

# Arbutus Greenway Evaluation

Preliminary data report to inform City of Vancouver,  
Arbutus Greenway Design Jam



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## BACKGROUND

This report highlights preliminary findings from the Active Aging Research Team's baseline data collection for the Arbutus Greenway Evaluation. We have extracted those data that are of particular relevance to the City of Vancouver's 2017 Arbutus Greenway Design Jam. Findings in this report do not necessarily reflect views of the City of Vancouver.

### RESEARCH TEAM

The Active Aging Research Team (AART) engages partners in the community to improve the social and physical health of individuals of all ages through scientific evaluation. The team is comprised of interdisciplinary, community-based researchers, staff, and trainees affiliated with the University of British Columbia, Simon Fraser University, and the Centre for Hip Health and Mobility. AART strives to facilitate connected, active lives.

### ARBUTUS GREENWAY EVALUATION

AART is conducting the Arbutus Greenway Evaluation (AGE), a multi-year (2017-2020) study to characterize the social and health impacts of the Arbutus Greenway Development. AGE has multiple study arms, each with a different focus:

- Arm 1 (AGE-Intercept): all users.
- Arm 2 (AGE-Junior): children and youth.
- Arm 3 (AGE-Senior): adults aged  $\geq 60$  years (both users and non-users of the Greenway) who live within 4-5 blocks of the Arbutus Greenway. This arm has both a quantitative and a qualitative sample.
  - AGE-Quantitative: questionnaires and physical activity data.
  - AGE-Qualitative: interviews and focus groups.

For AGE, we will assess *who, what, when, where, why, or why not* people in surrounding neighbourhoods (or elsewhere) use the Arbutus Greenway. We also seek to understand whether the Arbutus Greenway contributes to peoples' health and social interactions.

AART collected baseline data in spring 2017. Our next rounds of data collection are scheduled for winter 2017 (AGE-Junior), and spring 2019 (AGE-Senior).

## AGE-INTERCEPT

### SAMPLE

The purpose of AGE-Intercept is to describe Arbutus Greenway users, their patterns of use (purpose, mode, time on the Arbutus Greenway), and their perceptions of the Arbutus

Greenway. We collected data at four locations along the Arbutus Greenway (during and directly after temporary path construction) in spring 2017 (Figure 1). We conducted counts of all users and administered intercept surveys to adults. Our research team conducted three data collection sessions per site: 1) weekdays at mid-day, 2) weekdays during evening commute times, and 3) mid-day on weekends.

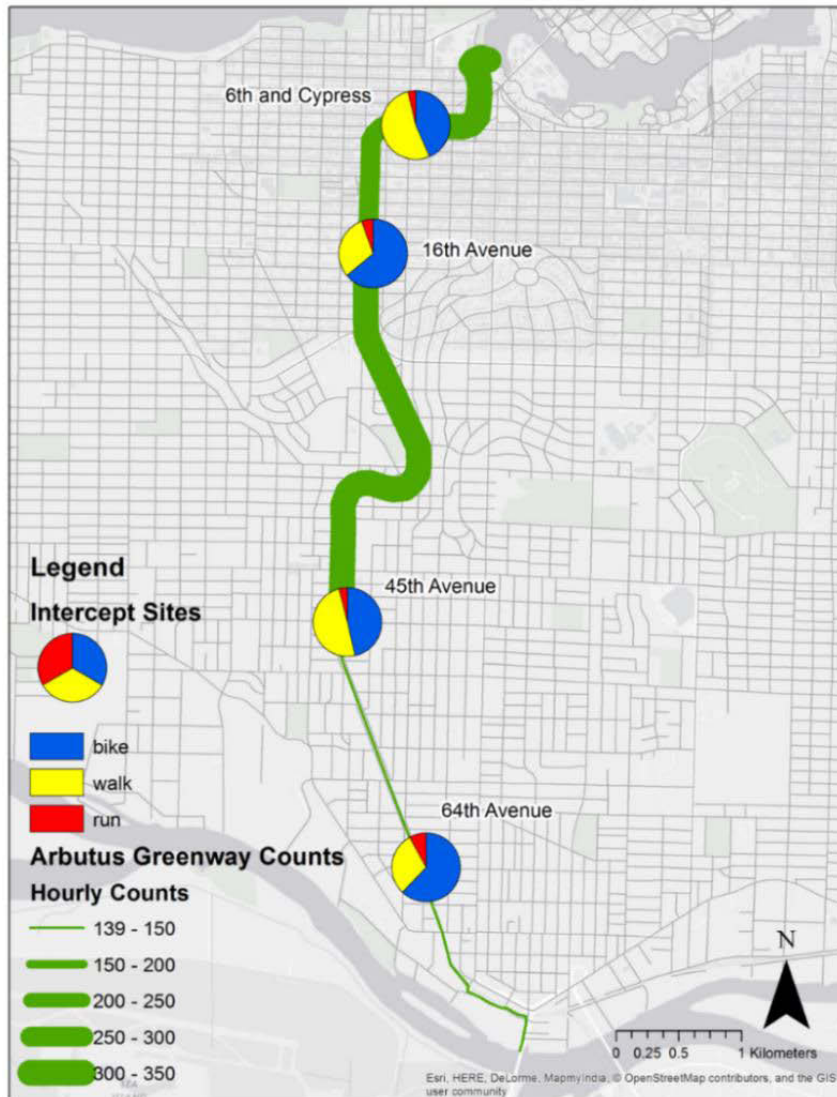


Figure 1: Arbutus Greenway usage and mode (Measurement locations: 6<sup>th</sup> Ave and Cypress Street, 16<sup>th</sup> Ave, 45<sup>th</sup> Ave, 64<sup>th</sup> Ave)

User volumes during spring 2017 were highest in the north end of the Arbutus Greenway, and dropped significantly south of 64<sup>th</sup> Ave, as shown in Figure 1.

## FINDINGS

We counted 3173 users of the Arbutus Greenway temporary path during spring 2017 data collection:

## Counts

- The number of users was significantly higher on weekends as compared with weekdays.
- The number of users varied greatly between survey locations. The northern end of the Arbutus Greenway was the busiest: 6<sup>th</sup> Ave had the highest volumes with 171 users per hour, whereas 64<sup>th</sup> Ave had the lowest volumes with 70 users per hour.
- Mode split overall was 52% cyclists, 44% walkers, and 5% runners or joggers. However, mode split varied by site. There were more than two times as many cyclists as walkers at 16<sup>th</sup> Ave and 64<sup>th</sup> Ave. Walking was more popular at the 6<sup>th</sup> Ave and 45<sup>th</sup> Ave locations compared to other locations; there were 91 and 78 walkers per hour respectively. Runners comprised a very small proportion of users at all sites.
- 45<sup>th</sup> Ave had the highest proportion of youth (15%) and older adults (31%) compared with other sites. At this site the path was wider, with benches and a large surface area of green space separating the path from the road.
- Usage was similar for men (49%) and women (48%) at 45<sup>th</sup> and 6<sup>th</sup> Ave. However, a lower proportion of the users were women at 16<sup>th</sup> and 64<sup>th</sup> Ave, two sites that also had higher volumes of cyclists.

## Intercept Survey Results

Of 3173 users that passed the survey sites, 702 participated in the intercept survey. We had a 25% survey participation rate across all sites (surveys completed/all counted adult and older adult users), with 64<sup>th</sup> Ave having the highest participation. Runners were the least likely to participate in the surveys, while women and older adults were the most likely to participate. Youth (age < 18 years) were not eligible to participate in the survey.

## What are the Patterns of Use on the Greenway Temporary Path?

Participants reported that their predominant purpose for using the Arbutus Greenway temporary path was recreation (53%, n=396) (Figure 2). A third of participants reported using it for both recreation *and* transportation (30%, n=209).

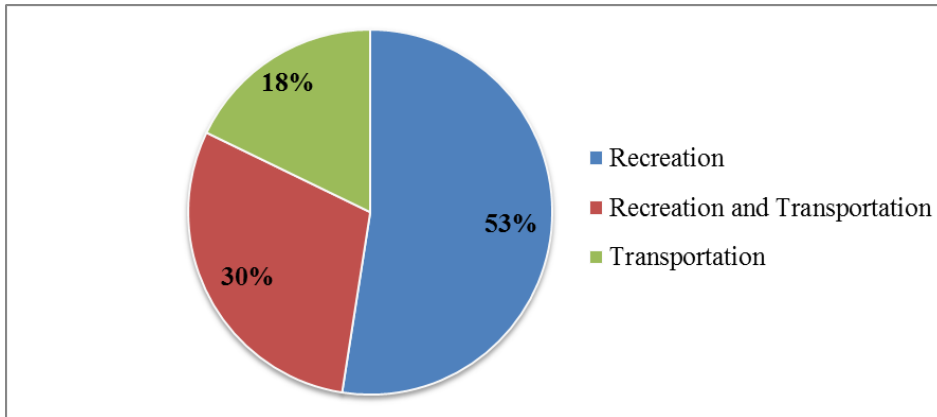


Figure 2: Main purpose of Arbutus Greenway trips

## Modes

Of those who use the Arbutus Greenway temporary path at least once per month for recreation, the more common modes were walking (45%) and cycling (43%), while only 8% reported jogging or running. Some respondents (3%) used an “other” recreational mode such as skateboarding, rollerblading/roller skating, longboarding, or used wheelchairs and scooters (n=20) (Figure 3).

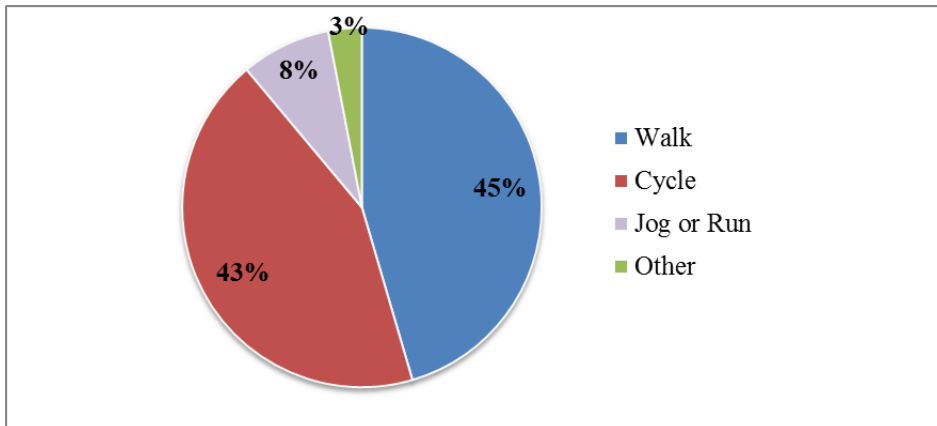


Figure 3: Primary mode used by those who made recreational trips on the Greenway at least once per month

Of those who use the Arbutus Greenway temporary path at least once per month for transportation, cycling was the most common mode (62%). Thirty-seven percent of participants reported walking.

## Where are Arbutus Greenway Users Coming From?

The vast majority of survey participants lived in the City of Vancouver and most lived in areas directly adjacent to the Arbutus Greenway (Figure 4). More than half of survey participants lived within 500 meters of the Arbutus Greenway (52%, n=350), within approximately five city blocks. There were also several people who came from North Vancouver, West Vancouver,

and Richmond to use the Arbutus Greenway. From self-report data, most participants reported that they lived within 15 minutes of the Arbutus Greenway (81%, n=565).

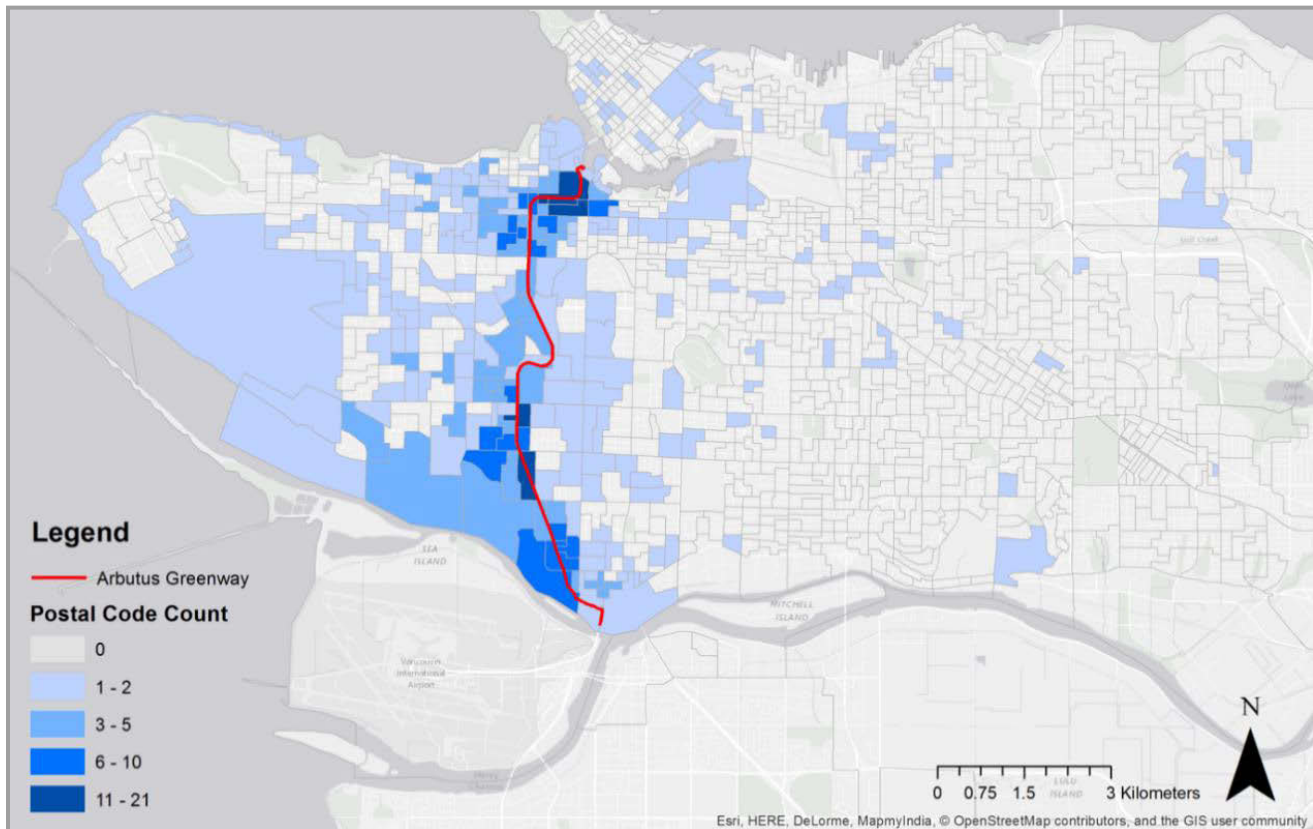


Figure 4: Map of survey participant postal codes by dissemination area in Vancouver

## Usage of Arbutus Greenway Temporary Path

Since the Arbutus Greenway development began in 2016, usage of the corridor has increased substantially. Overall, 88% (n=616) of survey participants used the Arbutus Greenway temporary path more in spring 2017 than the Arbutus corridor in spring 2016. Ten percent of respondents (n=71) reported using the Arbutus Greenway temporary path as often as before and 2% reported using it less often (n=11).

## AGE-JUNIOR

### PILOT STUDY

AGE-Junior aims to assess youth perceptions of the Arbutus Greenway by conducting focus groups with high school students. Our focus in 2017 was building relationships with schools, an essential element of school-based research. We conducted a pilot study (focus group) with five participants who attended Kitsilano Secondary School in spring 2017. Findings from the

pilot study will inform the next stage of data collection scheduled to begin in fall 2017. We aim to conduct focus groups at four high schools located within 1 kilometer to the Greenway.

## AGE-SENIOR

AGE-Senior (comprised of a quantitative and qualitative arm) participants included older adults aged  $\geq 60$  years who leave their homes at least one day per week, and live within 500m of the Arbutus Greenway (4-5 blocks). We sampled individuals from three neighbourhoods surrounding the Arbutus Greenway (Kitsilano, Arbutus Ridge/Kerrisdale/Shaghnessy (ARKS), and Marpole). We combined the ARKS neighbourhoods in our sample as decision making by City of Vancouver from 2005 onwards considered view points from these three neighbourhoods as a collective.

## AGE-QUANTITATIVE

### SAMPLE

This evaluation arm assesses the impact of the Arbutus Greenway on mobility (ability to get out and about and access resources), physical activity (bodily movement produced by skeletal muscles), and social connectedness of older adults who live in proximity to the Arbutus Greenway. Eighty-seven participants (57 women) completed five questionnaires that assessed neighbourhood satisfaction, mobility and social connectedness, and wore GPS and activity monitoring devices.

The average participant age was  $71.6 \pm 7.1$  years. They were primarily of White/European Descent (86%) while others were Chinese (6%), South Asian (2%), Black (1%), Filipino (1%), or identified as other ethnicities (4%). The distribution of participants across neighbourhoods was Kitsilano (47%), ARKS (35%), and Marpole (18%). Analysis of questionnaire data is ongoing.

Below we present findings from the Neighbourhood Satisfaction Scale (item #16); the City noted the particular relevance of these outcomes to implementation of future Arbutus Greenway design plans.



## FINDINGS

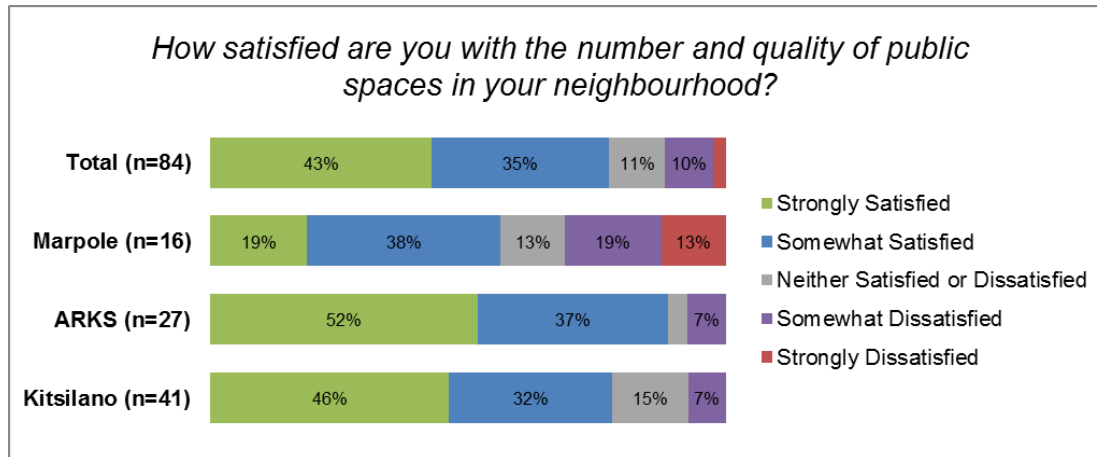


Figure 5: Summary of responses for the Neighbourhood Satisfaction Scale, item #16 (number & quality of public spaces)

## AGE-QUALITATIVE

### SAMPLE

The objective of AGE-qualitative is to identify factors in the built and social environments that facilitate or limit social connectedness and mobility for older adults. We are also interested in *if and how* the Arbutus Greenway relates to their experiences. We conducted focus groups and one-on-one interviews with 42 older adults; 28 one-on-one interviews and 3 focus groups. We interviewed users and non-users of the Arbutus Greenway, which provided us with a diverse range of opinions and views.

Table 1: AGE-qualitative sample demographics

	Kitsilano (n=18)	ARKS (n=13)	Marpole (n=11)	Total (n=42)
<b>Average Age (Range)</b>	70.6 (62-87)	75.9 (63-92)	72 (68-93)	72.6 (62-93)
<b>Ethnicity</b>				
European	17 (94%)	9 (69%)	10 (91%)	36 (86%)
South Asian	0	2 (15%)	0	2 (5%)
Chinese	0	2 (15%)	1 (9%)	3 (7%)
Filipino	1 (6%)	0	0	1 (2%)
<b>Sex</b>				
Female	12 (67%)	9 (69%)	9 (82%)	30 (71%)
Male	6 (33%)	4 (31%)	2 (18%)	12 (29%)

A sub-set of participants also completed questionnaires, including a modified trail intercept survey that examined use of the Arbutus Greenway (Table 2).

## MODIFIED INTERCEPT SURVEY

Table 2: Tabulated percentage responses from the Modified Trail Intercept Survey (AG = Arbutus Greenway)

	Kitsilano	ARKS	Marpole	Total
<b>Used the AG in the past month?</b>				
N	11	8	8	27
Yes	82%	88%	88%	85%
No	18%	12%	12%	15%
<b>Ever used the AG?</b>				
N	2	1	1	4
Yes	50%	100%	100%	75%
No	50%	0	0	25%
<b>Plan to use AG in the future?</b>				
N	10	8	8	26
Yes	100%	100%	100%	100%
No	0	0	0	0
<b>Usual mode to get to the AG?</b>				
N	9	7	7	23
Walk	78%	86%	71%	78%
Cycle	11%	0	14%	9%
Other	11%	14%	14%	13%
<b>Use of AG since Spring 2016?</b>				
N	9	7	7	23
More	67%	57%	86%	70%
Same	33%	43%	14%	30%
<b>Usual reason for use of the AG?</b>				
N	9	7	7	23
Recreation	78%	43%	57%	61%
Transportation	11%	29%	0	13%
Both recreation & transportation	11%	29%	43%	26%
<b>Usual recreation activity on AG?</b>				
N	9	6	7	22
Walk	78%	100%	86%	86%
Jog or run	0	0	14%	5%
Cycle	22%	0	0	9%
<b>Usual transportation activity on AG?</b>				
N	4	4	5	13
Walk	75%	75%	80%	77%
Cycle	25%	0	20%	15%
Other	0	25%	0	8%

## INTERVIEW AND FOCUS GROUP RESULTS

### Highlights

- The Arbutus Greenway temporary path construction encouraged walking and cycling for all age groups.
- Benches were important for functional reasons (e.g. people with mobility limitations) and promoted social interactions.
- Participants generally had a positive view towards the addition of more greenery.
- Access points onto the Arbutus Greenway need to be improved to facilitate greater accessibility.
- Participants viewed the Arbutus Greenway (at its May/June 2017 stage of temporary path development) more as a recreation or transportation corridor than a destination.

### Overview

Popular topics of discussion that emerged from the interviews included: micro-features of the built environment (human-made physical surroundings where people live, work, and play), reasons for use and travel mode, and natural / “green” features. Prominent themes that crosscut these topic areas included: health and well-being, social interactions, safety, and fears/apprehensions.

Although participant comments, in-text, refer to the development as the “Arbutus Greenway,” data was collected during, and directly after temporary path construction. Therefore we must underscore that our findings represent participants’ individual perceptions and experiences of the temporary path, and ongoing Arbutus Greenway development, rather than this development at its final stage.

Below we summarize our preliminary findings. We begin with our limitations and an illustration of overarching positive and negative views of the temporary path and ongoing Arbutus Greenway development before providing more depth for each topic area

#### *Limitations*

It is important to note two factors that may affect our results. There may be a selection bias whereby individuals with a prior interest in the Arbutus Greenway were more likely to participate, resulting in overly positive results. Also, although our recruitment locations were culturally diverse (they included a range of community-organizations) our recruitment materials were only in English. This may have prevented the participation of individuals with low or no

English fluency. English speakers of (white) European descent are more heavily represented in our sample than the ethnic composition of our study neighbourhoods. Thus, our findings are not representative of the entire older adult populations in each neighbourhood.

### General Positive Views

The majority of participants – over two-thirds – viewed changes to the Arbutus Corridor as generally positive. Paul, 74, from Kitsilano stated:

*“...it’s just good to see a lot of different ages of people. People are biking and going with their children, walking with their strollers, older people walking. So it seems that there’s a lot of people that are really taking advantage of it and enjoying it.”*



Figure 6: Mixed user modes and surfaces near Arbutus and 16<sup>th</sup>

Dev, 77, from Kerrisdale shared a similar perspective:



Figure 7: Intergenerational cyclists, Kerrisdale

*“...for me the Greenway is really a walkway of all ages. It’s a place where you can bike, do all those kinds of things that you would either go down to the seawall to do. And the length of the Greenway is great.”*

Some participants suggested that the Arbutus Greenway encouraged activity. Tala, 67 from Kitsilano, contended, *“It’s an attractive thing that encourages us to go out after supper maybe, to take a walk.”*

Particularly, those with mobility limitations expressed favourable views of the smoother, now more accessible, path surface. Emily, 65, from Kerrisdale observed:

*“There’s way more people walking here than ever used to walk. In terms of – what would go by my front door and stuff like – lots of families, lots of couples, lots of elderly people that were people that I never saw walking around here before.”*

The perspective that the Arbutus Greenway encouraged casual social interactions was often mixed with general positive comments about the Arbutus Greenway.

Caroline, 71, from Marpole expressed:

*“I’m so thrilled to see the Greenway, to have families out there and dogs and people interacting. Being friendly and – you know, I’m looking forward to it being completed and some birds coming back.”*



Figure 8: Families and cyclists pre-pavement markings, Kerrisdale

Howard, 68, from Kitsilano also remarked on the Arbutus Greenway as a social space:

*“Anytime [my wife] and I have gone on walks on the Arbutus Greenway, you meet up with people that say hello. Whether they’re walking towards you or walking by you, hi, how are you today? Or even the cyclists. It’s opened up a whole new avenue of leisure for people and opened up paths of communication.”*

However, a few participants indicated that they viewed the Arbutus Greenway as purely a functional space for exercise or transportation, and not a space for social interactions.

### *General Negative Views*

The few participants that viewed the Arbutus Greenway as negative feared cyclists they perceived as going too fast (those mobility impairments felt particularly vulnerable), high motor vehicle traffic intersections without pedestrian-crossing lights, perceived crowds/ too-many people, and lamented loss of the “un-kempt” natural beauty of the railway tracks and blackberry bushes. Maria, 72, from Kitsilano stated, *“I felt like I lost my little paradise that I was used to going to.”* Others found the degree of black asphalt and shoulders with dirt, and lack of robust green vegetation unappealing (at the time of some of the interviews, sections of the Arbutus Greenway were cleared with no addition of greenery) and feared that the future development would entail an overly manicured and commercialized space.

Grace, 75, from Marpole was skeptical:

*“It has potential to be really health giving. I’m just not sure that they can hold the line on things like commercial development...I mean, if this thing turns into hotdog stands from one end to the other that is not what I want.”*

## Urban Design Features

### Benches

Design aspects of the built environment were a predominant topic when participants were discussing the Arbutus Greenway. Benches were the most often mentioned design feature and

all participants spoke positively about them. Those with health impairments stressed the functional importance of benches.

Susan, 87, from Kitsilano explained, *“because I can’t walk very far before I get tired, and I’d have to sit down, yeah.”*



Figure 9: Mother and daughter on a bench, Kerrisdale

Notably, participants with mobility limitations who lived in Marpole emphasized the

need for more benches from about 60<sup>th</sup> Avenue to the South end of the Arbutus Greenway. Grace, 75, from Marpole discussed benches in tandem with bathrooms, prior to their installation:

*“Once they get the bathrooms in I’ll be a lot happier. And once they get a few benches, because I understand they are actually going to have a few benches. So my concern is that I’m going to get pooped out midway and just lie down in the middle and get run over by a bicycle or something.”*

Even after benches were added to the Arbutus Greenway some participants still wanted more:

*“North of 70th, there’s only one or two for the whole distance...But I see lots of families and kids and strollers and babies. So I think more benches would be used, well used...I have a mother who is 93 who’s got trouble breathing from time to time. So when she’s in Kerrisdale, the benches that are every six feet are just fabulous for her.”*

- Stephanie, 69, Marpole

Participants generally commented favourably on the new benches:

*“You see people sitting on those benches. I’m surprised they have them already. But you see them out there basking in the sun. And I must admit, the environment you get on that Greenway, heading south on your bike, it’s as if you’re not in the city. It’s just beautiful.”*

- Cindy, 73, Kitsilano



Figure 10: Cyclists take a break on a bench, Kerrisdale

A few participants mentioned that while on the Arbutus Greenway, benches would increase their ability to socialize.

### Surface material

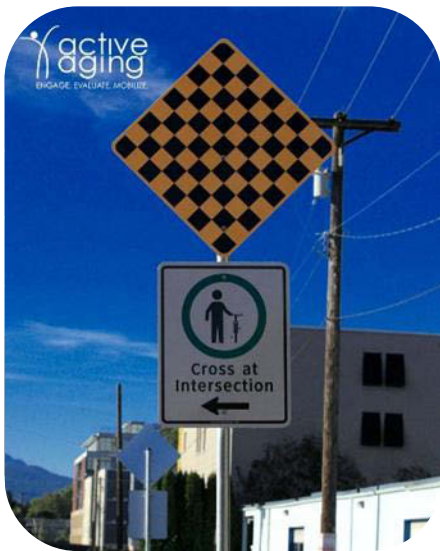
Another topic of great interest to those interviewed was surface material. There was no uniform consensus on preferred surface. Some participants loved the increased smoothness and accessibility of the asphalt: others preferred gravel and/or the softness of the bark mulch. Caroline, 71, from Marpole liked both:

*“I just would like to see, like you, just a – maybe partially paved and partially – it’s nice to walk on mulchy, softer ground that’s hard packed. But I don’t know, just a little more – so it doesn’t look like a super highway. That’s how I feel. And I use it a lot.”*

For Diane, 68, from Marpole a smooth surface was vital for her to use the Arbutus Greenway:

*“It’s inviting now...because I couldn’t walk on it before. With my stroke, I was not balanced. And now it’s level, so it’s welcoming me. Beckoning me, come walk. Take a walk on the wild side.”*

### *Intersections, Pavement Markings, and Access Points*



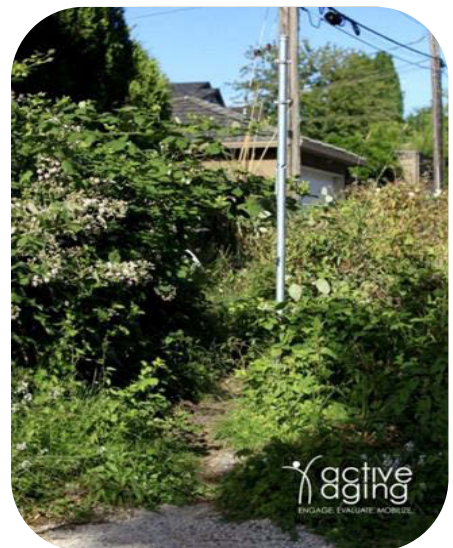
*Figure 11: Cross at intersection sign, Kitsilano*

Intersections and pavement markings were often mentioned in relation to safety from traffic and other Arbutus Greenway users. Participants were aware that the Arbutus Greenway was under construction and many were anxious for improved pedestrian and cycle crossings, and clear pavement markings to separate modes of travel. This was particularly the case for frail walkers, who were fearful of cyclists they perceived as fast.

Some participants suggested that improved access was important to them. They were unaware of how to access the Arbutus Greenway, and a few frail participants’ access to the Arbutus Greenway was

obstructed which posed a challenge. Paula, 93, from Marpole explained:

*“..The railway put in these sign posts at the ends of all the streets to say “danger, don’t cross.” And they’ve taken the signs off but the posts are still there. And they are carefully installed to obstruct the traffic...Some days when we go for walks we go fight our way through the bushes... It’s a mess. It takes two of us to safely get around it [with my walker].”*



*Figure 12: Path obstructed by pole, Marpole*

### *Lighting and Washrooms*

Lighting and washrooms were two urban design features mentioned a few times by participants. Washrooms were viewed as an overwhelmingly positive addition, while views on lighting were mixed. Some participants suggested lighting was important to increase safety at night. Others did not want more “light pollution” and disruption to nocturnal fauna.



## Natural / “Green” Features



Figure 13: Median comprised of dirt and grass, Marpole

There was a general consensus that planting trees, bushes, flowers and grasses would be positive additions to the Greenway. Some participants expressed a desire for the Greenway to be an “urban oasis” where “you just don’t feel that you are in the city” (Lee, 68, Marpole). Many desired that the greenery not be overly manicured to maintain “a natural type of landscaping” (Emily, 65, Kerrisdale).

Paul, 74, from Kitsilano suggested that greenery added interest to his experience of the Greenway:

*“I like visiting just to see the things growing along the way. And then as the spring and summer come along, there’ll be more gardeners working in their gardens. So that’s always interesting, seeing happy people.”*

A number of other participants expressed the functional need for greenery to provide shade in hot weather. They stated that the Arbutus Greenway had full-sun exposure and was too hot to walk on during mid-day. Leah, 72, from Marpole explains how flora may help:

*“Planted trees that would give shade to both sides, would be really good in the median there. It’s very hot sun coming into there, right. And the pavement, I’ve already touched the pavement – because I walk the dog – just to see how hot it is.”*

### Reasons for use – recreation, transportation; not a destination

Most participants viewed the Arbutus Greenway as an active transportation and recreation corridor for walking and cycling. Walking was the predominant travel mode for our participants. Alan, 87, from Kerrisdale stated:

*“I see it as a very popular recreation use for the public, for the health, for trafficking from community to community. But I certainly see it as an excellent fitness route for many people who should be out walking every day just to be healthy and live longer.”*

Although a minority, in our older adult cohort there were some keen cyclists who loved the new

temporary path. They indicated that it had a pleasant slope and provided safety from automobile traffic. Although not a cyclist herself, Paula, 93, from Marpole remarked as to how her two sons were now enjoying cycling on the Arbutus Greenway, and had just recently travelled from one end of the Arbutus Greenway to the other.

Most participants did not view the Arbutus Greenway at its current stage of temporary path construction as a destination. The notion of the Arbutus Greenway as a thoroughfare was more amplified in interviews that took place prior to the addition of urban design features. Hannah, 67 from Kerrisdale states:

*“Cause it’s just a piece of tarmac. There’s no benches. There’s nothing pretty about it. You’d have to just stand and talk.”*



Figure 14: ‘Wet paint’, Kerrisdale

At all stages of data collection, participants viewed the Arbutus Greenway as having potential to become more of a destination. Kami, 72, from Kerrisdale explains:

*“...they showed a picture. Yeah, it was The Courier, and they talked about how they’re going to keep working on it. There’s going to be benches. There’s going to be artists, so on and so forth. I was very pleased ‘cause I thought, okay, you’re not just laying down some asphalt here and talking about making a community. It sounds like you’re actually going to create an environment that is going to promote a sense of community.”*

Most participants favourably viewed the future development of places to rest and convene in pairs or small groups. However, there were mixed-views on the degree of “natural” vs. commercial spaces.

Maria, 72, from Kitsilano shared the perspective of a number of participants:

*“I think it’s nice to go down a pathway, walkway, even if it is concrete or blacktop and not have a store at every corner. I mean, we have that where we live in a fairly cosmopolitan city. So we don’t need to have that everywhere. And I would really be upset if they do have a lot of festivals there and they bring out all the food trucks and all that and park them along there. Maybe one weekend of the year might be okay. But not on a regular basis. I think it’s nice to have quiet areas in the city.”*

A few participants speculated that adding coffee shops would motivate them to use the Arbutus Greenway more often. Overall, most participants were encouraged by small-scale, unobtrusive “place making” features that would support their stopping to rest and passively or actively promoting social engagement on the Arbutus Greenway.