

Report
April 27, 2023

PCI – TransLink Compass for Developments Demonstration Pilot



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Contents

Purpose	1
Introduction	1
Background.....	1
Project Description	2
Report Structure.....	3
Pilot Overview	3
Pilot Goals and Objectives	4
Description and Location.....	5
Process.....	6
Key Stakeholders	6
Phasing and Timeline	7
Data Analysis	9
Compass Card Data	9
Intake and Exit Surveys.....	10
Data Limitations	10
Summary of Findings	11
Compass Card Data	11
Intake and Exit Survey Data.....	17
Key Takeaways	22
Summary of Mode Shift.....	22
Successes	22
Challenges	23
Next Steps.....	25
Future Demonstration Pilots	25
Dissemination of Findings.....	25

Purpose

The purpose of this memo is to provide an overview of the [Compass for Developments](#) (CfD) Demonstration Pilot (“the Pilot”) that was conducted at King George Hub in Surrey, BC between October 2022 and January 2023. The purpose of the Pilot was to build ridership, reduce single-occupancy vehicle (SOV) trips, and better understand the impact of subsidized transit passes as a Transportation Demand Management (TDM) strategy in a transit-oriented development (TOD) setting. This memo summarizes the Pilot process, data analysis and findings, key takeaways, and recommended next steps. The findings and recommendations included in this memo will help build the case for a regionally coordinated approach to TDM requirements and inform the evolution of the CfD program.

Introduction




Background

In light of the regional challenges associated with traffic congestion and greenhouse gas (GHG) emissions, there is a key opportunity for the development community to help provide incentives to encourage the use of sustainable transportation options. Compass for Developments is one of TransLink’s TDM programs, aimed at supporting developers in meeting their sustainable transportation goals and satisfying municipal TDM requirements (where applicable).

The CfD Program allows developers to make a one-time bulk payment to TransLink to help facilitate the provision of transit benefits to residents, commercial tenants, and employees, while enabling stratas and/or property managers to manage the day-to-day operations of distributing the benefits to occupants (e.g., collecting and updating list of transit benefit recipients). TransLink then manages the backend system which includes the dedicated transit benefit fund and the monthly auto-load of products to the specified occupants’ Compass cards.

TDM can help advance key objectives set out in the Regional Transportation Strategy, Transport 2050. Table 1 summarizes some of the linkages.

Table 1. Relationship between TDM efforts and Transport 2050 Goals and Objectives

Goal	Transport 2050		Link to TDM Efforts
	Strategy	Actions/Objective	
 Convenient	1.2 Make transit the most convenient choice for longer trips	Provide a transit system that is accessible and barrier-free for everyone across the region	Potential for programs to target support to low-income and/or rental housing
 Affordable	3.1 Make living close to frequent transit more affordable	Provide fast, frequent, reliable transit alternatives to vehicle ownership and purchasing a parking space, helping to reduce individual and overall housing costs	Evidence from demonstration pilots can inform and support reductions in parking minimums
 Carbon-free	5.1 Reduce the energy requirements of the transport system	Shift trips to the most energy-efficient modes by increasing the attractiveness and competitiveness of alternatives to the automobile	Free transit passes and demonstration pilots can demonstrate the reliability of new travel behaviour

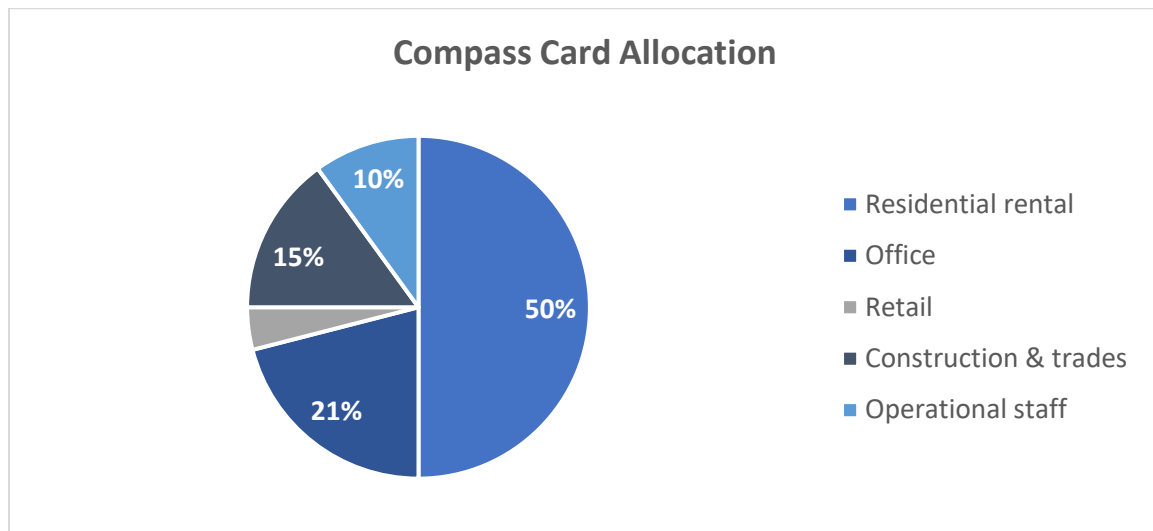
Project Description

Transit subsidies are already an option for developers to meet building sustainability requirements in some municipalities, though there is a lack of data and studies in this area. In October 2022, TransLink partnered with PCI Developments (“PCI”) to launch a first of its kind demonstration pilot of the CfD program.

A key objective of the Pilot was to gain a better understanding of the potential benefits and outcomes associated with subsidized transit. This was accomplished through analysis of Compass card usage as well as responses to voluntary intake and exit surveys by Pilot participants. The ultimate goal of such demonstration pilots is to build the case for a regionally coordinated approach to TDM, part of which could include requiring developers to enroll in the CfD program. This would require partnership with regional municipalities who are responsible for establishing and enforcing local TDM bylaws, as well as the cooperation of the development community.

PCI allocated \$45,000 to the Pilot, through the provision of 300 branded Compass cards (pre-loaded with \$150 in fare value) to residents and employees of King George Hub (KGH), a four-phase development in Surrey City Centre, of which three phases are currently complete. The planned allocation of Compass cards by participant type is shown in Figure 1.

Figure 1. PCI Pilot Compass Card Allocation



Amongst other insights, the data collected during this Pilot could strengthen the case for transit subsidy requirements by municipalities as part of new transit-oriented developments (TOD) or TDM bylaws. Details regarding the Pilot process, data analysis and findings, and recommendations are further described in the following sections of this report.

Report Structure

This report is organized as follows:

- **Introduction:** provides an overview of the project and outlines the purpose of the report.
- **Pilot overview:** provides information on the purpose, goals, and objectives of the Pilot.
- **Process:** describes the coordination process between the Pilot stakeholders and overall timeline.
- **Data analysis:** summarizes the data limitations, data analysis, and key findings.
- **Recommendations:** summarizes the key lessons learned from the Pilot and provides associated recommendations.
- **Next steps:** outlines the potential next steps following the publication of this report.

Pilot Overview

This section provides an overview of the goals and objectives for the Pilot, in addition to a summary description of the Pilot location and context.

Pilot Goals and Objectives

The purpose of the Pilot was to build ridership, reduce single-occupancy vehicle trips, and better understand the impact of subsidized transit passes as a TDM strategy in a TOD setting.

The Pilot had five goals:



Impact



Engagement



Insight



Data



Delivery

Each of the goals is expanded through the following objectives:



- **Influence mode choice and change travel behaviour.** Collect survey and Compass card data to better understand user sentiment, interest, and participation in this type of incentive, and to evaluate program effectiveness in encouraging behaviour change.



- **Improve the implementation of TDM practices in the development process.** Cultivate stronger relationships between TransLink, developers, and municipalities to enhance the application of TDM practices within new developments. Firstly, by strengthening developers' understanding of the benefits of the CfD program and synchronizing the program with the development application process. Additionally, by informing municipalities in the development of consistent, coherent, and constructive TDM policies for new developments across the region.



- **Identify the most insightful data to determine project success.** Use Pilot insights to refine initial key criteria and data collection approaches to ensure proper functionality of all components of the project. Tracking Compass card usage would provide a better understanding of potential behaviour change and/or the impact on parking needs.



- **Collaborate with municipalities.** Share aggregated and anonymized reporting data and other tools, dashboards, or resources with municipal staff. This level of information sharing would enable municipalities to provide input on program delivery, increasing their support for and familiarity with the CfD program, likely increasing the effectiveness of the program and future pilot projects.



- **Create an operational and scalable Compass for Developments program.** Demonstration pilots are planned to test out approaches at the development scale and to identify opportunities to evolve the current CfD program. These pilots will also act as a proof of concept for TransLink to present novel, data-driven opportunities to municipal partners and other stakeholders.

Description and Location



Image source: TransLink

As noted earlier, the Pilot took place at KGH which is a transit-oriented development located in Surrey City Centre. The development consists of approximately 760,000 square feet of commercial space and 2,000 residential units. It is located adjacent to King George Station which currently serves the Expo Line – connecting Downtown Vancouver with the cities of Burnaby, New Westminister, and Surrey.

Average daily boardings at King George Station, which is the 10th busiest station in the SkyTrain network, are as follows:¹

- **Weekday:** 9,000
- **Saturday:** 6,000
- **Sunday/Holiday:** 5,000

Population and mode share statistics for the Dissemination Area in which KGH is located (59151950) are as follows:²

- **Total Population:** 1,081
- **Total Commuting Population:** 500
- **Main Mode of Commuting**
 - Car: 335 (67%)
 - Public Transit: 140 (28%)
 - Walking: 15 (3%)
 - Biking: 0 (0%)

Population and mode share statistics for the Forward Sortation Area in which KGH is located (V3T) are as follows:³

- **Total Population:** 45,515
- **Total Commuting Population:** 20100
- **Main Mode of Commuting**
 - Car: 13,075 (65%)
 - Public Transit: 5,870 (29.2%)
 - Walking: 770 (3.8%)
 - Biking: 80 (0.4%)

Process

This section describes the key stakeholders involved in the Pilot and provides a summary of the timeline and key phases of the Pilot process.

Key Stakeholders

This Pilot included several stakeholders working together, including TransLink, Steer (consultant), PCI, the City of Surrey, and the Pilot participants.

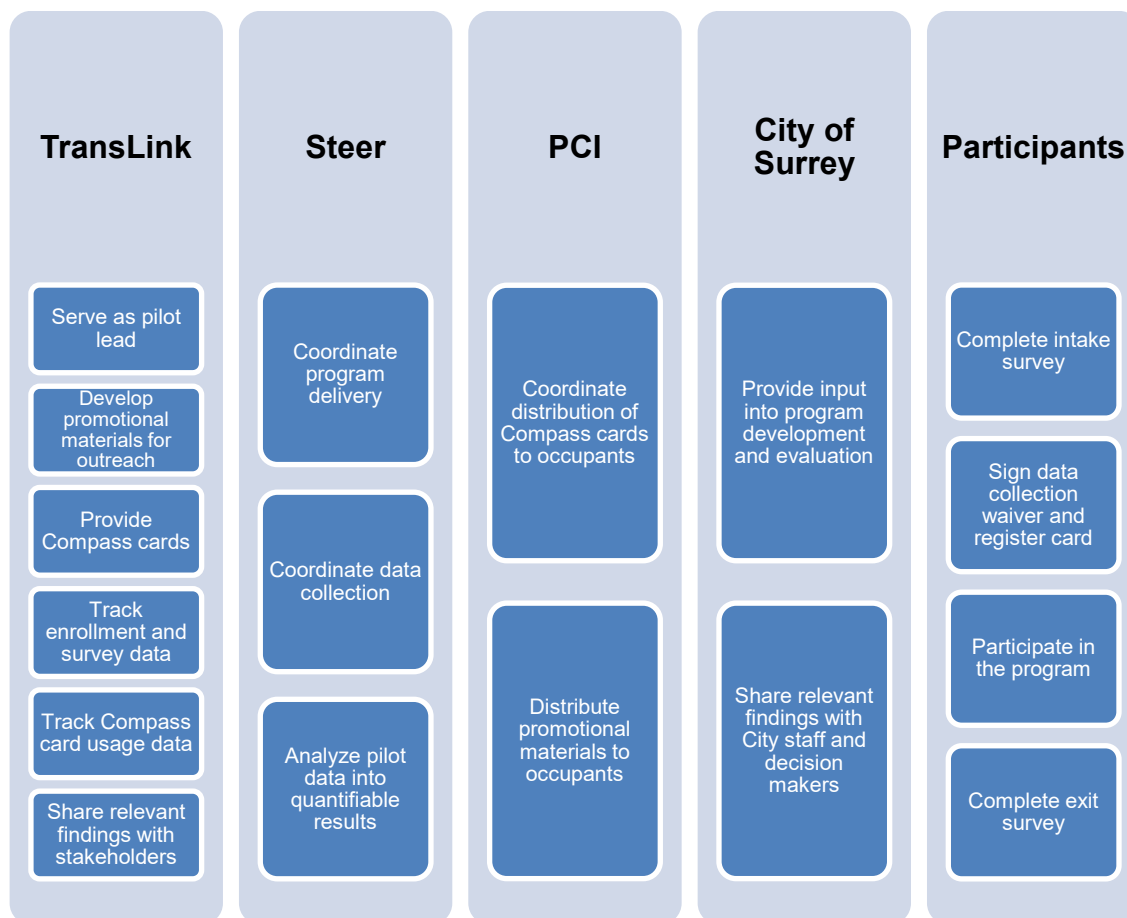
¹ TransLink. (2021). *Transit Service Performance Review 2021*. Retrieved from https://www.translink.ca/-/media/translink/documents/plans-and-projects/managing-the-transit-network/tspr/2021_transit_service_performance_review.pdf

² Statistics Canada (2021). *2021 Census of Population*. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?LANG=E&GENDERlist=1&STATISTIClist=1,4&DGUIDlist=2021A00055915004,2021S051259151950&HEADERlist=,49,51,50,48,52&SearchText=Surrey>

³ Statistics Canada (2021). *2021 Census of Population*. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?LANG=E&GENDERlist=1&STATISTIClist=1,4&DGUIDlist=2021A00055915004,2021A0011V3T&HEADERlist=2,,49,51,50,48,52&SearchText=v3t>

Figure 2 provides an overview of the stakeholders' roles and responsibilities for the Pilot.

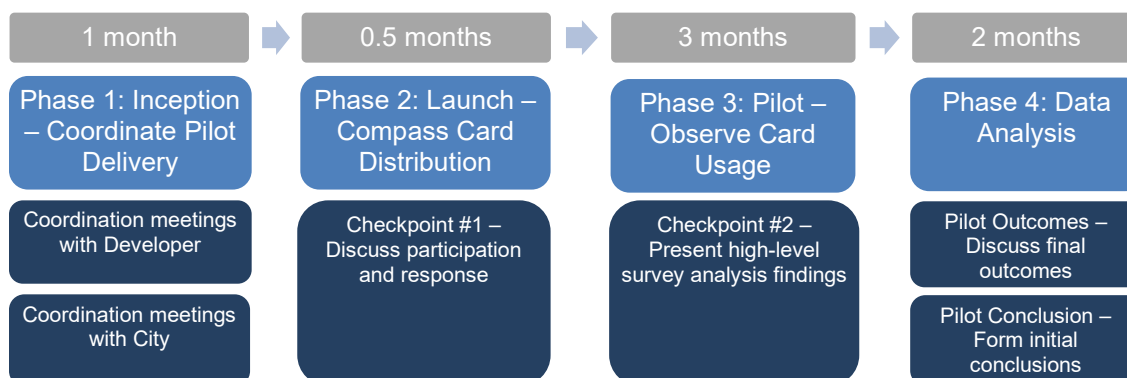
Figure 2. Team Roles and Responsibilities Flow Chart



Phasing and Timeline

The PCI Pilot at KGH included a detailed process to determine the best approaches to executing such a novel partnership, aiming to explore the data-driven outcomes of providing subsidized transit passes. The four-phase process of planning to the final reporting of findings lasted approximately six months. Figure 3 summarizes of the Pilot phases, timeline, and key activities.

Figure 3. Pilot Phasing and Timeline



Phase 1: Inception

This was the first stage of the Pilot where all key stakeholders coordinated on delivery logistics and identified relevant key performance indicators. This stage included initial coordination meetings between TransLink – City and TransLink – PCI. This phase took approximately one month.

Phase 2: Launch

The second phase consisted of primarily facilitating the Pilot launch. This included TransLink providing the pre-loaded Compass cards and intake survey to PCI to begin distribution to KGH occupants who had expressed interest in participating. Survey data collection was done in accordance with ss. 26(c) and 26(e) of the Freedom of Information and Protection of Privacy Act (British Columbia). The first Pilot checkpoint was scheduled after the distribution of the 300 Compass cards to discuss participation, initial response rates to the intake survey, and any challenges that arose during distribution. This phase took two weeks. PCI property management noted that additional time (e.g., one extra week) for the distribution of Compass cards would have been beneficial, given the selected approach of distributing cards on a 1:1 basis (based on occupants who had expressed interest), and the need to accommodate the varying schedules of retail employees, in particular.

Phase 3: Pilot

The third phase of the Pilot began once all pre-loaded Compass cards had been distributed. This phase consisted of observing Compass card usage and refining the desired data points in Tableau. Tableau is a visual analytics platform that was used to generate a Compass card data workbook summarizing card utilization for this Pilot. Based on initial observations from the intake survey, the team discussed high-level findings with PCI at the second Pilot checkpoint, which was mid-way through Phase 3. This phase had a duration of about 3 months after launch.

Phase 4: Analysis

The last phase marked the completion of the three-month Pilot period. TransLink distributed the exit survey to the 110 participants who had provided their email addresses on the intake survey. The exit survey was left open for two weeks during which two reminders were sent to participants (in addition to a pre-exit survey ‘heads up’ email). Following an in-depth analysis of the survey and Compass card data, TransLink hosted a workshop for municipal staff to share the findings. This phase took approximately two months.

Data Analysis

This section summarizes the data points collected from tracking Compass card utilization during the Pilot, as well as the intake and exit surveys. Data limitations for each data type are also described in this section.

Compass Card Data

The list of data points that were gathered as part of monitoring anonymized Compass card activity for the Pilot are summarized in Table 2.

Table 2. Compass Card Data Dictionary

Data Point	Description
Total Cards (#)	The total number of distributed cards.
Total Journeys (#)	The total number of journeys taken throughout the 3-month Pilot.
Percent of Total Distributed Cards Active (%)	Indicates the proportion of active cards throughout the 3-month Pilot. This data can help determine how many cards were used out of the 300 cards, and how that changed over the course of the 3 months.
Active Cards per Day by Reload (%)	Indicates whether the card had been reloaded. This was determined by analyzing the total cumulative monthly spend, and whether that exceeded the \$150 pre-loaded value. For example, if monthly cumulative spend exceeded \$150 in December, then it is assumed that the card was reloaded that month.
Average Daily Journeys per Distributed Card (#)	The total number of journeys recorded divided by the total number of distributed cards (unused cards are counted). Average Daily Journeys are recorded by Period (AM Peak, PM Peak, and Off-Peak) and Day Type (Weekday, Saturday, and Sunday/Holiday).
Average Daily Distance per Journey (km)	The average travel distance between origin and destination, broken down by transit fuel type (e.g., electric train, electric bus, diesel bus, gas bus, etc.). This suggests the average commuting/social trips distance and the number of zones they crossed.
Average Daily Distance per Distributed Card (km)	The average daily travel distance for participants throughout the 3-month Pilot. This suggests whether users were primarily using their cards for local or regional travel.
Reloaded Cards (%)	The percentage of cards that were reloaded each month with some type of fare product (monthly pass or fare value). This indicates whether participants ran out of their \$150 subsidy and purchased additional fare products. It is worth noting the possibility that participants had other Compass cards which they returned to using following the depletion of the subsidy, and that would affect whether they reloaded their PCI-provided Compass card.
Overall Card Travel by Usage Type (%)	Summary of cards that were likely given away (i.e., not used at King George Hub or in Surrey), used at King George Hub, or used in Surrey but not at King George Hub.
Unused Cards (#)	The number of cards that had no registered activity during the Pilot period.
Average Daily Journeys by Journey Type (3)	The number and percentage of average daily journeys that were: <ul style="list-style-type: none"> From King George Hub To King George Hub Loop journey (starts and ends at King George Hub, suggesting that the user completed their activity within the transfer window) Other journey (journeys that did not start or end in Surrey) Other journey to/from Surrey (journeys that did not start or end at King George Hub but were within Surrey)

Intake and Exit Surveys

The list of data points that were gathered through the intake and exit surveys are summarized in Table 3. The full intake and exit surveys can be found in the Appendix.

Table 3. Survey Data Dictionary

Data Point	Description
Demographics (e.g. age, gender identity, income, relationship to KGH)	Questions used to establish baseline socio-demographic indicators which describe the Pilot participants.
Travel patterns	Questions regarding participant travel patterns, such as how often the commute each week, travel for shopping/family/social activities, and where they typically commute or travel between King George Hub.
Travel habits	Questions regarding one-way commute distances, commute mode split, typical travel distances for shopping/family/social trips, and mode split for shopping/family/social trips.
Access to private vehicles, bicycles, and parking	Questions regarding number of registered motor vehicles per household, ownership/access to a bicycle in working condition, and access to a designated parking space at King George Hub.
Perceptions and experiences	Statements gauging participants' level of agreement on issues such as: whether developments such as King George Hub increase their regular use of transit, whether such developments make it less likely for them to rely on using a private vehicle, and whether being located close to public transit is a key benefit. The exit survey included additional questions gauging participants' level of satisfaction with the Pilot and their anticipated transit use once their transit subsidy was depleted.

Data Limitations

Compass Card Data

Key limitations of the Compass Card data from this Pilot included:

- Inability to differentiate the cards by user type (e.g., Tenants and Employees).
- Lack of insight to utilization of other Compass cards that participants may have (either before, during, or after the Pilot period).
- Inability to directly confirm whether the participants reloaded their Compass cards once the \$150 subsidy was used. (Although this could be inferred by looking at trip activity against the various fees for multi-zonal travel).

Intake and Exit Surveys

Key limitations associated with the Pilot's intake and exit surveys included:

- While participation in the intake survey was easier to encourage (as the receipt of the Compass Card was tied to it), participation in the exit survey was more difficult to guarantee.
 - Given privacy laws, TransLink cannot require participants to provide their email addresses, which impacts the participation potential for the exit survey.
- The data collected from the surveys are primarily self-reported and as such are susceptible to bias.
- There is limited historical data to understand participant's travel behaviors before the Pilot.
- There was no ability to match respondents' intake and exit survey responses. This limited the potential to determine certain outcomes, such as whether there were changes in vehicle ownership or access to designated vehicle parking at KGH from November to January.

Summary of Findings

This section describes the key findings from the Compass card data and intake and exit survey data analyses.

Compass Card Data

Of the 300 Compass cards that were distributed, a total of 18 cards were unused (i.e., they had no registered activity during the 3-month Pilot period). Of the 282 cards that were used, approximately 90% were used at KGH, with 5% likely being given away (but still being active, just not in Surrey or at King George Hub) and the remaining 5% used in Surrey but not at KGH (Figure 4). A total of over 12,000 journeys were observed during the Pilot period.

Figure 4. Compass Card Activity



During the Pilot, approximately 32% of the active Compass cards were re-loaded, with the greatest percentage of re-loads occurring in December (Table 4). It is also interesting to note that the majority of participants who re-loaded their cards chose the stored value option rather than a monthly pass.

Table 4. Compass Card Reload Activity

Month	Product	Number of Cards Re-loaded	Percentage of Cards Re-loaded
November	Monthly pass	5	1.77%
	Stored value	11	3.90%
	Total Reloads	16	5.67%
December	Monthly pass	4	1.42%
	Stored value	34	12.06%
	Total Reloads	38	13.48%
January	Monthly pass	2	0.71%
	Stored value	33	11.70%
	Total Reloads	35	12.41%
No Reload	-	193	68.44%

Travel Patterns

Average weekday journeys declined during the course of the 3-month Pilot, with November having approximately 179 average daily journeys, December having 155 average daily journeys, and January having 113 average daily journeys (Figure 5). One explanation for this observation may be that some participants had run out of their pre-loaded \$150 subsidy and did not re-load the card with additional fare products during the 3-month period. This observation appears to correlate with the decline in active Compass cards from November through to the end of January (Figure 6).

Figure 5. Average Daily Journeys (Weekday)

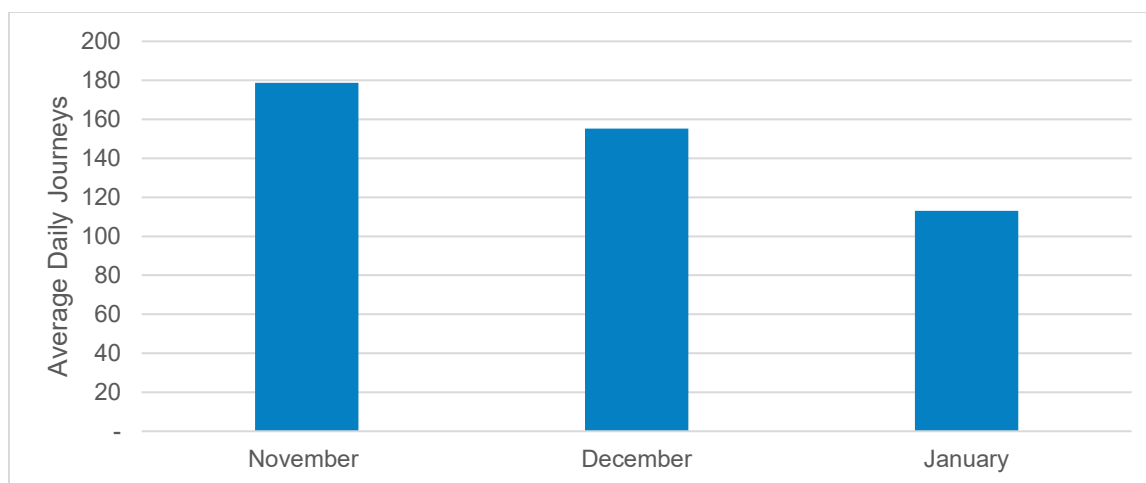
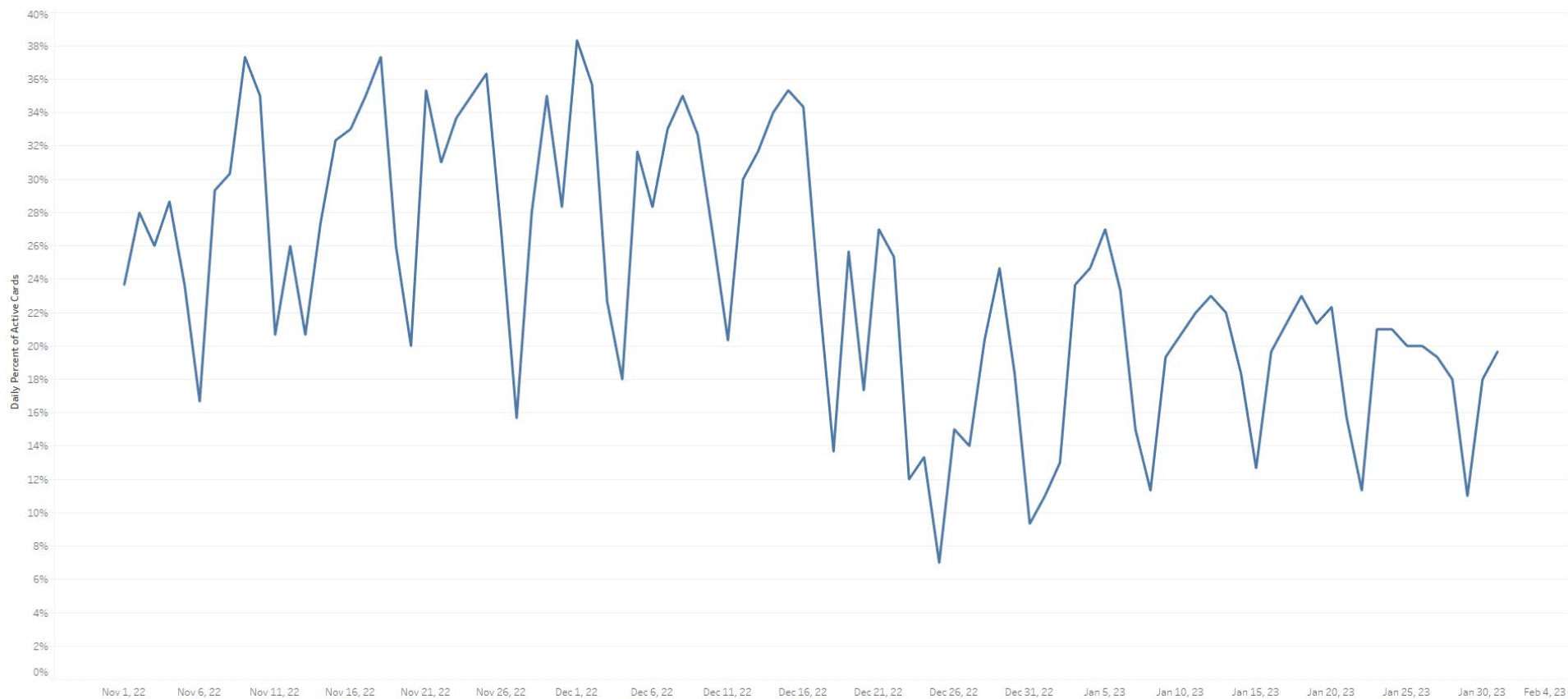
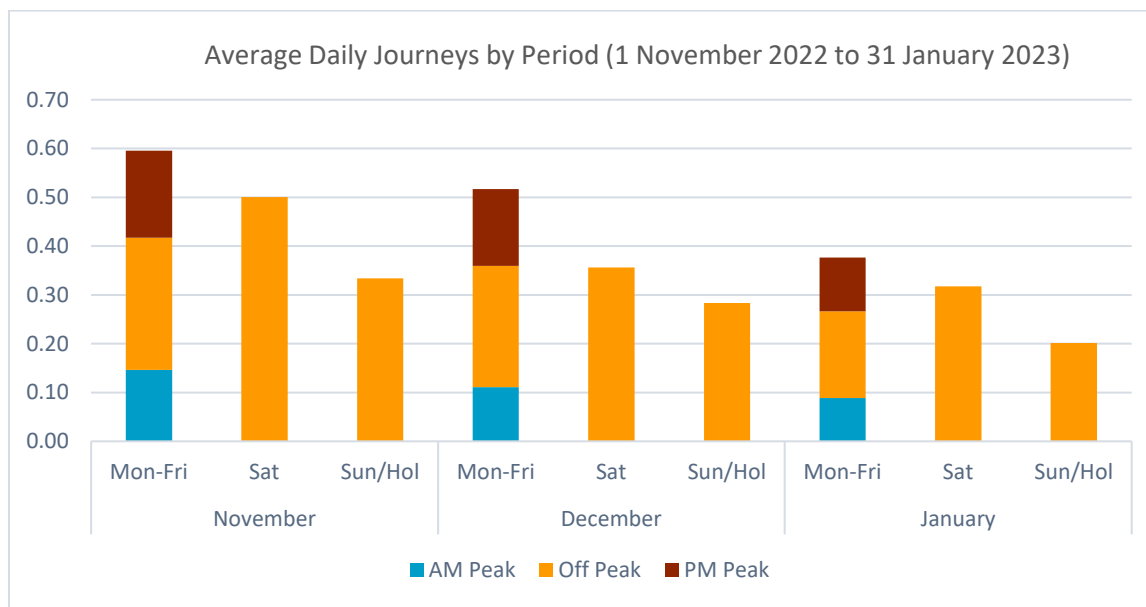


Figure 6. Percent of Total Distributed Cards Active



In terms of journeys by day type, the data indicated that the majority of journeys were taken during weekdays (Figure 7), with peak period journeys slightly outweighing non-peak journeys on those days. This pattern remained consistent for the 3-month Pilot.

Figure 7. Average Daily Journeys by Period and Day Type (1 November 2022 – 31 January 2023)



Note: Average Daily Journeys per distributed card equals total CfD program journeys divided by the total number of distributed cards, including unused cards.

It is interesting to note that the primary transit mode used by participants was SkyTrain, which is shown in Figure 8 (as Electric Train). As the SkyTrain system is fully electric, travel on this transit mode alone does not produce any GHG emissions. In fact, every time a traveller chooses SkyTrain instead of driving a gas-powered car, they eliminate 2.3 kilograms of CO₂ emissions.⁴ Figure 8 also indicates that the average daily journey distance on transit was around 18 kilometres during the 3-month Pilot. This represents significant vehicle miles traveled (VMT) reductions given that travellers were using transit, potentially in lieu of single-occupant vehicle trips. As shown in Figure 9, the majority of boardings and alightings were concentrated along the Expo Line, with majority of riders travelling to and from downtown Vancouver. That said, it is worth noting the regional extent of the travel activity captured, which highlights the ability for transit subsidies to increase access to jobs and other key regional destinations. From an equity perspective, this is particularly impactful for lower-income individuals who may not have access to a vehicle.

⁴ TransLink. (n.d.). *This Earth Day, take Transit for the Planet*. Retrieved from <https://www.translink.ca/about-us/about-translink/transit-for-the-planet#:~:text=Did%20you%20know%3F,from%20going%20into%20the%20atmosphere.>

Legs by Fuel Type

- Diesel Bus
- Diesel Ferry
- Diesel Hybrid B..
- Diesel Train
- Electric Bus
- Electric Train
- Gas Bus
- Natural Gas Bus

Figure 8. Average Daily Distance per Journey (km) and Fuel Type

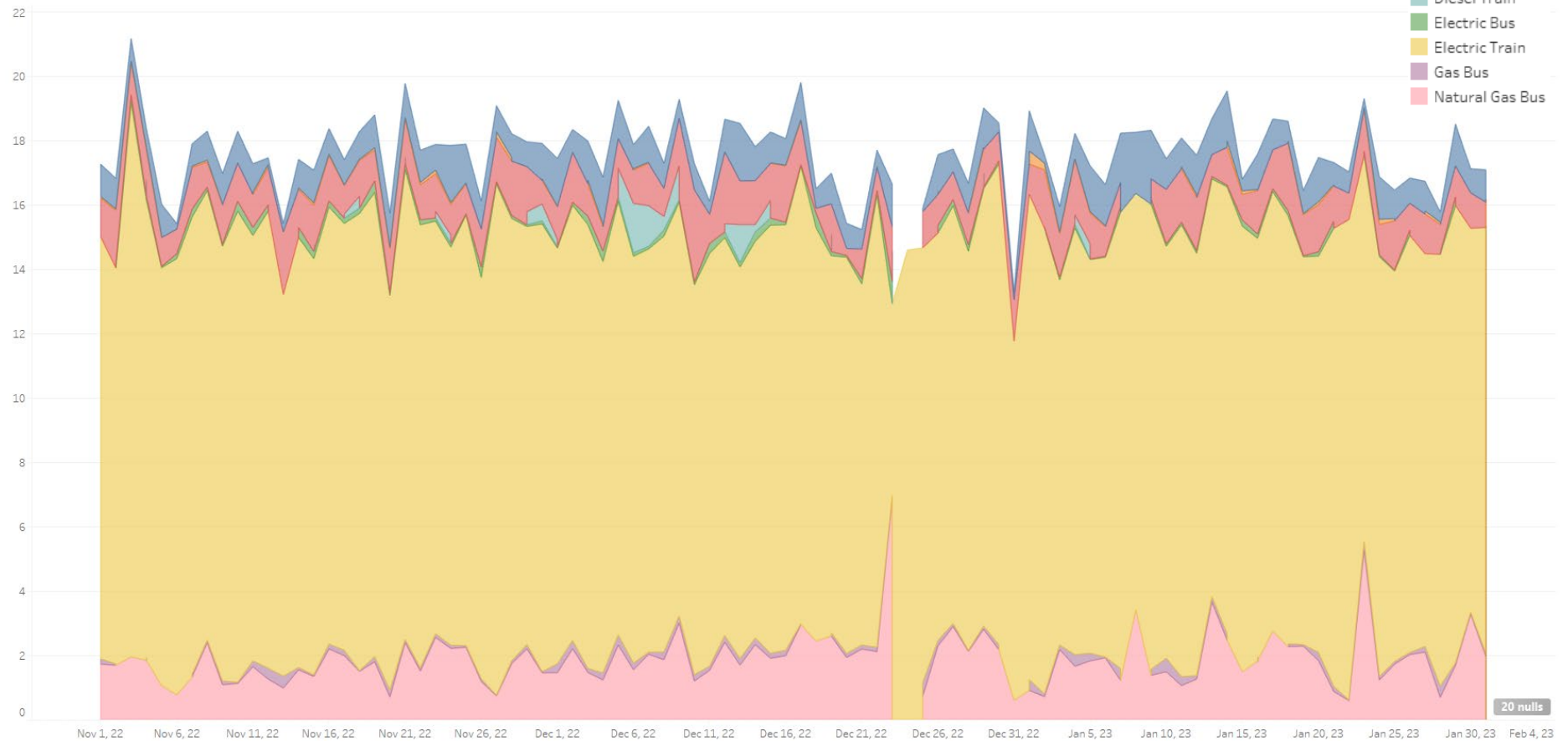
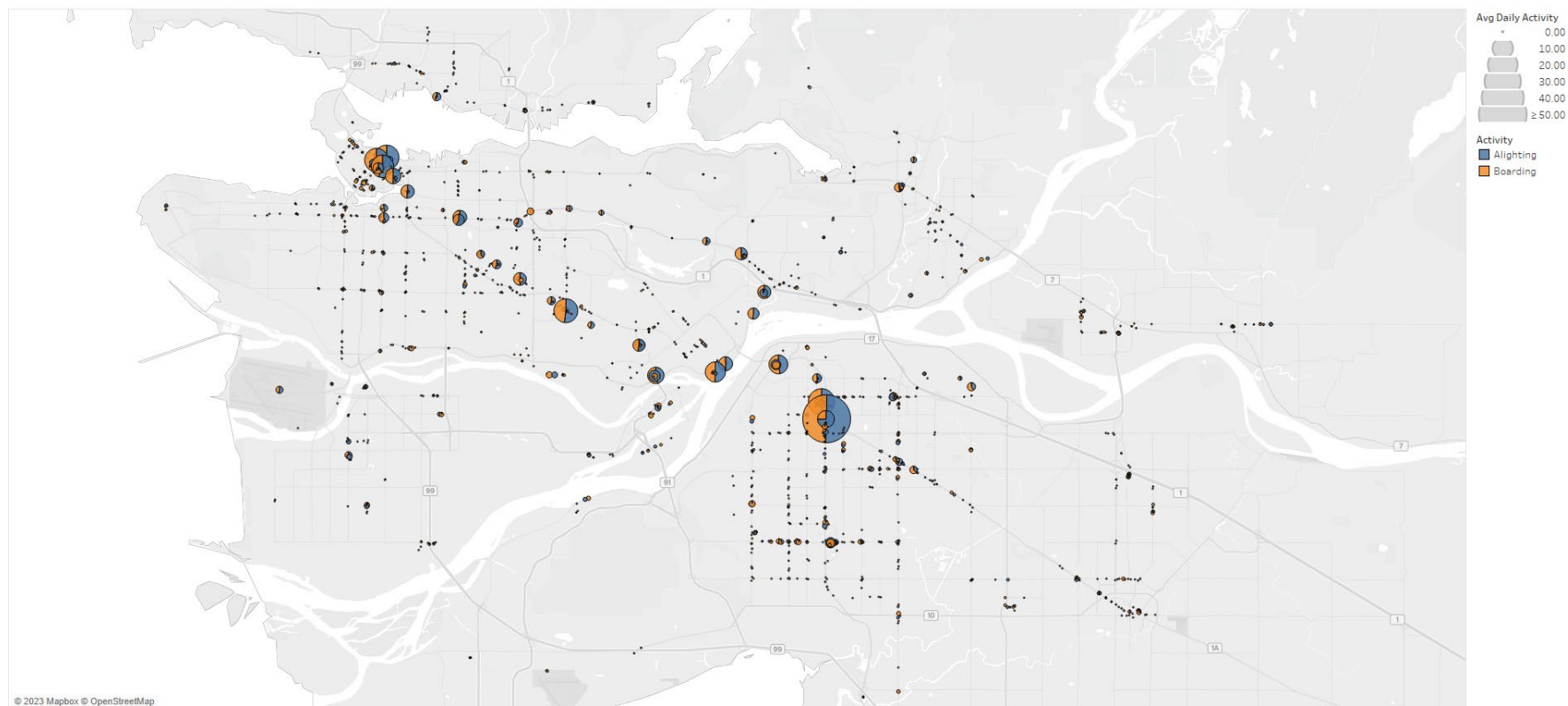


Figure 9. Compass Card Activity by Day Type



© 2023 Mapbox © OpenStreetMap

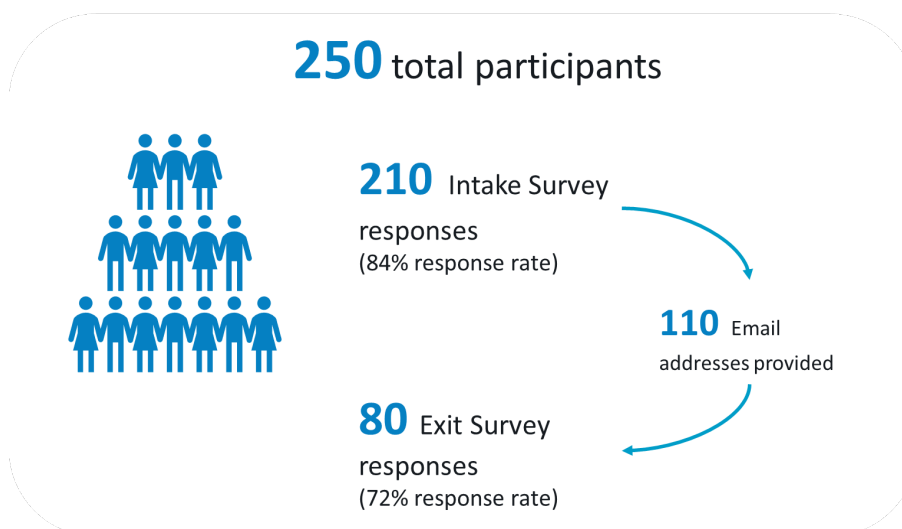
Map based on Stop Longitude and Stop Latitude. Colour shows details about Activity. Size shows Avg Daily Activity. The data is filtered on Service Type Code, Transit Day (Journeys) and Known OD. The Service Type Code filter keeps MF. The Transit Day (Journeys) filter ranges from 11/1/2022 to 1/31/2023. The Known OD filter keeps 1.

Intake and Exit Survey Data

Overview

While a total of 300 Compass cards were distributed by PCI, 50 of those were to individuals who were not encouraged to complete the survey for the Pilot. As such, the Pilot participant group is considered to be a total of 250 individuals. There were a total of 210 responses to the intake survey, which represents a response rate of 84%. Of those 210 respondents, 110 voluntarily provided their e-mail addresses for future communications about the Pilot (e.g., the exit survey). Of the 110 participants who provided their e-mail addresses, 80 completed an exit survey which represents a response rate of 72% (Figure 10). The challenge of receiving considerably fewer responses to the Exit survey should be noted when interpreting the results.

Figure 10. Summary of Survey Response Rates



The majority of respondents (65-70%) took between 2 and 5 minutes to complete each of the surveys, which was significantly shorter than the anticipated 5-10-minute completion time.

Demographics

The majority (66%) of participants were between the ages of 25 and 44 and were either employees (52%) or renters (42%) at KGH. Most participants identified as female (57%). Income levels were fairly evenly distributed between the \$20,000 and \$100,000 range, with 56% of participants earning less than \$80,000 per year before taxes (based on their 2021 incomes).

Commute Patterns

As shown in Figure 11, most participants reported commuting to school/work more than 3 days a week, with varying one-way commute distances (Figure 12). It is worth noting that the exit survey did not provide an option for zero travel distance, which had been an option in the intake survey.

This may be a potential factor to the notable amount (26%) of 'unsure' responses observed in the exit survey. Survey instruments for future Pilots should maintain consistency in response options for questions that are included in both the intake and exit surveys.

Figure 11. Frequency of Commuting Trips

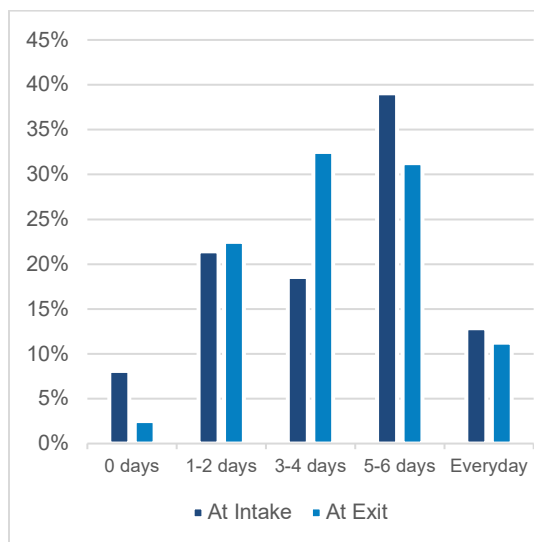
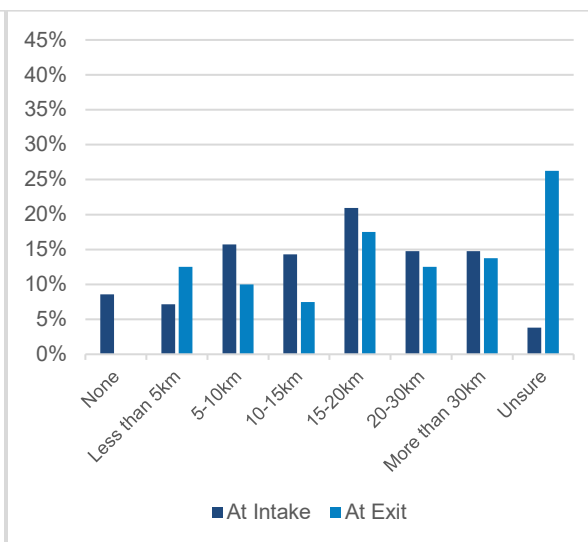


Figure 12. One-Way Commute Distance



Note: The number of respondents to the intake survey was 210 and 80 to the exit survey.

Non-Commute Travel Patterns

Figure 13 shows that the majority of respondents (52%) to the intake survey reported travelling for shopping/family/ or social purposes 1 day a week, whereas during the exit survey the majority of respondents (53%) reported travelling for non-commute purposes 3-4 days a week. Given the inability to match intake and exit survey responses, it is difficult to determine whether travel for non-commute purposes increased during the Pilot period, or whether the sub-set of respondents to the intake survey who completed the exit survey had higher rates of non-commute travel all along. Most respondents (57% at intake and 47% at exit) reported travelling less than 15 kilometres for their non-commute trips (Figure 14). It is worth noting that the exit survey did not provide an option for zero travel distance, which had been an option in the intake survey. This may be a potential factor to the notable amount (21%) of 'unsure' responses observed in the exit survey.

Figure 13. Frequency of Non-Commute Trips

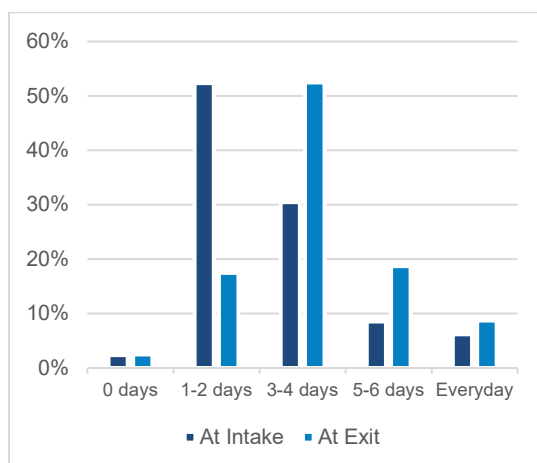
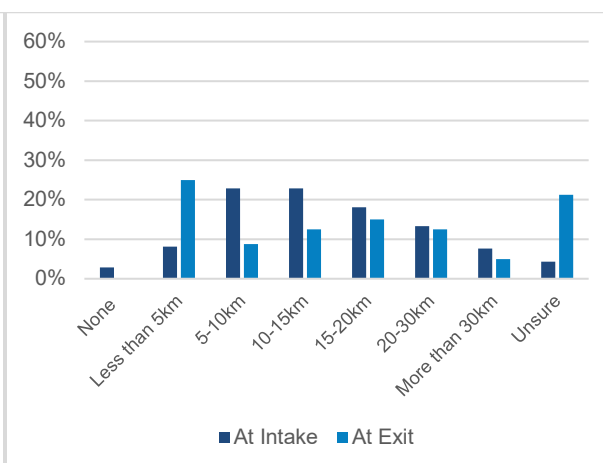


Figure 14. Travel Distance for Non-Commute Trips



Note: The number of respondents to the intake survey was 210 and 80 to the exit survey.

Mode Split

As shown in Figure 15, most respondents (60% at intake and 54% at exit) indicated that they use transit at least 60% of the time for their commute trips. This question had a notably high lack of response (28%) in the exit survey, which is worth noting. For their non-commute trips, most respondents (61% at intake and 46% at exit) indicated using transit at least 40% of the time, which is slightly lower than the reported transit usage for commute travel (Figure 16). This question had a notably high lack of response (22%) in the exit survey which may have influenced the observed results.

Figure 15. Transit Mode Share for Commuters

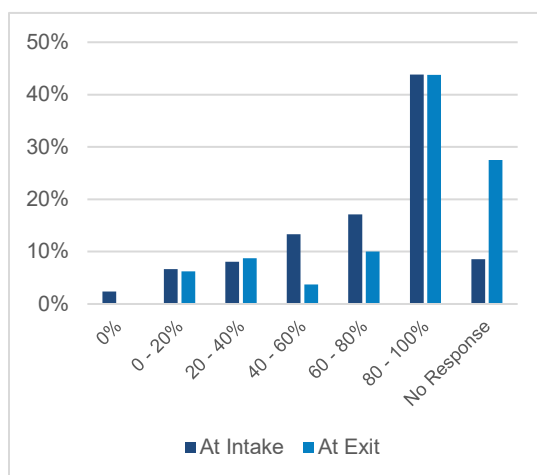
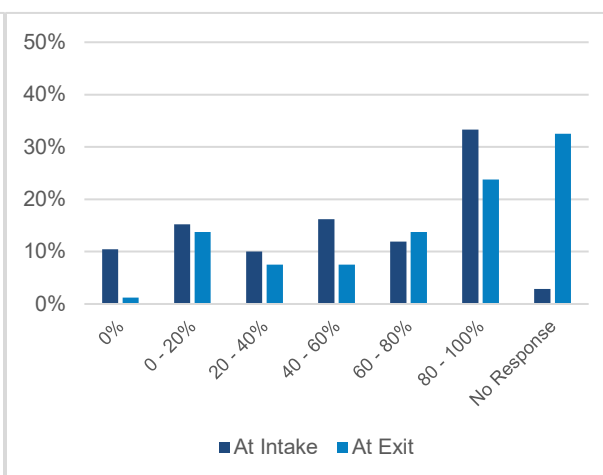


Figure 16. Transit Mode Share for Non-Commute Trips



Note: The number of respondents to the intake survey was 210 and 80 to the exit survey.

Transit Use

Based on the responses received, participants indicated that their frequency of transit use grew during the 3-month Pilot period (Figures 17 and 18), with the number of participants who reported using transit 2 or more days increasing by 10%. It should be noted that considerably fewer responses were received to the exit survey, and the results may not reflect the changes accurately.

Figure 17. Frequency of Transit Use (Historic)

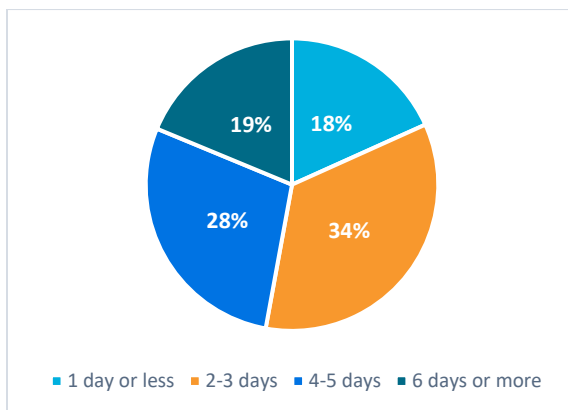
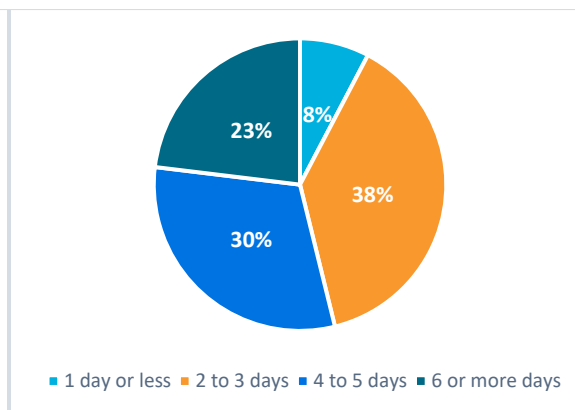


Figure 18. Frequency of Transit Use (During Pilot)



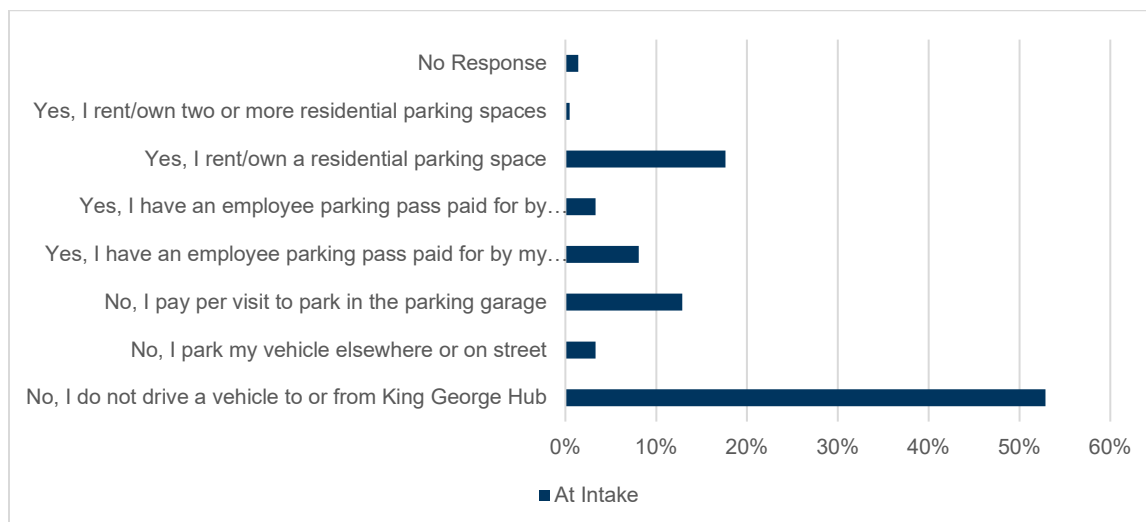
Note: The number of respondents to the intake survey was 210 and 80 to the exit survey.

Vehicle and Parking Access

The vast majority of participants in the Pilot owned one or no vehicles (87% at intake and 84% at exit). While the duration of the 3-month Pilot was too short to understand the longer-term vehicle ownership trends of individuals living in a TOD and receiving a subsidized transit pass, this would be a key data point to track on a more longitudinal basis as part of the CfD program. In addition to the annual Compass data report that TransLink provides to participating properties, there may be an opportunity for property managers to conduct an annual behavioral survey to complement the Compass data insights, similar to this Pilot.

In terms of access to parking at KGH, 53% of respondents reported that they do not drive a vehicle to or from KGH, with 18% indicating they rent/own a residential parking space, 13% paying per visiting in the parking garage, 8% having an employer-paid parking pass, 3% having purchased a parking pass themselves, and 3% parking their vehicle elsewhere or on-street (Figure 19).

Figure 19. Access to Designated Parking Space



Note: The number of respondents to the intake survey was 210.

Other Travel Options

Pilot participants were asked if they have access to a functioning bicycle. Only 22% of respondents in the intake survey indicated that they did, with the vast majority (77%) indicating that they did not have access to a functioning bicycle. This insight aligns with the low bicycle mode share (0.4%) for this postal code. This indicates a key opportunity area from a multi-modal access and TDM programming perspective. TDM offerings such as bikeshare, bike promotion, and bike safety education are examples of cycling-related TDM strategies that can be implemented by property managers at the site-level.

Participant Perceptions & Experiences

The overwhelming majority (94%) of participants were satisfied with their experience as part of the Pilot. Over 68% 'completely agreed' that proximity to transit was a key benefit of their tenancy/employment at KGH and 70% agreed that transit-oriented developments help reduce reliance on private vehicles, with 54% indicating that the Pilot in particular helped decrease their use of a private vehicle. 50% of respondents indicated that they planned to use transit about the same as during the Pilot, which the majority indicated was two or more days a week (Figure 18).

Key Takeaways

The following sections describe the key mode shift data points and lessons learned from this demonstration Pilot, summarized into the two primary categories of ‘successes’ and ‘challenges.’

Summary of Mode Shift

A key outcome of the Pilot was a *reported* increase in transit use, with roughly 32% of participants re-loaded their Compass Cards at some point during the Pilot period, suggesting that they had used the \$150 stored value at that point. The month of December had the highest percentage of card re-loads. In addition, approximately 50% of exit survey respondents indicating that they planned to continue using transit as much as they did during the Pilot.

While the majority of participants indicated owning either one or no vehicles, the 3-month Pilot period was too short to identify any longer-term trends of vehicle ownership rates. The CfD program may wish to encourage participating properties to conduct an annual behavioral survey of transit benefit recipients, in addition to analyzing the quantitative Compass card data points.

In terms of other travel modes, the majority of participants (77%) indicated that they did not have access to a functioning bicycle. This represents a key opportunity from a multi-modal and mode shift perspective, particularly for shorter trips (e.g., less than 5km). While the provision of high-quality cycling infrastructure is a foundational element to getting more people to switch to cycling (as opposed to SOV travel), TDM programming is a complementary and key element to support success. Offerings that developers/property managers can consider include bikeshare, bike promotion/incentives, and bike safety education/workshops.

Successes

Process

- **High level of interest by KGH residents and employees.** PCI staff were able to successfully distribute all 300 Compass Cards (250 of which were allocated to participants included in this Pilot study). A relatively small proportion (6%) of cards were unused.
- **High degree of satisfaction with the program.** 94% of participants were satisfied with the Pilot and over 68% ‘completely agreed’ that proximity to transit was a key benefit of their tenancy/employment at King George Hub.

Compass Card Data

- **Proof of concept for tracking anonymized transit travel data.** The Pilot provided a successful proof of concept to tracking anonymized transit travel data. No individual card data were accessed, but rather aggregated trends for the participant group were analyzed. This still offered valuable insights to user behaviour, whilst being mindful of any potential privacy concerns. Leveraging Tableau software enables a summary data 'workbook' to be compiled for review and analysis. It will be important to ensure the scalability of this approach as more demonstration Pilots occur/more developments sign up for the CfD program. Gaining consent to access anonymized Compass card data is key and should be pursued for all properties enrolled in the CfD program.

Intake and Exit Surveys

- **High participation rate in the intake survey.** The intake survey received an 84% response rate, with the exit survey receiving a 72% response rate (based on a sample size of 110 participants who had provided their email addresses). These response rates are notable, as no additional incentives (e.g., a raffle or other prize) were offered to participants if they completed the surveys. This suggests that the receipt of the transit subsidy itself was attractive enough to participants to encourage them to provide feedback.

Challenges

Process

- **Allow for additional time for distribution of Compass Cards.** PCI staff noted that coordinating with the varying work schedules of participants (particularly for shift workers) required a significant level of effort, particularly given the need to also provide support in completing the intake survey as participants received their Compass cards.
 - In the future, a distribution period of between 2 and 3 weeks is recommended. In addition, property management may wish to coordinate card distribution as follows:
 - **Invitation email to tenants via the property's intranet:** explaining the upcoming Pilot and accepting Compass card sign ups.
 - **Distribution of Compass Cards to participants:** distribution of Compass cards to participants who had signed up via the invitation email, including in-person intake survey support at pre-assigned times (to limit the amount of 1:1 coordination needed). While participants cannot be required to provide their email addresses for the purposes of ongoing communication regarding the Pilot, management may wish to explain to participants the benefits of them doing so.

- **Additional effort would need to be made to focus on providing transit passes to drivers or very infrequent transit users.** Intake survey responses suggested that a high proportion of participants were existing transit users. In order to see more significant mode shift from drivers to transit users, future Pilots should consider potential approaches to either having more passes available or restricting participation to this target group.

Compass Card Data

- **Inability to track post-Pilot travel activity.** The Compass card data did not go past the end of the 3-month Pilot period, which concluded on January 31, 2023. This limited the ability to monitor any emerging trends after participants had completed the Pilot.

Intake and Exit Surveys

- **Gaps in ability to communicate with all participants.** Because email addresses or full residential addresses cannot be required from participants due to privacy laws, it was challenging to communicate with the participants particularly to encourage participation in the exit survey. Further, the inability to link intake and exit surveys to the individual (which could be done via a transit pass number, to preserve anonymity) limited the rigor with which certain data points (e.g., vehicle ownership and transit use) could be compared.
- **Incomplete/no responses for some exit survey questions.** It was observed that a notable number of exit survey questions received no response from respondents, particularly questions towards the end of the survey. This suggests that some participants experienced “survey fatigue” and that the number of questions should be limited to those that offer the best insights. Future pilots may include incentives such as a raffle or small prizes to encourage better participant input. Property managers may also find it beneficial to offer support to participants in completing the exit survey.
- **Inconsistency between response options for some questions in intake and exit surveys.** Two of the questions that were included in both the intake and exit surveys did not have matching options for responses. This discrepancy limited that ability to accurately compare differences in these data from the start to the end of the Pilot.

Next Steps

Future Demonstration Pilots

TransLink hosted a Local Government Workshop to share information about the CfD program on Feb 2, 2023 and put out a call for potential future pilot leads. TransLink has also been engaging with developers, and during these conversations gauging interest from developers in participating in a future pilot.

Dissemination of Findings

On April 21, 2023 TransLink hosted a workshop for local government staff to discuss the Demonstration Pilot outcomes and receive input on potential opportunities to explore for future pilots or for the CfD program as a whole. A total of 10 municipal staff attended the workshop. Key input received is summarized below according to primary topic areas:

Pilot Process/ Structure

- It would be worth pursuing future pilot opportunities that allow for a comparison between different types of development (e.g., townhouse where people are likely driving more vs. TOD high-rise where people are likely using transit more) and types of tenants (e.g., non-market rental vs. market rental).

Survey Data

- Would be helpful to understand whether any employees of King George Hub worked for employers who offered a TDM program; opportunity to include a question regarding this on future surveys.
- Future surveys should consider collecting information on additional factors that influence transit choice, such as household size, age of household, etc.

Compass Card Data

- For future pilots, consider triangulation of data to see how the distribution of observed trips during the pilot compares to broader Compass data for this area
- In addition to understanding the variation of active Compass cards throughout the three months, it would be helpful to understand what percentage of cards had completely used up the pre-loaded subsidy.
- An additional data point that would be worth exploring is bike locker activity.
- Collecting more data through additional pilots will help build the case and understand how transit incentives actually change people's behavior and what is the true demand for parking/what are the opportunities to reduce parking as a result of providing subsidized transit.

Pilot Outcomes and Future Opportunities

- A key challenge at the moment to getting more developers to participate is a lack of information and data. If it is clear for developers the net costs (considering the potential to reduce parking) then it might be more attractive.
- The most significant leverage municipalities currently have in requiring developers to provide TDM measures is the offer of parking reductions.
- For future pilots, TransLink may wish to consider separate reporting for residential vs. commercial (rather than reporting them combined), in order to get a more accurate picture from the analysis.
- Important for TDM to have a holistic approach – transit passes are important, but developers should also be thinking about different transportation options/ a suite of TDM measures should be implemented to successfully shift travel behaviour.

APPENDIX



Compass for Developments: Intake Survey

Overview

TransLink is partnering with PCI Developments to offer residents and employees at King George Hub the opportunity to participate in a Compass for Developments Pilot (the “Pilot”). The Pilot will run for three months.

To incentivize transit use, the Pilot will offer selected participants a preloaded Compass Card (transit pass) for their personal use. Use of the preloaded Compass Card will be anonymously analyzed at the completion of the three-month pilot in January 2023 to understand the benefits and identify potential improvements to the program. Use of the preloaded Compass Card is subject to TransLink’s [Compass Card Terms & Conditions of Use](#) and the [Compass Privacy Policy](#). Selected participants will be asked to complete intake and exit surveys to provide insight as to how their travel perceptions and behaviours have changed over the course of the Pilot. Intake and exit survey responses will be anonymous.

This collection is done in accordance with ss. 26(c) and 26(e) of the Freedom of Information and Protection of Privacy Act (British Columbia). Your participation in this survey is voluntary and will not influence your residency, status, or employment at King George Hub.

This intake survey has been developed to assess your initial travel behaviours and attitudes at the beginning of the 3-month pilot. We kindly ask that you respond to both the intake survey and future exit survey as a stipulation of your receipt of the preloaded Compass card (transit pass).

The survey should take approximately 5 minutes to complete.

For more information, or to unenroll from the pilot, please contact TDMdevelopment@translink.ca.

Demographic Information

To assess how travel perceptions and behaviours have changed over the course of the Pilot, an **exit survey** will be circulated in approximately three months. We kindly ask that you provide an e-mail address to receive a link to the 5-minute exit survey in the future. Your e-mail address will only be used for this purpose and will not be used to identify your responses.

Please provide your e-mail address to participate in the exit survey once the pilot program is complete. By providing your email address, TransLink may also email you during the pilot to remind you of your participation:

Optional

* At King George Hub, I am a:

Select all that apply.

- ☐ Renter
- ☐ Homeowner
- ☐ Employee
- ☐ Visitor
- ☐ N/A - None of the above

* Which age group do you belong to?

How do you describe yourself?

- ☐ Male
- ☐ Female
- ☐ Non-binary or gender fluid

☐ Prefer to self describe:

☐ Prefer not to answer

Which of the following options best describes your household income before taxes for 2021?

* In a typical week, how often do you commute to work/school?

- ☐ 0 days
- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ Everyday

* In a typical week, how often do you travel for shopping/family/social activities?

- ☐ 0 days
- ☐ 1-2 days
- ☐ 3-4 days
- ☐ 5-6 days
- ☐ Everyday

* Where do you typically commute or travel between King George Hub?

- ☐ Within Surrey
- ☐ Vancouver/UBC
- ☐ Richmond/Delta
- ☐ Burnaby/New Westminster
- ☐ Langley/Langley Township
- ☐ North Shore (West Vancouver, District & City of North Vancouver)
- ☐ Coquitlam/Port Coquitlam/Port Moody
- ☐ Pitt Meadows/Maple Ridge
- ☐ Other, please specify:

* In a typical week, how often do you travel by transit to get around Metro Vancouver?

e.g. Bus, SkyTrain, SeaBus, West Coast Express, HandyDART

- ☐ 1 day or less
- ☐ 2-3 days
- ☐ 4-5 days
- ☐ 6 days or more
- ☐ N/A

Work/School Travel Habits

* How far is your typical one-way commute for work/school?

* What proportion of work/school trips do you make using the following modes?

Amount must total 100%

Private vehicle

 %

Public transit (e.g., Bus, SkyTrain, West Coast Express, SeaBus)

 %

Active modes (e.g. walk, cycle, scooter)

 %

Shopping/Family/Social Travel

This section targets travel for shopping/family/social trips. We ask that you consider your most frequent trip(s) for reasons such as purchasing groceries, running errands, attending medical appointments, and taking part in children’s activities when responding to the next 4 questions.

* How far do you typically travel for shopping/family/social trips?

* What proportion of shopping/family/social trips do you make using the following modes?

Amount must total 100%

Private vehicle

 %

Public transit (e.g., Bus, SkyTrain, West Coast Express, SeaBus)

 %

Active modes (E.g. walk, cycle, scooter)

 %

Private Vehicles

* How many motor vehicles are currently insured for use by members of your household?

E.g. cars, trucks, vans and motorcycles. Please include personal and business vehicles.

- ☐ No vehicles
- ☐ 1 vehicle
- ☐ 2 vehicles
- ☐ 3 vehicles
- ☐ 4+ vehicles
- ☐ Prefer not to answer

* Do you own or have regular access to a bicycle in working condition?

- ☐ Yes
- ☐ No
- ☐ Unsure

* Do you have access to a designated parking space in King George Hub?

What is the make and model of your primary vehicle?

e.g. Toyota Corolla, Chevrolet Silverado

What is the model year of your primary vehicle?

E.g. 2019

Level of Agreement

Please indicate your level of agreement with the following statements.

* Do developments like King George Hub increase your regular utilization of transit?

☐ Completely agree
 ☐ Mostly agree
 ☐ Neither agree nor disagree
 ☐ Mostly disagree
 ☐ Completely disagree
 ☐ N/A

* Do developments like King George Hub make it less likely for you to rely on using a private vehicle?

☐ Completely agree
 ☐ Mostly agree
 ☐ Neither agree or disagree
 ☐ Mostly disagree
 ☐ Completely disagree
 ☐ N/A

* Being located close to public transit is a key benefit of my employment/residency at King George Hub.

☐ Completely agree
 ☐ Mostly agree
 ☐ Neither agree nor disagree
 ☐ Mostly disagree
 ☐ Completely disagree
 ☐ N/A



Compass for Developments Pilot: Exit Survey

Overview

Thank you for your participation in the Compass for Developments Pilot (the “Pilot”) offered by TransLink and PCI Developments. The 3-month pilot period is nearing completion and we are proceeding with program evaluation. We kindly ask that you complete this exit survey for us to understand the benefits and identify potential improvements to the program. You are encouraged to continue using and reloading your Compass card for your personal use.

Responses to this exit survey will remain anonymous. The survey has been designed to assess how travel perceptions and behaviours have changed over the course of the Pilot.

This collection is done in accordance with ss. 26(c) and 26(e) of the Freedom of Information and Protection of Privacy Act (British Columbia). Your participation in this survey is voluntary and will not influence your residency, status, or employment at King George Hub.

The survey should take approximately 10 minutes to complete.

For more information, please contact tdmdevelopment@translink.ca.

Demographic Information

At King George Hub, I am a:

Select all that apply.

- ☐ Renter
- ☐ Homeowner
- ☐ Employee
- ☐ Visitor
- ☐ N/A - None of the above

Which age group do you belong to?

How do you describe yourself?

- ☐ Male
- ☐ Female
- ☐ Non-binary or gender fluid
- ☐ Prefer to self describe:
- ☐ Prefer not to answer

Which of the following options best describes your household income before taxes for 2021?

In a typical week, how often do you commute to work/school?

- ☐ 1 day or less
- ☐ 2 to 3 days
- ☐ 4 to 5 days
- ☐ 6 or more days

Over the past 3 months, how often did you travel each week for other shopping/family/social activities?

- ☐ 1 day or less
- ☐ 2 to 3 days
- ☐ 4 to 5 days
- ☐ 6 or more days

Over the past 3 months, how often did you travel by transit (e.g., Bus, SkyTrain, SeaBus, West Coast Express, HandyDART) each week to get around Metro Vancouver?

- ☐ 1 day or less
- ☐ 2 to 3 days
- ☐ 4 to 5 days
- ☐ 6 or more days
- ☐ Never

Work/School Travel

Please answer the following questions based on your travel over the **last 3 months**.

How far is your typical commute for work/school?

What proportion of work/school trips do you make using the following modes?

Amount must total 100%

Private vehicle

Public transit (e.g., Bus, SkyTrain, SeaBus, West Coast Express, HandyDART)

Active modes (e.g. walk, cycle, e-bike, or scooter)

Shopping/Family/Social Travel

Please answer the following questions based on your travel over the **last 3 months**.

This section targets travel for shopping/family/social trips. We ask that you consider your most frequent trip(s) for reasons such as purchasing groceries, running errands, attending medical appointments, and taking part in children’s activities when responding to the next 4 questions.

How far do you typically travel for shopping/family/social trips?

What proportion of shopping/family/social trips do you make using the following modes?

Amount must total 100%

Private vehicle	<input type="text"/>
Public transit (e.g., Bus, SkyTrain, SeaBus, West Coast Express, HandyDART)	<input type="text"/>
Active modes (e.g. walk, cycle, e-bike, or scooter)	<input type="text"/>

How many motor vehicles (including cars, trucks, vans and motorcycles) are currently insured for use by members of your household?

Please include personal and business vehicles.

- ☐ No vehicles
- ☐ 1 vehicle
- ☐ 2 vehicles
- ☐ 3 vehicles
- ☐ 4+ vehicles

Do you own or have regular access to a bicycle in working condition?

- ☐ Yes
- ☐ No
- ☐ Unsure

Do you have access to a designated parking space in King George Hub?

- ☐ Yes, I rent/own a residential parking space
- ☐ Yes, I rent/own two or more residential parking spaces
- ☐ Yes, I have an employee parking pass paid for by my employer
- ☐ Yes, I have an employee parking pass paid for by myself
- ☐ No, I pay per visit to park in the parking garage
- ☐ No, I park my vehicle elsewhere or on street
- ☐ No, I do not drive a vehicle to or from King George Hub.
- ☐ Other

What is the make and model (i.e., Toyota Corolla or Chevrolet Silverado) of your primary vehicle?

What is the model year (i.e., 2016) of your primary vehicle?

Please indicate your level of agreement with the following statements.

Do developments like King George Hub increase your regular utilization of transit?

Completely agree

☐

Mostly agree

☐

Neither agree nor disagree

☐

Somewhat disagree

☐

Completely disagree

☐

Do developments like King George Hub make it less likely for you to rely on using use a private vehicle?

Completely agree

☐

Mostly agree

☐

Neither agree nor disagree

☐

Somewhat disagree

☐

Completely disagree

☐

Being located close to public transit is a key benefit of my employment/ residency at King George Hub.

Completely agree

☐

Mostly agree

☐

Neither agree nor disagree

☐

Somewhat disagree

☐

Completely disagree

☐

The Compass for Developments Pilot decreased my use of a private vehicle over the past 3 months.

Completely agree

☐

Mostly agree

☐

Neither agree nor disagree

☐

Somewhat disagree

☐

Completely disagree

☐

When my subsidized transit pass runs out, I expect to use transit:

Considerably more than the past 3 months

☐

Somewhat more than the past 3 months

☐

About the same as the last 3 months

☐

Somewhat less than the last 3 months

☐

Considerably less than the last 3 months

☐

I am satisfied with my participation in the Compass for Developments Pilot.

Completely agree

☐

Mostly agree

☐

Neither agree nor disagree

☐

Somewhat disagree

☐

Completely disagree

☐

