

ACTIVE AGING RESEARCH TEAM

ARBUTUS GREENWAY EVALUATION: 2018 Report on Intercept Surveys

Describing users, patterns of use, change in use and perceptions of the Greenway during initial development.



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Executive Summary

Project Rationale

This report presents the findings of one arm of the Arbutus Greenway Evaluation (AGE) study: AGE-Intercept. It describes greenway users, patterns of use (purpose, mode, and frequency and duration of trips), and perceptions of the greenway over time. **In this report we provide an analysis of count and intercept survey data collected in Spring 2018 and compare it to findings from Spring 2017.**

Methods

The research team collected data at four locations in different neighbourhoods along the Arbutus Greenway in Spring 2017 and 2018. Counts were conducted of all users on the greenway, intercept surveys were administered to adults, and additional comments provided by some participants were recorded. Three data collection sessions were conducted per site, on weekdays at mid-day and afternoon commute times, and on weekends at mid-day.

Key Findings

Counts:

- In 2018, 3200 people were counted on the greenway during the 18 hours of data collection, a 35% increase in volume since 2017.
- Cycling volume increased 64% since 2017, accounting for 96% of the year-over-year growth in volume; cyclists comprised nearly two-thirds (63%) of greenway users.
- Walking volume remained consistent (57 users per hour in 2017 versus 58 users per hour in 2018).

Intercept surveys:

- 536 people participated in the intercept survey (18% participation rate).
- 38% lived within 500 m of the greenway, and over half (54%) within 1 km
- Over 80% reported using the greenway for recreation trips (39% for recreation purposes exclusively, 43% for both recreation and transportation trips).
- 18% reported using the greenway exclusively for transportation trips, consistent with 2017 findings.
- For recreational trips, cycling (50% of responses) and walking (41%) were preferred modes; for transportation trips, most (65%) preferred to cycle.
- Transportation trips were shorter in duration but more frequent compared to recreational trips.
- Over 70% reported using the greenway more since Spring 2017.
- Many people expressed concerns about design elements, especially path width.

Conclusion

The Arbutus Greenway is continuing to attract those seeking exercise and leisure and a transportation corridor. Cycling now surpasses walking as the predominate travel mode along the greenway. Most users continue to live in a close proximity to the greenway, yet it is increasingly attracting those from farther neighbourhoods within Vancouver.

Project Rationale and Description

The Arbutus Greenway, a historic railway corridor, is a nine-kilometre multi-modal active transportation corridor currently undergoing phased development in the City of Vancouver. The first phase is set for completion in 2022. The City sees greenways as having a role in: expanding the opportunities for urban recreation; encouraging people to travel by foot and cycle; and enhancing the experience of nature and city life (City of Vancouver, 2018).

The Arbutus Greenway Evaluation (AGE) is a multi-year (2017-2020) research study being conducted by the Active Aging Research Team (AART). AART is a multidisciplinary group of community-based researchers, staff and trainees affiliated with the University of British Columbia and Simon Fraser University. The aims of the AGE study are to characterize both the social and health impacts of the Arbutus Greenway development. AGE has multiple study arms, each with a different focus:

- AGE-Intercept: all users
- AGE-Jr: children and youth
- AGE-Sr: adults aged ≥ 60 years (both users and non-users of the greenway) that live within 4-5 blocks of the greenway.

Objectives:

For AGE-Intercept, the primary objective is to describe patterns of greenway use (trip purpose, mode of travel, and frequency and duration of trips) of adults aged ≥ 18 years at different locations along the greenway at different time points throughout the stages of development. Secondary objectives are to describe: a) the age and gender of adult users on the greenway; b) users' perceptions of the greenway; and c) the perceived impact of greenway usage on overall physical activity of users.

In this report we provide an analysis of count and intercept survey data collected in Spring 2018 and compare it to baseline findings from Spring 2017.

Methods

Data was collected at four locations along the greenway throughout May of 2018. Counts were conducted of all users passing screen lines (an imaginary line, perpendicular across the greenway), intercept surveys were administered to adult users of the greenway, and additional comments from users were collected. Counts and surveys were administered by research assistants on fair weather days during mid-day (11:15am-12:45pm) and late afternoon (4:15-5:45 pm) sessions on weekdays, and mid-day on weekends (11:15am-12:45pm) (4.5 hours per site, 18 hours total).

Site Selection

We used the same four sites from 2017 to collect data (6th Ave at Cypress St, 16th Ave, 45th Ave, and 64th Ave). These sites were selected in 2017 based on: volume of users, ease of stopping cyclists, presence of nearby bicycle routes, proximity to schools, and a

priority for sites where people appeared to be making intentional trips along the corridor, as opposed to short-cuts through.

Surveys and Counts

The survey tool that was developed in 2017 was converted to electronic form and used again in 2018 (Appendix 1). Data was collected and managed using the Research and Electronic Data Capture (REDCap) application. Survey questions remained unchanged from 2017 but additional clarification notes were added under some questions, including how trip purposes were defined. The survey aimed to gather data on the sociodemographic characteristics and patterns of use of greenway users. This tool was initially piloted with research staff and City of Vancouver staff.

During each session, a research assistant counted all people crossing a screen line along the path. The counter estimated users' age as either 'youth' (< 18 years), 'adult' (18-59 years) or 'older adult' (\geq 60 years), categorized their mode of travel as either cyclist, pedestrian, or jogger or runner, and assigned a gender (man or woman). Simultaneously, two research assistants invited adult users to participate in the intercept survey. Survey questions helped further understand patterns of greenway use, including trip purpose, preferred travel mode, frequency of using and duration spent on the greenway, and change in use over time. When asked about trip purpose, recreation trips were defined as trips that "have no actual destination such as walking, jogging, or cycling in your neighbourhood"; transportation trips were defined as trips that "are to a new location, including any small trips such as buying a coffee or going to an AMB [bank machine]". The questionnaires, administered by the two research assistants, took 1-2 minutes per participant. To be eligible, survey participants had to be \geq 18 years old. As an incentive to participate in the survey, participants were offered a snack upon completion of the survey and invited to enter a prize draw for a \$50 Visa Gift Card. Basic demographic characteristics of those refusing to take the survey were also recorded by surveyors.

Data Analysis

Data was analyzed using RStudio and Excel. Descriptive statistics of user demographics and patterns of use were produced and compared to baseline data from Spring 2017. The postal codes of survey participants were imported into ArcGIS to locate the home origins of greenway users and calculate the nearest distance to the greenway. Maps were then created using Carto.

Results

Who Uses the Greenway?

Counts

A total of 3200 greenway users were observed across the data collection period in 2018 (Table 1). Data from 2017 can be found in Appendix 2. Key findings are:

- There was a 34.5% increase in overall volume on the greenway from 2017.

- The volume of cyclists counted increased 63.6% from 2017, accounting for nearly all (95.5%) of the year-over-year growth observed.
- Cyclists comprised nearly two-thirds of users, with the mode split being: 63.0% cyclists, 32.5% walkers, and 4.5% joggers or runners. Similar to 2017, the greatest proportion of cyclists was observed at the 16th and 64th Ave sites.
- Joggers and runners continued to represent a very small proportion (4.5%) of greenway users at all sites.
- The north end of the greenway was the busiest (as in 2017), with nearly one third (32.4%) of users observed at the 6th Ave at Cypress St site. The 64th Ave site (most southern site) contributed to only 13.1% of users counted.
- The northern sites (6th Ave at Cypress St and 16th Ave) tended to be busiest during the afternoon commute time on weekdays, whereas the southern sites (45th Ave and 64th Ave) were busiest on weekends, suggesting different use purposes.
- Age distributions were relatively similar to that seen in 2017 with adults (aged 18-59) comprising most users (61.7%), older adults (≥ 60) accounting for 23.8% of users, and youth (< 18) 9.1% of users. As in 2017, 45th Ave had the highest proportion of youth (15.0%).
- Gender ratios were similar to 2017 findings, with 44.8% of users being women.

Table 1. Arbutus Greenway users in 2018, by day and time, mode, age and gender.

Site	Day of Week	Time	Total Count (1.5 h)	Mode (Users/Hour)			Age Profile (%)			Women (%)
				Cycle	Walk*	Jog or Run	< 18	18-59	≥ 60	
6 th Ave at Cypress St	Weekday	11:15-12:45	185	45.3	75.3	2.7	8.1	70.8	21.1	44.9
		16:15-17:45	413	174.0	88.7	12.7	8.0	78.7	13.3	45.5
	Weekend	11:15-12:45	429	177.3	99.3	9.3	9.8	64.1	26.1	47.1
		Average	342.3	132.2	87.8	8.2	8.8	71.2	20.1	46.1
16 th Ave	Weekday	11:15-12:45	185	86.0	28.0	9.3	1.6	69.7	28.6	43.8
		16:15-17:45	294	141.3	43.3	11.3	6.8	71.8	21.4	37.4
	Weekend	11:15-12:45	274	136.7	36.7	9.3	7.7	70.8	21.5	49.3
		Average	251.0	121.3	36.0	10.0	5.8	70.9	23.2	43.3
45 th Ave	Weekday	11:15-12:45	211	62.7	74.0	4.0	15.6	55.5	28.9	54.5
		16:15-17:45	304	114.0	82.0	6.7	16.1	59.9	24.0	37.8
	Weekend	11:15-12:45	352	151.3	72.7	10.7	13.6	61.4	25.0	46.0
		Average	289.0	109.3	76.2	7.1	15.0	59.4	25.6	45.2
64 th Ave	Weekday	11:15-12:45	109	40.0	25.3	7.3	4.6	81.7	13.8	43.1
		16:15-17:45	156	72.0	26.7	5.3	4.5	69.2	26.3	36.5
	Weekend	11:15-12:45	288	142.7	41.3	8.0	5.2	59.0	35.8	47.9
		Average	184.3	84.9	31.1	6.9	4.9	66.4	28.8	43.8
Total Counts			3200	2015	1040	145	291	2147	762	1433
				63.0%	32.5%	4.5%	9.1%	67.1%	23.8%	44.8%

*The walk category also encompasses skateboard, scooter, wheelchair users and carried children (e.g. stroller).

A 34.5% increase in user volume was observed from 2017, with the average hourly user count rising from 132.2 users per hour to 177.8 users per hour (Figure 1). An increase was observed across data sites.

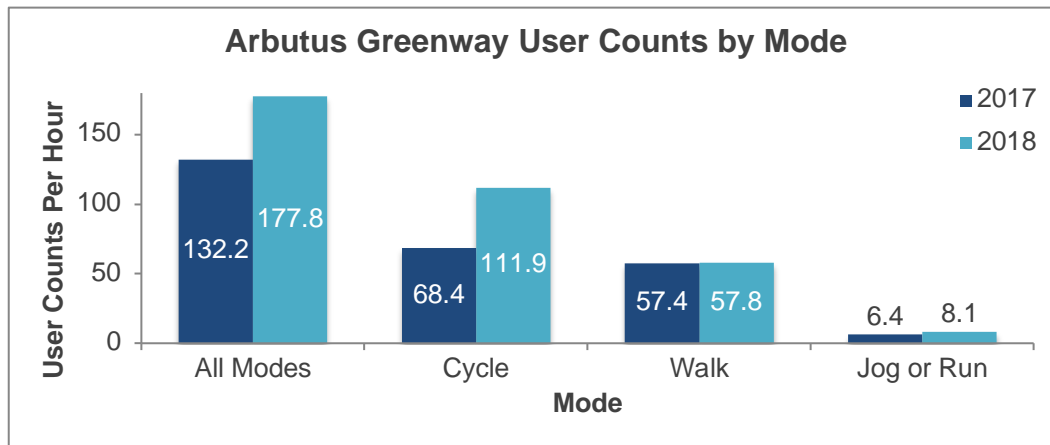


Figure 1. Arbutus Greenway user counts by mode (2017 versus 2018).

Most strikingly, the greenway saw a 63.4% growth in cycling volume over the last year, which was responsible for nearly all (95.5%) of the overall volume increase. There was a 25.5% growth in jogging/running volume since 2017, although they continue to represent a very small proportion (4.5%) of total users. The volume of walkers remained almost constant (57.4 users per hour in 2017 versus 57.8 users per hour in 2018), and as such, represented a smaller proportion of total users in 2018 due to the increase in cyclists. The mode split observed in 2018 was: 63.0% cyclists, 32.5% walkers, and 4.5% joggers or runners.

The number of adults on the greenway increased by 46.9% from 2017, also accounting for most (83.5%) of the overall growth in volume observed (Figure 2). The number of older adults (≥ 60 years) increased by 20.0%, while the overall number of youth (< 18 years) remained almost constant, comprising approximately one in ten (9.1%) users. The greatest proportion of youth was observed at 45th Ave (15.0%). Similar to 2017 findings, just under half of greenway users were women (44.8%).

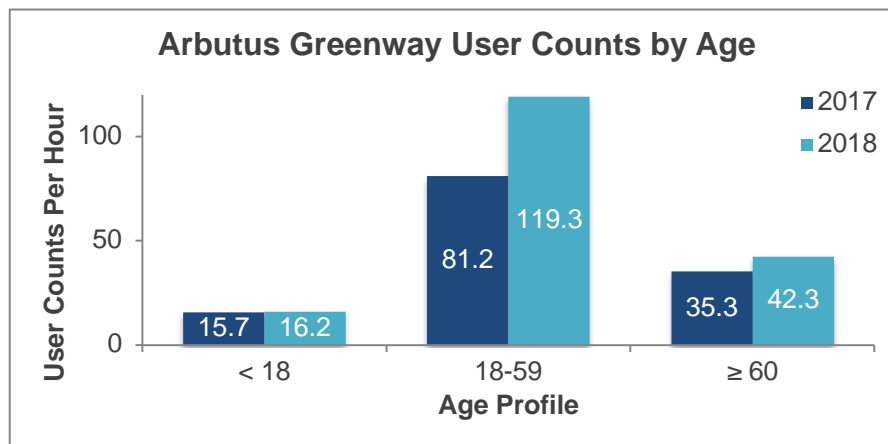


Figure 2. Arbutus Greenway user counts by age (2017 versus 2018).

The north end of the greenway was again the busiest, with one third (32.4%) of users observed at the 6th Ave at Cypress St site; the 64th Ave site (most southern site) accounted for only 13.1% of total users (Figure 3). The northern sites (6th Ave and 16th Ave) had high volumes during the afternoon commute time on weekdays as well as on weekends, whereas the southern sites saw higher volumes just on weekend afternoons. Similar to 2017, cycling was especially prevalent at the 16th and 64th Ave sites. There were 3.4 times as many cyclists as walkers at 16th Ave (121.3 cyclists per hour versus 36.0 walkers), and 2.7 times as many at 64th Ave (84.9 cyclists per hour versus 31.1 walkers).

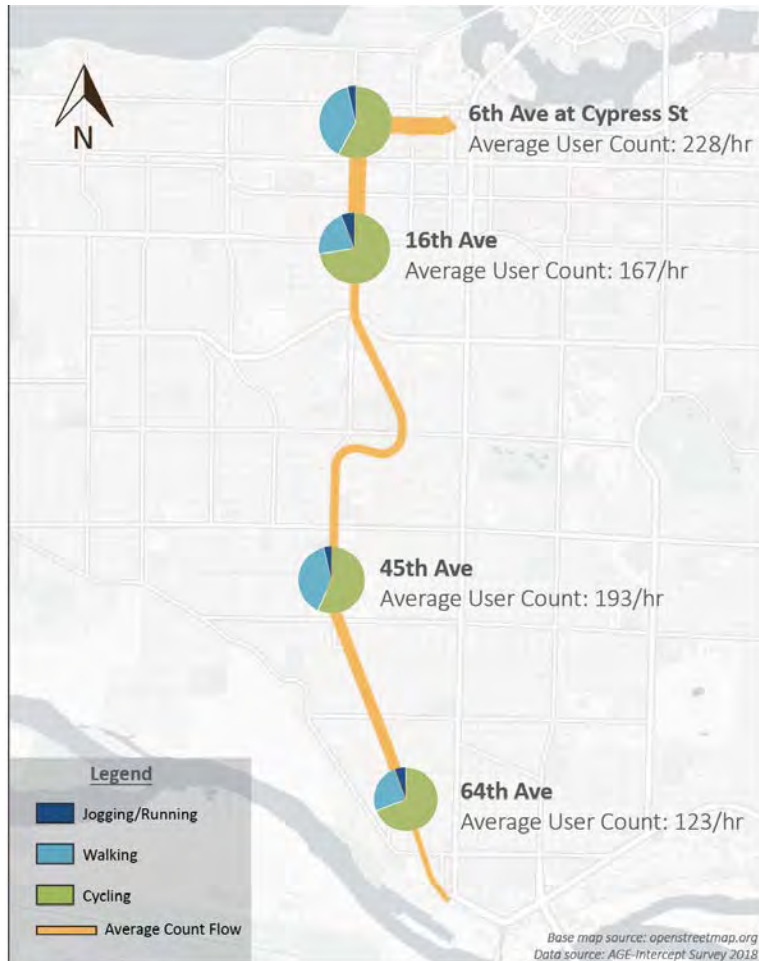


Figure 3. Arbutus Greenway usage and mode split by site.

Note: user volume is symbolized by line thickness south of each site, with the exception of 6th Ave at Cypress St, where the associated line goes in both directions.

Intercept Surveys

Of the 3200 greenway users that passed the observation sites, 536 participated in the intercept survey. The survey had a 18.4% participation rate across all sites (surveys completed/all counted users ≥ 18) (Appendix 3). As in 2017, 64th Ave had the highest participation rate (22.1%) and 45th Ave had the lowest (12.3%). Women and walkers were most likely to participate in the survey. Youth (age < 18) were not eligible to participate. Overall, 199 people who were approached (27.1%) refused to take the

survey (171 adults, 28 older adults; 81 women, 118 men). Reasons typically related to time constraints, especially for commuters or joggers.

Data from the 536 survey participants are summarized in Appendix 4. Overall, a similar proportion of women and men completed the survey, and the highest proportion of participants (57.1%) were cyclists (versus 38.8% walkers and 4.1% joggers or runners). Key findings from the intercept survey are summarized in the following sections.

Where Are Greenway Users Coming From?

Survey participants were asked their postal code to help understand the distance users travelled to access the greenway (Figure 4). The vast majority of survey participants were from the City of Vancouver (92.3%, $n=468$), just slightly less than in 2017 (92.6%). Almost all remaining participants were from other municipalities within Metro Vancouver (7.1%, $n=36$); only a few (0.6%, $n=3$) were from outside of Metro Vancouver.

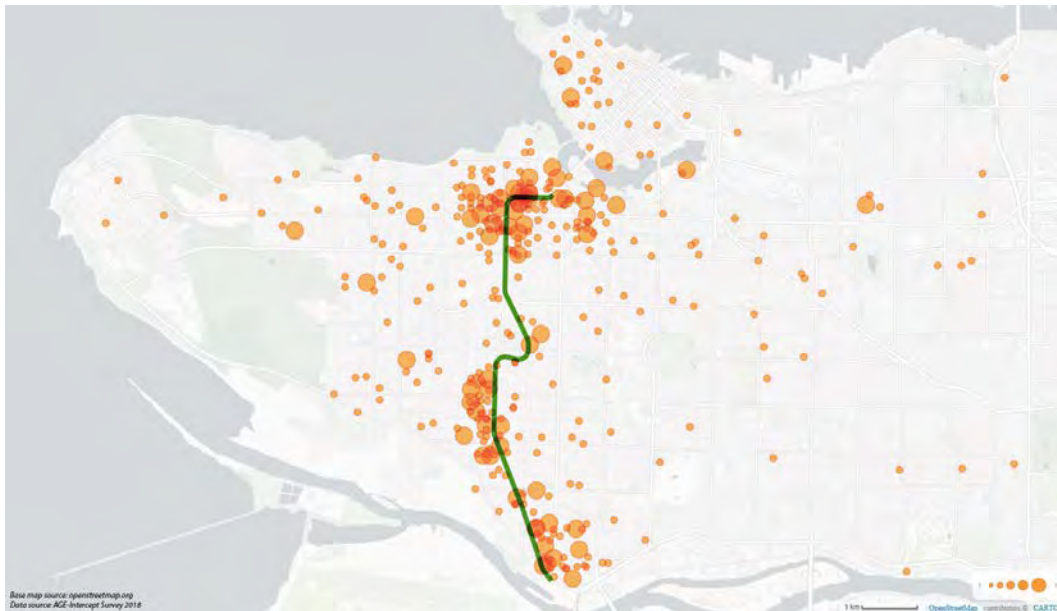


Figure 4. Map of the distribution of survey participants in Metro Vancouver by postal code.

Over half (53.1%, $n=269$) of survey participants who provided their postal code lived within one kilometre of the greenway, somewhat less than in 2017 (59.5%). We note that while the proportion of users from the City of Vancouver has remained constant between survey years, the greenway is attracting users from more distant neighbourhoods within the City, which accounts for the further distance travelled by users.

In response to the question “How much time does it usually take you to get to the Arbutus Greenway from your home?”, the majority (81.0%, $n=434$) of participants reported travelling less than 15 minutes from home to the greenway.

Most survey participants reported cycling (51.7%) or walking (39.4%) as their preferred travel mode to reach the greenway from home (Figure 5). Consistent with 2017 findings,

only 5.2% ($n=28$) of participants reported travelling to the greenway by automobile, and a negligible proportion by transit (0.7%). Other travel modes ($n=3$) included inline skating, scootering, or skateboarding.

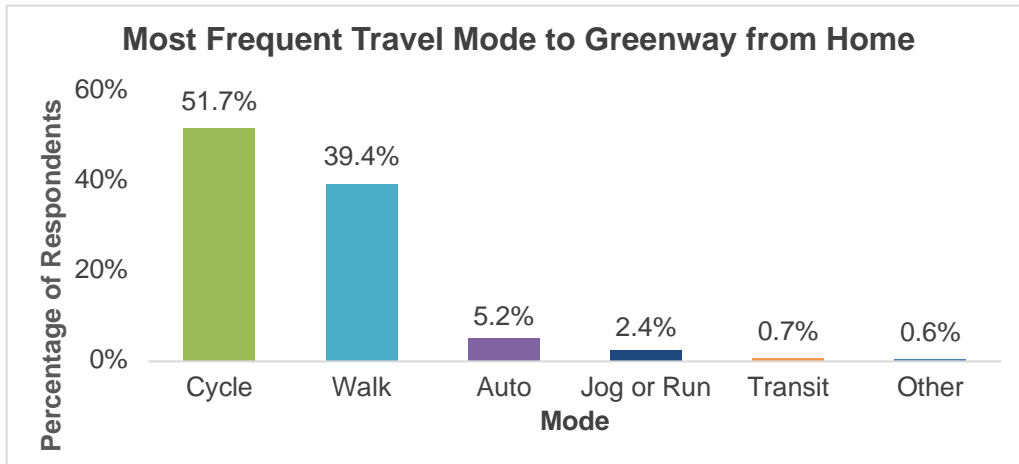


Figure 5. Reported mode of travel, home to Arbutus Greenway.

Note: "Other" includes the use of a longboard, scooter, or inline skates

What Is the Greenways Used For?

Trip Purpose

Most participants reported using the greenway for recreation (39.0%) or combined recreation and transportation purposes (43.1%) (Figure 6). Less than one fifth (17.9%) reported using the greenway exclusively for transportation trips. The survey question on trip purpose ("What types of trips do you make using the Arbutus Greenway?") was administered and recorded differently across years, so the recreational trip proportions should not be directly compared from 2017 to 2018.

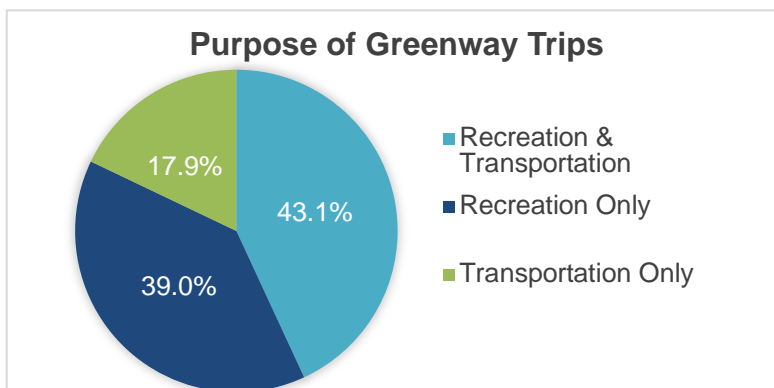


Figure 6. Main purpose of Arbutus Greenway trips, $n=536$.

Notes: 2018 findings cannot be directly compared to those from 2017, as the question "What types of trips do you make using the Arbutus Greenway" was administered and recorded differently; the terms "recreation" and "transportation" were defined more clearly in 2018.

Recreation trips were defined as trips that "have no actual destination such as walking, jogging, or cycling in your neighbourhood"; transportation trips were defined as trips that "are to a new location, including any small trips such as buying a coffee or going to an AMB [bank machine]."

Duration and Frequency of Greenway Trips

Overall, transportation trips were reported to be shorter in duration (72.0% lasted < 1 hour), on average, and occurred more frequently each week (56.6% occurred at least 3 days/week) as compared to recreation trips (73.6% lasted between 30 minutes and 2 hours; 55.6% occurred < 3 days/week) (Figures 7 & 8).

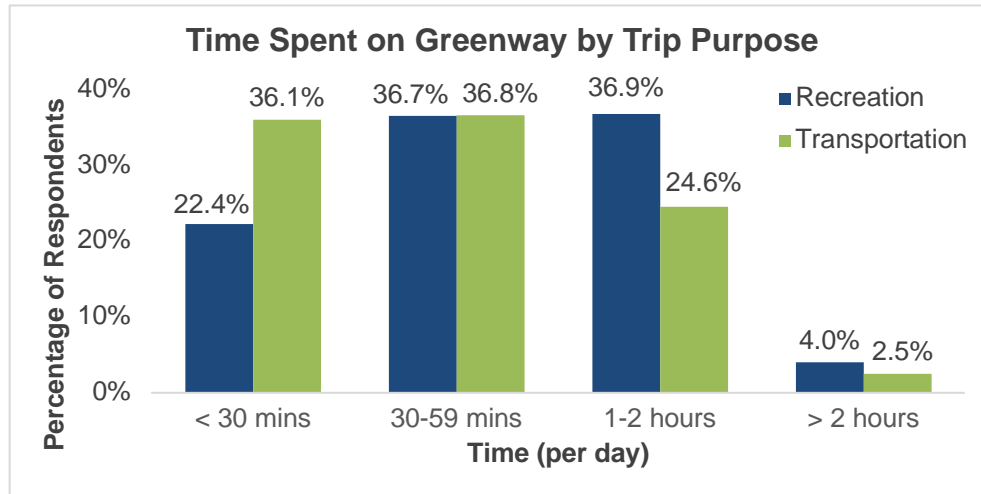


Figure 7. Time spent on the Arbutus Greenway, by trip purpose.

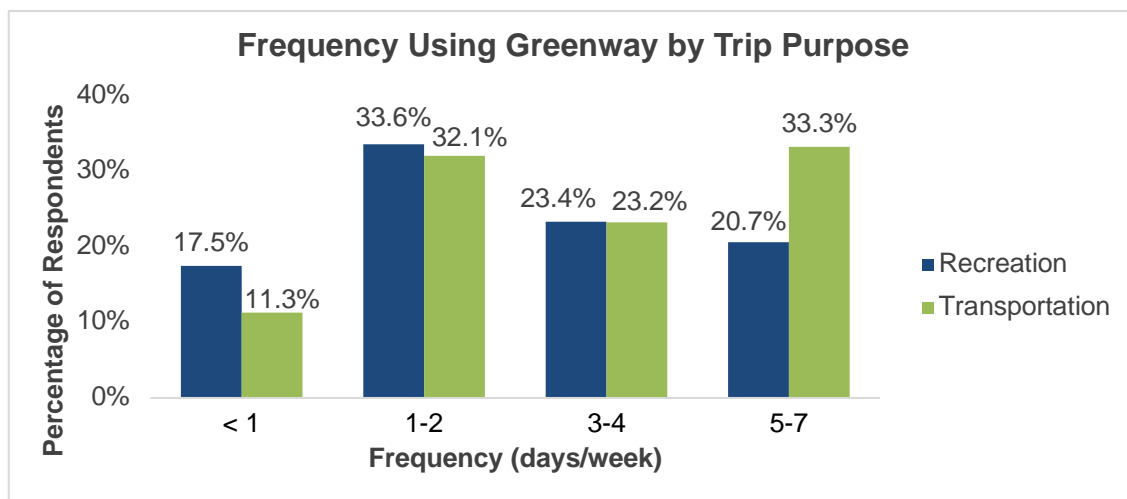


Figure 8. Frequency using the Arbutus Greenway, by trip purpose.

There were 24 participants using the greenway for the first time at the time of the survey. Two thirds ($n=16$) of these first-time users were cyclists, and most (83.3%, $n=20$) were making a recreational trip that day. Of the first-time users who provided their postal code ($n=20$), 70.0% ($n=14$) were from the City of Vancouver, while the remaining 30.0% ($n=6$) were from surrounding municipalities (i.e. North Vancouver, Richmond, and Delta).

Travel Modes for Different Trip Purposes

For recreational trips, cycling and walking were the preferred modes, with half (49.7%) of respondents who use the greenway at least once per month for recreation reporting to usually cycle and 40.7% to usually walk (Figure 9). Of those who reported using the

greenway at least once per month for transportation trips, cycling was most commonly reported as the mode of choice (64.6%).

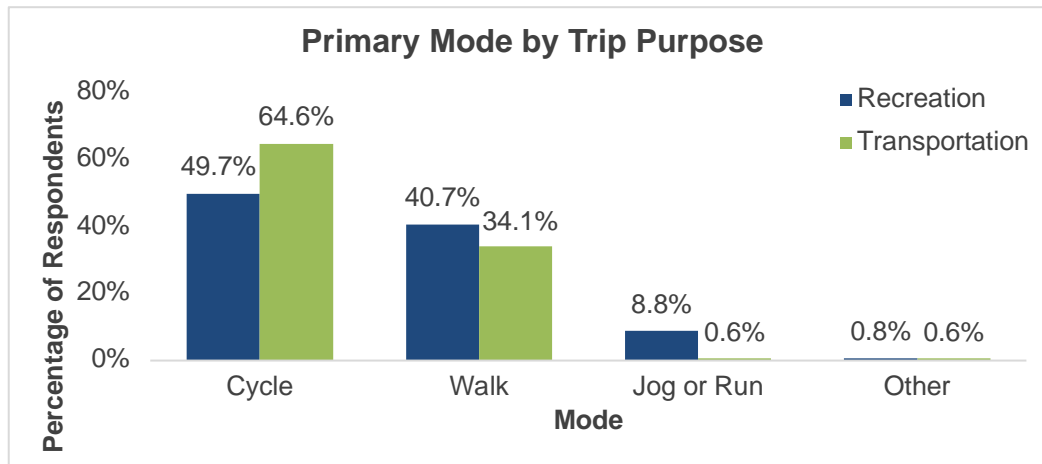


Figure 9. Primary mode used by those who made recreational or transportation trips on the Arbutus Greenway at least once per month.

Has Usage Changed Over Time?

Use of the greenway has continued to increase since initial development in 2016. Last year, nine in ten survey participants (88.2%) reported using the greenway more since the start of its construction in 2016. Across this initial phase of development, an asphalt path was paved, street furniture was installed, intersections were improved, and landscaping improvements were made. When conducting intercept surveys again this year, over 70% (71.8%) of participants reported to again use the greenway more compared to the same time last year. Since Spring 2017, pedestrian and cyclist lanes were painted on the asphalt to separate these modes of transportation. About a quarter (24.2%) of participants reported using the greenway the same amount now compared to Spring 2017, while only 2.2% reported using it less.

What Feedback Did Users Have?

Some participants ($n=49$) provided additional comments after completing the survey (Appendix 5). The most prominent themes in the comments were: the built environment and design, mobility or mode experiences, safety, and the natural environment. Most participants (71.4%, $n=35$) provided recommendations to improve the greenway, and some of these recommendations addressed design elements that could ultimately improve safety. Notable concerns included keeping the greenway clear of debris (e.g., blackberry bushes/brambles, bark mulch, dog feces, rain water, and trash) that affects user safety, better separating cyclist and pedestrian paths, and improving intersections. Generally, the comments expressed appreciation for the greenway as a new community amenity.

Discussion

The Arbutus Greenway is continuing to gain popularity by those seeking exercise and leisure or a primary north-south active transportation corridor, as safety and design improvements are made. Our extensive count and intercept survey data collection efforts, capturing over 6,000 greenway users over two years, have allowed us to describe greenway users, patterns of use (trip purpose mode of travel, and frequency and duration of visits), and impressions and reactions to the greenway at various stages of development.

Greenway volume has increased and cycling has overtaken walking as the predominant travel mode. This may be due to several factors, including improved intersection design and operations that facilitate the movement of bicycle traffic; delineations that separate pedestrians from cyclists, improving safety and comfort for all users, and; increased awareness of the facility's high design standard. The greenway continues to primarily attract adults (18-59 years), although the volume of older adult users (≥ 60 years) has slightly increased. Youth (< 18 years) remain a small proportion of greenway users, with the highest proportion observed at the 45th Ave site. Future design plans may focus on catering to different age groups so that the age demographics of greenway users better represents the age demographics of nearby residents.

Count data shows that the south end of the greenway continued to see lower volumes than the northern sections. This may reflect surrounding land use patterns and destination opportunities. Land use in the southern section is dominated by low to medium density residential developments, whereas the northern sections (north of 45th Ave) are comprised of mixed land use and medium density. This may also explain why the northern sites had the highest volume of users during the afternoon commute time on weekdays, whereas the southern two sites were busiest on weekends.

From the surveys, we found that a large proportion (38.0%) of greenway users lived within 500 metres of the corridor. Less than half of participants lived beyond one kilometre of the greenway, although in 2018, more users reported visiting the greenway from neighbourhoods that are further away. The greenway has a dual role in serving both recreation and transportation trips as it attracts use by those seeking exercise and leisure, and also functions as a new north-south active transportation corridor.

Additional comments provided by some participants give insight into the concerns that users may have, primarily relating to the greenway's design and interactions between modes. Future development that considers users' feedback may help attract a more diverse group of users.

AGE-Intercept will continue to assess changes in usership and generate evidence to inform ongoing implementation and design decisions of active transportation corridors in the City of Vancouver and beyond.

Methodological and data considerations

This year, there was again great interest in participating in our survey. Our surveying capacity remained constant from last year (2 surveyors present); with a 34.5% increase in greenway volume, ultimately we were able to survey a lower proportion of eligible users (18.4% in 2018 versus 25.1% in 2017). To note, most people (72.9%) we approached participated in our survey, greater than the 66.0% in 2017. We may have been able to sample a greater proportion of eligible users had there been more research assistants administering surveys. Finally, participation in the intercept survey was lower again for joggers and runners who were often wearing headphones and not willing to stop.

All survey answers were self-reported which may have led to a social desirability bias, whereby participants may have overestimated frequency of visits or time spent in travel. Also, all sessions were conducted on fair weather days, and it is expected that these counts would be higher than what would be seen on rainy days. The mode split may also vary with changes in weather. Regardless, our consistency in sampling methods across years makes findings comparable across sites and years.

By design, there are some limitations to what the survey captured. We did not undertake counts or surveys in the early morning and, as a result, did not capture early morning commute trips. The counts and intercept surveys cannot provide any information on those who do not use the greenway. Only individuals aged 18 and older were eligible to complete the intercept survey, resulting in a lack of data on how children and youth are using the greenway, or how far they travelled to get to the corridor. Finally, as we collected feedback from greenway users in May 2018, comments reflecting the physical environment may not necessarily reflect the current state of the greenway with its ongoing development.

References

City of Vancouver. (2018). City greenways: Improving connections across Vancouver.
Retrieved from <http://vancouver.ca/streets-transportation/city-greenways.aspx>

Appendix 1: Intercept Survey Tool

PURPOSE

To understand who uses the Arbutus Greenway and how, by describing users and patterns of use (trip purpose, mode, and time spent on the Arbutus Greenway)

Surveyor: _____

Date and time: _____

Site:

- 6th Ave at Cypress
- 16th Ave
- 45th Ave
- 64th Ave

ELIGIBILITY CRITERIA

- 1. At least 18 years old**
- 2. Understand English**
- 3. First time taking survey (this year)**

Participant status:

- Eligible and consent provided
- Refused
- Ineligible

OBSERVATIONS

Mode:

- Walk
- Run/jog
- Cycle

Gender:

- Male
- Female

Reason:

- Lack time
- No reason provided
- Other

Other reason: _____

Reason:

- Minor (age < 18)
- Lack English comprehension
- Already completed survey

Estimated age:

- Adult (18-59)
- Older adult (60 and over)

ACCESSING THE GREENWAY

How do you usually get to the Arbutus Greenway?
(Mode of travel to Greenway from home/origin)

- Walk
- Run/Jog
- Cycle
- Transit
- Auto
- Other

Other mode:

How much time does it usually take you to get to the Arbutus Greenway from your home?
(In minutes)

- < 15 minutes
- 15-29 minutes
- ≥ 30 minutes

Are you using the Arbutus Greenway more/same/less since Spring 2017?
(2017: Asphalt paved path, minimal street furniture, crossings and intersections being upgraded)

- More
- Same
- Less
- Don't know

TRIP PURPOSE

Recreation trips have no actual destination such as walking, jogging, or cycling in your neighbourhood.

Transportation trips are to a new location, including any small trips such as buying a coffee or going to an ABM.

What types of trips do you make using the Arbutus Greenway?
(Read options; check all that apply)

- Recreation trips
- Transportation trips

RECREATION TRIPS

In a typical week, how many days do you use the Arbutus Greenway for RECREATION (exercise, leisure)?

- First time
- Less than once per month
- 1-3 times per month
- 1 day/wk.
- 2 days/wk.
- 3 days/wk.
- 4 days/wk.
- 5 days/wk.
- 6 days/wk.
- 7 days/wk.

What type of activity do you usually do when you are on the Arbutus Greenway for RECREATION?

- Walk
- Run/Jog
- Cycle
- Other

Other mode:

On one of these days, how much TIME do you usually spend on the Arbutus Greenway for RECREATION?
(Total time for all your trips that day)

- < 30 minutes
- 30-59 minutes
- 1-2 hours
- > 2 hours

TRANSPORTATION TRIPS

In a typical week, how many days do you use the Arbutus Greenway for TRANSPORTATION?

- First time
- Less than once per month
- 1-3 times per month
- 1 day/wk.
- 2 days/wk.
- 3 days/wk.
- 4 days/wk.
- 5 days/wk.
- 6 days/wk.
- 7 days/wk.

What type of activity do you usually do when you are on the Arbutus Greenway for TRANSPORTATION?

- Walk
- Run/Jog
- Cycle
- Other

Other mode:

On one of these days, how much time do you usually spend on the Arbutus Greenway for TRANSPORTATION?
(Total time for all your trips that day)

- < 30 minutes
- 30-59 minutes
- 1-2 hours
- > 2 hours

DEMOGRAPHICS

May I have your postal code? _____

Appendix 2: 2017 Count Data

Arbutus Greenway users in 2017, by day and time, mode, age and gender.

Site	Day of Week	Time	Total Count (2 h)	Mode (Users/Hour)			Age Profile (%)			Women (%)
				Cycle	Walk*	Jog or Run	< 18	18-59	≥ 60	
6 th Ave at Cypress St	Weekday	11:00-13:00	183	4.0	65.0	2.5	10.4	61.7	27.9	49.7
		16:00-18:00	370	76.5	102.0	6.5	13.5	74.9	11.6	45.9
	Weekend	11:00-13:00	474	122.0	105.0	10.0	11.0	59.1	30.0	48.5
		Average	342.3	67.5	90.7	6.3	11.8	65.2	23.0	47.8
16 th Ave	Weekday	11:00-13:00	159	44.5	33.0	2.0	3.8	53.5	42.8	47.8
		16:00-18:00	247	70.5	45.0	8.0	9.7	74.1	16.2	41.3
	Weekend	11:00-13:00	374	134.5	41.0	11.5	10.4	62.3	27.3	39.0
		Average	260.0	83.2	39.7	7.2	8.8	64.2	26.9	41.5
45 th Ave	Weekday	11:00-13:00	260	61.5	65.0	3.5	14.6	53.1	32.3	53.1
		16:00-18:00	242	54.5	59.5	7.0	14.5	53.3	32.2	47.1
	Weekend	11:00-13:00	448	104.0	110.5	9.5	15.8	56.0	28.1	45.3
		Average	316.7	73.3	78.3	6.7	15.2	54.5	30.3	47.9
64 th Ave	Weekday	11:00-13:00	95	25.5	16.5	5.5	7.4	60.0	32.6	40.0
		16:00-18:00	155	51.5	21.5	4.5	8.4	67.1	24.5	36.8
	Weekend	11:00-13:00	166	52.0	24.5	6.5	13.9	59.6	26.5	42.2
		Average	138.7	43.0	20.8	5.5	10.3	62.5	27.2	39.7
Total Counts			3173	1642	1377	154	377	1949	847	1435
				51.7%	43.4%	4.9%	11.9%	61.4%	26.7%	45.2%

**The walk category also encompasses skateboard, scooter, wheelchair users and carried children (e.g. stroller).*

Appendix 3: Participation Rate in Intercept Survey

Percentage of survey participation, as compared to Arbutus Greenway users, overall and by survey site.

% Survey Participation (completed surveys/eligible greenway users)					
	All Sites	6 th Ave at Cypress St	16 th Ave	45 th Ave	64 th Ave
Overall	18.4%	16.0%	19.0%	12.3%	22.1%
Mode					
Cycle	16.2%	12.9%	18.3%	10.4%	20.4%
Walk	23.6%	21.0%	22.2%	14.9%	27.1%
Jog or Run	15.3%	10.8%	15.6%	15.6%	19.4%
Gender					
Women	21.5%	18.8%	22.1%	15.1%	24.4%
Men	15.9%	13.5%	16.6%	10.1%	20.3%
Age					
Adult (18-59)	17.7%	16.1%	19.7%	14.6%	22.1%
Older Adult (≥ 60)	20.6%	22.3%	21.7%	14.4%	25.8%

Note: Youth (Age < 18) were not eligible to participate in the survey.

Appendix 4: Summary Data from Intercept Survey

Descriptive results from n=536 intercept surveys with adults using the Arbutus Greenway in May 2018.

Question	Total (%) (n = 536)	Cyclists (%) (n = 306)	Walkers (%) (n = 208)	Joggers or Runners (%) (n = 22)
Gender				
Women	279 (52)	142 (46)	123 (59)	14 (64)
Men	257 (48)	164 (54)	85 (41)	8 (36)
Age				
Adult (18-59)	379 (71)	218 (71)	142 (68)	19 (86)
Older Adult (≥ 60)	157 (29)	88 (29)	66 (32)	3 (14)
Most Frequent Travel Mode to Greenway				
Cycle	277 (52)	258 (84)	16 (8)	3 (14)
Walk	211 (39)	32 (10)	173 (83)	6 (27)
Jog or Run	13 (2)	2 (1)	0 (0)	11 (50)
Transit	4 (1)	1 (0)	3 (1)	0 (0)
Auto	28 (5)	13 (4)	13 (6)	2 (9)
Other	3 (1)	0 (0)	3 (1)	0 (0)
Time to Reach Greenway from Home				
< 15 mins	434 (81)	238 (78)	182 (88)	14 (64)
15-29 mins	61 (11)	38 (12)	19 (9)	4 (18)
≥ 30 mins	40 (7)	30 (10)	6 (3)	4 (18)
Unknown	1 (0)	0 (0)	1 (0)	0 (0)
Use Since Spring 2017				
More	385 (72)	214 (70)	152 (73)	19 (86)
Same	130 (24)	77 (25)	50 (24)	3 (14)
Less	12 (2)	7 (2)	5 (2)	0 (0)
Don't Know	9 (2)	8 (3)	1 (0)	0 (0)
Reason for Using Greenway				
Recreation	209 (39)	115 (38)	79 (38)	15 (68)
Transportation	96 (18)	66 (22)	30 (14)	0 (0)
Recreation & Transportation	231 (43)	125 (41)	99 (48)	7 (32)
Recreation Users				
	n = 440	n = 240	n = 178	n = 22
Frequency Using Greenway for Recreation				
First Time	20 (5)	14 (6)	4 (2)	2 (9)
< once per month	23 (5)	18 (8)	5 (3)	0 (0)
1-3 days/month	54 (12)	42 (18)	11 (6)	1 (5)
1-2 days/week	148 (34)	94 (39)	44 (25)	10 (46)
3-4 days/week	103 (23)	47 (20)	48 (27)	8 (36)
5-7 days/week	91 (21)	24 (10)	66 (37)	1 (5)
Unknown	1 (0)	1 (0)	0 (0)	0 (0)
Primary Recreation Mode*				
Cycle	216/420 (51)	190/226 (84)	24/174 (14)	2/20 (10)
Walk	166/420 (40)	26/226 (12)	139/174 (80)	1/20 (5)
Jog or Run	35/420 (8)	10/226 (4)	8/174 (5)	17/20 (85)
Other	3/420 (1)	0/226 (0)	3/174 (2)	0/20 (0)

Time Spent on Greenway for Recreation (per day)*

< 30 mins	94/420 (22)	47/226 (21)	44/174 (25)	3/20 (15)
30-59 mins	154/420 (37)	85/226 (38)	58/174 (33)	11/20 (55)
1-2 hours	155/420 (37)	83/226 (37)	66/174 (38)	6/20 (30)
> 2 hours	17/420 (4)	11/226 (5)	6/174 (3)	0/20 (0)

Transportation Users	n = 327	n = 191	n = 129	n = 7
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Frequency Using Greenway for Transportation

First Time	6 (2)	3 (2)	3 (2)	0 (0)
< once per month	7 (2)	5 (3)	2 (2)	0 (0)
1-3 days/month	24 (7)	13 (7)	11 (9)	0 (0)
1-2 days/week	105 (32)	68 (36)	34 (26)	3 (43)
3-4 days/week	76 (23)	40 (21)	34 (26)	2 (29)
5-7 days/week	109 (33)	62 (32)	45 (35)	2 (29)

Primary Transportation Mode*

Cycle	209/321 (65)	176/188 (94)	28/126 (22)	5/7 (71)
Walk	108/321 (34)	10/188 (5)	96/126 (76)	2/7 (29)
Jog or Run	2/321 (1)	2/188 (1)	0/126 (0)	0/7 (0)
Other	2/321 (1)	0/188 (0)	2/126 (2)	0/7 (0)

Time Spent on Greenway for Transportation (per day)*

< 30 mins	116/321 (36)	66/188 (35)	47/126 (37)	3/7 (43)
30-59 mins	118/321 (37)	72/188 (38)	44/126 (35)	2/7 (29)
1-2 hours	79/321 (25)	46/188 (24)	32/126 (25)	1/7 (14)
> 2 hours	8/321 (2)	4/188 (2)	3/126 (2)	1/7 (14)

*excludes first time users

Appendix 5: Perceptions of the Greenway

After completing the intercept survey, participants were invited to provide additional comments related to the greenway or their experiences. Of the 536 individuals who participated in the survey, 49 completed additional comment forms. Demographic information on comment providers was not collected this year. Participants often addressed multiple ideas in one comment card, all from unique perspectives. Most comments (71.4%, $n=35$) contained recommendations for the greenway. The major themes for these comments were drawn from the existing AGE-Qualitative thematic framework. The most prominent comment themes were: the built environment, mobility or mode experiences, safety, and the natural environment (Figure 10).

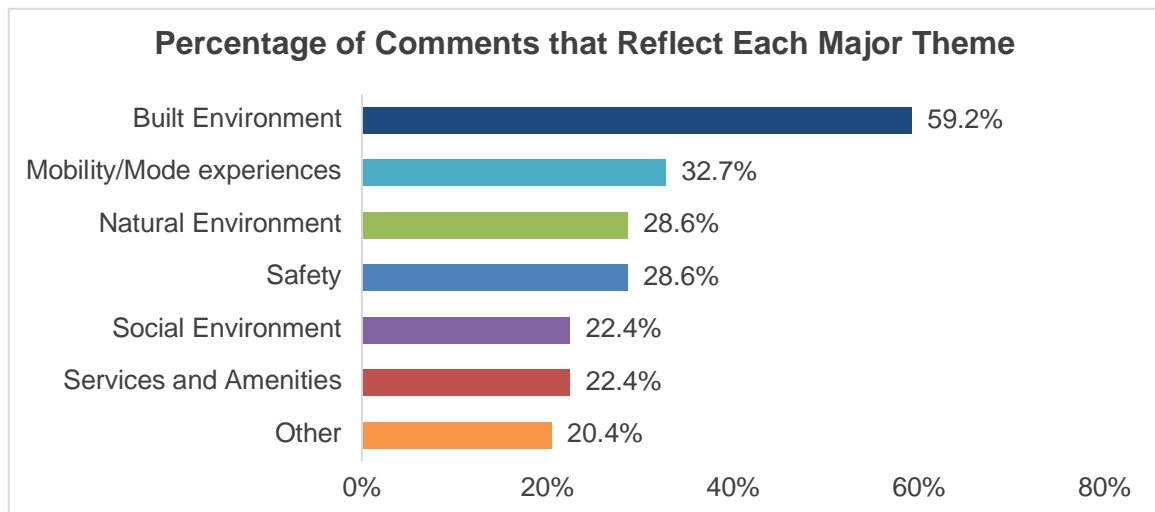


Figure 10. Percentage of comments that reflect each major theme.

Note: "Other" includes a variety of topics, such as vehicle break-ins, permission of electric scooters, and smoking along the greenway.

The majority of comments (59.2%, $n=29$) contained suggestions or concerns about the built environment and design. Main areas of concern included: keeping the greenway clean and clear of debris (blackberry bushes/brambles, bark mulch, dog feces, rain water, trash) that could impact user safety (20.4%, $n=10$); path width of both pedestrian and cyclist paths (16.3%, $n=8$); and lighting along the greenway and at street crossings (10.2%, $n=5$) (Figure 11). One user reported "*Many of the intersections squeeze pedestrians and people on bikes into a very small area, especially at 37th and the intersections south of 37th. This feels very dangerous.*" A manual wheelchair user said, "*It would be great if there was some border or spacing between the bark mulch and the pathway, as the mulch can be a very effective 'puncturer of tires'.*" Another user said, "*Walk light to cross 49th avenue is too short, especially under high pedestrian volumes.*"

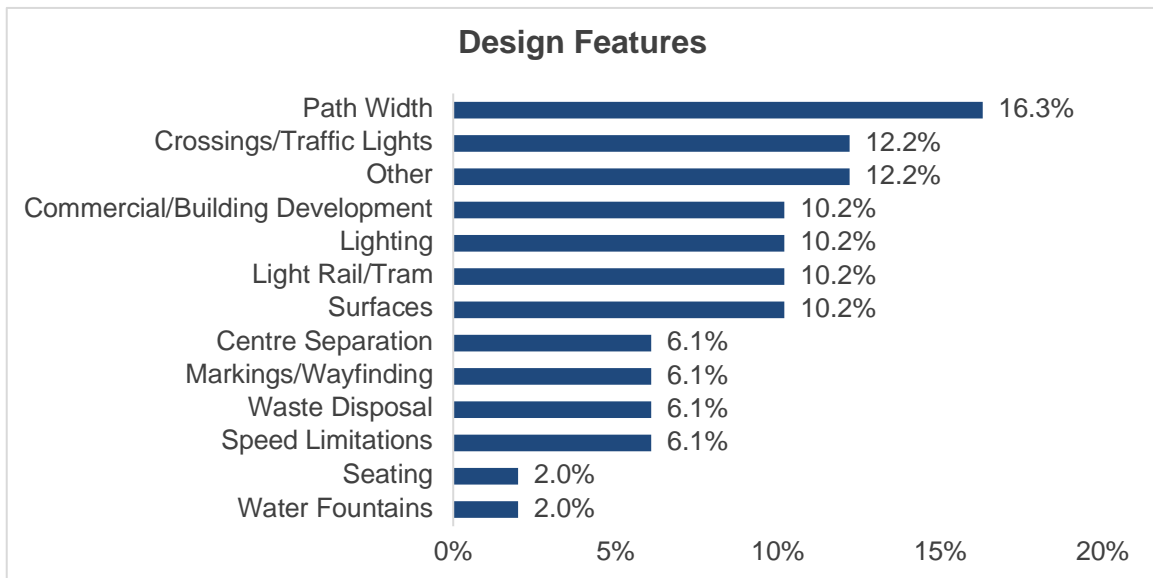


Figure 11. Frequency of mention of design features.

Note: "Other" includes a variety of design suggestions, such as the presence of food trucks, air pump stations, and signage about the history of the railway corridor

Nearly one-third (28.6%, $n=14$) of comments pertained to safety, with cyclist and motor vehicle driver behaviour the leading cause for concern (42.9% of safety related comments). Users described how there are "too many cyclists riding at night without bike lights," and "bikes [think] it is ok to be in the walking lane – If you remind them to move over, they just ignore you or swear." One user said, "the intersection at 33rd is not safe – cars are not stopping for cyclists and walkers (unless forced by cyclist when moving into [the] intersection)." In addition to improving intersections and mode separation, other suggestions to improve safety included adding coloured bollards for better visibility, limiting the speed of users, amending bylaws to prevent motorized vehicles on the greenway, and repaving the centre median in certain areas.

Many users (28.6%, $n=14$) commented on the greenway's natural environment. Most of these comments (64.3%) positively mentioned the existing natural spaces (gardens and general greenery along the path) and expressed a desire to see more of these spaces in currently vacant areas. One user suggested that the City of Vancouver "Plant trees in all the central grass verges – [they provide] shade, beauty and makes the way more aesthetically pleasing." On the other hand, 35.7% of comments mentioning the natural environment addressed the need to better separate the paved path from the greenery for safety and mobility reasons, such as how "Blackberry bushes should be cut back significantly to show all stop signs."

Specific mode and mobility experiences were reflected in several comments (32.7%, $n=16$), describing specific events, experiences, and interactions between modes of travel. Of the mobility related comments, the majority (50%, $n=8$) reflected walking or running related experiences, 31.2% reflected cycling-specific experiences, 18.8% reflected multi-modal experiences, and 6.2% reflected each in roller blading, cross country skiing (in the winter) and manual wheelchair experiences.