Connecting through the Arbutus Greenway

A Planning Analysis on Social Connectedness in Vancouver

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SCARP Capstone Project
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Land Acknowledgment

I would like to acknowledge that this report and the research behind it have been produced on the traditional, ancestral, unceded and occupied territories of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish) and səl̓ilwətaʔ (Tslei-Wututh) First Nations.

With a focus on social connectedness and the built environment, any discussion around this topic should critically engage with the colonial history of ongoing displacement and inequity in Vancouver. I am humbly grateful for this opportunity to learn, unlearn, reflect and share any knowledge gained through this research project with others. I hope this report can raise awareness to the complexity of this topic, and encourage more in-depth conversations around decolonizing the urban built environment.

Disclaimer

This capstone report was produced as part of the degree requirement for the School of Community and Regional Planning (SCARP), Masters of Community and Regional Planning (MCRP) Program at the University of British Columbia.

The research was conducted as an individual capstone project led by the graduate student, Stella L. Zhou. The opinions and recommendations in this report, and any errors, are those of the author, and do not necessarily reflect the views of the different entites mentioned in this report, which includes: Team INTERACT Vancouver, CHATR Lab at Simon Fraser University, City of Vancouver, the School of Regional and Community, and the University of British Columbia.

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Table of Contents

1.0   Introduction

1.1 About this project

In 2016, the City of Vancouver purchased the Arbutus Corridor from the Canadian Pacific Railway (CPR) Company to create a Greenway that serves as the north-south transportation corridor that will meaningfully connect people, parks, and places from False Creek to the Fraser River. This Greenway project also aligns with Vancouver's Healthy City Strategy Action Plan (2014) on providing safe, active, and accessible ways of getting around, and to help increase physical activity levels. The greenway is currently going through some major changes and the city has recently released a design strategy that would continue to shape the Greenway's structural characteristics in the coming years. As a crosscutting north-south 9 km corridor, many people will be affected by its transformation.

This capstone research aims to assess how the Arbutus Greenway may impact social connectedness by looking at the City's planning and policy context. In addition, it evaluates the expressed needs and experiences of local residents near the Greenway. With a growing interest in planning for healthy communities with healthy built environments and high social connectedness, the Arbutus Greenway could be a project with significant potentials. This research will identify existing policy gaps on social connectedness regarding the Arbutus Greenway and examine what components of it can potentially increase levels of social connectedness. The Arbutus Greenway also spans diverse neighbourhoods, and its implementation plan comprises of series of zones with different design plans and timeline, thus allowing a comparative study within the Arbutus Greenway itself.

1.2 Research methodology

This project approaches social connectedness from the perspective of municipal planning, specifically in the City of Vancouver. Policies and plans play a huge role in municipal planning, and many of them are informed by research and neighbourhood data. Therefore, this capstone study focuses on exploring the following questions:

1. How is social connectedness framed in the City's planning and policy documents related to the Arbutus Greenway and what is the main narrative?

2. What factors related to social connectedness did people in Vancouver raise during the planning process of the Arbutus Greenway?

3. How did residents (INTERACT participants) along the greenway report feelings of social connectedness, with respect to the greenway and more generally within their communities?

For the first question, a review is conducted on City of Vancouver's planning documents that are foundational for the Arbutus Greenway. These include but are not limited to: Healthy City Action Plan (2015), the Healthy City Strategy Plan (2014), the Greenest City 2020 Action Plan (2012; 2015; 2019) the Transportation 2040 plan (2012), and the Vancouver Greenways Plan (1995) as indicated on the City's website. They are examined based on how social connectedness and its related concepts are mentioned in the publicly available documents, and within which context (e.g., well-being, place-making, specific population groups such as older adults or children, etc).

For the second question, a review is conducted on public documents from the consultation phase activities on the Greenway. This encompass what is available on the City's website from the consultation summary documents, council reports, or open house information boards. A few City staff who are involved with the Arbutus Greenway project are also interviewed to gather additional qualitative information. This will provide a comprehensive understanding on the conversations around social connectedness of the greenway.

For the third question, a data analysis is conducted using survey data collected from over 300 residents living near the Arbutus Greenway. This data set was collected by UBC and SFU researchers from the INTErventions, Research, and Action in Cities Team (INTERACT)'s Vancouver project group between May and November 2018 through an online health survey. Only answers from questions related to social capital and social connectedness are extracted for the purposes of this research. Data findings are analyzed and visualized using GIS applications.
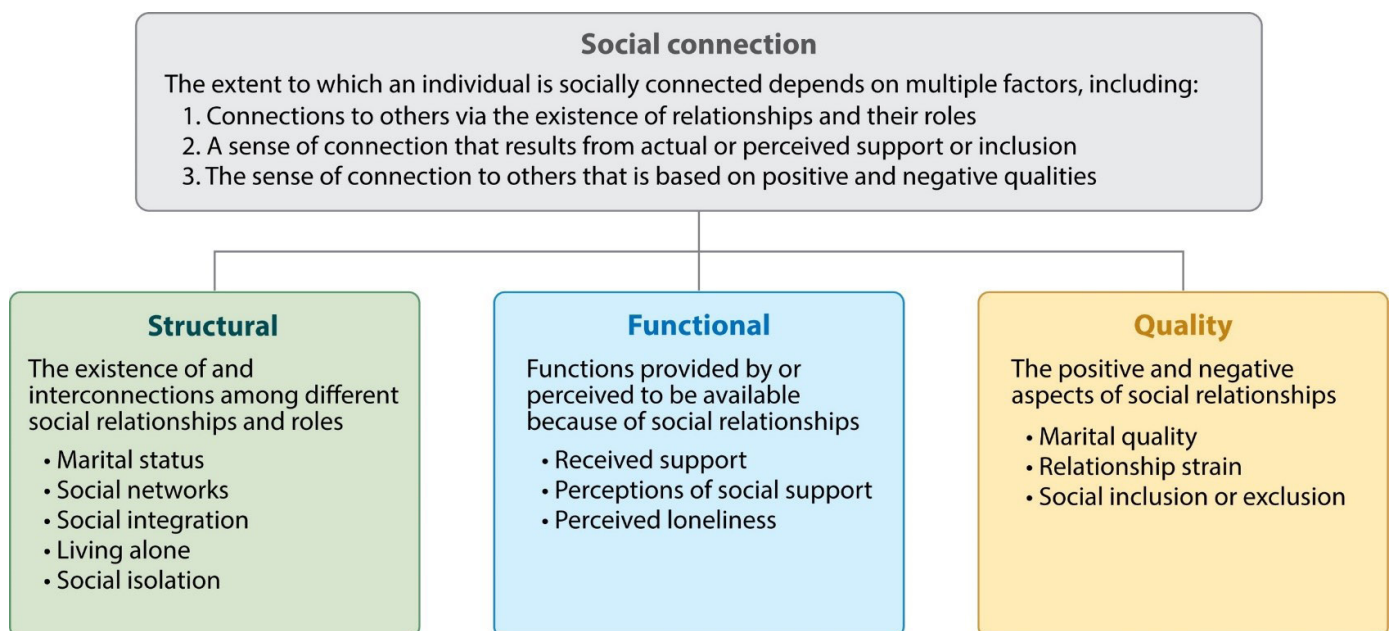
Public seating on Burrad Bridge. Photo credit: Stella Zhou

1.3 Defining social connectedness

Social Connectedness in research

Social connectedness is a complex topic that is usually defined and applied differently by researchers, institutions, organizations and government bodies. Broadly speaking, social connectedness can be understood as the various ways in which people can subjectively feel or be objectively connected to one another in a social setting. However, this generic approach may vary and become more nuanced depending on the context. Within research literatures, the topic of social connectedness encompasses a diversity of related concepts, making it extremely difficult to define in a consistent and specific way. From a relatively abstract and high-level approach, Holt-Lunstad et al describe social connectedness as a multifactorial concept illustrating the structural, functional and qualitative aspects of social relationships (p. 440; Holt-Lunstad, Robles, & Sbarra, 2017, p. 518). The structural aspect is quantitative in nature, measuring the existing number of social connections; the functional aspect focuses

on availability of potential resources and support provided by social relations; the quality aspect aims to evaluate the positive and negative factors of those social connections (Figure 1)(Holt-Lunstad, 2018, p. 440). This multifactorial approach highlights the importance of evaluating social connectedness using both quantitative and qualitative approach. It is not only about measuring the number of individual social relationships or frequency of contacts with others, but also capturing the subjective sense of belonging, inclusion, support and connectedness one has in a social setting. For example, in the My Health My Community 2014 survey conducted by Vancouver Coastal Health, Fraser Health and the University of British Columbia, social connectedness is captured by two major indicators: i) the perception of community belonging; and ii) the number of people an individual can confide in (My Health My Community, 2018, p. 1).

Social connection

The extent to which an individual is socially connected depends on multiple factors, including:
1. Connections to others via the existence of relationships and their roles
2. A sense of connection that results from actual or perceived support or inclusion
3. The sense of connection to others that is based on positive and negative qualities

Structural

The existence of and interconnections among different social relationships and roles

- Marital status
- Social networks
- Social integration
- Living alone
- Social isolation

Functional

Functions provided by or perceived to be available because of social relationships

- Received support
- Perceptions of social support
- Perceived loneliness

Quality

The positive and negative aspects of social relationships

- Marital quality
- Relationship strain
- Social inclusion or exclusion

Figure 1. Social connection as a multifactorial construct including structural, functional, and quality components.

Social connectedness on the ground

Within the realm of public health and urban sociology research, social connectedness is often explored through three major related concepts: social capital, social cohesion and social inclusion. However. what is examined in literature and research may be different from how social connectedness is being used by government agencies or other organizations. This is particularly true for local municipalities as they prefer to keep terms flexible and relevant to their own policy agendas. Table 1 (see page 8) shows the alternative key terms and concepts related to social connectedness found in planning documents, reports, and official websites of various organizations and government bodies. In the context of British Columbia, provincial level agencies and organizations tend to refer to social connectedness from a high-level approach. On the other hand, local municipalities commonly favour explicit terms and concepts that are nested under the umbrella of social connectedness (see Table 1 bottom category). These commonly used terms include: social/civic engagement, social participation, social interactions and social well-being. Since most municipal plans and polices are public facing, it is reasonable for local governments to favour terms that are more tangible and less abstract so that they can be widely accepted by the general public. Compared to social capital, social cohesion and social inclusion, the terms used in municipal documents are more grounded towards social planning, community development and civic interests. That being said, there is a lack of consistency among and within each municipalities on how they address social connectedness in their plans and policies.

In conclusion, there is no single definition or way to approach social connectedness. With the overlapping definitions and complexity of the concept, it is necessary to consider local policy and organizational context to understand social connectedness in a less abstract way. This study therefore examines social connectedness as an umbrella term based on the policy context within the City of Vancouver. It adopts the general understanding of social connectedness as the various ways in which an individual can subjectively feel or be objectively connected to others socially, while grounding it towards the narrative within City plans and policies. With "Cultivating Connections" being one of the main goals for Vancouver's Healthy City Strategy plan, it is interesting to see how related plans and policies may have influenced the development of the Arbutus Greenway. More importantly, this study explores whether the Greenway's transformation process could subsequently impact levels of social connectedness among local neighbourhoods.

Keywords	Social Connectedness	Social Capital	Social Cohesion	Social Development	Social Engagement	Social Interaction	Social Isolation	Social Network	Social Participation	Social Support	Social Sustainability	Social Well-being
Public Health Agency of Canada	X							X		X		
Statistics Canada		X			X				X			
Healthy Families BC	X						X					X
Local Health Authorities	X	X										X
Plan h & BC Healthy Communities	X				X			X		X		X
Vancouver Foundation	X			X	X		X	X				
BC Alliance for Healthy Living	X											
The Social Planning and Research Council of BC			X									
City of Vancouver	X	X	X		X		X	X	X	X		X
City of Burnaby			X		X	X		X	X		X	X
City of Richmond	X			X	X	X		X	X		X	X
City of Surrey					X				X			X

Table 1. Keywords used in strategy documents, reports, and websites used by some of the policy actors and organizations working on social connectedness in British Columbia.

1.4 The importance of social connectedness in health and planning

The Healthy Cities Movement

The interest in the linkage between health and the built environment surfaced during a time where obesity was increasing rapidly in the 1980s (Frank, Engelke, & Schmid, 2004). Since then, many researchers have entered this field to explore and solidify the relationship between the built environment and health. In the 1980s, Trevor Hancock and Len Duhl wrote a background paper for the World Health Organization when the Healthy Cities movement first emerged. It includes the very first definition of Healthy Cities, along with 11 qualities identified as the basis of a healthy urban environment (Image 1) (Hancock & Duhl, 1988; World Health Organization Regional Office for Europe, 2014). Out of these 11 qualities, 3 of them are closely related to social connectedness:

▶ A high degree of public participation in and control over the decision affecting one's life, health and well-being

▶ Access to a wide variety of experience and resources with the possibility of multiple contracts, interaction and communication

▶ Encouragement of connectedness with the past, with the cultural and biological heritage and with other groups and individuals

Their definition of a Healthy City shows that health is not only related to the physical environment but also the social environment. Hancock and Duhl established a connection between health and urban environments while emphasizing the importance of social connections. Based on the 11 qualities, a Healthy City should provide basic needs and health services while promoting aspects such as social diversity, inclusivity, well-being, community resiliency, sense of belonging, civic engagement and social participation. With the growing momentum of the Healthy Cities movement, interests in social connectedness increased as a foundation for many Healthy City qualities.
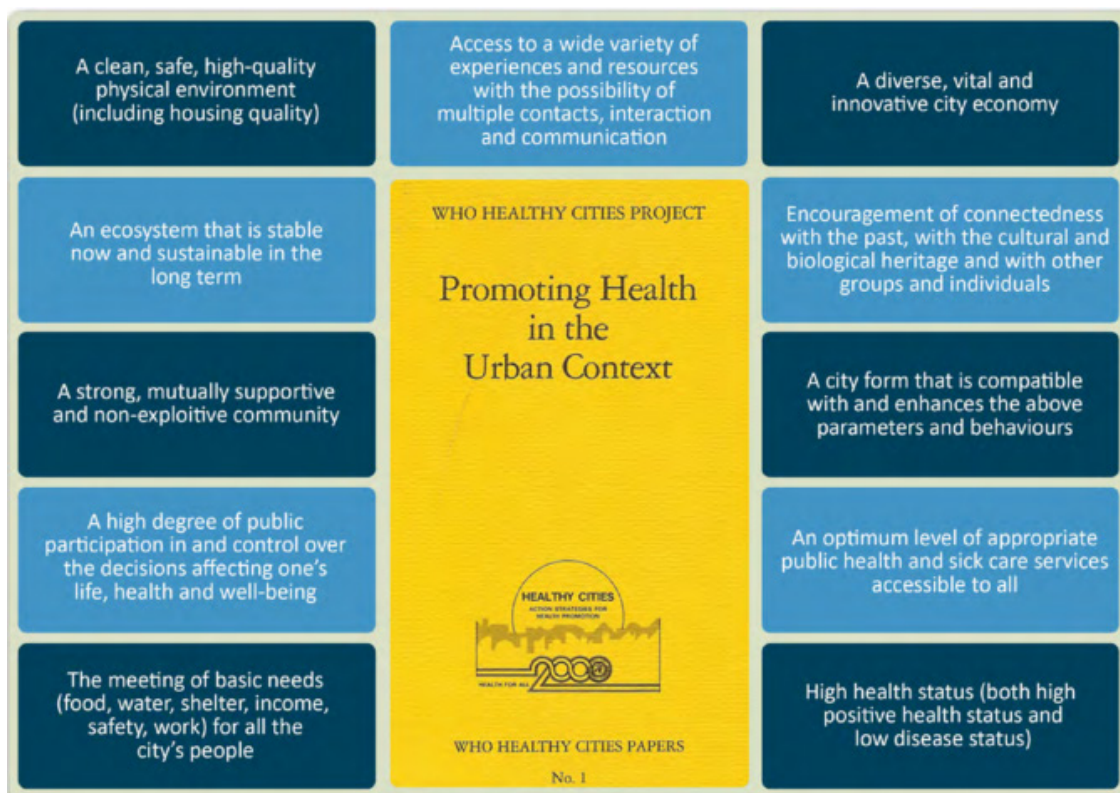

Image 1. The 11 qualities of healthy cities

1.5 Connecting greenways with social connectedness

Social connectedness and health

On the surface, social connectedness does not seem to have direct health impact, especially compared to factors such as levels of physical activity, healthy lifestyle, and good health care systems. Although not very abundant, many research studies and literature have established a link between social connectedness and health (Kawachi, Subramanian, & Kim, 2008). Some studies suggest that higher levels of social connectedness is most positively related to higher levels of physical activity and other healthy behaviours leading to positive health outcomes (Cohen, 2004; Hystad & Carpiano, 2012; Kaczynski & Glover, 2012; Wood, Frank, & Giles-Corti, 2010). Social connectedness can also mediate physical and mental health through preventing stress-induced behaviours such as smoking, drinking alcohol, sleep deprivation while lowering rates of anxiety and depression (Cohen, 2004; Holt-Lunstad, 2018; Holt-Lunstad, Smith, & Layton, 2010; Seppala, Rossomando, Doty, & Seppala, 2015). Overall, the connection between social connectedness and health is complex and multifactorial in nature; but there are sufficient evidences to support social connectedness and its related concepts as one of the social determinants of health (Solar & Irwin, 2010).

Healthy built environment leads to healthier people

The connection between built environment and physical health has been extensively studied by researchers and professionals since the 1980s. Health promotion and creating neighbourhood environments that support healthy living have become an efficient and effective method to achieve better public health outcomes while reducing the pressure and cost on health care systems (Frank & Engelke, 2001). In comparison, the relationship between the built environment and mental health or well-being is not as well established. Although many research studies have aimed to examine the possible association between the built environment and aspects of social capital, there is a lack of empirical evidences due to the contextual nature of social capital and difficulty for objective measures (Araya et al., 2006). Nonetheless, there have been many speculations around this topic, and stronger connections can be found at a more micro-level between specific built environment characteristics and social connectedness.

The potential of the Arbutus Greenway

As an urban green infrastructure, the Arbutus Greenway has high potentials to impact health and social connectedness. It is multifunctional and embraces many positive characteristics of a healthy built environment feature.

There are three main factors in how the Arbutus greenway could potentially affect social connectedness: i) enhance connectivity, mobility and walkability; ii) increase access to urban greenspace; iii) better urban design and public space. Each of these area highlights certain aspects of the Arbutus Greenway and its development process.

Firstly, Arbutus Greenway is planned and developed as a transportation corridor. It provides active transportation options while increasing connectivity

to different destinations and between locations. With more active transportation options such as biking, walking and public transportation, people's mobility level will likely increase. Based on the 2018 Arbutus Greenway Evaluation Study (AGE) (CHHM, 2018), there was a 34.5% increase in the overall user volume observed per hour on the greenway compared to 2017's AGE data (CHHM, 2017). Particularly, the volume of cyclist counts per hour substantially increased by 63.6% from 2017 after the marked bikeway was paved on the Arbutus Greenway. Higher transportation mobility can also allow people to connect with important social relationships outside their local neighbourhood. The Greenway provides people with improved connectivity to a diversity of resources and services that might have previously been difficult to access. It gives people opportunities to socially interact with each other along the Greenway or at places that are connected to the Greenway. This includes accessing better social support and health services, family and friends' network, City-wide facilities and events, and other areas of interest that supports stronger social connectedness. Neighbourhood walkability itself also directly relates to social connectedness because it fosters local social interactions. Generally, higher walkability indicates higher level of community engagement and aspects of social connectedness (Hassen & Kaufman, 2016; Leyden, 2003; Rogers, Gardner, & Carlson, 2013). Walkable neighbourhoods are usually mixed-use, pedestrian friendly and relatively dense, therefore allowing people to build trust, participate in community and civic activities, and be more socially engaged compared to car-dependent neighbourhoods (Leyden, 2003). These social sustainability factors can be achieved through physical infrastructure improvements (Hassen & Kaufman, 2016), similar to what is happening with the Arbutus Greenway development.
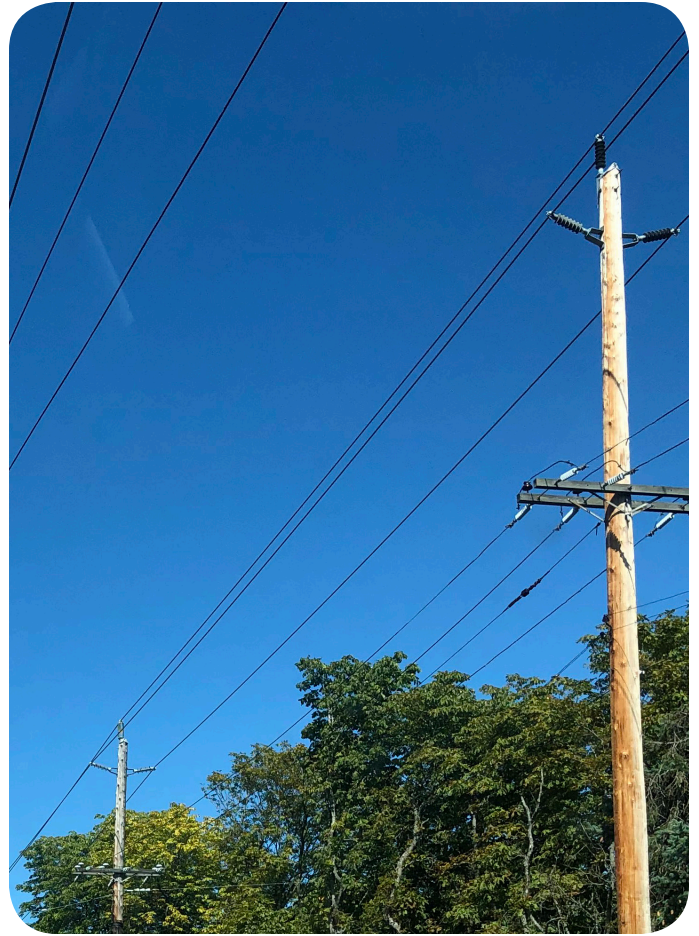
Another main aspect of the Arbutus Greenway is how it brings dispersed urban greenspace together to create a connected network of parks, community gardens and green pockets. Urban greenspace has been positively associated with physical health such as reduced cardiovascular diseases, lower obesity rate and type 2 diabetes and improved pregnancy outcomes (Solar & Irwin, 2010). These are usually mediated by increase in physical activity, less exposure to noise and air pollution, and reduced heat effects. More importantly, there are many evidences supporting the psychological effect of greenspace, which includes improved mental health and aspects of social connectedness (Frumkin et al., 2017; Nutsford et al., 2013; Wood et al., 2017; 'Yotti' Kingsley & Townsend, 2007). Since greenspace is a feature of the built environment that can be quantitatively measured, there are many research studies providing empirical analysis on this phenomenon. The presence and availability of greenspace is most commonly related to social cohesion (De Vries et al., 2013; Solar & Irwin, 2010). Some scholars even suggest that neighbourhood greenness is more significantly related to social cohesion and mental than it is to physical health (Sugiyama et al., 2008). Currently there are six City parks linked directly to the Arbutus Greenway (Image 2). In addition, there are two neighbourhood-wide community gardens adjacent to the Greenway, one in Kitsilano and the other in Marpole. Smaller pockets of greenspace can also be found along the Greenway, with some sections having higher tree canopy coverage and others having more lower level vegetations. With the current design vision, more greenspace such as parks and community gardens will be added to the Greenway as it develops. Therefore, there is a high potential for the Greenway development to positively impact levels of social connectedness.

KITSILANO BEACH

KITSILANO

Broadway

MacDonald St

ARBUTUS RIDGE

Cypress St

4th Ave

Delamont Park

10th Ave

FAIRVIEW

16th Ave

SHAUGHNESSY

Arbutus St

Burrard St

False Creek

GRANVILLE ISLAND

6th and Fir Park

King Edward Ave

QUILCHENA

Quilchena Park

33rd Ave

Larch St

37th Ave

Kerrisdale Centennial Park & Kerrisdale Community Centre (at 43rd)

Kerrisdale Park

41st Ave

KERRISDALE

45th Ave

49th Ave

Granville St

Oak St

SOUTH GRANVILLE

57th Ave

59th Ave

SW Marine Dr

West Blvd

64th Ave

Riverview Park

67th Ave

68th Ave

70th Ave

MARPOLE

William Mackie Park

Marpole Museum

Fraser River

SW Marine

Legend

- **ARBUTUS GREENWAY**
- Connections to Seawall & Canada Line
- Cycling Routes
- Cycling Connection
- Transit
- Park
- Skateboarding
- Commercial District
- Community Garden
- Viewpoint
- Community Centre
- Museum
- Toilet

Mobi Stations
- Current
- Coming this year

Image 2. Arbutus Greenway map by the City of Vancouver

The Arbutus Greenway Design Vision also aims to create more public space and improve public life using people friendly urban design. Public space and public life are often associated with better social connectedness because they encourage more social interaction and participation. Certain urban design features can enhance public realm while providing more vibrant public life and social interactions within the neighbourhood. For example, mixed use neighbourhoods with presence of commercial destinations and community gathering spaces often helps foster a better sense of belonging (Wood et al., 2010). More importantly, having communities involved in the placemaking and placekeeping process of public spaces also supports better social connectedness (Semenza & March, 2009). This includes small changes such as adding neighbourhood art, benches, information kiosks, or even larger community stewardship program that involves community member contribution in maintaining their social gathering space. This kind of participatory process brings people together and allowing them to be part of a larger social circle. The Arbutus Greenway development process has already provided Vancouver residents with such opportunities during the planning stage through design jams, workshops and open houses. After the implementation of the Design Vision, there should be more opportunities and public spaces opened up to the public; residents living along Greenway would have higher chances to be socially involved and express themselves as part of a larger community.

Arbutus Greenway at 37th Avenue. Photo credit: Stella Zhou

2.0   City Plans and Policies

"How is social connectedness framed in the City's planning and policy documents related to the Arbutus Greenway and what is the main narrative?"

2.1 Section summary

This section examines all the policy documents and plans within the City of Vancouver that are related to social connectedness and the Arbutus Greenway (AGW). The purpose is to understand how conversations around social connectedness are framed within City-wide plans and policy contexts. Another purpose is to assess how they may have shaped the planning process of the AGW, and how they might affect the transformation happening in the next few years. The publicly available policy documents and plans gathered from the City of Vancouver are as follows:

► Vancouver Greenways Plan (1995)
► Arbutus Corridor Official Development Plan (2000)
► Transportation 2040 Plan (2012)
► Greenest City 2020 Action Plan (2011)/ Greenest City 2020 Action Plan Part 2 (2014)
► Marpole Community Plan (2014)
► Healthy City Strategy Plan 2014-2025 (2014)/ Healthy City Action Plan 2015-2018 (2015)
► Arbutus Greenway Design Vision (2018)
► Arbutus Greenway Implementation Strategy (2018)

Each of them are reviewed and assessed based on their impact and influences on either the Arbutus Greenway or the framing of social connectedness within the City.

2.2 Methodology

All planning and policy documents selected are publicly available and retrieved from the City of Vancouver's website. In order to extract and review relevant information from each document, specific keywords are used to narrow down the focus on issues related to the Arbutus Greenway and social connectedness. These keywords are mainly variations of the naming on the Arbutus Greenway, and related concepts that are under the umbrella term of social connectedness. Table 2.2.1 shows which keywords and related concepts are considered relevant to this research process.

Main keywords	Related key concepts and term variations
Arbutus Greenway	Arbutus Corridor
Social connectedness	Social Connections
	Social Cohesion
	Social Capital
	Social/Community belonging
	Social/Community engagement
	Social/Community interaction
	Social/Community participation
	Social/Community well-being
	Social interaction
	Social isolation

Table 2.2.1. Keyword variations of social connectedness

2.3 Planning context of the Arbutus Greenway and social connectedness

Vancouver Greenways Plan (1995)

Adopted by City Council in 1992 as the Vancouver urban greenway system, this idea of enhancing City greenways gained huge public interest during the first CityPlan (1995) process. The Vancouver Greenways Plan (1995) was one of the earliest planning documents that recognizes the importance of city-wide greenways. It defines greenways as "green paths" designated for pedestrians and cyclists for recreational and leisure use. The draft plan was presented to the public at open houses and gathered major interest and support during the first CityPlan (1995) process. With input from local citizens and staff evaluation, 14 city greenways were proposed in this plan to be part of 140km long greenway network. The Arbutus Greenway (originally named Arbutus Way) emerged as one of the proposed North-South City Greenway. It was also identified by the public as one of the "*most desirable Greenway route*" next to the waterfront routes, which eventually formed the seawall circuit. In addition, the City expressed interest in this plan to examine the potential of connecting Vancouver to Richmond via the Arbutus Corridor using public transit.

In this early plan, City-wide greenways were seen mainly as pathways that can connect people to important destinations such as access to nature, parks, and other civic places for work, leisure, and learning. Despite the large amount of public input and support, key concepts that are related to social connectedness were not recorded in this document. The 1995 Greenway Plan focuses more on the physical viability, accessibility, connectivity and potential public services capacity of City-wide greenways. Nonetheless, it is the first official City plan that incorporated the AGW as an agenda item for future greenway development.

Arbutus Corridor Official Development Plan (2000)

The Arbutus Corridor Official Development Plan (ODP) is a by-law plan approved by City Council in 2000 to provide more context for the future development of the Arbutus Corridor. It regulates that all land use within the corridor to be either a multi-use transportation thoroughfare (such as rail, transit and bike paths) or for greenway usage (such as pedestrian paths, bike paths, or various kinds of walking trails). This is an indication that the City had the intention to use the Arbutus Corridor for future rapid transit lines. However, this ODP was soon challenged by the Canadian Pacific Railway (CPR) as they intended to develop the corridor for other purposes. Luckily, the Supreme Court of Canada ruled in the City's favour in 2006, with the City's purchase of the corridor from CPR occurring ten years later. Recently the ODP was submitted to council for amendments in July 10, 2018, which proposed removing some lands near the north end of the AGW that are no longer needed for Greenway purposes under the current design vision.

Transportation 2040 Plan (2012)

The Transportation 2040 Plan was adopted by the City Council in October 2012 as a long-term strategic vision that helps guide decision-making on transportation, land use and public investments in the City of Vancouver. Since the Arbutus Greenway is designated as a transportation corridor, the Transportation 2040 Plan has been influencing the planning and decision-making process of the AGW. In this plan, the City sets up a long-term transportation objective for the Arbutus Corridor, which is to develop it into both an active transportation greenway and a potential streetcar or light rail line. It also includes action items leading towards the long-term objectives such as addressing gaps in pedestrian network, better pedestrian realm design visions, safer and more inclusive cycling routes and connections to more destinations. Some of these action items have already been implemented and can be observed and experienced by people using the AGW today.

Different from the 1995 Greenways Plan, this plan focuses heavily on the three pillars of sustainability which includes the goal to become a more socially sustainable city. Although the plan does not directly address social connectedness, the term itself appeared in the overall directions as a positive outcome of better walking – "*Ensure streets and sidewalks support a vibrant public life and encourage a walking culture, healthy lifestyles, and social connectedness.* (pp.15)" In addition, the plan has certain people-centric goals within their long-term social visions that aims to promote social and community interactions through public space. These social aspects and public realm focuses are highly related to social connectedness. Therefore, this plan sees transportation development as more than just improving the movements of people, goods and services; but also as opportunities to create and enhance public space for better community interactions and social connectedness. This is the first city-wide plan that includes both the Arbutus Greenway and the idea of impacting social connectedness through the built environment.

Greenest City 2020 Action Plan Part 1 (2011) and Part 2 (2014)

The Greenest City Plan was first approved by the City Council in 2011, with the Greenest City 2020 Action Plan: Part 2 (GCAP) being an updated version with more ambitious targets and goals compared to its original version. This plan aims to put City of Vancouver on the world's map as one of the most sustainable cities and a leader of urban sustainability. One of the main action goals in the GCAP is to ensure that all Vancouver residents can access a park, greenway or other urban green space within a five-minute walk (pp.33). Although the Arbutus Greenway is not specifically named in the GCAP, this particular goal has influenced and guided the development of the AGW. In addition, physical and emotional health are emphasized here as major benefits of having access to green space. This goal also recognizes the importance of urban greenspace as opportunities to foster better sense of community and social interactions in neighbourhoods, which is related to social connectedness.

Social connectedness does not exist in this plan as an individual term, nor does related concepts appear as one of the main goals. There are only some mentions of related keywords in two of the goals, including the previously mentioned "*Access to Nature*". The other GCAP goal that includes social connectedness as a positive outcome is "*Lighter Footprint*". This goal sees sharing economy as a potential method to reduce consumption and waste while creating social connections (pp.64). Other than the two goals mentioned above, other related concepts of social connectedness are not discussed in the Greenest City Action Plan.

Marpole Community Plan (2014)

Out of the 6 neighbourhoods that the Arbutus Greenway goes through, Marpole is currently the only one with an up-to-date Community Plan. The Marpole Community Plan completed in 2014 is an update to the previous 1979 Marpole Plan. This updated plan was a collaborative effort between the City, community members and key stakeholders to set up a new vision, identify issues and establish goals. The Marpole Community Plan provides a comprehensive framework that guides changes to adapt growth in the neighbourhood. Policies around land use, housing, transportation, parks and open space, economy, arts and culture are all integrated in this plan. Since the Arbutus Greenway (still named as the Arbutus Corridor in this plan) passes through Marpole, there are quite a few policies mentioning the Greenway. However, most of them focus on transportation aspects. Those polices emphasize the importance to preserve the greenway as a multiuse transportation corridor, and aligning their policies with Transportation 2040 goals.

Social connectedness is explicitly mentioned and emphasized repeatedly in the Marpole Community Plan due its gravitation towards Transportation 2040 goals. It first appears in the five main principles as a benefit that is promoted by better walking. Social connectedness is also included in the overall goals of certain policy topics, such as transportation and community well-being; but it is not integrated into specific policies. Nonetheless, social connectedness is a concept that threads through the whole Marpole Community Plan. Since Marpole residents are already highly involved with the early planning process of the Arbutus Greenway, this plan could continue to shape the Greenway's development in the neighbourhood.

Healthy City Strategy Plan 2014-2025 (2014) and Healthy City Strategy: Action Plan 2015-2018 (2015)

The Healthy City Strategy (HCS) Plan was approved by the City Council in 2014 with its 3-year action plan published in 2015. This strategy has one clear vision statement along with three main areas of focus and 13 long-term goals associated with targets and indicators for progress tracking. In this strategy framework, 'Cultivating Connections' is both one of the main focus areas and one of the long-term goals. This demonstrates that social connectedness and its related concepts are high priorities in the HCS. This plan also stresses the need for a broader and more holistic understanding of health and well-being in order to achieve their vision of a *"Healthy City for All"*. With goals such as "Lifelong Learning", *"Expressing Ourselves', 'Environments to Thrive In"* and *"Being and Feeling Safe and Included"*, HCS acknowledges the interconnectedness of the social determinants of health and well-being.

This is perhaps the first major City strategy plan that puts social connectedness as one of the main focuses and goals to achieve, rather than as a side benefit of other policies. Although, the Arbutus Greenway is not mentioned or acknowledged in this strategy plan, greenways are included under the goal of *"Active Living and Getting Outside"* as one of the main targets aligning with the Greenest City Action Plan.

Looking closer to one of the goals on 'cultivating connections', it is described as 'Vancouverites are connected and engaged in the places and space that matter to us.' (pp. 26). The main targets for this goal are identified as:

► All Vancouverites report that they have at least 4 people in their network they can rely on for support in times of need
► Increase municipal voter turnout rate to at least 60%

Along with these two targets are indicators such as social support network size, sense of trust, volunteerism, municipal voter turnout rate, and aboriginal children in foster care. Through the main goal statement, targets and target indicators, there is a strong civic engagement undertone for what the City sees as cultivating social connections.

Another HCS goal with a strong focus on social connectedness is 'Environments to Thrive'. This goal aims to create better physical and mental health outcomes through improving built environment features and neighbourhood walkability. Enhanced engagement and connectedness are also seen as key components of a thriving environment. Other social connectedness related terms also appeared in other long-term goals throughout the plan document. This includes keywords like community engagement, public participation, social capital, social cohesion, sense of belonging and social isolation. In conclusion, although the Healthy City Strategy does not directly attach its policies to the Arbutus Greenway, it is still a major City policy and strategic plan that addresses the importance of social connectedness.

Arbutus Greenway Design Vision (July 2018)

This design vision was included in the July 12th council report as Appendix B and was approved by the City Council. According to its vision statement, the design vision aims to transform the Arbutus Greenway into *"a destination that fosters both movement and rich social interaction – inspired by nature and the stories of the places it connects."* (pp.2). It focuses heavily on envisioning the future designs and characteristics of public spaces on the greenway, creating a unique public realm network along the corridor. Since this document has already gone through an intensive public engagement process and approved by the City Council, implementation of these designs will directly impact the Arbutus Greenway and its users.

Out of the 9 project objectives outlined, 2 of them is highly related to social connectedness. One of them is to "*provide flexible public space for people to gather, socialize, support community events, and enable artistic expression*"; the other is to '*engage and involve local stakeholders and city-wide residents*'. Both of them could potentially contribute to better social connectedness, with the first one focusing on the built environment and the second one on the planning process itself. It is interesting to see that the City aims to engage not only local stakeholders but also city-wide residents. This could mean that the City expects the AGW to be a City-wide destination rather than only serving local neighbourhoods.

This design vision officially sectioned the Arbutus Greenway into eight character zones with designs tailored to the local neighbourhood context. Most of the content is therefore showcasing the visuals of these design visions for each zone. Nearly all zones include design elements that would create space for community gatherings and encourage social interactions on the greenway. Although social connectedness is once again not explicitly named in this design vision, the potential impact of implementation could lead to positive outcomes on the overall social connectedness along the AGW.

Arbutus Greenway Implementation Strategy (July 2018)

This implementation strategy was included in the July 12th council report as Appendix C and was approved by the City Council in 2018. It provides guidance on the implementation and construction process of the approved design visions. Since it is not feasible for the construction of the AGW design visions to happen all at once, a phasing approach is introduced. This strategy document presents the evaluation framework used for deciding the different phasing options, and proposed recommendation for phase 1 delivery.

Out of the 10 criteria listed in the evaluation framework, most of them are based on the physical viability of the built environment or the potential constraints for certain sites. Equity is one of the few criteria focusing more on the social aspects of the Greenway. Priorities are given to areas with higher needs for access to open space and amenities. However, neighborhood level social connectedness or its related concepts are not a consideration in this evaluation framework. The 10 criteria are separated into either reason for advancement or postponement. They are each assigned an individual score. In the end, Zone 8 (The Lookout) and Zone 3 (The Ridge) are recommend for phase 1 construction based on their overall high scores in the reasons for advancement and low scores on reasons for postponement (pp. 9). Further analysis on how this decision for phase 1 delivery may affect social connectedness along the Arbutus Greenway will be discussed in detail later in this report.
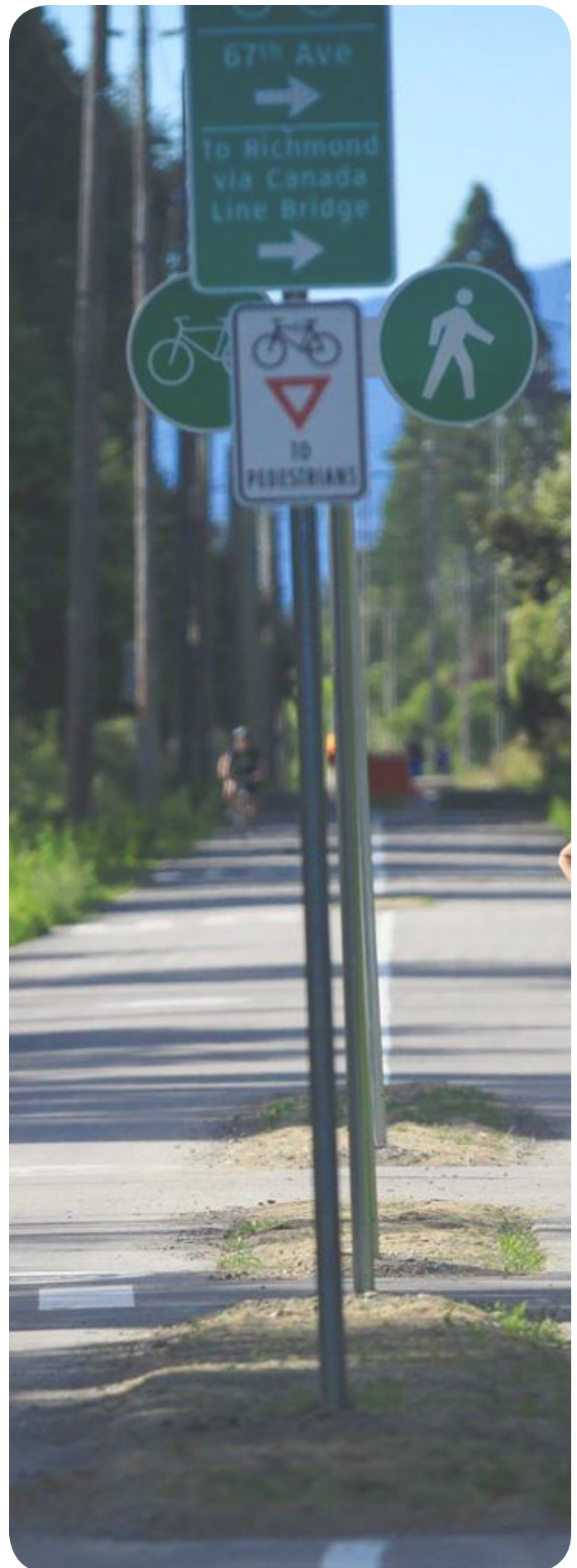
Arbutus Greenway signs. Photo credit: Team INTERACT

2.4 The overall narrative on social connectedness in planning documents

Based on the selected plans and policy documents related to the Arbutus Greenway (AGW), we can see each of their influence on either shaping the development process of the AGW or framing the understanding of social connectedness in the city. Figure 2.4.1 puts all the related plans and policy documents onto a timeline and highlights each of their importance; figure 2.4.2 provides a matrix summarizing how social connectedness is framed within each document. There is a subtle shift in narrative on social connectedness overtime. At the beginning with the first Vancouver Greenway Plan (1995), there was no focus on the social aspects of greenways and the plan mainly focused on physical and built environment features. Transportation 2040 plan was the first city-wide plan to establish a connection between active transportation, health and social connectedness. This was also when the term was first explicitly mentioned and included in a planning document. However, during this time social connectedness was mainly related to active transportation policies as a benefit of walking and usually not seen as a priority focus in City plans.

This narrative remained somewhat similar for the Greenest City Action Plan and Marpole Community Plan, with only some additional focus on its impact on community resiliency and well-being.

The adoption of the Healthy City Strategy Plan (2014) and its Action Plan (2015) was a milestone for the framing around social connectedness. This is when social connectedness finally became a stand alone priority under the title of 'Cultivating Connections', which is included as a major focus area and a long-term goal. In this plan on building a healthy city, social connectedness is valued for its critical impact on both physical health and mental well-being. Its impact can be seen in the plans that follow, particularly the Arbutus Greenway Design Vision where all the guidelines and design characteristics revolve around creating more public gathering space for building social connections. Although the framing of social connectedness have changed overtime and become more important, there is still the need to raise awareness on the critical impact and values of social connectedness.
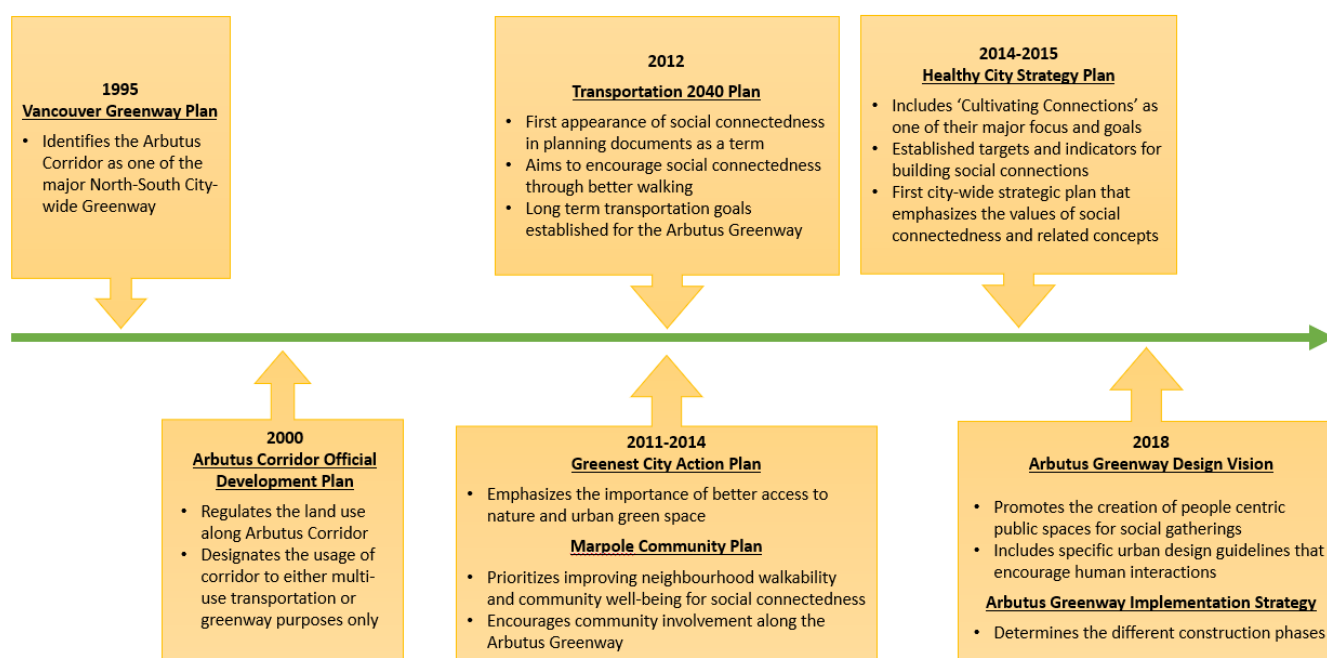

1995
Vancouver Greenway Plan

- Identifies the Arbutus Corridor as one of the major North-South City-wide Greenway

2012
Transportation 2040 Plan

- First appearance of social connectedness in planning documents as a term
- Aims to encourage social connectedness through better walking
- Long term transportation goals established for the Arbutus Greenway

2014-2015
Healthy City Strategy Plan

- Includes 'Cultivating Connections' as one of their major focus and goals
- Established targets and indicators for building social connections
- First city-wide strategic plan that emphasizes the values of social connectedness and related concepts

2000
Arbutus Corridor Official Development Plan

- Regulates the land use along Arbutus Corridor
- Designates the usage of corridor to either multi-use transportation or greenway purposes only

2011-2014
Greenest City Action Plan

- Emphasizes the importance of better access to nature and urban green space

Marpole Community Plan

- Prioritizes improving neighbourhood walkability and community well-being for social connectedness
- Encourages community involvement along the Arbutus Greenway

2018
Arbutus Greenway Design Vision

- Promotes the creation of people centric public spaces for social gatherings
- Includes specific urban design guidelines that encourage human interactions

Arbutus Greenway Implementation Strategy

- Determines the different construction phases

Figure 2.4.1 Overview of plans and policy documents related to the Arbutus Greenway

Does the following policy or plan...

Columns (criteria):
- **Identifies social connectedness** or its related concept as a priority
- Includes policies, guidelines or statements that **directly addresses** social connectedness
- Includes policies, guidelines or statements that **promote opportunities** for social connectedness
- Sets goals and targets to **measure and evaluate** social connectedness or its related concepts
- Encourages **partnership and engagement** with local communities and residents
- Raises **community awareness** on social connectedness and its related concepts
- Has a **direct impact** on the Arbutus Greenway development

Rows (documents):
- Vancouver Greenway Plan
- AGW Official Development Plan
- Transportation 2040 Plan
- Greenest City Action Plan
- Marpole Community Plan
- Healthy City Strategy Plan
- AGW Design Vision
- AGW Implementation Strategy

Legend:
- *No it doesn't*
- *Somewhat*
- *Yes it does*

Figure 2.4.2 Matrix for the framing of social connectedness within each plan and policy document related to the Arbutus Greenway

21

3.0   Public Awareness and Values

"What factors related to social connectedness did people in Vancouver raise during the planning process of the Arbutus Greenway?"

3.1 Section summary

This section examines publicly available consultation summary reports from public engagement events on the Arbutus Greenway (AGW) development. The purpose is to understand if people in Vancouver are aware of the concept of social connectedness, and what values or aspects do they associate with it. This is examined through reviewing the summary reports of public engagement events and see what social connectedness related factors did people mention during the planning process of the AGW. In addition, an interview was conducted with a City staff who is involved in the planning and public engagement process of the AGW. This is to gain a better understanding of the public perception of social connectedness from a City perspective. The publicly available public engagement summary reports are as follows:

▶ Vision and Values for the Future Arbutus Greenway – Consultation Summary Report (March 2017)
▶ Arbutus Greenway Evaluation – Preliminary data report to inform City of Vancouver Arbutus Greenway Design Jam (October 2017)
▶ Arbutus Greenway Design Options – Consultation Summary Report (January 2018)
▶ Arbutus Greenway Proposed Design – Consultation Summary Report (July 2018)

The content of each report are reviewed and assessed based on how social connectedness and its related concepts are being mentioned by the public during the planning processes of the AGW.

3.2 Methodology

Similar to section 2, specific keywords are used to narrow down the focus on social connectedness and extract relevant information from each document. For a list of all the relevant keywords on social connectedness and its related concepts, please refer to table 2.2.1 in section 2.

3.3 Factors related to social connectedness in public engagement documents

Vision and Values for the Future Arbutus Greenway – Consultation Summary Report (March 2017)

This report summarizes all public input collected on January and February 2017 regarding the vision and values of the future Arbutus Greenway. It includes all public input from the following public engagement opportunities:

▶ An online Talk Vancouver questionnaire (January 18 through February 15, 2017)
▶ Three stakeholder meetings (January 24, February 2 and 4, 2017)
▶ Three open houses (February 4, 9 and 11, 2017)
▶ Three "Pop-Up City Hall" events (February 1 and 8, 2017)
▶ Four advisory committee meetings (January 12 [x2], 16 and 25, 2017).

This report highlights the main themes from all 4,000 participant interactions and nearly 3,000 questionnaire responses collected for the vision and values of the future Arbutus Greenway. The public input during this period contributed to early visioning of the AGW and shaped future plans and actions on its development such as inspiring the proposed designs.

In general, out of all the public input, City staff identified four major themes, with one of them being closely related to social connectedness, which is *"Create a safe, comfortable, and welcoming destination with places for gathering, socializing, and relaxing"*. This indicates that there is a high public awareness or interest in the social aspects of the Arbutus Greenway, particularly as a place for social gathering and interactions.

"Reflects and connects neighbourhoods", *"Inclusive"* and *"Safe"* are also key themes identified by the public as values that are important and desirable for the AGW. Few direct comments by individuals also mentioned social connectedness as a major factor associated with the vision and values of the AGW. For example, one participant emphasized *"Social connectedness across ethnicities and generations"*, while another sees the Greenway as *"…hubs of social connection and activity along the way"*.

Arbutus Greenway Evaluation – Preliminary data report to inform City of Vancouver Arbutus Greenway Design Jam (October 2017)

This is a preliminary data report done by the Active Aging Research Team (ARRT) at the Centre for Hip Health and Mobility (CHHM) to summarize and inform the City of Vancouver of the results from the Arbutus Greenway Evaluation (AGE). It focuses on characterizing the social and health impact of the Arbutus Greenway development between 2017-2020. This report summarizes the result from the 2017 baseline data, including the AGE-Qualitative arm that assesses the impact of the AGW on mobility, physical activity, and social connectedness of older adults (age≥60) living near the Arbutus Greenway. For the baseline data collection, around 702 AGW users participated in the intercept survey. In addition, 42 older adults participated in either a focus group or one-on-one interviews for AGE-Qualitative.

Content related to social connectedness are mainly found in the AGE-Qualitative section. Social interactions, health and well-being, and sense of safety are some of the popular topics of discussion that emerged from these interviews. Many participants expressed a positive attitude towards the Arbutus Greenway being a place that encourages casual social interactions. However, some only viewed the Arbutus Greenway as a space purely for recreational and transportation use. Although AGE-Qualitative focuses heavily on older adults, it still indicates that social connectedness is a topic that local residents care and are aware of along the AGW.

Arbutus Greenway Design Options – Consultation Summary Report (January 2018)

This report is a summary for the consultation process on the new designs for the Arbutus Greenway. It highlights the public input gathered during a 2.5 day design jam held by the City in October 2017. It is a series of design workshops where 110 Vancouver residents from all 22 neighbourhoods came together and explored the design possibilities of the future AGW. In addition to the design workshops, there were a series of open houses and community input sessions for the public to learn more about the AGW project. They are also invited to provide their feedback on the potential designs. In total, there were 931 participant interactions across all the public engagement opportunities for the AGW design options. The most popular themes surrounding the design options for the AGW includes the following:

► General design and amenities
► Transportation design
► Public space
► Urban ecology
► Urban agriculture
► Local history and character

Within these six themes, majority of them have the potential to impact and promote social connectedness, except urban ecology. For example, like mentioned in section 1, the placemaking and placekeeping process of public spaces may support better social connectedness (Semenza & March, 2009). Community gardens are also an integral part of urban agriculture, which helps bring people together through gardening. Designs that focus on local history and character contribute to building a sense of belonging, and encourages people to learn more about the indigenous history and connect deeper with the land.

All written comments from the design jam, open houses, and community input sessions were transcribed and coded into several general categories. Although the design jam focuses mainly on the physical designs of the AGW, many comments from the public shared common sentiment on transforming the Greenway in to a place for more social interactions. Looking at all the visual recordings and graphics drawn at the design jam workshops, many of them emphasize the importance of having gathering spaces that are people friendly, interactive, engaging and encourage socialization with others.

Arbutus Greenway Proposed Design – Consultation Summary Report (July 2018)

After gathering public ideas and input on possible design options, the City of Vancouver published their proposed design for the Arbutus Greenway and invited the public for more feedback and comments on the solidified designs. This consultation summary report includes all public input from the following public engagement opportunities:

- ▶ An online Talk Vancouver questionnaire (April 19 through May 6, 2018)
- ▶ Four open houses (April 19, 21, 25 and 28, 2018)
- ▶ Five Advisory Committee Meetings (April 18, 20 and 26, May 14 and 15, 2018)
- ▶ Ongoing Stakeholder meetings

The report summarizes results of just over 2,000 participant interactions, including 1,123 survey responses and 809 participants across all open houses. The public input during this period were used to refine the proposed design before it was presented to the City Council.

Public responses were largely positive overall towards the proposed designs. Questions in Talk Vancouver asked whether people like the proposed design, and 74% expressed that they favour the proposed design with "like" or "really like". Since the focus is on the built environment and physical designs of the AGW, not a lot of input mentioned the social benefits or social aspects related to the designs. Around 28% of survey respondents talked about the transportation design option, making it a major discussion point. Only few comments discussed the importance of social space and sense of community.

Flowers along the Greenway. Photo credit: Stella Zhou

3.4 Interview with City staff on the public perceptions of social connectedness

A 30-minute interview was conducted with a City of Vancouver staff member involved with the public engagement processes of the Arbutus Greenway's planning and development. The purpose of this interview was to better understand how the public perceives social connectedness along the Arbutus Greenway from a City perspective. The interview also complements the information gathered from the public consultation reports and provides more context on some of the public input. The three main questions asked are as follow:

- *How has the City been engaging the public in conversations around social connectedness?*
- *What is the current public understanding of social connectedness perceived by the City during public engagement events and processes?*
- *What aspects of the Arbutus Greenway development process do you think would impact levels of social connectedness?*

Based on the interview, here are some highlights of discussion around social connectedness:

The City's approach on social connectedness for the Arbutus Greenway

- It is important to think about social connectedness in different scales and levels. Sometimes social connectedness for local residents living near the AGW may become social exclusion who others that cannot access the Greenway if it is not transformed.
- Social connectedness for whom? There can be this conflict between 'us' versus 'them', creating a tension between local social connectedness versus City-wide social connectedness.
- The City tries to balance the needs of local residents versus a City-wide population. From the lens of equity and inclusivity, the Greenway should benefit all and not just some.

- Since the AGW is mainly an engineering and transportation project, the City originally focused on designing it for physical outcomes. It was during the visioning process when the public brought up social outcomes such has having more public space for social gatherings, access to nature, spaces to play, etc. That created a change in project goals as the AGW shifted from being just a 'transportation corridor' to a 'high quality public space for walking, cycling and future streetcar'.
- Although City staff wanted to build social connectedness into the planning and development frameworks of the AGW, different City departments often work in silos of excellences. They use different professional language when talking about the same concept, and this leads to different values, priorities and goals depending on which department is leading the project. Social connectedness is more commonly discussed and seen as priority by social planners, but transportation planners and engineers might approach and prioritize the topic differently.
- The current proposed designs do not get deep into social connectedness. They focus mainly on transportation design features and on public space at a macro-level.
- Infrastructure building is not just about the built environment, it should be built for people.

The current public understanding of social connectedness perceived by the City during public engagement events and processes

- During the first phase of public engagement, the idea of social connectedness was closely connected to community gardens and keeping the Greenway "green".
- Community gardens are very important to many local residents, especially in the neighbourhood of Marpole and Kitsilano.
- People may have very different ideas and understanding on what social connectedness means. An individual's definition of social connectedness often reflects the values of the community they feel most belong to. Since there are many different communities along the AGW and within the City, there are different levels of expectations and opinions on what contributes to social connectedness along the Greenway.
- Social connectedness didn't necessarily come up as a key theme during public engagement sessions, but people talked about it indirectly. For example, many participants frequently mentioned community gardens and public spaces for social gatherings, which both encourage social connectedness.
- Social connectedness may be taken for granted sometimes, so it is not always the first thing that comes up in people's mind.
- People who take surveys and attend public engagement events are likely already socially connected since they know how to be engaged with civic activities. Social connectedness might therefore not be a top priority for them.
- People do talk about things that are related to social connectedness, even if they are not using the exact terms and language to describe social connectedness.
- Although the general public doest not explicitly talk about social connectedness, the City is designing conditions that may promote social connectedness because it is a desirable social outcome.

- Local communities often have great project ideas that can promote social connectedness, but unfortunately there isn't a framework or enough staff capacity at the City to support the execution of these ideas. The bureaucratic permitting processes can be discouraging for small-scale community-led projects that actually encourage social interactions and participations.

Aspects of the Arbutus Greenway development process that may impact levels of social connectedness?

- The Arbutus Greenway's transformation can be a great opportunity for more in-depth conversations on decolonizing urban space and taking actions on reconciliation. It is a chance to work with the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish) and səl̓ilwətaʔ (Tslei-Wututh) First Nations in creating welcoming public spaces. Especially with Zone 8, which is situated on the land of the traditional and ancestral Musqueam Village site of c̓əsnaʔəm.
- Community gardens are great opportunity areas to promote local sense of social connectedness along the Greenway. The City often talks about them in term of 'urban agriculture', because it is more inclusive than individually assigned community garden plots. The emphasis of incorporating more urban agriculture on the AGW can bring people together from the broader community.
- There are always opportunities to do better public engagement and work with local communities along the AGW. Partnerships with organizations that are not necessarily affiliated with the City can help bring in more people to be involved in the process.

3.5 How people in Vancouver approach social connectedness along the Arbutus Greenway

The City has so far completed the public engagement process for the visioning and design of the Arbutus Greenway. They mainly gathered public feedback and input through:

- ▶ Talk Vancouver online survey
- ▶ Open houses
- ▶ Public workshops
- ▶ Stakeholder meetings
- ▶ Advisory committee
- ▶ Public City events

Based on the interview and consultation summary reports, there is a certain level of awareness and desire for social connectedness from the public. However, the concept of social connectedness wasn't being discussed explicitly or seen as a priority by people who participated in the engagement process. Even within the City there is an inconsistency in the use of language around social connectedness. This makes it difficult for it to be approached or incorporated into a framework or strategy plan for the AGW. There are also some tensions on whether social connectedness along the Greenway should be focusing on nearby residents or a City-wide population and how to balance different needs.

Social connectedness and its related concepts are most often mentioned and discussed in the context of community gardens and public spaces. People like having access to social spaces where they can gather, allow their kids to play safely, and connect with others in their community. Although social connectedness is not a familiar term to the general public, they do talk about it through relating social outcomes with specific built environment features. This desire for better social space shifted the Arbutus Greenway away from being a just a transportation project. It has now become a project that focuses on high quality public space and active transportation modes while encouraging community building and social connectedness.

Arbutus Greenway at Kerrisdale. Photo: Stephen Rees (CC BY-SA 4.0)

4.0　INTERACT Data on Social Connectedness

"How did residents (INTERACT participants) along the greenway report feeling of social connectedness, with respect to the greenway and more generally within their communities?"

4.1 Section summary

This section examines how local residents along the Arbutus Greenway (AGW) report feelings of social connectedness with respect to the AGW, and more generally within their communities. I analyzed data collected by UBC and SFU researchers from the INTErventions, Research, and Action in Cities Team (INTERACT)'s Vancouver project group. The data was collected between May and November 2018 through an online health survey.

This baseline data is part of a five-year study launched by INTERACT to understand how the development and transformation of the Arbutus Greenway can impact physical activity, social participation, and well-being of nearby residents. In total there are 318 valid participant data collected through their online health survey. All participants live within a 2 to 3 kilometers radius from the AGW; more specifically they live in these twelve FSA postal code areas (also see map 4.1.1): V5X, V5Y, V5Z, V6H, V6J, V6K, V6L, V6M, V6N, V6P, V6R, V6S.
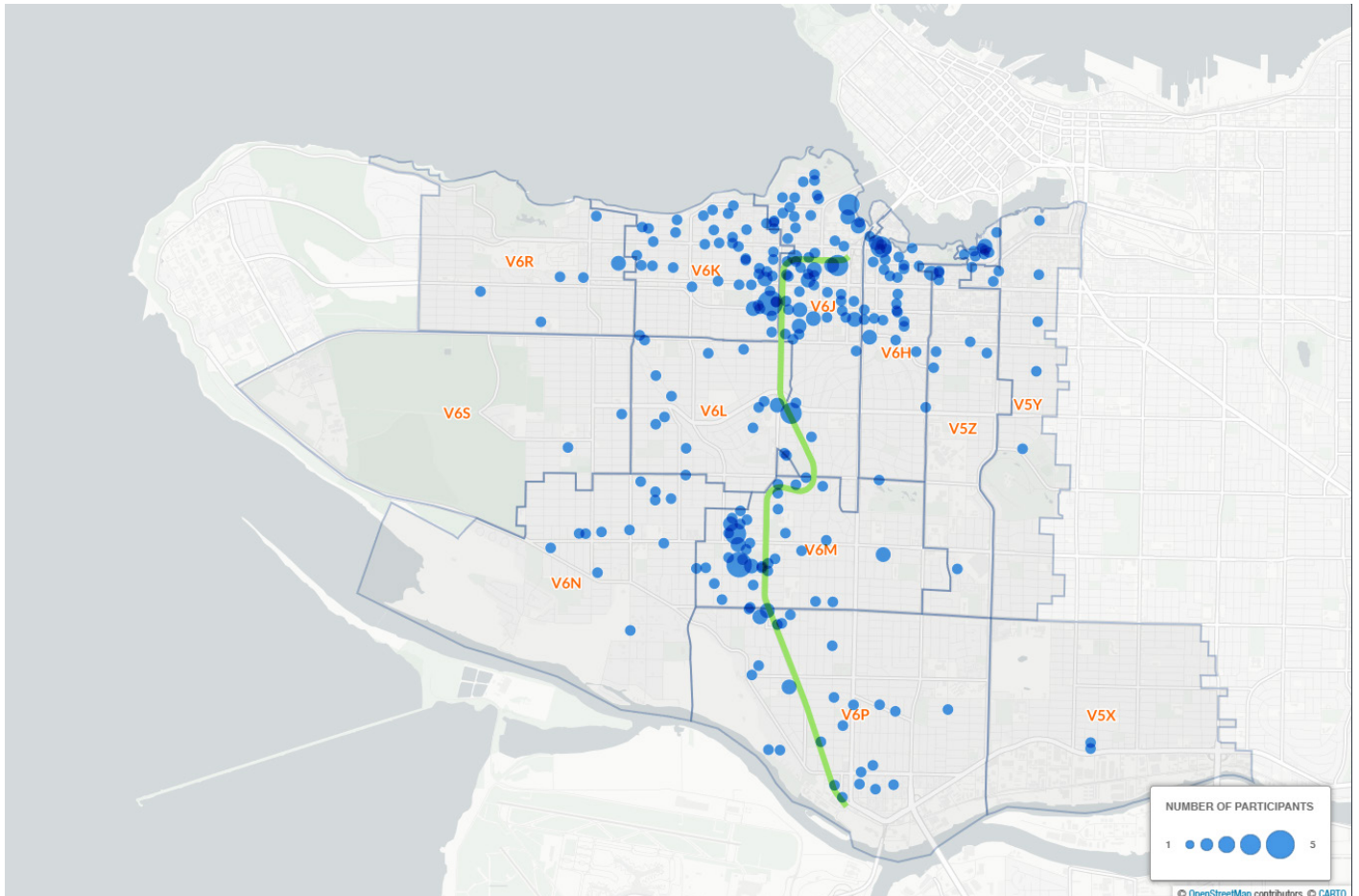
Map 4.1.1. INTERACT participants distribution and postal codes. Map credit: Stella Zhou.

4.2 Methodology

An excel spreadsheet was used to mine, filter and organize the raw data set, which was then input into a GIS software for further analysis and mapping. The data was collected through an extensive online health survey with 87 questions around topics such as: transportation (18), physical activity (21), general health (10), well-being (6), social participation (4), neighbourhood (1), neighbourhood selection (1), activity tracking (6), and demographics (20). Only questions related to social connectedness and its related concepts are considered for this evaluation.

4.3 Demographic characteristics of study participants

Out of **318** participants 255 of them are 45 years of age or older, meaning that 80.2% of the study participants are considered as older adults. Since this study originally targeted older adults as their primary participants, it partially explains the high percentage of older adults in this data set. The gender of ratio of the participants is roughly 3:7, with 101 (31.8%) of the participants being male, and 217 (68.2%) female. From the 318 participants, 105 (32.4%) of them immigrated to Canada sometime in life, with 213 (67.6%) of them reported to be born in Canada. In addition, 256 (80.5%) of them identify as Caucasian, with the remaining 62 (19.5%) identifying themselves with other races.

Although the demographics of study participants does not fully reflect and represent the actual residents' characteristics living along the AGW, it still provides valuable information on how local people feel about social connectedness. It is important for researchers and planners to keep the actual neighbourhood demographics in mind when evaluating this dataset and approach it from the lens of health and social equity.

4.4 Questions reflecting social connectedness

Since social connectedness is a complex concept, there are many questions in the INTERACT health survey designed to capture the different dimensions of social connectedness. Due to the scope of this project, only three specific questions were selected to provide some insight on some of the major factors influencing social connectedness:

► *How often do you feel isolated from others?*

This question measures the sense of *loneliness*, which is different form social isolation. Loneliness is a subjective and involuntary feeling; someone can be socially isolated from others but not feel lonely.

► *How would you describe your sense of belonging to your local community?*

This question measures the sense of *belonging* to a larger group of people. It is up to the participants to decide what they think is their 'local community.

► *How satisfied are you with the number of people you know in your neighbourhood?*

This question measures the subjective feeling of how *socially connected* someone is to others. It captures whether or not someone is happy with the number of connections they have in their neighbourhood.

The results of these questions are shown in the next few pages in charts and maps.
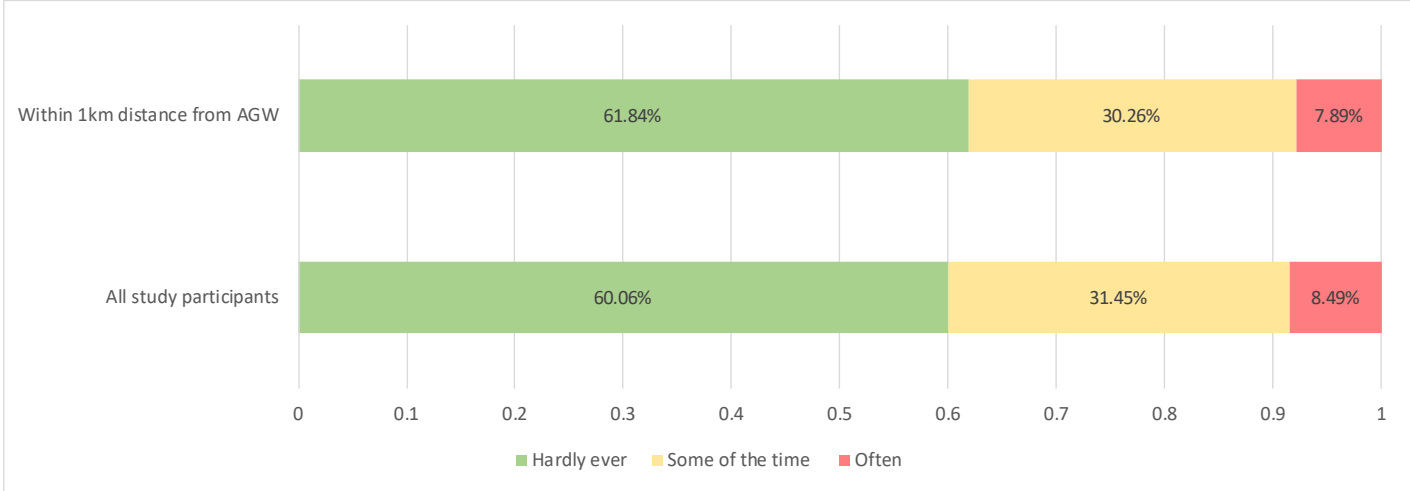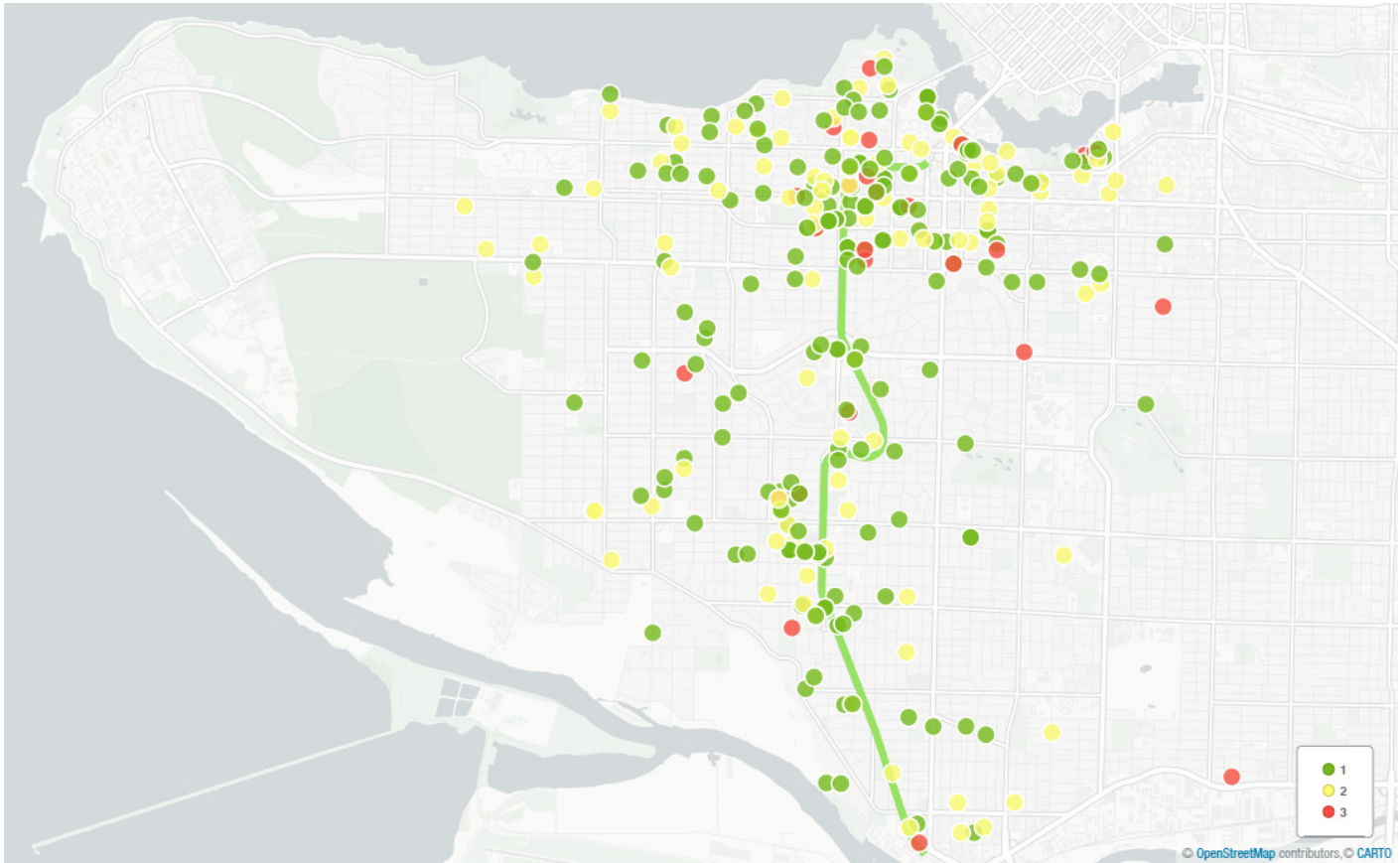
How often do you feel isolated from others?

Chart 4.4.1

Map 4.4.2. Map credit: Stella Zhou

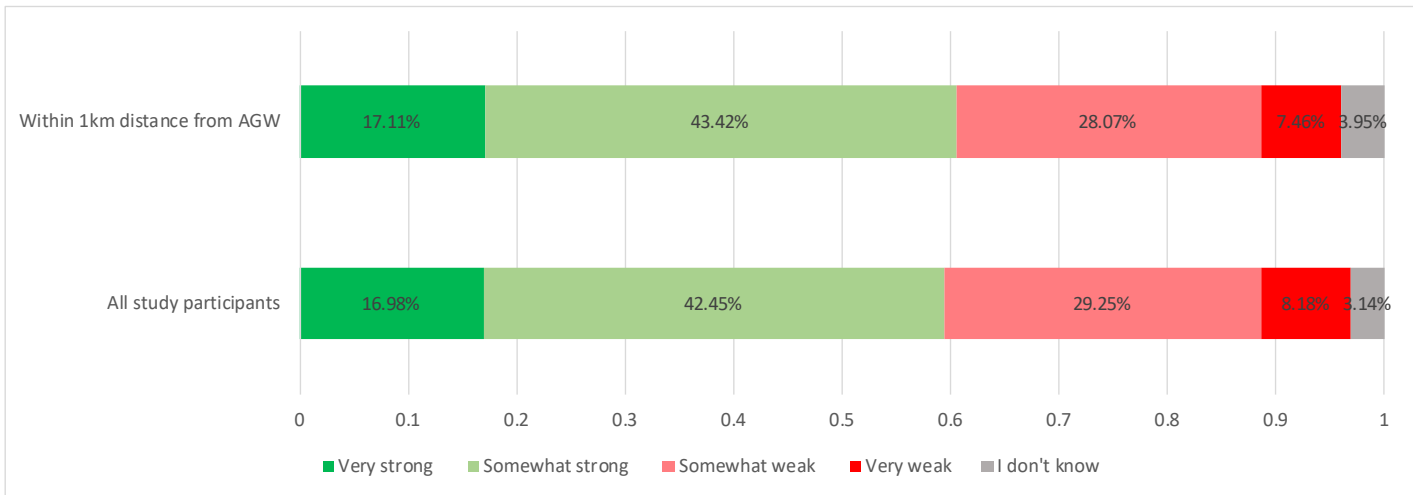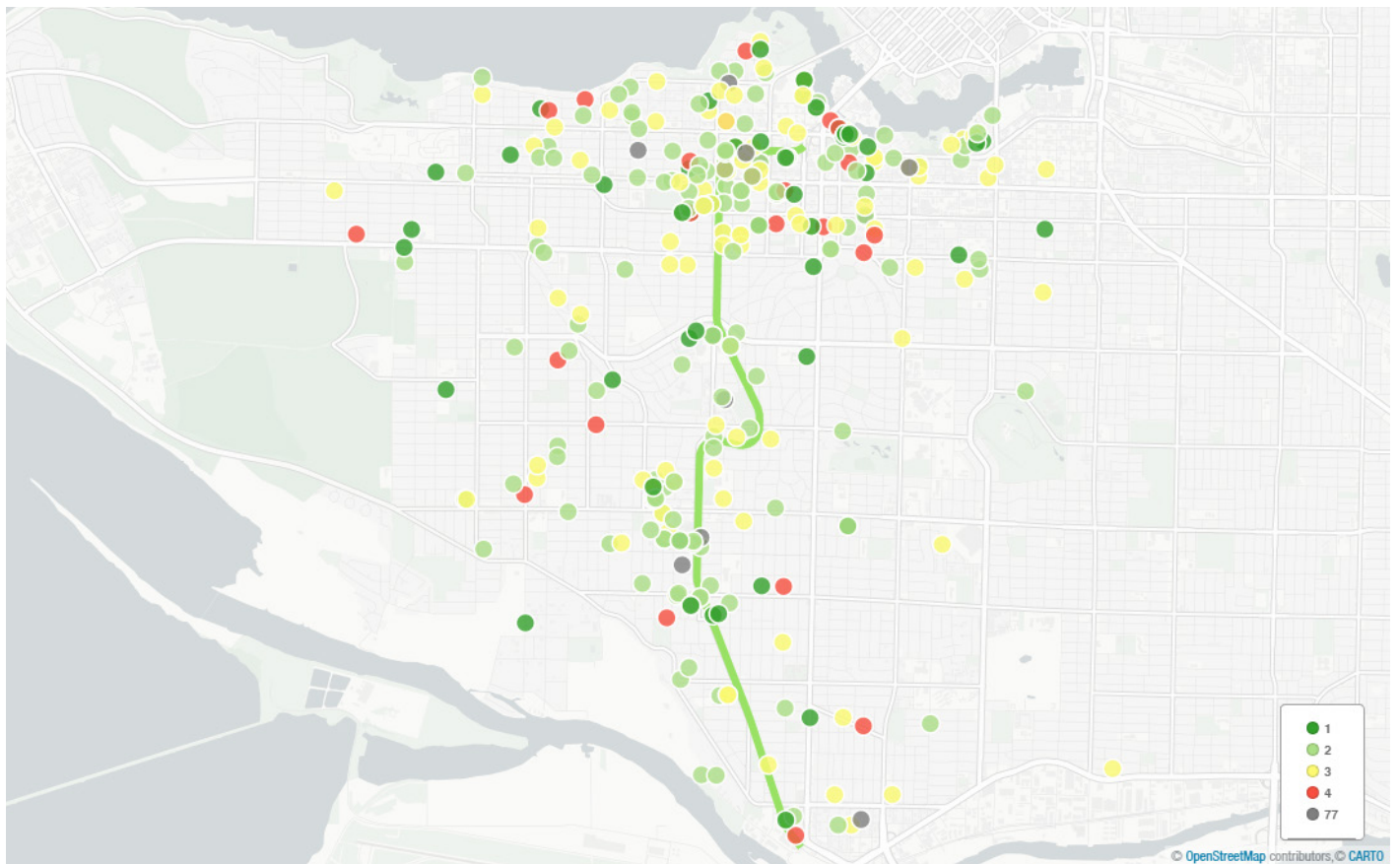## How would you describe your sense of belonging to your local community?

Chart 4.4.3

Map 4.4.3 Map credit: Stella Zhou

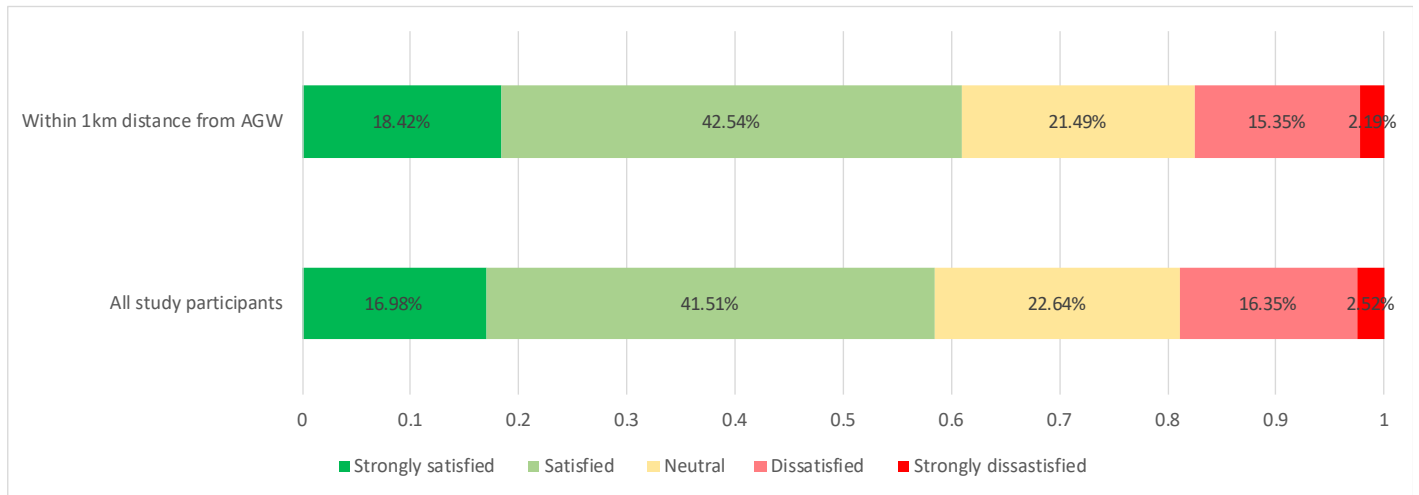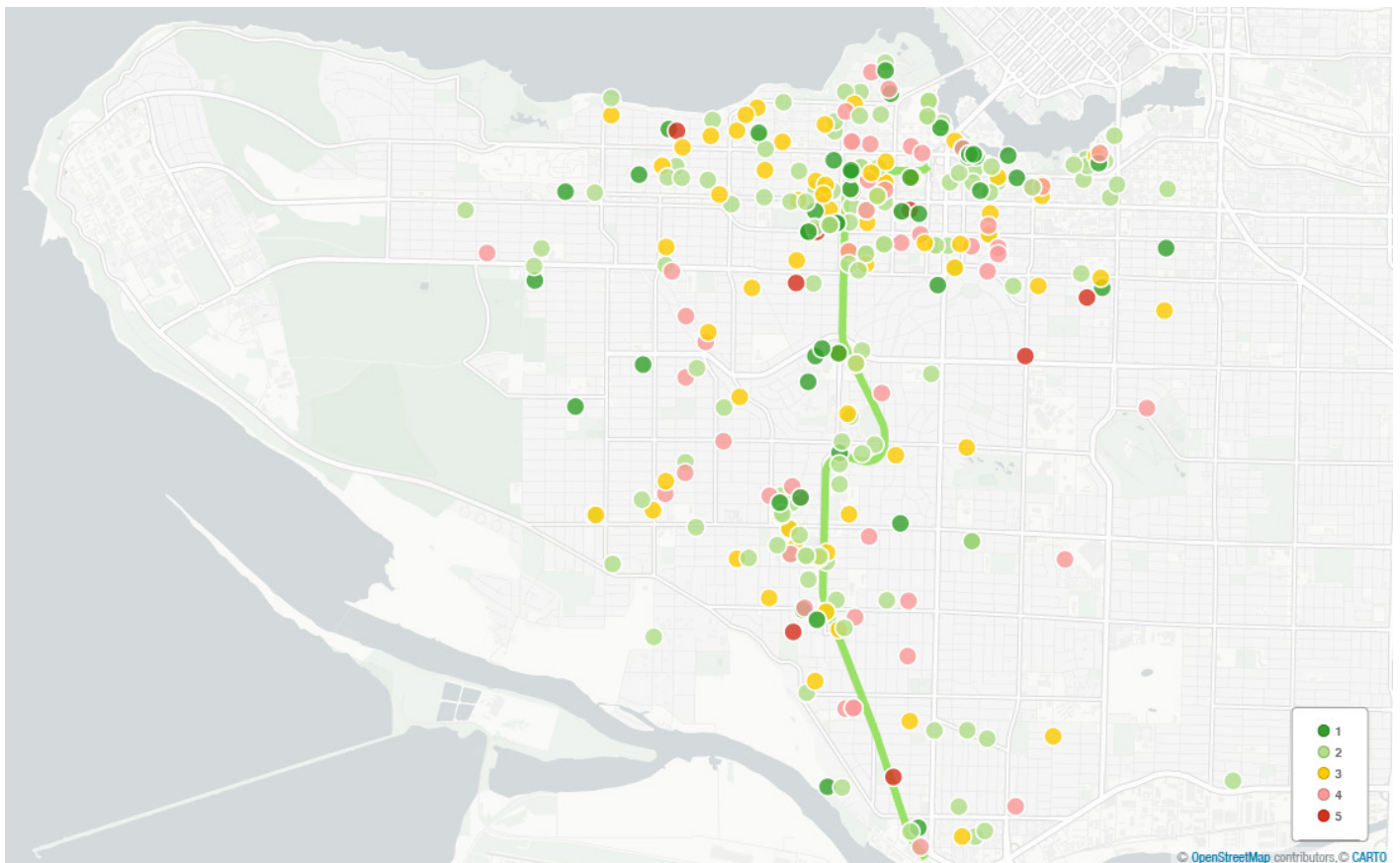# How satisfied are you with the number of people you know in your neighbourhood?

Chart 4.4.4

Map 4.4.4. Map credit: Stella Zhou

4.5 Results

According to the results, 60.1% of the participants hardly ever feel isolated from others. 59.5% of them also reported having somewhat strong (42.5%) to very strong (17.0%) sense of belonging to their local community. Lastly, 58.5% of the participants are either satisfied (41.5%) or strongly satisfied (17.0%) with the number of people they know in their neighbourhood. The percentage of positive response (represented by green colours on maps and charts in previous section) for the three questions are very close to each other (60.1%, 59.5% and 58.5%). This indicates that around 58%~60% of the participants are steadily reporting a high level of social connectedness across the three questions. However, the 40%~42% of neutral to negative response across the three questions should not be neglected.

I also used a 1-kilometer buffer to extract data of participants who live within a 1-kilometre distance from the Arbutus Greenway. This is to see if the results will be different when participants have easier access to the AGW, since 1-kilometer can be considered as walking distance. However, chart 4.4.2, 4.4.3 and 4.4.4 indicate that the results for residents living within a 1-kilometer distance is very close to the full dataset numbers. The percentages of positive responses are only slightly higher than full dataset percentages. This brings up the question on whether distance from the Arbutus Greenway is actually a major factor impacting social connectedness. Based on the data collected, people living closer to the AGW did not necessarily report higher level of social connectedness. That being said, the transformation of the Greenway may still impact nearby residents differently depending on how accessible the AGW is for each of them. It would be interesting to see whether people living within a walking distance to the AGW would be affected differently compared to people living more than 1-kilometer away but still close by. As a longitudinal study, the second round of data collection after the design implementations will help determine if the AGW's transformation actually impacts social connectedness.

Utility poles along the Arbutus Greenway. Photo credit: Stella Zhou

5.0   Discussion and Reflection

After reviewing City policies and plans, summarizing public engagement reports, interviewing City staff and analyzing residents' data, below are some highlights of the discussions around what might impact levels of social connectedness along the Arbutus Greenway.

5.1 City policies and plans

- ▶ The City recognizes social connectedness as a positive and important social outcome, but it is not always seen as a top priority in City policies and plans.
- ▶ Since the Arbutus Greenway was originally a transportation project, many of the earlier plans focused on the physical aspects and outcomes. However, with public input and engagement, the current Arbutus Greenway plan has incorporated more social objectives and goals, including factors contributing to social connectedness.
- ▶ Although the City understands the values of social connectedness, it is difficult to prioritize it across policies and plans. This is because different departments approach the topic from different perspectives. Social connectedness is usually prioritized as a major goal in social planning, but in engineering and transportation projects, it might be considered as a side outcome of a change in physical design instead.
- ▶ The current implementation plan mainly ranks each zone based on their physical features and impact, available resources, and their feasibility for construction. Social factors and the impact on social connectedness are not necessarily being considered. However, there are still opportunities within each zone to increase their potential to influence social connectedness.

5.2 Public awareness and perceptions

- ▶ Based on the public engagement conducted for the Arbutus Greenway development, people value the social aspects and outcomes of the Greenway's transformation. They might not necessarily use the same language as researchers or City staff, but they often mention key words and concepts that are related to social connectedness.
- ▶ The majority of the public input emphasizes the importance of having sufficient public spaces for social interactions and gathering. Many local residents also highly value the community gardens and mentions how those plots contribute to sense of belonging.
- ▶ Although there is a common desire to make the AGW better, people tend to have different priorities on what they want to see happen. Some care more about accessibility and new transportation modes, while others want more safe and vibrant public space.
- ▶ Social connectedness is not a commonly used term by the general public. They mainly think and talk about social connectedness through mentioning other related factors that they care about (e.g. public space, community gardens, familiarity with neighbourhoods, etc).
- ▶ There are some conflicts and tensions between social connectedness at a neighbourhood level versus social connectedness for a City-wide population. Sometimes social connectedness at the local level may be exclusive for others who do not live near the Arbutus Greenway.

5.3 Capturing social connectedness through data

▶ There are many research studies done on the Arbutus Greenway, but only a few of them looked into social impact and outcomes. INTERACT data is very valuable because it aims to measure and evaluate how the AGW may impact social connectedness.

▶ Quantitative data collected through surveys offers a general insight on how people report feelings of social connectedness. However, more qualitative data is needed to understand the reasons and factors influencing those subjective feelings of social connectedness.

▶ It is difficult to accurately measure, evaluate or capture the level of social connectedness, because it is a complicated and broad concept with many contributing factors.

▶ Based on the data available, around 58%~60% of INTERACT participants have reported a positive sense of social connectedness. It would be interesting to observe how this will change after the design options are implemented, especially if each zone is being transformed at different times.

▶ From the lens of health and social equity, having a diverse group of participants is very important. Although data gathered from INTERACT participants is useful, it lacks diversity and does not reflect the actual demographic characteristics of local neighbourhoods along the Arbutus Greenway.

Marked bikeway. Photo credit: Team INTERACT

6.0 Conclusion and Next Steps

The Arbutus Greenway (AGW) has a lot of potential opportunities to positively impact the level of social connectedness of nearby residents. This is because it aims to be both a transportation corridor and a high quality public space for walking, cycling and future streetcars. Current City policies and plans related to the AGW support social connectedness as a positive health outcome. However, not all of them prioritize social impact and social connectedness as a major goal or objective. The current challenge is to make sure that different City departments working on the AGW project can develop a common understanding and approach on how it may impact social connectedness. Inconsistency in the use of language around social connectedness creates barriers for both City staff and researchers alike. It is also important to continue to raise public awareness and foster a common understanding on this topic. Knowledge translation and communication have become a key process in helping City staff, researchers and Vancouver residents to work together on improving social connectedness.

Since social connectedness is a complicated topic to discuss, there are a lot more work required to continue this investigation. Based on the research done for this capstone project, below are some recommendations for the next steps on how to approach projects and researches related to social connectedness along the Arbutus Greenway:

► Although the focus of this research project is to understand how the Arbutus Greenway may impact social connectedness, it is important to recognize that there are many other factors affecting social connectedness. These may include but are not limited to: housing affordability, political climate, social inclusivity, available neighbourhood resources and amenities, along with the lived experience and intersectionality of individuals. All these may affect how someone feel about social connectedness. Even if data shows that the reported feelings of social connectedness

changes with the AGW development, it is difficult to determine whether this is a casual relationship compared to other possible contributing factors.

► Social connectedness is about the various ways in which an individual may subjectively feel or be objectively connected to others in a social setting. It may be easy to measure the objective factors of social connectedness, such as how many times someone greets their neighbour; but it is difficult to capture and evaluate subjective feelings. More qualitative research on this topic would complement the available quantitative data in understanding what additional factors may impact the perception of social connectedness along the AGW.

► Since there are already many studies and researches done how the built environment affect physical health and well-being, it is time to shift the focus towards developing City plans or polices that emphasize more on the social impact of the built environment.

► There are many reasons why people might chose to not participate in a research study or engage with City's decision-making process on plans and policies. This may include factors such as the lack of trust in governments and institutions, long term disenfranchisement, insufficient or inequitable access to resource and information, the sense of being excluded, lack of overall interest on the topic, etc. It is important to reach out to people whose voices are not usually heard to achieve better health and social equity.

► Partnership with local community groups, businesses and residents can help advance research studies and projects on Social Connectedness. With the upcoming Skytrain development at Arbutus and Broadway, and the new City-wide plan underway, there are many opportunities to build more partnerships and incorporate Social Connectedness into new City plans and polices.

References

Araya, R., Dunstan, F., Playle, R., Thomas, H., Palmer, S., & Lewis, G. (2006). Perceptions of social capital and the built environment and mental health. Social Science and Medicine, 62(12), 3072–3083. https://doi.org/10.1016/j.socscimed.2005.11.037

CHHM. (2017). Arbutus Greenway Evaluation: 2017 Preliminary data report.

CHHM. (2018). Arbutus Greenway Evaluation: 2018 Report on Intercept Surveys.

Cohen, S. (2004). Cohen (2004) - Social Relationships and Health, (November).

De Vries, S., van Dillen, S. M. E., Groenewegen, P. P., & Spreeuwenberg, P. (2013). Streetscape greenery and health: Stress, social cohesion and physical activity as mediators. Social Science and Medicine, 94, 26–33. https://doi.org/10.1016/j.socscimed.2013.06.030

Frank, L., Engelke, P., & Schmid, T. (2004). Public Helath and the built environment: emerging evidence and complexity. Canadian Journal of Dietic Practice and Research, 65(2).

Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn Jr, P. H., Levin, P. S., … Wood, S. A. (2017). Nature Contact and Human Health: A Research Agenda. Environmental Health Perspectives, 125(7), 075001. https://doi.org/10.1289/ehp1663

Hancock, T., & Duhl, L. (1988). Promoting health in the urban context. Copenhagen: FADL Publishers; WHO Healthy Cities Papers, No. 1. https://doi.org/10.1007/s11524-011-9617-y

Hassen, N., & Kaufman, P. (2016). Examining the role of urban street design in enhancing community engagement: A literature review. Health and Place, 41, 119–132. https://doi.org/10.1016/j.healthplace.2016.08.005

Holt-Lunstad, J. (2018). Why Social Relationships are Important for Physical Health: A Systems Approach to Understanding and Modifying Risk and Protection. Annual Review of Psychology. https://doi.org/10.1146/annurev-psych-122216-011902

Holt-Lunstad, J., Robles, T. F., & Sbarra, D. A. (2017). Advancing social connection as a public health priority in the United States. American Psychologist, 72(6), 517–530. https://doi.org/10.1037/amp0000103

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. PLoS Medicine, 7(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Hystad, P., & Carpiano, R. M. (2012). Sense of community-belonging and health-behaviour change in Canada. Journal of Epidemiology and Community Health, 66(3), 277–283. https://doi.org/10.1136/jech.2009.103556

Kaczynski, A. T., & Glover, T. D. (2012). Talking the talk, walking the walk: Examining the effect of neighbourhood walkability and social connectedness on physical activity. Journal of Public Health (United Kingdom), 34(3), 382–389. https://doi.org/10.1093/pubmed/fds011

Kawachi, I., Subramanian, S. V., & Kim, D. (2008). The measurement of community social capital through surveys. Social Capital and Health. https://doi.org/10.1007/978-0-387-71311-3_3

Leyden, K. M. (2003). Social capital and the built environment: the importance of walkable neighborhoods. American Journal of Public Health, 93(9), 1546–1551. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12948978%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC1448008

My Health My Community. (2018). Social Connection and Health.

Nutsford, D., Pearson, A. L., & Kingham, S. (2013). An ecological study investigating the association between access to urban green space and mental health. Public Health, 127(11), 1005–1011. https://doi.org/10.1016/j.puhe.2013.08.016

Rogers, S. H., Gardner, K. H., & Carlson, C. H. (2013). Social capital and walkability as social aspects of sustainability. Sustainability (Switzerland), 5(8), 3473–3483. https://doi.org/10.3390/su5083473

Semenza, J. C., & March, T. L. (2009). An Urban Community-Based Intervention to Advance Social Interactions. Environment and Behavior, 41(1), 22–42.

Seppala, E., Rossomando, T., Doty, J. R., & Seppala, E. (2015). James R . Doty Social Connection and Compassion : Important Predictors of Health and. Social Research, 80(2), 411–430. https://doi.org/10.1353/sor.2013.0027

Solar, O., & Irwin, A. (2010). A Conceptual Framework for Action on the Social Determinants of Health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). World Health Organization. Retrieved from http://www.who.int/sdhconference/resources/ConceptualframeworkforactiononSDH_eng.pdf?ua=1

Sugiyama, T., Leslie, E., Giles-Corti, B., & Owen, N. (2008). Associations of neighbourhood greenness with physical and mental health: do walking, social coherence and local social interaction explain the relationships? Journal of Epidemiology & Community Health, 62(5), e9–e9. https://doi.org/10.1136/jech.2007.064287

Wood, L., Frank, L. D., & Giles-Corti, B. (2010). Sense of community and its relationship with walking and neighborhood design. Social Science and Medicine, 70(9), 1381–1390. https://doi.org/10.1016/j.socscimed.2010.01.021

Wood, L., Hooper, P., Foster, S., & Bull, F. (2017). Public green spaces and positive mental health – investigating the relationship between access, quantity and types of parks and mental wellbeing. Health and Place, 48(November 2016), 63–71. https://doi.org/10.1016/j.healthplace.2017.09.002

World Health Organization Regional Office for Europe. (2014). Healthy Cities: Promoting health and equity - evidence for local policy and practice. World Health Organization, 32. https://doi.org/978 92 890 5069 2

'Yotti' Kingsley, J., & Townsend, M. (2007). 'Dig In' to Social Capital: Community Gardens as Mechanisms for Growing Urban Social Connectedness. Urban Policy and Research, 24(4), 525–537. https://doi.org/10.1080/08111140601035200

Vancouver, City of. (1995). Vancouver Greenways Plan. https://vancouver.ca/files/cov/vancouver-greenways-plan-1995.pdf

Vancouver, City of. (1995). Arbutus Corridor Official Development Plan. https://bylaws.vancouver.ca/odp/odp-arbutus-corridor.pdf

Vancouver, City of. (2012). Transportation 2040 Plan. https://vancouver.ca/streets-transportation/transportation-2040.aspx

Vancouver, City of. (2012; 2015; 2019). Greenest City Action Plan. https://vancouver.ca/green-vancouver/greenest-city-action-plan.aspx

Vancouver, City of. (2014). Marpole Community Plan. https://vancouver.ca/home-property-development/marpole-community-plan.aspx

Vancouver, City of. (2015). Healthy City Strategy 2015-2017, Action plan. https://vancouver.ca/files/cov/Healthy-City-Strategy-Phase-2-Action-Plan-2015-2018.pdf

Vancouver, City of. (March, 2017). Vision and Values for the Future Arbutus Greenway – Consultation Summary Report. https://vancouver.ca/files/cov/arbutus-greenway-consultation-march-2017.pdf

Vancouver, City of. (January, 2018). Arbutus Greenway Design Options – Consultation Summary Report. https://vancouver.ca/files/cov/arbutus-greenway-design-options-consultation-summary-report.pdf

Vancouver, City of. (July, 2018). Arbutus Greenway Design Vision. https://vancouver.ca/files/cov/arbutus-greenway-design-vision-july-2018.pdf
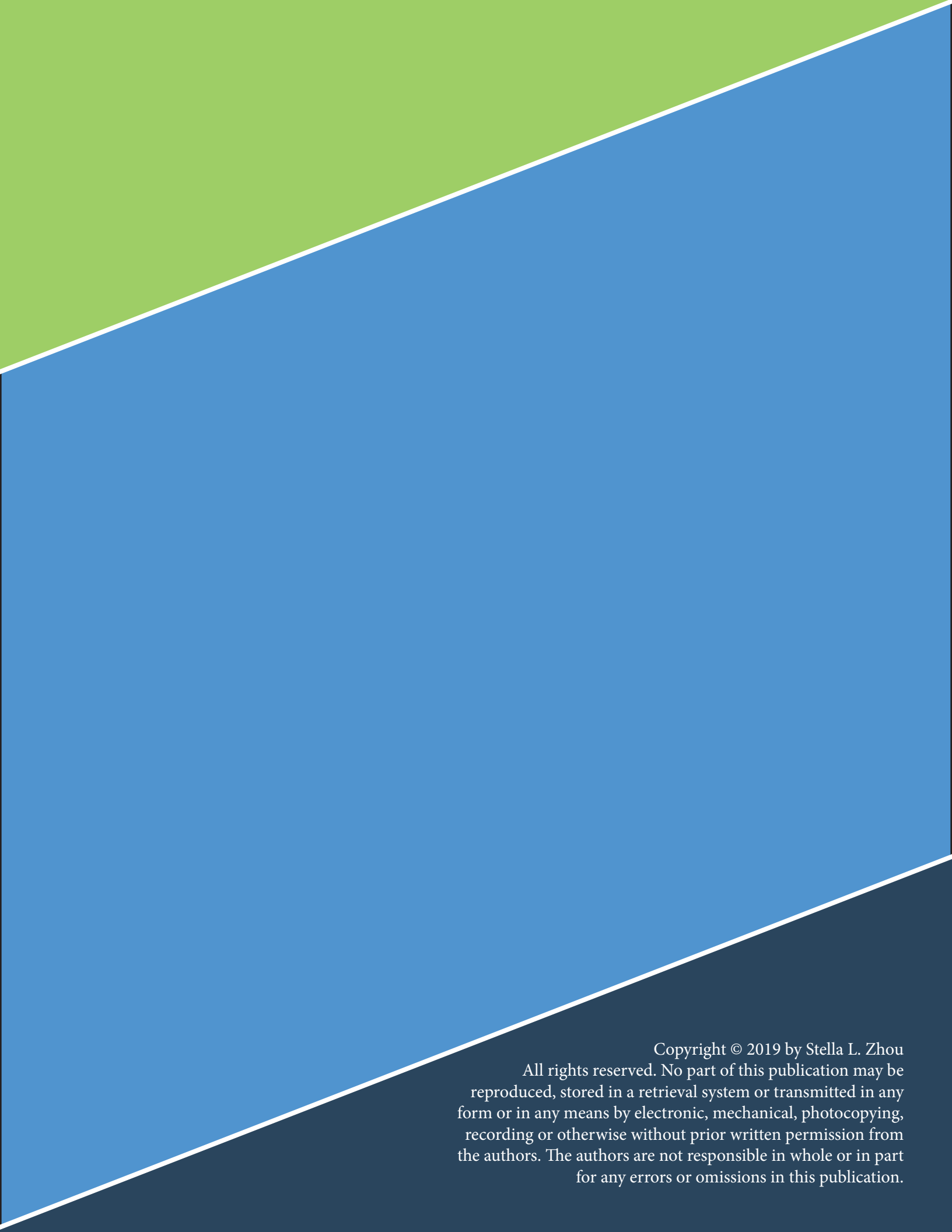
Vancouver, City of. (July, 2018). Arbutus Greenway Proposed Design – Consultation Summary Report. https://vancouver.ca/files/cov/arbutus-greenway-consultation-summary-report-2018.pdf

Vancouver, City of. (July, 2018). Arbutus Greenway Implementation Strategy. https://vancouver.ca/files/cov/arbutus-greenway-implementation-strategy.pdf
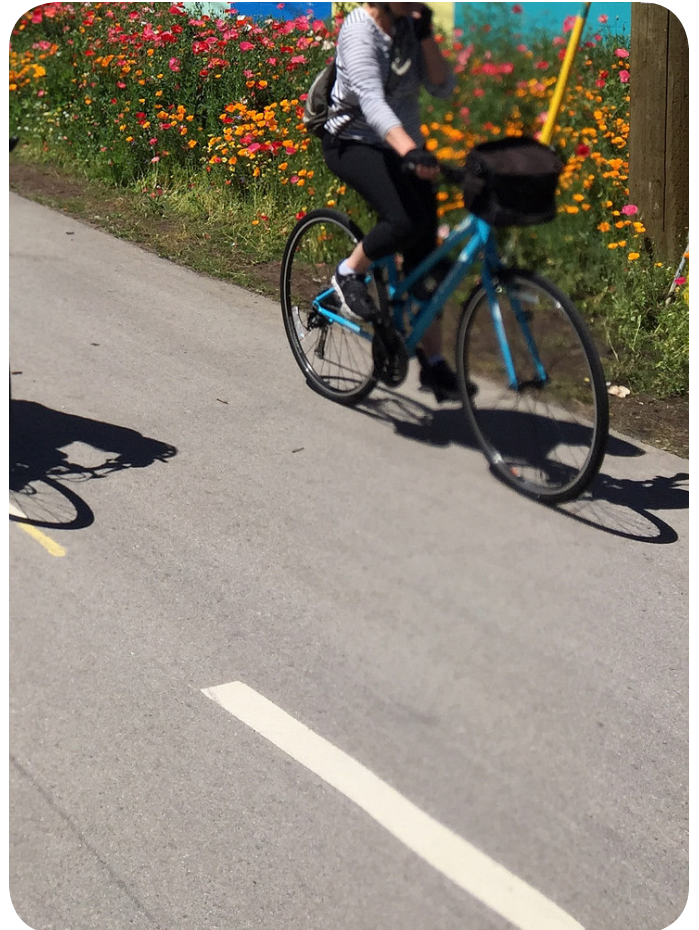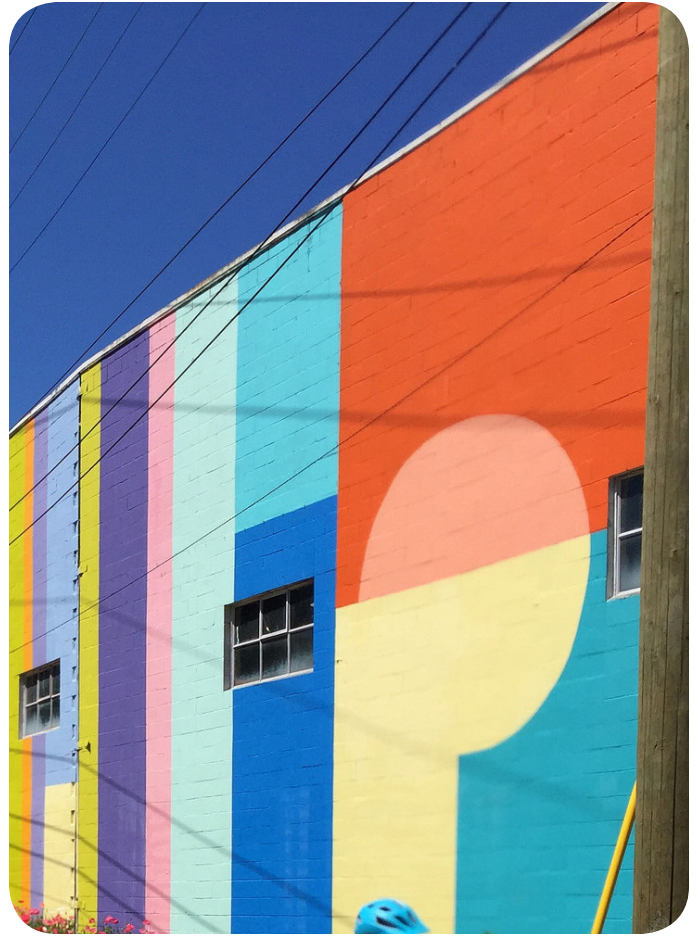
Cyclist on Arbutus Greenway. Photo: Stephen Rees ([CC BY-SA 4.0](CC BY-SA 4.0))