A Public Engagement Exercise

by Gurtej Tung

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University of British Columbia | School of Community & Regional Planning | Vancouver Board of Parks & Recreation

WETREE: A PUBLIC ENGAGEMENT EXCERSISE

by

Gurtej Singh Tung
B.A Geography (Environment & Sustainabilty), The University of British Columbia, 2013

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We accept this project as conforming to the required standard

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Executive Summary

Vancouver's Greenest City 2020 Action Plan aims to plant 150,000 new trees by 2020. Given space limitation on public lands, such as parks, a significant portion of this planting will have to occur on private property. In order to encourage this goal amongst Vancouver residents, it is worthwhile to know which types of trees people want to plant, where they want to plant them and, generally speaking, if there are any differences in planting preferences based on age, existing neighbourhood tree canopy and built form.

The WeTree exercise was conducted at two community centres, one in east Vancouver and the other on the west side of the city. Patrons voted for their desired tree, out of four distinct trees, based on the question 'what tree would you plant at home'. Each ballot asked for age, postal code and reason for selecting the chosen tree.

Results:

- Aesthetics, fruit/flowers and size were the main reasons for selecting specifc trees.
- Existing tree canopy and number of detached houses have, seemingly, no impact on tree selection as evident by the similarity of overall preferences in east and west Vancouver.
- Simple and easy '30 second ballots' proved to be a fun and engaging method to capture the tree preferences of a large sample size.
- In both the west and east parts of Vancouver the most popular tree was the Japanese maple followed by the Apple and Magnolia and the least popular was the Douglas-fir.

Absolute number of votes are in parentheses.

	Magnolia Soulangeana	**Douglas-fir**	**Japanese Maple**	**Apple – Scarlet Sentinel**
Dunbar (273)	23% (63)	14% (37)	36% (98)	28% (75)
Riley Park (296)	25% (74)	16% (47)	36% (106)	23% (69)

- No discernible spatial pattern of tree preferences emerged in either part of the city based on this study.

Gurtej Tung, 2016

Introduction

The world is becoming increasingly urbanized. Millions of people are moving into major cities and urban populations themselves are increasing dramatically. This increasing population pressure and associated development are having an assortment of impacts on the urban landscape. These impacts include concerns around air pollution, storm water drainage, urban heat island effects and much more. Luckily, trees are well suited to help mitigate many of these concerns and urban planners, like the ones at the City of Vancouver (British Columbia), recognize the beneficial potential of trees and have included increasing the urban tree canopy as part of their strategic municipal goals.

Vancouver's Greenest City 2020 Action Plan aims to plant 150,000 new trees between 2010 and 2020. Given space limitation on public lands, such as parks, a significant portion of this planting will have to occur on private property. In order to encourage this goal amongst Vancouver residents, it is worthwhile to know which types of trees residents want to plant, where they want to plant them and, roughly speaking, if there any differences in planting preferences based on age, existing neighbourhood tree canopy and built form. The WeTree exercise engaged Vancouver residents at Hillcrest and Dunbar community centres and had them vote on their favourite tree, from a given selection, by writing their postal code, age and reason for selection on a voting slip and placing it into a box corresponding to their desired tree. In the following, I provide a brief background on the Greenest City 2020 Action Plan, as it relates to urban forestry, the benefits of trees in an urban setting, and present and discuss the results from the WeTree engagement exercise.

"Strong public engagement is a fundamental component of achieving our urban forestry goals" – Nick Page, Biologist, Vancouver Board of Parks & Recreation

Background

Kelvin Poon, 2016

Greenest City – Urban Forestry

Urban forestry has become an important component of municipal sustainability goals and the City of Vancouver is no different. In 2009, Vancouver City Council adopted 'Vancouver 2020 A Bright Green Future: An Action Plan for Becoming the World's Greenest City by 2020' which would later be known as the Greenest City 2020 Action Plan. The plan outlines how the municipality will achieve sustainability objectives in a number of categories including urban forestry, which is outlined in the Access to Nature goal. Specifically, the City has a goal of planting 150,000 by 2020 (City of Vancouver, 2010). A significant portion of these trees, approximately 54,000 (36%), will have to be planted on private land and the remainder on public land due to space limitations (see Figure 2). So far, around 12,500 trees have been planted on private property thus leaving an absolute planting goal of roughly 40,000 trees by 2020. Public lands, such as streets and parks, have had approximately 30,000 trees planted to date (N.Page, personal communication, June 25, 2016).

Figure 2. Tree planting targets (City of Vancouver, 2010, p.43)

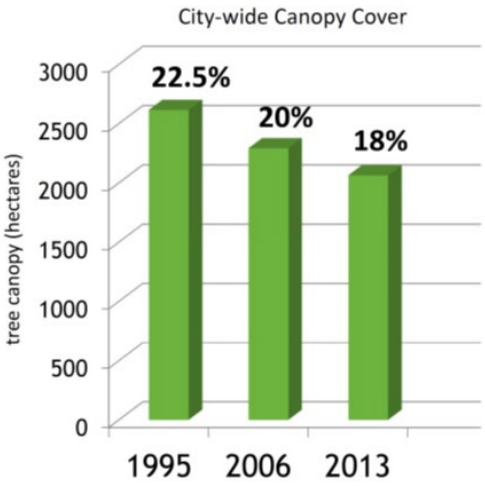


Figure 3. Urban forestry decline over the years in Vancouver (City of Vancouver, 2014, p.14).

The ultimate goal is to improve the city's urban forest canopy back to 22% coverage (City of Vancouver, 2014). Forest canopy cover is a measurement used to assess the performance of an urban forest. Simply put, it is the amount of area trees cover as seen from above. The higher the canopy cover, generally speaking, the better. At the moment the city's tree canopy is at 18%, a historical low as outlined by Figure 3.

A fundamental component of improving the tree canopy is civic engagement. Educating, engaging and fostering behaviour that is geared towards tree stewardship will play a key role in, not only planting more trees, but appropriately caring for them and retaining the mature ones that exist already. This commitment to civic discourse is outlined in the Urban Forest Strategy (City of Vancouver, 2014); we want to "hold a city-wide conversation on how we can all help to achieve Strategy goals" (p.56). In this sense, the WeTree project attempts to understand tree preferences amongst residents and, simultaneously, begin a dialogue about the benefits of a strong and diverse urban forest.

Aesthetics & Wellbeing

Gurtej Tung, 2016

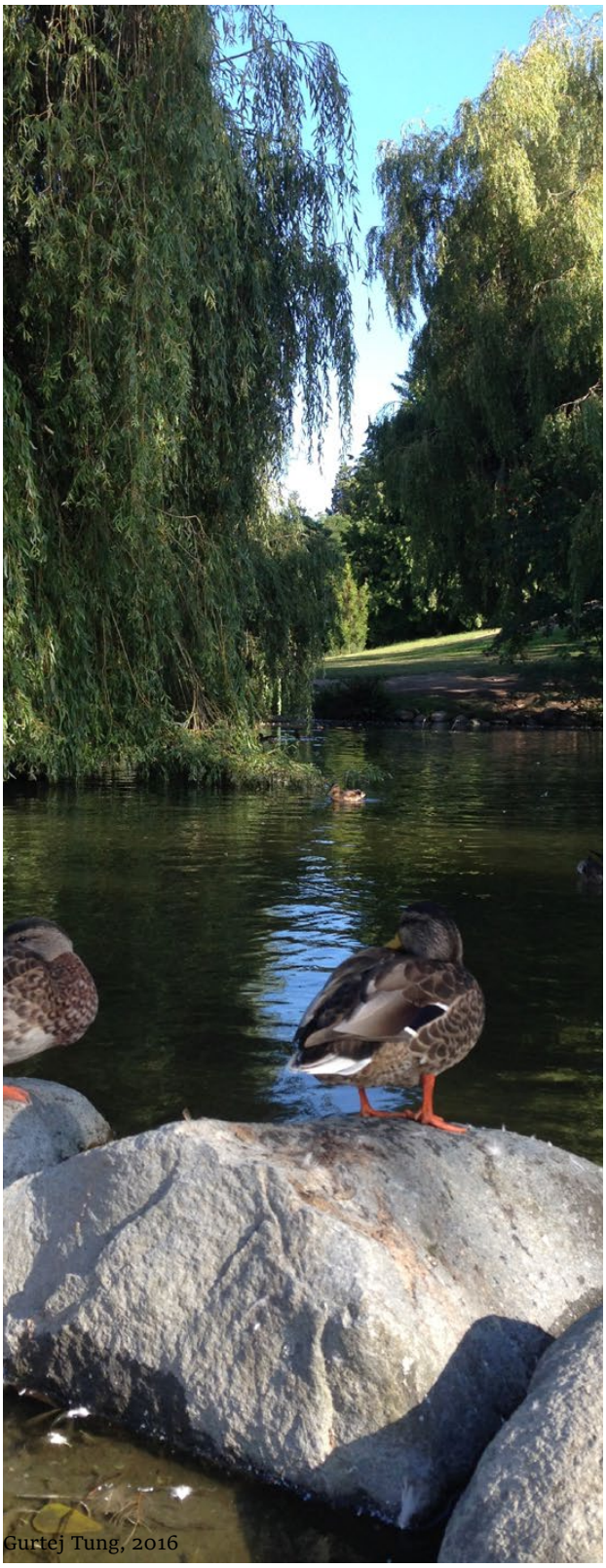
Aesthetics are subjective. Depending on who you ask, urban forests can be visually stunning or an eyesore. But, as Helliwell (2008) has found through his study respondents, people generally agree, on an ordinal scale, about which landscapes they consider more or less beautiful and higher tree canopies rank more favourably. This affinity for green spaces and urban forests has been found to improve personal wellness. Benefits include stress and fatigue relief, feelings of neighbourliness and safety and decreases in crime (Groenewegen et al., 2006). These derive from both the visual appeal of urban trees but also, in some cases, the act of planting and maintaining them. As Westphal (2003) illustrates, “tree planting projects are relatively simple and easy…This “do-ability” can provide a modest victory or small win which, in turn, sometimes leads to an individual or group taking on more difficult projects” (p.139). Put another way, it is about creating community capacity by starting small. This can only be achieved by understanding the local community context and how tree related initiatives position within specific community desires, aspirations and priorities. In brief, trees provide aesthetic benefits that are generally agreed upon, improve personal wellbeing and can act as a catalyst for community building.

Air Quality & Carbon Reduction

Arguably the most well-known benefit of trees is that they improve air quality and help combat climate change. Trees remove gaseous air pollution such as sulfur dioxide (SO_2) and nitrogen dioxide (NO_2) through their leaf stomata and leaves themselves can collect airborne particulate matter (Nowak et al., 2006). Moreover, as part of cellular respiration, trees sequester carbon through their woody biomass. Trees also indirectly help reduce carbon in the atmosphere. Their cooling effects, through shading and evapotranspiration, on housing and public spaces, means a reduced usage of air conditioning and fanning requirements. This, in turn, can reduce the CO_2 emissions associated with electricity generation (Yang et al., 2005). Generally speaking, larger trees are magnitudes more beneficial in removing air pollutants compared to smaller trees. For example, as Yang et al. (2005) found, "a large tree with a [trunk] diameter of 76 cm can remove 70 times more air pollutants from the air in Chicago than a tree with a diameter of 8 cm" (p.74). In this sense, preservation of large trees should be emphasized as much as planting new trees. Despite trees providing numerous benefits in terms of air quality, some trees can also be a source of air pollutants in the form of biogenic volatile organic compounds (BVOC). These compounds can react with nitro oxides and others to create greenhouse gases (Yang et al., 2005). Although this concern generally does not outweigh the air quality benefits of trees it is, nevertheless, important to plant low BVOC emitting trees in urban contexts. Trees provide air quality benefits both directly (sequestering carbon, trapping particulate matter) and indirectly (reducing cooling needs) and are an important part of achieving municipal sustainability targets.

Gurtej Pung (2016)

Biodiversity


Gurtej Tung, 2016

It can be difficult to quantify the biodiversity benefits provided by urban forests. But, qualitatively speaking, surveys have shown that people enjoy seeing wildlife in their day-to-day lives (Dwyer et al., 1992). This is evident when visiting a major park in Vancouver, such as Queen Elizabeth Park or Stanley Park, and seeing people of all demographics enjoying bird watching. In densely urban areas, like downtown cores, biodiversity can be limited due to population, road and pollution densities, higher air temperatures, soil compaction and soil alkalinity. However, in urban areas with green spaces and good tree canopies, biodiversity can be strong. As Melles et al. (2003) outline in their analysis of Vancouver's bird diversity, the presence of large coniferous trees, amongst other landscape features, can vastly improve the diversity of bird species. On the other hand, fewer trees can result in a "community dominated by four to five "urban" bird species, three of which [are] non-native species" (Melles et al., 2003). This could be due to two factors according to Alvey (2006). Firstly, landscapes suitable for people could also be suitable for other species. Secondly, humans may increase biodiversity through the creation of heterogeneous landscapes. Nevertheless, it is difficult to quantify biodiversity benefits given measurement difficulties and context specificity. Broadly speaking, trees do provide biodiversity benefits. In particular, mature healthy trees are important for biodiversity, and preserving them in the face of increasing construction and densification is important. At the same time, ensuring that an urban forest contains a diversity of tree species is essential to disease and pest resilience.

Storm Water Management

Vancouver is a rainy city, particularly in the winter (see Figure 5). Couple this with increasing development, which is leading to less trees and more impermeable surfaces, stormwater management is becoming a problem. More specifically, transportation related infrastructure (roads, driveways, sidewalks) is most problematic as it typically consists of approximately 66% of impermeable surfaces in a given city (Lee & Heaney, 2003). During severe storms in Vancouver, there are also concerns around unsanitary overflow. This overflow is problematic because sewage and rainwater can mix, due to uncapped piping. Luckily trees can reduce stormwater volumes. Trees collect rainwater on their leaves and branches which delays peak flows. Moreover, through root growth, trees allow water to better infiltrate soil surfaces (Bartens et al., 2009). For a modest urban tree canopy, storm water management benefits can be noteworthy. For example, according to Asadian & Weiler (2009) in their research on rainfall interception by urban trees on the North Shore of B.C., a mature tree can provide $1.37 - $3.09 in stormwater management services per year. These benefits would vary depending on the specific age and type of tree but, nonetheless, when multiplied across the extent of a city, they translate into millions of dollars in stormwater management savings. However, not all trees are equally beneficial. As indicated, the rainiest seasons in Vancouver are also the seasons where deciduous trees, generally speaking, do not have leafs to retain water. In this sense, large evergreen trees are better at intercepting rainwater as compared to deciduous trees when looking at an annual rainfall profile for Vancouver (Xiao et al., 1998). In brief, urban trees provide strong stormwater management potential as long as appropriate trees species are selected.

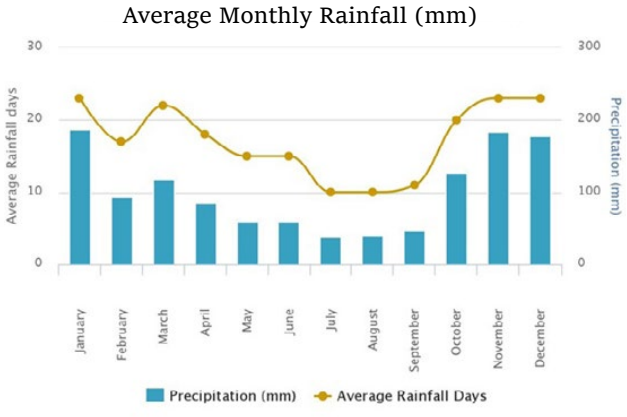
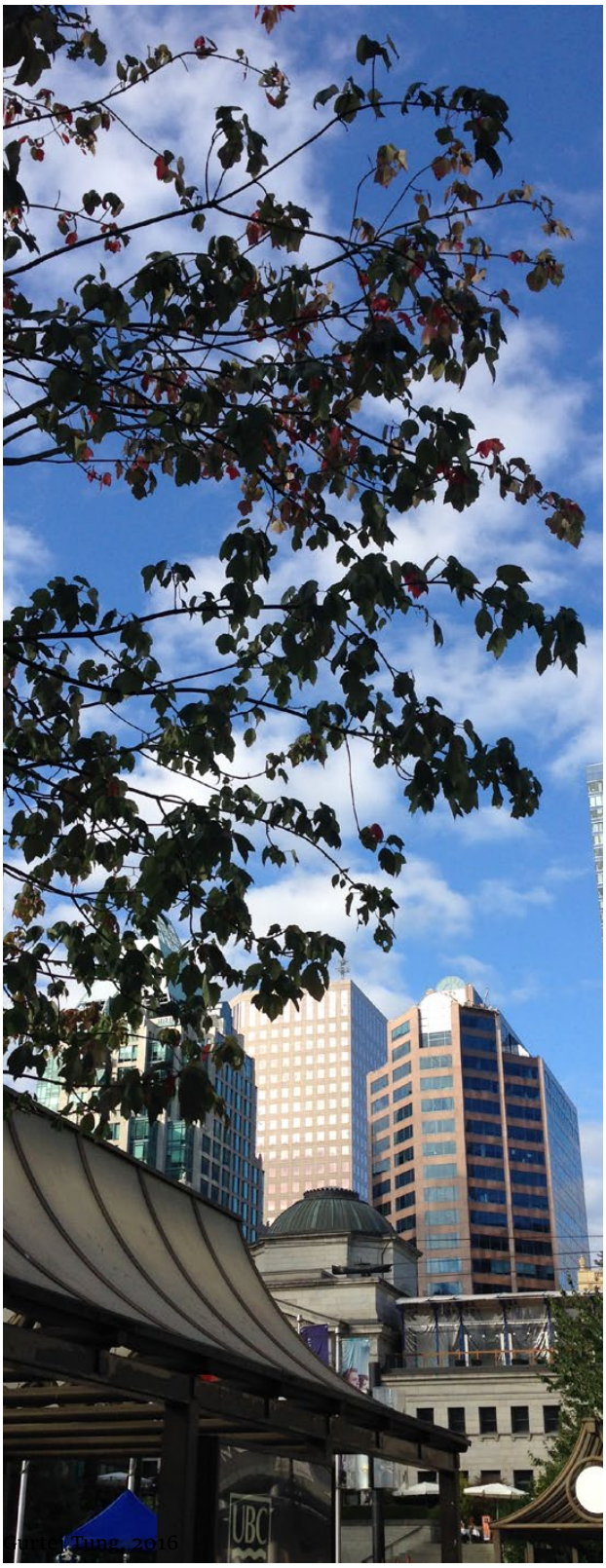


Figure 5. Yearly precipitation in Vancouver (World Weather Online, 2012).


Gurtej Tung, 2016

Urban Heat Island



Trees are cool. Walking under the shade of a tree on a hot day the temperature difference is immediately apparent. In particular, temperatures in cities can be greater than temperatures in the suburbs and surrounding countryside. This is known as the urban heat island effect. The urban heat island effect occurs when naturally vegetated areas are developed and replaced with impervious surfaces that absorb significantly more incoming solar radiation (Rosenzweig, Solecki, & Slosberg, 2006). In addition, pollution from cars, industrials process and other human sources can intensify the urban heat island effect. Simply put, they make temperatures hotter and, as a result, it costs more to keep living environments cooler. Luckily, strategically planted shade trees can help address both of these concerns. Shade trees have be shown to reduce summer temperatures by 1-3 ^{0}C through shading and evapotranspiration. This can translate into 30% cooling-energy savings. It is recommended that three shade trees with a canopy cross section of 50m^{2} be planted per air conditioned detached house in order to achieve the best energy savings (Akbari, Pomerantz & Taha, 2001). Moreover, depending on the source of electricity production, one shade tree can avoid the combustion of 15kg of carbon annually while, simultaneously, sequestering up to 4.5 kg annually (Rosenfeld et al., 2001). It is important to remember, as Rosenzweig, Solecki, & Slosberg (2006) outline, that shade tree planting needs to occur at large enough spatial extents so the benefits can compound and be truly effective.

Artie Tung, 2016

Cultural Considerations & Civic Discourse

Cultural attitudes towards trees play a significant role in people's perceptions of private property tree planting. These cultural perceptions were explored by Tung & Zeng (2015) and it was found that, although all cultural groups are supportive of private property tree planting, Chinese people appeared to be the least enthusiastic. Ley (1995) also explores this cultural difference in his article *The Case of the Missing Sequoias*. Through the inciting incident of a Chinese immigrant cutting down two old trees in Kerrisdale, on his own property, and the ensuing uproar, Ley explores the nexus between eastern and western culture as they relate to urban forestry and the concept of home.

The current sustainability movement, at the City of Vancouver, derives its values from a specific cultural belief set. If those sustainability goals are to be achieved, a wider discussion, with people from different backgrounds, needs to occur. In addition, it is about understanding contextual nuance. For example, Shan (2012) analysed people's attitudes and willingness to participate in the planning of urban green spaces in Guangzhou, China. 595 people were surveyed in 24 green spaces located throughout the city. The author discovered that the vast majority, over 75%, of those surveyed believed that public participation in urban green spaces planning was necessary. In this sense, it is important to understand the cultural nuances of communities. Chinese people, as an example, may not be the most enthusiastic to plant trees on private property, but that certainly does not mean they are not supportive of urban forestry and parks and their role in creating those places. As Shanahan et al. (2015) put it, urban forestry and "'access to parks' should not only be measured through area provision and distance targets, but through social characteristics of communities" (p.159). By understanding these unique local characteristics and nuances, more inclusive and successful urban forestry initiatives can be undertaken.

To address these concerns, it is important to create a dialogue with the public and foster enthusiasm about urban tree planting from a grassroots level. As alluded to, this begins with an understanding of the local context and then developing a 'public–science–policy interface' that moves beyond simple information provision (Janse & Konijnendijk, 2007). By doing this, people will, hopefully, be more invested in urban forestry initiatives. At the moment, however, the approach at the City of Vancouver remains top-down. For example, as Jackson (2016, March 23) reported in Metro News regarding the City's latest tree sale, "Vancouver is running out of space to plant trees on public property, so the park board is selling cheap trees to convince people to plant on private land". In some sense, the word 'convince' implies that there isn't agreement amongst the community about this goal. The City should not have to 'convince' people of anything because City sustainability goals should, ideally, have buy-in from residents. Empowering local communities to believe in urban forestry goals will create long-term civic investment that will last beyond any one strategic policy.

Methodology

Gurtej Tung, 2016

Methodology

In order to improve our urban forest through education, advocacy, tree sales and so forth, it is worthwhile to know which types of trees people want to plant, where they want to plant them and, roughly speaking, if there any differences in planting preferences based on age, existing neighbourhood tree canopy and built form. This section outlines the methodology of the WeTree exercise in the form of a frequently asked questions (FAQ) section.

Why Riley Park (Hillcrest Community Centre) and Dunbar (Dunbar Community Centre)?
These two neighbourhoods and outreach locations were selected due to their similar population compositions but distinct tree canopy coverage and built form. Dunbar is located in the west part of Vancouver and Hillcrest is located in east Vancouver. Table 1 outlines these similarities and differences. In this sense, does a greater tree canopy or a greater number of detached houses impact the types of trees that are selected?

Table 1. The similarities and difference between Riley Park and Dunbar (Statistics Canada, 2011; City of Vancouver, 2014)

	Population	Tree Canopy Coverage	Number of Detached Houses
Riley Park (Hillcrest)	21,795	14%	2695
Dunbar	21,745	28%	5310

Outreach was conducted at Hillcrest Community Centre (4575 Clancy Loranger Way) on July 31st, 2016 and at Dunbar Community Centre (4747 Dunbar St, Vancouver, BC) on July 26th and 27th, 2016. These dates and times were selected since potted trees only remain aesthetically pleasing for a short period of time. The community centres offered the best places to conduct outreach since a cross section of people attend them and it was easy and feasible to obtain permission to conduct an event there. However, anecdotally speaking and reflected in the average age of patrons, Dunbar events had an overrepresentation of retirees and stay at home parents.

Why these trees?
The trees that were selected for the WeTree engagement events were as follows; Japanese maple, Apple (Scarlet Sentinel), Douglas fir and Magnolia (Soulangeana). Each of these trees is representative of a category of trees typically found in Vancouver's urban forest. Japanese Maple- 'broad leaf' deciduous tree, Apple- fruit tree, Douglas fir- native conifer, Magnolia – flowering tree. The idea was to have people instinctively select their desired tree, and by association tree category, without influencing their decision. Each tree was approximately the same height and width, although the size of the pots varied. The trees were purchased at Port Kells Nursery (18730 88 Ave W, Surrey, BC).

What happened at the community centres?
Outside of each community centre, the trees were set up along with voting boxes (see Figures 6 & 7). Patrons were flagged down entering or leaving the centres. They were asked, "what tree would you plant at home?". Then they were asked to complete a ballot (see Figure 8), which asked for their age, postal code and reason for selecting their tree, and place it into the box corresponding with their chosen tree. Each tree had an info sheet in front of it with the tree's height and spread at maturity, desired sun exposure, desired soil type, bloom time, foliage color and images of a full grown tree and leaves. Patrons were offered candies as an incentive.

Methodology

How was data analysis done?

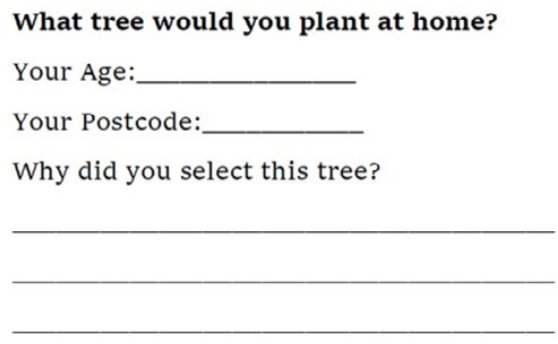
Some ballots were partially completed. They were counted towards overall preference rates but, depending on the ballot, did not factor into age, postal code or selection reasons. Those with postal codes outside of the two neighbourhoods were included in the overall preference rates, age, and reasons for selection, but were not included in the geocoded maps. ArcGIS online and ArcMap desktop were used to geocode the postal codes. Participant privacy was strongly considered during this exercise and was addressed by ensuring that the tree symbology on each map was large enough to cover several houses and not specific to any one address. Moreover, no age was attached to any given geocoded tree.

Figure 6. WeTree Volunteer David is ready to engage people about trees at Dunbar Community Centre.

Hillcrest Community Centre is a 'destination' centre where people from outside of the Riley Park neighbourhood are also patrons. On the other hand, Dunbar is more of a local community centre. These differences are reflected on the maps on pages 20 and 21. Upon geocoding the ballots, it was apparent that responses were not specific to Dunbar and Riley Park but were more general to the west and east sides of Vancouver. For example, ballots cast at Hillcrest were found to also come from other east Vancouver neighbourhoods such as Sunset, Renfrew-Collingwood and Mount Pleasant whereas west Vancouver ballots were from Dunbar and Point Grey. Since west Vancouver has a higher tree canopy cover as compared to east Vancouver, this analysis still holds valid. A future study may consider conducting a mail-in ballot or door to door outreach, but this would require greater resources.

Figure 7. Swarms of people wanting to vote for their desired tree at Hillcrest Community Centre.

Significance levels and margins of error for overall tree preferences were calculated using RaoSoft's sample size calculator (RaoSoft, 2004). Over 270 votes were gathered at each community centre which gave a 90% confidence level with a 5% margin of error. For example, 36% of votes were cast for the Japanese maple at both community centres. This means that we can say with 90% confidence that the Japanese maple is the preffered tree for 31-41% (36% +/- 5%) of east and west Vancouver residents.



What tree would you plant at home?

Your Age:_____

Your Postcode:_____

Why did you select this tree?

_____

_____

_____

Figure 8. Voting Ballot.

Results & Recommendations

Gurtej Tung, 2016

Tree Preferences and Age

Overall tree preferences were calculated at a 90% confidence level with a 5% margin of error. Absolute number of votes are in parentheses.

Table 2. Overall Tree Preferences.

90% Confidence 5% Margin of Error	**Magnolia Soulangeana**	**Douglas Fir**	**Japanese Maple**	**Apple – Scarlet Sentinel**
Dunbar (273)	23.1% (63)	13.6% (37)	35.9% (98)	27.5% (75)
Riley Park (296)	25.0% (74)	15.9% (47)	35.8% (106)	23.3% (69)

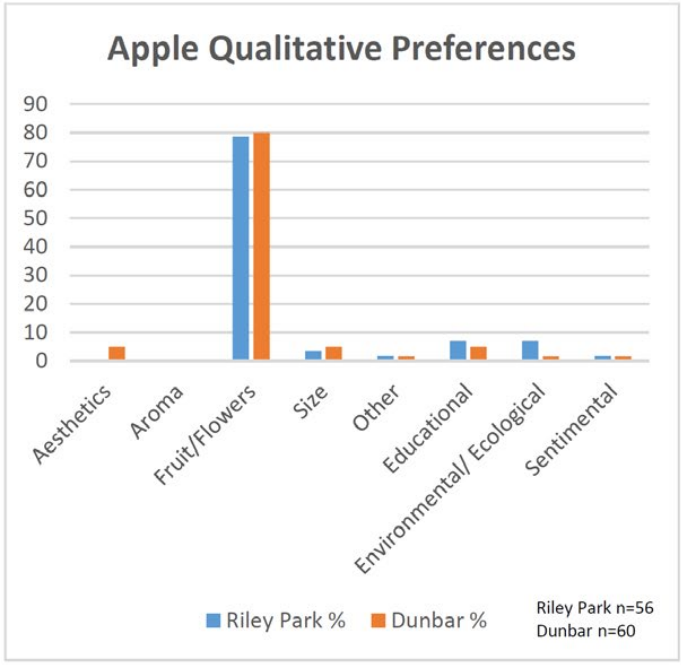
Table 3. Age ranges for each tree at each community centre. Some ballots did not include an age.

Age Range	Dunbar	Riley Park	Dunbar	Riley Park	Dunbar	Riley Park	Dunbar	Riley Park
0-19	8.2% (5)	26.0% (19)	42.9% (15)	44.7% (21)	17.7% (17)	26.7% (28)	23.3% (17)	31.3% (21)
20-39	18.0% (11)	31.5% (23)	20.0% (7)	14.9% (7)	13.5% (13)	27.6% (29)	24.7% (18)	17.9% (12)
40-59	36.1% (22)	34.2% (25)	22.9% (8)	25.5% (12)	24.0% (23)	38.1% (40)	23.3% (17)	41.8% (28)
60-79	32.8% (20)	8.2% (6)	14.3% (5)	12.8% (6)	38.5% (37)	7.6% (8)	23.3% (17)	9.0% (6)
80-99	4.9% (3)	0.0% (0)	0.0% (0)	2.1% (1)	6.3% (6)	0.0% (0)	5.5% (4)	0.0% (0)
Average Age	50.5	33.3	30.7	29.9	48.6	33.3	41.8	33.9

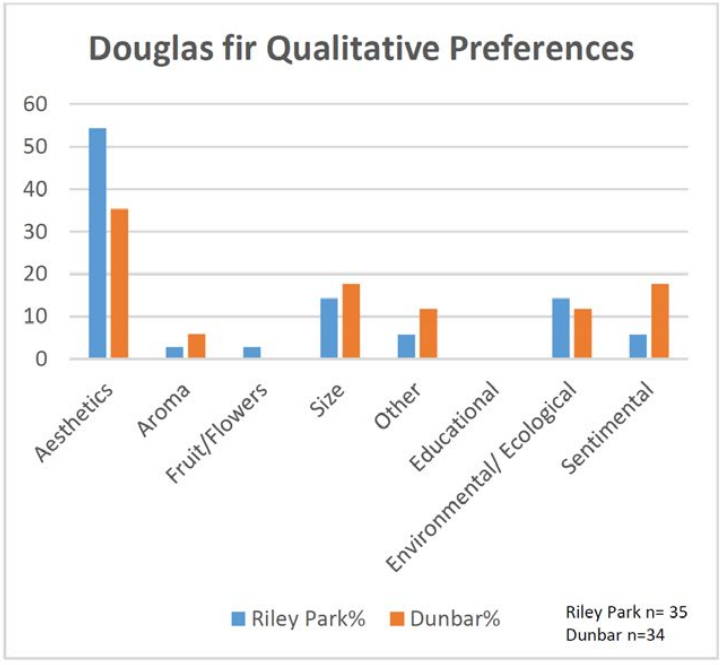
Qualitative Preferences

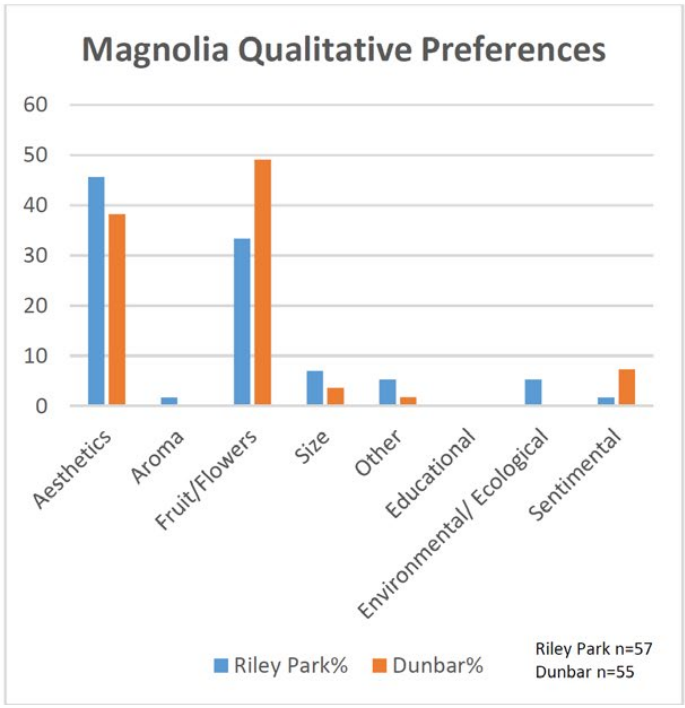
Qualitative responses for the 'why did you select this tree' part of the ballot were placed into 8 categories by the author. Some responses conveniently fit into these categories whereas others required subjective placement.

"We can get the apple by ourselves from the tree. That will be fun!" – 40 years old, Hillcrest Community Centre

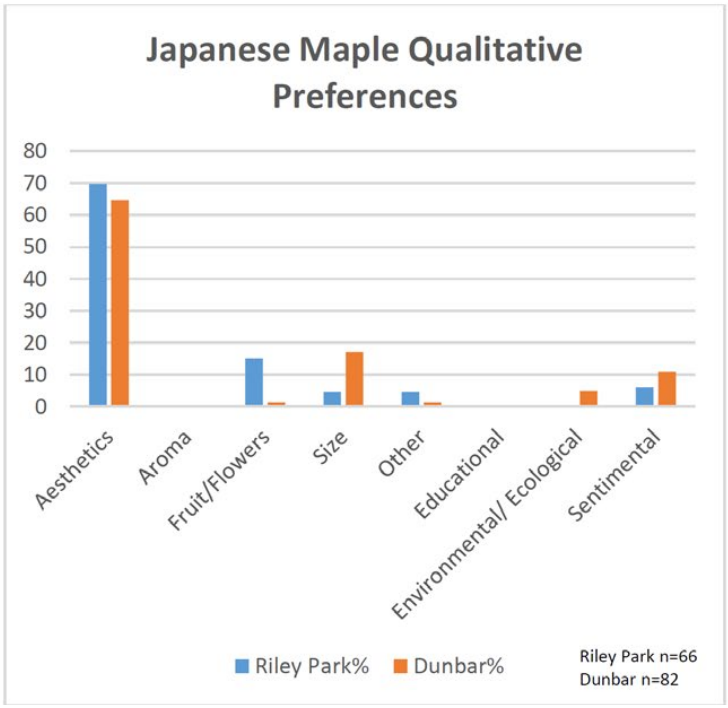


"It's good to have mildly local trees." – 16 years old, Hillcrest Community Centre





"I have trees already so need something not too big & I love magnolia blossoms." – 44 years old, Hillcrest Community Centre



"It is the one I planted 34 years ago behind my house (which I sold last year)." – 83 years old, Dunbar Community Centre

Figure 9. Qualitative Reasons for Selecting Trees

Tree Locations – Dunbar

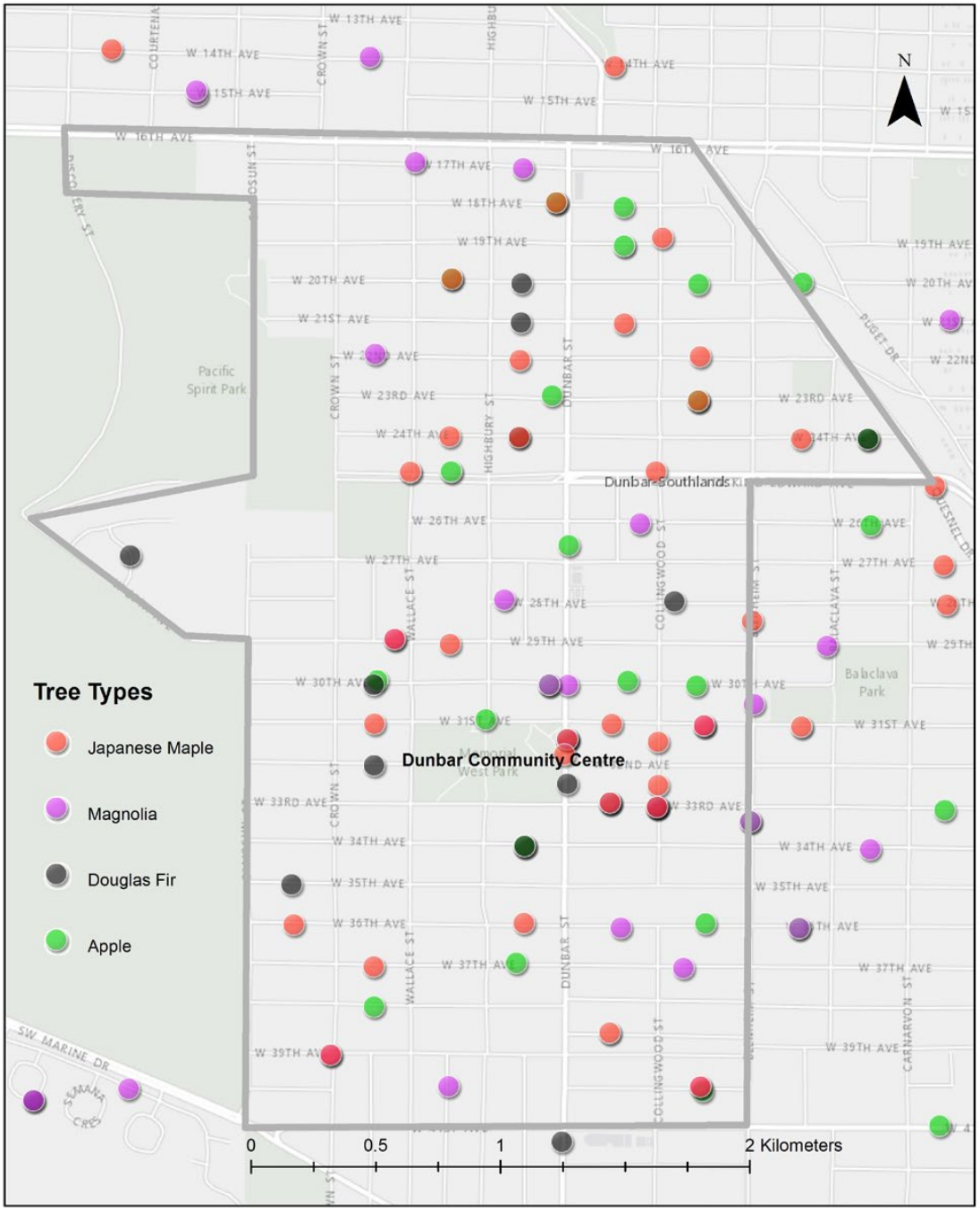


Figure 10. Preferred tree locations in Dunbar. Each tree represents 1 ballot. Some ballots did not include a postal code or were located outside of the Dunbar community.

Tree Locations – Riley Park

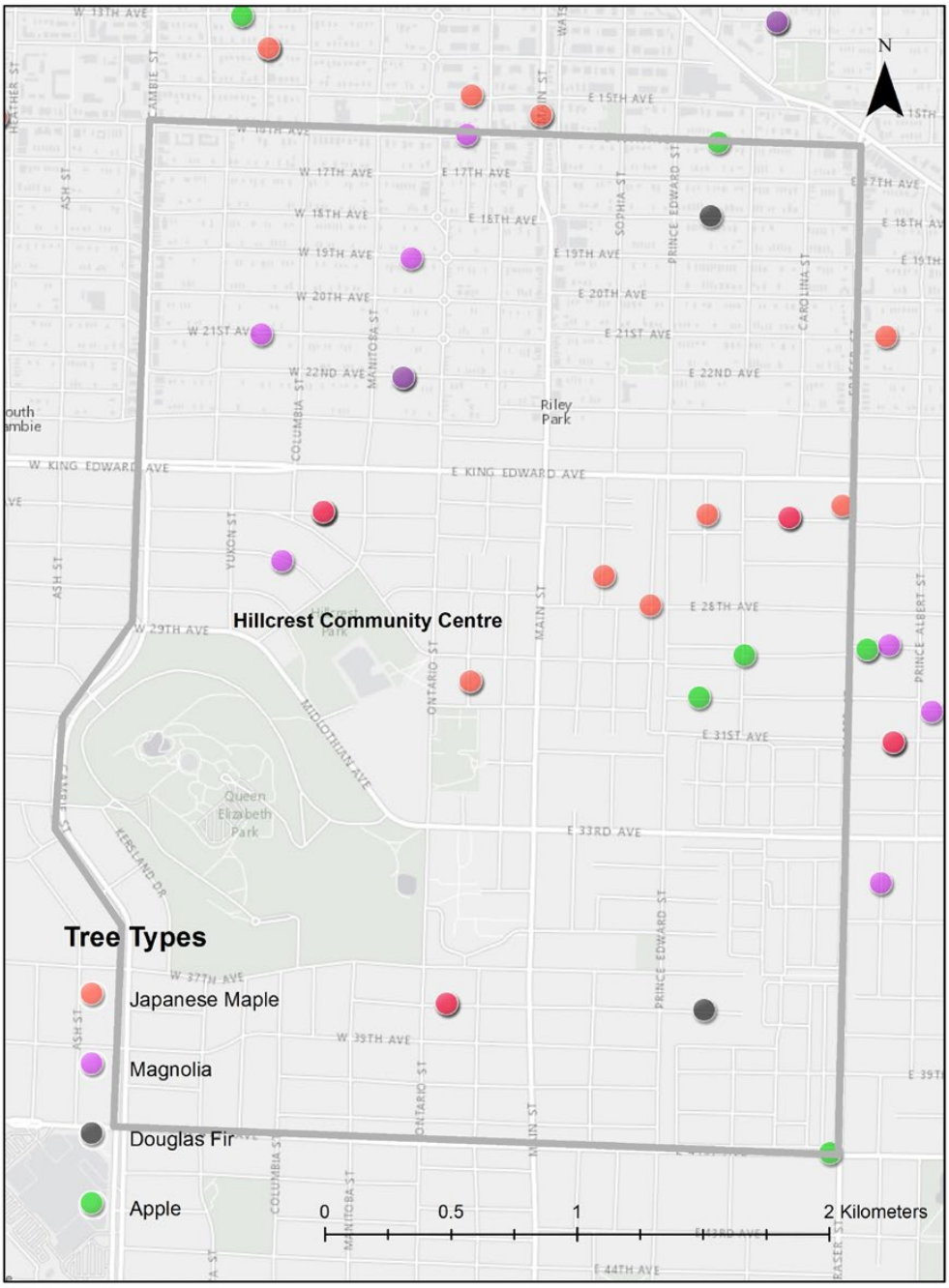


Figure 11. Preferred tree locations in Riley Park. Each tree represents 1 ballot. Some ballots did not include a postal code or were located outside of the Riley Park community.

Discussion and Recommendations

Public Engagement

The WeTree engagement technique worked well. Fundamental to its success was the low barrier to entry. The process was short, with people completing ballots in 30 seconds or less and candy acted as an easy and fun incentive, in addition to be being cost effective. Most importantly, the engagement process went to the people and did not expect the people to come to the engagement process. There was no open house to attend at a specified location and time, no cardboard panels on aisles and no people in suits with nametags creating an uncomfortable power dynamic between the 'public' and the 'professional'. Instead, we simply intercepted people in their daily lives, in a polite and enthusiastic manner, asked for a few seconds of their time and utilized actual trees that people could touch. In 3 short days this resulted in nearly 600 ballots being cast and many interesting and nuanced conversations.

Along these lines, the act of engagement was just as important as the results from the engagement itself. Going out into the pubic and talking with people resulted in two value added outcomes. Firstly, it provided a more nuanced understanding of tree preferences. People shared personal anecdotes about picking apples as children, planting trees in their backyards and hiking through their favourite forest stands. These stories cannot be captured on a survey. Secondly, it demonstrated that Parks Board and students cared about urban trees. Many people told us to "keep up the good work", said "that's really important" and that "I'm glad you're doing this". Ultimately, public engagement is not a checkbox exercise in the planning process. It is about addressing a challenge or a question that cannot otherwise be addressed through best practice research or professional judgement. And then it is important to act on that found information to produce better outcomes for the public.

Tree Preferences

(1) Existing tree canopy and number of detached houses have, seemingly, no impact on tree selection as evident by the overall preferences (see Table 2). Despite west and east Vancouver having a differing tree canopy and built form, tree preferences remain generally the same across the city.

Action: In terms of private property tree planting preferences, small broad leaf trees, fruit and flowering trees, followed by native conifers are preferred across the City. Discount tree sales across the city (excluding Downtown), if deemed appropriate, can offer the same trees for sale and they should be received with equal enthusiasm.

Discussion and Recommendations

(2) Aesthetics, fruit/flowers and size are the dominant reasons for people selecting any tree (see Figure 9). Although trees provide many environmental benefits in an urban context, in addition to economic benefits, these categories do not resonate as strongly with the general public.

Action: When fostering tree stewardship, focusing on aesthetics and size may initially resonate more strongly with Vancouver residents as compared to mentioning environmental or economic benefits.

(3) No discernible spatial pattern of tree preferences emerged in either neighbourhood based on this study (see Figure 10 & 11). Although responses were not confined to Dunbar and Riley Park, west and east sides of the city did not show any pattern of tree preferences. As mentioned, door to door surveying or mail-in ballots would produce better results, although this would be more resource intensive.

Action: Tree sales and educational activities can move forward in a somewhat uniform manner across the city (excluding Downtown).

(4) Japanese maple is the most popular tree for hypothetical planting at home in both west and east Vancouver. In both communities, the maple received nearly 36% of the vote (see Table 2). It's aesthetics and, although not indicated by the statistics but frequently mentioned in anecdotal conversations, its smaller size make it an appealing choice. Its resiliency and cultural connotations also make this tree popular.

Action: Having a greater selection of small broad leaf deciduous trees available during discount tree sales, like Tree Week, may prove quite popular. These trees may not have to be maple trees but as long as they are aesthetically pleasing, colorful, small and easy to care for, they should be well received.

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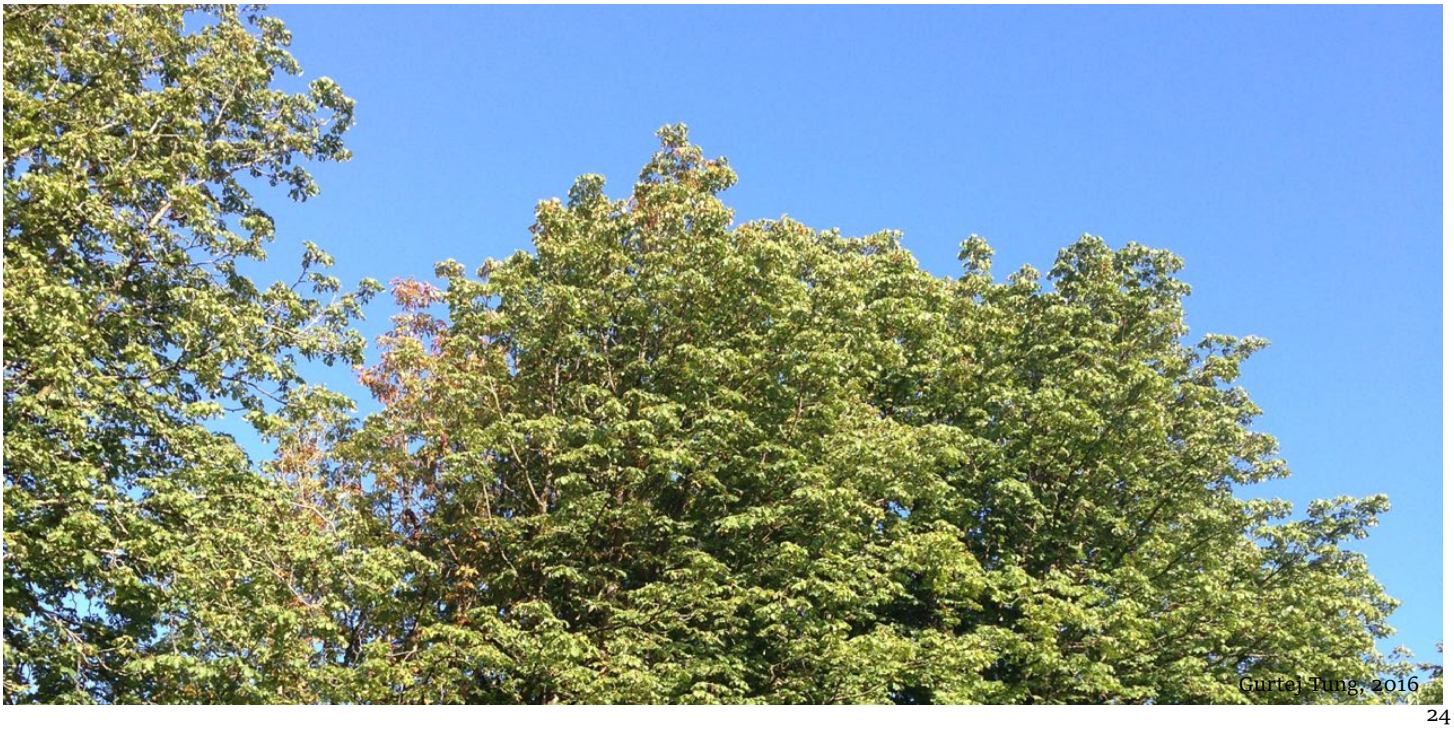
Discussion and Recommendations

(5) The least popular tree in both parts of the city was the Douglas fir. However, the fir was the most popular among younger demographics. For example, the average ages in Dunbar and Riley Park were 30.7 and 29.9 years old respectively for this tree. Moreover, 42.9% and 44.7% of ballots for fir were cast by the 0-19 year old demographic (see Table 3). Its large size, aesthetics (spikey leaves were mentioned several times) and sentimental connotations of hiking and Canadian nationality were among the top reasons for selecting this tree (see Figure 9).

Action: Collaborating with youth programs and organizations, such as community centre day camps and the Environmental Youth Alliance, and encouraging native conifer tree planting through hands-on tree planting sessions could prove successful. Conifer trees, like the Douglas fir, are cheap, initially small and resilient. In this sense, there is a strong legacy component to them as well. Trees planted now by youth will likely survive and thrive which has a living memory aspect to it and this could help foster tree stewardship much easier in years to come.

(6) Apple and Magnolia were equally popular after the Japanese maple. Both trees, in both parts of the city, received approximately 25% of the vote (see Table 2). Fruit/flowers were the most poignant reasons for selecting these trees.

Action: Continue encouraging fruit and flower tree planting. Concerns around rotting fruit and pests, from anecdotal conversations, remain regarding apple trees. Producing a multilingual ‘how to care for a fruit tree guide’ would be very useful. This guide should also include information on organizations who voluntarily collect unpicked fruit.



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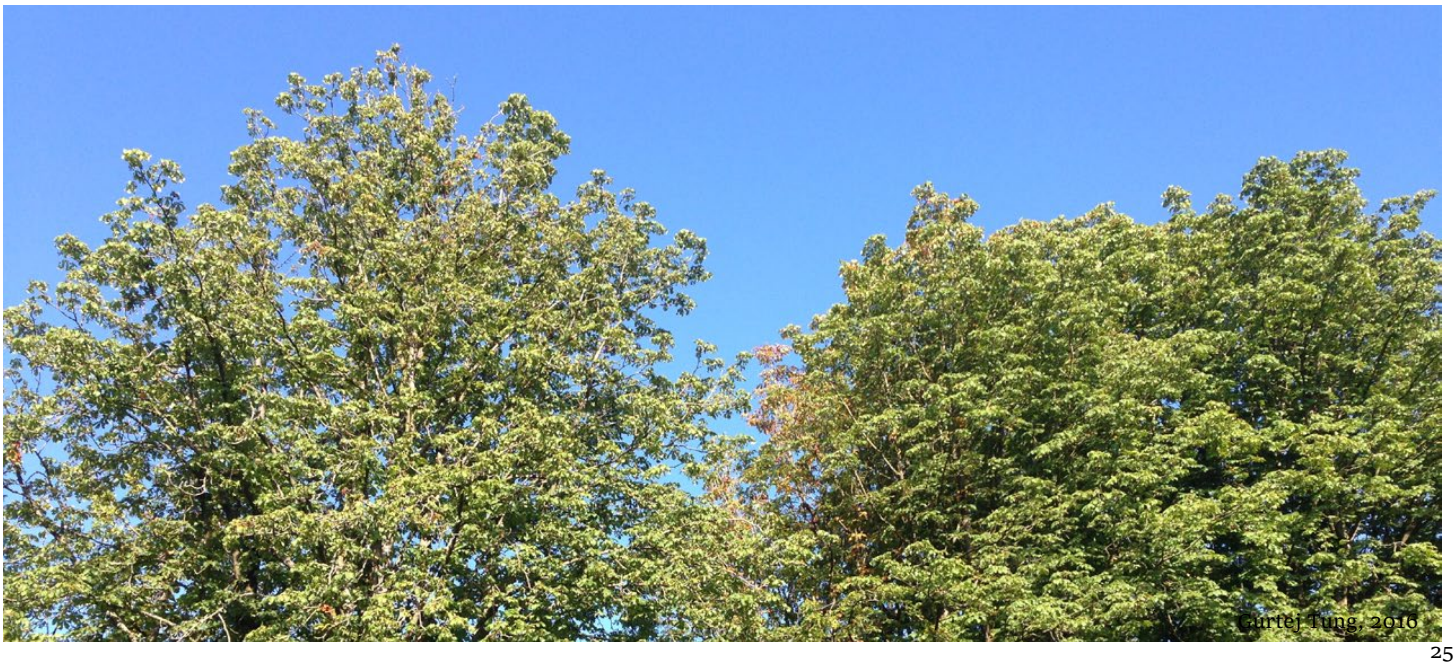
Conclusion

Planning begins with people. In order to improve our urban forest, a dialogue needs to happen with Vancouver residents. And this dialogue was the purpose of the WeTree engagement exercise. Beyond the data itself, the very act of going to community centres and engaging in conversations with dozens of people began to bridge the gap between municipal aspirations, like tree planting targets, and everyday citizens' actions.

Moreover, it's important to remember that trees may not be the highest priority in most people's lives. Housing, transportation, employment, relationships and so forth are more important for many people as compared to planting a tree. However, by removing as many barriers as possible to private property tree planting (cost, knowledge, time, space), tree planting can become a more exciting undertaking. On that note, the Parks Board needs to have fun with promoting urban forest stewardship. Connect with community organizations and hold events with games and activities, find champions in the community who can make tree planting enjoyable within their contexts and get youth involved and excited. Connecting with schools and day camps and building urban forest initiatives will create better urban forest stewards of tomorrow.

Improving our urban forest does not end with the Greenest City Action Plan in 2020. It is an ongoing process and the qualitative aspects (community relationship building, education and advocacy) are just as important as the quantitative goals of planting 150,000 trees. By balancing both of these elements, reducing the barriers to private property tree planting, and remembering to have fun, Vancouver's urban forest will begin to thrive again.



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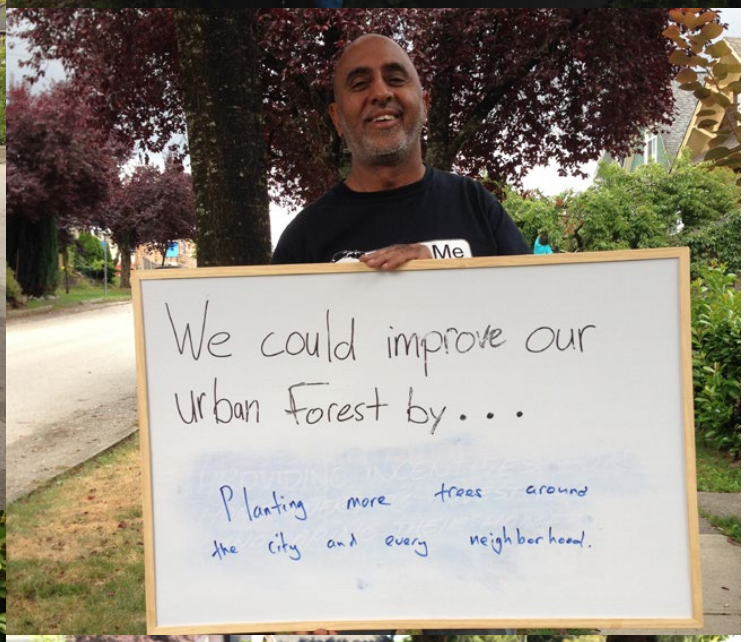

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