

**From:** "Mochrie, Paul" <Paul.Mochrie@vancouver.ca>

**To:** "Direct to Mayor and Council - DL"

**CC:** "City Manager's Correspondence Group - DL"

"Dobrovolny, Jerry" <jerry.dobrovolny@vancouver.ca>

"LaClaire, Lon" <lon.laclaire@vancouver.ca>

**Date:** 4/18/2019 1:17:00 PM

**Subject:** Memo - 2018 Transportation Panel Survey

**Attachments:** ENG - TPL - Memo to Mayor and Council - Sustainable Transportation Trend....pdf

Greetings Mayor and Council,

Please see attached a memo from Jerry Dobrovolny regarding the results of the 2018 Transportation Panel Survey. Key items outlined in the memo include:

- Since 2013, the City has conducted an annual, longitudinal transportation survey of a panel of more than 2,500 Vancouverites, to track progress made towards our goal of increasing sustainable transportation, or trips by walking, biking, and public transit, and decreasing vehicle-kilometers travelled (VKT) by privately owned cars.
- According to the most recent 2018 Panel Survey, the sustainable mode share for all trips has been trending upwards and has surpassed 50%, meaning the City has already met its 2020 goal, and VKT by privately owned cars continues to decline.
- The Panel Survey data is consistent with recently released data from the 2016 Census Journey to Work, which also shows that walking, biking and transit commuting trips to the City of Vancouver, especially to Downtown Vancouver, have grown significantly while car trips have dropped, even though the City has added to its population and employment rates.

For more information related to the 2018 Transportation Panel Survey, please contact Jerry Dobrovolny at 604.873.7331 or [jerry.dobrovolny@vancouver.ca](mailto:jerry.dobrovolny@vancouver.ca).

Best,  
Paul

**Paul Mochrie** | Deputy City Manager  
Office of the City Manager | City of Vancouver  
[paul.mochrie@vancouver.ca](mailto:paul.mochrie@vancouver.ca)  
604.873.7666



*The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the Musqueam, Squamish, and Tsleil-Waututh peoples.*

---

## MEMORANDUM

April 16, 2019

**TO:** Mayor and Council

**CC:** Sadhu Johnston, City Manager  
Paul Mochrie, Deputy City Manager  
Lynda Graves, Administration Services Manager, City Manager's Office  
Rena Kendall-Craden, Civic Engagement and Communications Director  
Katrina Leckovic, City Clerk  
Neil Monckton, Chief of Staff, Mayor's Office  
Alvin Singh, Communications Director, Mayor's Office  
Anita Zaenker, Chief of Staff, Mayor's Office  
Lon LaClaire, Director, Transportation

**FROM:** Jerry Dobrovolny, General Manager, Engineering Services

**SUBJECT:** Sustainable Transportation Trends in the 2018 Transportation Panel Survey and 2016 Census Journey to Work

---

Since the fall of 2013, the City has conducted the Transportation Panel Survey. This annual survey of over 2,500 Vancouver residents helps the City to better understand how its residents travel, and to see if they are choosing to walk, bike and take transit more often, year over year. This in turn helps the City assess whether its policies, programs and infrastructure are encouraging these shifts.

This memo summarizes the 2018 Panel Survey, reviews the 2013-2018 trends for sustainable modes and vehicle-kilometres travelled, and compares to the Census Journey to Work.

### BACKGROUND

The annual Transportation Panel Survey of Vancouver residents collects information from each participant about their household, demographics, and weekday trips, including trip purpose and how the trip was made (i.e. travel mode).

The key objectives of the Panel Survey are to:

1. Assess the travel modes and number of trips made by Vancouver residents; and,
2. Assess the annual vehicle kilometres travelled by City residents.



The Panel Survey’s approach is unique compared to other travel surveys because it aims to measure relative annual change in travel behaviour amongst a group of panel members (i.e. a longitudinal survey) rather than compare results of a new random sample of households each time the survey is done. Collecting data annually of the same group of people helps the City determine if its investments in policies, programs and infrastructure are helping residents choose to walk, bike and take transit more often.

The Panel Survey complements other data sources, such as the TransLink Travel Diary survey, the Census Journey to Work, and local counts of traffic, bicycles, transit riders and people walking. For example, the Panel Survey does not account for commuting trips into the City from neighbouring municipalities, which are tracked through the Census Journey to Work. Additional information regarding methodology and trade-off differences between the Panel Survey and other surveys and data sources is provided as **Appendix A** of this memo.

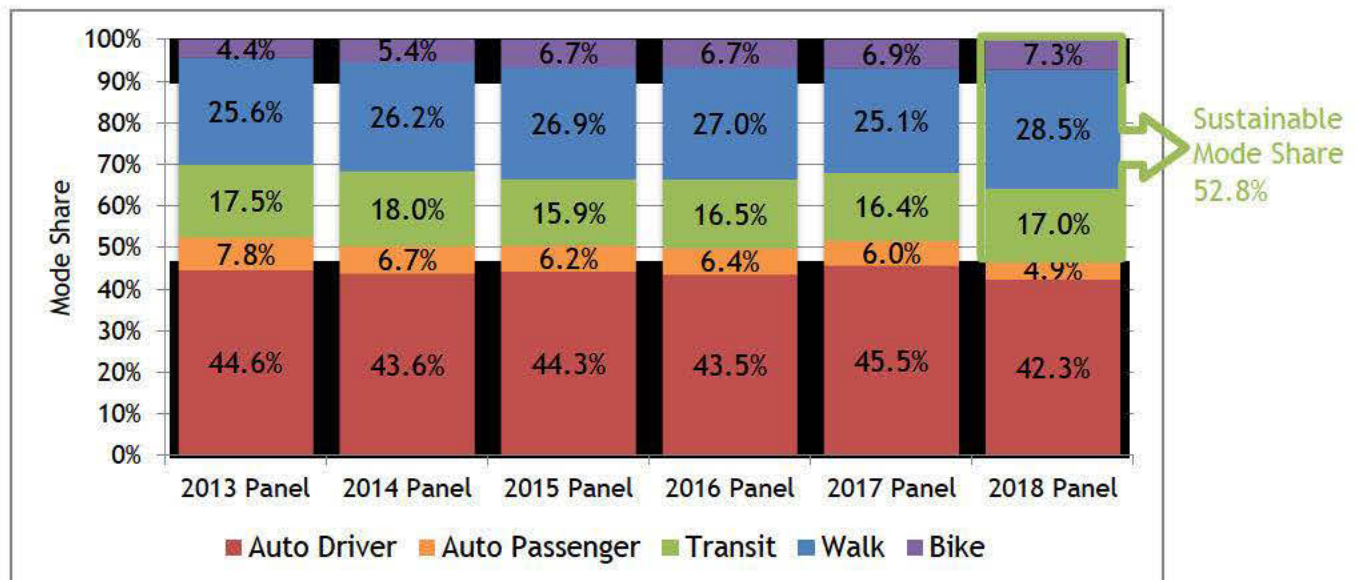
## 2018 PANEL SURVEY FINDINGS

### Travel Mode Share

One of the main objectives of the Panel Survey is to track walking, biking and transit trips of Vancouver residents over time. Encouraging these trips will help the City accommodate more growth, reduce transportation greenhouse gas emissions per resident and manage traffic congestion, by reducing the amount of vehicle-kilometres travelled and by encouraging more efficient ways of getting around.

One way of tracking behaviour change is by comparing the “mode share”, which is the proportion of all trips made by a particular mode. **Figure 1** compares the historical mode share findings of the 2013-2018 Panel Surveys, which show increases in walking and cycling share, consistent transit share, and gradual decline in the share of car trips.

**Figure 1: All Vancouver Resident Trips by Mode\* (2013-2018 Panel Surveys)**

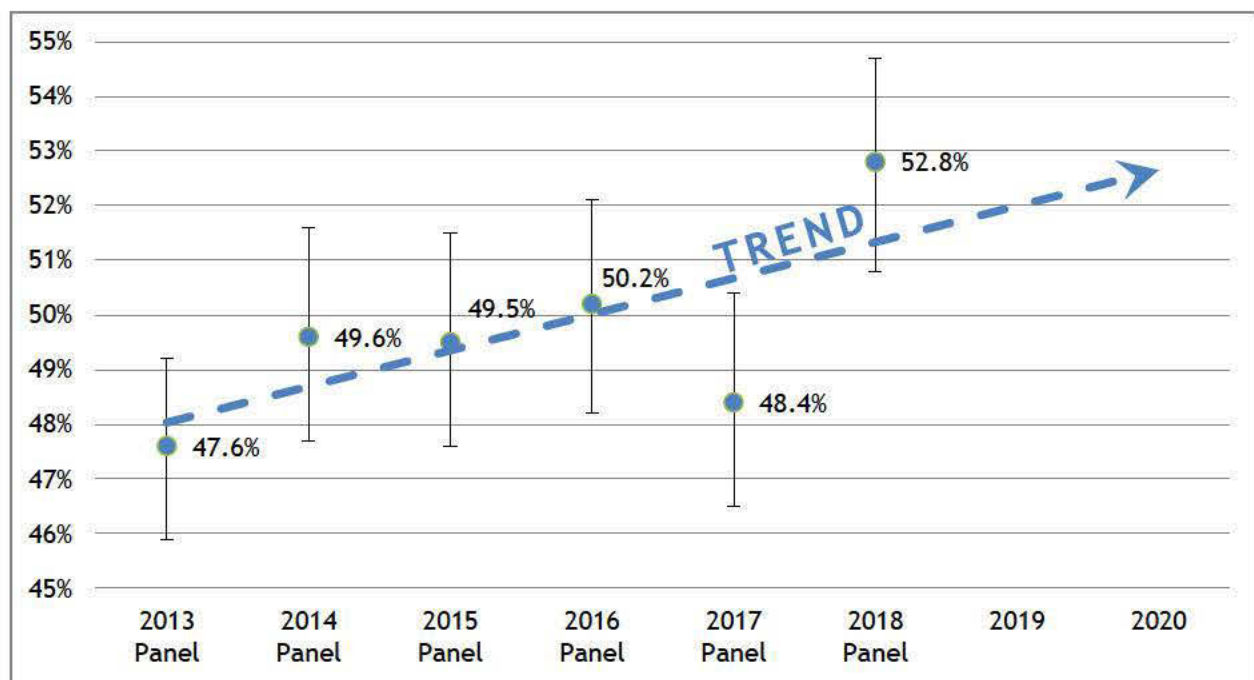


The “sustainable mode share” is determined by combining the shares for walking, cycling and transit. Transportation 2040 established the following sustainable mode share targets to guide City initiatives:

- By 2020, half (1/2) of all trips should be by walking, cycling or transit
- By 2040, two-thirds (2/3) of all trips should be by walking, cycling or transit

In 2018 the Panel Survey measured a sustainable mode share of 52.8%. Given there is some variation in the Panel Survey findings from year to year, it is important to review multi-year trends rather than results from a single year. As such, a review of the trend since the Panel Survey was started in 2013, as shown in **Figure 2**, suggests recent initiatives over the past five years have been effective overall at helping the City achieve its 2020 target for sustainable mode share while the total number of trips by Vancouverites has been increasing.

**Figure 2: Sustainable Mode Share (Daily) for Vancouver Residents (2013-2018 Panel Surveys, with 95% Confidence Intervals)**



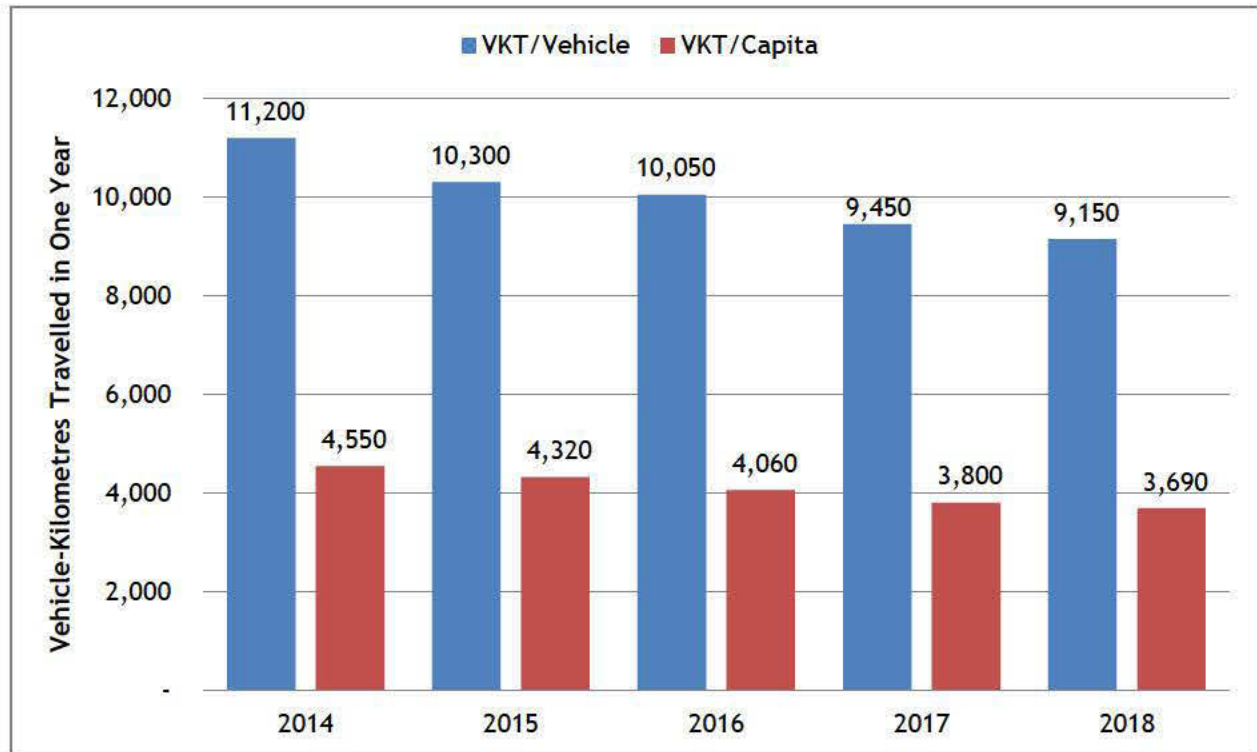
Vehicle Kilometres Travelled (VKT)

The Panel Survey tracks VKT from returning panellists through odometer readings of their personally owned vehicles. This measurement is important to complement progress made in sustainable mode share because less travel by car results in decreased fossil fuel usage and related greenhouse gas emissions.

City policies have set a goal to reduce the average distance driven per resident by 20% compared to 2007 levels. The City surpassed this goal in 2014 and it continues to aim for a decreasing trend in VKT. As shown in **Figure 3** on the next page, Panel Survey participants are driving shorter distances every year.



**Figure 3: Trends in Vehicle Kilometres Travelled for Vancouver Residents**



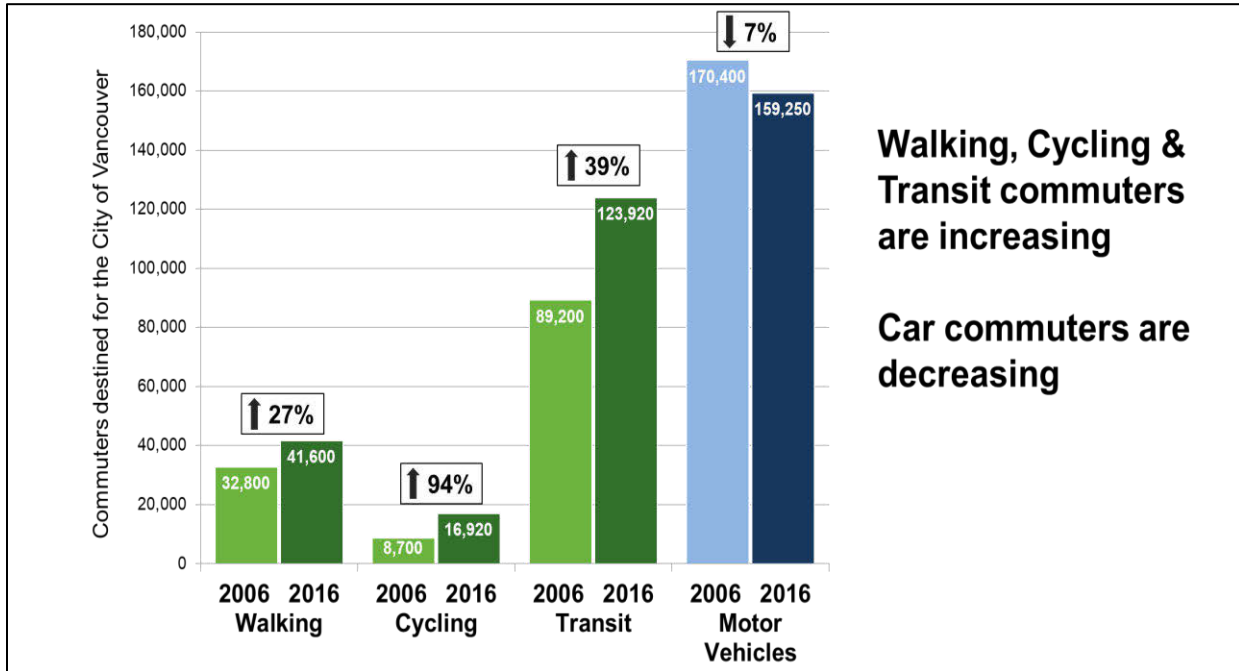
**CENSUS JOURNEY TO WORK FINDINGS (2006-2016)**

The findings of the most recent Census Journey to Work data, collected in 2016 and made available at the end of 2018, support the findings of the 2018 Panel Survey. Reviewing the trends from 2006 to 2016, as shown in **Figure 4** on the next page, commute trips by sustainable modes destined for the City have increased and car trips have decreased, despite increases in population and employment over that timeframe. This trend is particularly notable for Downtown Vancouver, as shown in **Figure 5** on the next page and **Table 1** below. For commute trips to Downtown Vancouver, the 2040 goal for sustainable mode share has already been achieved.

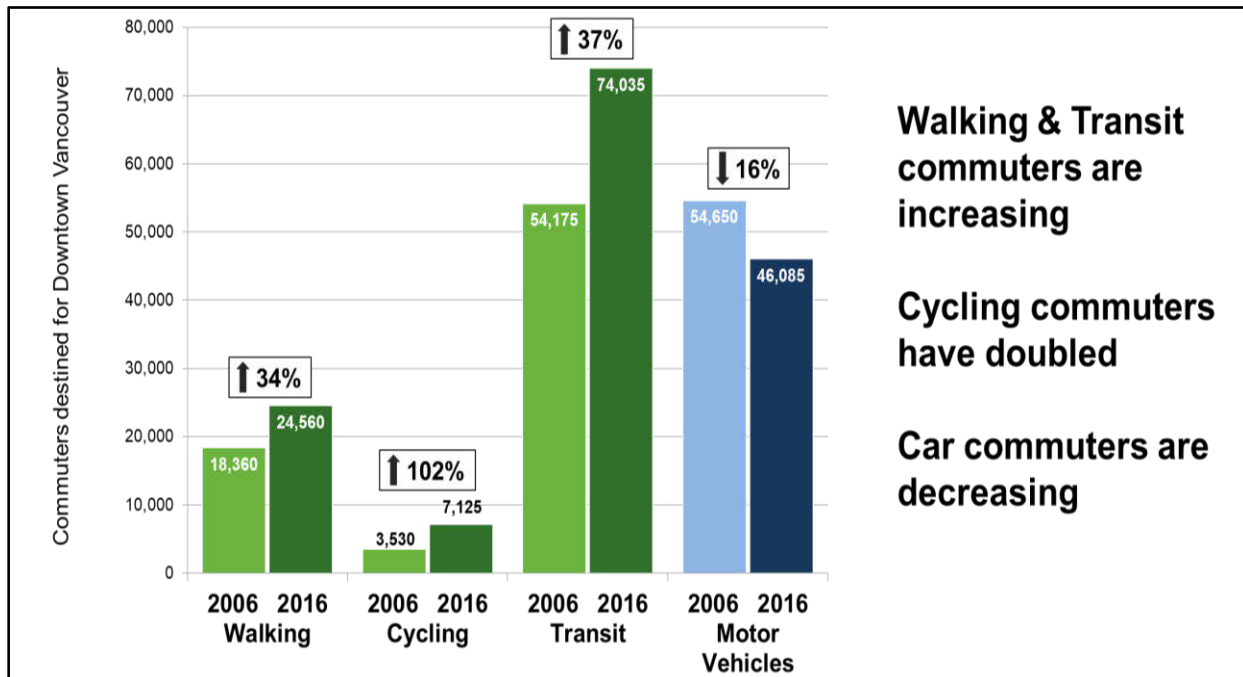
**Table 1: Commute Mode Shares (Census Journey to Work, 2006-2016)**

Mode	Destined for City of Vancouver		Destined for Downtown Vancouver	
	2006	2016	2006	2016
Walking	10.9%	12.2%	14.1%	16.2%
Cycling	2.9%	5.0%	2.7%	4.7%
Transit	29.6%	36.3%	41.4%	48.8%
<b>Sustainable</b>	<b>43.4%</b>	<b>53.4%</b>	<b>58.2%</b>	<b>69.6%</b>
Motor Vehicles	56.6%	46.6%	41.8%	30.4%

**Figure 4: Commute Trips Destined for the City Vancouver  
(Census Journey to Work, 2006-2016)**



**Figure 5: Commute Trips Destined for Downtown Vancouver  
(Census Journey to Work, 2006-2016)**



## CONCLUSION

The City of Vancouver continues to be a global leader in providing an efficient multi-modal transportation system. The Panel Survey data indicates residents are choosing healthier and more environmentally sustainable modes of travel, and suggests recent initiatives have helped the City achieve its sustainable mode share target for 2020. However, our City and region continues to grow and change. As such, the City must continue to prioritize initiatives enabling healthier and more sustainable modes of travel, to manage congestion and enhance reliability to support a thriving economy and a sustainable, healthy, and livable city.

If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Dobrovolny', is positioned above the typed name.

Jerry W. Dobrovolny, P.Eng., MBA  
General Manager, Engineering Services  
604.873.7331 | [jerry.dobrovolny@vancouver.ca](mailto:jerry.dobrovolny@vancouver.ca)

## Appendix A – Panel Survey Methodology Comparisons to Other Surveys

The City's long-range plan, Transportation 2040, developed transportation mode share targets to help the City achieve its sustainable transportation vision and goals. It is important to regularly monitor progress towards achieving these targets to determine how well initiatives are encouraging travel by sustainable modes and decreasing vehicle-kilometres travelled. Other than the Panel Survey, the surveys and data sources available to the City are the Census' Journey to Work, TransLink's Regional Trip Diary Survey, and local counts of traffic, bike lane counts, pedestrian crossings and transit ridership.

- **Canada Census/Journey To Work:** The Census of Canadian households occurs regularly every five years. The Journey to Work component of the Long Form Census asks a limited set of transportation questions about travel to work to about 30% of households.
- **TransLink's Regional Trip Diary:** The Regional Trip Diary Survey administered by TransLink is a household survey of travel for approximately 2% of households in the lower mainland. This survey is performed every 5-6 years with the previous surveys being performed in 2017, 2011 and 2008. As of this writing, findings for the most recent 2017 survey have not yet been released.
- **Bike Lane/Traffic Counts/Transit Ridership:** The City regularly counts car and cyclist traffic on roads and bike lanes, people crossing at intersections, and obtains transit ridership data from TransLink.

The following survey design trade-offs affect how well progress towards City goals can be tracked by different methods:

- **Frequency of measurement:** Collecting data more frequently makes it easier to identify what is causing changes.
- **Timeliness and data availability:** Data is more relevant if it becomes available quickly after collection. Also, the availability of survey responses permits the City to conduct supplemental analyses.
- **Representation of sample:** The representation of the sample affects its quality and the applicability of observations to the City population.
- **Seasonal effects minimized:** Different seasons have different travel characteristics, which can affect the representation of the sample or the nature of travel.
- **Responsiveness to City priorities:** The City has varying ability to influence question design in different surveys, affecting the ability to customize it.
- **Ability to measure Vancouver resident travel:** Various data sources may be more or less able to associate observations with travel by Vancouver residents.
- **Ability to assess travel patterns:** Highly localized data may not be able to identify broader travel patterns.

The above trade-offs make it possible to evaluate the usefulness of the various surveys and data sources for tracking the City's progress in achieving the mode share targets. The following table evaluates the effectiveness of the various surveys at achieving the City's goal of regularly monitoring its residents' travel behaviour. It is important to note that all of the various surveys and data sources have important roles to play in determining the overall picture of resident travel. For example, the Census is a critical data source used to validate the Panel Survey or TransLink Trip Diary samples.



Trade-off	Panel Survey	Census	Trip Diary	Counts
<b>Frequency of measurement</b>	<b>Excellent</b> Annual survey permits regular monitoring of how initiatives affect travel patterns	<b>Poor</b> Census done every 5 years makes it more difficult to know whether City initiatives or long-term socioeconomic factors are causing observations	<b>Poor</b> Survey done every 5-6 years makes it more difficult to know whether City initiatives or long-term socioeconomic factors are causing observations	<b>Excellent</b> Can be done whenever need is identified and resources are available
<b>Timeliness and data availability</b>	<b>Excellent</b> Annual survey with data available 6 months after surveys are complete Access to full survey data enables supplemental analysis	<b>Poor</b> Census done every 5 years with data available about 2-3 years after surveys are complete; observations may be out of date Full survey data is unavailable	<b>Fair</b> Survey done every 5-6 years with data available about 2 years after surveys are complete; observations may be out of date Full survey data is unavailable	<b>Excellent</b> Data available soon after surveys are complete Access to full survey data permits supplemental analysis
<b>Representation of sample</b>	<b>Fair</b> Relatively small sample size, but panel framework enables longitudinal analysis	<b>Excellent</b> High quality and large sample, but random sample impedes longitudinal analysis	<b>Fair</b> Good size sample, but random sample impedes longitudinal analysis	<b>Unknown</b> Day-to-day variations and inability to know who is counted mean that sample quality is unknown
<b>Seasonal effects minimized</b>	<b>Excellent</b> Data collected in Fall, when students are in school and employment conditions are typical	<b>Good</b> Data collected in May, when post-secondary students are not in school	<b>Excellent</b> Data collected in Fall, when students are in school and employment conditions are typical	<b>Excellent</b> Data can be collected whenever deemed appropriate
<b>Responsiveness to City priorities</b>	<b>Excellent</b> Annual survey conducted by the City enables customization	<b>None</b> Census done every 5 years, with little to no ability by the City to influence question design	<b>Poor</b> Survey done every 5-6 years, with limited ability by the City to influence question design	<b>Excellent</b> Data can be collected as needed
<b>Ability to measure Vancouver resident travel</b>	<b>Excellent</b> Specifically designed to measure travel behaviour of Vancouver residents	<b>Fair</b> Measures household travel, but for a very limited set of questions	<b>Excellent</b> Comprehensive survey of household travel includes Vancouver residents	<b>Poor-Excellent</b> Depending on survey location and design, counts may be influenced by regional/tourist traffic, etc.
<b>Ability to assess travel patterns</b>	<b>Excellent</b> Specifically designed to measure travel patterns	<b>Poor</b> Question set enables limited travel pattern analysis of work trips only, which is about 30% of total trips	<b>Excellent</b> Detailed question set enables comprehensive pattern analysis	<b>Poor-Fair</b> Localized counts enable limited analysis of travel patterns
<b>Overall effectiveness</b>	<b>Good-Excellent</b>	<b>Poor-Fair</b>	<b>Fair-Good</b>	<b>Fair-Good</b>