

METRO VANCOUVER REGIONAL PARK VISITOR TRAVEL STUDY:

**RESEARCH TO UNDERSTAND FACTORS INFLUENCING
TRAVEL MODE DECISIONS TO ACCESS REGIONAL
PARKS**

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August 2023

Disclaimer

This report was produced as part of the UBC Sustainability Scholars Program, a partnership between the University of British Columbia and various local governments and organizations in support of providing graduate students with opportunities to do applied research on projects that advance sustainability and climate action across the region.

This project was conducted under the mentorship of Metro Vancouver staff. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of Metro Vancouver or the University of British Columbia.

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Acknowledgements

Metro Vancouver acknowledges that the region's residents live, work, and learn on the shared territories of many Indigenous peoples, including 10 local First Nations: qíćǎ́y (Katzie), q'wɑ:ńłǎń (Kwantlen), kwikwǎ́łǎm (Kwikwetlem), máthxwi (Matsqui), x'wməθkwǎ́yǎm (Musqueam), qiqéyt (Qayqayt), se'mya'me (Semiahmoo), Skwxwú7mesh Úxwumixw (Squamish), scǎ́waθǎn mǎsteyǎxw (Tsawwassen) and sǎ́lílwǎtaʔt (Tsleil-Waututh).

Metro Vancouver respects the diverse and distinct histories, languages, and cultures of First Nations, Métis, and Inuit, which collectively enrich our lives and the region.

The author would like to thank the following individuals for their contribution, feedback, and support throughout this project: Craig Sobering, Keunhyun Park, and Xiutong (Tony) Jiang.

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Summary

In response to the disconnect between infrastructure and travel behavior identified in Metro Vancouver's Alternative Transportation Study, Part 1 & Part 2, this research investigates the factors driving regional park visitors' transportation choices.

Intercept surveys conducted at six regional parks reveal that most visitors rely on private vehicles (76%) to travel to regional parks, with mode share varying across parks. Notably, a significant portion of visitors are open to adopting public transit and bike/micro-mobility options, indicating the potential to promote travel mode transition from cars. Patterns emerge from the data regarding mode choice based on visit frequency, age, income, and duration of residency in Canada. Lengthy travel time and difficulty traveling in poor weather are two major reasons preventing visitors from shifting from private vehicles to public transit and biking. Other significant barriers include the inflexibility of travel planning, inconvenience in bringing equipment, and limitations on safe and comfortable bicycling infrastructure and slow and inconvenient public transit service to regional parks (e.g., limited options, multiple transfers, and infrequent services).

Building upon survey responses, the report presents recommendations encompassing design, service, and programming enhancements to address current barriers. The insights gained from this UBC Sustainability Scholar report created will help Metro Vancouver prioritize its efforts to improve access to regional parks by public transit and bicycling. Research outcomes will also help inform future plans, programs, policies and design innovations that promote healthier lifestyles, reduce carbon emissions, and improve the quality of life in Metro Vancouver.

Introduction

Metro Vancouver is a federation of 21 municipalities, one electoral area, and one treaty First Nation that collaboratively plans for and delivers regional-scale services to a population of 2.8 million people. In 2021, Metro Vancouver Regional Parks managed 13,824 hectares of parkland in 23 regional parks, five regional greenways, two regional park reserves, and two ecological conservancy areas.

The COVID-19 pandemic escalated the demand for accessing nature. Metro Vancouver's regional parks experienced a 37% increase in visitors from 2019 to 2021, reaching 16.3 million visits (Metro Vancouver Regional Parks, 2022). Given that the 2019 visitor survey revealed a reliance on private automobiles by 74% of visitors for travelling to regional parks, this situation significantly impacts the limited parking supply. To manage parking demand on peak days, relieve traffic congestion, mitigate climate change impacts, and reduce travel barriers to nature for wider communities. Metro Vancouver's 2022 transportation study identified a weak link between transport infrastructure and visitor travel behaviour, suggesting a weakness in a sole focus on hardware-focused solutions (e.g., bike lanes, improved transit coverage). Therefore, Metro Vancouver determined that additional research was required to better understand why regional park visitors chose their travel methods.

The objectives of this research include 1) understanding what motivates and prevents Metro Vancouver regional park visitors from using sustainable transportation modes (e.g. public transit, biking and walking); and 2) providing recommendations in design, service, and programming initiatives that encourage a mode shift of park visitors from driving to alternative modes. The insights gained from this report created by UBC Sustainability Scholar will help Metro Vancouver prioritize its efforts to improve access to regional parks by transit and cycling and improve outcomes. Research outcomes will also be considered for future policy changes and design innovations that promote healthier lifestyles, reduce carbon emissions, and improve the quality of life in Metro Vancouver.

Background

The benefits of accessing large public parks

Visiting urban green spaces fosters well-being, yielding attention restoration and stress reduction and improved physical health, reflected in elevated physical activity and reduced BMI

(Nutsford et al., 2013; Brown et al., 2014; Rundle et al., 2013). Compared to smaller greenspace, accessing larger parks provide a more significant number of areas and opportunities for a diverse range of physical, cultural, and social activities, consequently leading to a broader array of health and social advantages (Markevych et al., 2017; Rundle et al., 2013; Jansen et al., 2017). Additionally, visiting public green spaces like regional parks, especially for individuals from disadvantaged communities, has more positive effects compared to wealthier populations who have better access to recreational opportunities (Rigonlon et al., 2021). Therefore, improving access to large public open spaces can be one of the most cost-effective ways to address public health disparities (Litman, 2012)

High reliance on cars for park visits

Most residents of North American cities rely on private automobiles to visit large natural parks. This is because these places are located away from major transit networks (Arakaki et al., 2019). In Metro Vancouver, a similar pattern has been observed — 74% of visitors to regional parks chose to drive, while only a mere 9% biked and 3% opted for public transit (Metro Vancouver, 2019). For some parks that are not well served by transit, such as Aldergrove or Kanaka Creek Regional Parks, the percentage of private vehicle users becomes even higher (Metro Vancouver, 2019).

This heavy reliance on cars to access natural areas can lead to several social, environmental and park operational challenges. These include parking shortages, traffic congestion, increased pollution and emissions, heightened safety risks, diminished recreational experiences of visitors, decreased local and regional economics, and environmental inequality (Arakaki et al., 2019; Park et al., 2021; Figure 1). Figure 1 is a conceptual framework illustrating the multiple consequences of over-reliance on automobiles for accessing nature.

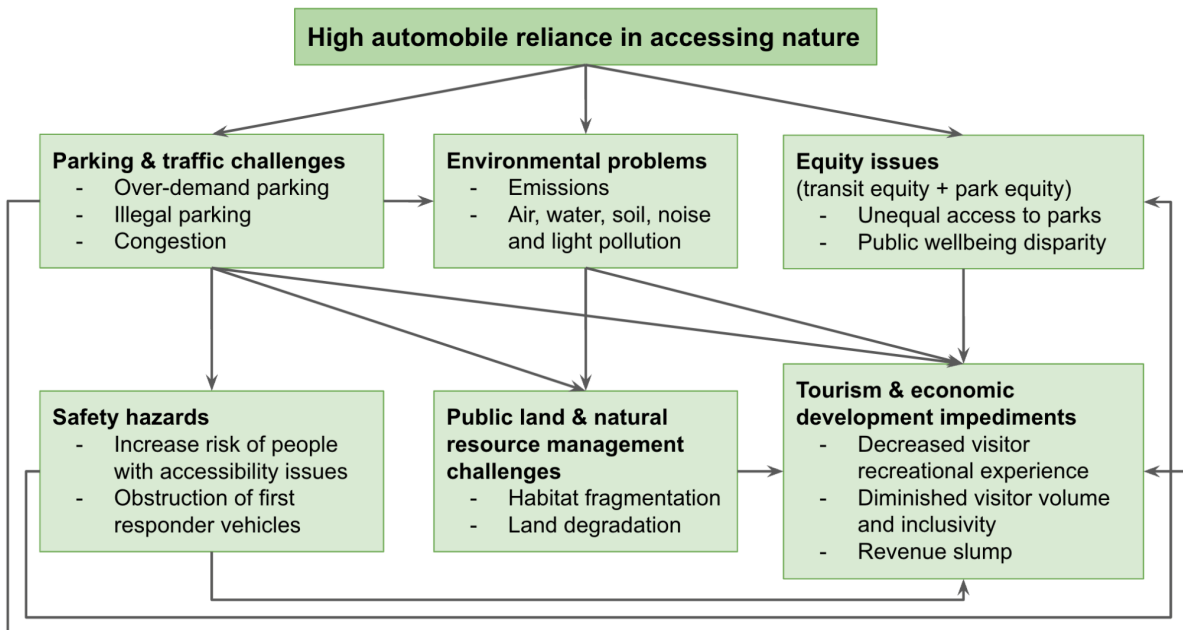


Figure 1. The negative impacts related to high automobile mode-share visiting nature

Over-demand parking and traffic challenge

In Metro Vancouver Regional Parks, the demand for parking spaces often exceeds the available supply, especially on peak visitation days, such as weekends during the summer or national holidays. This can lead to congested traffic conditions, with vehicles idling in long queues or parking on shoulders or residential streets in the adjacent neighbourhood. This not only causes inconvenience for park visitors but also can hinder emergency vehicle access to the park, decrease the safety of other road users such as cyclists, and hamper access to neighbourhoods or communities beyond the park.

Addressing the issue of over-demand parking has been a persistent challenge for regional park management. Building more parking lots is not feasible due to geographical constraints, limitations in nearby road infrastructure capacity, and concerns about protecting natural resources (Metro Vancouver Regional Parks, 2020). The situation has been further exacerbated by the COVID-19 pandemic, which has heightened the demand for accessing nature. Between 2019 and 2021, Metro Vancouver Regional Parks witnessed a 37% increase in visitor numbers, reaching 16.3 million visits (Metro Vancouver, 2022). This intensified the already pressing traffic and parking problems at Metro Vancouver regional parks.

Equitable access

When access to a jurisdiction's parks requires private vehicle ownership, concerns about equity emerge. Previous studies on park and transportation equity in north america found that low-income populations, disabled people, seniors, children, and people of colour are particularly dependent on alternative transportation, especially public transit, to access large parks, as they have limited mobility choices and restricted means to afford private recreation options (Rigolon, 2021; Park et al., 2021; Wolch, 2014).

Metro Vancouver's two alternative transportation studies (2020 & 2022) revealed that some parks and greenways rank highly in both bikeway and transit access, such as Burnaby Lake and Pacific Regional Parks, while some parks and greenways have no transit access as well as poor cycling access, such as Aldergrove, Glen Valley and Widgeon Marsh Regional Parks (Figure 2). Approximately 26% of regional open spaces were rated as having excellent or very good transit access, while 37% were found to have poor or no transit access. Similarly, 37% of regional open spaces were found to have excellent or very good cycling access, while 26% had poor cycling access (Figure 2).

Improving alternative access to regional parks supports the Metro Vancouver Regional Parks Plan's goal of providing opportunities for people to connect with, enjoy, be active and learn about the environment (2022). In addition, the Strategy 4 of the regional parks plan emphasized the need to create a collaborative and inclusive way for regional parks and greenway planning and design. Specifically, the strategy suggested an update on the framework for the park management plan, and identification of the sections of the Regional Greenways Network advanced by Metro Vancouver. By prioritizing the development of not only facilities for personal vehicle access but also transit and active transportation options, the Regional Parks service can ensure access for those who do not drive and/or cannot afford private vehicles. This approach supports diverse travel choices for broader and more inclusive populations.

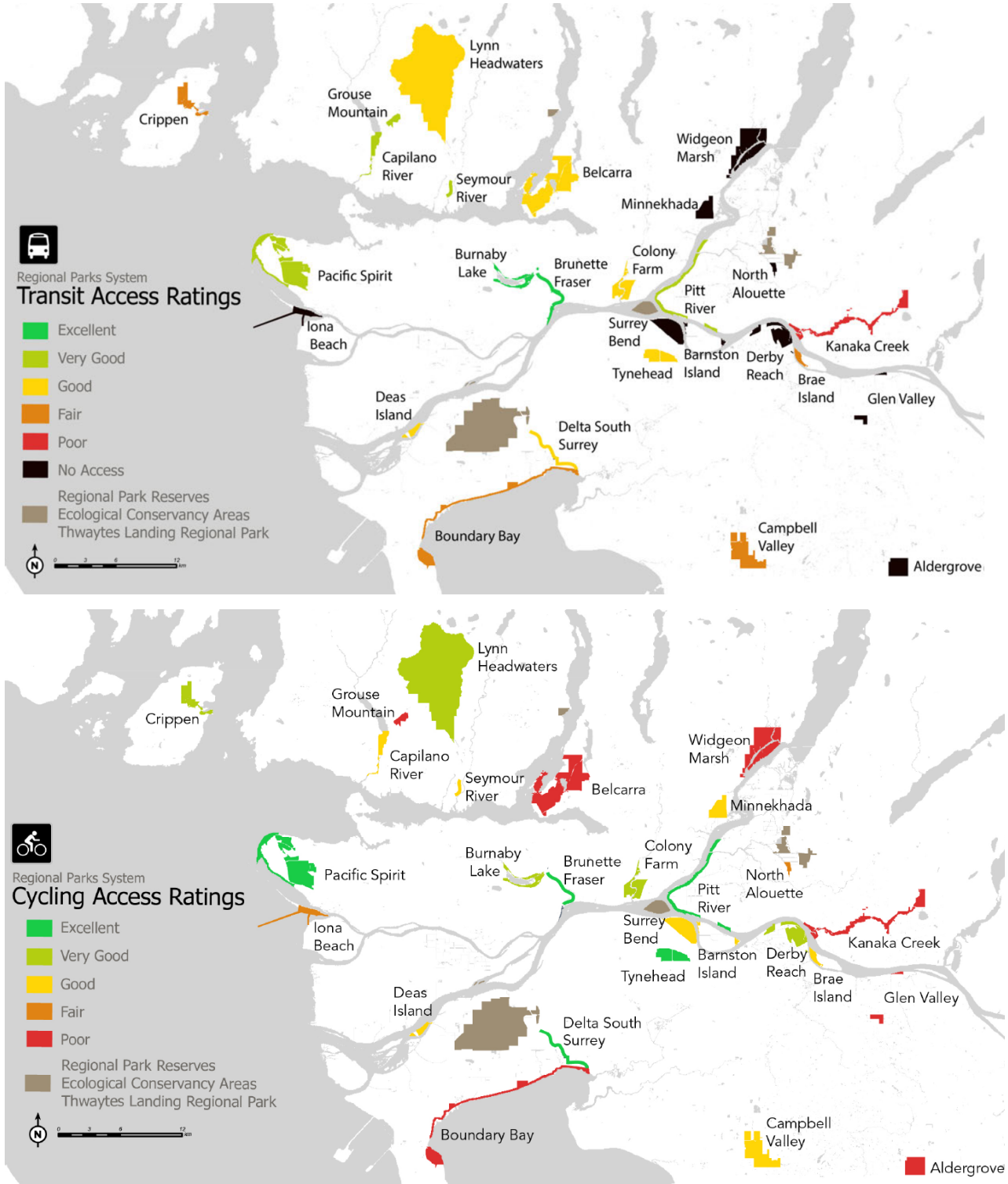


Figure 2. Maps showing ratings of how well the access to each Regional Park and Greenway is by transit and cycling (Metro Vancouver Regional Parks, 2020).

Environmental protection and climate resilience

Large parks, with their diverse and valuable natural resources, are particularly sensitive to human disturbances and pollutants. High automobile traffic flooding in natural areas can degrade water, soil and air quality. This, in turn, raises concerns about local and regional issues related to land degradation, habitat fragmentation, and reduced ecological resilience (Arakaki et al., 2019; Park Studies Laboratory, 2002; Swanteson-Franz et al., 2020; Pettibone et al., 2011).

Promoting alternative access and encouraging low-carbon travel methods to parks align with Metro Vancouver's regional goals for promoting climate resilience (Metro Vancouver, 2021). A relevant objective in this regard is *Strategic Area 2 - Reduce Driving through Active Transportation and Public Transit* (Metro Vancouver, 2021). In addition, Strategy 5 of the Metro Vancouver Regional Parks Plan (2022) sheds light on planning for climate change and other hazards, particularly Strategy 5.4 on *incorporating climate change considerations into the design and development of regional parks infrastructure*. Compared to alternative transportation modes like cycling and public transit, private vehicles produce significantly higher emissions per passenger mile (Bailey et al., 2008). Increasing the use of sustainable transportation options and reducing reliance on private vehicles for park visits will foster a more resilient, low-carbon lifestyle for residents. Improving transit connections to recreational open spaces enhances the region's natural resource management efforts and advances both regional and global climate adaptation goals.

Factors influencing park visitors' mode choice

A recent study by Metro Vancouver Regional Parks (2022) revealed that park visitors' use of transit is not solely determined by the quality of transportation infrastructure linked to the park. This suggested that, in addition to enhancing public transit accessibility, Metro Vancouver needs to understand the behavioral and perceptual factors that influence visitors' mode choices when traveling to regional parks. By developing infrastructure and service delivery strategies based on a comprehensive understanding of visitors' mode choice behavior, the Regional Parks service can better facilitate people's connection to nature through sustainable transportation modes.

Previous studies have emphasized the importance of transportation in shaping leisure experiences (Gramann, 1982; Bell et al., 2007). Park visitors' mode of transportation is influenced by several factors, including demographic characteristics (e.g., age groups, group size, visiting with children) and trip-related aspects like waiting time, cost, in-vehicle transit experience, parking challenges, and last-mile connections (Pettebone et al., 2011; White, 2007; Youngs et al., 2008; Shiftan et al., 2006; Sims et al., 2005; Rigolon et al., 2022). However, existing

literature often focuses on the transit trip itself, overlooking the impact of park features and visitors' motivations on their behavioral choices. Our research aims to bridge this gap by including an examination of various factors influencing park visitors' mode choices and decision-making processes.

Methodology

Survey design

Questionnaire responses were collected from visitors at six regional parks in Metro Vancouver using the intercept methodology (i.e., Pacific Spirit Park, Lynn Headwaters Regional Park, Tynehead Regional Park, Burnaby Lake Regional Park, Colony Farm Regional Park, and Belcarra Regional Park). These parks were selected due to their diverse geographical locations, relatively high visitor numbers, and relatively good access to public transit and safe cycling infrastructure (The Sentis Group, 2023; Metro Vancouver, 2020).

For each park, one weekday and one weekend day were selected for data collection. The sampling period (June 17th-July 24th, 2023) is within the summer peak visitation period (June, July, and August) for regional parks. Sampling days are randomized, and clustering the sampling days for each park was avoided to ensure randomness and capture any potential variations that might occur over different periods within the survey timeframe. The selection of sampling day and time was based on the analysis of park visitation data from summer 2022, focusing on the weekly and daily peaks. For weekdays, we conducted surveys from 9 am to 1 pm on Mondays or Fridays, and for weekends, from 10 am to 2 pm on Saturdays or Sundays. This approach allowed us to achieve a robust sample size and capture various transportation mode choices of visitors.

To develop the survey questionnaire, we reviewed questions from previous visitor programs conducted by Metro Vancouver, including the Park Visitor Surveys (2013 & 2019), and the Sustainable Transportation Research (The Sentis Group, 2023; see Table 1 for the comparison between the reports). Additionally, we reviewed research on recreational mode choice decisions, such as studies by Park et al. (2020) and Pettebone et al. (2011). The final questionnaire focused on understanding the motivations behind park visitors' transportation mode choices, particularly emphasizing their perceptions of sustainable modes (e.g., public transit, walking, and biking). It consisted of 27 questions organized into three sections: (1) travel

mode & park visitation, (2) likelihood of using sustainable travel modes, and (3) personal characteristics (see Appendix 3 for the complete questionnaire).

Data collection

Two surveyors used an intercept and convenience sampling method to gather study data. Potential participants were approached at various locations within each park, such as parking lots, water fountains, washrooms, beaches, and trail intersections. Survey sites were selected from those used during Metro Vancouver's visitor survey program.

The questionnaire was administered in a hybrid approach, offering both paper and web forms (via the CivilSpace online platform). Participants had the option to complete the survey on-site using paper or a tablet, or off-site by scanning a QR code (directing to the online platform) located on business cards given out by the surveyors.

For paper surveys, data was manually entered into an Excel spreadsheet, while the CivilSpace system automatically recorded responses from the web form as an Excel output. Both data sets were combined into a final database and then cleaned and conditioned.

Data analysis

Analysis of survey data was performed using IBM SPSS Statistics. For single-variable questions, descriptive statistics were used to summarize key trends and provide insights into visitor responses. Frequencies, percentages, and means were computed as appropriate. Moreover, we conducted crosstabulation and chi-square analysis to explore relationships between two categorical variables collected from different questions. For continuous variables, the analysis involved using ANOVA (Analysis of Variance) tests. Chi-square and ANOVA tests were used to explore whether factors like visit frequency and demographics have statistically significant relations with mode choice variables (e.g., visitors' main transportation mode and their likelihood of using sustainable modes in the future).

Additionally, to identify any notable differences over time, we compared the data analysis results of this study with statistics from past reports, including the 2013 & 2019 Visitor Survey Program, Alternative Transportation Study Part I & II, and 2023 Sustainable Transportation Research (see Table 1 for the comparison between these reports). The recommendations are based on the survey data analysis, review of the Alternative Transportation Study, and relevant reports from other park and public land agencies.

Table 1. Description and comparisons between three past reports.

	2013 Visitor Survey	2019 Visitor Survey	2023 Sustainable Transportation Survey
Consulting company	LEES+Associates Landscape Architects	Mustel Group Market Research	The Sentis Group
Year	2013	2019	2023
Purpose	Visitor survey; visitor satisfaction	Visitor survey; visitor satisfaction	Transportation planning research
Delivery methods	intercept survey in parks	intercept survey in parks	Online survey for Metro Vancouver residents who have visited the parks
Sample size	3040	1287	653

Data

Survey data overview

The dataset comprises a total of 456 responses. Table 2 describes the distribution of responses by each park. Pacific Spirit Regional Park provided the highest number of samples (111; 24%). In contrast, Tynehead Regional Park has the lowest response rate (10.7%). This sample size distribution reflects the different visitation levels at selected regional parks, as it is aligned with the park visit frequencies reported in Sustainable Transportation Research (The Sentis Group, 2023; Table 2).

There is an overrepresentation of younger individuals (37%) and students (8.1%) relative to both Census Data and previous Metro Vancouver research (see Appendix 1 for a profile table). Moreover, 42.6% of survey respondents were non-White, which exhibits greater ethnic diversity compared to earlier research. There is also a smaller percentage (45.4%) of respondents born in Canada compared to past research. Previously the population born in Canada was more dominant (73%). In terms of respondents' home location, most respondents were from Vancouver (20.2%). Residents of Surrey and Burnaby were also key contributors to the survey, constituting 11.6% and 9.6% of the respondents. Furthermore, the data reveals that a fraction of respondents, 2.8%, originate from areas outside the Metro Vancouver region.

The efficiency of survey methods

The survey employed a combination of onsite (tablet or paper) and offsite options (QR codes on cards to access the CivilSpace questionnaire). This approach was developed to cater to different visitor preferences and accessibility requirements in the hope of significantly increasing the survey response rate. However, we found that delivering the questionnaire in person was much more effective than distributing cards with QR codes.

Visitors tended to have no preference for completing the survey on tablets or paper, except for the fact that a few seniors preferred paper forms. For visitors who did not bring their glasses or were visually impaired, the surveyors read the questions and assisted them in understanding the questions and completing the survey.

In terms of the efficiency of data analysis, responses gathered through CivilSpace were automatically formatted into Excel files which were more efficient for data conditioning. Through cleaning the data, we noticed that demographic questions, especially the ones framed in open-ended formats, had lower response rates. For example, the open-ended question asking visitors' ethnicities only received 300 responses (see Appendix 1).

Table 2. The sample sizes from six sampled regional parks and the percentages of overall samples. Park visit frequency from 2022-2023 is provided as a reference.

	Surveys completed	Percent	Park visit frequency from 2022-2023 (The Sentis Group, 2023)
Pacific Spirit Regional Park	111	24.3	26%
Lynn Headwaters Regional Park	86	18.9	18%
Belcarra Regional Park	79	17.3	17%
Burnaby Lake Regional Park	76	16.7	25%
Colony Farm Regional Park	55	12.1	8%
Tynehead Regional Park	49	10.7	15%
Total	456	100.0	

Results

Transportation mode share to regional parks

Over three-quarters of the park visitors (76%) used a private vehicle as the main mode of transportation to visit the regional park they were surveyed at (Figure 3). The second most commonly used mode is public transit (12%), followed by walking (9%), and bicycle/micro-mobility (3%).

Private vehicle mode share is consistent with the past survey data (Table 3). While the percentage of visitors taking public transit in this study is significantly higher, and the portion of people using bikes/micro-mobility devices is much lower. For sampling efficiency, we did not sample all the regional parks, especially the ones with very low and no transit access. Additionally, the nature of the intercept survey tends to result in a low response rate from bikers as they are less likely to pause to complete the survey (refer to the *Limitations* section of this report for more detail).

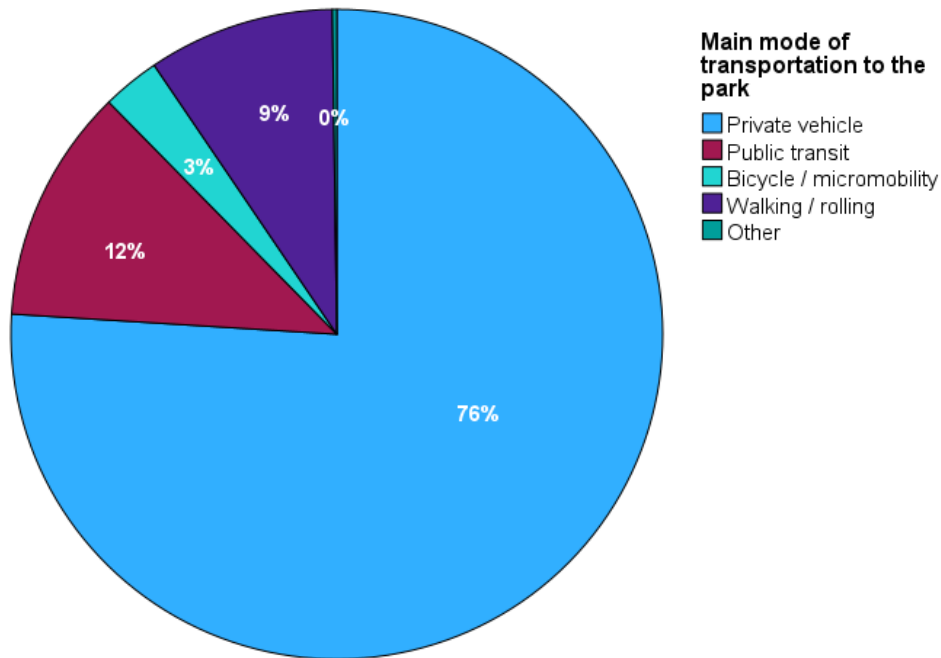


Figure 3. Percentage of survey respondents' main transportation modes to the regional park they were surveyed at (n=456).

Table 3. Comparison of transportation mode share to regional parks between this study and previous survey programs by Metro Vancouver.

Travel mode (%)	2013 Visitor Survey	2019 Visitor Survey	2022 Sustainable Transportation Survey	<u>2023 Sustainability Scholar study</u>
Private vehicle	74	73	82	76
Public transit	3	4	9	12
Bicycle/micro-mobility	9	14	6	3
Walking/rolling	14	16	3	9
Horse	1	0	n/a	n/a
Other	0	1	0	0

Transportation mode share comparison for regional parks and other destinations

Over seven-in-ten of regional visitors (71%) used a private vehicle as the general mode to get to destinations in Metro Vancouver, which is five-percent lower than their car mode share to regional parks (76%; Figure 4). One-fifth of the visitors (18%) chose public transit as their general mode, which is six-percent higher than the transit mode share to regional parks. The percentages of people who biked and walked show a minor difference between mode choice in general and visiting parks. The trends of higher private vehicles, lower transit, and similar biking and walking mode share of park visits are consistent with results in the Sustainable Transportation Survey (The Sentis Group, 2023).

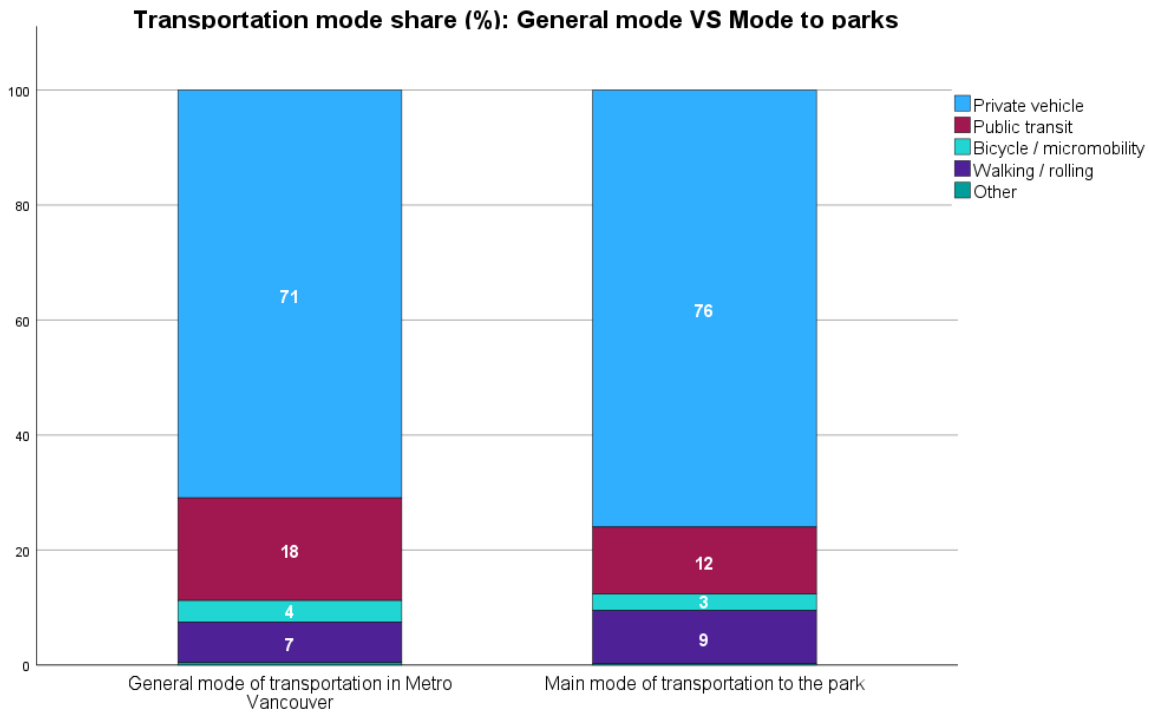


Figure 4. Comparison of transportation mode share (%) between park visitors’ general travel mode to regional destinations (e.g. working, studying, and other activities) versus their main mode to regional parks (n=455).

Table 4 explores the relationship between park visitors’ main mode to the regional parks and their general travel mode to other destinations in Metro Vancouver. It shows that those who use an alternative transportation mode as their main general travel mode are more likely to use a private automobile as their main transportation mode to regional parks. Among those who used private vehicles as their mode in general, almost all of them (92.8%) will also use private vehicles to visit regional parks. For those who typically used public transit for general travel in Metro Vancouver, almost forty percent (38.4%) used private vehicles when visiting regional parks. Similarly, over forty percent (41.2%) of those who chose biking as their general travel mode opted for cars for park visits, with the same portion staying biking to parks (41.2%). While the majority of visitors (66%) who chose walking as their general mode still walked to parks, over one-fifth (22%) of them changed to private vehicles when visiting regional parks.

The findings of our survey are slightly different from the 2023 Sustainable Transportation Survey, which found that a private vehicle is still the most common mode for park visits among those who use sustainable modes of transportation (i.e. public transit, biking, and walking) as their main mode in general.

Table 4. Relation between participants' general travel mode and travel mode to regional parks. Among those who use a particular mode as their main mode in general, the percentage of those who use that mode (or other modes) as their main mode to regional parks (n=452).

Main mode of transportation to the regional parks	Main mode of transportation in Metro Vancouver in general (e.g. to working, studying, and other activities)				
	Private vehicle	Public transit	Bicycle / micro-mobility	Walking / rolling	Other
Base	320	81	17	32	2
Private vehicle	92.8%	38.3%	41.2%	21.9%	50%
Public transit	1.9%	54.3%	0	9.4%	0
Bicycle / micro-mobility	1.3%	0	41.2%	3.1%	50%
Walking / rolling	4.1%	6.2%	17.6%	65.6%	0
Other	0	1.2%	0	0	0

Transportation mode share of each sampled park

Figure 5 shows visitor mode share by regional park. Colony Farm Regional Park, Tynehead Regional Park, and Belcarra Regional Park exhibited the highest car mode share (over 90%), with only a tiny portion of sustainable travel mode users (i.e. public transit, biking, and walking). Pacific Spirit Regional Park has the highest share of public transit (26%), bike/micro-mobility (8%), and walking (16%) among all the sampled parks. In addition, Pacific Spirit's private vehicle mode share was less than half of all travel methods (49%), representing the lowest among all parks. Burnaby Lake Regional Park also has a prominent sustainable mode share, with public transit and biking taking up 15% of the overall mode share (Figure 15).

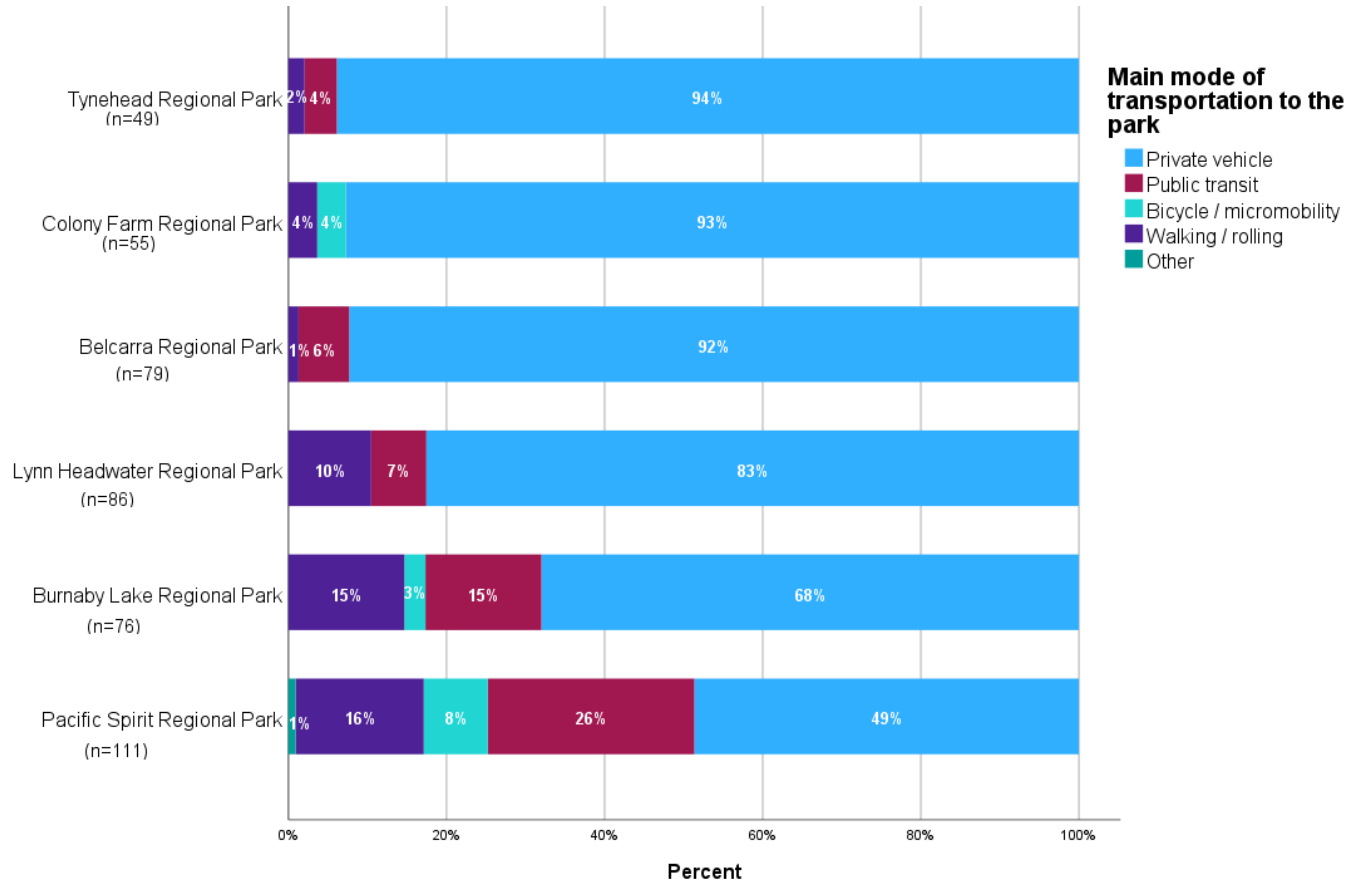


Figure 5. Comparison of transportation mode share (%) between regional parks.

The table below compares the mode share data of the selected regional parks from a number of different surveys to the transit and bicycle ratings in the Alternative Transportation Study Part II (Metro Vancouver, 2022). Although Tynehead and Colony Farm regional parks were rated as Good for transit access, three visitor surveys found extremely low public transit mode share for both parks. Additionally, there was a noticeable deviation between the three surveys for public transit mode share for Lynn Headwaters and Burnaby Lake regional parks. These inconsistencies (highlighted in red in Table 5) may require further research and more in-depth analysis in order to draw more accurate results and policy implications.

Table 5. Comparison of transportation mode share from multiple surveys to the transit & cycling access rating from Alternative Transportation Study Part II (Metro Vancouver, 2022).

	2013 Visitor Survey (%)	2019 Visitor Survey (%)	ATS Transit & Cycling Access Rating	<u>2023 Sustainability Scholar study</u>¹
Pacific Spirit Regional Park	PV²: 53 PT: 13 B: 18 W:24	PV:73 PT:5 B:3 W:19	Very Good & Excellent	PV: 49 PT: 26 B: 9 W:18
Lynn Headwaters Regional Park	PV: 79 PT: 13 B: 11 W:10	PV:83 PT: 1 B: 3 W:14	Good & Very Good	PV: 83 PT: 7 B: 0 W:11
Tynehead Regional Park	PV: 82 PT: 0 B: 10 W:14	PV: 77 PT: 0 B: 7 W:16	Good & Excellent	PV: 94 PT: 4 B: 0 W:2
Burnaby Lake Regional Park	PV: 68 PT: 3 B: 12 W: 22	PV: 79 PT: 0 B: 5 W: 16	Excellent & Very Good	PV: 68 PT: 15 B: 3 W:15
Colony Farm Regional Park	PV: 61 PT: 0 B: 31 W: 23	PV: 77 PT: 3 B: 15 W: 5	Good & Very Good	PV: 93 PT: 0 B: 4 W: 4
Belcarra Regional Park	PV: 92 PT: 4 B: 6 W: 4	PV: 95 PT: 3 B: 3 W: 0	Good & Poor	PV: 92 PT: 6 B: 0 W:1

¹ Inconsistencies in bicycle/micro-mobility mode share among reports were not highlighted in this table. Biking mode share at individual parks of this study can be not as accurate and representative because the nature of intercept survey methods tends to underrepresent bikers on sites, which is more prominent a smaller size sample like our survey (refer to *Limitations* section of this report for more details). The bias in bike mode share of individual park could be especially prominent in parks with a smaller sample size, such as Tynehead Regional Park (n=49) and Colony Farm Regional Park (n=55).

² The following abbreviations of transportation modes are used in the table. PV: private vehicle; PT: public transit; B: biking/micro-mobility; W: walking/rolling.

Relation between park visit frequency and mode choice to parks

The analysis of variance (ANOVA) test revealed a highly significant relationship with a p-value of less than 0.001. The low p-value suggests a strong statistical link between the transportation mode to visit parks and the frequency of park visits. In addition, the Post Hoc Test results of the ANOVA indicated that the park visit frequencies of those who used public transit and walking/rolling are statistically different compared to every other mode.

Figure 6 below demonstrates the relation between each mode choice and the rating of how frequently the participant visited the park. Notably, the participants who walk to the regional park are most likely to visit frequently, while those who take public transit tend to be those who come to the park least often (Figure 6). Although the responses of private vehicle users are diverse, the majority of them tend to visit the park very frequently.

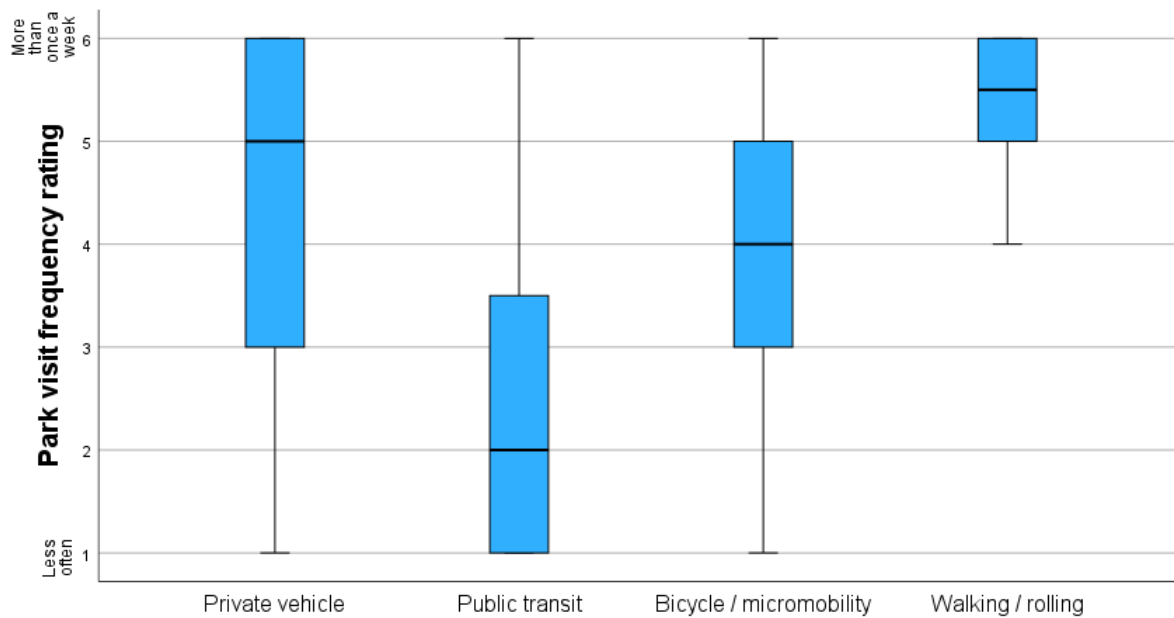


Figure 6. The relationship between park travel mode choices and park visit frequency.

Multi-modal travel patterns for regional park visitors

In the survey, we ask the participants to list in order the transportation modes they used from departing to arriving at the regional park. We found that the trips including public transit and bicycling are generally more complicated than other trips to parks (see Table 6). The average

number of modes involved per transit-involved trip (3.13) is more than twice as large as all the trips to parks (1.34). On average, transit-involved trips to parks contain transfers between three different modes (3.13), while bike-involved ones include almost four modes per trip (3.85). In addition, most transit- and bicycle-involved trips to regional parks started with private vehicles (Table 6). This implies that most of these visitors complete their first-mile connection by car, then transfer to public transit or bikes for the rest of the trip to parks.

Table 6. Comparison of multi-modal travel patterns for all trips to parks, versus transit-involved and bicycle-involved.

	Average number of modes per trip	Most common first mode	Common types of multi-modal trip
All trips to parks (n=456)	1.34	PV ³ (77.8%)	PV (53.5%) PV → W (5.7%)
Transit-involved trips (n=107)	3.13	PV (47.7%)	PV → PT (21.5%) PT → W (14.0 %) PT (12.1%) PV → PT → W (11.2%)
Bicycle/micro-mobility -involved trips (n=71)	3.85	PV (59.2%)	PV → B (25.3%) PV → B → W (9.9%)

Main reasons for park travel mode choices

Over forty-percent (45%) of respondents chose private vehicles as the main travel mode because the park is distant from home (Figure 7). The second most common reason for driving was that using a private vehicle takes less time than other modes (20%). Two other relatively common reasons that participants chose are the ease of bringing pets, and the constraints of public transit services (e.g. limited, slow, infrequent, and inconvenient), each taking up 8.2%. Although carrying equipment was less frequently chosen in our survey as a reason for driving, the most common reasons in this survey are relatively consistent with Metro Vancouver's prior Sustainable Transportation Research (The Sentis Group, 2023).

³ The following abbreviations of transportation modes are used in the table. PV: private vehicle; PT: public transit; B: biking/micro-mobility; W: walking/rolling.

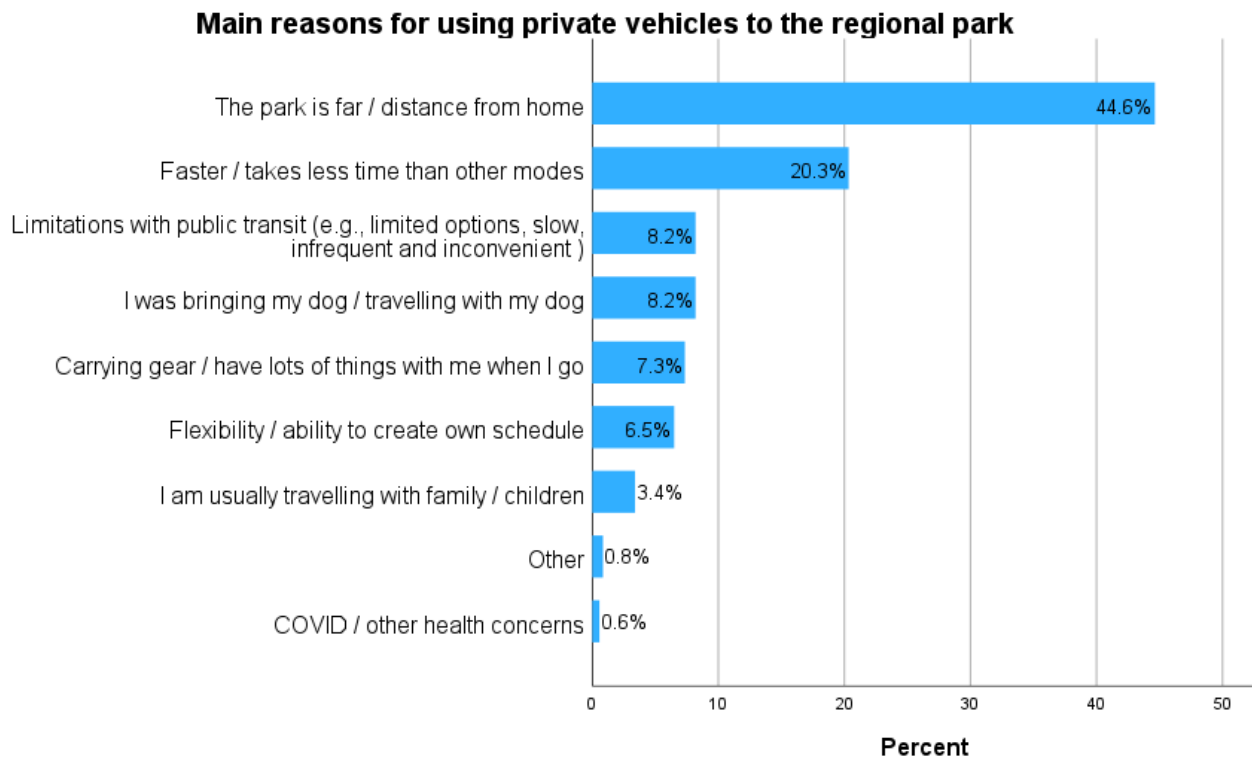


Figure 7. Main reasons for using private vehicles as the main travel mode to regional parks (n=354).

Half of the participants (49%) indicated they used public transit to travel to regional parks because they do not own a car or have a driver's license (Figure 8). The awareness that taking transit is better for the environment was the second most common reason that park visitors chose public transit. Public transit's cheaper cost, the short distance from the park to home, and the need to avoid parking challenges (7%) tied as the third common reason (Figure 8). Compared to the results of Sustainable Transportation Research, this survey indicates that cost has become a much less significant factor, while visitors attach higher importance to public transit's environmental benefits (the Sentis Group, 2023; Figure 8).

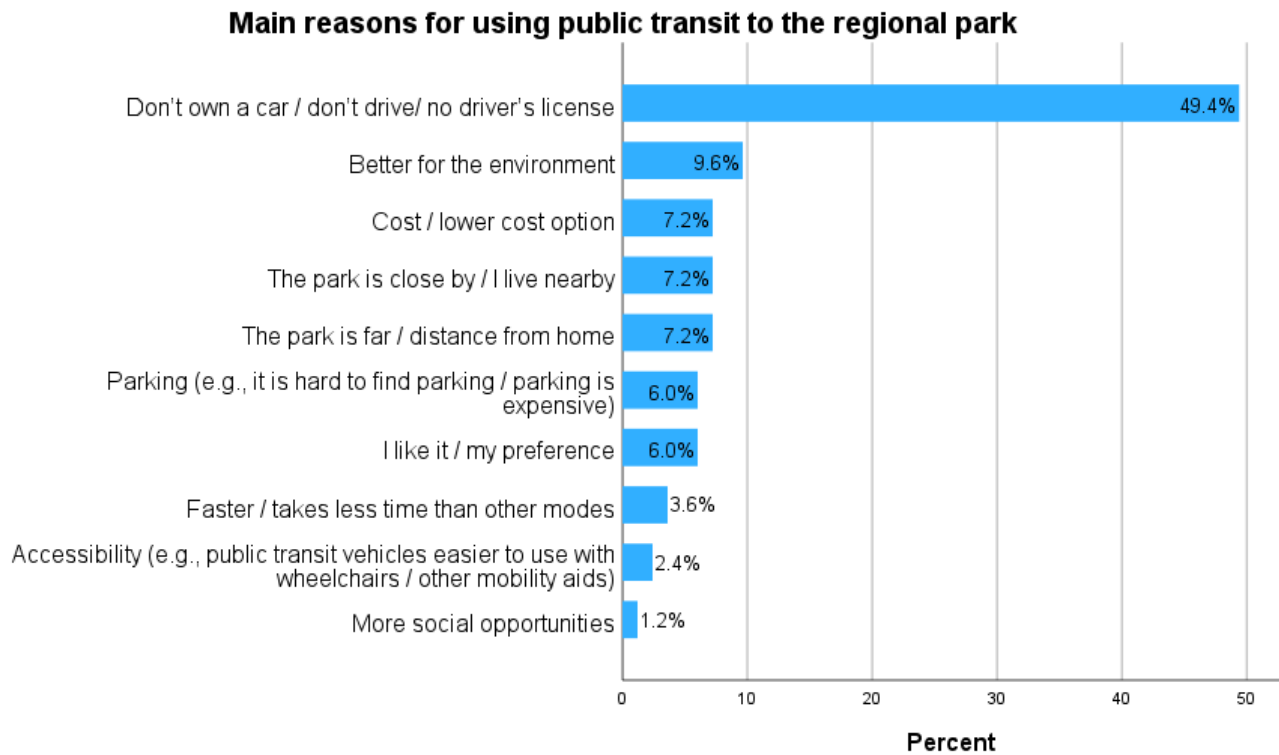


Figure 8. Main reasons for using public transit as the main mode to regional parks (n=83).

Regarding reasons for biking to parks, over half of the responses (53%) indicated they selected this mode for exercise and health benefits, while another 12% indicated that it was their preferred method of travel (Figure 9). Compared to The Sentis Group’s 2023 Sustainable Transportation Research, regional park visitors selected the number 1 reason (for exercise and health benefits) at a higher rate than the second most common reason (personal preference) than the general park visiting population (The Sentis Group, 2023).

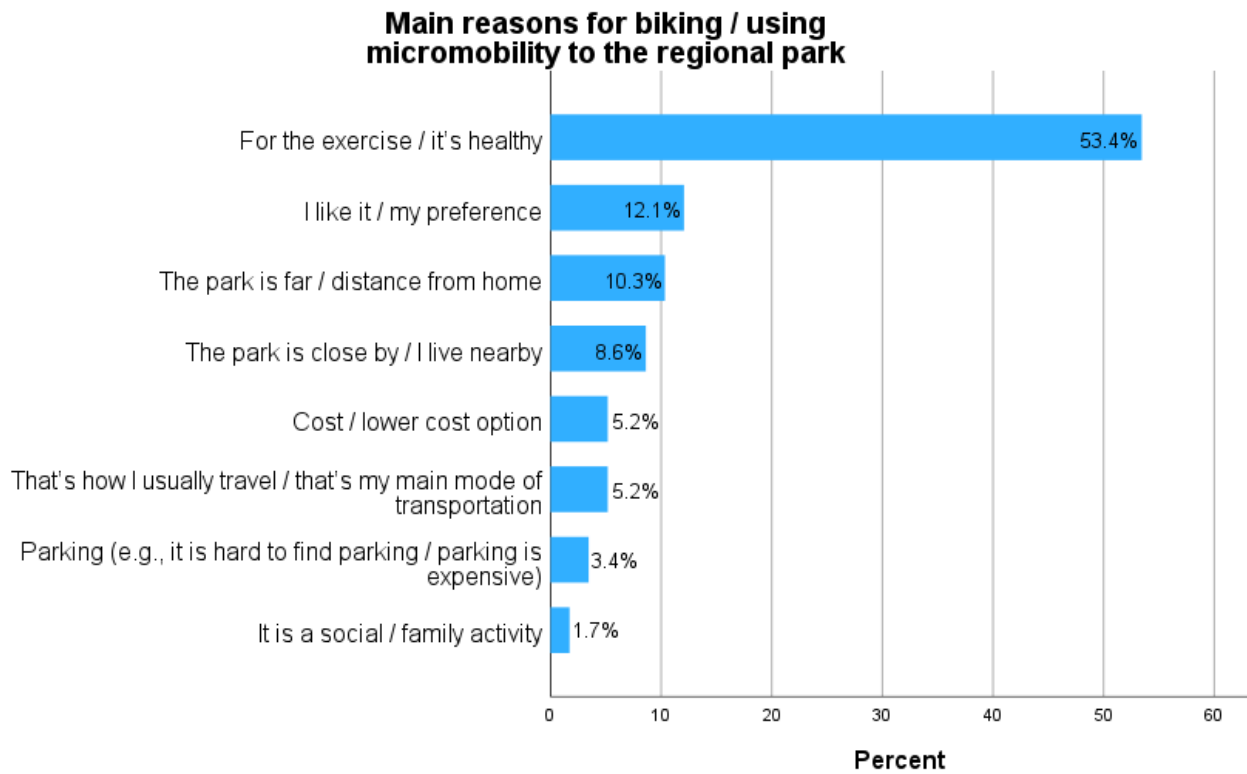


Figure 9. Main reasons for using bicycle/micro-mobility as the main mode to regional parks (n=58).

The main reason people walk to regional parks is that the park is nearby where the visitors live, taking up 67% of all responses (Figure 10). The second most common response in our survey was I like it / my preference (7.25%), which differs from the Sentis Group research. In their Sustainable Transportation Research, for exercise and health benefits is the second common option, with short distances between the park and home a close third (The Sentis Group, 2023). In contrast, it only receives 6.2% of responses in our survey, ranking fifth.



Figure 10. Main reasons for using walking/rolling as the main mode to regional parks (n=97).

Likelihood of using sustainable travel modes

Six in ten (60%) of all the participants indicated that they would consider taking public transit to parks in the future (Figure 11). This finding is similar to the Sustainable Transportation Research found — 68% of park visitors will consider taking public transit to regional parks (The Sentis Group, 2023). In addition, almost half of all the participants (47%) said they would consider using bike/micro-mobility devices for future park visits (Figure 11).

Likelihood of using sustainable travel modes to regional parks

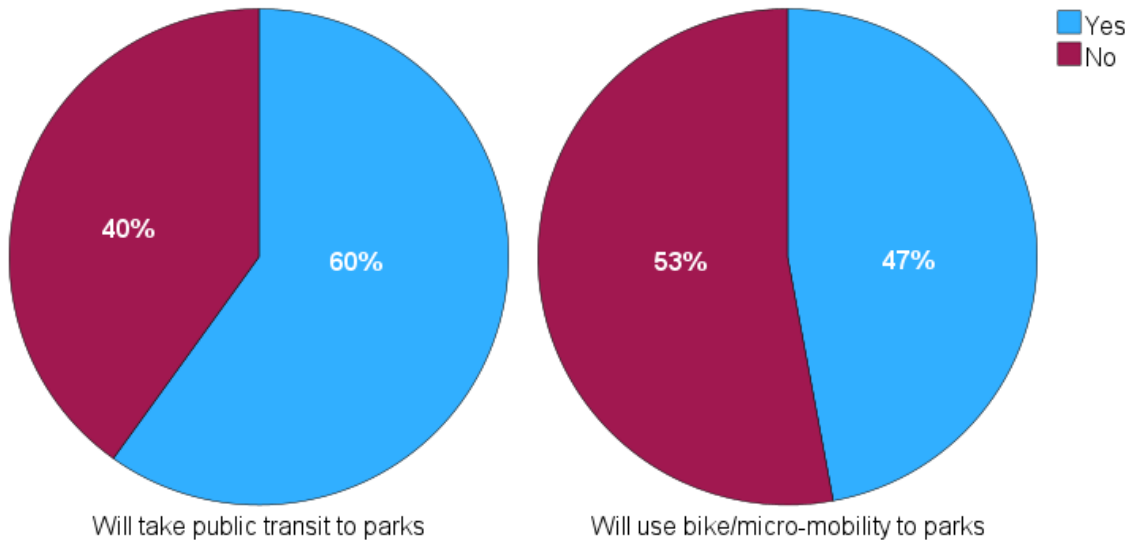


Figure 11. Percentage of participants indicating whether they will use public transit or bike/micro-mobility to visit parks in the future.

Figure 12 shows respondents' likelihood of using sustainable travel modes according to reported transportation modes. More than half of the visitors who chose private vehicles (56%) indicated they are willing to take public transit for future visits. Similarly, almost half of the visitors walking to parks (48%) report they will consider using transit to visit regional parks. In addition, over forty percent of car users (43%) indicated they will consider biking to regional parks in the future.

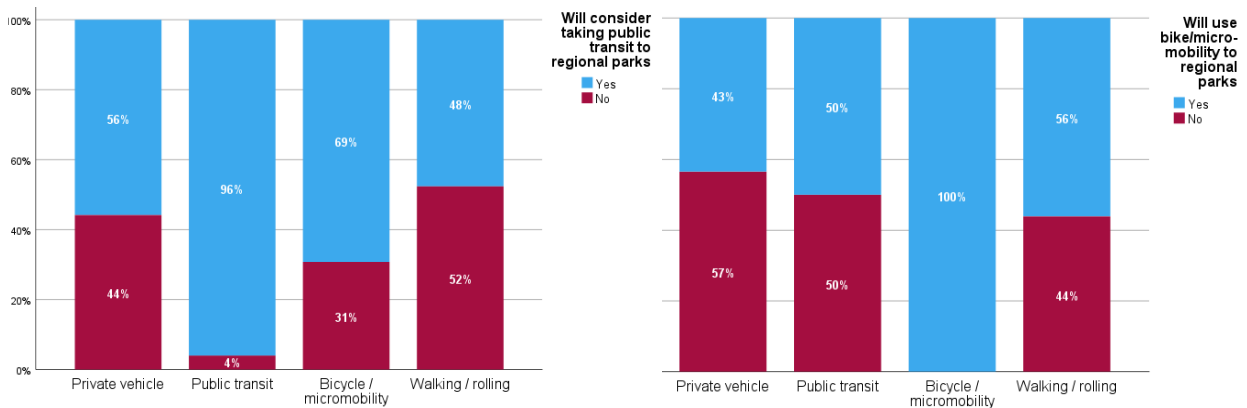


Figure 12. Percentage of participants indicating whether they will use public transit and bike/micro-mobility to visit regional parks in the future by travel mode used to access regional parks.

Barriers to using sustainable modes compared with private vehicles

The survey participants were presented with a list of possible reasons for choosing to use a private vehicle instead of public transit and bike/micro-mobility to get to regional parks and asked to select the ones that apply to their case.

Regarding the reasons for taking private vehicles over public transit, the most common reason cited was public transit’s long travel time (42%) (Figure 13). This is consistent with what was found in Sustainable Transportation Research (The Sentis Group, 2023). The second most common reason reported is the ease of traveling in poor weather when using private vehicles (36%), followed by flexibility in making travel schedules (31%). Three of the top five reasons chosen are associated with limitations of public transit (long travel time, long distance from transit stops to home, and infrequent services).

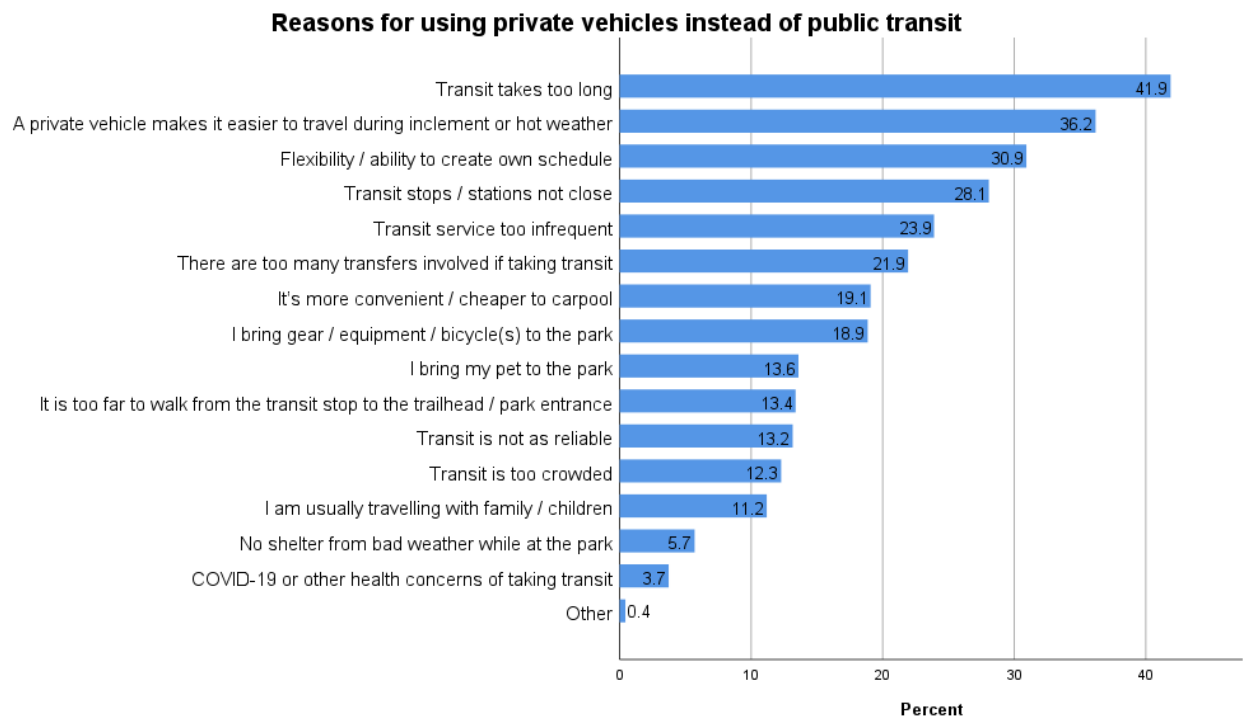


Figure 13. Reasons for using private vehicles over public transit.

The most common reason why park visitors choose private vehicles over bikes/micro-mobility is that park is distant from home (42%), followed by the ease of traveling in poor weather when using private vehicles (30%; Figure 14). Other common reasons are the lack of easy biking

routes to parks that are comfortable for users of all capacities (difficult route conditions for cycling, lacking confidence with cycling ability, and no safe cycle path to parks).

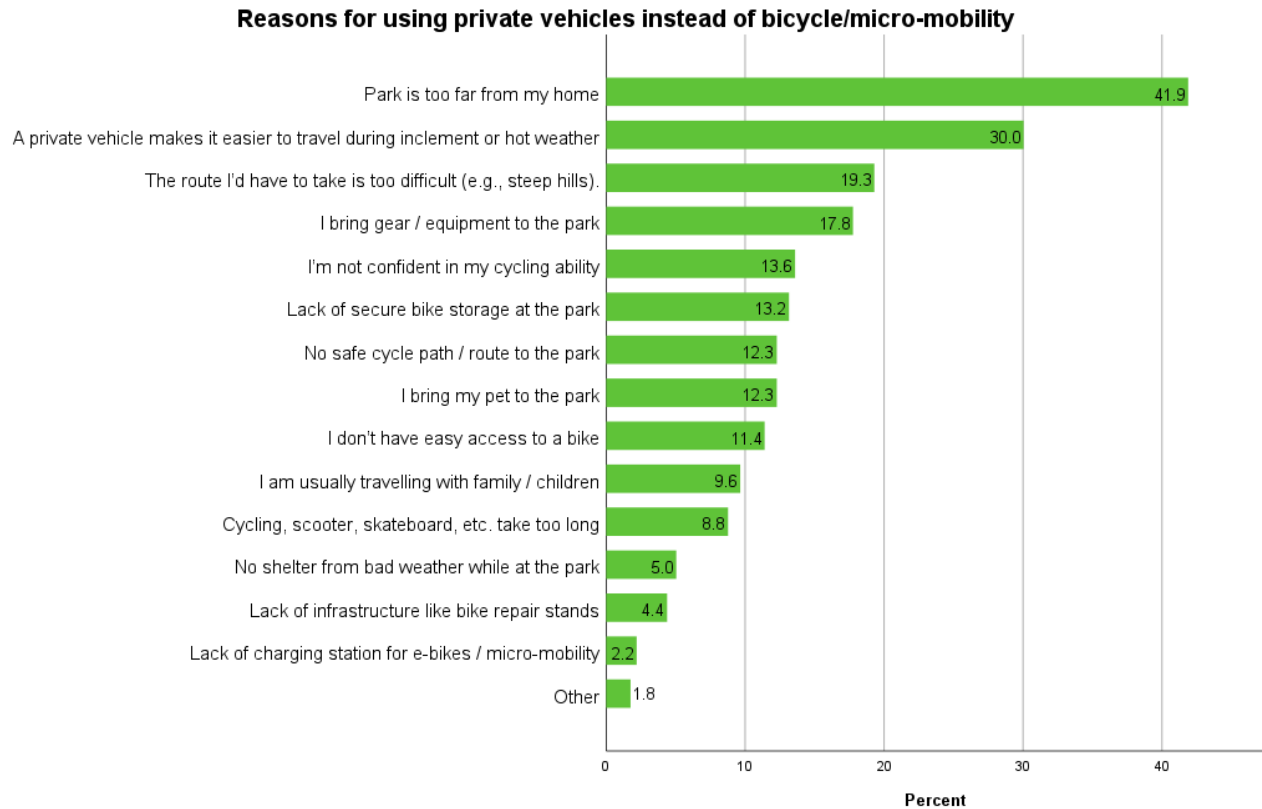


Figure 14. Reasons for using private vehicles over bike/micro-mobility.

Factors that encourage park visitors to use sustainable modes

The survey participants were presented with a list of factors that might encourage them to use sustainable modes to get to regional parks, and asked whether each would impact their mode choice based on a four-point Likert scale (i.e., a lot more likely, somewhat more likely, don't know, and no effect). The results are broken down into public transit and bicycling/micro-mobility.

For public transit, the top two factors that would promote increased use are improved last-mile and first-mile connections — constructing transit stops closer to park entrances and visitors' homes will highly likely encourage them to take transit to regional parks (Figure 15). Similarly,

having a sidewalk connecting transit stops directly to the trailhead is also an essential factor, which ranked fifth in terms of the likelihood of encouraging transit use. Other significant factors are associated with improvement in transit services, including increased frequency and fewer stops between origin and parks.

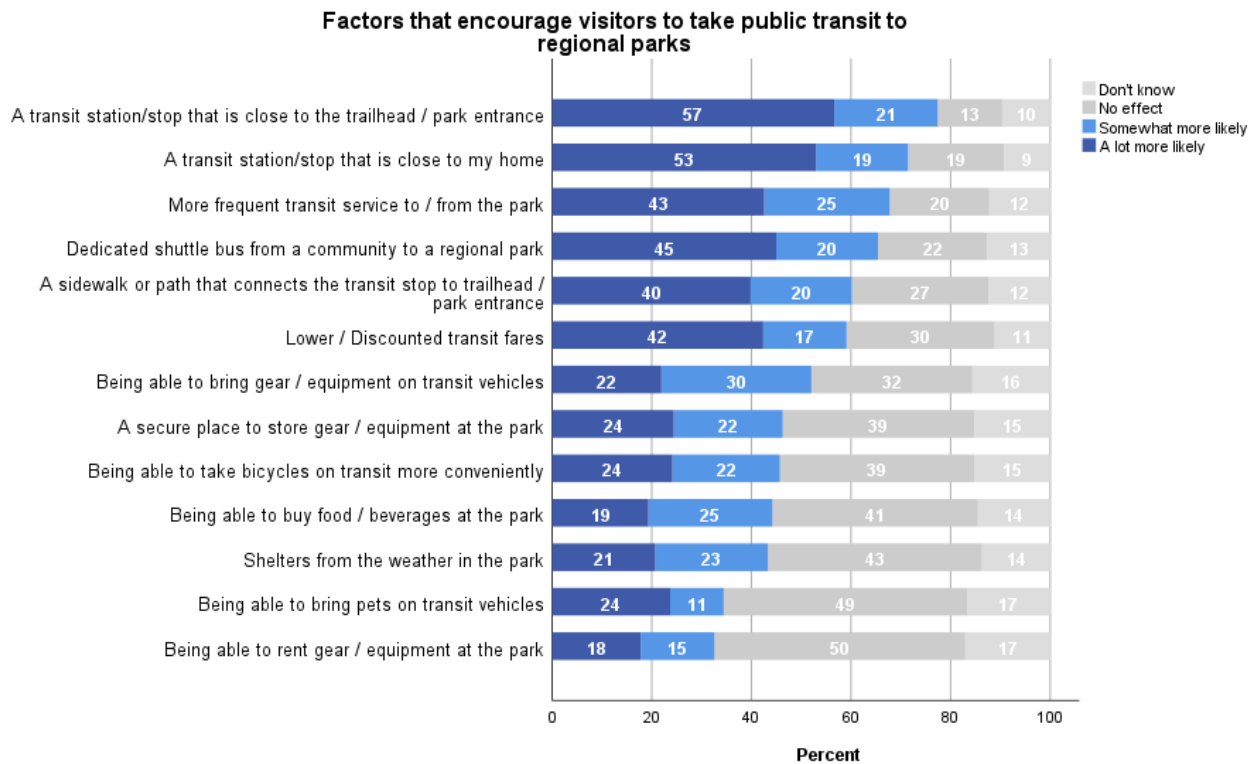


Figure 15. Likelihood of listed factors encouraging visitors to use public transit to travel to regional parks.

For bike/micro-mobility, the factors most likely to promote increased bicycling to parks include three responses indicating that people highly prefer safe, low-gradient cycling routes located in natural areas (i.e., dedicated cycling routes separated from automobile traffic, relatively flat, and having nature views) (Figure 16). Other significant factors are associated with improving in- or near-park facilities. For example, over 60% of respondents would like easy access to more secure bicycle storage and e-bike charging facilities.

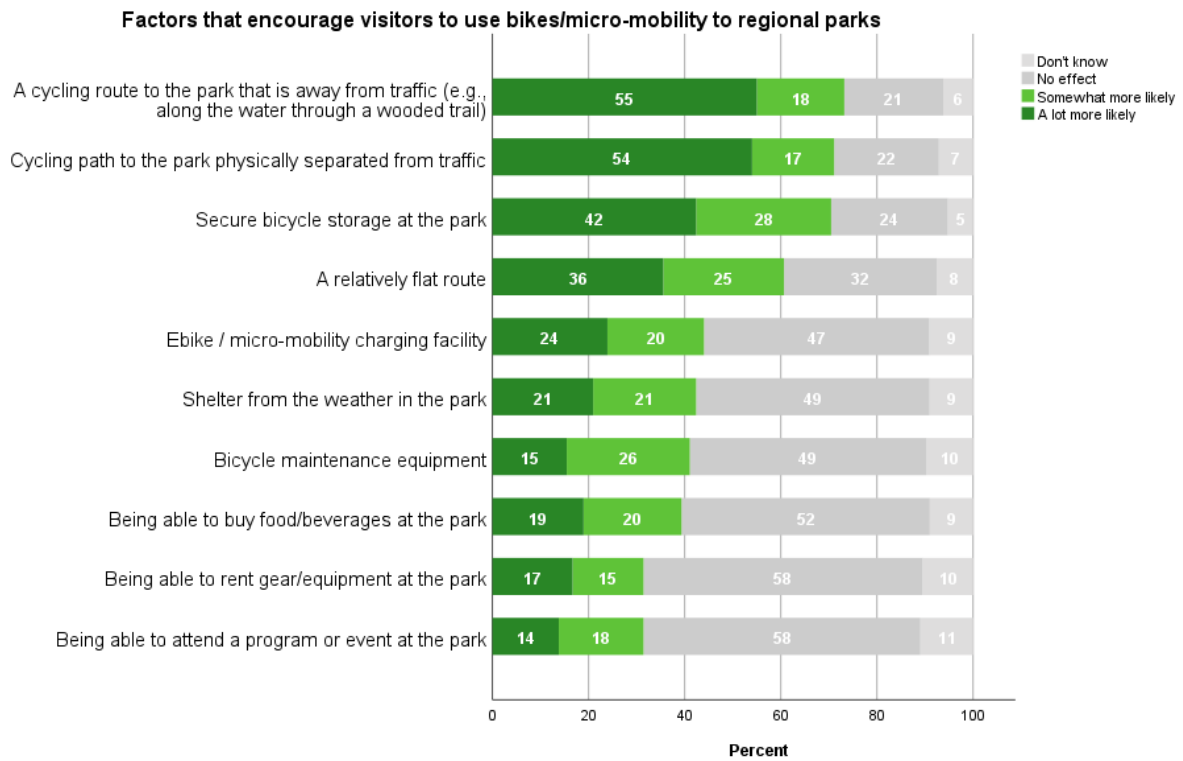


Figure 16. Likelihood of listed factors encouraging visitors to use bike/micro-mobility to travel to regional parks.

Intelligent and accessible real-time information technologies are important and appealing to regional park visitors. For example, real-time travel information at bus stops and on phones are the two improvements with the highest likelihood of encouraging visitors to shift to sustainable travel modes (Figure 17). Additionally, almost half of the participants (48%) think pertinent and updated information on parking capacity and road conditions are likely to encourage their use of sustainable modes, as this can potentially be a powerful disincentive for people using private vehicles to travel to regional parks. Individuals tend to change from driving to alternative modes if they are aware that the parking is full, or the road near parks is congested. Notably, almost half of the responses (49%) show that improved park-and-ride facilities will encourage them to use sustainable modes (Figure 17). This is aligned with what we found in visitors’ multi-modal travel. Since most sustainable mode users start their trip to parks with cars, facilitating a seamless and more convenient park-and-ride experience will likely encourage park visitors to use sustainable modes more often.

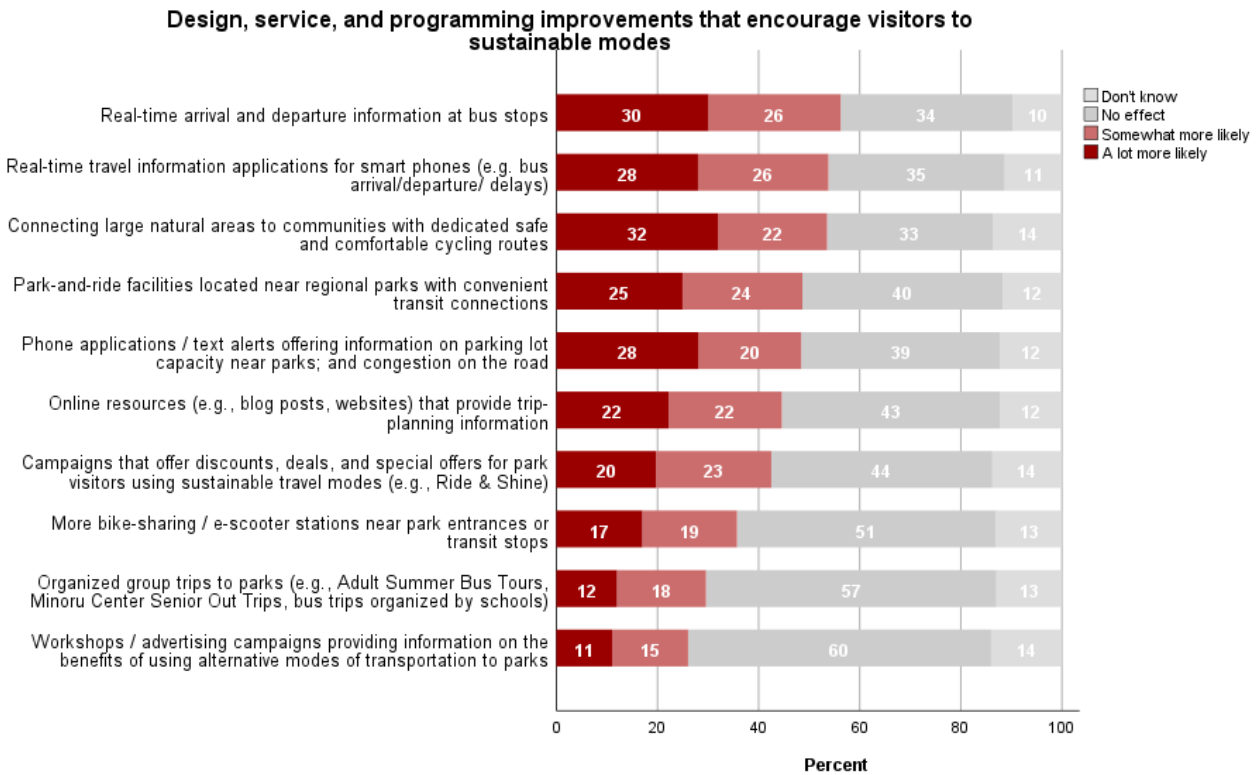


Figure 17. Likelihood of listed improvements in design, service, and programming to encourage visitors to use sustainable travel modes.

Mode choice differences in various demographic groups

The choice of transportation modes for park visits reveals trends among different age groups. People aged 35 to 44 show the highest preference (29%) among all groups for sustainable modes (e.g., public transit, walking, and biking; Figure 18). Individuals aged 19 to 34 are the second most likely to choose public transit (19%) as their primary means of getting to parks.

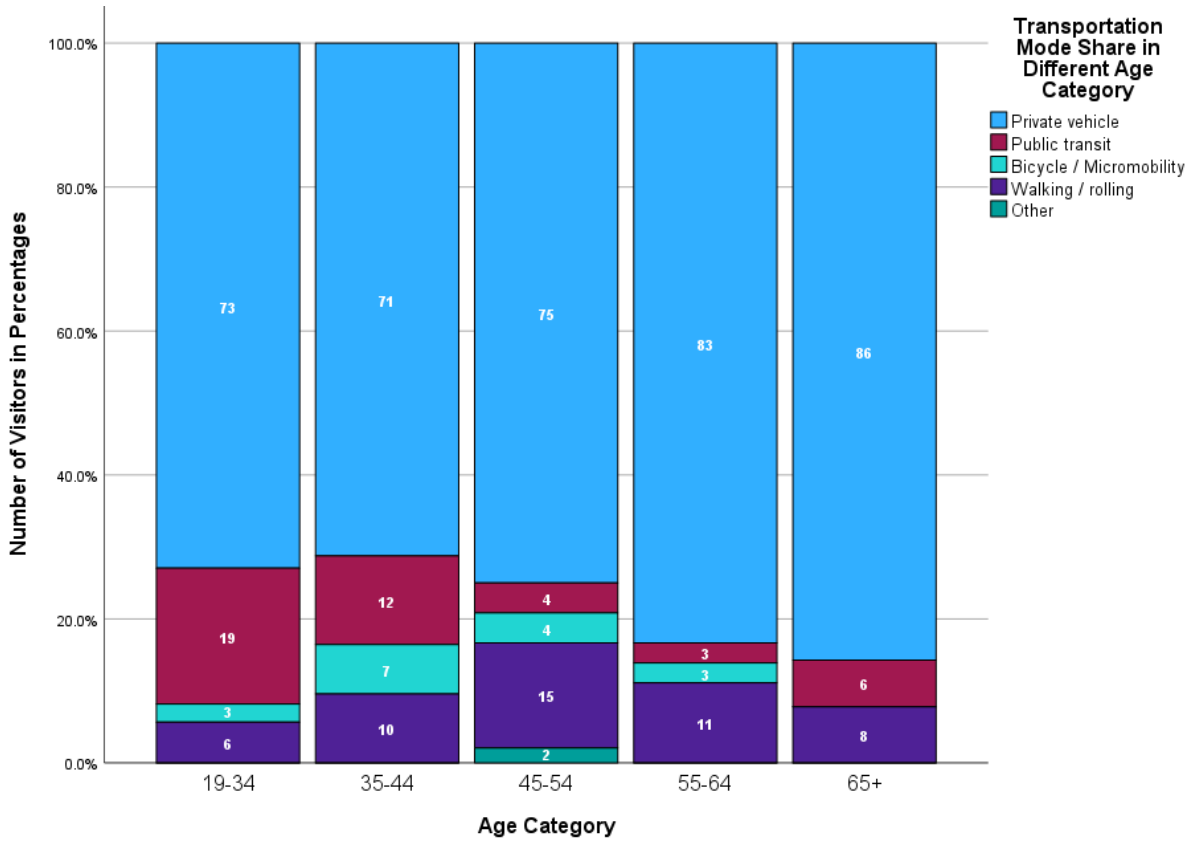


Figure 18. Transportation to parks mode choices (%) by age category.

Having access to private vehicles and transit passes influences visitors’ travel mode choices. A private vehicle is the most prevalent travel mode choice to regional parks, except for those visitors who don’t have access to a personal vehicle. These people rely on public transit (49%) and walking/rolling (19%). Access to discounted or regular transit passes may have the potential to encourage visitors to use public transit options. For instance, only 8% of visitors lacking discounted transit passes would consider public transit their primary mode, whereas this number rises to 21% among pass holders.

Another factor related to transportation mode choice is the duration of residence in Canada — immigrants living in Canada for less than 15 years lean towards public transit as their primary mode. Similarly, income levels play a role in travel mode selection. Visitors from households earning less than \$25,000 are more likely to use public transit and walking/rolling, while those in households earning \$100,000 to less than \$125,000 are more likely to use private vehicles (Figure 19). Notably, households earning \$50,000 or less per year do not report

bicycle/micro-mobility as their primary mode, suggesting potential barriers to accessing these options.

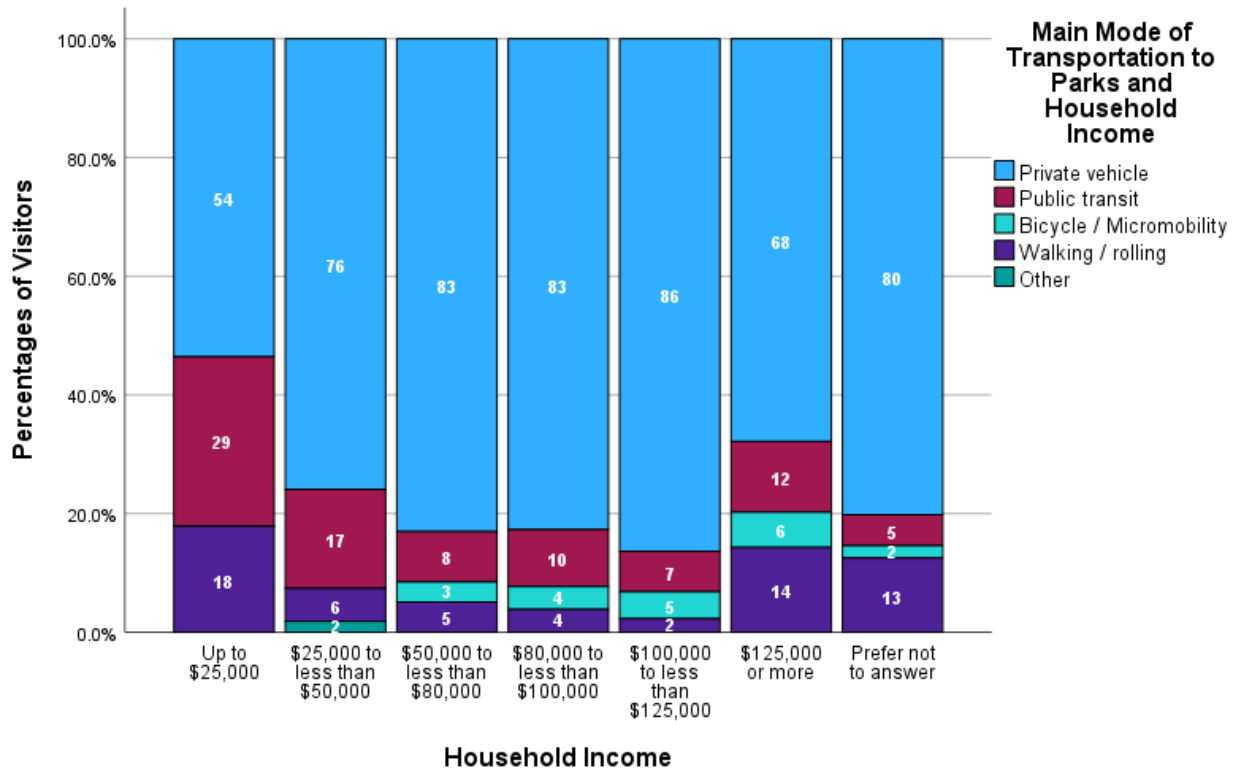


Figure 19. Transportation mode choices to regional parks by household income categories.

Recommendations

Improve in-park bicycle storage facilities

Our survey underscores the significance of secure bicycle storage within parks, as it found that secure bicycle storage ranked as the third most desired enhancement to encourage bike usage among visitors. In addition, compared to previous surveys, the growing interest in better secure bike storage emphasizes the need to address this concern effectively. Improving secure bike storage is supported by Strategy 5.4 of the Metro Vancouver Regional Parks Plan (2022) — *incorporating climate change considerations into the design and development of regional parks infrastructure.*

To enhance secure bike storage across regional parks, a systematic approach can be undertaken by Metro Vancouver. Firstly, identify parks with substantial bike mode share (e.g. Pacific Spirit Regional Park, Burnaby Lake Regional Park, and Colony Farm Regional Park), and prioritize them for improvement. Subsequently, assess the quality and quantity of existing secure bike storage facilities within these parks and develop a plan for improvements. Plans should consider design features, such as sturdy locks, well-lit parking areas, and CCTV coverage, and siting factors like high-traffic biking locations like intersections of bikeways, trailheads, and park entrances. Lastly, Metro Vancouver should monitor the effectiveness of actions after implementation through future survey projects to ensure continual enhancements align with cyclist needs and preferences.

Make the last-mile connections of transit travels shorter and more walkable

The top motivator for transit use among park visitors is close and convenient last-mile connections between transit stops and park entrances. The most commonly identified barrier was that transit travel takes a long time, and the fourth most commonly identified barrier was inconvenient and distant transit stops. As access and egress time play an important part in transit travel time, facilitating a shorter and more convenient last-mile connection from transit stops to trailheads/park entrances will likely motivate more park visitors to travel with public transit (Boarnet et al., 2017).

In response to this information, Metro Vancouver could improve its evaluation of last-mile connections between regional park entrances and nearby transit stops, which was initiated in its Alternative Transportation Study Part I (2022). This updated assessment should incorporate new criteria such as walkability (e.g. signage on wayfinding, lighting, and sidewalk availability), distances between transit stops and park entrances (multiple trailheads), and popular in-park destinations. After identifying the parks with unsatisfactory last-mile connections, collaborative efforts involving municipalities, provincial agencies and TransLink can be initiated to develop a plan for improving insufficient last-mile connections using effective design principles.

Drawing inspiration from design principles advocated by the National Association of City Transportation Officials (2016), Metro Vancouver and its partners can pursue a multifaceted approach to enhance last-mile connections. Relocating transit stops closer to park entrances and trailheads can significantly improve accessibility. Installing infrastructure like sidewalks, street lighting, bus shelters, and seating will further contribute to visitor comfort and safety. Adding clear and comprehensive wayfinding signage will simplify navigation and elevate visitors' last-mile experience.

Implement Intelligent Transportation System (ITS) to promote sustainable travel of visitors

Survey findings reveal that providing real-time travel information (e.g. bus arrival and departing time) is an important motivator for encouraging sustainable travel of park visitors, especially through displays at transit stations and mobile applications. Moreover, nearly half of the participants reported that accurate updates on parking availability and road conditions were significant, as this can potentially be a powerful disincentive for people using private vehicles to travel to regional parks. An Intelligent Transportation System (ITS) can provide this data to park visitors. ITS includes road traffic, parking lot condition, electronic message signs, and real-time transit updates (Collum & Daigle, 2015). Better tailoring ITS for sustainable travel modes and making it more accessible to regional park visitors may be a promising way to encourage more visitors to use sustainable travel methods.

Metro Vancouver can work with its regional partners to promote the installation of real-time information displays at bus stops near regional parks (ITS is currently implemented typically at stops located in major transport hubs, and urban centers). Other initiatives that can support regional park visitors' travel needs include improving the accuracy of current real-time transit information platforms (e.g. Transit App; Figure 20, left) and updating trip-planning resources (e.g. Ride & Shine by TransLink; Figure 20, right). Metro Vancouver can broaden the reach of these platforms to more regional park visitors by promoting them through social media channels, information boards and regional park nature houses/facilities.

Besides the physical signage on parking availability currently installed at many regional parks, Metro Vancouver can work with others to develop an online dashboard offering real-time parking availability information at all regional parks, as well as the nearby traffic conditions. Text alerts can also be available for sign-up on this platform — visitors will receive instant updates on limited parking and road congestion. This solution will potentially address the parking supply challenges at regional parks, as visitors will shift to alternative modes to avoid long waiting times for parking spots and congestion.

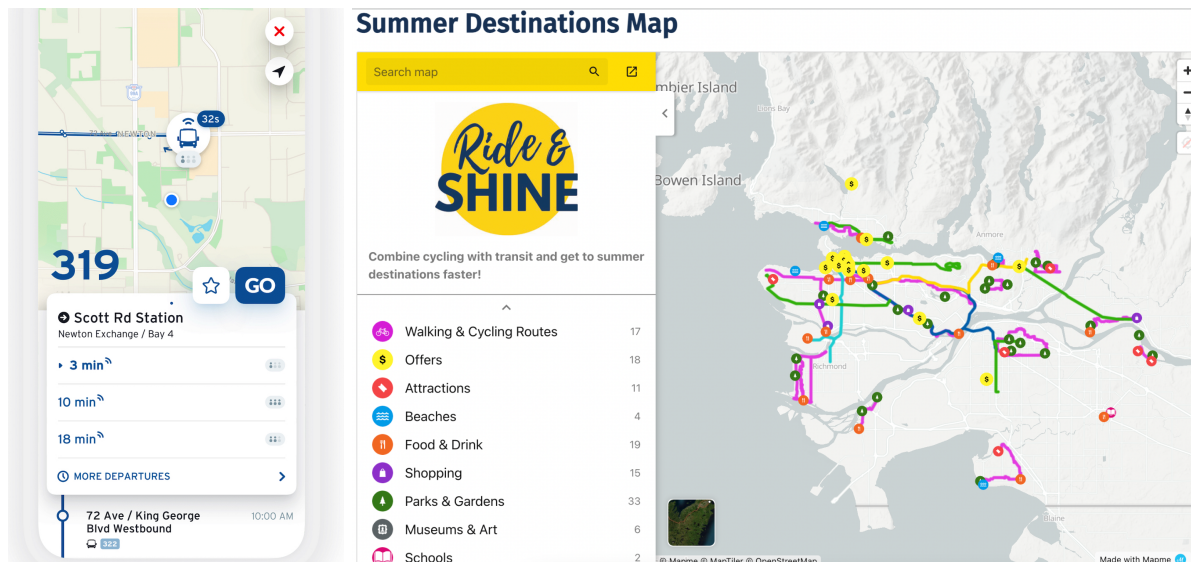


Figure 20. Left, the interface of the Transit App (partnered with TransLink) showing bus arrival time and seat predictions; Right, TransLink's Ride and Shine Campaign webpage, with interactive maps highlighting key transit routes that connect major attractions and destinations.⁴

Facilitate seamless transfers in visitors' multi-modal travels using sustainable modes

Our survey results suggest that visitors using sustainable modes (e.g. public transit and cycling) generally have to experience higher numbers of transfers between modes, leading to a more disjointed travel experience compared to those driving all the way to the parks. The majority of sustainable mode users started their trips to regional parks with private vehicles. Furthermore, park-and-ride facilities featuring well-connected transit options ranked as the fourth most desired enhancement to promote sustainable transportation. Thus, facilitating seamless integration between modes can be essential in improving the travel experience of sustainable mode users visiting parks, and encouraging a transition from driving to sustainable modes.

Collaborating with TransLink and other key partners is essential to provide a seamless travel experience for visitors to regional parks. By jointly developing a Mobility-as-a-Service (MaaS) platform, park visitors will have a unified solution to plan, book, and pay for their journeys using an array of transportation options (Figure 21, left; Transdev, 2018). For instance, this platform

⁴ Source of left image: <https://dailyhive.com/vancouver/translink-transit-app-empty-bus-seats-capacity>; right image: https://www.translink.ca/rideandshine?utm_source=direct&utm_medium=shorturl&utm_campaign=rideandshine

could enable someone to combine a SkyTrain ride with a bike-sharing service for the last mile of their trip to a park conveniently. By consolidating public transit, carpooling, ride-sourcing, and bike-sharing under one user-friendly interface, this service can significantly reduce the challenges associated with multiple transfers and encourage sustainable transportation adoption by park visitors (Figure 21, right).

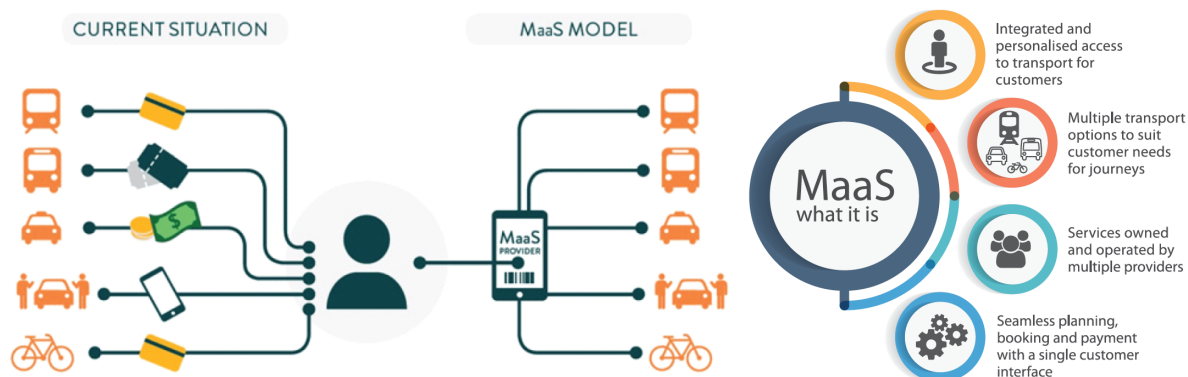


Figure 21. Left, a comparison between Mobility-as-a-Service (MaaS) and traditional multi-modal transportation planning; Right, key features of Mobility-as-a-Service (MaaS).

In addition, Metro Vancouver should initiate a collaborative effort to improve park-and-ride facilities benefiting park visitors, by involving TransLink, local municipalities, and community stakeholders. This approach potentially entails a systematic process: pinpoint strategic locations for park-and-ride facilities near high-demand parks, liaise closely with TransLink to ensure efficient transit integration, design facilities as multi-modal hubs accommodating various transportation modes, and lastly, gather feedback from users via partnering agencies and Metro Vancouver's future survey programs.

Enhance biking safety and comfort for visitors through improved bikeway infrastructures and new segments of regional greenways

The survey results found that lacking easy and safe bike routes is among the top five significant hurdles for visitors to bike to parks. Moreover, cycling paths connecting to park entrances that are physically separate from traffic, flat and comfortable for individuals of all capacities, stand out as a crucial motivator to encourage more biking visitors in the future. Therefore, to foster increased bike usage, it is crucial to enhance the current bikeway infrastructure leading to parks while simultaneously introducing new and enhanced biking options.

One comprehensive strategy can involve conducting thorough evaluations of the existing bikeway infrastructure leading to regional parks, focusing on the ones to parks frequented by

cyclists (e.g. Pacific Spirit Regional Park, Burnaby Lake Regional Park, and Colony Farm Regional Park). Collaborating with local municipalities and TransLink, Metro Vancouver can work to enhance the quality of these bikeways through targeted improvements. This could encompass the implementation of clear and intuitive signages, upgraded safety infrastructures, and the integration of bike-friendly traffic signals. To accommodate cyclists of varying skill levels, planning and implementing new routes with flatter terrain and reduced elevation challenges is also pivotal to accommodate cyclists of varying skill levels.

In addition, Metro Vancouver Regional Parks can continue advancing the implementation of the multi-use recreational paths separated from road traffic in the Metro Vancouver Regional Greenways 2050 plan, which is aligned with Strategy 4 of the regional parks plan (2022). By prioritizing filling network gaps and seamlessly connecting regional parks (see “identified gap” in Figure 22), these proposed greenways can significantly contribute to a holistic and interconnected biking network. Moreover, proactive steps can be taken to advertise these improvements. The region can attract a broader audience by showcasing these enhancements through targeted marketing campaigns, informative signage, and engaging digital platforms, thus encouraging diverse communities to utilize these improved biking routes to reach parks.

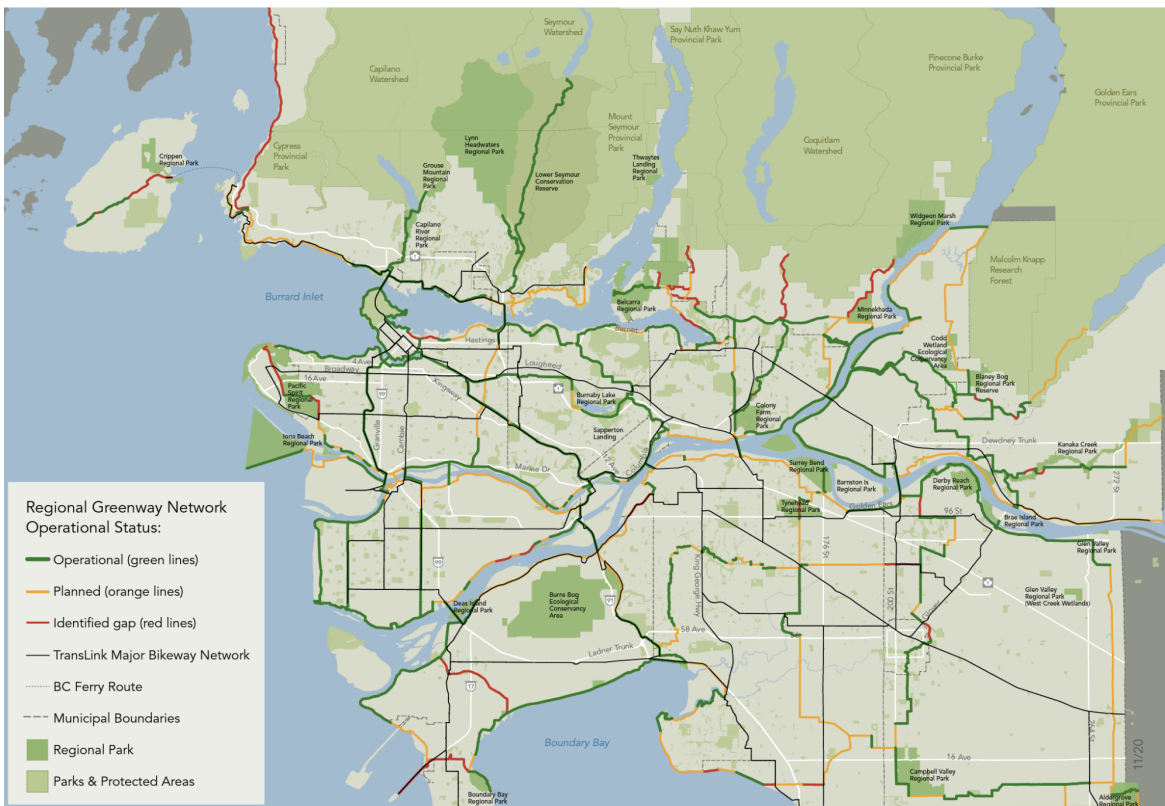


Figure 22. Regional greenways operational status (Metro Vancouver, 2020).

Focus on environmental impacts for the narratives of advocating alternative modes to parks

Our survey shows visitors tend to attach great importance to the positive environmental impacts of alternative modes. “Better for the environment” was the second most common reason for visitors choosing public transit and the third most common reason for cycling. Recognizing visitors’ pronounced environmental awareness compared to the general population, Metro Vancouver should strategically shape future advertising initiatives to center around the dual themes of positive ecological effects and sustainable transportation options (The Sentis Group, 2023).

Using diverse communication channels, like Instagram and Twitter, Metro Vancouver could deliver joint campaigns in collaboration with local environmental organizations, and expand nature houses in regional parks with information showcasing the environmental benefits of sustainable transportation. These hubs would serve as educational centers that inspire and inform visitors by presenting concrete examples of how embracing sustainable travel modes can directly reduce air, water, and soil pollution, and protect the natural values found in regional parks. Furthermore, Metro Vancouver can partner with TransLink to integrate environmental messaging into transit announcements, digital displays, and explore possible incentives to use sustainable transportation to travel to regional parks. Linking sustainable travel with the benefits of climate change mitigation, and biodiversity protection will remind passengers of the positive outcomes of their choices.

Promote seniors’ transit access to regional parks

Our survey data show that seniors (65+ years old) particularly rely on private vehicles (86%) to reach parks. In addition, with their limited mobility and unfamiliarity with public transit, seniors have the lowest alternative travel mode share. Targeting seniors’ needs, Metro Vancouver can enhance both public transit accessibility and park facilities while also enhancing the implementation of senior bus programs.

For buses that connect to regional parks, Metro Vancouver can collaborate with TransLink to increase the availability of accessibility facilities by incorporating more dedicated wheelchair spaces. Furthermore, installing ramps and creating flat pathways to connect public transit stops and trailheads would significantly enhance wheel accessibility. To guide senior visitors who are visually impaired or unfamiliar with public transit stops in parks, applications of non-visual navigation technology such as an auditory navigation guide on-site and on mobile applications,

and the addition of clear signage in parks indicating the locations of nearby public transit stops would be beneficial.

In addition, Metro Vancouver can work with municipalities and community centers to promote the expansion of programs connecting seniors to regional parks via transit. Currently, a few regional municipalities offer senior group trips to various recreational destinations. For example, the City of Richmond offers “Minoru Center Senior Out Trips,” where seniors take designated buses to museums, restaurants, and parks. Metro Vancouver will encourage more community senior programs to include regional parks as their destinations and support the operations. More importantly, Metro Vancouver can serve as a facilitator to bridge collaborations between municipalities and communities, encouraging more of them to implement similar programs. Last but not least, Metro Vancouver can actively seek input from senior visitors, catering to seniors’ needs to shape infrastructure and policies.

Conclusions

This research effectively achieved its dual objectives. Firstly, it improved our understanding of the underlying motivators and barriers that shape the transportation preferences of Metro Vancouver's regional park visitors towards sustainable modes, such as public transit, biking, and walking. Secondly, it developed a comprehensive set of strategic recommendations encompassing design, service, and programming enhancements that will foster a transformative shift from traditional vehicular transportation to more sustainable alternatives.

Intercept surveys at six regional parks reveal a reliance on private vehicles among visitors at around 76%, with mode share varying across parks. Notably, a significant portion of visitors indicates an openness to adopting public transit and bike/micro-mobility options, indicating the potential for mode transition from cars. Patterns were identified regarding mode choice based on visit frequency, age, income, and duration of residency in Canada. Lengthy travel time and difficulty travelling in poor weather prevent visitors from shifting from private vehicles to public transit and biking. Other significant challenges include the inflexibility of travel planning, inconvenience in bringing equipment, limited bicycling infrastructure (e.g. secure bike storage, safe and comfortable cycle routes, and e-bike charging facilities), and limited and time-consuming bus service to regional parks (e.g. limited options, multiple transfers, and infrequent services).

Building upon the significant motivators for sustainable mode adoption identified in the survey, the report offers a holistic range of recommendations. These encompass enhancing in-park bicycle storage facilities, optimizing last-mile transit connections, expanding Intelligent Transportation Systems (ITS) to promote sustainable travel, facilitating seamless intermodal transfers, bolstering bicycling safety and comfort through infrastructure improvements, promoting an eco-centric narrative to advocate alternative modes, and promoting improved transit access for senior visitors to regional parks.

It is noteworthy to recognize that each regional park possesses unique attributes, context, and requirements. Effectively fostering the adoption of alternative transportation on a systemic level will necessitate tailored transportation plans that reflect the distinctive circumstances of each park and the surrounding community.

Containing robust findings and insightful recommendations, this study can help Metro Vancouver's policy formulation and decision-making as it endeavors to promote sustainable transportation practices among its regional park visitors.

Limitations

Limitations of intercept survey

The intercept sampling approach led to the underrepresentation of certain groups. Bicyclists, joggers, and dog walkers were less inclined to participate while engaged in their activities. Evidence of this bias is reflected in the lower bike mode shares across the targeted regional parks compared to the 2013 Metro Vancouver visitor survey (refer to Table 1 for survey comparisons; Figures 3 & 5 for mode share to parks). Providing the questionnaire in English only excluded or limited the participation of individuals who could not read English. Using multilingual questionnaires (e.g., Chinese, Punjabi) could reduce this barrier and enhance inclusivity.

Section III - Personal Characteristics garnered significantly fewer responses than the preceding sections (refer to Appendix 1 & 3). Possible reasons are 1) time constraints leading to incomplete surveys; 2) reluctance to divulge personal information. Furthermore, a greater number of respondents compared to past Metro Vancouver surveys chose the "prefer not to answer" option for Section III questions (Appendix 1 & 3). For instance, 23% of respondents declined to share their household income. The lack of personal attribute data negatively impacted the data analysis, and hindered the development of accurate insights into demographics' influence on visitors' mode choices.

Lastly, many questions in the questionnaire relied on retrospective information (e.g. *In the past 12 months, what was the main mode ... in Metro Vancouver*), which could lead to memory bias and recall errors, potentially impacting the accuracy of the data collected.

limitations of questionnaire design

Some wording and the format of the questionnaire also acted as a limitation. For example, the open-ended race question yielded diverse and vague responses that were difficult to roll up. The use of more precise definitions would have likely resulted in better data on respondent race (Section III, Question 7, Appendix III). For example, many respondents listed "Canadian" or "Asian" as their ethnicity, not aligning with predefined categories. Consequently, these responses were categorized under "others," potentially resulting in a larger portion in that category compared to previous surveys (Appendix I).

Additionally, response options were incomplete for visitors' residency duration in Canada (Section III, Question 9, Appendix III), compelling participants to select "less than 5 years" and possibly distorting distribution. Lastly, the complexity of First Nation sovereignty has not traditionally been facilitated in Metro Vancouver surveys. For example, a Haida Nation respondent faced discomfort identifying their place of birth and the time they had lived there when the option was "born in Canada" or "more than 20 years".

Next Steps

The findings from this study will serve as a valuable tool for Metro Vancouver, its partners, academics and other jurisdictions. It offers insights into the challenges and opportunities Metro Vancouver residents face in traveling to regional parks. The results will aid in shaping Metro Vancouver's planning and management of its regional parks. Moreover, they may promote the development of enhanced sustainable transportation policies that align with broader regional environmental and sustainability objectives. For the academic community, this research broadens understanding of equitable and sustainable transportation planning and park management. The project's collaborative approach fosters close work with governmental stakeholders, promotes knowledge sharing and paves the way for cross-disciplinary research collaborations.

Given the importance of this research, some critical next steps for extending this study include the following:

- **Enhanced survey design:** Addressing the limitations identified in the questionnaire content and survey delivery is paramount. Refining the survey design will bolster the reliability and comprehensiveness of data collection.
- **Wider participant diversity:** Expanding the participant pool by conducting surveys during different seasons (potentially fall 2023 and spring 2024) and including additional regional parks will ensure a more diverse and representative dataset.
- **In-depth data analysis:** Building upon an expanded dataset, more sophisticated analyses can be pursued. This includes spatial analysis of visitors' journeys to parks, comparative and longitudinal assessments using previous survey data, multi-level modelling, and employing multiple regressions to control for confounding factors such as demographics and trip attributes.

Collectively, these steps will advance the impact and scope of this research, culminating in a robust and comprehensive understanding of regional park visitors' travel mode choices and their broader implications.

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Appendices

Appendix 1: Demographic profile and comparison with previous reports⁵

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data	2023 Sustainable Transportation Survey
Gender (n=430)	Female	47.2%	48%	51.02%	50%
	Male	50%	47%	48.98%	45%
	Non-binary	1.4%	1%	N/A	3%
	Prefer not to say	1.4%	5%	N/A	2%
Age Group (n=430)	19-34	37%	N/A	22.1%	32%
	35-44	17.2%	N/A	14.2%	20%
	45-54	11.2%	N/A	13.4%	15%
	55-64	16.7%	N/A	13.4%	15%
	65+	17.9%	N/A	17.4%	18%

⁵ Due to some incomplete surveys, the total response numbers vary for different questions. To ensure data quality, we cleaned incomplete surveys to save valid answers and transformed them into percentages, allowing for more meaningful analysis and comparison.

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data	2023 Sustainable Transportation Survey
Employment Status (n=430)	Working full-time	54.9%	52%	33.9%	60%
	Working part-time	12.8%	10%	30.7%	11%
	Not working for wages	1.4%	4%	N/A	6%
	Student	8.1%	3%	N/A	3%
	Retired	18.6%	26%	N/A	19%
	Prefer not to answer	4.2%	5%	N/A	2%
Time Residing in Canada (n=425)	Less than 5 years	13.6%	N/A	N/A	3%
	5 years to <10 years	9.6%	N/A	N/A	3%
	10 years to <15 years	5.4%	N/A	N/A	3%
	15 years to <20 years	5.6%	N/A	N/A	3%
	More than 20 years	20.2%	N/A	N/A	14%
	Born in Canada	45.4%	N/A	N/A	73%

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data	2023 Sustainable Transportation Survey
Household Income (n=418)	Up to \$25,000	6.7%	N/A	9.5%	2%
	\$25,000 to less than \$50,000	12.9%	N/A	15.7%	11%
	\$50,000 to less than \$80,000	14.1%	N/A	19%	16%
	\$80,000 to less than \$100,000	12.4%	N/A	11.1%	13%
	\$100,000 to less than \$125,000	10.5%	N/A	11.3%	14%
	\$125,000 or more	20.3%	N/A	33.4%	26%
	Prefer not to answer	23%	N/A	N/A	16%
Physical Disability (n=430)	Yes	6%	N/A	N/A	11%
	No	92.3%	N/A	N/A	85%
	Prefer not to answer	1.6%	N/A	N/A	4%

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data ⁶	2023 Sustainable Transportation Survey
Another Language Other than English spoken at home (n=430)	Yes	40.2%	N/A	34.1%	12%
	No	59.8%	N/A	65.9%	86%
	Prefer not to answer	N/A	N/A	N/A	2%

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data	2023 Sustainable Transportation Survey
Race / Ethnicity (n=300)	White / Caucasian	57.3%	N/A	45.5%	71%
	Chinese	12.3%	N/A	19%	13%
	South Asian / Indian / Pakistani	6%	N/A	14.2%	5%
	Indigenous	1%	N/A	N/A	3%
	Others	23.3%	N/A	N/A	10%
	Prefer not to say	N/A	N/A	N/A	4%

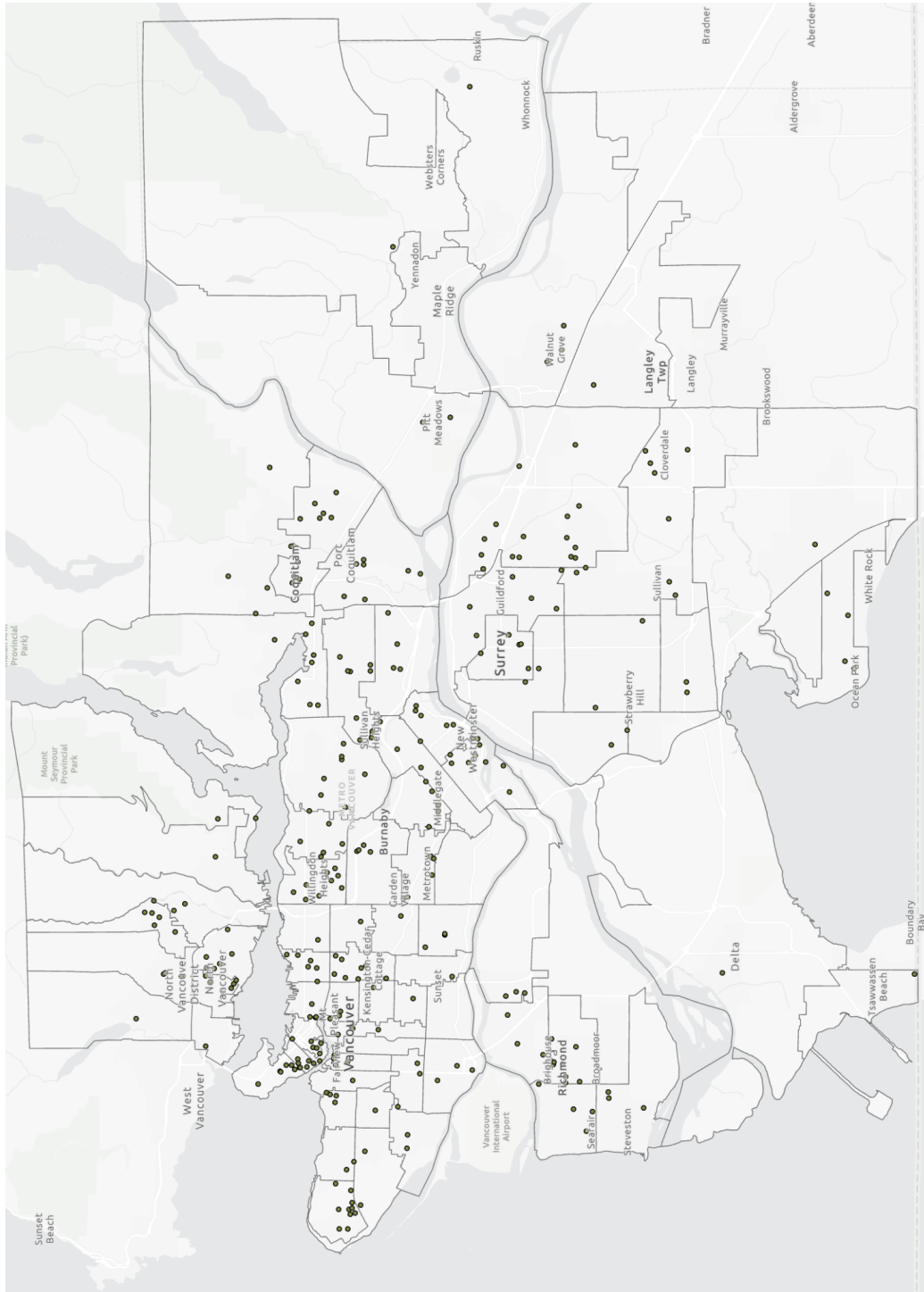
⁶ The data reflect the percentages of whether or not English is the most often spoken language at home.

Category		Percentages of Respondents	2019 Visitor Survey	2021 Census Data	2023 Sustainable Transportation Survey
Private Vehicle Ownership (n=430)	Have access	86.3%	N/A	74.7% ⁷	85%
	Don't have access	13.7%	N/A	N/A	15%
Micro Mobility Devices Ownership (n=430)	Have access	45.6%	N/A	N/A	48%
	Don't have access	48.7%	N/A	N/A	52%
Discounted Transit Pass Ownership (n=430)	Have access	19.5%	N/A	N/A	N/A
	Don't have access	80.5%	N/A	N/A	N/A
Regular Transit Pass Ownership (n=430)	Have access	58.8%	N/A	N/A	68% ⁸
	Don't have access	41.2%	N/A	N/A	32%

⁷ Cars, truck, or van is the main mode of commuting for the employed labour force aged 15 years and over.

⁸ The data might combine both regular and discounted transit pass ownerships.

Appendix 2: ArcGIS map indicating visitors' location using postal codes entered⁹



⁹ Map-making credit: Dr. Keunhyun Park

Appendix 3: Questionnaire

metrovancouver | REGIONAL PARKS

Introduction

Metro Vancouver's regional Parks receive about 10 million visits per year; a combination of day visits, overnight camping, programming and activities and visitors from other places. As part of our ongoing Parks planning we're looking to better understand how visitors like yourself travel to Metro Vancouver regional parks. Your responses will contribute to creating sustainable and equitable park access for all.

Participation in this study is completely voluntary. You may skip questions, though we encourage you to complete all questions if possible. Please reach out to the survey interviewers if you need any clarifications on the questions.

All personal information resulting from this study will be kept strictly confidential. Please do not write your name anywhere on this questionnaire.

For any questions or concerns, please contact Metro Vancouver Regional Parks at Prks-Receptionist@metrovancouver.org.

This survey has three sections and will take about 10-12 minutes. If you are under 19 please don't complete this survey.

I. Travel Mode & Park Visitation

0.1 In which regional park did you learn about this survey?

- A. Pacific Spirit Park,
- B. Lynn Headwater Regional Park,
- C. Tynehead Regional Park,
- D. Burnaby Lake Regional Park,
- E. Colony Farm Regional Park,
- F. Belcarra Regional Park

1. In the past 12 months, what was the main mode of transportation you used to get to/ from destinations (working, studying and other activities) in Metro Vancouver?

- A. Private vehicle (either as a driver or passenger)
- B. Public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.)
- C. Bicycle, scooter, skateboard, etc.
- D. Walking / Rolling
- E. Other specify _____

2. Approximately how many times did you visit this regional park in the past 12 months?

- A. More than once a week;
- B. About once a week;
- C. 2-3 times a month;
- D. About once a month;
- E. About once every two months
- F. Less often.

3. In the past 12 months what was the main mode of transportation you used to get to / from this regional park (if multiple modes used, which took you the furthest)?

- A. Private vehicle (either as a driver or passenger)
- B. Public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.)
- C. Bicycle, scooter, skateboard, etc.
- D. Walking / Rolling
- E. Other specify _____

4.1 Including your main mode of transportation, what other modes did you use to reach this regional park.

SELECT ALL THAT APPLY

- A. Private vehicle (either as a driver or passenger)
- B. Public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.)
- C. Bicycle, scooter, skateboard, etc.
- D. Walking / Rolling
- E. Other specify _____

4.2 If you used more than one travel mode to reach this regional park, please list all travel modes (e.g., walking / rolling, driving, biking, scooters, skateboards, etc., public transit, etc.) in order from your home to this regional park (one-way trip).



1st mode	<input type="checkbox"/> Private vehicle	<input type="checkbox"/> Public transit	<input type="checkbox"/> Bicycle, scooter, skateboard, etc.	<input type="checkbox"/> Walking / Rolling	<input type="checkbox"/> Other
2nd mode	<input type="checkbox"/> Private vehicle	<input type="checkbox"/> Public transit	<input type="checkbox"/> Bicycle, scooter, skateboard, etc.	<input type="checkbox"/> Walking / Rolling	<input type="checkbox"/> Other
3rd mode	<input type="checkbox"/> Private vehicle	<input type="checkbox"/> Public transit	<input type="checkbox"/> Bicycle, scooter, skateboard, etc.	<input type="checkbox"/> Walking / Rolling	<input type="checkbox"/> Other
4th mode	<input type="checkbox"/> Private vehicle	<input type="checkbox"/> Public transit	<input type="checkbox"/> Bicycle, scooter, skateboard, etc.	<input type="checkbox"/> Walking / Rolling	<input type="checkbox"/> Other
5th mode	<input type="checkbox"/> Private vehicle	<input type="checkbox"/> Public transit	<input type="checkbox"/> Bicycle, scooter, skateboard, etc.	<input type="checkbox"/> Walking / Rolling	<input type="checkbox"/> Other

Please answer this if your trip to this regional park involves public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.):

5.1 What is the main reason you used public transit to get to this regional park today?

SELECT ONLY ONE FROM BELOW

- A. Don't own a car / don't drive/ no driver's license
- B. Cost / lower cost option
- C. Better for the environment
- D. The park is close by / I live nearby
- E. Parking
- F. The park is far / distance from home
- G. Faster / takes less time than other modes (e.g., no need for multiple transfer, frequent services available, bus stop close to my home/ park entrance)
- H. I like it / my preference
- I. Safety
- J. More social opportunities
- K. Accessibility (e.g., public transit vehicles easier to use with wheelchairs / other mobility aids)
- L. Other _____

Please answer this if your trip to the park involves biking/micro-mobility device (e.g., scooter, skateboard, etc.)

5.2 What is the main reason you used biking/ micromobility to get to this regional park today?

SELECT ONLY ONE FROM BELOW

- A. For the exercise / it's healthy
- B. I like it / my preference
- C. Cost / lower cost option
- D. Parking (It is hard to find parking / parking is expensive)
- E. Better for the environment
- F. That's how I usually travel / that's my main mode of transportation
- G. The park is close by / I live nearby
- H. The park is far / distance from home
- I. Don't own a car / don't drive/ no driver's license
- J. It is a social / family activity
- K. Other

Please answer this if your trip to the park involves walking / rolling

5.3 What is the main reason you chose walking to get to this regional park today?

SELECT ONLY ONE FROM BELOW

- A. The park is close by / I live nearby
- B. For the exercise / it's healthy
- C. Better for the environment
- D. I like it / my preference (general)
- E. Faster / takes less time than other modes
- F. It is a social / family activity
- G. Other _____

Please answer this if your trip to the park involves private vehicles (either as a driver or passenger)

5.4 What is the main reason you used private vehicle to get to this regional park today?

SELECT ONLY ONE FROM BELOW

- A. The park is far / distance from home
- B. Faster / takes less time than other modes
- C. Limitations with public transit (e.g., public transit options are limited, slow, infrequent and inconvenient to get to the park)
- D. Carrying gear / have lots of things with me when I go
- E. I am usually travelling with family / children
- F. Flexibility / ability to create own schedule
- G. I was bringing my dog / travelling with my dog
- H. COVID / other health concerns
- I. Other _____

Please answer this if your trip to the park involves private vehicle (either as a driver or passenger)

6. The following are some reasons that people may choose to use a private vehicle instead of public transit (e.g., bus, SkyTrain, ferry, and HandyDART) to get to/from regional parks.

Please select all the reasons that apply to your case.

- A. Transit stops / stations not close
- B. Transit service too infrequent
- C. Transit is not as reliable
- D. Transit is too crowded
- E. Transit takes too long
- F. There are too many transfers involved if taking transit
- G. COVID-19 or other health concerns of taking transit
- H. It is too far to walk from the transit stop to the trailhead / park entrance
- I. I bring my pet to the park
- J. I bring gear / equipment / bicycle(s) to the park
- K. Flexibility / ability to create own schedule
- L. It's more convenient / cheaper to carpool with my family/friends
- M. No shelter from bad weather while at the park
- N. A private vehicle makes it easier / more convenient to travel during inclement or hot weather
- O. I am usually travelling with family / children
- P. Other specify_____

Please answer this if your trip to the park involves private vehicle (either as a driver or passenger)

7. The following are some reasons that people may choose to use a private vehicle instead of cycling, scooter, skateboard, etc. to get to/from regional parks.

Please select all the reasons that apply to your case.

- A. Lack of secure bike storage at the park
- B. Lack of infrastructure like bike repair stands
- C. No safe cycle path / route to the park
- D. The route I'd have to take is too difficult – e.g., steep hills.
- E. Park is too far from my home
- F. Lack of charging station for e-bikes / micro-mobility
- G. I don't have easy access to a bike
- H. I'm not confident in my cycling ability
- I. Cycling, scooter, skateboard, etc. take too long
- J. I bring my pet to the park
- K. I bring gear / equipment to the park
- L. No shelter from bad weather while at the park
- M. A private vehicle makes it easier / more convenient to travel during inclement or hot weather
- N. I am usually travelling with family / children
- O. Other specify_____

II. Likelihood of using sustainable travel modes

We're interested in learning what might influence people to use different modes of transportation to get to/from regional parks.

1.1 Would you consider taking public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.) as part of your travel to this regional park in the future?

- Yes No

If No, skip to Question 3

1.2 For each of the following factors, please tell us if it would make you more likely to consider taking public transit (e.g., bus, SkyTrain, SeaBus, BC Ferries, HandyDART, etc.) to get to/from regional parks.

	A lot more likely	Somewhat more likely	No effect	Don't know
A. A transit station/stop that is close to my home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. A transit station/stop that is close to the park entrance/trailhead/main destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. A sidewalk or path that connects the transit station/stop to the park entrance/trailhead/main destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Dedicated shuttle bus from a community/transit station to a regional park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Lower / Discounted transit fares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. More frequent transit service to / from the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Being able to bring pets on transit vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Being able to bring gear / equipment on transit vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. A secure place to store gear / equipment at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Being able to take bicycles on transit more conveniently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. Being able to rent gear / equipment at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L. Being able to buy food / beverages at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M. Shelters from the weather in the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N. Other specify_____				

2.1 Would you consider using a bicycle, scooter, skateboard, etc. as part of your travel to this regional park in the future?

Yes No

If No, skip to Question 3

2.2 For each of the following factors, please tell us if it would make you more likely to consider using a bicycle, scooter, skateboard, etc. to get to/from regional and other large parks.

	A lot more likely	Somewhat more likely	No effect	Don't know
A. Secure bicycle storage at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Ebike / micro-mobility charging facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Cycling path to the park physically separated from traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. A cycling route to the park that is away from traffic – e.g., along the water through a wooded trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. A relatively flat route	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Bicycle maintenance equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Being able to rent gear/equipment at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Being able to attend a program or event at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Being able to buy food/beverages at the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Shelter from the weather in the park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. Other specify _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. For each of the following, please tell us if it would make you more likely to consider using an alternative mode (walking / rolling, public transit and biking, scooter, skateboard, etc.) to get to/from regional parks.

	A lot more likely	Somewhat more likely	No effect	Don't know
A. Real-time arrival and departure information at bus stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Real-time travel information applications for smart phones (e.g. bus arrival/departure/delays)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Phone applications / text alerts offering information on parking lot capacity near parks; and congestion on the road	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Online resources (e.g., blog posts, websites) that provide trip-planning information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Organized group trips to parks (e.g., Adult Summer Bus Tours, Minoru Center Senior Out Trips, bus trips organized by schools)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Campaigns that offer discounts, deals, and special offers for park visitors using sustainable travel modes (e.g., Ride & Shine).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Workshops / seminars/ advertising campaigns providing information on the environmental and health benefits of using alternative modes of transportation to parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Park-and-ride facilities located near regional parks with convenient transit connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. More bike-sharing / e-scooter stations near park entrances or transit/stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Connecting large natural areas to communities with dedicated safe and comfortable cycling routes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. Other specify _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III. Personal Characteristics

1. What is your six-digit postal code?

2. Which of the following age categories do you fall into?

- A. 19-34
- B. 35-44
- C. 45-54
- D. 55-64
- E. 65+

3. What is your gender?

- A. Male
- B. Female
- C. Transgender
- D. Non-binary
- E. Prefer not to say

4. Do you have any type of disability that impacts your mobility?

- A. Yes
- B. No
- C. Prefer not to answer

5. Do you have regular access to:

	Yes	No
Private vehicle (Including car share)		
A bicycle / micromobility device (e.g., scooter, skateboard, etc.)		
A discounted transit pass (e.g. Upass card, Concession Compass, etc.)		
A regular compass card		

6. Which of the following best describes your present employment status?

- A. Working full-time
- B. Working part-time
- C. not working for wages
- D. Student
- E. Retired
- F. Prefer not to answer

7. What is your ethnicity?

8. Excluding English, what languages are spoken in your home?

9. How long have you lived in Canada

- A. Less than 5 years
- B. 5 years to <10 years
- C. 10 years to <15 years
- D. 15 years to <20 years
- E. More than 20 years
- F. Born in Canada

10. Which of the following categories best reflects the total annual household income before taxes, that is, the total income earned by all those living in your home?

- A. Up to \$25,000
- B. \$25,000 to less than \$50,000
- C. \$50,000 to less than \$80,000
- D. \$80,000 to less than \$100,000
- E. \$100,000 to less than \$125,000
- F. \$125,000 or more
- G. Prefer not to answer

Thank you for your valuable time and participation in this survey!

For any questions or concerns, please contact Metro Vancouver Regional Parks at Prks-Receptionist@metrovancouver.org.