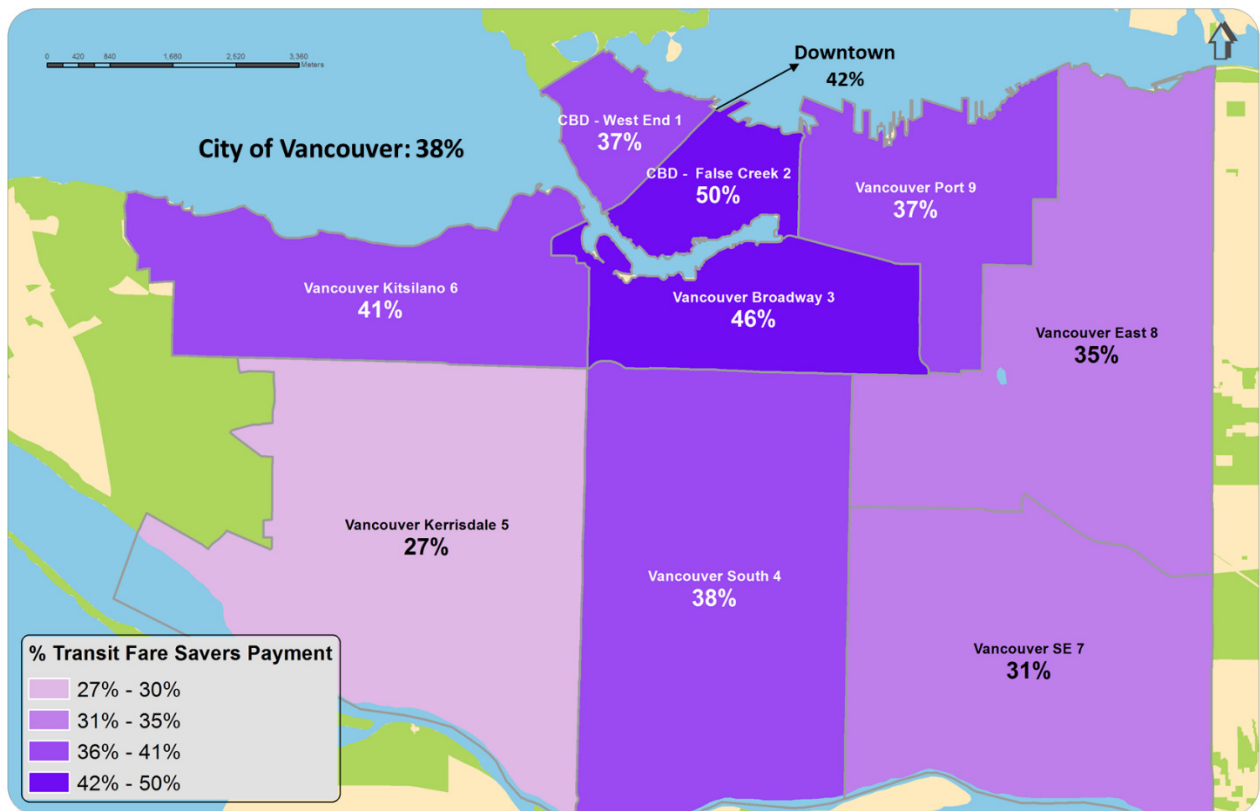
In accordance with the vision set out in successive transportation plans – most recently in Transportation 2040 – the City has taken steps to complete a bicycle network that is designed for people of all ages and

abilities. In particular, cycling infrastructure has been expanded within the CBD transportation zones, and is underway on Point Grey Road in Kitsilano.

Exhibit 3-8 maps the distribution of the respondents from the survey that indicated they cycled regularly year round. There was not a definition provided and it was left to the responded to choose between regularly year round, occasionally, rarely or never. The highest concentration is within the Port transportation zone, with another significant segment in those zones surrounding False Creek (i.e. Kitsilano, Broadway, CBD-False Creek).

Exhibit 3-9 adds occasional cyclists to the mix; the general patterns remain consistent. This data can be helpful in informing future policy directions for cycling and where investments could see highest returns.

Exhibit 3-8 – Regular Year Round Bicycle Users
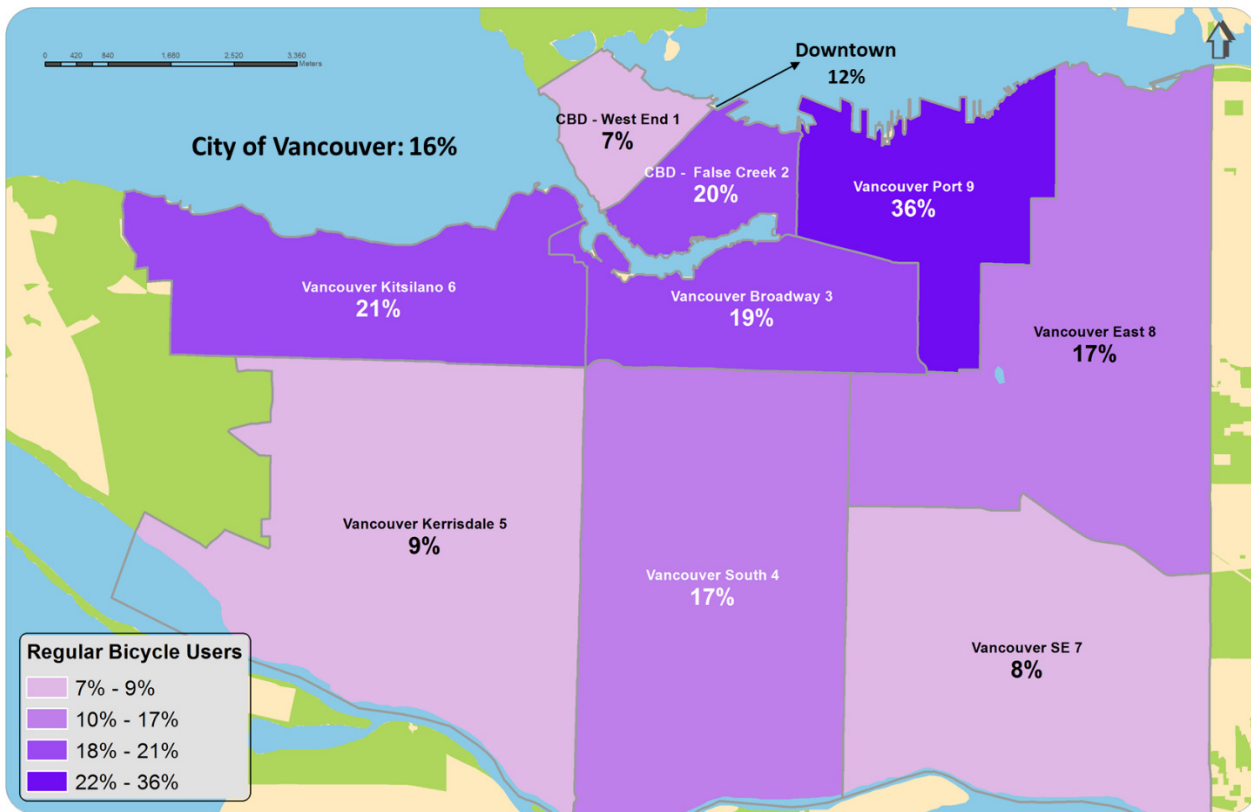
Exhibit 3-9 – *Occasional and Regular Year Round Bicycle Users*
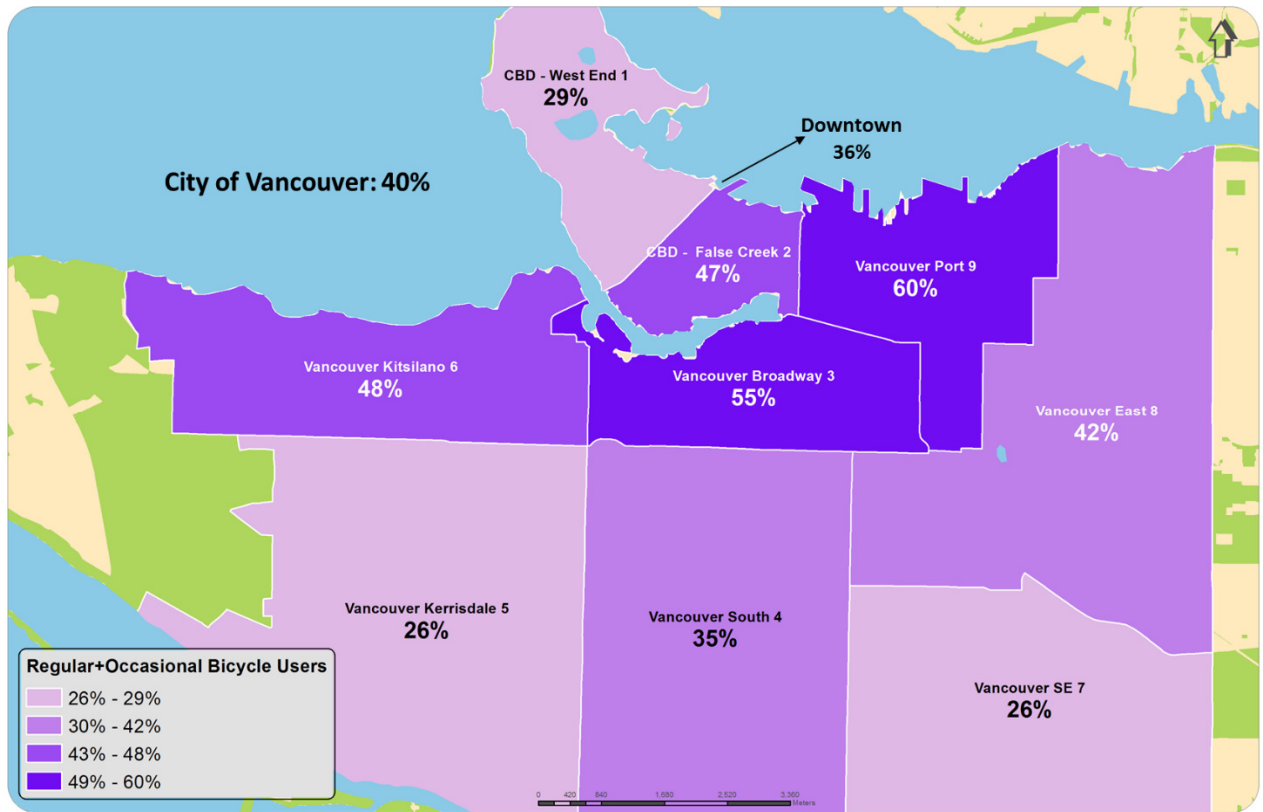
4.   Trip Characteristics

One of the main objectives of the panel survey is to track trends in transportation choices, especially as they relate to specific City initiatives and infrastructure improvements. As this is the inaugural panel survey, there are no trends to identify per se. Instead, this analysis section is focused on comparing the panel survey results to the 2011 Regional Trip Diary survey administered by TransLink. Upcoming panel survey reports will include comparisons to past panel surveys and future Trip Diary results as they become available. One of the main differences between the two surveys is how the trip information is collected. In the Trip Diary, one household member fills in travel information for all other household members and there is a tendency to under report some of the non-work based trips, or discretionary trips, throughout the day. In contrast, trips for the panel survey are reported out by individuals. In the latter case, more discretionary trips (which have a substantial walking mode share) are more likely to be recorded.

Comparisons to Trip Diary survey data are done for the City of Vancouver for persons aged 18 and over, excluding the University Endowment Lands (UEL).

The panel is representative of an expanded population of **495,000** people aged 18 or above[3]. The 2011 Trip Diary represents an expanded population of **510,000** people aged 18 or above. The Trip Diary included a significant number of respondents (approximately **87,000**) who reported making no trips. As such, the panel has approximately 15% more trip-making people compared to the Trip Diary. In the remainder of the report, direct comparisons will be made against the common trip-making populations only. Furthermore, the difference in the expanded population totals for the City of Vancouver is attributable to different methods to expand the survey data. The Trip Diary Survey is expanded at the household level and included the UEL when developing the zonal expansion factors. As such, there will be some difference when compared to the expanded population in the Panel Survey.

4.1   Demographic Comparison

Exhibit 4-1 shows that the gender distribution of the panel survey is almost identical to that of the Trip Diary with marginally more females responding compared to males.

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[3] People who did not report an age were assumed to be 18 or above as most of them reported to be full-time employed.

Exhibit 4-1 – Gender Distribution

Panel Survey vs. Trip Diary Gender Distribution
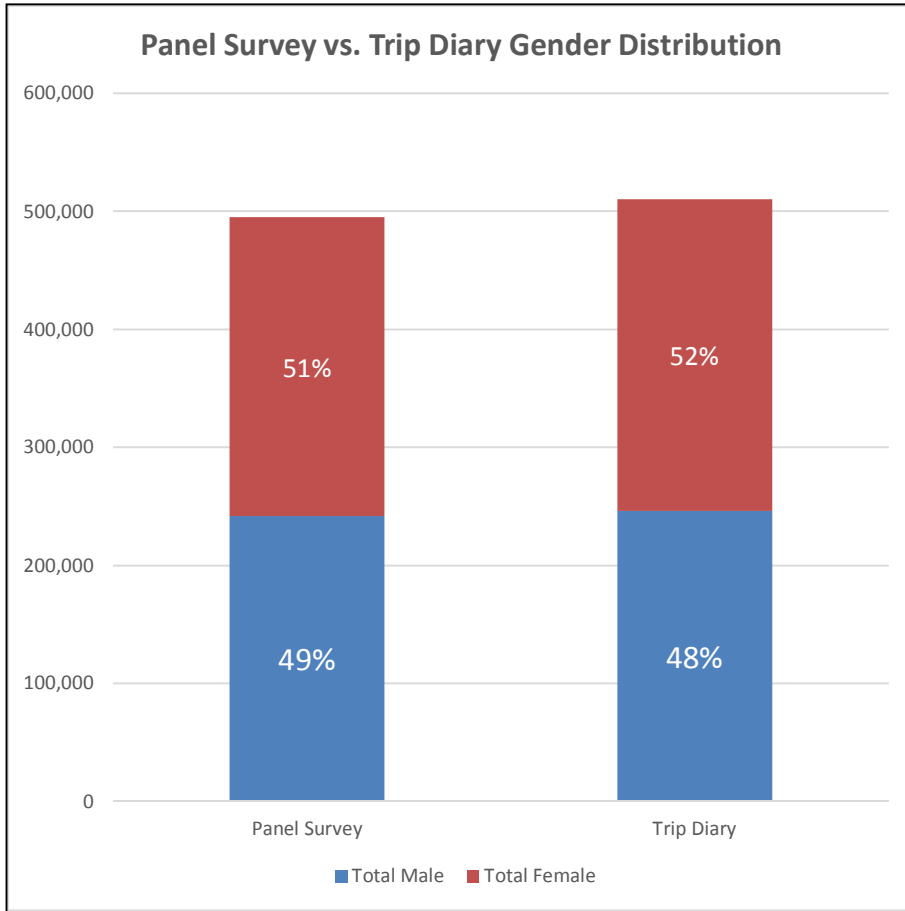
Exhibit 4-2 shows differences in the age distribution of the panel survey from that of the Trip Diary. Of note, the panel's 45-64 age cohort is larger than that of the Trip Diary. This may be attributed to the different sampling methodologies employed between the two surveys.

Exhibit 4-2 – Age Distribution
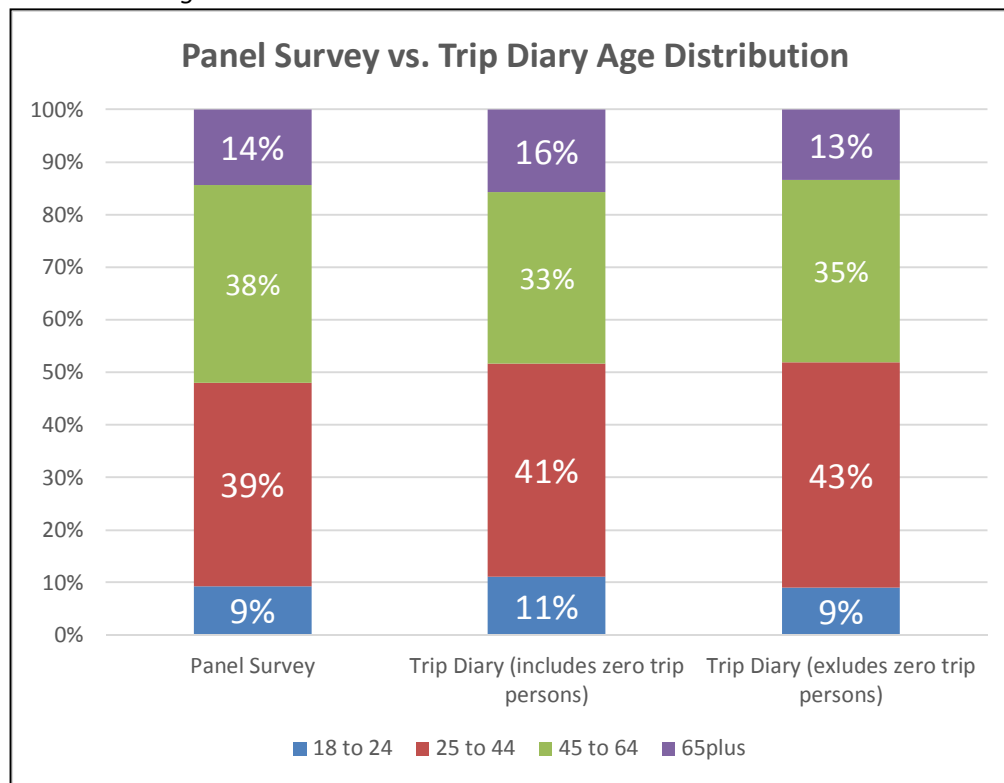
4.2 Mode Share

The City is particularly interested in tracking how sustainable mode share grows over time. **Exhibit 4-3** compares the overall mode shares of the Panel Survey and the Trip Diary. In this initial snapshot, it is evident that the panel has a significantly higher walking mode share which brings down the share of other modes.

As noted previously the difference in reported mode shares is likely due to the individual reporting versus household reporting described at the beginning of section 4. This is supported by the time of day distribution results, described in **Section 4.4**. Higher reporting of discretionary travel could also be a result of an instructional video that clearly explained the survey, how to fill out the diary and definition of a trip. The difference in the total number of trips is likely a result of difference survey methodologies between the Panel Survey and the Trip Diary and how the two are expanded.

Exhibit 4-3 – Total Trips per Mode and Mode Share (Panel Survey vs. Trip Diary)
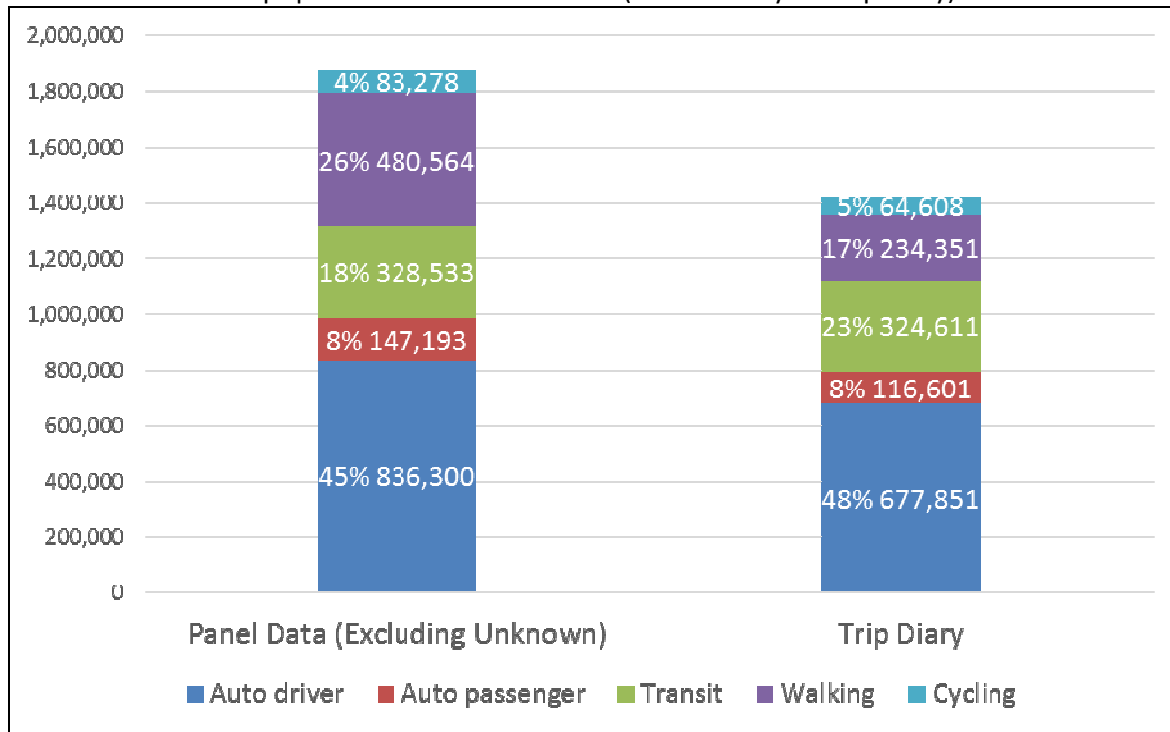
Exhibit 4-4 compares the Panel Survey mode share, broken down by transportation zone residents (regardless of the actual location of the trip origins and destinations), for the Panel Survey and the Trip Diary. The Panel's transit mode share in CBD-False Creek is lower than the trip diary. It would appear that the higher number of trips in the other categories creates a lower transit mode share

Similar the transit mode share in other transportation zones seems lower. This will be an area to monitor in future panel surveys to see if the number of trips becomes more consistent with the similar reporting methodology in future years.

Exhibit 4-5 summarizes the Panel Survey sustainable mode share (transit, walking and cycling) by transportation zone. It also highlights the 95% and 90% confidence intervals of these results as well as the number of samples required to achieve a +/- 5% mode share error range at the 95% confidence level. With the exception of CBD-False Creek and Vancouver Port, the 95% confidence intervals fall within the +/- 5% to 6% error range. At the 90% confidence level, only CBD-False Creek falls outside the +/-5% mode share error range.

Exhibit 4-6 compares the mode share by age distribution between the Panel Survey and the Trip Diary. As expected and observed in previous trip diary surveys, people in the 18-24 and 25-44 cohorts tend to use sustainable mode shares (transit, walking and cycling) more than the 45+ cohort. The Panel Survey does indicate higher walking mode shares across all cohorts in comparison with the trip diary. Note that the Panel Survey data shows zero cycling trips for the 18-24 age group. This is likely due to the low sample in this age group and does not mean there are actually no bike trips made by this age cohort. It is just due to the random sampling of residents that none of the respondents used a bicycle on their survey day.

Exhibit 4-4 *– Mode Share by Transportation Zone Residents*

Panel Data

Zone	Auto Driver	Auto Passenger	Transit	Walking	Cycling
Vancouver Port	36%	5%	18%	29%	11%
Vancouver East	53%	7%	20%	15%	5%
Vancouver SE	56%	12%	16%	14%	2%
Vancouver Kitsilano	41%	5%	19%	26%	10%
Vancouver Kerrisdale	67%	9%	7%	14%	2%
Vancouver South	48%	9%	20%	19%	3%
Vancouver Broadway	38%	9%	18%	30%	5%
Downtown (West End & False Creek)	26%	6%	19%	46%	2%
CBD - False Creek	31%	6%	10%	51%	2%
CBD - West End	23%	6%	26%	43%	2%

Trip Diary

Zone	Auto Driver	Auto Passenger	Transit	Walking	Cycling
Vancouver Port	37%	6%	29%	18%	10%
Vancouver East	55%	9%	24%	8%	5%
Vancouver SE	59%	10%	23%	6%	1%
Vancouver Kitsilano	46%	6%	24%	18%	6%
Vancouver Kerrisdale	64%	9%	15%	9%	2%
Vancouver South	54%	10%	21%	11%	4%
Vancouver Broadway	39%	7%	24%	22%	8%
Downtown (West End & False Creek)	29%	6%	24%	37%	3%
CBD - False Creek	33%	7%	21%	36%	3%
CBD - West End	26%	6%	27%	38%	4%

Exhibit 4-5 – Sustainable Mode Share By Transportation Zone and Sample Size

	Transportation Zone	Sustainable Mode Share	95% Confidence Interval	90% Confidence Interval	No. of persons sampled (18+ population)	Sample Size Required at 95% Confidence Interval for Mode Share error range of +/-5%
1	CBD – West End	71%	(65%-76%)	(66%-75%)	266	334
2	CBD – False Creek	63%	(55%-70%)	(57%-69%)	168	370
1 and 2	**Downtown**	**67%**	**(63%-72%)**	**(64%-71%)**	**434**	**340**
3	Vancouver Broadway	53%	(48%-59%)	(49%-58%)	322	381
4	Vancouver South	43%	(37%-48%)	(38%-47%)	308	352
5	Vancouver Kerrisdale	24%	(19%-29%)	(20%-28%)	290	297
6	Vancouver Kitsilano	54%	(49%-59%)	(50%-58%)	344	384
7	Vancouver SE	32%	(27%-38%)	(28%-37%)	273	327
8	Vancouver East	40%	(34%-46%)	(35%-44%)	287	354
9	Vancouver Port	59%	(52%-65%)	(53%-63%)	236	377
City of Vancouver		**48%**	**(46%-49%)**	**(46%-49%)**	**2,494**	**3,175**[4]

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[4] The total samples required (3,175) for the City of Vancouver reflects the sample size if a +/-5% mode share error range is desired at each of the nine transportation zones.

Exhibit 4-6 – *Mode Share by Age Distribution*[5]

Panel Data

Age Group	Auto Driver	Auto Passenger	Transit	Walking	Cycling
18 to 24	15%	13%	48%	24%	
25 to 44	39%	8%	20%	29%	4%
45 to 64	53%	6%	13%	23%	6%
65+	52%	10%	10%	25%	3%

Trip Diary

Age Group	Auto Driver	Auto Passenger	Transit	Walking	Cycling
18 to 24	22%	9%	52%	14%	2%
25 to 44	48%	7%	22%	18%	6%
45 to 64	56%	8%	17%	15%	4%
65+	45%	13%	23%	17%	2%
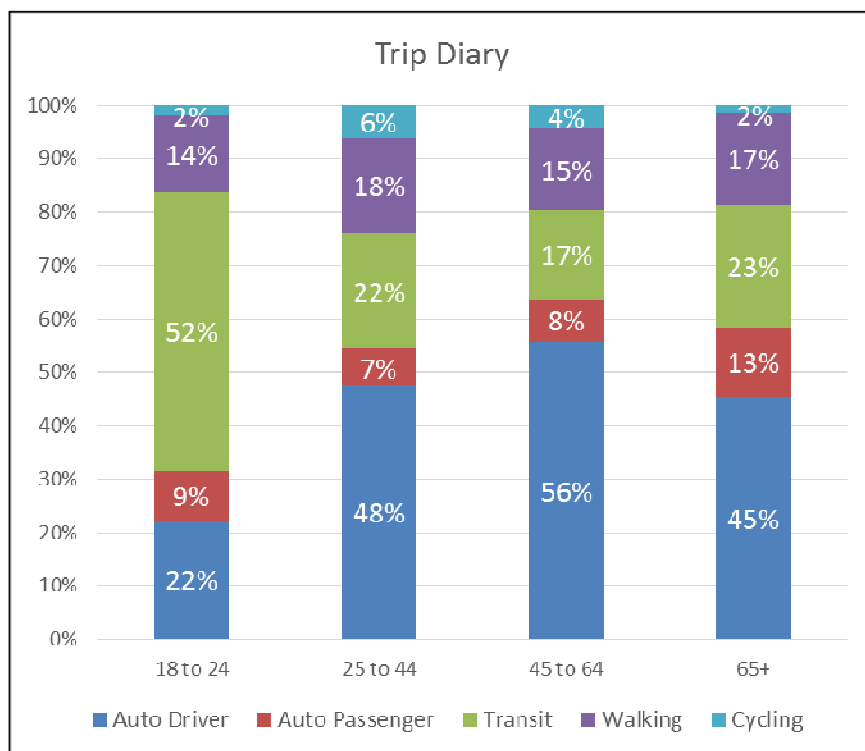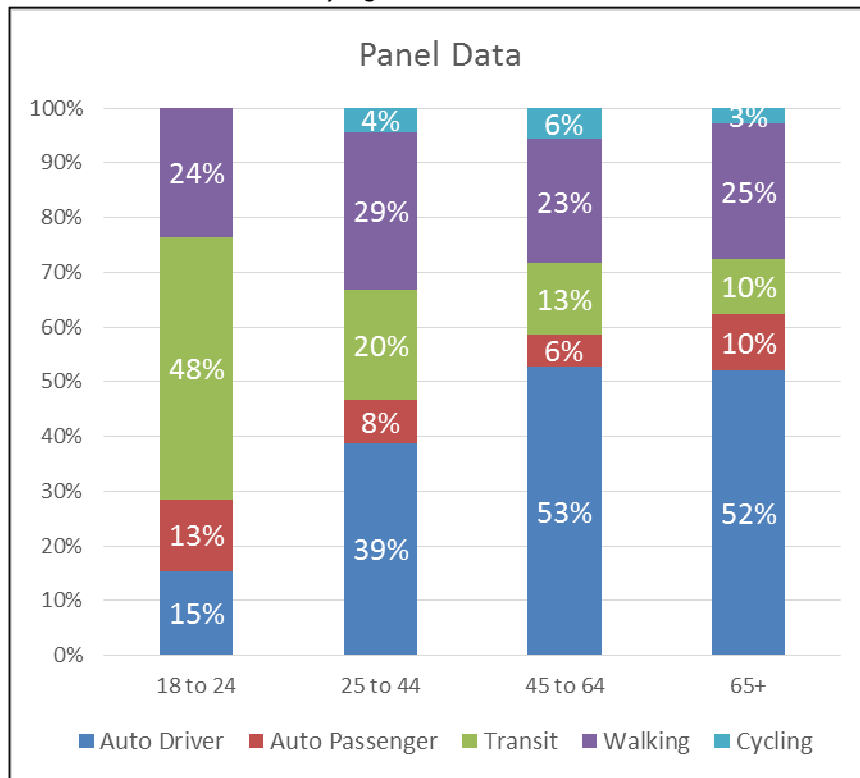
[5] The Panel survey sample size for the 18 to 24 age cohort is small (i.e. less than 100). Caution needs to be undertaken in the interpretation of results from that age group. For example, a 2% bike mode split as per the Trip Diary would have only had 2 trips out of 100 be by bicycle.

4.3 Trip Purpose

Exhibit 4-7 shows a comparison of trip purposes for the Panel Survey and the Trip Diary. The Panel Survey has a significantly higher proportion of discretionary trips (Dining, Shopping, Personal Business).

Exhibit 4-7 – Trip Purpose Distribution

Panel Data Trips Excluding Unknown (%) / Trip Diary Trips Excluding Unknown (%)

Legend:
- Dining / Restaurant
- During work / business trip
- Personal business
- Recreation / Social / Entertainment
- Shopping
- To drive someone / drop-off / pick-up
- To go home
- To school
- To work
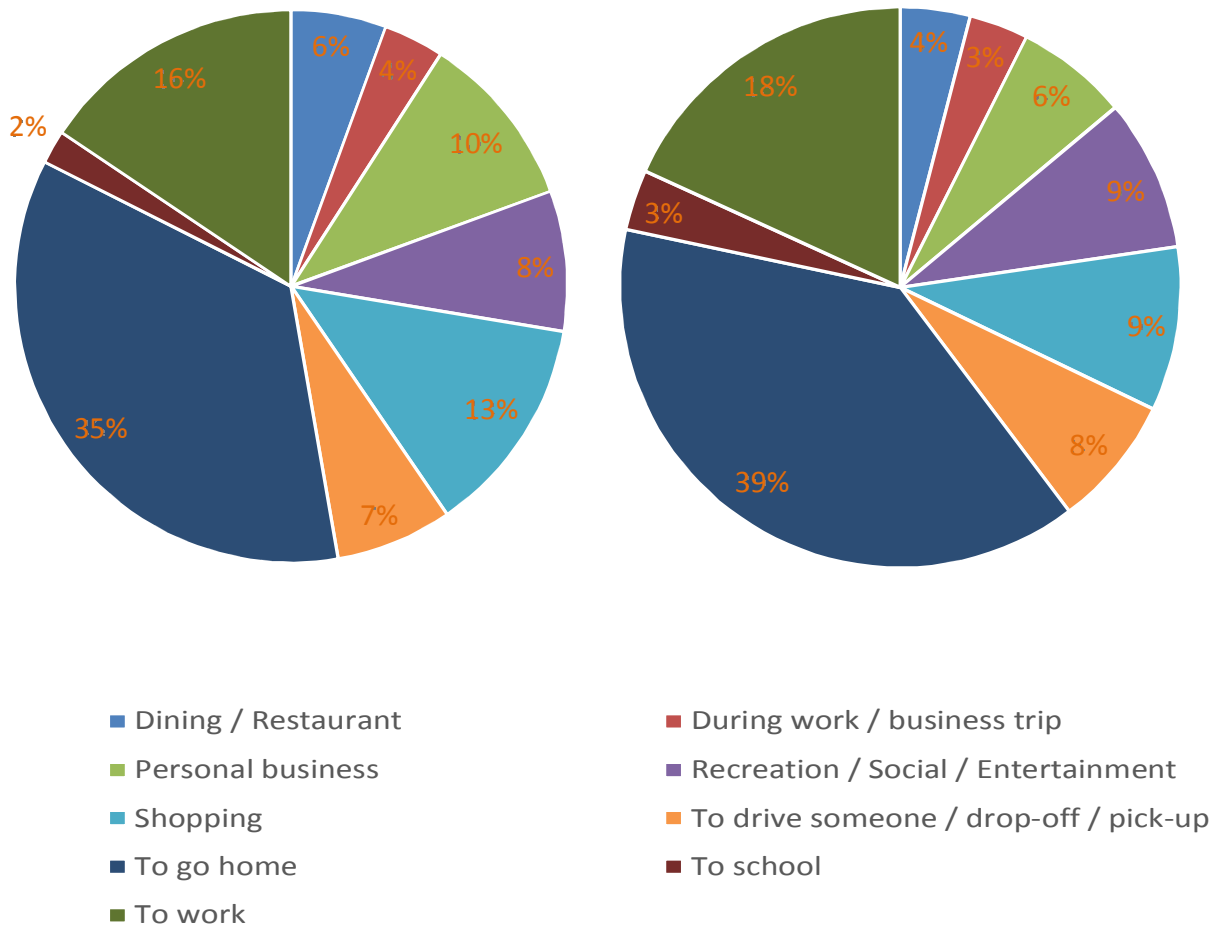
Exhibit 4-8 shows a detailed comparison of the mode share by trip purpose. It is evident that the higher walking mode share extends beyond discretionary trips to regular commuting trips (to work/to school), albeit to a lesser degree.

The higher walking mode share is not problematic in itself, but it will be important to track future trends amongst the transportation panel to assess whether this is behaviour is an anomaly.

Exhibit 4-8 – *Mode Share by Trip Purpose*

Panel Data

	Auto Driver	Auto Passenger	Transit	Walking	Cycling
To work	38%	5%	30%	20%	7%
To school	29%	9%	54%	7%	1%
To go home	44%	8%	18%	24%	5%
To drive someone / drop-off / pick-up	74%	7%	4%	13%	2%
Shopping	41%	6%	9%	41%	4%
Recreation / Social / Entertainment	43%	9%	14%	28%	6%
Personal business	45%	9%	18%	24%	4%
During work / business trip	62%	12%	11%	13%	2%
Dining / Restaurant	32%	12%	10%	45%	1%

Trip Diary

	Auto Driver	Auto Passenger	Transit	Walking	Cycling
To work	46%	5%	29%	13%	7%
To school	21%	6%	60%	10%	3%
To go home	46%	8%	24%	17%	5%
To drive someone / drop off / pick up	80%	6%	3%	9%	2%
Shopping	46%	9%	17%	24%	4%
Recreation / Social / Entertainment	44%	11%	19%	21%	5%
Personal business	46%	10%	22%	19%	3%
During work / business trip	66%	6%	17%	7%	4%
Dining / Restaurant	39%	16%	14%	29%	2%

Exhibit 4-9 is a comparison between the Panel Survey trips to work and the 2011 NHS Journey to Work. As shown, both surveys have approximately the same number of trips for Vancouver (approximately 292,000

trips). Also, both surveys exhibit approximately the same number and share of transit trips. The Panel Survey shows higher shares of active trips (walking and cycling) and lower personal vehicle mode shares. Overall patterns, however, between the Panel Survey and the Journey to Work dataset are close and provides confidence that the panel survey results benchmark closely with other data sources.

Exhibit 4-9 –Comparison of Panel Survey Trips to Work with Census Journey to Work
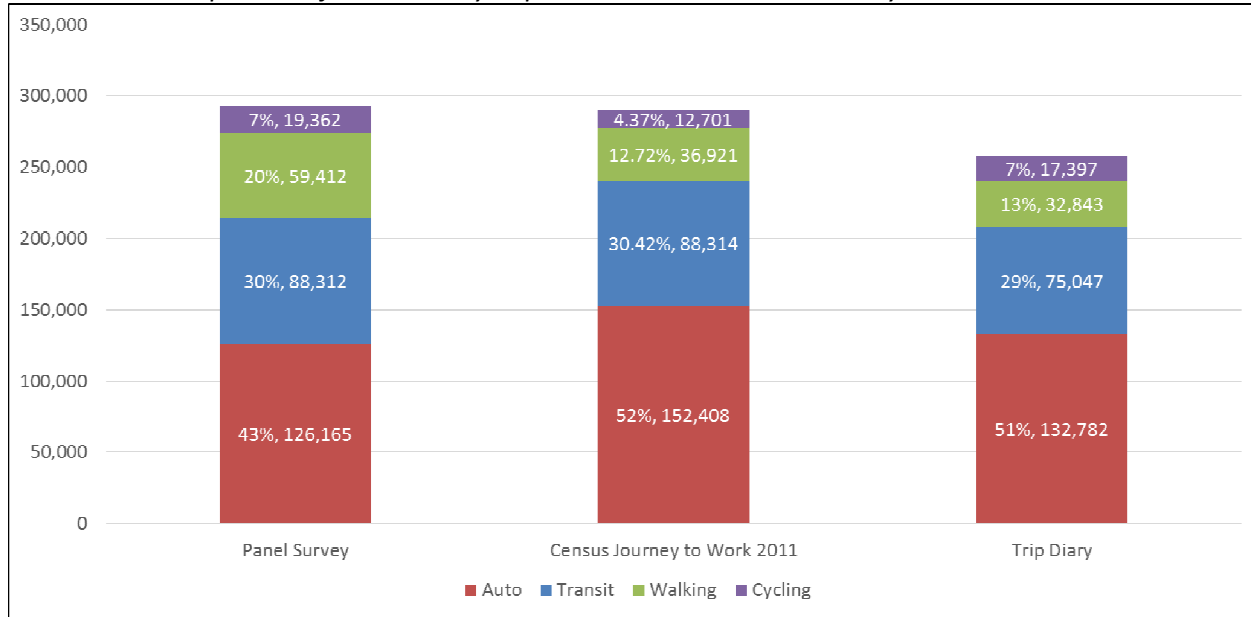
Exhibit 4-10 breaks down the total trips by transportation zone. The Panel Survey and Trip Diary results are nearly identical.

Exhibit 4-10 – Total Trips Breakdown by Transportation Zone
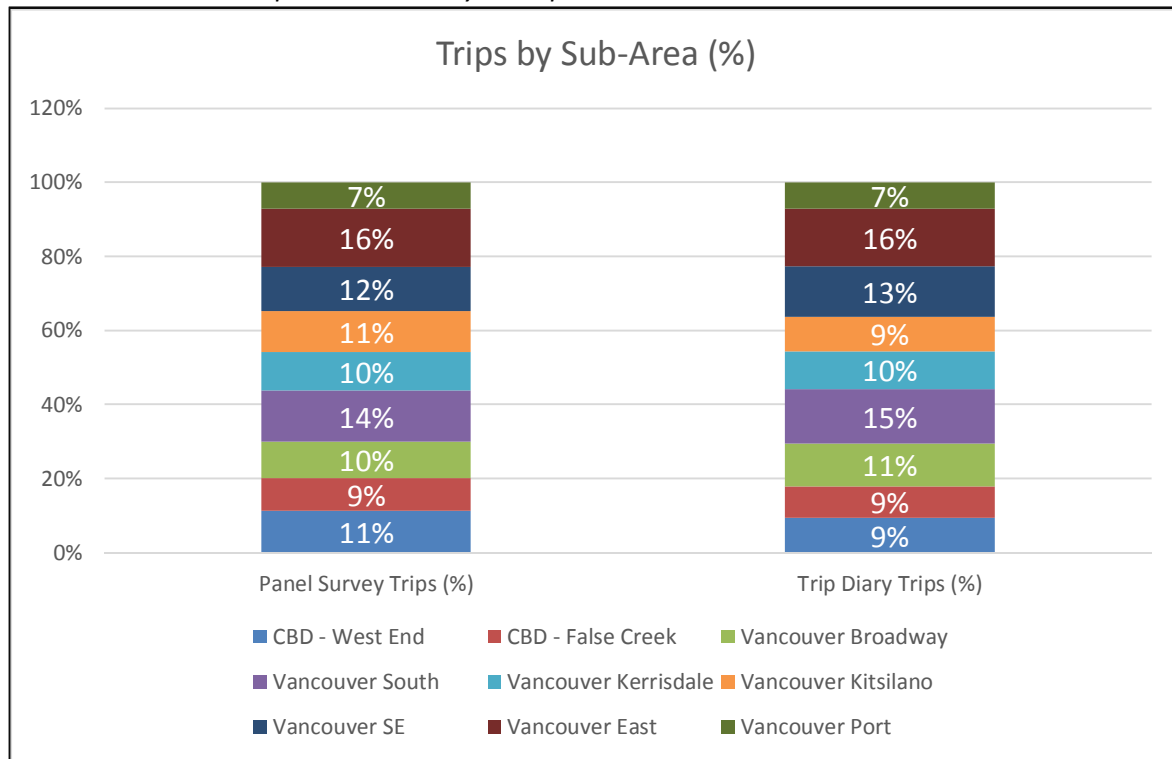
4.4 Time of Day

A comparison of time of day travel is shown in **Exhibit 4-11**. The Panel Survey and Trip Diary are quite similar, with a slightly lower proportion of AM trips for the Panel Survey.

Exhibit 4-11 – Trip Distribution by Time of Day

Panel Data Trips Excluding Unknown (%)

Trip Diary Trips Excluding Unknown (%)

■ AM ■ PreLunch ■ MD ■ PM ■ Evening ■ Night ■ OWL
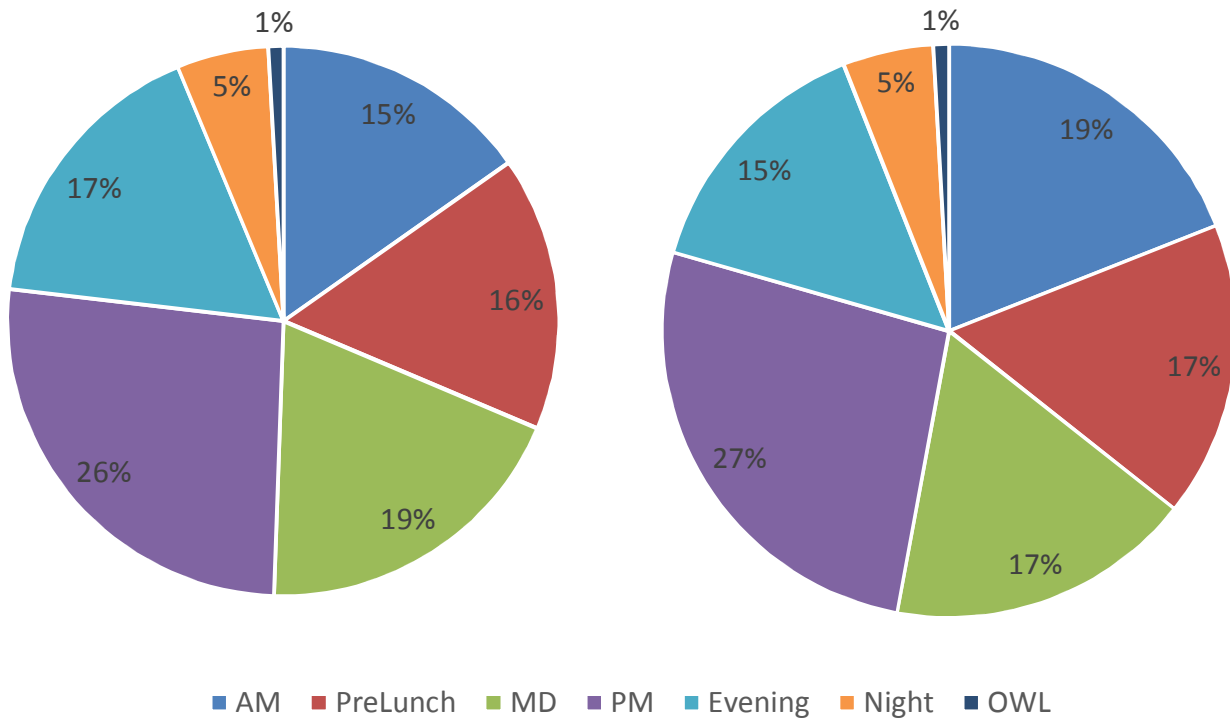
As alluded to in **Section 4.2**, walking mode share is higher for the Panel Survey. **Exhibit 4-12** breaks down mode share by time of day. The higher walking mode share during the pre-lunch, midday, and early afternoon periods reinforces the conclusion that more discretionary trips are being reported.

Exhibit 4-12 – *Mode Share Distribution by Time of Day*

Panel Data

Time of Day	Auto Driver	Auto Passenger	Transit	Walking	Cycling
OWL (12:00am to 5:59am)	53%	8%	30%	7%	2%
Night (9:00pm to 11:59pm)	43%	18%	9%	24%	5%
Evening (6:00pm to 8:59pm)	43%	11%	14%	28%	4%
PM (3:00pm to 5:59pm)	46%	7%	19%	24%	5%
MD (12:00pm to 2:59pm)	40%	7%	15%	35%	3%
PreLunch (9:00am to 11:59am)	46%	6%	15%	29%	4%
AM (6:00am to 8:59am)	49%	5%	27%	12%	6%

Trip Diary

Time of Day	Auto Driver	Auto Passenger	Transit	Walking	Cycling
OWL (12:00am to 5:59am)	57%	6%	24%	7%	6%
Night (9:00pm to 11:59pm)	45%	16%	20%	16%	4%
Evening (6:00pm to 8:59pm)	48%	11%	18%	18%	5%
PM (3:00pm to 5:59pm)	48%	7%	24%	16%	5%
MD (12:00pm to 2:59pm)	47%	8%	20%	21%	4%
PreLunch (9:00am to 11:59am)	47%	8%	24%	17%	4%
AM (6:00am to 8:59am)	50%	6%	27%	12%	6%

Exhibit 4-13 compares the time of day travel profiles of the Panel Survey and Trip Diary. The Trip Diary appears to have a more pronounced peak period travel pattern. The higher proportion of evening travel reported in the panel data may be based on higher reporting of discretionary travel.

Exhibit 4-13 — *Time of Day Distribution by Transportation Zone (by trip origin)*

Panel Data

Zone	AM (6:00am to 8:59am)	PreLunch (9:00am to 11:59am)	MD (12:00pm to 2:59pm)	PM (3:00pm to 5:59pm)	Evening (6:00pm to 8:59pm)	Night (9:00pm to 11:59pm)
Vancouver Port	18%	15%	18%	25%	17%	6%
Vancouver East	23%	18%	15%	21%	16%	5%
Vancouver SE	24%	19%	16%	22%	15%	2%
Vancouver Kitsilano	17%	16%	20%	24%	18%	4%
Vancouver Kerrisdale	19%	17%	16%	27%	17%	3%
Vancouver South	19%	18%	16%	24%	16%	6%
Vancouver Broadway	14%	18%	21%	24%	17%	6%
Downtown (West End & False Creek)	13%	17%	21%	25%	19%	5%
CBD - False Creek	10%	16%	21%	27%	20%	5%
CBD - West End	17%	17%	22%	22%	18%	5%

4.5 Trip Rates

Exhibit 4-14 compares overall trip rates for the Panel Survey and Trip Diary. The panel respondents reported more trips per day likely due to the survey methodology (person-based vs. household-based) discussed previously which included more discretionary travel. Other general trip rate trends are quite similar between the two surveys, with females making more trips than males and a higher trip rate amongst the 45+ age cohort.

Exhibit 4-14 – *Trip Rates (Ages 18+)*

Trip Rates (Trips/day)

- Panel Survey: 3.92
- Trip Diary: 2.81
- Trip Diary (Excluding zero trip persons): 3.4
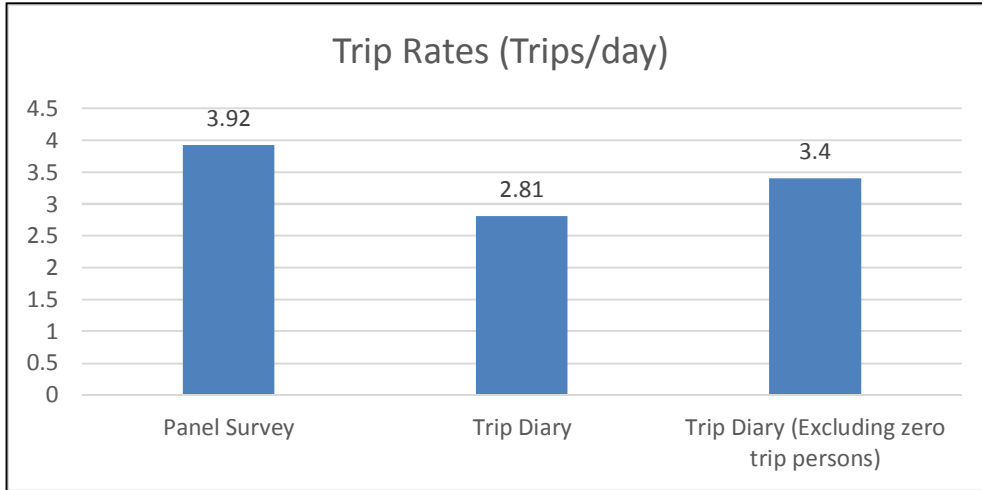
Exhibit 4-15 shows the trip rate by time of day. It is evident that the Panel Survey members made more trips throughout the day, with the largest discrepancy in the midday period.

Exhibit 4-15 – *Trips Rate By Time of Day*

Trip Rate by Time of Day

Time of Day	Panel Survey	Trip Diary (Excluding zero trip persons)
AM (6:00am to 8:59am)	1.24	1.18
PreLunch (9:00am to 11:59am)	1.72	1.49
MD (12:00pm to 2:59pm)	1.82	1.55
PM (3:00pm to 5:59pm)	1.59	1.41
Evening (6:00pm to 8:59pm)	1.62	1.37
Night (9:00pm to 11:59pm)	1.26	1.17
OWL (12:00am to 5:59am)	1.22	1.04
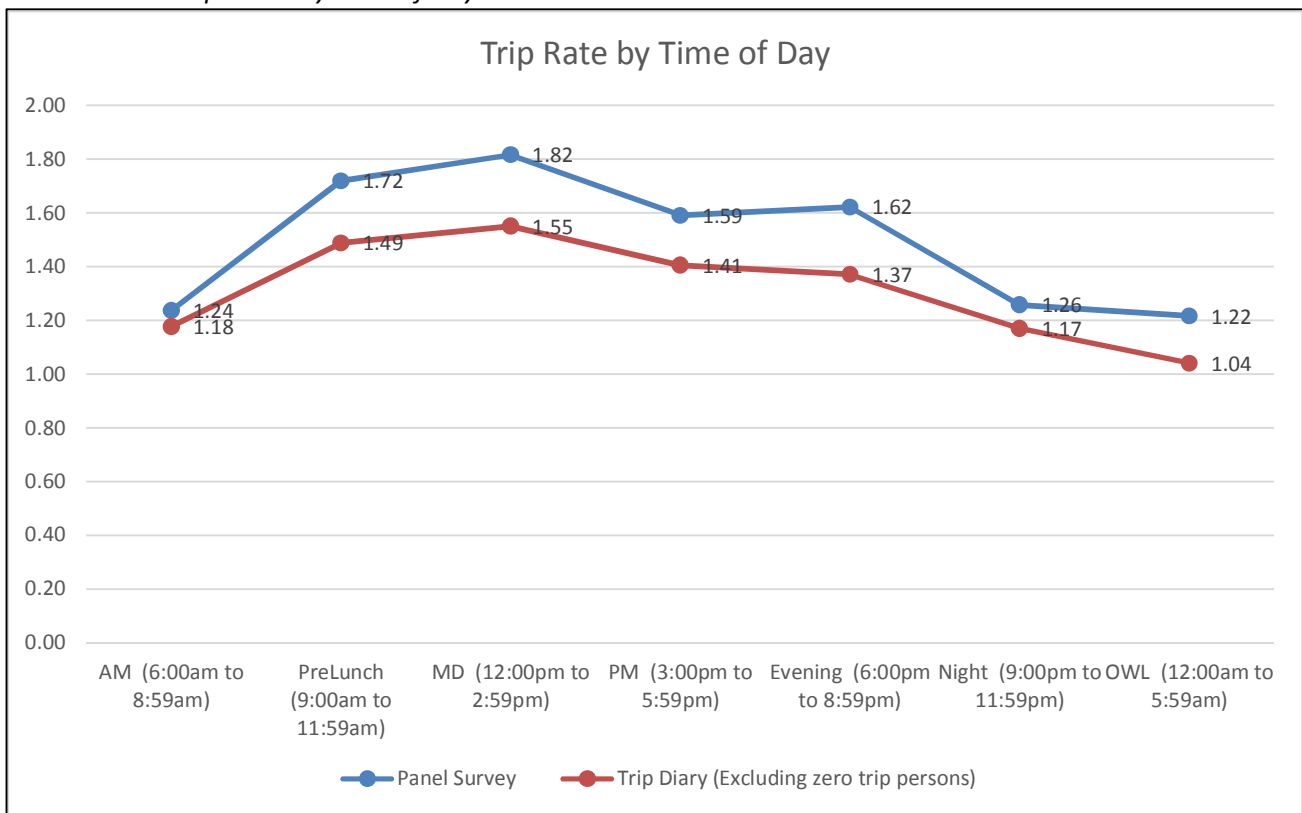
4.6   Vehicle Kilometers Travelled

Transportation 2040 has set a goal to reduce distance driven per resident, measured in vehicle kilometers travelled (VKT), to 80% of 2007 levels by the year 2020. The 2007 VKT baseline is to be determined. In the meantime, it is important to track changes in VKT in the coming years, as a function of City / Region / Provincial initiatives and market conditions.

The VKT figures in **Exhibit 4-16** were estimated from the origin and destination (O-D) coordinates for auto trips, using distances from the regional EMME model.

Given the discrepancy in trip rates between the Panel Survey and Trip Diary, the higher VKT tally is to be expected.

Exhibit 4-16 – VKT Comparison

Daily VKT	Panel Survey	Trip Diary
Trips Inside Vancouver	2,350,000	1,900,000
Total travel	5,560,000	5,110,000

4.7 Sustainable Mode Trend Analysis

In the past the City of Vancouver relied on TransLink's trip diary data to assess progress towards mode share targets. In this analysis, results were summarized for all trips originating in Vancouver. The trip diary covers trips over a 24 hour period which would include all trips made by Vancouver residents within Vancouver, as well as all trips made by non- Vancouver residents starting in Vancouver. To simplify the data collection and keep ongoing costs low, the panel survey only surveyed people who live within Vancouver. Moving forward the City of Vancouver will be using the panel survey to track its progress on an annual basis. This information will be compared with future TransLink trip diary surveys that are expected to occur every five years.

Exhibit 4-17 shows the differences between the sustainable mode share for the two methods based on the trip diary for both 2008 and 2011. This will help to illustrate the difference between previously reported numbers as part of Transportation 2040. The numbers labeled "previous trip diary" are for all trips originating in Vancouver for ages 5+. The numbers labeled "panel survey comparison" are for Vancouver residents only ages 18+. As mentioned previously the panel survey was collected for ages 15+ but the age categorization in trip diary is grouped by ages 5-17 which means comparison can only be undertaken for ages 18+. The graph shows that the difference is very small and future comparisons between the panel survey and the trip diary will be able to assess if this changes.

Exhibit 4-17 – Comparison of Two Methods for Measuring Sustainable Mode Share
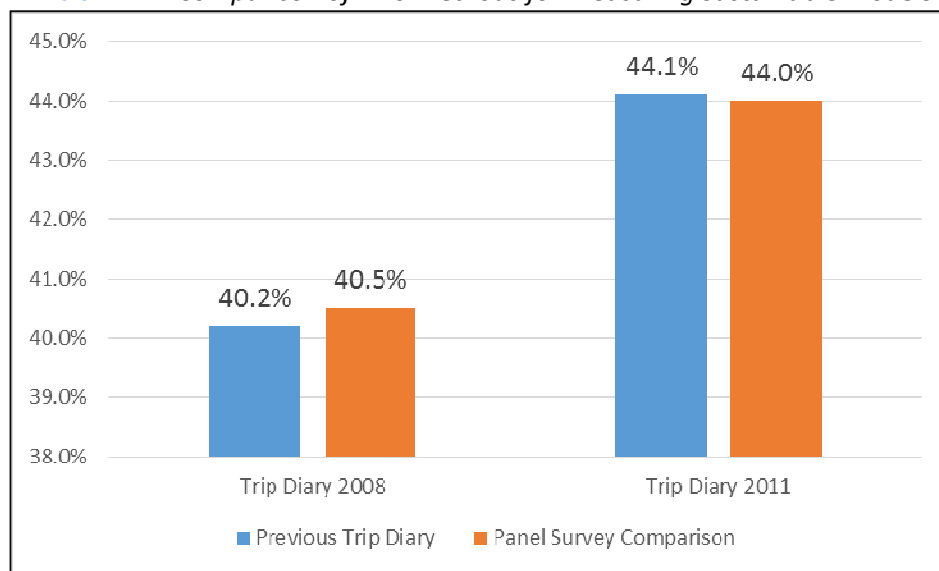
The Panel Survey has provided a valuable indicator for tracking trends in the use of sustainable modes of travel (non-auto). **Exhibit 4-18** shows the trend from 2008 to 2013 for the sustainable mode share of Vancouver residents using information from the 2008 and 2011 Trip Diary Surveys and the 2013 Panel

Survey. This chart clearly shows an upward trend in the use of walking, cycling and transit for Vancouver residents. Extrapolating this to the future would suggest that this trend should continue with the further densification of Vancouver and expansion of transit services and walking and cycling facilities.

Exhibit 4-18 – *Trend in Sustainable Mode Share from Trip Diary and Panel Survey (high and low ranges)[6]*
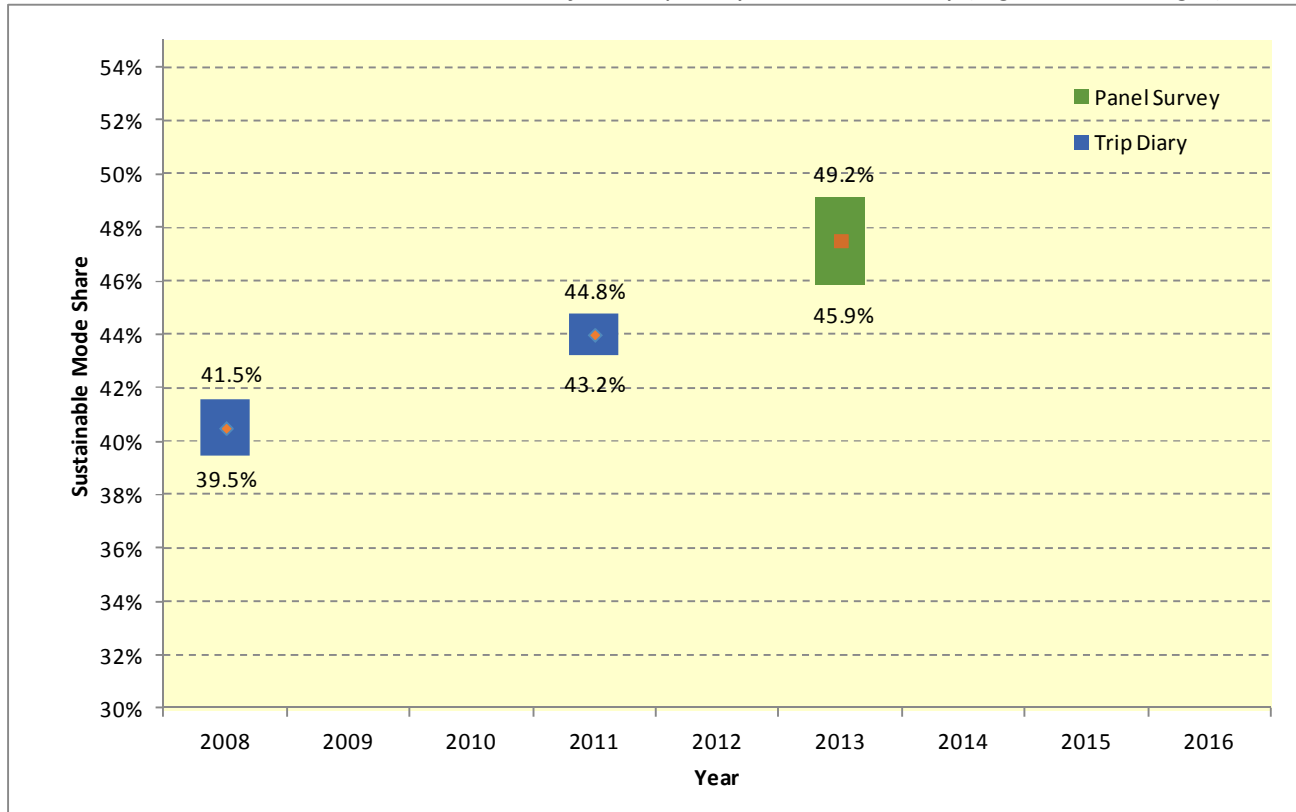
4.8   Origins and Destinations

Exhibit 4-19 captures the origins and destinations (O-D) of the Panel Survey respondents, based on geocoded trip-end coordinates. It should be noted that this survey was undertaken for Vancouver residents only, unlike the Trip diary which is a regional travel survey, thus, any totals for trips from outside Vancouver would not include people who work in Vancouver but live in other areas of the Lower Mainland. Red text indicates a low number of observations in the Panel Survey. It is to be expected given that a limited sample size is being stratified into transportation zones. While the results may not be statistically representative, patterns do emerge:

- The O-Ds are fairly balanced, as evidenced by the symmetry on either side of the diagonal.

- Travel is predominantly within Vancouver. Most transportation zones only feature 12% of trips to/from outside of the City; only the East and SE zones are higher, but still at 20% or lower (see **Exhibit 4-20** and

- **Exhibit 4-21**).

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[6] The Panel Survey has wider ranges in comparison to the trip diary due to the lower number

Exhibit 4-19 – *Origins and Destinations within Transportation Zones and Outside Vancouver*

Origin-Destination*	CBD - False Creek	CBD - West End	Downtown (False Creek & West End)	Vancouver Broadway	Vancouver East	Vancouver Kerrisdale	Vancouver Kitsilano	Vancouver Port	Vancouver SE	Vancouver South	Outside Vancouver	All
CBD - False Creek	90,493	31,677	-	19,681	15,974	5,243	15,469	17,649	6,511	15,312	20,194	238,204
CBD - West End	35,377	81,840	-	12,395	4,106	4,344	6,811	3,499	4,457	6,871	22,190	181,889
Downtown (False Creek & West End)	-	-	239,388	32,076	20,080	9,587	22,280	21,148	10,967	22,183	42,384	420,093
Vancouver Broadway	19,654	11,463	31,116	76,856	19,632	6,281	23,356	9,446	6,843	22,957	21,720	218,208
Vancouver East	16,366	4,238	20,603	17,942	63,417	2,469	3,666	20,338	9,902	12,009	29,722	180,070
Vancouver Kerrisdale	5,094	3,087	8,181	5,864	1,642	72,997	19,469	1,957	1,607	19,166	18,439	149,324
Vancouver Kitsilano	15,722	8,276	23,998	23,683	3,307	19,197	85,733	2,668	1,946	10,084	21,589	192,205
Vancouver Port	14,218	5,878	20,096	11,430	19,534	1,978	2,644	51652	2,455	4,176	14,803	128,770
Vancouver SE	7,144	4,662	11,806	7,167	10,741	1,807	2,400	3,586	44,209	17,042	22,485	121,245
Vancouver South	13,776	8,742	22,518	23,435	10,540	19,047	10,617	4,293	18,128	86,395	25,734	220,706
Outside Vancouver	19,778	19,611	39,389	18,299	28,955	16,331	20,884	13,131	24,448	26,082	69,740	257,258
All	237,623	179,473	417,096	216,753	177,849	149,695	191,050	128,218	120,505	220,096	266,617	1,887,878

Exhibit 4-20 – Trips by Origin

Exhibit 4-20 – Trips by Origin

Exhibit 4-21 – Trips by Destination
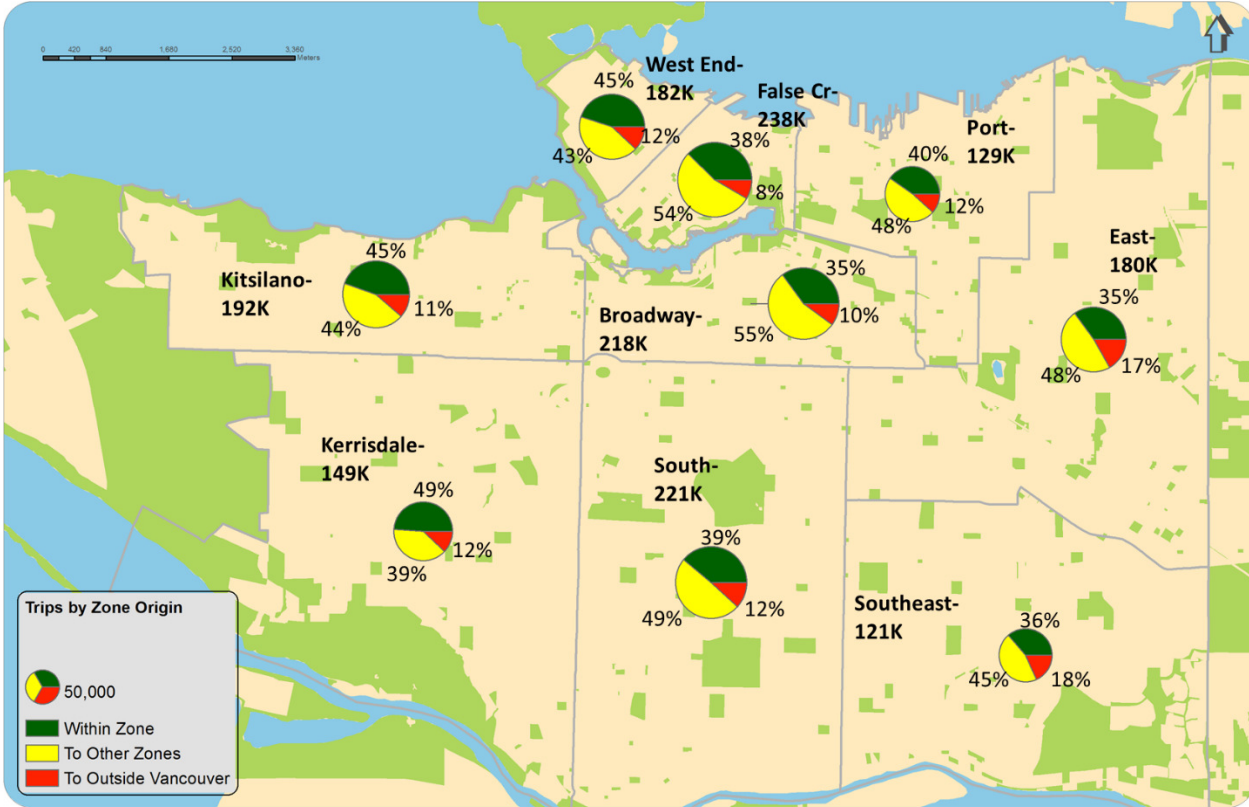
Exhibit 4-21 – Trips by Destination
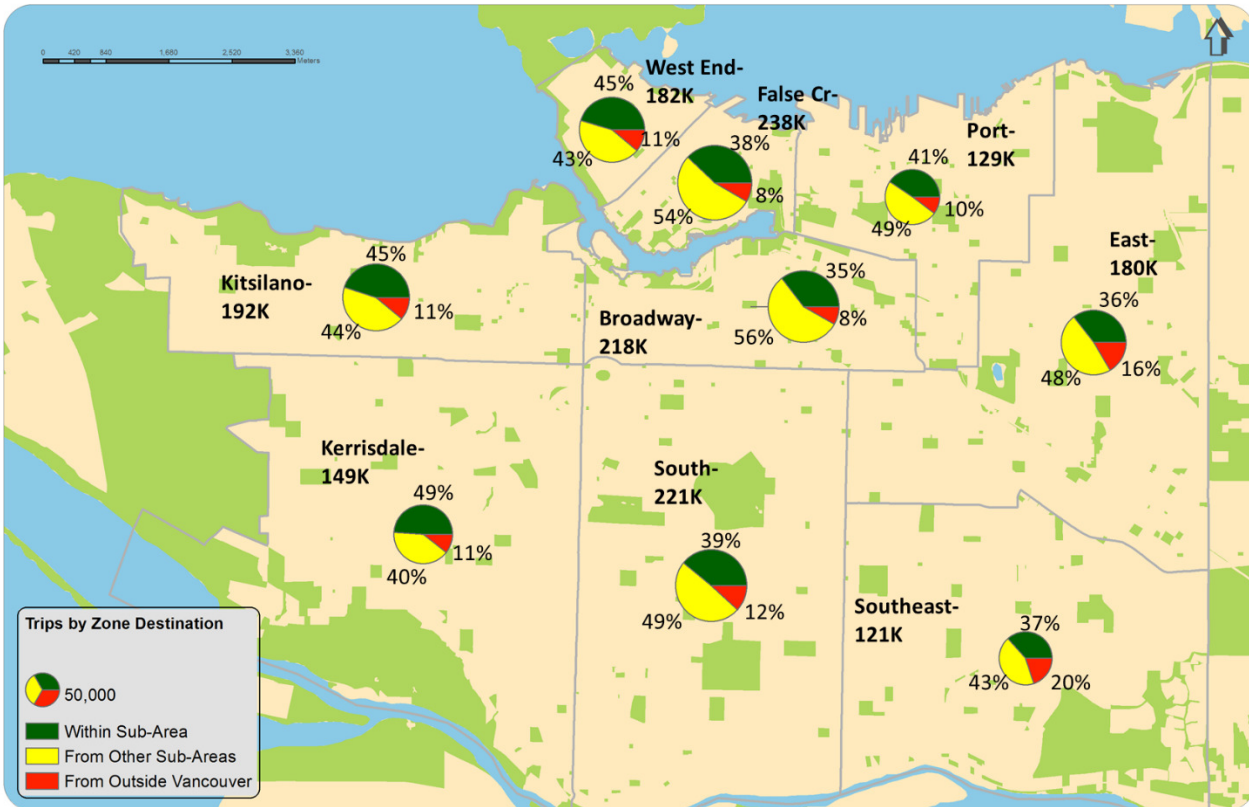
5.   Comparison to Talk Vancouver Panel

This section provides a high-level comparative analysis of the randomly recruited panel versus the voluntary Talk Vancouver panel.

5.1   Age and Gender Distribution

The age and gender distribution of the Talk Vancouver panel (unweighted), presented in **Exhibit 2-7 (b)** and reproduced below, closely matches the Universe distribution for older age groups. Like the randomly recruited panel, the 18-24 age cohort is under represented, but there is oversampling of the 25-34 age cohort.
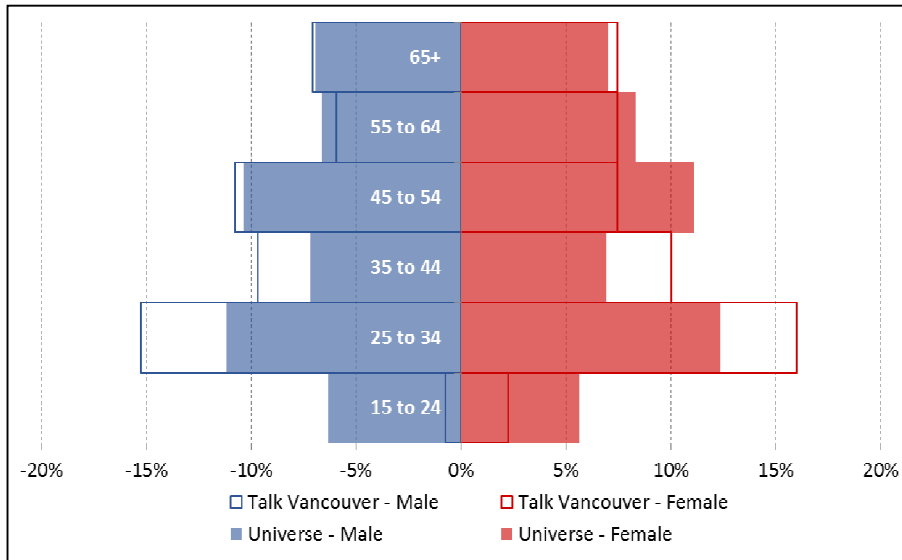
5.2   Mode Share

Exhibit 5-1 highlights the mode share characteristics of the Talk Vancouver members. As can be seen, the walking/cycling/transit mode shares are all higher than those of the Panel at large. The Talk Vancouver panel results were not integrated with the randomly recruited panel survey due to a suspected non-auto mode bias.

Exhibit 5-1 – *Mode Share (Weighted Panel Survey & Talk Vancouver)*
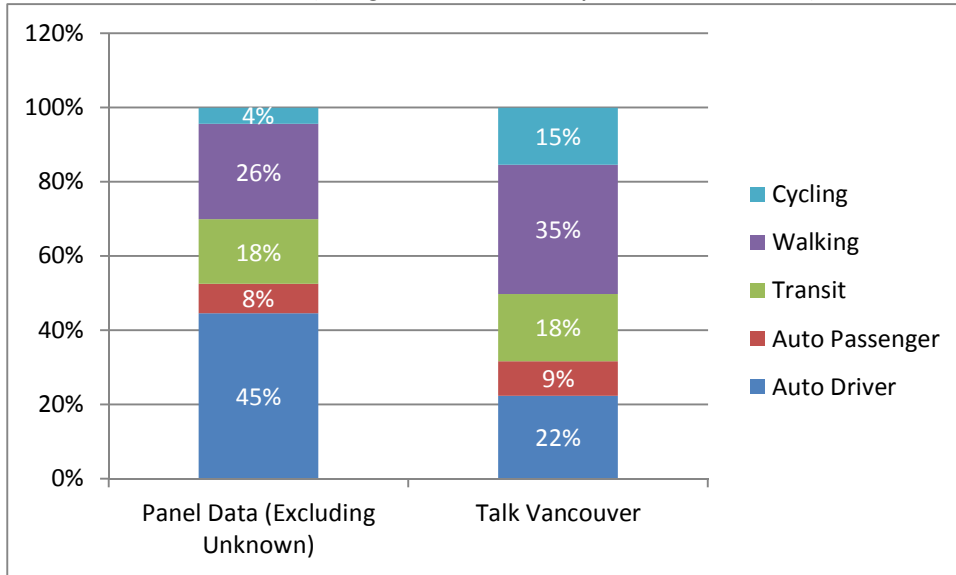
5.3 Trip Purpose

The breakdown of Talk Vancouver trips by trip purpose is shown in **Exhibit 5-2**. The trip purpose distribution is very similar to the randomly recruited panel, with differences within 2-3%.

Exhibit 5-2 – *Talk Vancouver Trip Purpose*
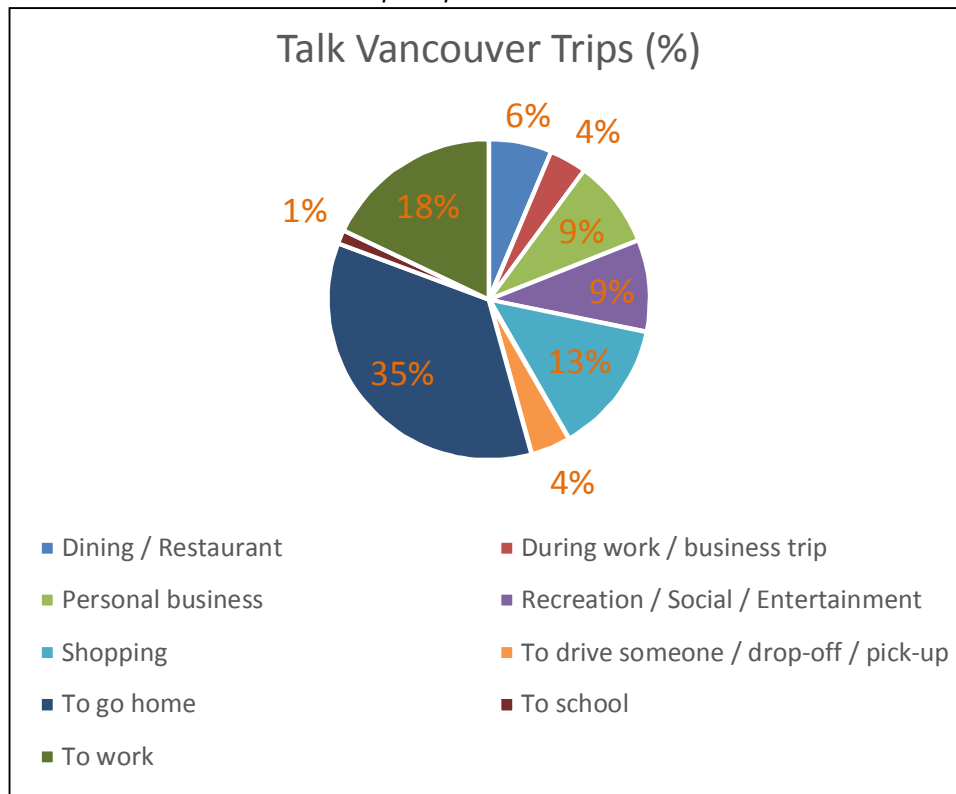
The breakdown of Talk Vancouver trips by time of day is shown in **Exhibit 5-3**. The Talk Vancouver subset is very similar to the Panel at large with only minor differences (within 1-2%) in the PM and Night periods.

5.4   Time of Day

Exhibit 5-3 – Talk Vancouver Time of Day

Talk Vancouver Trips (%)

0%
7%
15%
17%
18%
23%
19%

■ AM   ■ PreLunch   ■ MD   ■ PM   ■ Evening   ■ Night   ■ OWL
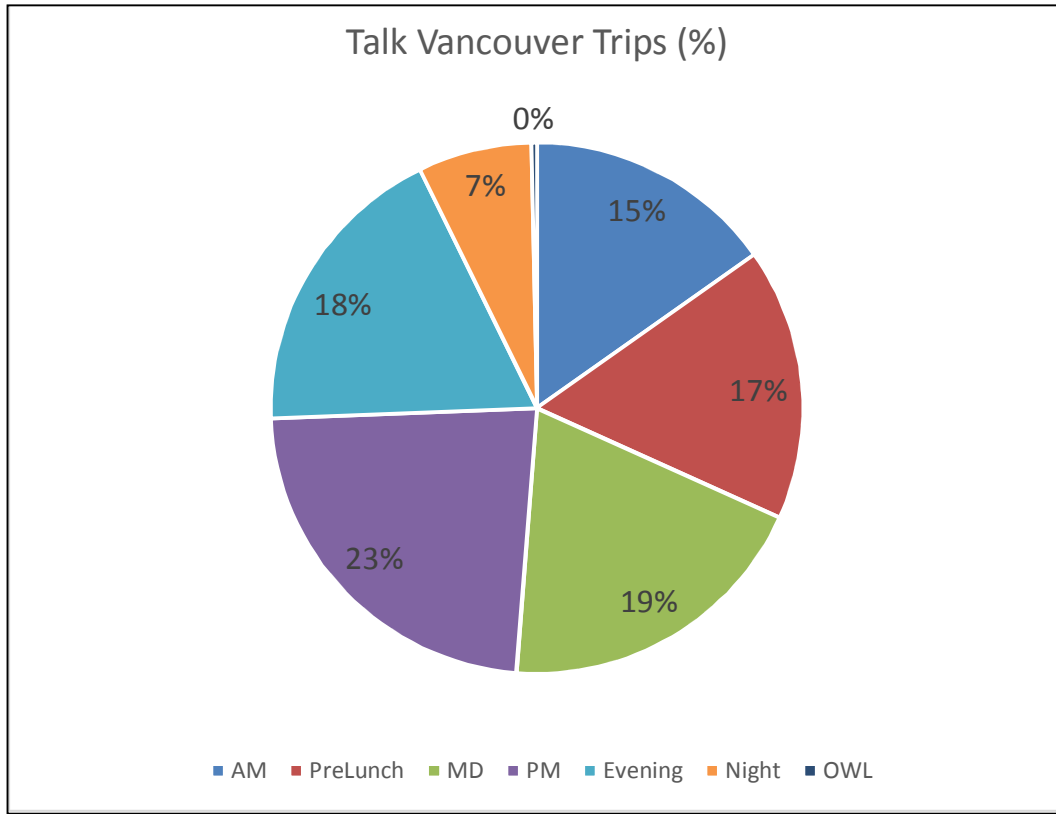
6.   Findings and Next Steps

The Vancouver Panel Survey represents the first of its kind in the Metro Vancouver region. Having an ongoing panel of residents that are surveyed on an annual basis provides the City with a valuable dataset to track trends in sustainable mode share and vehicle usage.

Some of the key lessons learned during the panel survey data collection and analysis phases include the following:

- The first year of the panel survey incurred the highest recruitment cost in order to establish the panel. Subsequent panel surveys should see cost savings due to lower recruitment costs.

- There is significant programming effort to get the online portion of the survey working. Again, this should present a cost savings for future surveys as the panel survey questions will be similar.

- The Talk Vancouver recruitment effort included a variety of tactics including a media launch, social media posts, outreach to partners, email blasts and a paper insert in property tax mailouts. This differs significantly from the market research which is a randomly recruited survey by telephone. The Talk Vancouver would appear to be more appropriate for attitudinal surveys and a behavioural survey such as the travel survey is different. As such, the results show a suspected non-auto mode bias and corrections for this should be considered for future efforts if the City wants to conduct this survey through Talk Vancouver.

- This transportation panel survey included a significant effort and technical expertise to do logic and error checking, programming, weighting and expansion. This level of logic and error checking should be maintained for future panel surveys to maintain data consistency

- The travel patterns reported in the Panel Survey are remarkably similar to those reported from the 2011 Trip Diary Survey which shows that these data collection efforts in the future can be compared and used for tracking travel behaviour changes.

- The younger age groups remain a challenging cohort to recruit. Potential smart phone applications such as the "Moves app" could be targeted to younger age groups who might be more willing to try new technologies. The Move app uses the smart phone built in GPS to track travel throughout the course of a day. Otherwise, more targeting through cell phone lists should be employed in future recruiting efforts to boost the young age group samples.

Next steps in the study include the following:

- Need to develop next panel survey questionnaire considering the second year of implementation - The key difference will be to develop probing questions if panel members have changed their travel patterns from the previous survey, there is also an opportunity to link with the Active Transportation Promotion and enabling plan;

- It would be helpful to ask second year respondents if they were aware of alternative routes and modes of travel as well as potential enhancements the City has developed since the previous year which may have influenced travel choices;

- Reach out to panel members in late August/early September to assess rate of panel attrition;

- Assess recruitment effort to replenish for lost panel members, and to better reflect underrepresented sub-groups (in particular 18-24, 25-34 age cohorts);

- Target recruitment start and survey in mid to late September.

Appendix A – 2013 Panel Survey Instrument

COV PANEL EMAIL INVITATION – DO NOT PROGRAM THIS PAGE

Dear EMAIL-RECIPIENTS NAME

Welcome to Talk Vancouver!

Transportation is a key concern among members of this community. To help the City in planning and addressing transportation issues, we'd like to start by finding out how you travel and use transportation on a day-to-day basis.

The survey is easy – it is simply a log or diary of the trips you make on a single assigned day. In appreciation of your participation, you will be entered into a prize draw to win passes to City facilities and attractions such as:

- a 3 month Flexipass – providing unlimited admission to any Park Board pool, fitness centre, or rink in the City during the validity period (Value $121) or
-
- a 1-year Membership to the VanDusen Botanical Gardens (Value $112).

Please click here for the Rules.[MUSTEL WILL PROVIDE LINK TO RULES]

For this study, you will be directed to the Mustel Group site. Mustel Group is a leading local research firm and is assisting the City with data collection for this year's study. Please be assured that all responses are secure and strictly confidential.

To begin, click here (LINK FROM MUSTEL).

We are grateful for your time and we look forward to hearing from you.

Sincerely,

Tracy Vaughan
City of Vancouver, Public Engagement

MUSTEL GROUP
MARKET RESEARCH

CITY OF VANCOUVER

RECRUITMENT SCREENER

Random sample: City of Vancouver households across all 9 sub-areas

Hello, I'm calling on behalf of the City of Vancouver regarding an important research study. I'm __ of Mustel Group, a professional polling firm. We have been commissioned by the City to recruit a panel of residents to participate in an online study. (ONLY IF ASKED: Today's survey will only take a couple of minutes).

COV PANELISTS

Thank you for your interest in the travel diary survey. To begin we would like to ask you a few questions to ensure our sample truly reflects those living in the City of Vancouver. Please be assured that all responses are secure and strictly confidential.

EVERYONE- EMPLOYMENT SCREENER:

First, do you or does anyone in your household work for the City of Vancouver, Mustel Group, CH2M Hill or Vision Critical?

1. Yes → Please note that while we can include your responses for this study, due to standard contest rules you will not be eligible for the Prize Draw. Are you still interested in participating?

    a. Yes → REMOVE FROM PRIZE DRAW AND CONTINUE

    b. No → THANK AND END INTERVIEW

2. No

3. REF → THANK AND END INTERVIEW Those are all the questions we have for you today. Thank you for your interest.

A. To ensure our sample covers all areas of the City of Vancouver,
TEL: may I please have your home postal code?
IF DIFFERENT FROM TAGGED COV SUB-AREA, BUT IS ONE OF 8 OTHER VALID SUB-AREAS, ACCEPT.
IF DIFFERENT AND NOT IN ANY COV SUB-AREAS, THANK AND END.
COV PANELISTS: please enter your six digit home postal code.
IF NOT IN ANY COV SUB-AREAS, THANK AND END.
 (6-digit) __ __ __ __ __ __

B. TEL: To randomize our interviews, may I please speak to the male/female in your household who is 15 years of age or older and whose birthday comes next?
COV PANELISTS: What is your gender?
1. MALE   2. FEMALE

C. TEL: And so we can be sure the sample represents all ages of residents can you please tell me the year in which you were born? _____
COV PANELISTS: And so we can be sure the sample represents all ages of residents in the City, please select the year in which you were born. _____

TELEPHONE PERSUADERS—only if needed:

- This is strictly a transportation survey; we are not selling or soliciting anything.
- Your number was selected at random for participation in this research.
- This study is important as it will help the City better understand travel patterns, transportation needs and to help make better decisions regarding transportation investments for area residents.
- Contact name only if requested: Steve Brown, City of Vancouver Transportation Engineering Tel: 604-871-6944

TELEPHONE INVITATION TO PARTICIPATE **(COV PANELISTS INVITE SENT SEPARATELY– SEE PAGE 1)**

As mentioned, we are conducting this transportation study on behalf of the City of Vancouver and you have been randomly selected to participate annually in a short survey over the next few years. The travel survey is easy – it is simply a log or diary of the trips you make on a single assigned day. You will be making an important contribution and in appreciation of your participation, you would be entered into a prize draw to win passes to City facilities and attractions such as:

a 3 month City of Vancouver Flexipass – providing unlimited admission to any Park Board pool, fitness centre, or rink in the City during the validity period (Value $121)
or
a 1-year Premium Membership to the VanDusen Botanical Gardens, providing the member and a guest free entrance year round (Value $112).

In all a 1-in-30 chance to win.

D. ASK ALL i) Are you interested in being part of this travel survey?
    TEL: IF YES, CONTINUE WITH ii) PRIVACY.
    IF NO, ASK E. TALK VANCOUVER PANEL.
    COV PANELISTS: YES, SHOW PRIVACY
    NO END SURVEY -> Sorry that this survey wasn't for you. But stay tuned to Talk Vancouver for upcoming survey opportunities and news on City engagement. [RE-DIRECT TO TALK VANCOUVER SITE – www.talkvancouver.com]

    ii) PRIVACY: As one of the goals of this study is to understand and track changes in residents' travel patterns over time, your contact information linked with your survey responses would be retained by the City **for this study only**. Note that all information would remain confidential in a secure environment and would not be used on an individual basis for any other purposes.

    Do you agree to share your personal contact and linked survey responses with the City of Vancouver for the sole purpose of participating in this travel survey?
    TEL: Yes → EMAIL CAPTURE
    No → THANK AND END. Those are all the questions for today. Thank you.
    COV PANELISTS ONLINE: YES-> EMAIL CAPTURE
    NO, END SURVEY -> Thank you for your interest in this study. Stay tuned to Talk Vancouver for upcoming survey opportunities and news on City engagement. [RE-DIRECT TO TALK VANCOUVER SITE – www.talkvancouver.com]

E. **TELEPHONE INVITATION TO TALK VANCOUVER PANEL**:
    The City is interested in hearing from the wide variety of people who live, work or learn in Vancouver and is asking your interest in regularly sharing your opinions on a range of important City issues. Would you be interested in becoming a member of the City's online community panel of trusted, local advisors called Talk Vancouver?
    READ ONLY IF NECESSARY - TALK VANCOUVER SURVEY TOPICS: Budget, transit, affordable housing, healthy living, customer satisfaction with the City, sustainability, etc.
    READ ONLY IF NECESSARY - TALK VANCOUVER INCENTIVES: No incentives are being offered to join this panel however, on occasion participation that requires somewhat more commitment might have incentives.
    Yes → F. EMAIL CAPTURE
    No → THANK AND END. Those are all the questions for today. Thank you.

COV Travel Survey 2013
Study B501
FINAL QUESTIONNAIRE: October 2, 2013

MUSTEL GROUP
MARKET RESEARCH

CITY OF
VANCOUVER

F. **EMAIL CAPTURE:** May I please have your name and email address
INSERT IF TEL OR COV PANELISTS AGREED TO TRAVEL SURVEY: so we can send you the survey link?
TEL: INSERT IF 'NO TO TRAVEL SURVEY BUT AGREED TO TALK VANCOUVER: so that the Talk
Vancouver panel team can send you all the necessary information via email? You will receive the
information in the next few days.

READ IF NECESSARY: Be assured that your email address will not be shared with any marketing
companies and you will not receive any SPAM emails.
  i.   First name: _____   Last name: _____
  ii. email address: _____
  iii. CONFIRM BY RE-ENTERING AND REPEATING UNTIL CORRECT: email:_____
SEND EMAIL INVITATION AND SHOW ALL AGREEING TO TRAVEL SURVEY:
Your email invitation has been sent and you should receive it shortly.
Please look for an email from   covtravelsurvey@mustelgroup.com
with the following subject line: City of Vancouver Travel Survey 2013.

If you do not see it in your In-Box, please check your SPAM or JUNK mail folder.
If still not there, please call us at this number: 778-383-3416

Please click on the survey link in the email you receive as soon as possible to register and be
assigned your trip diary day. The online survey will be asking about your travel choices on the
assigned day, your vehicle usage and some other demographic information to help us classify the
data. You will be automatically entered into the draw for a chance to win passes to City facilities and
attractions when you submit a completed survey.
INSERT PRIZE DETAILS – TELEPHONE RECRUITERS TO READ IF ASKED.

You have a 1-in-30 chance to win:

a 3 month Flexipass – providing unlimited admission to any Park Board pool, fitness centre, or rink in
the City during the validity period (Value $121)
or
a 1-year Premium Membership to the VanDusen Botanical Gardens, providing the member and a
guest free entrance year round (Value $112).

Thank you once again and we look forward to receiving your completed trip diary survey!

TEL: INSERT ONLY IF AGREED TO TALK VANCOUVER PANEL:
Thank you, the Talk Vancouver panel team will send you all necessary information via email in the
next few days.

COV Travel Survey 2013
Study B501
FINAL QUESTIONNAIRE: October 2, 2013

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CITY OF
VANCOUVER

ONLINE TRAVEL SURVEY -- WELCOME & REGISTRATION PAGE

CITY OF
VANCOUVER

City of Vancouver Travel Survey
Your Input Counts!

[SCREEN 1]

Welcome to the City of Vancouver Travel Survey

Thank you for agreeing to participate in this important study as your input will help City planners and designers better understand the travel patterns and choices of local residents over time.

Here are some helpful links containing information on the survey.

Study FAQs   **Privacy**   **Prize Draw & Contest Rules**   **Contact Information**

[SCREEN 2]

To participate, please complete the following.
1. **Your name and address: (INSERT FROM RECRUIT)**
    TEL: IMPORT ADDRESS FROM SAMPLE LISTING, UPDATE AS REQUIRED.
    IF SUB-AREA CHANGE DURING RECRUIT (QA), ONLY POSTAL CODE WILL DISPLAY.
    COV PANELISTS: ONLY POSTAL CODE WILL DISPLAY.
    IF POSTAL CODE CHANGED ONLINE AT THIS SCREEN, VERIFY IF VALID COV SUB-AREA, AND ACCEPT IF TRUE. IF FALSE, DISPLAY MESSAGE: The information you provided is different from that collected during the initial phone call. Please call our help-line at 604-XXX-XXXX
    First Name: Last Name:
    Address: City:
    Province: Postal Code:
    (NEW SCREEN: GOOGLE MAP WITH PIN POINT OF LOCATION. Confirm: Is this the correct location? IF YES: **INSERTION OF LAT-LONG FROM GEO-CODER.** IF NO, RETURN TO PREVIOUS SCREEN FOR RE-ENTRY/REVISION OF LOCATION DETAIL)

If you are employed, your trip diary may include your trips to and from work. Please enter your work address here to simplify trip reporting later.
2. **If you are employed, work address #1:**
    Address: City:
    Province: Postal Code:
    (NEW SCREEN: GOOGLE MAP WITH PIN POINT OF LOCATION. Confirm: Is this the correct location? IF YES: **INSERTION OF LAT-LONG FROM GEO-CODER.** IF NO, RETURN TO PREVIOUS SCREEN FOR RE-ENTRY/REVISION OF LOCATION DETAIL)

3. **If you have more than one work address, work address #2:**
    Address: City:
    Province: Postal Code:
    IF WORK ADDRESS #2 SAME AS WORK ADDRESS #1, DISPLAY THIS MESSAGE: Work address #2 appears to be the same as Work address #2. Please revise.
    (NEW SCREEN: GOOGLE MAP WITH PIN POINT OF LOCATION. Confirm: Is this the correct location? IF YES: **INSERTION OF LAT-LONG FROM GEO-CODER.** IF NO, RETURN TO PREVIOUS SCREEN FOR RE-ENTRY/REVISION OF LOCATION DETAIL)

COV Travel Survey 2013
Study B501
FINAL QUESTIONNAIRE: October 2, 2013

MUSTEL GROUP
MARKET RESEARCH

CITY OF
VANCOUVER

PROFILING AND GENERAL TRANSPORT QUESTIONS

We just have a few general transportation questions before we assign your trip diary travel day.

1. Do you currently have a valid driver's license?
   1. Yes   2. No → SKIP TO Q4

2. Do you have regular access to a private vehicle or to a car-sharing program such as ZipCar, Car2Go or Modo? (RECORD ALL THAT APPLY)
   1. Private vehicle
   2. Car sharing program (such as ZipCar, Car2Go or Modo, etc.)
   3. No regular access to a vehicle

3. Are you a commercial driver, that is do you drive or make deliveries as part of your job (e.g., if a bus or taxi driver, courier, etc.)?
   1. Yes → Note that this survey concerns your travel for personal trips and those including travel to and from your job, but not trips made as part of your commercial driving job.
   2. No

4. What is your **usual mode of transportation** for trips to or from work or school? If you transfer between modes, specify the combination you usually take. (e.g. Bus and SkyTrain **OR** Auto passenger dropped off at SkyTrain, etc.) MULTIPLE RESPONSE ACCEPTED
   a. Auto driver
   b. Auto passenger
   c. Transit bus
   d. SkyTrain
   e. West Coast Express
   f. SeaBus
   g. HandyDART
   h. School bus
   i. Other bus
   j. Bicycle
   k. Walk all the way
   l. Taxi
   m. Other (specify) _____
   n. DO NOT TRAVEL TO WORK/SCHOOL

5. Do you use a bicycle: ☐ regularly year-round, ☐ occasionally, ☐ rarely or ☐ never?

6. In terms of walking, what would you consider a reasonable walking distance for travel purposes (work, school, shopping, etc.) (RECORD FARTHEST DISTANCE): <400m (6 min), 400-800m (6-12 min), 800-1,200m (12-18 min), >1,200m (>18 min).

7. Have you traveled by public transit in the past month?
   1. YES → ASK 8
   2. NO

8. IF YES: How do you usually pay for your travel by transit? (RECORD ALL THAT APPLY)
   1. Cash   2. FareSaver (tickets)   3. Monthly FareCard   4. U-Pass
   5. Employer Pass/Paid   6. Annual Pass   7. Other Specify:

Your Trip Diary Dashboard

This trip diary section is about the trips you make on the single assigned day indicated below.

1. **Before You Start:**
   - here is a video with key points to remember on your travel day (link Trip Diary Video)
   - your assigned travel day is (INSERT DAY) in the next week
   - we will send you an email reminder the day before

2. **Enter Your Trips:**
   - When you are ready to enter your travel diary, (click here)

3. **Last Steps (after completing travel diary):**
   - A few remaining classification questions (click here)
   - Your vehicle odometer reading (click here)

Here are some other helpful links containing information on the survey and how to complete it.
Trip Diary Video   Study FAQs   Privacy   Prize Draw/Rules   Contact Info
View or Print 'Diary TRIP TRACKER'

Note that these links will open in a new browser tab.
To return to the survey, simply close the tab.

SECTION 1: TRIP BEHAVIOUR (Monday to Friday only)

The City needs to understand residents' transportation choices each time they make a trip within or through the Lower Mainland. Please watch this quick video on how to fill in the trip diary: **Link to Trip Diary Video**

In this survey, we are asking about all of your trips taken on [INSERT ASSIGNED DAY & DATE] from midnight to midnight.

PROGRAMMER NOTE: INSERT THIS TEXT IF DRIVES OR MAKES DELIVERIES AS PART OF JOB (PROFILING AND GENERAL TRANSPORT QUESTION 3 = YES):

Please remember to exclude trips you make as part of your job (i.e. driving a bus, taxi or commercial vehicle), but do include trips to and from work as well as any other personal trips you make.

DEFINITION OF A TRIP (ON FIRST SCREEN – HAVE AS LINK OR DROP DOWN ON EVERY OTHER TRIP SCREEN)

A trip is travel from one location to another location for a purpose.

- **Include short trips** (e.g., stopping at a coffee shop, a gas station or dropping someone off)
- **Include return trips** (e.g., going home)
- Do **not include outings with no destination** (e.g., dog walking or jogging with no destination)
- Do not include walking to or from a bus stop or parking facility

Starting at midnight on [INSERT ASSIGNED DAY & DATE], did you make any trips on that day?
1. No, stayed home or was out of town for the whole day → SKIP TO SECTION 2
2. Yes

1. Trip 1

a) What was the **starting location**? If this trip started from home or work, please click "Home" or "Work". Otherwise give precise address, nearby cross-streets OR a landmark. Be sure to include the municipality.

b) What was your **end location**? If this trip ended at home or work, please click "Home" or "Work". Otherwise give precise address, nearby cross-streets OR a landmark. Be sure to include the municipality.

Address: _____

Nearby cross-streets: _____ and _____

Landmark: _____

Municipality:
1. Vancouver
2. Burnaby
3. Coquitlam
4. Delta/Ladner/Tsawwassen
5. Langley/Langley Township/Fort Langley/Aldergrove
6. Maple Ridge
7. New Westminster
8. North Vancouver
9. Pitt Meadows
10. Port Coquitlam
11. Port Moody/Anmore/Belcarra
12. Rishmond
13. Surrey
14. West Vancouver (including Horseshoe Bay/Lions Bay)
15. White Rock
16. All Other Locations Ending Outside of Metro Vancouver

(NEW SCREEN: GOOGLE MAP WITH PIN POINT OF LOCATION. Confirm: Is this the correct location? IF YES: **INSERTION OF LAT-LONG FROM GEO-CODER.** IF NO, RETURN TO END LOCATION SCREEN FOR RE-ENTRY/REVISION OF LOCATION DETAIL)

c) What time of day did you start this trip?
1. 12:00am to 5:59am (Owl)
2. 6:00am to 8:59am (AM Peak)
3. 9:00am to 11:59am (AM Midday)
4. 12:00pm to 2:59pm (PM Midday)
5. 3:00pm to 5:59pm (PM Peak)
6. 6:00pm to 8:59pm (Early Evening)
7. 9:00pm to 11:59pm (Late Evening)

d) What was the main **purpose** of this trip? ONE RESPONSE ONLY
1. To work
2. During work/business trip
3. To school
4. Shopping
5. Dining/restaurant
6. Recreation/social/entertainment
7. Personal business
8. To drive someone/drop-off/pick-up
9. To go home

e)   How did you travel to this location? Choose all that apply. If more than one, <u>list in order of use.</u>
1. Auto driver
2. Auto passenger
3. Transit bus
4. SkyTrain
5. West Coast Express
6. SeaBus
7. HandyDART
8. School bus
9. Other bus
10. Walked the whole way (CANNOT BE COMBINED WITH OTHER RESPONSES)
11. Bicycle
12. Taxi
13. Other (specify) _____

f)   Was this trip a stop along the way to your next location? (e.g. a short trip such as a drop off, gas station, coffee shop, etc.)
1. Yes → Did you pre-plan to make this stop?   3. Yes   4. No
2. No

g)   Did you make another trip on this day before midnight? (Remember to include return trips.)
1.Yes
2. No (last trip of the day) → IF DID NOT RETURN HOME, ASK h)

h)   Did you return home on this travel day?
1.   Yes - Please record the details of this trip
2.   No - Did not return home on this day → SKIP TO SECTION 2

Trips 2-15: REPEAT Q. b – g)

b) **Destination:** Where did you go next? Again, please provide the nearest cross streets, an address or a landmark such as a hospital, school, park, shopping mall, etc.
c) **Time:**   What time of day did you start this trip?
d) **Purpose:**   What was the main purpose of this trip?
e) **Mode:**   How did you travel to this location?
f) **Trip Chain:** Was this trip a stop along the way to your next location? (IF YES: Did you pre-plan this stop?)
g) **Next:**   Did you make another trip on this day(before midnight)?
h) **Home:**   (IF NO RETURN HOME) Did you return home on this travel day?

COV Travel Survey 2013
Study B501
FINAL QUESTIONNAIRE: October 2, 2013

MUSTEL GROUP
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CITY OF
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SECTION 2: DEMOGRAPHICS

Finally, a few questions to help us classify the survey data.
FOR REFUSAL, ALLOW TO CLICK THROUGH WITHOUT RESPONDING

1. Including you, how many people reside in your household? ___

2. HOUSEHOLD TYPE: Is your current home:
    1. A single detached home (includes basement suites)
    2. An apartment or condo
    3. A townhouse/row house
    4. A duplex (includes basement suites)
    5. A mobile home

3. EMPLOYMENT: Are you:
    1. Working full-time (30+ hours per week)
    2. Working part-time (<30 hours per week)
    3. Self-employed
    4. Volunteer only (not for pay)
    5. Unemployed
    6. Homemaker
    7. Retired
    8. Student full-time
    9. Student part-time

4. HOUSEHOLD INCOME: Which of the following best describes your total household income?
    1. Less than $25,000
    2. $25,000 to less than $50,000
    3. $50,000 to less than $75,000
    4. $75,000 to less than $100,000
    5. $100,000 to less than $150,000
    6. $150,000 or more

5. ETHNICITY: Were you born in Canada?
    1. Yes
    2. No

SECTION 3: VKT

> **PROGRAMMER NOTE: IF PRIVATE VEHICLE CHOSEN IN RECRUIT PROFILING AND GENERAL TRANSPORT SECTION (Q2), ASK Q1-2**
>
> 1. What type of private vehicle do you typically drive?
>   **INSERT IF COMMERCIAL DRIVER IDENTIFIED IN RECRUIT PROFILING AND GENERAL TRANSPORT SECTION (Q3)** : This is the vehicle typically driven for your personal trips. If you typically use a commercial vehicle for your personal trips, select that vehicle from the list below.
>   **DROP DOWN MENUS AS PER NRCAN DATASET**
>   **AS NRCAN LIST ONLY INCLUDES PASSENGER VEHICLES, ALLOW OVERRIDE**
>   **MAKE**   **MODEL**   **YEAR**
>
> 2. It is important for the City to understand how many kilometers residents are driving in a year. Please record the current odometer reading for this vehicle (to nearest 100km's). If unsure, you may check the vehicle and return to enter later.   _____ km's

IF EMPLOYMENT SCREENER = STUDY EMPLOYEE, GO DIRECTLY TO CLOSING

PRIZE DRAW, TALK VANCOUVER OPT-IN & CLOSING SCREEN

In appreciation of your participation, we will enter you into a draw to win passes to City facilities and attractions such as:

> a 3 month Flexipass – providing unlimited admission to any Park Board pool, fitness centre, or rink in the City during the validity period (Value $121)
> or
> a 1-year Premium Membership to the VanDusen Botanical Gardens, providing the member and a guest free entrance year round (Value $112).
>
> In all a 1-in-30 chance to win.
> > 1. Yes, please enter me into the draw
> > 2. No, thank you

Note that prize draw winners will be contacted once the study is complete.

TELEPHONE RECRUITS ONLY: TALK VANCOUVER OPT IN:
1. Before submitting your survey, the City wants to hear from the wide variety of people who live, work or learn in Vancouver. Help them build a better City by becoming a member of their community of trusted, local advisors called Talk Vancouver. By joining, you'll have the chance to regularly share your ideas and opinions about important City issues. Registration is quick and easy.

   Click here if you wish to join → https://www.talkvancouver.com/R.aspx?a=144 (FOR TEL RECRUITS AGREEING TO JOIN TALK VANCOUVER→ TEXT BELOW TO BE READ BEFORE BEING REDIRECTED)

CLOSING: This completes our survey. Thank you very much for your input and interest in this annual trip diary survey! We'll be in touch next year at this time!

COV PANELISTS: Redirect to Talk Vancouver website www.talkvancouver.com

Appendix B – 2013 Recruitment Summary

COV 2013 TRAVEL SURVEY

RECRUIT TO DIARY COMPLETES

	TOTAL MG & Talk Van	MG TEL TOTAL	7-Oct Week 1	14-Oct Week 2	21-Oct Week 3	28-Oct Week 4	4-Nov Week 5	11-Nov Week 6	18-Nov Week 7	25-Nov Week 8	2-Dec Week 9	9-Dec Week 10	16-Dec Week 11	1,168 E-invites TalkVan Total
Total Asked Recruit Qre	6,354	5,750	272	566	858	350	559	1,007	666	492	972	8	0	602
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	100.00%
- Total Recruits (QDii - Privacy Consented & QF - Email Provided)	4,902	4,432	182	396	629	258	466	792	545	427	729	8	0	470
	77.15%	77.10%	66.91%	69.96%	73.31%	73.71%	83.36%	78.65%	81.83%	86.79%	75.00%	100.00%	0.00%	78.07%
Completed Trip Diaries	2787	2517	105	227	410	159	292	503	310	202	304	5	0	270
% of Total Asked Recruit Qre	43.86%	43.77%	38.60%	40.11%	47.79%	45.43%	52.24%	49.95%	46.55%	41.06%	31.28%	62.50%	0.00%	44.85%
% of Total Recruits	56.85%	56.79%	57.69%	57.32%	65.18%	61.63%	62.66%	63.51%	56.88%	47.31%	41.70%	62.50%	0.00%	57.45%

COV 2013 TRAVEL SURVEY

DIARIES BY COV SUB-REGION

	TOTAL MG & Talk Van	MG TEL TOTAL	7-Oct Week 1	14-Oct Week 2	21-Oct Week 3	28-Oct Week 4	4-Nov Week 5	11-Nov Week 6	18-Nov Week 7	25-Nov Week 8	2-Dec Week 9	9-Dec Week 10	16-Dec Week 11	1,168 E-invites TalkVan Total
TOTAL TRIP DIARIES	2,787	2,517	0	128	265	308	189	272	570	299	359	127	0	270
COV SUB-REGION	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	103.17%	100.00%	100.00%	#DIV/0!	100.00%
CBD - West End	311	266	0	5	21	43	21	31	40	43	48	14	0	45
	11.20%	10.57%	0.00%	3.91%	7.92%	13.96%	11.11%	11.40%	7.02%	14.38%	13.37%	11.02%	#DIV/0!	16.70%
CBD - False Creek	196	169	0	2	15	19	6	18	37	40	28	4	0	27
	7.00%	6.71%	0.00%	1.56%	5.66%	6.17%	3.17%	6.62%	6.49%	13.38%	7.80%	3.15%	#DIV/0!	10.00%
Vancouver Broadway	364	322	0	4	36	54	32	39	73	30	35	19	0	42
	13.00%	12.79%	0.00%	3.13%	13.58%	17.53%	16.93%	14.34%	12.81%	13.20%	9.75%	14.96%	#DIV/0!	15.60%
Vancouver South	350	312	0	32	32	17	10	22	90	35	57	17	0	38
	12.60%	12.40%	0.00%	25.00%	12.08%	5.52%	5.29%	8.09%	15.79%	11.71%	15.88%	13.39%	#DIV/0!	14.10%
Vancouver Kerrisdale	317	294	0	8	29	55	33	50	49	28	37	5	0	23
	11.40%	11.68%	0.00%	6.25%	10.94%	17.86%	17.46%	18.38%	8.60%	9.36%	10.31%	3.94%	#DIV/0!	8.50%
Vancouver Kitsilano	384	348	0	59	45	33	14	25	81	28	47	16	0	36
	13.80%	13.83%	0.00%	46.09%	16.98%	10.71%	7.41%	9.19%	14.21%	9.36%	13.09%	12.60%	#DIV/0!	13.30%
Vancouver SE	284	276	0	3	22	31	20	32	57	34	52	25	0	8
	10.10%	10.97%	0.00%	2.34%	8.30%	10.06%	10.58%	11.76%	10.00%	11.37%	14.48%	19.69%	#DIV/0!	3.00%
Vancouver East	312	293	0	8	38	30	35	29	75	25	35	18	0	19
	11.20%	11.64%	0.00%	6.25%	14.34%	9.74%	18.52%	10.66%	13.16%	8.36%	9.75%	14.17%	#DIV/0!	7.00%
Vancouver Port	269	237	0	7	27	26	18	26	68	36	20	9	0	32
	9.70%	9.42%	0.00%	5.47%	10.19%	8.44%	9.52%	9.56%	11.93%	12.04%	5.57%	7.09%	#DIV/0!	11.90%

	TOTAL MG & Talk Van	MG TEL TOTAL	7-Oct Week 1	14-Oct Week 2	21-Oct Week 3	28-Oct Week 4	4-Nov Week 5	11-Nov Week 6	18-Nov Week 7	25-Nov Week 8	2-Dec Week 9	9-Dec Week 10	16-Dec Week 11	1,168 E-invites TalkVan Total
COV 2013 TRAVEL SURVEY														
DIARIES BY AGE & GENDER OVERALL														
TOTAL TRIP DIARIES	2,787	2,517	0	128	265	308	189	272	570	299	359	127	0	270
GENDER/AGE	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	#DIV/0!	100.00%
Male	1,233	1,100	0	56	109	136	76	114	246	137	170	56	0	133
	44.24%	43.70%	0.00%	43.75%	41.13%	44.16%	40.21%	41.91%	43.16%	45.82%	47.35%	44.09%	#DIV/0!	49.26%
Female	1,554	1,417	0	72	156	172	113	158	324	162	189	71	0	137
	55.76%	56.30%	0.00%	56.25%	58.87%	55.84%	59.79%	58.09%	56.84%	54.18%	52.65%	55.91%	#DIV/0!	50.74%
15-17	24	23	0	2	5	1	1	1	1	5	6	1	0	1
	0.86%	0.91%	0.00%	1.56%	1.89%	0.32%	0.53%	0.37%	0.18%	1.67%	1.67%	0.79%	#DIV/0!	0.37%
18-24	67	59	0	2	7	4	6	5	7	9	17	2	0	8
	2.40%	2.34%	0.00%	1.56%	2.64%	1.30%	3.17%	1.84%	1.23%	3.01%	4.74%	1.57%	#DIV/0!	2.96%
25-34	238	154	0	5	11	12	7	16	42	17	28	16	0	84
	8.54%	6.12%	0.00%	3.91%	4.15%	3.90%	3.70%	5.88%	7.37%	5.69%	7.80%	12.60%	#DIV/0!	31.11%
35-44	426	373	0	15	35	37	30	41	102	42	54	17	0	53
	15.29%	14.82%	0.00%	11.72%	13.21%	12.01%	15.87%	15.07%	17.89%	14.05%	15.04%	13.39%	#DIV/0!	19.63%
45-54	617	568	0	31	50	59	44	72	141	66	73	32	0	49
	22.14%	22.57%	0.00%	24.22%	18.87%	19.16%	23.28%	26.47%	24.74%	22.07%	20.33%	25.20%	#DIV/0!	18.15%
55-64	673	637	0	34	66	82	51	65	145	65	98	31	0	36
	24.15%	25.31%	0.00%	26.56%	24.91%	26.62%	26.98%	23.90%	25.44%	21.74%	27.30%	24.41%	#DIV/0!	13.33%
65+	690	651	0	38	77	94	42	70	130	90	82	28	0	39
	24.76%	25.86%	0.00%	29.69%	29.06%	30.52%	22.22%	25.74%	22.81%	30.10%	22.84%	22.05%	#DIV/0!	14.44%
Refused	52	52	0	1	14	19	8	2	2	5	1	0	0	0
	1.87%	2.07%	0.00%	0.78%	5.28%	6.17%	4.23%	0.74%	0.35%	1.67%	0.28%	0.00%	#DIV/0!	0.00%

COV 2013 TRAVEL SURVEY

DIARIES BY DAY OF WEEK	TOTAL MG & Talk Van	MG TEL TOTAL	7-Oct Week 1	14-Oct Week 2	21-Oct Week 3	28-Oct Week 4	4-Nov Week 5	11-Nov Week 6	18-Nov Week 7	25-Nov Week 8	2-Dec Week 9	9-Dec Week 10	16-Dec Week 11	1,168 E-invites TalkVan Total
TOTAL TRIP DIARIES	2,787	2517	0	128	265	308	189	272	570	299	359	127	0	270
DAY OF WEEK	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	#DIV/0!	100.00%
Monday	572	519	0	0	61	62	28	0	183	83	85	17	0	53
	20.50%	20.62%	0.00%	0.00%	23.02%	20.13%	14.81%	0.00%	32.11%	27.76%	23.68%	13.39%	#DIV/0!	19.63%
Tuesday	634	570	0	17	55	55	38	64	152	87	83	19	0	64
	22.80%	22.65%	0.00%	13.28%	20.75%	17.86%	20.11%	23.53%	26.67%	29.10%	23.12%	14.96%	#DIV/0!	23.70%
Wednesday	530	473	0	32	55	67	42	58	93	36	54	36	0	57
	19.00%	18.79%	0.00%	25.00%	20.75%	21.75%	22.22%	21.32%	16.32%	12.04%	15.04%	28.35%	#DIV/0!	21.11%
Thursday	545	495	0	34	48	66	37	81	73	46	80	30	0	50
	19.40%	19.67%	0.00%	26.56%	18.11%	21.43%	19.58%	29.78%	12.81%	15.38%	22.28%	23.62%	#DIV/0!	18.52%
Friday	506	460	0	45	46	58	44	69	69	47	57	25	0	46
	18.20%	18.28%	0.00%	35.16%	17.36%	18.83%	23.28%	25.37%	12.11%	15.72%	15.88%	19.69%	#DIV/0!	17.04%

COV 2013 TRAVEL SURVEY

PRIVATE VEHICLE & ODOMETER READING	TOTAL MG & Talk Van	MG TEL TOTAL	1,168 E-invites TalkVan Total
TOTAL TRIP DIARIES	2,787	2,517	270
	100.00%	100.00%	100.00%
Q2 = 1. Private Vehicle	1,999	1,883	116
% Total Completed Diaries	71.73%	74.81%	42.96%
Odometer reading entered	1,774	1,697	77
% of Private Vehicle	88.74%	90.12%	63.20%