

CITIZEN'S COOLKIT

ON CLIMATE CHANGE & URBAN FORESTRY

MINI VERSION

A VISUAL "DO-IT-YOURSELF"
TOOLKIT FOR ENGAGING NEIGHBOURS
ON YOUR BLOCK

(September 2019)

Download and read the full Coolkit at <http://www.icoolkit.net/>





COOLKIT AT A GLANCE



A do-it-yourself process on climate change that gradually ramps up community engagement in several steps



INTRODUCTION

Introduction, climate change, and Vancouver's urban forests

Coolkit Introduction
Climate Change
Urban Forests
Renewable Energy

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HOW TO USE

Scope

This booklet aims to help you climate-proof your neighbourhood while improving the urban forests that surround your home. This booklet is full of fun tools and hands-on activities that are organized into 5 steps: chatting, mapping, rating, visioning and acting. These activities aim to help you see your neighbourhood in a new way, make climate change visible, and re-imagine your future. Pick the activities that you find the most interesting - or do them all if you wish!

Icons



Individual



Group



Family

Find the icons at the top right corner of each activity guide.

These icons suggest who the activities are best suited for. Individual activities are suited for one person, while group activities can be conducted with your family or neighbours. Children may find activities for families fun!

Where can I use the Coolkit?

Most of the activities here are simple, easy, and fun to do with family, friends and neighbours!

Consider introducing the Coolkit at a block party, when spending time with neighbors or friends, or on Facebook. Don't forget to bring a copy of the Coolkit along with some pens, markers, and other required materials.

Block Party



A good place to start the conversation and hold introductory games or exercises with your neighbours.

Informal Gathering



Over coffee, wine, or supper at someone's home or a cozy meeting place nearby to discuss further activities.

If it is hard to meet in person, don't give up! Consider online options such as creating and using a Facebook group or meeting regularly on Skype. You can also follow us on Facebook ([facebook.com/CoolkitVancouver/](https://www.facebook.com/CoolkitVancouver/)) and Instagram ([citizenscoolkit](https://www.instagram.com/citizenscoolkit)) to keep an eye on the upcoming events and share your ideas under the posts.



WHY BOTHER ABOUT CLIMATE CHANGE?

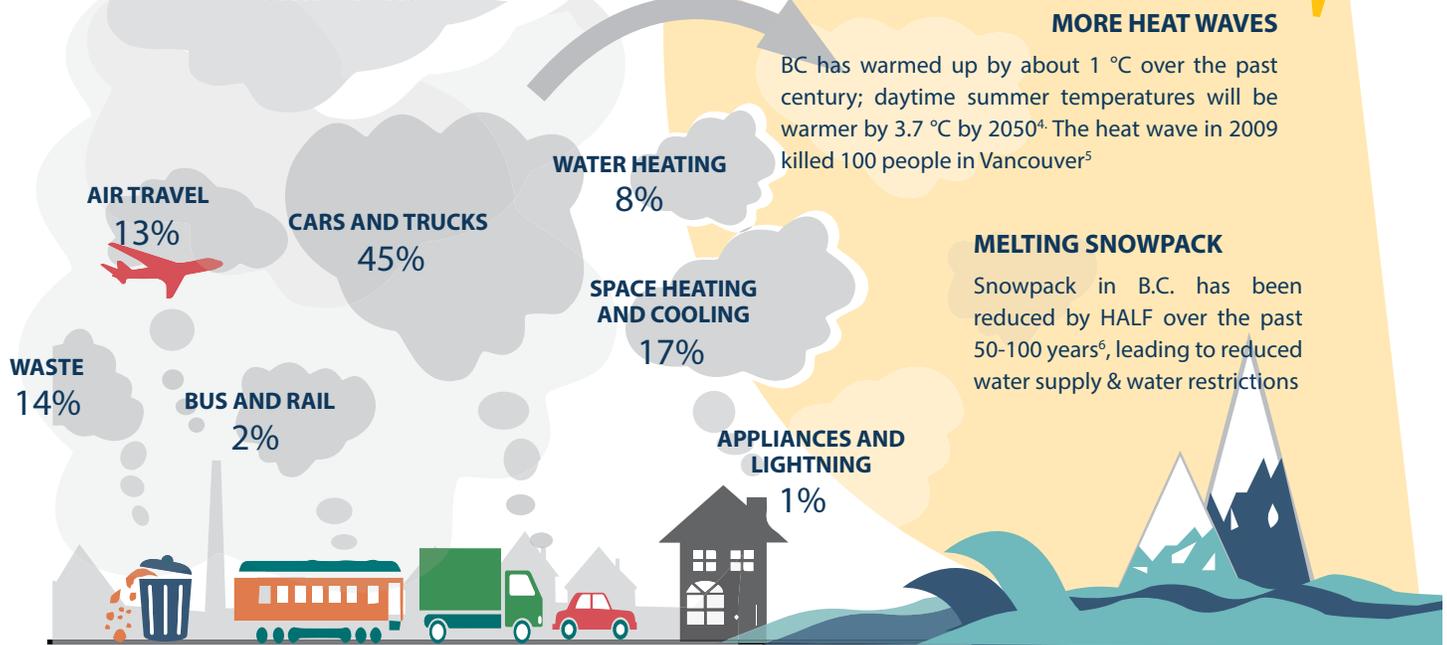
CLIMATE CHANGE IS HAPPENING

The main **CAUSE** of climate change is carbon emissions produced from human activities (e.g. driving cars, building houses), which adds to the greenhouse effect, trapping heat and further warming the Earth's surface. Canada has committed to keep global warming to below 2 °C (relative to pre-industrial levels)¹.

WHAT WILL HAPPEN IF GLOBAL TEMPERATURES RISE MORE THAN

2 °C

Households directly account for **40%** of BC's total greenhouse gas (GHG) emissions³.



British Columbia has committed to reduce its carbon emissions to⁸:

40% below 2007 levels by 2030

80% below 2007 levels by 2050

MORE FLOODS & DROUGHTS
Hotter, drier summers, & more intense rainstorms will cause more severe and frequent floods and droughts⁶.

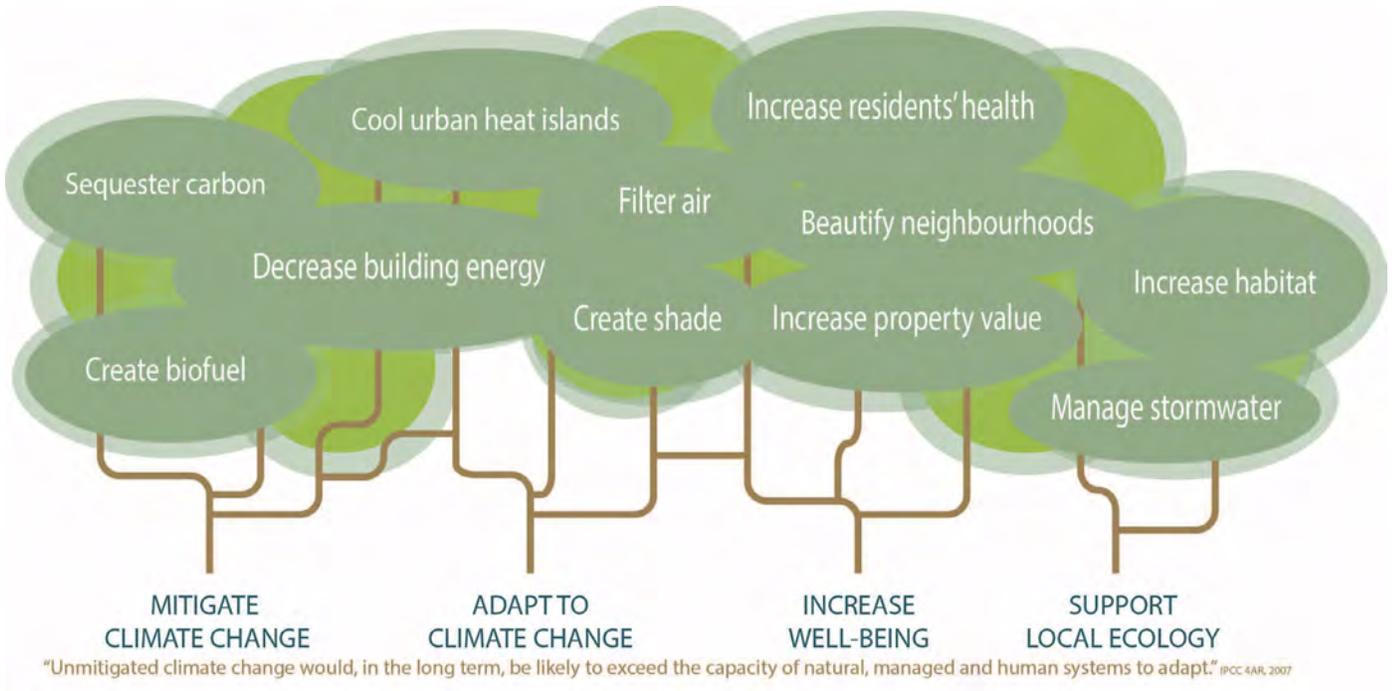
RISING SEA LEVEL
Estimated increase of sea level in coastal BC by 2100 is 1m or more⁷. We will lose homes, communities, and ecosystems (an estimated total damage \$30 billion by 2050)⁷

HOW CAN URBAN FORESTS HELP?

What is an urban forest?

The urban forest includes a variety of vegetation and landscape types such as parks, streetscapes, natural areas, and private yards, which together form a complex system of urban greenery.

A healthy urban forest will be vital in a hotter, unpredictable future to protect human health during heatwaves, reduce our reliance on air conditioning, reduce flooding, absorb carbon, and provide habitat to wildlife. An urban forest also increases property value and happiness. Our gardens can further help us adapt to climate change by growing food (reducing reliance of imported produce).



Infograph by Sara Barron

How large is our urban forest?

Vancouver's urban forest today is made up of:⁹

140,000 street trees

300,000 park trees

Unknown number of private trees



18% of Vancouver is covered by tree canopy, as calculated and mapped by the City:¹⁰

11% of canopy on streets

27% of canopy in parks

62% of canopy on private property



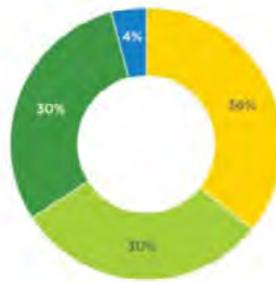
BUT, WE ARE LOSING HEALTHY TREES EVERYDAY, MOSTLY ON PRIVATE PROPERTY

Vancouver aims to increase tree canopy from

18% to 22% by 2055

through better management and replanting

150,000 trees by 2020¹⁰.



150,000 NEW TREES

54,000 (36%) TREES ON PRIVATE LAND

45,000 (30%) STREET TREES

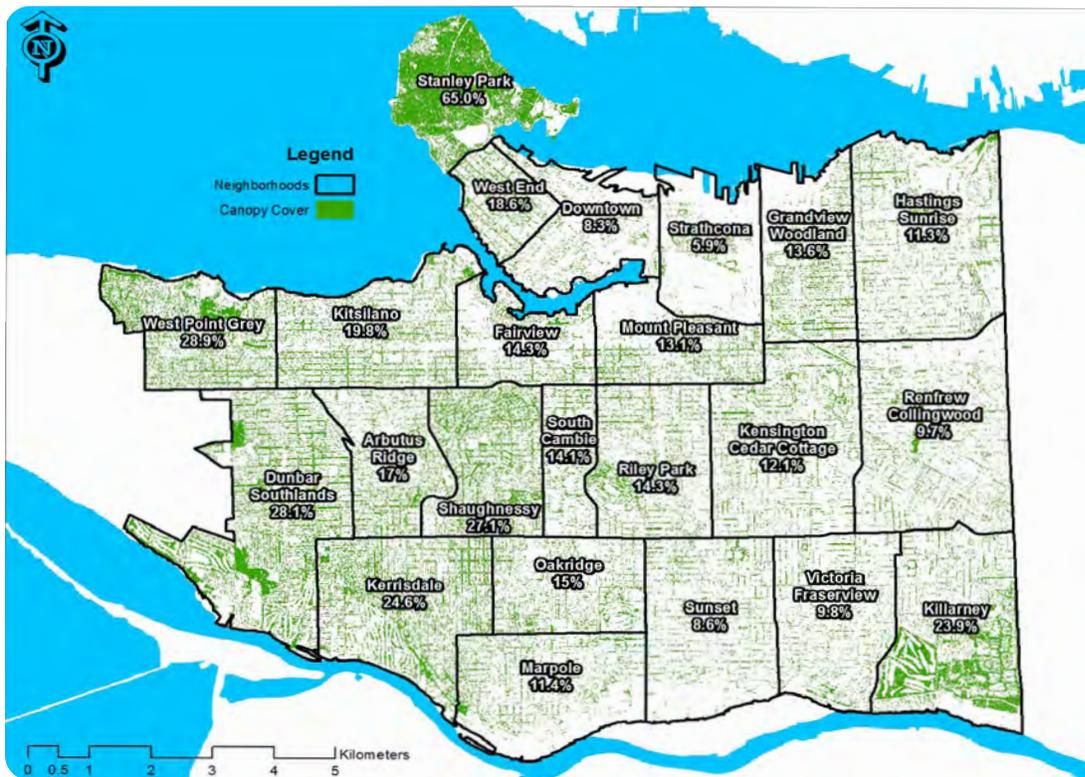
45,000 (30%) TREES IN PARKS

6,000 (4%) TREES ON OTHER PUBLIC LAND

by Gurtej Tung

"Over the last two decades, 23,490 healthy, mature trees were removed on private properties (including residential, institutional, commercial and industrial land)" - City of Vancouver

HOW MUCH CANOPY COVER DOES YOUR NEIGHBOURHOOD HAVE?



Map of tree canopy cover (%) across Vancouver neighbourhoods

WHAT CAN WE DO?

BC's carbon reduction targets and tree planting targets benefit all of us; we must do our share to keep to 2°C of warming.

We also need to prepare for the impacts of climate change. We can begin to cut our emissions, for example, by taking better care of trees in our neighbourhood, switching to renewable energy sources, driving less, or switching to hybrids or electric vehicles, and taking better care of our neighbourhood trees. Flip to the next page to begin the journey!



STEP 1: START A CONVERSATION

Now that you know how important climate change and urban forests are to the future of our city, it's time to share that knowledge with your family, friends, and neighbours. Here we provide some activities to help you start a conversation with others on climate change and urban forests.

1. **COLLECTING STORIES** about changes that have happened on your block over time (available at the Full Version)
2. **PHOTO GALLERY** to discuss changes on your block (Full Version)
3. **PHOTO QUIZ** to look for signs of climate change on your block
4. **NON-TRIVIA QUIZ** to test your knowledge on urban forests and climate change (Full Version)





START A CONVERSATION PHOTO QUIZ



Why do this? To find signs of climate change in your block.

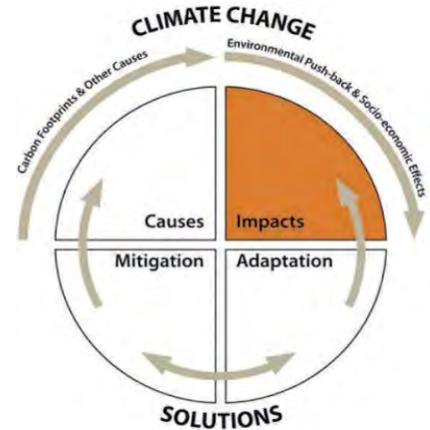
Here we are looking for signs of "CIMA".

Causes: anything that produces high carbon emissions

Impacts: consequences of climate change & vulnerability to future impacts

Mitigation: ways to reduce carbon emissions

Adaptation: ways to deal with the impacts of climate change



Examples of what to look for

Consider potential impacts based on **possible threats** in different seasons, or what activities related to mitigation or adaptation could potentially take place. For instance, as seen in the photo below, mature trees can be a potential **impact** if they are unhealthy and blow down in wind storms, but are more often an **adaptation** against the effects of climate change by reducing the impacts of heat waves and stormwater floods.

Recognizing climate change in the neighborhood: West 13th Avenue near Maple street

Causes

- Automobiles
- Concrete (production)
- Heating - natural gas/wood burning
- Home energy use

Potential impacts

- Increased home cooling costs
- Tree decline/death
- Tree failure - damage to property
- Drought - water restrictions

Mitigation

- Car pool or car-share
- Limit use of automobiles
- Travel by bike or on foot
- Retrofit home for energy efficiency

Adaptation

- Plant trees for shade & insulation
- Grow a vegetable garden
- Plant drought resistant plant varieties

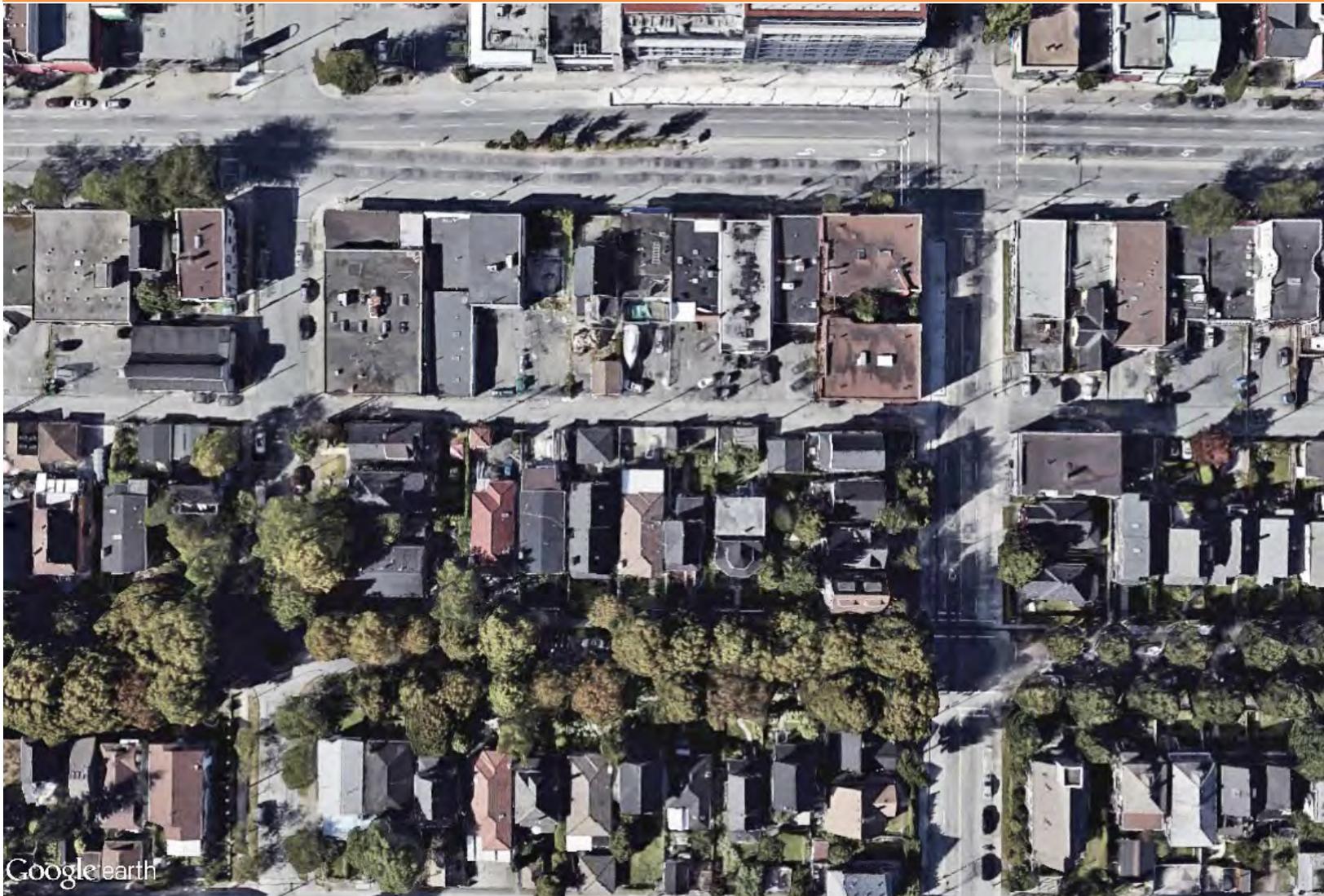
Example: Planter box on W. 14th Ave near Maple



STEP 2: MAP YOUR BLOCK

Do you know much about the trees on your block? Have you ever tried to inventory important things on your block and consider their links to climate change? Do you live on a high carbon or low carbon block? The activities in this section will help you see your surroundings in a new way, and learn to use some simple mapping techniques.

1. **URBAN FOREST QUEST** allows you to investigate “squirrel habitat” (tree canopy) and other features of your urban forest
2. **CLIMATE CHANGE DETECTIVE QUEST** allows you to investigate “car habitat” and other signs of climate change (Full Version)
3. **MAP DIFFERENT HABITAT TYPES** in your block to see how green or grey it is and where it could be improved (Full Version)
4. **VULNERABILITY MAPPING** allows you to find parts of your block which would be under the greatest threat from climate change





MAP YOUR BLOCK URBAN FOREST QUEST



30 minutes

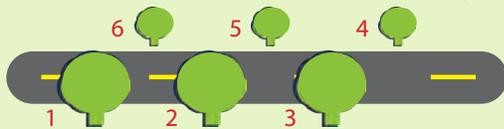
DO YOU KNOW...

- How much squirrel habitat is on your block?
- How many trees there are on your block?
- Why trees are important to us and squirrels?

Your name/team name

1) COUNT THE TREES

Street trees are trees alongside the curb in the public right-of-way. Count the number of street trees on your block.



Total # of street trees: _____

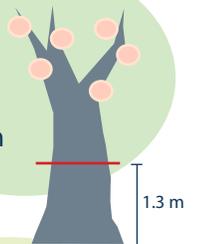
Total # of trees in gardens: _____

2) MEASURE TRUNK SIZE

Measure the circumference (girth) of the biggest and smallest trees. At around 1.3 metres (or 4.5 ft) up from the ground, measure around the tree's stem.

Girth of biggest tree: _____ cm

Girth of smallest tree: _____ cm



3) THE LEAPING SQUIRREL TEST

Check out your block's street tree canopy by using the distance a squirrel leaps. Squirrels live up in the trees and are safer there than on the ground. Assume squirrels can leap about 2 metres (6 ft or a person's height) between branches:

Can a squirrel make it from one end of the block to the other and cross the street at least twice, without coming down to the ground?



Yes / No

If "No", how many gaps (greater than 2 metres) between canopies did you see?

Important because...

Larger trees have bigger canopies and so more benefits. Smaller trees are also important since they will replace existing big trees one day.

Important because...

A continuous canopy has more shade during the summer for cooling and reduces stormwater flooding.

To read more: http://forestry.ohiodnr.gov/portals/forestry/urbantoolbox/articles/BigTrees_SEOhio.pdf

FINISHED!



MAP YOUR BLOCK HABITAT MAPPING



Why do this? To quickly identify different types of “habitats” or surfaces in your neighbourhood.

You will need:

- 🕒 0.5-1.5 hours
- Several colourful markers and satellite photos of your block/yard for mapping. Depending on the mapping tools you use, you will need a computer or some hard copies of photos (you can print them on regular paper instead of photo paper. Recommended size: 11” by 17” or 18” by 24”

What is habitat mapping?

There are many different habitats (other than human habitat) on your block. Here are some examples of different habitats that you can map in this exercise:

An example of habitat mapping using Google Earth - please see the Appendix page 65 in the full version for detailed instructions



“Squirrel Habitat” - Trees & Canopy



Now that you have an idea of how safe it is for squirrels on your block after the Urban Forest Quest (page 9), examine all the trees on your neighbourhood map and figure out how much canopy cover you have. Urban tree canopies have many important benefits, such as lowering temperatures and reducing storm effects.



30% of total area is squirrel habitat

“Worm Habitat” - Lawns & Soil



These soft pervious surfaces allow water to pass into the ground, reducing the flooding and amount of contaminants entering streams all at once. Soil provides important habitat for many types of underground creatures, and space for trees, plants, and fungi to grow.



35% of total area is worm habitat

“Car Habitat” - Hard pavement



Pavement is an impervious surface, which forces stormwater into sewers or pipes rather than into the soil. This can result in chemicals from the road entering streams and heavy water flow damaging stream banks. Roads and parking lots also take up a lot of space and increase temperatures.



20% of total area is car habitat

“Pigeon Habitat” - Buildings & Roofs



These hard surfaces also affect storm water drainage, often directing rainwater straight into to the drains and not to the plants which need it during droughts. Roofs can also provide space for solar panels or green roof installation, which can help mitigate and adapt to the effects of climate change.



45% of total area is pigeon habitat



MAP YOUR BLOCK VULNERABILITY MAPPING



Why do this? To quickly identify possible risks to the neighbourhood from climate change.

You will need:

- 1-1.5 hours
- Coloured pens and a paper print-out of an aerial photo of your block (VanMap or Google Earth)

What is vulnerability mapping?

Vulnerability mapping shows the areas which may be susceptible to damage from environmental or manmade threats, such as climate change. This type of mapping can help you think differently about the kind of risks that could affect your block and help you label things you may want to change²⁶. This is a simple mapping exercise in which you will identify high and low risk areas of your block based on one or more climate change threats of your interest.

Procedure (see detailed mapping instructions in the full version page 65):

1. Print out an aerial photo of your block (8.5x11 landscape)
2. Choose one or more risk features from the diagram below such as urban heat island effect (UHI), drought, or floods. Refer to page 3 for climate change risks likely to occur in Vancouver
3. Identify parts of your block that would be most susceptible to these threats
4. Identify parts of your block which would be least susceptible to these threats, such as dense canopy, white roofs, and pervious surfaces - refer to page 10 for descriptions of these surfaces
5. Colour in or mark high and low risk features with your own colours or symbols
6. Think about your results, how vulnerable your block is, and what you could do to help improve conditions for the future



Aerial photo of a neighbourhood block with some high and low risk features labeled



MAP YOUR BLOCK VULNERABILITY MAPPING



More examples of high & low risk features to map

Hint: Walk around the block, or look at Google Earth/Map Street View to see conditions on the ground



HIGH RISK: Heat Island Effect (UHI)

In this photo

Pavement & concrete
Absorb more solar heat
Reduce evapotranspiration

Dark surfaces (e.g. roads, roofs)
Absorb more solar heat

Other subtle features to look for

Tall buildings in dense cities
Trap more heat through the absorption and reflection of sun on multiple surfaces
Block cool air flow



HIGH RISK: Drought

In this photo

Drought intolerant species
Require frequent watering (e.g. turf grass)
Consider summer water restrictions

Low precipitation/dry season
Especially July-August in Vancouver

High sun exposure

Especially south and south-west facing areas

Human modified soil

Soil in built environments is often shallow and eroded
Holds less water



HIGH RISK: Flooding

In this photo

Pavement & concrete
Reduce storm water infiltration

Low laying/flat areas
Can overflow with storm water

Poor drainage
Causes pooling of water

Other features to look for

Streams
Can cause flooding if peak flows exceed surface level

Sewers/drains
Blockages can cause pooling



LOW RISK Cooling effects, storm water mitigation

In this photo

Large trees growing together
Cool the air (evapotranspiration)
Insulate against storms
Reduce storm water runoff

White roofs
Reflect heat - reduce UHI

Pervious surfaces
Reduce storm water runoff
Store water
Filter contaminants

Trees near south-facing windows
Provide shade - reduce cooling costs

Other subtle features to look for

Food gardens
Increase foods security
Reduce carbon emissions

Small trees
Will grow and provide more shade
Reduce cooling costs

Solar panels
Reduce carbon emissions



STEP 3: RATE YOUR BLOCK

This section contains two **SCORECARDS** to let you assess whether your block is prepared for climate change, and how green it is, by answering some questions about your household and block. Compare your results with other blocks - and see who has the highest score!

1. **RATE YOUR HOUSEHOLD**
2. **RATE YOUR BLOCK**

Do you know your carbon footprint?

We strongly recommend that you find your carbon footprint so you know your biggest areas of resource consumption.

Visit: <http://www.footprintnetwork.org/resources/footprint-calculator/>
(You need an account to access the calculator)





RATE YOUR HOUSEHOLD

CLIMATE CHANGE

CAUSES & MITIGATION



RATE YOUR HOUSEHOLD

CLIMATE CHANGE

IMPACTS & ADAPTATION



1. How much floor area for heating and cooling per person is in your home?
- a. <50 m² 3
 - b. 50-120 m² 2
 - c. >120 m² 1
2. How do you heat/cool your home?
- a. Mostly renewable energy (e.g. solar, hydro, air-sourced heat pumps) 3
 - b. Combination of renewable energy and fossil fuels 2
 - c. Mostly fossil fuels (e.g. natural gas) 1
3. How many flights do you take in a year
- a. More than 1 long-haul flights (generate about 2-4 t of CO₂, that's above the global average carbon footprint) 3
 - b. One long-haul flight or 2-3 short range flights 2
 - c. One short range flight or none 1
4. % of your house shaded by trees in your yard or block in summer:
- a. >60% 3
 - b. 30-60% 2
 - c. <30% 1
5. % of trips by foot/bike/bus in one week:
- a. >60% 3
 - b. 30-60% 2
 - c. <30% 1

Add up the points. A higher score indicates a lower carbon footprint. Your subtotal score for *mitigation* at the household level is:

SUBTOTAL
/15

6. What colour is your roof?
- a. Light (reflecting heat) 3
 - b. Medium 2
 - c. Dark (absorbing heat) 1
7. How do you use and store water for you gardens?
- a. Using roof rainwater capture (waterbutts) and rain gardens 3
 - b. Part of the garden is irrigated with tapwater 2
 - c. Garden fully irrigated with tap water 1
8. How many mature trees are on your property?
- a. >3 3
 - b. 1-3 2
 - c. 0 1
9. How much green or pervious area ('worm habitat') is on your entire lot?
(Refer to page 10 for more information on the different habitats)
- a. >40% 3
 - b. 20-40% 2
 - c. <20% 1
10. How much of what you eat do you grow by yourself?
- a. I can make a green salad for an entire week 3
 - b. I can find some carrots and a potted mint plant 2
 - c. I don't grow any of my food 1

Add up the points. A higher score indicates more climate-proofedness. Your subtotal score for *adaptation* at the household level is:

SUBTOTAL
/15



RATE YOUR BLOCK

CLIMATE CHANGE CAUSES & MITIGATION



1. What is the most common house type?
 - a. Multi-story apartment 3
 - b. Multiple units on each lot (e.g. duplex, townhouse, coach-house) 2
 - c. Single family homes 1
2. % of homes on your block using solar panels:
 - a. >40% 3
 - b. 20-40% 2
 - c. <20% 1
3. % of cars on your block that are EVs, hybrids, or car-shares:
 - a. >40% 3
 - b. 20-40% 2
 - c. <20% 1
4. How far is your house to the closest public transit (e.g. bus) or local shops?
 - a. Very far (over 30 minutes of walk) 3
 - b. Fair distance (15-30 minutes of walk) 2
 - c. Very close (0-15 minutes of walk) 1
5. What is the amount of tree canopy on your block?
 - a. >40% (check page 9 for the 'leaping squirrel quest') 3
 - b. 20-40% 2
 - c. <20% (little connected squirrel habitat) 1

15

SUBTOTAL
/15

Add up the points. A higher score indicates a lower carbon footprint. Your subtotal score for *mitigation* at the block level is:



RATE YOUR BLOCK

CLIMATE CHANGE IMPACTS & ADAPTATION



6. What type of trees are on your block?
 - a. Mostly large & mature trees 3
 - b. Mostly small ornamental trees 2
 - c. Very few trees are on my block 1
7. Do the trees on your block look healthy?
 - a. Yes (vigorous growth, dense foliage) 3
 - b. Somewhat/mixed 2
 - c. No (stunted, dried out, thin foliage) 1
8. What is the overall extent of impervious surface (grey car & pigeon habitat)?
 - a. <30% 3
 - b. 30-60% 2
 - c. >60% 1
9. How many rain gardens and/or swales are on your block?
 - a. 3 or more 3
 - b. 1-2 2
 - c. None 1
10. % of homes growing food (visible from the street):
 - a. >40% 3
 - b. 20-40% 2
 - c. <20% 1

Add up the points. A higher score indicates more climate-proofedness. Your subtotal score for *adaptation* at the block level is:

SUBTOTAL
/15



STEP 4: VISION YOUR FUTURE

Now that you know more about your block and home, you might have some ideas about making some improvements in your own property. In this section, we will provide examples of visioning what you can do for your home and neighbourhood, with real-life and hypothetical examples - you can also try making your own "dream scenarios" using software such as Photoshop or GIMP!

In this exercise, you will learn how to change photos of your block/community to share the ideas you have been talking about with your neighbours. Through the visioning examples, you can explore your block's potential future scenarios with climate change impacts, and possible green and sustainable solutions, and see what your friends and neighbours think!



BEFORE



Improved Air Quality

Problematic gaseous pollutants are absorbed through the stomata on the underside of leaves.



Energy Conservation

Natural cooling in summer from mature trees, and insulative potential in winter from rooftop gardens.



Improved Water Quality

Improved water quality - reduction in stormwater quantity due to increased evaporation on leaf surfaces.



Reduction in Noise Pollution

Natural buffer from noise of people and cars.

Solar panels installed

AFTER



New trees and shrubs + food garden



Improved Wildlife Habitat

Nesting and food sources.



Improved Appearances

Vegetation breaks up hard lines of built structures.



Enhanced Psychological Well-Being

Green spaces have been shown to lower stress levels.



Increased Property Value

5% to 25% increase in value with increased canopy cover.



VISION YOUR FUTURE HOW TO VISUALIZE



Why do this? To imagine what your yard or block will look like by using a visualization tool.

In this exercise, you will try to change photos of your block/community to share the ideas you have been talking about with your neighbours. Through the visioning examples, you can explore your block's potential future scenarios with climate change impacts, and possible green and sustainable solutions, and see what your friends and neighbours think!

If you have done the vulnerability mapping or the scorecard, please look back to your vulnerability map and/or your score, think about things that you can do or changes that you want to see in your community to help tackle the risk features or improve your score, and visualize them!

There are different ways to visualize your ideas:

- With **markers** (easiest and quickest)
- With **photo editing programs** such as Adobe Photoshop or GIMP: please see the instruction of GIMP on page 70-72 in the full version)

Here is the instruction of visualizing with **markers**:

1. Take a picture or download the Google Streetview of the areas that you want to visualize on
2. Print the photo(s) or picture(s) out in colour
3. Draw your idea on the printed copy (see examples below)
4. Share the product with others!



Printed Google Streetview, before visualization



Printed Google Streetview, after visualization w/ markers

In this visualization, you can see several features are added to the existing scene, such as:

- Larger trees with bigger canopy
- Speed bumps
- Bike lanes
- Curb extensions for greening

You can add other features in your own visualization as you wish. See more examples next page to get you started!



VISION YOUR FUTURE WHAT TO VISUALIZE



Example of features to visualize

Some examples for you to start with:

Sustainable features, such as:

- Greenspace (converted from hard pavement)
- A community garden/orchard
- Solar panels or other renewable energy equipment
- Bike lanes, bus stops, or electric vehicle charging station

Unsustainable features (possible if we don't take action), such as:

- Less or none mature trees
- Wider streets to allow for more cars
- Potential flooding if close to the sea level
- More street parking on your street

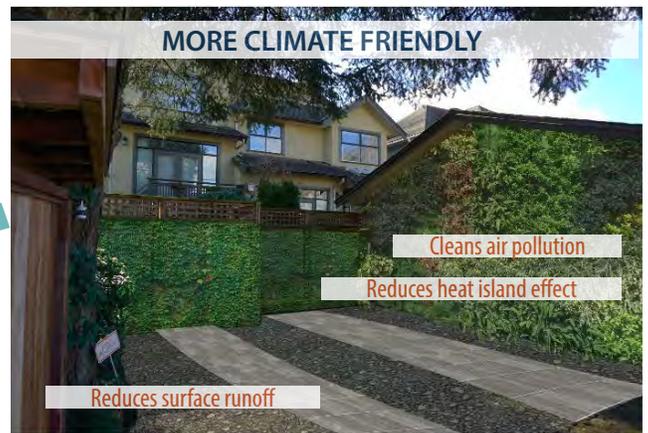
Visualization Examples



Porous paving



green walls



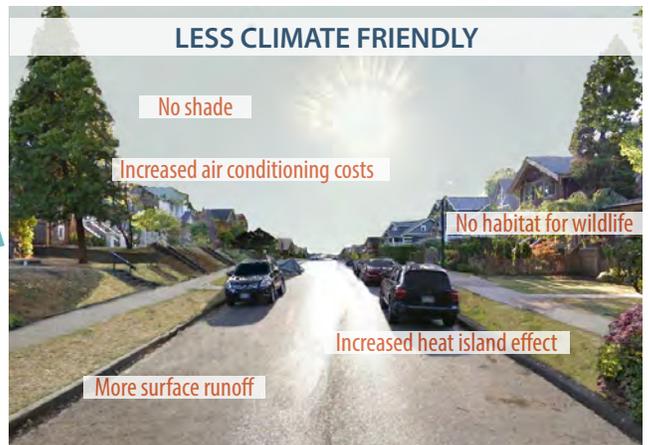
by Yancey Chen, Iris Jiang, Shuyan Jiang, Jennifer Reid (2017)



No actions taken



Mature trees are lost



by Weicong Fu (2017)



STEP 5: ACT ON THE GROUND

Now that we know the urgency of combating climate change, and the importance of urban trees in climate-proofing our communities, how could you **take action** together?

This section provides you tips and external resources on what you can do to help.

1. **PRIORITIZE AND MAKE A PLEDGE** so you can list your goals and tasks (Full Version)
2. **MAKE A PLAN** and quickly see what goals you plan to accomplish and when (Full Version)
3. **BEAUTIFY & CLIMATE-PROOF YOUR YARD** with an array of different activities, each involving a way to act on the ground
4. **BEAUTIFY YOUR BLOCK** with you neighbours after you've made a difference in your own home!
5. **RETROFIT YOUR HOME AND YOUR COMMUNITY** to further reduce your GHG emissions (Full Version)





ACT ON THE GROUND BEAUTIFY & CLIMATE-PROOF YOUR YARD



Pick up an appropriate tree

Why do this? To plant trees that are easy to maintain and able to survive the future impacts of climate change^{13,14}:



'Forest pansy' eastern redbud¹⁵ (*Cercis canadensis*)

Medium-size (6 to 9 m tall) deciduous tree with beautiful pink flowers and heart-shape leaves

- Can survive well in a very dry environment
- Prefer full or partial shade
- Grows in well-drained sandy/clay soil

'Elegant warrior' Japanese snowbell¹⁶ (*Styrax japonicus*)

Medium-size (9 m) deciduous tree with upward foliage and drooping flower clusters

- Can survive in harsh conditions with little care
- Prefers full sun to part shade
- Prefers organically rich, acidic, medium moisture, well-drained soils



'Workhorse' european hornbeam¹⁶ (*Carpinus betulus*)

Large (can be over 12 m) deciduous tree with pointy oval leaves, and a beautiful canopy

- Can survive in harsh conditions with little care
- Tolerant to various levels of light exposure and soil pHs
- Prefers moist and well-drained soil

F. HOW TO CARE FOR YOUR YARD & GARDEN

Why do this? To create an eco-friendly yard and save time and money!

BE WATER WISE



A rain water collection barrel By Benoit Rochon

- Spring loaded shut-off nozzles are required on hoses all year³⁷
- Select drought resistant plants in areas which are dry in the summer^{28, 29}
- Install a rain barrel to collect water - use in your garden during water restrictions²⁸
- Apply mulch around plants which are not drought resistant to reduce evaporation^{28, 29}
- Consider installing a rain garden in part of your garden - it will filter pollution and reduce surface run-off³⁸

Learn how to be waterwise:

Waterwise gardening:

www.metrovancouver.org/services/waterWaterPublications/

RESPONSIBLE LAWNS



Micro clover lawn

- Reduce how often you mow - mowers require fossil fuels and can release more carbon emissions than grass absorbs³⁴
- Consider replacing some lawn area with garden beds for trees and flowers - they add beauty and important ecological benefits
- Seed your lawn with micro clover - it will stay green longer, and support other plants by enriching the soil³⁹
- European chaffer beetles can be effectively treated with beneficial nematodes²⁷

See more on lawn alternatives at:

Grow Green Guide - Lush Lawns:

<http://www.growgreenguide.ca/lawns>

SUPPORT YOUR SOIL



A backyard composter

- Get a composter for your yard - leaves and trimmings will become a natural fertilizer for your garden^{30, 31}
- Ensure your soil is well drained - compact soils can hold too much moisture and may restrict root growth³¹
- Organic fertilizers are released slowly and help improve soil structure over time³²

Want to know more about composting?

Backyard Composting:

<http://www.metrovancouver.org/services/solid-waste/SolidWastePublications/HeresTheDirt.pdf>

REDUCE DISEASE & PESTS



Lady bugs - effective aphid control

- The City of Vancouver does not allow the use of pesticides for cosmetic reasons in home gardens or lawns³³
- Select plant varieties resistant to pests and disease³³
- There are natural, biological ways to control pests that are safe and effective, for instance lady bugs and beneficial nematodes²⁷

Want to know more?

Pesticide-free lawns and gardens:

<http://vancouver.ca/home-property-development/gardening-naturally.aspx>



ACT ON THE GROUND GREEN & CLIMATE-PROOF YOUR BLOCK



CREATE A STREET GARDEN

Why do this? You can easily create a street garden in traffic circles or even on the street in front of your place by planting vegetation that you like! Creating this type of green space can benefit you and your block in various ways²³:



by Erin MacDonald
<http://www.yourleaf.org/blog/erin-macdonald/2014-02-06/sayo-new-volunteer-and-stewardship-coordinator>

1. Boost the character of your block by personalizing gardens
2. Slow down traffic on your block
3. Provide free compost for your own garden, and sometimes even free food (depending on the species that you plant)
4. Strengthen the bonds with your neighbours and friends
5. Provide habitat for important pollinators
6. Add to summer shade with deciduous tree(s)

STEPS TO CREATE A STREET GARDEN²³:

1. **Decide** what type of garden you and your neighbours want to create: e.g. food gardens, bee hives, ornamental gardens...

2. **Pick** plants that you like.

Recommended plant list: <http://vancouver.ca/home-property-development/recommended-plant-list.aspx>

3. **Plan** a day with your neighbours to plant!

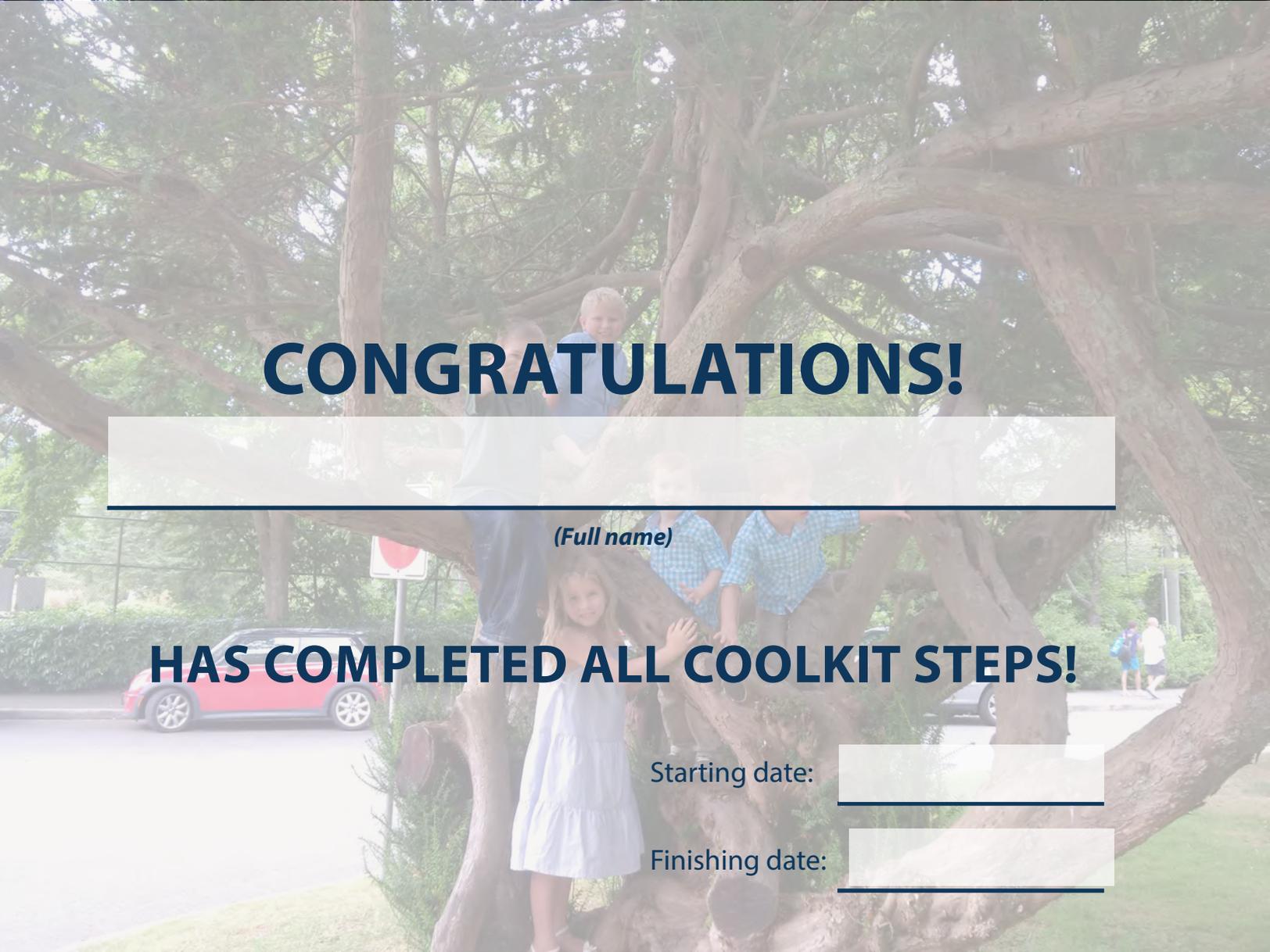
Watch out for traffic when you are working. Stay visible and stay alert.

For more specific rules and guides, please visit <http://vancouver.ca/home-property-development/gardening-guidelines.aspx>



You can also volunteer for the **City's Green Streets Program** to help them take care of street gardens near you. You will weed and water the gardens, make new friends, receive free training on gardening, and go to various fun events by the Green Streets²³.

Sign up here: <http://vancouver.ca/home-property-development/green-streets-volunteer-application-form.aspx>



CONGRATULATIONS!

(Full name)

HAS COMPLETED ALL COOLKIT STEPS!

Starting date:

Finishing date:

Wow - you have finished the Coolkit!

How do you feel? What did you learn from this journey?

Let us know your thoughts at our website:

<http://calp.forestry.ubc.ca/home/urban-forestry-toolkit/>

OR

email us at citizenscoolkit.vancouver@gmail.com