



GREENEST CITY

2020 ACTION PLAN

2017-2018 IMPLEMENTATION UPDATE



PROGRESS HIGHLIGHTS



20%

**DECREASE IN
ECOLOGICAL
FOOTPRINT
SINCE 2006**



53%

**INCREASE IN
NEIGHBOURHOOD
FOOD ASSETS
SINCE 2010**



26

**HECTARES OF
NATURAL AREA
RESTORED OR
ENHANCED**



36%

**DECREASE IN
DISTANCE
DRIVEN
PER PERSON
SINCE 2007**



23%

**DECREASE IN
SOLID WASTE
SENT TO
LANDFILL &
INCINERATOR
SINCE 2008**



25%

**DECREASE IN
WATER USE
IN CITY
OPERATIONS
SINCE 2006**



321 KM

**OF BIKE
NETWORK
IN
VANCOUVER**



100%

**OF STALLS
EV-CHARGING-
READY IN NEW
MULTI-FAMILY
BUILDINGS**



102,000

**NEW TREES
PLANTED
SINCE 2010**

DASH-BOARD

¹ Emissions for baseline and subsequent years were revised due to updated methods for calculating emissions from buildings. This affected our overall community emissions as well.

² Solid waste data is compiled first at a regional level and then at the city level. As a result, Vancouver's data is always one year behind the reporting period.

³ Vancouver's Park Board is improving the measurement for 5-minute access to green space. The City will transition to the new measurement in the next version of the Greenest City Action Plan.

⁴ 105,833 as of April 2018

⁵ An additional assessment using different methods (iTree) found Vancouver's urban forest canopy was 19% in 2015.

⁶ Food assets include: number of community garden plots, farmers' markets, community orchards, community composting facilities, community kitchens, community food markets, and urban farms.

⁷ Air quality metrics are measured by Metro Vancouver from data from one monitoring station at Robson Square in Vancouver. Kitsilano was not operating in 2017 as it is still undergoing relocation. Four indicators of air quality are used for comparison to world standards. They are: 24 hour average particulate matter (PM 2.5) concentration >25 µg/m³, one hour average nitrogen dioxide (NO₂) concentration >200 µg/m³, 24 hour average sulphur dioxide (SO₂) concentration >20 µg/m³, and eight hour ground-level ozone (O₃) concentration >52 ppb.

⁸ The 2016 green jobs study refined the method for calculating the number of green jobs, resulting in a change in the 2010 count. Methods have been reviewed by Delphi Group, and targets going forward will be based on this recalculated total.

⁹ "People empowered to take action" are defined as those who are enabled by City-supported programs to change their lifestyle or are implementing a community project that helps Vancouver achieve its Greenest City goals as a result of support provided by a City-led or City-supported program. Examples include learning to preserve food or ride a bike in a community centre class, as well as people involved in projects supported by the Vancouver Foundation and City of Vancouver Greenest City Fund. The definition excludes people participating in a dialogue or consultation, attending an event, using infrastructure (e.g., bike lanes, food scraps collection), or receiving a personal incentive (e.g., home energy retrofits).

¹⁰ Without universal water metering of our civic facilities, metric tracking is a best estimate only. The accuracy of the metric will increase through continued water meter installations at prioritized City buildings.

GOAL AND TARGETS	INDICATOR	BASELINE	2017	CHANGE FROM BASELINE	IMPROVED OVER BASELINE	2020 TARGET
CLIMATE LEADERSHIP						
Target: Reduce community-based greenhouse gas emissions by 33% from 2007 levels by 2020.	Total tonnes of community CO ₂ e emissions from Vancouver	2,765,000 tCO ₂ e (2007)	2,575,000 tCO ₂ e ¹	-7%	Yes	1,865,000 tCO ₂ e
GREEN BUILDINGS						
Target 1: Require all buildings constructed from 2020 onward to be carbon neutral in operations.	Kilograms of CO ₂ e per square metre of newly built floor area	20.7 kgCO ₂ e/m ² (2007)	11.8 kgCO ₂ e/m ²	-43%	Yes	carbon neutral
Target 2: Reduce energy use and GHG emissions in existing buildings by 20% over 2007 levels.	Total tonnes of CO ₂ e from all community buildings	1,585,000 tCO ₂ e (2007)	1,510,000 tCO ₂ e ¹	-5%	Yes	1,270,000 tCO ₂ e
GREEN TRANSPORTATION						
Target 1: Make the majority of trips (over 50%) by foot, bicycle and public transit.	Per cent mode share by walk, bike and transit	40%	48% of trips	+8%	Yes	50% of trips
Target 2: Reduce average distance driven per resident by 20% from 2007 levels.	Total vehicle km driven per person	5,950 km (2007)	3,800 km	-36%	Yes	4,760 km
ZERO WASTE						
Target: Reduce total solid waste going to the landfill or incinerator by 50% from 2008 levels.	Annual solid waste disposed to landfill or incinerator from Vancouver ²	480,000 tonnes (2008)	371,000 tonnes (2016)	-23%	Yes	240,000 tonnes
ACCESS TO NATURE						
Target 1: Ensure that every person lives within a five-minute walk of a park, greenway, or other green space. ³	Per cent of city's land base within a five-minute walk to a green space	92.6% (2010)	92.7%	+0.1%	Yes	95%
Target 2: Plant 150,000 additional trees.	Total number of additional trees planted	-- (2010)	102,000 trees ⁴	+102,000	Yes	150,000 trees
Target 3: Restore or enhance 25 hectares of natural areas between 2010 and 2020.	Total hectares of natural areas restored or enhanced	-- (2010)	26 hectares	+26	Yes	25 hectares
Target 4: Increase canopy cover to 22% by 2050.	Per cent of city's land area covered by tree-leaf canopies	18% (2013)	Survey to be conducted in 2018 ⁵	--	--	22% (2050)
CLEAN WATER						
Target 1: Meet or beat the most stringent British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.	Total number of instances of not meeting drinking water quality standards	0 instances (2006)	0 instances	0	Yes	0 instances
Target 2: Reduce per-capita water consumption by 33% from 2006 levels.	Total water consumption per capita	583 L/person/day (2006)	475 L/person/day	-18%	Yes	390 L/person/day
LOCAL FOOD						
Target: Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels.	Total number of neighbourhood food assets ⁶ in Vancouver	3,344 food assets (2010)	5,129 food assets	+53%	Yes	5,016 food assets
CLEAN AIR						
Target: Meet or beat the most stringent air quality guidelines from Metro Vancouver, BC, Canada, and the World Health Organization.	Total number of instances of not meeting air quality guidelines for ozone, particulate matter (PM2.5), nitrogen dioxide and sulphur dioxide from both the Kits and Downtown stations combined ⁷	27 instances (2008)	324 instances	+297	No	0 instances
GREEN ECONOMY						
Target 1: Double the number of green jobs over 2010 levels.	Total number of green jobs	18,250 jobs (2010) ⁸	24,700 jobs (2016)	+35%	Yes	36,500 jobs
Target 2: Double the number of companies that are actively engaged in greening their operations over 2011 levels.	Per cent of businesses engaged in greening their operations	5% of businesses engaged (2011)	Data available in 2018/2019	--	--	10% of businesses engaged
LIGHTER FOOTPRINT						
Target: Reduce Vancouver's ecological footprint by 33% over 2006 levels.	Total global hectares per capita	4.27 (2006)	3.40 (2015)	-20%	Yes	-33%
	Number of people empowered ⁹ by a City-led or City-supported project to take personal action in support of a Greenest City goal and/or to reduce levels of consumption (cumulative)	600 people (2011)	22,200 people	+21,600	Yes	To be determined
GREEN OPERATIONS						
Target Zero Carbon: 50% reduction in GHGs from City operations from 2007 levels.	Total tonnes of CO ₂ e from City operations	495,000 tCO ₂ e (2007)	225,000 tCO ₂ e	-55%	Yes	247,500 tCO ₂ e
Target Zero Waste: 70% waste diversion in public-facing City facilities, and 90% waste diversion in all other City-owned facilities.	Total diversion rate (public)	65% (2013)	83%	+18%	Yes	70% diverted
	Total diversion rate (other)	85% (2013)	92%	+7%	Yes	90% diverted
Target Healthy Ecosystems: Reduce water use in City operations by 33% from 2006 levels.	Total water use by City facilities (m ³) ¹⁰	2,600,000 m ³ (2006)	1,955,000 m ³	-25%	Yes	1,740,000 m ³

AWARDS

2017 Arcadis Sustainable Cities Index:
Third Sustainable City in North America

**2017 Economist Intelligence Unit
Global Livability Index:** Third Overall
Globally, First in North America

**2017 Community Energy Association
Climate and Energy Action Awards:**
Special Recognition Award
(BC Energy Step Code Council)

2017 C40/Cities 100 Global Finalist:
(Green Building Program)

2017 Walkscore: Most Walkable City
in North America

**2017 IPA Downtown Achievement
Award:** (More Awesome Now Laneway)

CDP: One of 10 Top Cities for Climate
Reporting and Disclosure in 2017

2018 Mercer Quality of Living Survey:
Fifth Overall Globally; First in
North America

2018 Mediacorp Canada Inc.:
Canada's Greenest Employers

**2018 International Green Building
Adoption Index:** Highest Percentage
of Green Office Space in the World

2018 Carbon Neutral Cities Alliance:
Climate Vanguard City

This Update is organized according to the 10 goals of the *Greenest City
2020 Action Plan*, which can be found at: vancouver.ca/GreenestCityActionPlan

OVERVIEW

In 2011, Vancouver set a goal to become the greenest city in the world by 2020.

The city has changed a lot over the past seven years. We face uncertainty with issues like homelessness, opioids, and affordability, but during that time, the Greenest City 2020 Action Plan (GCAP) has been helping to keep Vancouver one of the most livable cities on earth.

2020 is approaching, but that's not the end. What will a sustainable and more equitable Vancouver look like beyond

2020, and how will we get there? With your help, we continue to push with world-leading initiatives. Since GCAP began, we now have strategies for zero emission buildings, transportation, zero waste, climate adaptation, and a healthy city. Solid plans that stretch well beyond 2020 to keep Vancouver on the leading edge. In the meantime, this Update celebrates the past year, as residents and City staff worked to make Vancouver more vibrant, thriving, and healthy than ever before.

CLIMATE CHANGE ADAPTATION

In early 2018, Cape Town almost ran out of water. Years of drought and overuse of water led to the city's reservoir dropping to dangerous levels.

There's a reason it's called climate change. Weather comes and goes, but what we think of now as rare, extreme weather will happen more often, will last longer, and will be more severe. While we work on reducing our impact on the climate, we also need to prepare for changes already underway. Water will be part of Vancouver's story: not enough at times, too much at others.

Snowpack in the local mountains builds up in the winter, and melts in the spring and summer to provide most of our region's drinking water. Warmer winters mean less snow. Warmer springs mean it melts too early in the year to help us through the summers, which will be hotter and drier. See the Clean Water section for more on our water-related programs and how we can all use less of our valuable, potable water.

At other times of the year we'll see more intense rain storms. Plants and soil absorb and filter rainwater in natural environments, like forests,

A woman with short dark hair, wearing a white patterned tank top and black waders, stands with her back to the camera, looking out at a large body of water. In the distance, a city skyline is visible under a clear blue sky. The water is calm with some rocks visible in the foreground.

“Vancouver’s path to be the greenest city in the world started decades ago. Thanks to the passion of the people who choose to call Vancouver home, it will continue long after 2020.”

From Greenest City 2020 Action Plan Part Two: 2015-2020

but in cities, rainwater flows across pavement and rooftops, picking up pollutants that end up in our waterways. Green infrastructure brings nature into the city to capture and clean our rainwater, before returning it to our atmosphere and our surrounding oceans and rivers. Go to vancouver.ca/greeninfrastructure to learn more.

Meanwhile, sea levels around Vancouver are rising. The highest tides of the year usually happen in the winter and early spring and sometimes cause flooding. These “King Tides” of today could be the regular high tides of the future with sea level rise. The first step towards

adapting to this is sharing what we know with residents, and having a conversation about the changes that are coming and what it means for them. Last winter, we asked people to take photos of King Tides and upload them to our online map. Residents learned about our changing shoreline, and helped us validate our coastal flood model and data by sending us hundreds of photos! By working together, and by starting now, we’ll have time to thoughtfully prepare for higher seas. Find out more in “Vancouver’s Changing Shoreline”, an introduction to preparing for sea level rise, at vancouver.ca/sealevelrise.



1

CLIMATE AND RENEWABLES

GOAL: ELIMINATE DEPENDENCE ON FOSSIL FUELS

TARGET:

- Reduce community-based greenhouse gas emissions by 33% from 2007 levels.



**DECREASE IN
COMMUNITY
GREENHOUSE
GASES SINCE 2007**

INDICATOR	BASELINE	2017	CHANGE
Total tonnes of community CO ₂ e emissions from Vancouver	2,765,000 tCO ₂ e (2007)	2,575,000 tCO ₂ e*	-7%

* Emissions for baseline and subsequent years were revised due to updated methods for calculating emissions from buildings. This affected our overall community emissions as well.

A lot happened in 2017 with zero emission buildings, electric vehicle charging, and waste reduction. Read all about it in the Green Buildings, Clean Air, and Zero Waste chapters of this Update. Go to vancouver.ca/renewablecity to learn more about the Renewable City Action Plan.

2017-2018 SUCCESSES:

AN ACTION PLAN FOR A RENEWABLE CITY

In 2015, Vancouver committed to becoming a city powered entirely by renewable energy before 2050. This was the Renewable City Strategy, but we needed a way to get there. So last year we developed the Renewable City Action Plan, our 10-year roadmap for getting closer to that future. First, we will improve energy efficiency so we're using less to begin with. Meanwhile, we will move to using more renewable energy from existing sources. Finally we will look to increase the supply of renewable energy through opportunities like solar power or renewable natural gas from solid waste. The Action Plan's 77 actions will tackle our buildings, transportation and waste, and help build strong partnerships and the systems needed to achieve all this.

What does this all mean for you? Lifestyles will become healthier with more options for walking and cycling, and air quality will improve. Energy efficient buildings and zero emission vehicles will cut carbon pollution. And as a renewable city, Vancouver will attract investment and innovation, and positioning as a leader in a global economy transitioning to clean energy.

BROUGHT LOW-CARBON ENERGY TO NEW NEIGHBOURHOODS

The future of energy is flexible and low-carbon. Neighbourhood energy systems help get us there, and we've had one up and running since 2010. The Neighbourhood Energy Utility (NEU) recycles heat from sewage (not your typical heat source!) to provide hot water and heat to buildings in Southeast False Creek. This means it can deliver 60 per cent of its energy from renewable sources. Last year, we completed a utility expansion to the new campus lands on Great Northern Way, and started providing heating service to the Emily Carr University building.

In February 2018, City Council also approved potential future expansion into parts of Mount Pleasant, the False Creek Flats, and Northeast False Creek. This could see the utility grow from just over five million square feet of space heated today, to more than 22 million square feet of buildings in the long term. The expanded NEU means more buildings can achieve 100 per cent renewable energy use more quickly, because it's a flexible system that can adapt to future low-carbon heating technologies.

Go to vancouver.ca/neu to learn more.



CHALLENGES

In spring 2018 the Federal government agreed to first indemnify, then outright buy the Trans Mountain pipeline from Kinder Morgan. This pipeline expansion will increase oil tanker traffic sevenfold and put our surrounding communities and shoreline, tens of thousands of jobs, and millions of dollars of economic activity at risk. This decision also jeopardizes Vancouver's, British Columbia's, and Canada's efforts to combat climate change, while tying public money to an outdated asset that will be rendered obsolete in a clean energy world.

Achieving our renewable energy goals will require strong partnerships, especially in areas outside our control.

Last year, we signed an agreement with FortisBC to work together towards increasing investments in energy efficiency and renewable energy in Vancouver. We work closely with the Province through its Climate Solutions and Clean Growth Advisory Council, who advise on the future of climate action in British Columbia. We've already seen an important shift under the provincial government, with new funding for transit and an increase in the BC carbon tax, and further action expected later this year. And through the Pacific Coast Collaborative, we work with BC, Washington state, and other West Coast government leaders to build more sustainable and resilient economies by supporting electric vehicles, energy-efficient buildings, and renewable energy technology.

"The City of Vancouver and FortisBC are committed to climate action initiatives that support innovation, safety, reliability and affordability. The City... and FortisBC can collectively achieve greater progress towards climate action initiatives by working together."

Memorandum of Understanding between FortisBC and the City of Vancouver, 2017

Thousands attended a rally to oppose the pipeline expansion in May 2018. The expansion will put our communities, shoreline, jobs and economy at risk.



2 GREEN BUILDINGS

GOAL: LEAD THE WORLD IN GREEN BUILDING DESIGN AND CONSTRUCTION

TARGETS:

- Require all buildings constructed from 2020 onward to be carbon neutral in operations.
- Reduce energy use and greenhouse gas emissions in existing buildings by 20% over 2007 levels.



DECREASE IN GREENHOUSE GASES
 (PER SQUARE METRE)
FROM NEW BUILDINGS
 SINCE 2007

INDICATOR	BASELINE	2017	CHANGE
Kilograms of CO ₂ e per square metre of newly built floor area	20.7 tCO ₂ e/m ² (2007)	11.8 tCO ₂ e/m ²	-43%
Total tonnes of CO ₂ e from all buildings	1,585,000 tCO ₂ e (2007)	1,510,000 tCO ₂ e*	-5%

* Emissions for baseline and subsequent years were revised due to updated methods for calculating emissions from buildings.

Canada's largest Passive House has been built in east Vancouver. Passive House-standard buildings use up to 90 per cent less energy than typical buildings.

2017-2018 SUCCESSES:

SUPPORTING ZERO EMISSION BUILDINGS

While not overly complicated, a zero emission building is still different than a typical one. To achieve zero emissions buildings by 2030, project teams will have to learn to design and build to new standards. More energy-efficient materials and building products will have to be available locally. The City is using policy and regulatory tools to help this industry-wide transformation. In line with the Zero Emission Building Plan, Council endorsed the Zero Emission Building Catalyst Policy in early June 2018. The policy allows up to five per cent more floor space for development permit projects with six or more residential units in a pre-zoned area, if they build to a Zero Emissions standard like Passive House. The Policy also gives the Director of Planning discretion to relax some zoning regulations to enable zero emission buildings. For more information, see the Development Bylaws and Policies section at vancouver.ca/zeroemissions.

PASSIVE HOUSE: SAVING RENTERS MONEY

Passive Houses are booming in Vancouver, with the tallest Passive House towers in North America currently under rezoning in the West End. Meanwhile, one of the largest Passive House buildings in Canada opened its doors in east Vancouver in early 2018. The Heights, a six-storey retail and apartment building, has a virtually maintenance-free heating system. Its triple-glazed windows keep

noise out and heat in. Heat recovery ventilation cleans and brings in fresh air, warming it with heat from the air going out. The best part: The Heights, like many of the Passive House multi-family buildings coming up in Vancouver, are rental projects. Renters will be some of the first Vancouverites to save money by living in a quiet, energy efficient building. A typical unit in The Heights is so efficient, you could heat it with nothing more than a hair dryer.

VANCOUVER: A CENTRE OF GREEN BUILDING EXCELLENCE

So how do you build a zero emission building? That's what the people and companies designing and constructing our homes and offices will have to know, and they're learning fast. Supported by the City, 55 building-industry tradespeople have already taken a five-day Passive House course at BCIT. The course covers hands-on aspects of successfully building a Passive House: ventilation, air tightness, insulation, framing, etc. To help the broader industry learn from green building pioneers, the City launched ZEBx – the Zero Emissions Building Exchange – in 2018. ZEBx is where zero emissions industry leaders from across British Columbia and from around the world share information about developing cost-effective, attractive, zero emissions buildings. It is a joint initiative of the City, the Vancouver Regional Construction Association, Passive House Canada, and the Open Green Building Society.



A BC-WIDE CODE TO MAKE GREEN BUILDINGS MAINSTREAM

Along with the Province, the City was a co-winner of a Climate & Energy Action Award for the BC Energy Step Code. An optional, province-wide code like this gives cities a way to incentivize or require better energy efficiency in new construction, from average efficiency increases all the way up to requiring zero emissions. This year, Council approved energy efficiency updates to the Vancouver Building By-law for large buildings. These align with Step 2 of the BC Energy Step Code starting June 2019, and starting June 2021 will align with Step 3 and the City's current rezoning policy. Besides occupant benefits like better ventilation, airtightness, and water efficiency, aligning our requirements with other local governments helps create a larger market for green buildings, eventually making them less expensive overall to construct.

CHALLENGES

Shifting existing buildings to zero emissions is a challenge facing cities and jurisdictions around the world, and it's no different here. Energy use in buildings is the single largest source of carbon pollution in Vancouver, and the majority of buildings here today will still be in use in 2050. The City is working closely with other levels of government and industry to plan for the changes necessary to meet our 100 per cent renewable target. We're also working to establish programs and policies that provide certainty to residents and businesses. In the short term, we're circulating information and voluntary retrofits that are good investments and significantly cut energy and carbon pollution in their buildings. Also, the Federal and Provincial governments recently announced \$24 million in incentives over two years to build market awareness and industry capacity, and to help finance more heat pump retrofits in the commercial, residential, and institutional sectors.

Changes to the Vancouver Building By-law for large buildings will cut greenhouse gas emissions by up to two-thirds, and energy costs by up to a quarter.

WHAT'S COOLER THAN BEING COOL? BEING ENERGY EFFICIENT

How do you demonstrate what a Passive House does in a very visible way? In 2017 the City ran the Ice Box Challenge, a contest and an experiment to show how a home can be super energy efficient AND comfortable. Two giant boxes were built in Olympic Village, one to the BC Building Code, the other to the Passive House Standard. A one-tonne block of ice was placed inside each

Ice Box for 18 days in the hot sun. Thanks to better insulation and airtightness, 50 per cent more ice was left in the Passive House box. The Ice Box Challenge was such a success that other cities caught on, so the Challenge went on tour! After Vancouver the Ice Boxes travelled down to Seattle, then onto New York City, popping up right next to Times Square.

We didn't expect the Ice Box Challenge to also demonstrate the air-quality benefits of Passive House so well. Read the Clean Air chapter to see how.





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GREEN TRANSPORTATION

GOAL: MAKE WALKING, CYCLING AND PUBLIC TRANSIT PREFERRED TRANSPORTATION OPTIONS

TARGETS:

- Make the majority (over 50%) of trips by foot, bicycle and public transit.
- Reduce average distance driven per resident by 20% from 2007 levels.



**DECREASE IN
DISTANCE
DRIVEN PER
PERSON
SINCE 2007**

INDICATOR	BASELINE	2017	CHANGE
Per cent mode share by foot, bike and transit	40% of trips*	48% of trips	+8%
Total vehicle km driven per person	5,950 km/person/year	3,800 km/person/year	-36%

* Mode share totals for baseline year (40% of trips in 2008) was based on data gathered through a TransLink "Trip Diary" survey that is conducted about once every five years. To obtain more regular statistics, the City began an annual survey of Vancouver residents that is slightly different in methodology but is believed to better capture the full range of travel by residents. This will be used to measure Green Transportation indicators going forward.

Since the City made basic improvements to the Point Grey section of the Seaside Greenway, walkers have increased by a third and cycling traffic has quadrupled.

2017-2018 SUCCESSES:

A 28 KILOMETRE SEAWALL FOR ALL AGES AND ABILITIES

Vancouver is surrounded by water on three sides. Now people of all ages and abilities can safely and comfortably explore 28 kilometres of our waterfront. The Seaside Greenway now stretches from the Vancouver Convention Centre, around Stanley Park and False Creek, ending at Spanish Banks Park, with the newest section completed between Volunteer Park and Jericho Beach. Meanwhile, the South False Creek Seawall is the oldest section of the Seaside Greenway, dating back to 1975. It has a unique character and carries high volumes of people walking and cycling, especially in the summer. We made improvements along the Seawall between Burrard Bridge and Cambie Bridge, separating walking from cycling to make it safer and more comfortable for everyone.

REGIONAL TRANSIT MOVES AHEAD

In 2017, TransLink saw record ridership, with more than 407 million boardings. A lot is being done to handle all those new riders, with lots more in store. In 2017, new funding for Phase One of the Mayors' Council 10-Year Vision meant a new B-Line on Hastings Street, and more service hours on the 5 Robson/ Downtown route, gaining 500,000 boardings in just one year. Then in early 2018, the Mayors' Council and the Province of British Columbia agreed on a plan to fund the regional share for

Phase Two of the plan. This is another step towards the future of transit and transportation in Metro Vancouver, particularly with the construction of the Millennium Broadway SkyTrain Extension (projected to start in 2020). The extension will go from VCC-Clark Station, with six new stations over six kilometers, ending at Arbutus Street. The extension will move about 7,100 people per hour in each direction – the same as adding two-and-a-half-times the current number of 99 B-Line buses.

A COMPREHENSIVE APPROACH TO MANAGING CONGESTION

In a growing region with limited road space, our transportation system needs to be more efficient and reliable. For Vancouver, we need a plan to manage congestion so that travel times stay reliable, while ensuring safety and accessibility. Recent advancements in technology – such as GPS, Bluetooth sensors, smart street lighting, data from cell phones and apps such as Waze - can all help, but it needs a plan to bring it all together. In 2017, Vancouver became one of the few cities in North America to adopt a comprehensive congestion management strategy. To start, there will be a \$3.3 million investment in congestion management, both in new investment and in alignment with programs already underway. This will include safety improvements at high-collision areas (particularly intersections), and supporting rapid transit expansion.



ONE MILLION RIDES AND EXPANSION FOR MOBI

In the summer of 2018, Mobi by Shaw Go – Vancouver’s public bike share program – celebrated its one millionth ride! Most of these trips were made by local residents, who may own a bike already but use Mobi because picking up a bike and dropping it off somewhere else gives them more flexibility. We’ve also learned that many people are combining Mobi with walking and transit in their commute. Also, people prefer to start and end their trip on or near our network of nearly 80 kilometres of all-age-and-ability bike routes. Recently, Mobi expanded into East Vancouver neighbourhoods too, launching the Vancity Community Pass so that more people can access bike share. They have now installed over 150 stations with over 1,500 bikes throughout the city.

CHALLENGES

Our Transportation 2040 Plan aims to make at least two-thirds of all trips by walking, biking, or transit, but 60 per cent of serious traffic injuries in Vancouver happen to people who walk and cycle. To support the 2040 goal,

the City has a target of zero traffic-related fatalities and injuries on our road network, with a new spot-improvement program to our pedestrian network. Also, thanks to the recent partnership with Vancouver Coastal Health, data is now available for non-motor vehicle collisions as well, helping us figure out where and how people get injured.

We mentioned the phenomenal growth in people taking public transit. Even with significant expansion, overcrowding of most routes remains a constant challenge. In the coming years, capacity will be increased through significant investment in bus expansion and rapid transit. Highlighted projects include planning for a B-Line along 41st Avenue, expected to start in September 2019. This is Vancouver’s second busiest bus route after the 99 B-Line. While the Mayor’s Council 10-Year Vision doesn’t include rapid transit service to UBC, the Millennium Broadway SkyTrain Extension will be designed and built with the potential for a future extension to UBC, and Phase Two of the plan will explore the feasibility and options to extend service there.



BURRARD BRIDGE REOPENS, SAFER THAN EVER

It's looking good at 86 years old, but the Burrard Bridge has seen some significant deterioration over the years. In 2016, the City began restoring this iconic piece of Vancouver, making some major changes to how people move across it. All lanes reopened in late 2017 with major safety improvements for everybody.

The new intersection at the north end of the bridge separates the timing and movement of people who bike and walk from vehicle traffic. Improved stairways, restored heritage lighting, and sidewalks on both sides of the bridge are a big help to walkers in particular. Added turning lanes kept driving times the same as before, but now everyone can move around much more safely.



4 ZERO WASTE

GOAL: CREATE ZERO WASTE

TARGET:

Reduce solid waste going to landfill and incinerator by 50% from 2008 levels.



DECREASE IN SOLID WASTE SENT TO LANDFILL AND INCINERATOR SINCE 2008

INDICATOR	BASELINE	2016*	CHANGE
Annual solid waste disposed to landfill and incinerator from Vancouver	480,000 tonnes (2008)	371,000 tonnes	-23%

* Solid waste data is compiled first at a regional level and then at the city level. As a result, Vancouver's data is always one year behind the reporting period.

Since 2014, the Green Demolition By-law has diverted nearly 40,000 tonnes of demolition waste from the landfill and incinerator. The By-law was amended in 2018 to require deconstruction – a more careful approach to taking down houses in order to salvage more materials – for pre-1910 homes and heritage-listed homes built before 1950.

2017-2018 SUCCESSES:

THE LAST STRAW FOR SINGLE-USE ITEMS

What happens after we grab takeout, or get our coffees to go? Every week, 2.6 million paper cups and two million plastic bags are thrown away in Vancouver. Cups and take-out containers make up half the material in our public waste bins. Cleaning up these materials costs Vancouver taxpayers \$2.5 million every year. Worst of all, bags, plastic straws and bits of foam along our shorelines are causing immeasurable harm to marine life and water quality. Our modern lives crave convenience, but it doesn't have to come at such a cost. With your help, we've created a made-in-Vancouver way to dramatically cut down this type of waste. Starting in 2019, the Single-Use Item Reduction Strategy will prohibit plastic straws (with exceptions for accessibility and healthcare needs), polystyrene foam cups and foam take-out containers. The strategy will also reduce disposable utensils, disposable cups, and plastic/paper bags. Over 8,000 of you helped us develop the strategy by giving us your feedback over the last two years, and 86 per cent of residents agree we need to take action on single-use items.

ZERO WASTE FOR STRONG COMMUNITIES

Resources are wasted everywhere as a result of the way we supply and consume food, buy and use products, and construct and maintain buildings and other assets. Vancouver residents, businesses, and institutions threw away about 371,000 tonnes of garbage in 2016. Most of it could have been salvaged, reused, recycled, composted, or avoided in the first place. In 2016, Vancouver set a goal to be a zero waste community by 2040. Our plan, Zero Waste 2040, was approved by Council in early 2018 and presents a strategic vision and forward-looking actions to move Vancouver toward zero waste. Some actions can be taken right away, like reducing single use items, while others lay the groundwork for progress over time. Using this, we will make a shift to a circular economy that values waste as a resource and is a catalyst for new partnerships, innovation, and business opportunities. Zero Waste 2040 reinforces the Greenest City Action Plan, Economic Development Strategy and Healthy City Strategy by helping to reduce Vancouver's ecological footprint, grow green jobs and strengthen communities.

In 2017, residents helped keep over 47,000 kg of recyclables out of landfills by dropping them off at our Zero Waste Reuse and Recycling Drop-off events.



IT'S EASIER TO DROP OFF YOUR RECYCLABLES NOW

Looking for a place to drop off used cooking oil, old electronics, and even bikes, for free? The Zero Waste Centre at 8588 Yukon Street is a new facility with more space and easier access than the old Recycling Depot, and can now accept more types of recyclables than ever before. And even before recycling everything, we work with our service partners to reuse or repair things like bicycles, books and textiles. Can't make it to the Zero Waste Centre? Our free Zero Waste Reuse and Recycling Drop-off events around town will accept clothing, light bulbs, and electronics. We're even testing out accepting car seats. Last year, we took in over 47,000 kilograms of recyclables. Go to vancouver.ca and search "free zero waste" for more information.

CHALLENGES

A Zero Waste Vancouver means moving away from a linear economy, one where waste disposal is the status quo, and nurturing a circular economy, where goods are shared, repurposed, repaired

and refurbished before being recycled and disposed of. This means we'll need collaboration, innovation, equity and leadership.

The City as a municipal government can't do this alone. We have to pull together as a community – residents, businesses, institutions and visitors – to achieve a zero waste future. We will need to challenge assumptions about convenience and value, shift how we view owning so many things, and develop new habits and material items that satisfy our needs without wasting resources.

There's a lot of opportunity in this – for innovation, savings, and stronger communities. Less waste means cost savings for the City, residents, and businesses, because the cost of new waste disposal facilities and services can be avoided. Sharing and reusing saves the cost of buying and replacing short-lived consumer goods. Sharing strengthens communities by connecting residents. And new innovative businesses – zero waste grocers, cleaning supplies, and caterers – are already popping up all over the city.



**IF IT HAS TO BE DEMOLISHED,
IT'S GOT TO BE GREEN**

Since 2014, every pre-1940 home being demolished has had to divert 75-90 per cent of the waste generated. The Green Demolition By-law has been very successful: average diversion rates are around 86 per cent, versus 40 to 50 per cent in a typical demolition. That means nearly 40,000 tonnes of demolition waste didn't get to the landfill and incinerator. In early 2018, the City expanded the by-law to include pre-1950 homes. Pre-1940 homes currently make up about 40 per cent of residential demolitions in Vancouver.

The shift to pre-1950 homes, effective January 1, 2019, will increase that to 70 per cent. The City will also support the creation of an independently operated Deconstruction Hub, which will help jumpstart the local market for restoring, upcycling and selling salvaged materials, including architectural details and salvaged old-growth wood.



NICK PAGE

5

ACCESS TO NATURE

GOAL: VANCOUVER RESIDENTS ENJOY INCOMPARABLE ACCESS TO GREEN SPACES, INCLUDING THE WORLD'S MOST SPECTACULAR URBAN FOREST

TARGETS:

- All Vancouver residents live within a five-minute walk of a park, greenway, or other green space.
- Plant 150,000 new trees.
- Restore or enhance 25 hectares of natural areas between 2010 and 2020.
- Increase canopy cover to 22% by 2050.



102,000
NEW TREES
PLANTED
SINCE 2010

INDICATOR	BASELINE	2017	CHANGE
Per cent of city's land base within a five-minute walk to a green space*	92.6% (2010)	92.7%	+0.1%
Total number of additional trees planted	-- (2010)	102,000 trees [†]	+102,000 [†]
Total hectares of natural areas restored or enhanced	-- (2010)	26 hectares	+26
Per cent of city's land area covered by tree leaf canopies	18% (2013)	Survey to be conducted in 2018 [‡]	--

“I got out of my chair and lowered myself onto the ground. It was awesome to just stretch there on the warm sand. I stayed about one hour. It was glorious!

Jacques Courteau, Co-Chair of City of Vancouver Persons with Disabilities Advisory Committee, on using the Mobi-Mat (a non-slip beach access pathway for people with mobility challenges) at English Bay Beach

2017-2018 SUCCESSES:

A TREMENDOUS YEAR FOR URBAN FORESTS

2017 was a milestone year for Vancouver's work to create the world's most spectacular urban forest. Between 2010 and 2017, 102,000 trees were planted towards our goal of 150,000 by 2020. This includes 16,000 street trees, 40,000 park trees, and 46,000 private-land trees planted in Vancouver.

Growing our urban forest means restoring conifer and mixed forest dominated by native trees and shrubs in large parks. In the 1960s, the Kerr Street Landfill closed. The soil used to cap the landfill was often poorer quality compared to native soils. Then Himalayan blackberry and Japanese knotweed quickly took over the site: invasive species that make it hard for native species, including trees, to thrive. Everett Crowley Park now stands on that site, and that's where the Park Board is focussing its efforts to restore native forests in partnership with the community. Despite many technical challenges, thousands of trees and shrubs have been planted where dense stands of blackberry and knotweed used to be. Everett Crowley Park has been at the heart of environmental stewardship in Vancouver for many decades under the leadership of the Everett Crowley

Park Committee, and its network of existing trees and other natural areas make it and Fraserview Golf Course one of the most important urban forest areas in the city.

VANDUSEN BOTANICAL GARDENS: PRETTY FLOWERS, PRETTY AMAZING VEGGIES TOO

Part of being the Greenest City means creating an environmentally, socially, and economically sustainable food system for our region. The benefits? Healthier kids, families and communities, as well as a healthier environment by reducing the impacts of industrial-scale farming. This year, VanDusen Botanical Garden's popular Vegetable Garden demonstrated the power of sustainable urban farming and food systems.

The garden features some of the best local vegetable varieties for our region - veggies that are easy to grow and will provide a summer-long harvest of fresh organic produce for anyone willing to pick up a spade. Visitors learn how to use crop rotation to get a better variety of bigger veggies from even the smallest space. Summer camp kids get a deeper understanding of where their food comes from by learning to grow fresh, healthy produce. The kids also help harvest the food, which gets donated to local food banks.

* Vancouver's Park Board is improving the measurement for 5-minute access to green space. The City will transition to the new measurement in the next version of the Greenest City Action Plan.

† 105,833 trees planted since 2010, as of April 2018

‡ An additional assessment using different methods (iTree) found Vancouver's urban forest canopy was 19% in 2015.



NEW BRIGHTON SALT MARSH OPENS

If you will build it, they will come! Within weeks of connecting the new salt marsh in New Brighton Park to Burrard Inlet, juvenile salmon were already using the protected tidal channels for feeding and refuge. These fish use the shorelines of Burrard Inlet as they move from the Indian River and the streams of Port Moody to the Strait of Georgia. Moving from freshwater to saltwater is a challenge for them, and improvements to intertidal and nearshore habitat better their chances of survival, particularly in our developed urban shoreline. The new salt marsh also improves access to nature in New Brighton Park: benches, viewing decks, and signs help people understand the ecological and cultural landscape of Burrard Inlet. The lands that we now call New Brighton Park have been home to the Musqueam, Squamish and Tsleil-Waututh Nations for thousands of years. The salt marsh is a small part of rebuilding the ecological landscape of Burrard Inlet that allowed these nations to flourish.

CHALLENGES

A lot goes into managing all these trees! A recent update to the Urban Forest Strategy addresses complexities like soil volume guidelines, tree planting targets, succession planning, stewardship, and First Nations reconciliation among others. The Strategy also identified the Downtown Eastside and False Creek Flats as having very low tree canopy cover, and that they were difficult areas to plant in. Planting new trees in the Downtown Eastside is challenging because of historical development patterns: smaller lots, high building coverage per lot, and under-ground infrastructure all make finding suitable planting sites more difficult.

The Park Board is working with the City's Engineering department to prioritize street tree planting in blocks that are being developed, or where street improvements are already happening. New tree planting includes improvements to the soil, to sustain healthy street trees in the long-term.

Over 20,000 new trees were planted in Vancouver in 2017.

HERRING ARE RESPAWN-DING WELL

If you're a Pacific herring looking to have some babies in False Creek, you're in luck. Pacific herring are vital to BC's marine food-web. No herring means much less food for salmon, marine birds, and marine mammals in the Strait of Georgia to eat. Last year, the Squamish Streamkeepers installed spawning nets at Fisherman's Wharf and Burrard Civic Marina. Herring spawn on vegetation and shoreline objects, and synthetic nets work far better than creosoted piles (which kill herring eggs).

Dr. Jonn Matsen and the Squamish Streamkeepers installed the nets in winter 2018 with immediate success. Millions of herring eggs were successfully spawned and will jumpstart the recovery of the False Creek ecosystem, as well as the recovery of salmon and other species in Burrard Inlet.



6

CLEAN WATER

GOAL: VANCOUVER WILL HAVE THE BEST DRINKING WATER OF ANY CITY IN THE WORLD

TARGETS:

- Meet or beat the strongest of British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.
- Reduce per capita water consumption by 33% from 2006 levels.



18%
DECREASE IN
TOTAL WATER
CONSUMPTION
 SINCE 2006

INDICATOR	BASELINE	2017	CHANGE
Total number of instances of not meeting drinking water quality standards	0	0	0
Total water consumption per capita	583 L/person/day (2006)	475 L/person/day	-18%

The *Adopt a Catch Basin* naming contest ended with “Draino McDrainface” as the clear winner. Other contenders: “Drain Wetsky” and “Make Vancouver Grate Again”.

2017-2018 SUCCESSES:

VANCOUVERITES ADOPTED A THOUSAND CATCH BASINS

When it rains, it drains! Vancouver has over 45,000 catch basins that funnel rainwater to storm drains, but autumn leaves and heavy rain make a bad combination. Leaves, debris, and litter can block up these catch basins and cause localized flooding. You can always phone 3-1-1 to report a blocked drain, but last October, the City also launched *Adopt a Catch Basin*. Within three weeks 1,000 people had adopted a local catch basin and volunteered to keep them clear. They are helping to protect water quality, and it’s a fun way to involve kids in giving back to the community. People who signed up also got to name their catch basin! We are aiming to reach 5,000 adoptions by the end of 2018.

WATER EFFICIENCY ADVISORS OFFERED FREE VISITS

You could have every intention to save water in your home, but even with water-saving fixtures, leaks and incorrect use can lead to a lot of water wasted. For instance, one leaky toilet can waste up to 135 litres a day, and automatic sprinkler systems can lose a lot of water if their irrigation timers aren’t set properly. In summer 2017, the Water Efficiency Advisor Program

offered residents free home visits to locate sources of high water use. In one case, a resident found her house was using over a third more water than a typical family of four. The Water Efficiency Advisors tracked the problem down to two leaky toilets. The Advisors also assess irrigation systems, looking for broken or tilted sprinkler heads, errors in timer settings, and leaks. A typical assessment will cut the water used for irrigation considerably. Last year the Water Efficiency Advisors visited over 50 homes and were able to cut water use in these homes by over a quarter. This year the Advisors have a target of 120 home visits.

Contact the Water Efficiency Advisors at water@vancouver.ca to learn more.

WATER WAGON SERVED UP AT SPECIAL EVENTS

Special events help bring the city to life. Marathons, parades, and street parties are part of what makes Vancouver festive and fun. But big events can have a big environmental footprint. What a way to dampen the mood, right? The City’s Water Wagon was deployed on a pilot basis in 2017, to support event organizers looking for alternatives to bottled water. Connect the Wagon directly to the City’s distribution system

Every time you turn on the tap, you’re accessing a \$2.5 billion water distribution network made up of 1,470 km of buried pipelines, 30,000 valves, and 18,000 water meters.



and voilà: access to some of the best drinking water in the world, right from our local watershed. It's like drinking from your kitchen tap at home. The Water Wagon went to 18 events in 2017, with a combined attendance of 400,000+ people. Event organizers were thrilled to have an option other than bottled water. Many asked if the Wagon would be available in 2018. Yes it will! Requests can be made through the City's Green Events program at vancouver.ca/doing-business/greening-your-event.aspx.

CHALLENGES

With our current programs and policies, we are now forecasting a 23 per cent reduction in water use per person by 2020. Although we've made great progress, this means we will likely hit our 2020 target closer to 2030. In the meantime, we need to develop water-wise habits and create a Vancouver that is more resilient to climate change. Cutting use for lawn watering will be key to this effort. A record hot and dry summer in 2017 meant much more landscape watering (10 per cent more!).

New watering restrictions now limit lawn watering from three to two days per week.

With climate change and a growing population, we are already seeing pressure on our regional drinking water supply sources. To see a worst-case scenario, take a look at Cape Town. Through drought and overuse, Cape Town famously became the first city in modern times (outside of wartime) to nearly run out of domestic water this spring. If it does run out, water will be rationed daily to residents at 25 litres per person. Vancouverites use almost 20 times this amount.

We are doing okay now, but many uses like irrigation, toilet flushing, cooling system top-up, and other industrial uses do not require drinking-water levels of quality. Other water sources (rainwater, groundwater and locally treated greywater or black water) have significant potential to offset drinking water use. Less drinking water use will result in direct savings to residents, who will also be paying less for regional upgrades to the system.

It's snowpack (not rain) that provides much of our drinking water. With warmer winters and less snow in the future, we need to get in the habit of using less water.





7

LOCAL FOOD

GOAL: VANCOUVER WILL BECOME A GLOBAL LEADER IN URBAN FOOD SYSTEMS

TARGET:

- Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels.



INCREASE IN NEIGHBOURHOOD FOOD ASSETS SINCE 2010

INDICATOR	BASELINE	2017	CHANGE
Total number of neighbourhood food assets* in Vancouver	3,340 food assets (2010)	5,129 food assets	+53%

* Food assets include: number of community garden plots, farmers markets, community orchards, community composting facilities, community kitchens, community food markets, and urban farms.

Adding over 600 new community garden plots since 2013 has helped push us beyond our 2020 target for community food assets.

2017-2018 SUCCESSES:

SURPASSED OUR TARGET FOR NEIGHBOURHOOD FOOD ASSETS

In 2017, the City met its food asset target! These assets include over 600 new community garden plots since 2013 and a doubling of the number of community food markets. Now that we've met our target, we're looking at broadening the definition of "food assets". The city is full of food retailers and food and knowledge-sharing networks that are culturally or economically important. Counting them as food assets lets us prioritize them in planning processes and new developments, and work on better preserving them.

UPDATED OUR AWARD-WINNING FOOD STRATEGY

The food we eat comes from near and far, and involves complex systems of growing, processing, distribution, and waste management. These food systems affect our environment, economy and health. The Vancouver Food Strategy is our award-winning roadmap to action on a range of food system issues. now in its fifth year, over 80 per cent of the 71 original actions are complete or ongoing. In October 2017, City Council supported the addition of three new focus areas.

"Food Access" includes making sure more local food is available, affordable, and healthy. "Diversity of Voices and Inclusion" makes sure all residents are heard in making decisions. "Food System Resilience" ensures that even if a disaster occurs, food will continue to enter our region.

APPROVED A FUTURE FARM IN MARPOLE

The future of Marpole includes urban farming! In July 2017, Council approved the rezoning of the Pearson Dogwood lands, a 25-acre site between West 57th and 59th avenues and Cambie and Heather streets. As part of that, a one-acre urban farm has been approved. The Park Board will own the land and lease it out to a non-profit organization or social enterprise to develop community programming and commercial food production. The design will be developed in partnership with the organization and public consultation. Rooftop gardens and community gardens are planned throughout the development as well. In the meantime, Farmers on 57th are currently operating a thriving urban farm until redevelopment occurs.



COMMUNITY KITCHENS FIT FOR PURPOSE

The kitchen at your local community centres has to serve the needs of, well, your community. A neighbourhood might need a commercial-type kitchen to produce large amounts of food to feed vulnerable residents, or it might use its kitchen more for teaching cooking and food-preparation classes. This past year, the City developed new design guidelines for renovating or building a kitchen in a City-affiliated social or recreational facility to make sure it meets the needs of the community. We've also worked to prepare and train City staff and partner organizations on how to deliver programs even more successfully using our community kitchens.

CHALLENGES

Managing land in the city is a balancing act. Some city-owned garden sites are being considered as possible locations for new affordable housing and temporary modular housing. Housing is a priority, so a limited number of gardens may need to be reconfigured or moved. The City will have to apply more creative thinking about urban agriculture, given the evolving needs of the city. We'll need smarter solutions to retain garden space, such as integrating space within new developments, and thinking about public and open space differently to include urban agriculture.

The Vancouver Food Strategy turns five this year. Over 80 per cent of the 71 original actions are complete or ongoing.

The City will have to apply more creative thinking about urban agriculture. We'll need smart, novel solutions to retain garden space, given the evolving needs of the city.





8

CLEAN AIR

GOAL: BREATHE THE CLEANEST AIR OF ANY MAJOR CITY

TARGET:

- Meet or beat the most stringent air quality guidelines from Metro Vancouver, BC, Canada, and the World Health Organization.

100%
OF STALLS
EV-CHARGING-READY
IN NEW MULTI-FAMILY BUILDINGS

INDICATOR	BASELINE	2017	CHANGE
Total # of instances of not meeting air quality standards for ozone, particulate matter (PM2.5), nitrogen dioxide and sulfur dioxide from both the Kitsilano and Downtown stations combined*	27 (2008)	324	+297

* Air quality metrics are measured by Metro Vancouver from data from one monitoring station at Robson Square in Vancouver. The Kitsilano station is offline and awaiting relocation. Four indicators of air quality are used for comparison to world standards. They are: 24 hour average particulate matter (PM2.5) concentration >25 µg/m³, one hour average nitrogen dioxide (NO₂) concentration >200 µg/m³, 24 hour average sulfur dioxide (SO₂) concentration >20µg/m³, and eight hour ground-level ozone (O₃) concentration >52 ppb.

The spikes in wildfires in 2015 and 2017 show that we are already feeling the effects of climate change in our region. Hotter, drier summers will increase the severity of wildfires and how often they occur.

2017-2018 SUCCESSES:

MORE (AND SMARTER) CHARGING AT HOME

Charging up at home is the most convenient and least expensive way to charge an electric vehicle (EV). For more people to switch to an EV, we need to make home charging more available. We identified this as a priority in our 2016 Electric Vehicle Ecosystem Strategy. To support mass adoption of EVs now and into the future, the City requires that development permits for new multi-family buildings submitted after January 1, 2019 must have 100 per cent of their parking stalls equipped with EV charging infrastructure.

But with all these vehicles needing to be charged, won't buildings need a lot more electrical capacity? Not necessarily. When we changed the requirements, we also allowed for EV energy management systems. These look at all the parking stalls as an interconnected system, sending more electricity to the cars that need it, when they need it. These systems balance the overall energy load in the parkade, so you can charge more vehicles with the same capacity.

Requiring this EV charging infrastructure when a building is being built could add construction costs for a small number of projects (under \$300 per stall), but in most cases will save builders up to \$1,000 per stall relative to current requirements. And residents will save over \$3,000 per stall by not having to install the wiring and equipment after construction. Bottom line: moving into a new multi-family building means being able to switch to an EV without making any changes (besides forgetting the price of gas)!

CHARGING AT THE CURB

Some people live in a home without a garage to install a charger in, and some businesses might wish to provide charging for the public but don't have a suitable parking space. Last year, the City launched a Curbside EV Pilot Program where residents and businesses can apply to install a charging station on the City boulevard in front of their home or premises. There's still space in the pilot program for interested residents and businesses: go to vancouver.ca/streets-transportation/curbside-electric-vehicle-pilot-program.aspx to learn more.

Requiring charging infrastructure at all parking stalls in new multi-family buildings at the time of construction will save residents over \$3,000 per stall, compared to installing later.



EV BUSES COMING TO A STOP NEAR YOU

Half of TransLink's bus fleet already runs on hybrid diesel, natural gas, and electricity (the trolley network in Vancouver). In 2018 TransLink announced it will try out four battery-electric buses. For the next two-and-a-half years, these buses will run on the 100 route along Marine Drive between Vancouver and New Westminster. Fast chargers on both ends of the route will top up the buses' batteries in less than seven minutes. TranLink will gain experience and data to get us on the road towards zero emission buses across our region.

FAST CHARGING IN THE CITY

When you're on the go, or if you can't charge at home, fast-charging stations can charge an EV in a short time. BC Hydro has added five fast-charging stations in Vancouver: one on Grandview Highway, one on Marine Drive, two on Homer Street, and one in Kerrisdale next to the Arbutus Greenway. Adding to that, the City has upgraded the fast-charging station at Empire Fields, and will be installing several more throughout 2018.

CHALLENGES

Our Clean Air metric last year showed pretty clearly the impact of wildfires on our city. Summer 2017 was record-breaking for wildfires, with Metro Vancouver issuing five air-quality advisories for an unprecedented 19 days. One monitoring station on Clark Drive showed that while the wildfires pushed us over our threshold for bad air quality, normal levels next to a major roadway are already quite high. We have to make changes where we can to keep our air quality exceptional year-round. Good examples include making it easier for people to choose walking, cycling, or transit first, or helping them switch to an EV.

Thought about buying an EV, only you can't find one to test drive? Two-thirds of new-car dealerships in Vancouver carry car brands that have at least one EV in their lineups, but when we sent a secret shopper to the 16 dealerships who could have EVs on the lot, only half had any available for a test drive. EVs will never take off if people can't experience them first! The City supports zero emissions vehicle mandates (like in Quebec and California) that ensure manufacturers provide more EV supply and choices. A mandate is outside our jurisdiction, but could be introduced by the provincial or federal government.

During the Ice Box Challenge in summer 2017, wildfire smoke blanketed the city. The airtight “Passive House” kept its ice block clean, while the ice inside the “BC Building Code” box was covered with soot.

As more residents begin living in condos and apartments along busy streets, zero emission vehicles will become critical to improving air quality and protecting public health. And zero emission buildings have a big role to play as well.





9 GREEN ECONOMY

GOAL: SECURE VANCOUVER'S INTERNATIONAL REPUTATION AS A MECCA OF GREEN ENTERPRISE

TARGETS:

- Double the number of green jobs over 2010 levels.
- Double the number of companies that are actively engaged in greening their operations over 2011 levels.



NEW LOCAL FOOD AND GREEN JOBS SINCE 2010

INDICATOR	BASELINE	2017	CHANGE
Total number of green jobs	18,250 jobs (2010)*	24,700 jobs (2016)	+35%
Per cent of businesses engaged in greening their operations	5% of businesses engaged (2011)	9%	+4%

* The 2016 green jobs study refined the method for calculating the number of green jobs, resulting in a change in the 2010 count. Methods have been reviewed by Delphi Group, and targets going forward will be based on this recalculated total.

“Not a single business card will sit idle in my drawer. I have followed up with about a dozen of the Vancouver cleantech companies we met at VEC’s Cascadia Connect event, about how they can work with us at Sound Transit. It was an absolutely fantastic experience and we can’t wait to be invited back!”

Susan Mason, Sound Transit, Seattle

2017-2018 SUCCESSES:

A GREEN ECONOMY BOOM IN VANCOUVER

Vancouver’s economy grew faster than any other City in Canada, all while our city’s carbon pollution continues to trend down. A new report published by the Vancouver Economic Commission (VEC) in early 2018 found that 30 per cent of Vancouver businesses offer a product or service that restores or improves the environment. Our city and region is quickly becoming the go-to place for green business, with seven Vancouver-area businesses named to the Global Cleantech 100 list in 2018.

With all these green businesses come green jobs. Today, one in 15 Vancouverites works in the green economy: jobs that focus on preserving our environment, reducing energy, water and materials use, cutting carbon from our economy, and reducing or eliminating waste and pollution. Meanwhile, city, regional and provincial regulations are speeding up the adoption of energy-efficient buildings, clean energy and transportation systems, and the sustainable reuse of resources and materials. They are creating the environment for our clean economy of the future to flourish.

VANCOUVER BUSINESSES GREENING THEIR OPERATIONS

Installing a bike rack for employees, harvesting rainwater, investing in renewable energy. Greening a business can take many forms. A goal of

Greenest City is to not only support green industries, but support existing businesses in all sectors to make their practices greener.

A 2018 survey showed that nine per cent of Vancouver businesses are greening their operations, according to the criteria we developed in 2011. This is nearly double our baseline of five per cent. Programs, technology, and regulations have changed significantly since then, making it simpler and in some cases mandatory for businesses to take the green option. Further analysis and insight into this result will be available later this year.

MENTORED CLEANTECH COMPANIES LOOKING FOR INVESTORS

You’ve got a great cleantech idea, but like any business, you need investors to make it happen. VEC helped 16 cleantech entrepreneurs sharpen their pitches to investors with its ongoing Capital Mentorship Program. The program offers workshops, seminars, mentoring and peer support over four weeks that test an entrepreneur’s investor readiness. These green economy leaders leave the program better prepared for the fundraising process. In early 2018, graduates of the cleantech round were also eligible to apply for a spot at VEC’s Investment Showcase during GLOBE 2018, to pitch for \$1 million in investment capital.



CONNECTING GREEN INNOVATORS ON THE WEST COAST

British Columbia has a lot in common with Washington and Oregon, our American neighbours to the south. Our economies are connected, and we have shared values around innovation and sustainability. Our local green businesses are looking to places with similar progressive values for new customers, so we brought the markets to them! The Cascadia Connect event in early 2018 flipped the “Dragon’s Den” concept around. Instead of businesses selling to customers, VEC brought customers to pitch their operational and sustainability challenges to local and international businesses. The event built connections amongst the cleantech industry and major utilities, transit authorities, cities and post-secondary institutions from up and down the West Coast who have aggressive environmental plans but need help.

CHALLENGES

Of all the land in Vancouver, 90 per cent is mixed-use or residential: some businesses, but mostly used for living. Only 10 per cent is employment-only commercial or industrial space but this holds nearly 50 per cent of

the jobs in Vancouver. VEC recently released an Industrial Insights report that uncovered some of the challenges these businesses are facing. Businesses, especially small ones, are feeling the crunch of rising land values and lack of appropriate, affordable spaces to set up shop. If they have to leave the city to find space, that means fewer jobs and higher costs for goods and services. And we need to look at how people can get to and from work sustainably. That means commercial development with good transit and active-transport networks, or else congestion and carbon pollution will get worse.

City-wide, our Vancouver Employment Lands Study to review our economy and employment lands to support a diverse economy. Other actions could include trying out modular construction for business storage and office spaces, establishing industry hubs (like the Green Recycling Hub in the False Creek Flats), and creating more affordable spaces for arts production, artisan studios, and startups. VEC already provides the Industrial Concierge service, matchmaking between businesses who need space with others who have space that’s underused or at least temporarily vacant.

Our city and region is quickly becoming the go-to place for green business, with seven Vancouver-area businesses (including Terramera, pictured here) named to the Global Cleantech 100 list in 2018.





10

LIGHTER FOOTPRINT

GOAL: ACHIEVE A ONE-PLANET ECOLOGICAL FOOTPRINT

TARGET:

- Reduce Vancouver's ecological footprint by 33% over 2006 levels.



**20% DECREASE IN
ECOLOGICAL
FOOTPRINT**
SINCE 2006

INDICATOR	BASELINE	2017	CHANGE
Total global hectares per capita	4.27 gha/person (2006)	3.40 (2015)	-20%
Number of people empowered* by a City-led or City-supported project to take personal action in support of a Greenest City goal and/or to reduce levels of consumption (cumulative)	600 people empowered to take action (2011)	22,200 people empowered to take action	+21,600

* "People empowered to take action" are defined as those who are enabled by City-supported programs to change their lifestyle or are implementing a community project that helps Vancouver achieve its Greenest City goals as a result of support provided by a City-led or City-supported program. Examples include learning to preserve food or ride a bike in a community centre class, as well as people involved in projects supported by the Vancouver Foundation and City of Vancouver Greenest City Fund. The definition excludes people participating in a dialogue or consultation, attending an event, using infrastructure (e.g., bike lanes, food scraps collection), or receiving a personal incentive (e.g., home energy retrofits).

In 2017, the Greenest City Grant supported six great projects that ranged from Zero Waste-themed job training and empowerment programs, to youth and school engagement around local food and native plants, to improving urban orchard resiliency climate change.

2017-2018 SUCCESSES:

MEASURED AND CUT OUR ECOLOGICAL FOOTPRINT

Everything we grow and harvest, dig up and process, manufacture, import, buy, eat, and use – everything we burn up or throw away – comes from and goes back to the earth. The amount of productive land and water area needed to support Vancouver can be measured. It's called an "ecological footprint", and the 2016 Census gave us the economic data we needed to calculate it for the first time since 2006. Vancouverites, you're doing well! Vancouver's ecological footprint per resident has come down 20 per cent over the last ten years. As a community, our buildings are using less energy, we are walking, cycling and using transit more often, and we are generating less waste. We still have a ways to go to achieve our goal of "one-planet living," but we're clearly moving in the right direction!

LAUNCHED THINGERY LENDING LIBRARIES

An old power saw, your kid's wakeboard, that folding picnic gazebo you bought because you needed a rain plan. We all hang onto useful things that we don't often use. What if we could gather these random things in one place for everyone in the neighbourhood to borrow and use? A Thingery is a self-serve lending library of things in a modified shipping container. The City has granted a two-year permit to put Thingeries in Grandview-Woodland, Hastings-Sunrise, and Kitsilano.

They'll be community owned: whatever's in them will depend on what neighbours donate to it and what they collectively purchase. When you need that one thing for just that one time, it might be available to borrow at your local Thingery. Saves you buying your own, and maybe you even strike up a conversation with a neighbour as you're there picking it up. Great for cutting our ecological footprint, and you just made a new friend! Go to thethingery.com to learn more.

GREENEST CITY GRANTS HELP BUILD A CITY FOR EVERYONE

The Greenest City is a city for everyone. Programs that get us a little closer to our Greenest City goals often make a difference in the community in other ways as well. Every year we receive fantastic ideas from community groups, and that's where the Greenest City Grant comes in. In 2017, we supported six projects with funding, including two that were Zero Waste-focussed, teaching underemployed volunteers and at-risk youth new skills. Pedals for the People worked with volunteers who have barriers to employment, training them to refurbish bikes to donate to low-income recipients. The bikes come from drop-offs at the Vancouver Zero Waste Centre. Meanwhile, Luv the Grub Youth made use of a commercial kitchen space at Frog Hollow Neighbourhood House to provide free food skills training to at-risk youth, making food products locally from imperfect produce destined for the landfill.



CHALLENGES

The data we use to measure our ecological footprint only comes every five years (with the National Census), so while we can see how we're doing as a community over the long term, it will be hard to track our progress every year. Also, we need good numbers to generate an accurate picture of our actual impact, and the Census gives us a lot of data, but much of it is at a national, provincial or regional level.

More frequent, more local data for Vancouver will help us better measure the impact of our hard work.

For instance, a resident survey on food consumption habits – currently in the works – will help us measure how Vancouver's Local Food programs are making a difference. Meanwhile, our ecological footprint depends heavily on our consumption habits, individually and as a society. Half of our footprint comes from the food we eat, particularly red meat and dairy products. Another big portion of our footprint comes from the products we buy and the packaging that comes with it. To get to our "one-planet living" goal, we'll need to fundamentally shift our consumption habits.

Launched at the Bridge Warming event, Buddy Up! is a real-life exchange platform in offices, community centres, cafes, and parks across the city. People pin their skills, things, and interests, inviting people to find buddies for learning and doing something new together.



UNLOCKING VANCOUVER'S HIDDEN PLACES (AND TALENTS)

Vancouver isn't too big as far as big cities go: about 115 square kilometres. As more and more people live in a smaller area, making use of all the hidden nooks and crannies - especially ones that can be enjoyed by the public in all weather - will help make Vancouver an amazing city year-round. This past year, CityStudio students from SFU and UBC looked at unlocking and "activating" hidden places of the city. Their projects got us talking to one another, sharing ideas and skills, and bringing us together to make a happier

city. Bridge Warming took place under the Cambie Street Bridge and experimented with bringing life to underused spaces, with a book exchange and a giant blanket fort. This was also the launch event for other CityStudio projects. ChalkTalks installed four permanent public chalkboards under the bridge, each one asking a question to kickstart giant, anonymous, city-wide conversations. Connect Fort was a grown-up version of the blanket forts kids make in their living rooms, providing a fun, cozy space for people to meet.



WALKING THE TALK

GREEN OPERATIONS

TARGETS:

- 50% reduction in GHGs from City operations from 2007 levels
- 70% waste diversion in public-facing City facilities, and 90% waste diversion in all other City-owned facilities
- Reduce water use in City operations by 33% from 2006 levels

INDICATOR	BASELINE	2017	CHANGE
Total tonnes of CO ₂ e emissions from City operations	490,000 tCO ₂ e (2007)	225,000 tCO ₂ e	-55%
Total waste diversion rate in City facilities and operations	65% (2013) (public-facing facilities)	83%	+18%
	85% (2013) (other City-owned facilities)	92%	+7%
Total water use in City operations	2,600,000 m ³ (2006)	1,955,000 m ³	-25%*

* Without universal water metering of our civic facilities, metric tracking is a best estimate only. The accuracy of the metric will increase through continued water meter installations at prioritized City buildings.

How can we do or work in a more sustainable way? We want to be a world leader in environmentally responsible city operations. Over the next few years, Green Operations will also focus on reducing waste, continuing to improve the collection of landfill gas, reducing the use of toxic materials, and lowering water consumption in City operations.

2017-2018 SUCCESSES:

WARMING CITY HALL FOR LESS

In 2016, the City set a target to use 100 per cent renewable energy in our own buildings by 2040. Almost immediately, a great opportunity came up right at City Hall. Deconstructing the East Wing gave us a chance to replace an old chiller and cooling tower system with a new air-source heat pump in early 2018. It works through the same principle as a refrigerator: extracting heat from the outside air and transferring it inside to warm the building. It can also cool indoors by reversing this process. This means year-round climate control, better indoor air quality, and savings for the City: by the end of 2019, the heat pump is expected to cut the annual heating bill for City Hall by \$20,000. It will also reduce carbon pollution from City Hall by 34 per cent.

TWO AVENUES TO A GREEN FLEET

With over 100 electric and hybrid vehicles out of 1,800, Vancouver's city fleet is already a low-carbon leader in Canada. Bigger vehicles and trucks are definitely our biggest polluters, so we're tackling those ones next: refuse collection vehicles, tractor trailers, and street lighting maintenance bucket trucks. The City's Green Fleet program is looking to replace over 120 medium

and heavy-duty fleet vehicles with electric versions over the next five years, with our first five Mitsubishi eCanters – fully electric medium-duty trucks – arriving in late 2018. Meanwhile, as we wait for electric vehicles to fully develop, we need to look at other means to reduce our emissions. Using more fuels with higher blends of renewable, biologically derived content will help us bridge that gap while cutting our emissions at the same time. Also, we use GPS and telematics systems on our vehicles to understand how they're used and driven, and to look for opportunities to reduce fuel use even more.

SAME AMOUNT OF PAPERWORK, LESS PAPER

Hit "print." Forget it in the printer. Run to the meeting. Find out someone else brought copies anyway. It's happened to all of us, but all those unnecessary printouts waste a lot of paper. Two years ago the City switched to managed print services. That means all our printers are now connected centrally and tracked. Staff have to approve their print jobs (by physically pushing a button on the printer) before any paper is used. Since the new system came in, electricity use from printing has dropped 38 per cent, and up to five million sheets of paper are being saved every year.



SERVED UP GREENS FROM THE GREEN

Tee up an order of salad! Thanks to one Park Board staffer's labour of love in early 2017, the edible gardens at McCleery, Langara & Fraserview Golf Courses sprouted nearly 80 kg of kale, Russian kale, mizuna, arugula, red oak leaf, lola rossa, baby collard greens, baby red romaine, spinach, cilantro, Italian parsley, cilantro, basil, dill, nasturtium leaves and flowers, cucumbers, snow peas, green, yellow and purple beans, and beets. This was sent to select park concessions across the city, where hundreds of people enjoyed some (very) local salads.

DECONSTRUCTED CITY HALL'S EAST WING

The 70's-era East Wing of City Hall came down piece-by-piece last winter. Deconstructing a building means carefully taking it apart and reusing or recycling the concrete, metal, glass, carpet and other material. We aimed to salvage or recycle at least 85 per cent of the waste by weight. In the end, the City diverted over 99 per cent. The new Helena Gutteridge Plaza stands there now, named after the first female Vancouver city councillor. Come by City Hall and enjoy the view!

The new air-source heat pump at City Hall will reduce carbon pollution from City Hall by 34 per cent, and save \$20,000 in heating costs annually.

Helena Rose Gutteridge, a political activist who helped shape British Columbia's social reform legislation, fought for improved conditions for working women and advocated for equal pay. The plaza that bears her name stands on the site of the old East Wing of City Hall, deconstructed in winter 2017/2018 and 99 per cent recycled!



GET INVOLVED!

Two years left to 2020 and counting! A lot has to happen with Greenest City in that time, including developing a sustainability plan after GCAP. That means working with businesses, with industry, with residents, with you. We can learn from each other. We'll be listening to you, answering your questions and taking in your ideas.

We'll be offering information so you can understand what's in store things like green infrastructure, sea level rise, public spaces and greenways, and renewable energy. And through our Greenest City Fund, we'll continue to support community groups and projects that help make your Vancouver the best city it can be.

STAY INFORMED!

The Greenest City is a busy one! Get all the information about community events, volunteering opportunities, providing your ideas for City programs, or just news about the latest green project in your neighbourhood. Follow us on Instagram, Twitter, and Facebook, or go to vancouver.ca/greennews to stay up to date on all things Greenest City.

ACKNOWLEDGEMENTS

Thank you to staff and members of the community for your hard work and for allowing us to share the stories of your success.



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Hỏi chi tiết **Obtenga Información**

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