

**Zero Waste & Resource Recovery  
Summary Report  
2018 - 2019**



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## INTRODUCTION

This report provides a summary of 2018 -2019 accomplishments of the City of Vancouver's Zero Waste and Resource Recovery Division, Engineering Services Department, along with more detailed information and metrics. Additional details are also available in the Appendices.

## ORGANIZATIONAL OVERVIEW

The Zero Waste and Resource Recovery Division is responsible for long-term planning and delivery of the City's solid waste collection, reduction, diversion, transfer, and disposal services and programs. The division is organized into four branches (Table 1):

**Table 1. Branch Responsibilities**

<b>Solid Waste Strategic Services</b>	<b>Solid Waste Programs</b>	<b>Sanitation Services</b>	<b>Transfer &amp; Landfill Operations</b>
<ul style="list-style-type: none"><li>- Creates policy, plans and programs, and manages major projects supporting Transfer &amp; Landfill Operations and the City's goal of maximizing waste reduction and diversion</li><li>- Works closely with Metro Vancouver on long-range planning for effective solid waste management in the region, and engages with other levels of government on zero waste policy and regulation</li></ul>	<ul style="list-style-type: none"><li>- Develops, operates, and improves solid waste related programs, including education, outreach, enforcement, on-street infrastructure, grants, permits, contracts, and audits</li><li>- Provides technical, planning, implementation, data and analytics, optimization, and budgeting support to Sanitation Services</li></ul>	<ul style="list-style-type: none"><li>- Collects garbage and green bin material (food scraps and yard trimmings), from single-family and a portion of multi-family residential properties</li><li>- Provides street cleaning including sweeping, flushing, abandoned item and litter collection from sidewalks, streets, and lanes, and emptying of public litter and recycling receptacles</li><li>- Supports waste removal and cleanup at special events, snow removal at night, and fall street leaf removal</li></ul>	<ul style="list-style-type: none"><li>- Operates the Zero Waste Centre (depot on Yukon Street), Vancouver South Transfer Station (West Kent Ave. North), and the Vancouver Landfill (in City of Delta) including the management of various environmental protection systems, a yard trimming composting facility, and a Zero Waste Centre</li><li>- Vancouver Landfill is responsible for the management of municipal solid waste from commercial and residential sources within Metro Vancouver</li></ul>

## KEY ACCOMPLISHMENTS 2018 - 2019

### ZERO WASTE

- Completed the development of [Zero Waste 2040 Strategic Plan](#) and received Council's approval of the plan in June 2018. The plan presents a strategic vision and forward looking actions to move Vancouver as a community toward zero waste by 2040. The plan complements the City's 2020 target of reducing the amount of waste disposed to landfill and incinerator by 50%, compared to 2008 (refer to: [Greenest City Action Plan](#)).
- Obtained Council's approval of the [Single-Use Item Reduction Strategy](#) which targets various single-use items that commonly end up as litter on streets and in the marine environment. Following Council's endorsement of the strategy in June 2018, by-law requirements were adopted in [April](#) and [November](#) 2019:
  - Ban on polystyrene foam cups and polystyrene foam take-out containers starting January 1, 2020.
  - By-request requirement for single-use utensils and a ban on plastic and compostable plastic straws with an accessibility requirement to provide upon request, bendable plastic straws wrapped in paper starting April 22, 2020.
  - Ban on plastic and compostable plastic shopping bags with fees on paper and reusable bags, a minimum 40% recycled content requirement for paper bags, and a \$0.25 minimum fee on all disposable cups, starting January 1, 2021.
- Launched the [Love Food Hate Waste](#) campaign partnership with the National Zero Waste Council in 2018, with a focus on reducing wasted food disposed to garbage. In 2019 initiated a [Solutions Lab](#) food waste reduction engagement process with grocery retailers.
- Expanded the City's [on-street recycling program](#) throughout Downtown Vancouver and in parks, bringing the total number of zero waste stations in public areas throughout Vancouver to 99 (30 in parks and 69 in other areas of the city – primarily Downtown).
- Completed a business case and successfully pilot tested the viability of developing a construction and demolition materials recovery and biofuel production facility at the Vancouver Landfill.
- Obtained Council's approval of an [expanded Green Demolition program](#) applying reuse and recycling requirements to pre-1950 one- and two-family homes, and requiring deconstruction of pre-1910 and heritage registered one- and two-family homes, all effective January 1, 2019. Council also approved up to \$250,000 in funding to provide financial support for the establishment and operation of a locally operated non-governmental deconstruction hub. Subsequently, a stakeholder workshop was held to discuss challenges and opportunities, and a procurement process started in 2019 seeking an organization to establish and operate a deconstruction hub.
- Participated directly in advancing Zero Waste efforts in the Cascadia region and also internationally, through the [Pacific Coast Collaborative \(PCC\)](#) and the [C40 Cities](#) initiative. This included [taking action with the PCC on reducing wasted food](#), and having a lead role in the development of a [C40 declaration to advance towards Zero Waste](#), which the City subsequently became a signatory of.

## OUTREACH & EDUCATION

- Hosted 19 Reuse and Recycling Drop-off Events in 2018/19 with support from hundreds of community volunteers and resulting in diversion of 78 tonnes of electronics, small appliances, computers and accessories, and over 33 tonnes of clothing and textiles.
- Partnered with community organizations and volunteer repair specialists to host several Free Repair Workshops to teach residents how to repair items, such as textiles, computers and small appliances, rather than throwing them away (refer to Appendix D for more information).
- Provided youth outreach programs to over 10,000 students in 2019, involving 170 Zero Waste School Workshops and 67 live educational plays at elementary schools (refer to Appendix D for more information).

## COLLECTIONS

- Continued operational improvements in garbage and green bin [collection service](#), with a focus on reducing missed collection requests.
- Initiated the implementation of on-board driver displays in collection vehicles to support improved customer service and operational efficiencies.
- Adapted collection operations to manage green bin contents affected by the [Japanese beetle](#), and established a [temporary transfer station](#) to handle affected material from landscapers and residents.
- Implemented a communication campaign to [improve collection efficiency](#), including information panels on collection vehicles and residential containers.
- Initiated a program to update the current garbage and green bin cart management software system to better manage cart deployment and [utility billings](#).

## STREET CLEANLINESS

- Expanded and rebranded the City's long-standing Keep Vancouver Spectacular program to become the [Adopt-a-Block Program](#) and [Neighbourhood Cleanup Party](#). In 2019 over 32,000 volunteers took part in more than 3,400 cleanups, representing a 30% and 47% increase from 2018 respectively (refer to Appendix D for more information).
- Increased sweeping, flushing and [abandoned waste collection](#) service levels from an average of four times per week to nightly Downtown and in Downtown Eastside (DTES) laneways in 2019, to address growing needs due to increases in homelessness and encampments.
- Replaced small waste receptacles (litter cans) in high volume areas with larger cart-enclosures to reduce overflows, create efficiencies, improve worker safety and increase public recycling options. There are now 176 garbage and 138 recycling enclosures installed, mostly Downtown, with the small receptacles being redeployed to new locations to increase the total number of receptacles across the city.
- Conducted over 3500 solid waste by-law infraction investigations in 2019, including 690 illegal dumping investigations, almost 1,600 commercial container cases, and about 1,225 residential solid waste-related investigations. Surveillance cameras were also piloted in 2018 and 2019 to discourage illegal dumping at problem locations.
- Expanded the [Street Cleaning Grant Program](#) to [\\$1.6 million in grants](#) in 2019 for non-profit organizations that provide micro-cleaning services to supplement the work done by

City crews. In 2019, over 65,100 work hours were provided to individuals with barriers to traditional employment, which also resulted in the collection of 19,000 bags of litter and 111,000 discarded needles from public property.

- Added two parks to the dog waste pilot program and investigated opportunities to expand the program city-wide. Program expansion continues to be restricted by lack of available capacity for the single local contractor to properly manage the material collected.
- Conducted annual litter audits to determine the type and quantity of litter, and developed a Cleanliness Index which makes use of a scorecard to rate the level of cleanliness at sites across the city. The information gathered is used to help shape programs and policies aimed at improving cleanliness throughout the city.
- Launched an anti-litter campaign "[Putting Waste In Its Place](#)" with an enhanced focus on initiatives that reduce cigarette butt litter, including targeted messaging, distribution of free pocket ashtrays, and installation of butt receptacles on zero waste stations. Annual litter audit results have shown a 31% reduction in cigarette butts/debris (as a percentage of total small litter items) since our 2015 baseline survey.

## **TRANSFER, LANDFILL & ZERO WASTE CENTRES**

- Opened the [Vancouver Zero Waste Centre](#) in 2018 to replace an outdated recycling depot formerly located at the Vancouver South Transfer Station. The new centre has more space and easier access for residents to drop-off an expanded list of items for reuse and recycling including: cooking oils, small appliances, electronics, foam packaging, tools, clothing, books and bicycles for free.
- Continued to assist regional disposal requirements by operating the Vancouver Landfill at near-maximum capacity, even while the [amount of waste originating from the City of Vancouver requiring disposal has decreased](#).
- Completed a rebuild of the front entrance at the Landfill to reduce traffic congestion and improve overall customer service.
- Completed the installation of new scales and the update of the scale management software at both the Landfill and the Transfer Station.
- Completed new storm water infrastructure at the Landfill to provide more storage of and greater separation between clean water and leachate.
- Installed additional landfill gas collection infrastructure as the site develops to aim to meet or exceed the target of 75% gas collection efficiency.
- Signed an agreement with Fortis BC in 2018 for a [project](#) involving the installation of a system at the Landfill to upgrade landfill gas to pipeline quality for delivery to Fortis BC's natural gas system. This project will increase landfill gas utilization to nearly 100% and create an additional source of funding to offset some of the operating costs of landfill gas collection infrastructure. In 2019 the City coordinated with Fortis BC for British Columbia Utilities Commission approval for the project.

## DETAILED INFORMATION & METRICS

### ZERO WASTE

In 2011, Vancouver Council adopted the [Greenest City Action Plan \(GCAP\)](#) and subsequently an [updated 2015-2020 version of the plan](#). The [GCAP](#) includes a goal of Vancouver achieving [zero waste](#) and a 2020 target of reducing total Vancouver waste disposed by 50% compared to a baseline year of 2008. In order to establish overall direction and specific actions with respect to the zero waste goal, in 2018 Council approved the [Zero Waste 2040 Strategic Plan](#) which establishes the vision of Vancouver becoming a zero waste community by 2040.

Vancouver is part of a larger regional waste system managed by the [Metro Vancouver Regional District](#), under Provincial Regulation and oversight. Metro Vancouver is responsible for long-term solid waste management planning, transfer and disposal, and many of Vancouver's zero waste programs are influenced by Regional plans and policies (refer to: [Metro Vancouver Integrated Solid Waste and Resource Management Plan](#)).

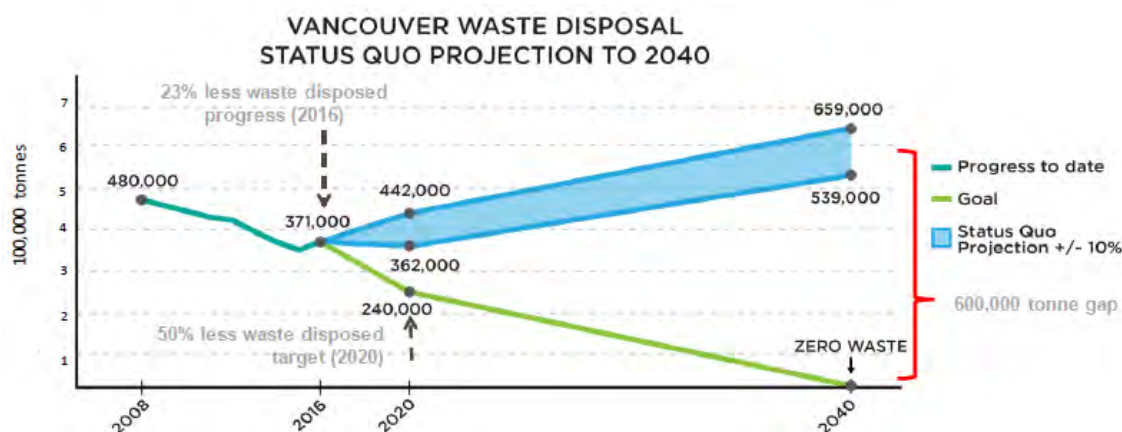
**Table 2. Zero Waste Progress**

<b>Goal</b>	Zero Waste by 2040
<b>Target</b>	By 2020, reduce solid waste going to landfill and incinerator by 50%.
<b>Baseline</b>	480,000 tonnes (2008)

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

In order to describe the level of future challenges in dealing with solid waste originating from Vancouver, Figure 1 below shows the potential range of additional waste tonnes from all sectors with population and economic growth projected out to 2040, if current waste diversion efforts maintain status quo. This illustrates that total solid waste that may require disposal could grow by more than 77% from 2016 to 2040 if significant efforts are not made to reduce and avoid the amount of waste generated within Vancouver.

**Figure 1. Vancouver Waste Disposal Status Quo Projection to 2040**



**Notes:**

1. This estimate serves only as a guide since future quantities of waste materials will be highly variable and influenced by factors beyond the City's direct control, such as population changes, economic activity, and natural and other unplanned events.
2. The slight increase in waste disposed in 2016 compared to 2015 is consistent with what was experienced across the Metro region and is attributed to economic growth.



## OUTREACH & EDUCATION

Creating a zero waste community requires everyone living and working in the city to change the way they view and manage waste. The City provides a suite of outreach and education programs aimed to foster behaviour changes towards zero waste.

Please refer to Appendix D for more detailed information about the City's Outreach and Education programs.

## COLLECTIONS

The City [provides all single-family and duplex homes](#) (normally four units and less) with [green bin](#) (food scraps and yard trimmings) and garbage collection on a five day “skip-a-day” (advance one day for holidays) schedule. Since 2013, green bins have been collected weekly, and garbage bi-weekly. The majority of the collection service is fully automated; however there is also a small portion of semi-automated collection. Carts for garbage (black lid) are available in five sizes ranging from 75 to 360 litres. Green bins (green lid) are available in four sizes, ranging from 120 to 360 litres. The cost of collection is recovered by Solid Waste Utility fees charged to users of the system. Larger containers are priced higher compared to smaller container, resulting in variable container subscription or ‘pay-as-you-throw’ system (refer to Financial Summary section and Table 15 for more information).

**Figure 2. An automated collection truck collecting garbage in a Vancouver lane**



**Figure 3. Crew collecting garbage with a semi-automated truck during a winter storm**





**Table 3. Collections Operational Statistics 2018/19**

Collection Fleet	33 Automated Collection Vehicles 13 Semi-Automated Collection Vehicles
Operational Staff	43 Full Time Positions
Support Staff	3 Full Time Positions
Zones	5 Zones divided into 200 beats (100 Green Bin, 100 Garbage)
Cart Counts (2019)	Green Bin – 85,500 Garbage – 90,800

Green bin materials are processed into compost through a contract with a private sector facility operator. [Yard trimmings not mixed with food scraps and directly hauled by residents and contractors](#) to the [Landfill](#) and [Transfer Station](#) are [processed into compost](#) by the City at the Landfill's composting facility.

Multi-family and commercial properties are required to divert compostable organics and recycling materials from disposal, and collection of those materials is provided primarily by private sector haulers.

In 2016, the responsibility of residential recycling collection in Vancouver was transferred to [Recycle BC](#). Various other [Extended Producer Responsibility programs serve the city and the rest of the province](#), and successfully divert thousands of tonnes of materials from disposal.

**Table 4. Tonnes of City Collected Solid Waste Materials: Solid Waste Utility**

Material	2011	2012	2013	2014	2015	2016	2017	2018	2019
Green Bin <sup>1</sup>	25,240	26,973	38,450	46,014	47,771	49,101	48,959	48,216	48,286
Garbage <sup>2</sup>	61,705	61,441	44,892	37,110	33,533	33,088	34,751	35,714	34,380
Street Leaf Sweeping <sup>3</sup>	6,346	5,589	4,922	5,922	4,844	8193 <sup>4</sup>	6,189	5,387	5,168
Residential Leaf Bags <sup>5</sup>	data not available	data not available	data not available	data not available	data not available	data not available	618	739	904

<sup>1</sup> Yard trimmings and food scraps collected primarily from single family and duplex residential properties.

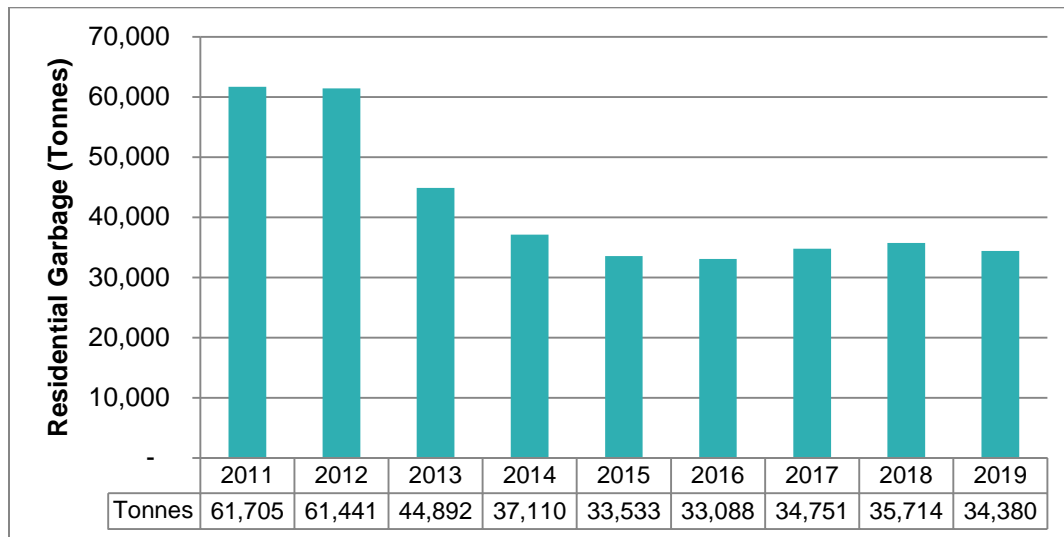
<sup>2</sup> Refuse to landfill collected primarily from single family and duplex residential properties.

<sup>3</sup> City-wide street leaf sweeping is typically from start of October to end of January.

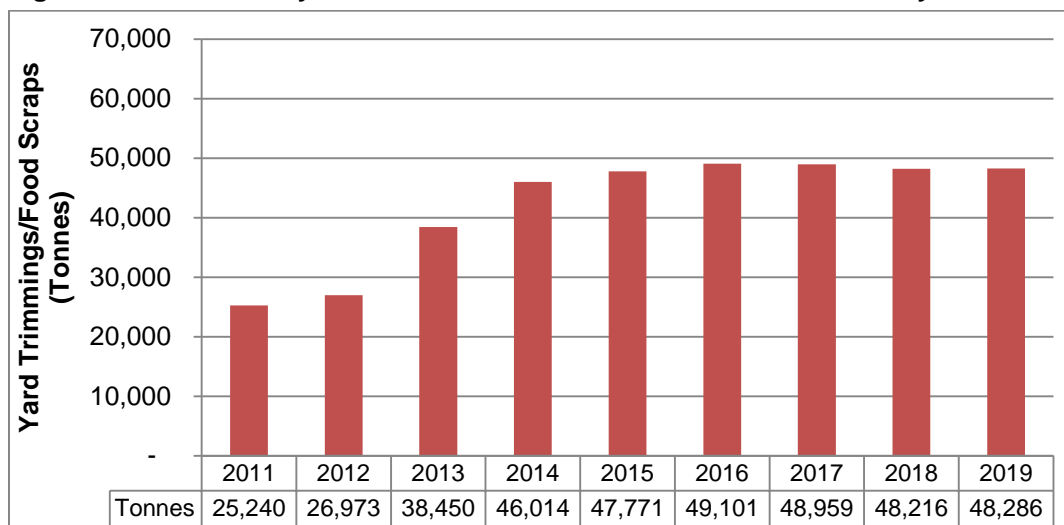
<sup>4</sup> Street leaf sweeping was delayed in 2016 due to snow/ice and when it resumed, included collection of sand applied to streets during winter weather.

<sup>5</sup> Residential leaf bags collection program is typically from start of October to end of January.

**Figure 4. Tonnes of City Collected Garbage: Solid Waste Utility**



**Figure 5. Tonnes of City Collected Green Bin Material: Solid Waste Utility**



## WASTE COMPOSITION SUMMARY

Studies on the types and quantities of materials disposed are routinely conducted by the City and Metro Vancouver (refer to Metro's *About Solid Waste Services* [Reports & Resources website](#)).

Summary results from the City's most recent composition studies are as follows:

**Table 5. 2018 Garbage Composition - Various Sectors**

Primary Material Category	Single-Family Weighted Mean (%)	Multi-Family Weighted Mean (%)*	Street-side Litter Containers Weighted Mean (%)	Parks Litter Containers Weighted Mean (%)
Paper	21.7	20	30.4	21.5
Plastic	25.6	22.7	15.9	25.8
Compostable Plastic	0	0	0.1	0.1
Compostable Organics	20.5	22.3	31.8	9.7
Non-Compostable Organics	5.5	5.6	2.1	6
Metals	2.8	2	2.2	1.4
Glass	1.6	1.2	4.8	1.2
Building Material	2.1	0.8	0.4	4.3
Electronic Waste	1.1	0.8	0.6	0.4
Household Hazardous	1.2	0.7	0.6	9.8
Household Hygiene	14.6	19.6	9	15.8
Bulky Objects	0	0	0	0
Fines	2.8	4.6	4.8	4.2

\*Multi-family waste composition results are not representative of Vancouver's multi-family sector.

**Table 6. 2018 Green Bin Composition**

Primary Material Category	Single-Family Weighted Mean (%)	Multi-Family Weighted Mean (%)
Garbage (bag) <sup>1</sup>	0.1	0.1
Compostable (bag) <sup>2</sup>	2.7	3.1
Compostable Paper	3.3	4.5
Non-Compostable Paper	0.2	0.1
Plastic	0.3	0.5
Compostable Plastic	0.1	0.1
Compostable Organics	95.9	92.6
Non-Compostable Organics	0.1	0.5
Metals	0	0
Glass	0.2	0
Building Material	0	0.2
Electronic Waste	0	0
Household Hazardous	0	0
Household Hygiene	0	0.3
Bulky Objects	0	0
Fines	0	0

<sup>1</sup>Garbage (bag) refers to any bag that was used for disposal and was not compostable.

<sup>2</sup>Compostable (bag) refers to any bag that was used for disposal and was compostable.

**Table 7. Construction and Demolition Composition**

Primary Material Category	Select Secondary Category	Percent by Volume (%)	Percent by Weight (%)
Wood	Clean Wood	80.2	80.4
	Treated Wood	4	4
	Composite	2.9	2.9
Total Wood		87.1	87.2
Land Clearing		0.4	0.2
Paper		0.1	0.1
Plastic		2.8	4.1
Concrete		0.6	0.9
Metals		2.7	2.5
Masonry		0.4	0.4
Asphalt		1.1	1.7
Miscellaneous Building Materials		3.5	1
Glass and Ceramics		0.1	0.1
Rubble/Soil		0.7	1.3
Household Garbage		0.1	0.1
Textiles		0.2	0.1
Bulky Items		0.1	0
Rubber		0.1	0.2
Miscellaneous		0.2	0.2

**Table 8. Vancouver Landfill Residential Drop-off Waste Composition**

Primary Material Category	Percent by Weight (%)
Paper	7.8
Plastic	14.8
Compostable Plastic	0
Compostable Organics	14.3
Non-Compostable Organics	2.9
Metals	6.7
Glass	6.3
Building Material	19.7
Electronic Waste	3.5
Household Hazardous	0.1
Household Hygiene	0.3
Bulky Objects	12.8
Fines	0

**Street Litter Composition Audits**

- Audits took place from September 17 – 20, 2018 at 108 locations for the purpose of assessing the composition of accumulated litter present on Vancouver streets.
- Two types of litter were assessed: large litter, which is any litter that is equal to or larger than four square inches; and small litter, which is any litter that is smaller than four square inches.
- An additional assessment, referred to as a 'supersite' evaluation, was completed at 19 of the pre-selected sites. A supersite evaluation refers to a more thorough assessment of small litter within the site.
- Key findings – large litter assessment:
  - Average number of large litter items per site was 9.7 pieces for sites with no adjacent construction and 10.5 if the sites with adjacent construction were included.
  - Most common large litter categories were 'other miscellaneous' (25%), paper/fibre materials (18%) and cups (13%).
  - The total large litter audited was 1,138 pieces for both non-construction (998) and construction sites (140).
- Key findings – small litter assessment:
  - Average number of small litter items per site was 8.1 pieces for sites with no adjacent construction and 8.4 if the sites with adjacent construction were included in the overall analysis.
  - Most common categories of small litter observed were cigarette butts/debris (34%) and chewing gum (19%).
  - The total small litter audited was 910 pieces for both non-construction (836) and construction sites (74).
- Key findings - supersite assessments:
  - Average number of small litter items per site was 37.1 pieces.
  - Most common categories of small litter observed were chewing gum (42%) and cigarette butts/debris (38%).
  - The total small litter audited was 7,070 pieces.

## STREET CLEANLINESS

### City Street Cleaning Operations

The City provides comprehensive 365 day/year street cleaning services, including mechanical sweeping, flushing, abandoned garbage removal, and public litter and recycling container collection. The majority of work is performed at night to avoid disruptions to traffic and pedestrians.

Residential streets are cleaned by sweeper trucks during fall leaf collection, while arterial and Downtown streets and lanes are swept clean more frequently. Extra cleaning is provided for major events, such as the Vancouver Marathon, Pride Parade and Celebration of Lights. Street and lane flushing in the Downtown and Downtown Eastside occurs in the summer. For 2019, the City swept 19,000 km of roadway and collected 2,600 tonnes of debris.

**Table 9. Street Cleaning Operational Statistics 2018/19**

Street Cleaning Fleet	9 Street Sweepers 7 Street Litter Can Collection Vehicles 2 Parks Litter Can Collection Vehicles 1 Flusher 14 Litter Collection Vehicles
Operational Staff	72 Full Time Equivalent Positions over 3 shifts: Day Shift – M-F 7AM-3:30PM Afternoon Shift – 7 Days 10AM-8:30PM Night Shift – 8:30PM-7AM
Support Staff	6 Full Time Positions
Litter Can Counts (peak season)	3014

Deliberately [abandoned or dumped waste](#) on public or private property is considered illegal dumping. Illegal dumping is harmful to the environment, is costly for taxpayers and can send a message that illegal activity is tolerated in Vancouver neighbourhoods. The most common illegally dumped items include furniture (mattresses, couches) and appliances (refrigerators, washers, stoves). Non-recyclable materials are disposed to the Vancouver Landfill through the Vancouver South Transfer Station, while abandoned recyclable materials are separated and recycled where possible.

The City provides over 3,000 public litter receptacles on sidewalks, seawalls, in parks and at bus stops, and these are typically emptied once or twice per day, but up to three to four times per day in busy commercial areas during the summer months.

**Table 10. Tonnes of City Collected Solid Waste Materials: Street Cleaning Program**

Material	2011	2012	2013	2014	2015	2016	2017	2018	2019
Abandoned Garbage <sup>1</sup>	2,021	2,113	1,906	2,161	2,624	2,784	2,725	2,513	2,013
Street Litter <sup>2</sup>	2,702	2,361	2,070	2,445	3,194	2,889	3,367	3,432	3,204

<sup>1</sup>Abandoned waste and illegal dumping (e.g. furniture, mattresses, hazardous waste, bagged and loose garbage, etc.).

<sup>2</sup>Garbage collected from garbage receptacles in streets and parks.

### Zero Waste Stations

Vancouver has been piloting various designs of zero waste stations for several years, and evaluating the quality of recyclables collected. Processors require high-quality recyclable materials streams, which can be challenging to achieve in a public setting. The current design shown in Figure 6 has been shown to be operationally efficient and produce good quality recycling streams.

**Figure 6. Three stream cart enclosure (garbage, organics, mixed containers) in a Vancouver park**



**Figure 7. Three stream cart enclosure (mixed containers, mixed paper, garbage) Downtown**



By the end of 2019, 99 zero waste stations were installed in Vancouver, providing public space recycling opportunities to Vancouver residents and visitors. The majority of the zero waste stations are located in the Downtown area, with 30 of the stations located at concession stands at beaches and in Stanley Park. The table below outlines the tonnage of recyclables collected in the zero waste stations.

**Table 11. Tonnes of Recycling Collected through Street & Park Zero Waste Stations**

Material	2011	2012	2013	2014	2015	2016	2017	2018	2019
Recycling Stations <sup>1</sup>	N/A	21	24	21	20	25	43	65	77

<sup>1</sup> Includes paper, container and organics streams collected from on-street and parks zero waste stations.

A composition study conducted in 2018 indicated that about 79% of recyclable paper materials (by weight) were sorted correctly into the paper bin, and that almost 95% of materials in the paper bin were recyclable paper products (5% contamination). About 66% of recyclable beverage containers (by weight) were correctly placed in container bins, and about 89% of the materials in the container bins were recyclable beverage containers.

## **Enforcement**

The City has 7 full-time Street Use Inspectors working throughout the city to inspect, educate and enforce a variety of by-laws and permit requirements associated with solid waste and street cleanliness issues. The inspectors ensure both commercial and residential waste and recycling containers are managed appropriately, investigate illegal dumping incidents and, when sufficient evidence is available, pursue fines and/or prosecution. In 2019, the inspection team investigated over 3,500 by-law infractions, including 690 illegal dumping investigations, almost 1,600 unmanaged commercial container cases, and about 1,225 residential solid waste-related investigations. Two surveillance cameras were also piloted in 2018 and 2019 to discourage illegal dumping at problem locations.

## **Street Cleaning Grant Program**

To supplement the City's street cleaning services, for the past 21 years Council has approved annual grants to non-profit agencies that have the capacity to provide micro-cleaning services. Micro-cleaning involves daily collection of litter and needles on foot using brooms, shovels and wheeled garbage carts, and is work that is outside the scope of services provided by the City's forces. In addition, the grant program supports initiatives involving the local binning community and assists in developing strategies to address challenges with rat populations. In 2019, the Street Cleaning Grant resulted in the following:

- micro-cleaning in an area covering almost 7 km<sup>2</sup> and within 22 Business Improvement Areas;
- provision of 65,114 low-threshold employment hours; and
- collection of 18,952 bags of litter and 111,118 needles.

**Table 12. Work Hours and Collection Total: Street Cleaning Grant Program**

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Work Hours	14,716	13,633	14,036	35,169	31,843	36,020	44,714	54,908	65,114
Bags of Garbage Collected	7,423	7,504	8,988	12,586	11,499	12,660	17,320	14,838	18,952
Number of Needles Collected	<i>data not available</i>	<i>data not available</i>	<i>data not available</i>	<i>data not available</i>	<i>data not available</i>	54,914	93,041	72,217	111,118

**Figure 8. A team of micro-cleaners help keep Vancouver's streets clean**



## **Volunteer Cleanup Programs**

Cleanliness is among the reasons why Vancouver is considered one of the most livable cities in the world. By joining or hosting an Adopt-a-Block Program or a Neighbourhood Cleanup Party, residents can get involved in strengthening their community and protecting the environment by getting together with friends, family and colleagues to tidy up their neighbourhoods.

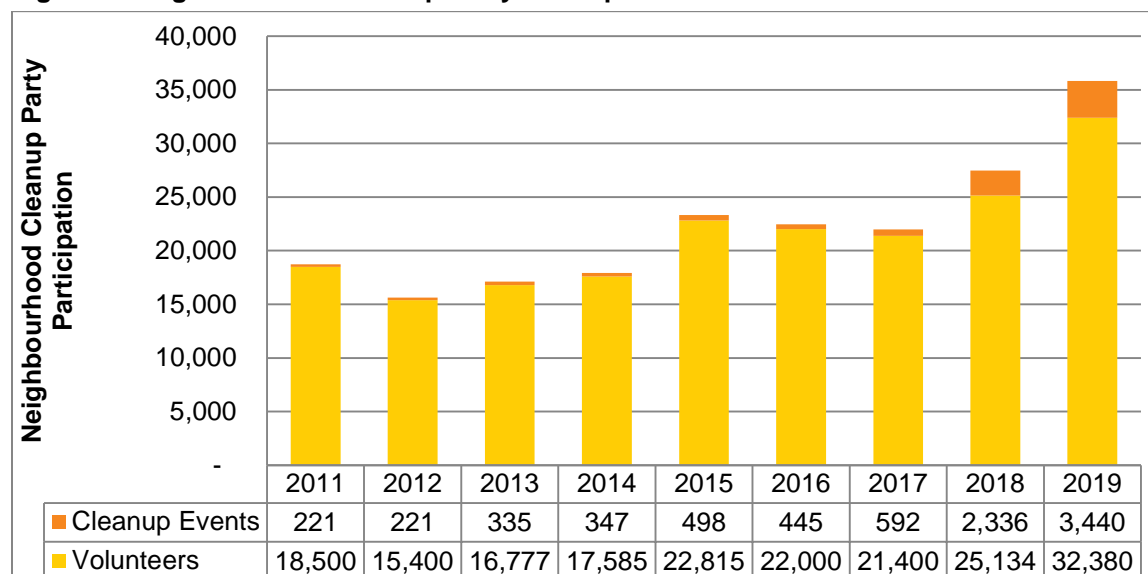


These cleanup programs are City-supported litter pickup events. The program encourages residents to cleanup their neighbourhood by providing garbage bags, gloves and other cleanup tools, and free pick up of litter collected. For more information, refer to Appendix D.

**Figure 9. A group of volunteers participating in a neighbourhood cleanup event**



**Figure 4. Neighbourhood Cleanup Party Participation Rates**



## TRANSFER, LANDFILL & ZERO WASTE CENTRES

The City's solid waste operations include the [Vancouver South Transfer Station](#), [Vancouver Landfill](#), and two Zero Waste Centres – one in [Vancouver](#) and the other at the Vancouver Landfill in the City of Delta. These City of Vancouver owned and operated facilities receive residential and commercial waste and recycling materials from Vancouver and other communities in Metro Vancouver, and contribute to the [Metro Vancouver regional solid waste system](#).

Currently, the Vancouver Landfill receives 70% of the region's residual waste requiring disposal, and recently has been operating near its permitted annual capacity of 750,000 tonnes, despite declining tonnes from Vancouver. For more information, refer to Table 13 below, and the [Vancouver Landfill Annual Report](#).

**Table 13. Tonnes of Garbage Disposed to Vancouver Landfill**

Source	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	665,045	716,201	607,872	548,742	550,168	693,446	736,405	717,906	721,507
Vancouver only <sup>1</sup>	159,406	185,367	145,028	134,184	131,465	147,634	129,733	129,093	115,862

<sup>1</sup>From City of Vancouver collections, including public works, and private sector commercial haulers.

Waste disposed of at the Vancouver Landfill is either hauled directly to the Landfill or transferred through the Vancouver South Transfer Station or Metro Vancouver's transfer stations (refer to Appendix B: Material Flows). The Transfer Station receives many vehicle loads per day, hauling garbage destined for the Landfill or yard trimmings which are transferred by the City to the Vancouver Landfill composting facility where it is processed into compost.

In 2018, the recycling depot at the Transfer Station moved to 8588 Yukon Street and became the Vancouver Zero Waste Centre. This facility provides a convenient location for residents and small business to drop-off a [wide range of materials](#) for reuse and recycling, free of charge.

Table 14 below includes more information about materials received at the Vancouver Landfill and Zero Waste Centre in 2018 and 2019:

**Table 14. Materials Received at Vancouver Landfill and Zero Waste Centre (2018-2019)**

Item	Vancouver Landfill			Zero Waste Centre		
	2018	2019	Units	2018	2019	Units
Bicycles	<i>Material not collected at location</i>			2.3	0.7	tonnes
				126	38	units
Books	<i>Material not collected at location</i>			83	170.1	tonnes
Clothing	1.8	6.6	tonnes	46	127.5	tonnes
Containers (Plastic, Metal, Paper)	2.8	2.9	tonnes	55.8	84.3	tonnes
Cooking Oil	0.4	0.6	tonnes	2.6	3.61	tonnes
Drywall, new scraps only	136	123	tonnes	10.9	7.3	tonnes
Electronics & Small Appliances	113	117	tonnes	257.6	389.2	tonnes
Fire Extinguishers	0.5	0	tonnes	2.4	4	tonnes
	214	0	units	1062	1749	units
Food scraps, residential drop off	<i>Data unavailable</i>			1.55	2	tonnes
Glass Bottles & Jars	3.8	5.4	tonnes	24	40.7	tonnes
Household Batteries & Cell Phones	0.0	0.7	tonnes	7.7	11.8	tonnes
Lead Acid Batteries	10	11.3	tonnes	21	19.4	tonnes
Light Bulbs	0.5	1.1	tonnes	3.8	11.3	tonnes
Mattresses	220	247	tonnes	494	568.3	tonnes
	8,809	9,146	units	19,799	21,048	units
Mixed Paper & Cardboard, Commercial	19	18	tonnes	<i>Material not collected at location</i>		
Mixed Paper & Cardboard, Residential	214	209	tonnes	1202.3	1264.2	tonnes
Newspaper, Commercial	<i>Material not collected at location</i>			12.3	0	tonnes
Other Flexible Plastic Packaging (new in 2018)	0.1	1.6	tonnes	12.4	56.5	tonnes
Plastic Bags & Overwrap	3.9	3.1	tonnes	33.6	18.1	tonnes

Plastic Foam Packaging	6.4	5.7	tonnes	29.2	37.1	tonnes
Product Care Items (Paint, Aerosol, Solvent)	6.1	3.8	tonnes	Data unavailable		
Propane Tanks	2.3	4.3	tonnes	6.9	22.8	tonnes
	280	3,317	units	6,800	22,926	units
Refrigerators, Freezers & Air Conditioners	150	198	tonnes	483.4	714.5	tonnes
	1,160	2,936	units	3,747	11,554	units
Scrap Metal (excluding Refrigerators, Freezers & Air Conditioners)	674	685	tonnes	1338.5	1184.6	tonnes
Smoke Alarms	0	4	boxes	0.3	0.556	boxes
Tires	38	47	tonnes	Data unavailable		
	3,199	4,498	units	Data unavailable		
Waste Antifreeze	0.4	1.2	tonnes	Data unavailable		
	455	1,160	litres	Data unavailable		
Waste Oil	27	24	tonnes	2.4	N/A*	tonnes
	30,737	27,049	litres	2,638	N/A*	litres
Waste Oil Filters	1.5	1.7	tonnes	0.1	N/A*	tonnes
	Data unavailable			150	N/A*	units
Wood Waste	Data unavailable			1,034.80	982.3	tonnes
Yard Trimmings	Data unavailable			11,811.80	12,609.9	tonnes
<b>Total</b>	<b>1,631.50</b>	<b>1,718</b>	<b>tonnes</b>	<b>16,980.35</b>	<b>18,330.21</b>	<b>tonnes</b>

## FINANCIAL SUMMARY

Costs and revenues for Vancouver's solid waste collection, transfer and disposal programs and facilities reside within the City's Solid Waste Utility (SWU). Each year City Council approves SWU fees for the following year. SUI fees cover the cost of garbage and green bin collection, and since 2017 have included a contribution to general street cleaning services provided by the City. The fees also include the cost of transfer and disposal of Vancouver residential waste at the Vancouver Landfill, and transfer and composting of green bin materials. The contribution to support general street cleaning programs covers portions of the cost of litter and abandoned waste collection in and around residential areas of the city. Remaining street cleaning costs are funded from the City's property tax supported public works budget.

**Table 15. Annual Solid Waste Utility Fees**

Cart Size (litres)	Garbage Collection Fees		Green Bin Collection Fees	
	2018	2019	2018	2019*
75	\$84	\$83	-	-
120	\$96	\$96	\$119	\$143
180	\$114	\$112	\$140	\$167
240	\$131	\$129	\$161	\$192
360	\$165	\$163	\$203	\$242

\*On April 23, 2019, Council approved a green bin rate increase effective May 1. For a representative single family home (240L cart) this has increased the collection rate from \$170 to \$201, which has produced a blended rate for 2019 of \$192. This rate increase supports our Green Bin Program and the processing systems required to meet ongoing regulatory requirements in Metro Vancouver for food waste.

[Learn more about the change to green bin rates.](#)

Multi-family residential and commercial properties are serviced primarily under contracts negotiated between the property owner or operator and private sector solid waste materials haulers.

Surplus revenue from commercial tipping fees charged at the VSTS and VLF are transferred at year-end to a Solid Waste Capital Reserve. This Reserve funds Vancouver Landfill closure and post-closure costs.

A Collection Stabilization Reserve is in place to capture excess SWU rate revenue over expenditures. This Reserve is used to help moderate future SWU rate increases.

Links to recent Solid Waste Utility Fees reports containing more detailed financial information are available in Appendix A. The City's annual operating and capital budgets can be found on the [City's website](#).

## APPENDICES

## **APPENDIX A - Resources**

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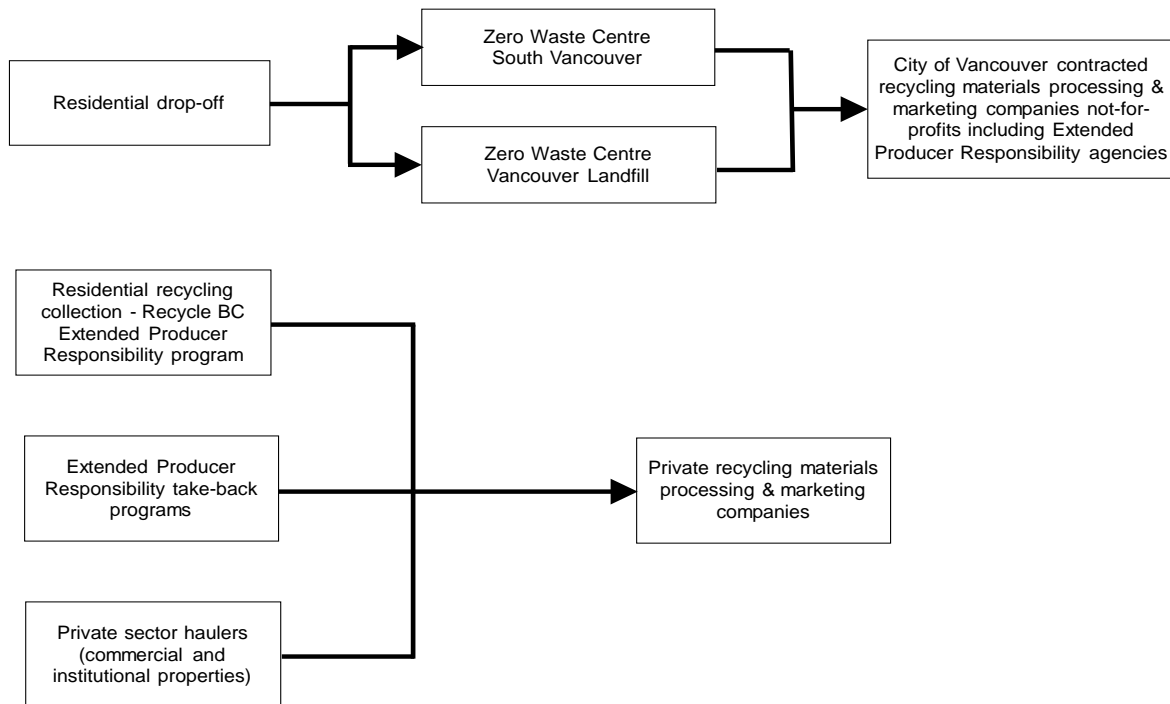
- [2018 Vancouver Landfill Annual Report](#)
- [2019 Vancouver Landfill Annual Report](#)
- [2018 Solid Waste Utility \(SWU\) Fees and By-law Change Report](#) approved by Vancouver City Council December 6, 2017
- [2019 Solid Waste Utility \(SWU\) Fees and By-law Change Report](#) approved by Vancouver City Council December 11, 2018
- [Interim 2019 Solid Waste Utility \(SWU\) Fees Adjustment and By-law Change Report](#) approved by Vancouver City Council April 23, 2019
- [Greenest City Action Plan](#)
- [Zero Waste 2040 Strategy](#)
- [Single-Use Item Reduction Strategy](#)
- [Metro Vancouver Solid Waste Services](#)
- [Metro Vancouver Regional Solid Waste Management Plan](#)
- [Metro Vancouver Solid Waste Services Reports and Studies](#)
- [BC Recycling Regulation](#)
- [BC Organic Matter Recycling Regulation & Guidance \(OMRR\)](#)
- [Recycling Council of BC](#)
- [Extended Producer Responsibility Programs in BC](#)
- [National Zero Waste Council](#)

## APPENDIX B - Materials Flow Summary

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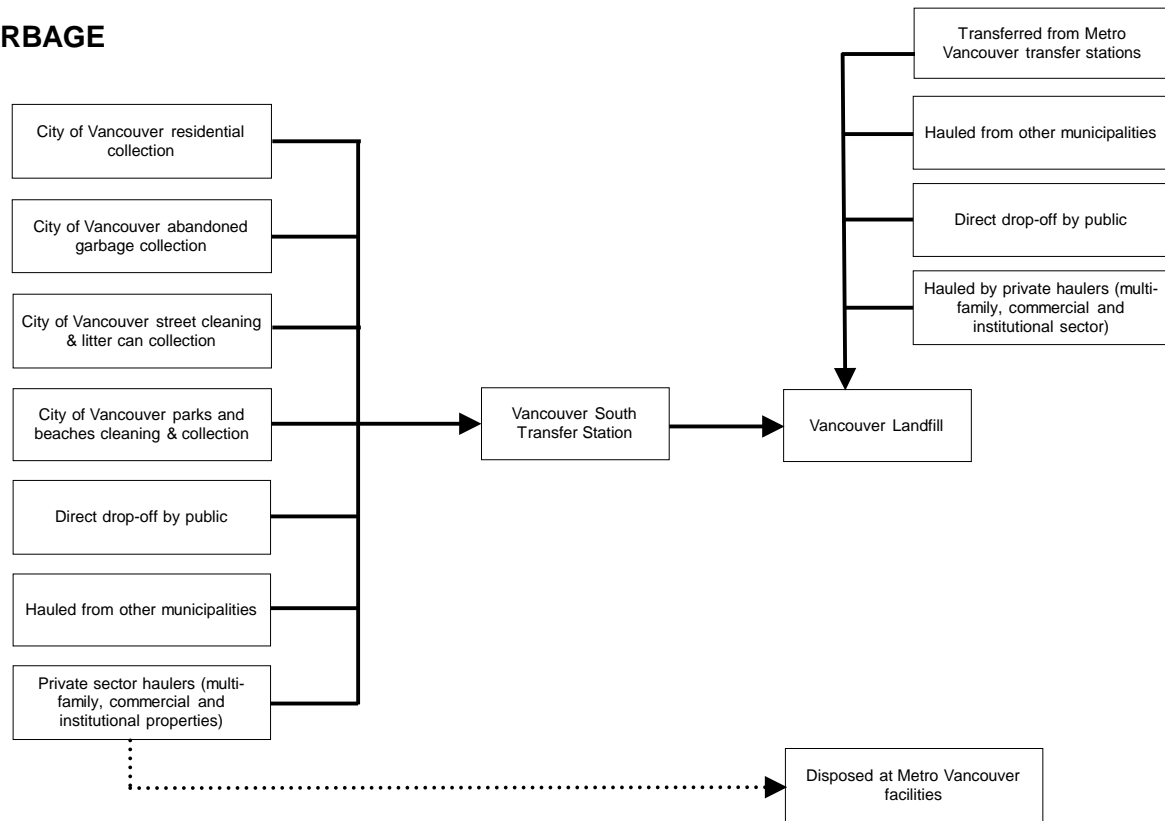
The following charts summarize the flow of common recycling materials, garbage, and source separated organics within Vancouver's solid waste system:

### COMMON RECYCLING MATERIALS

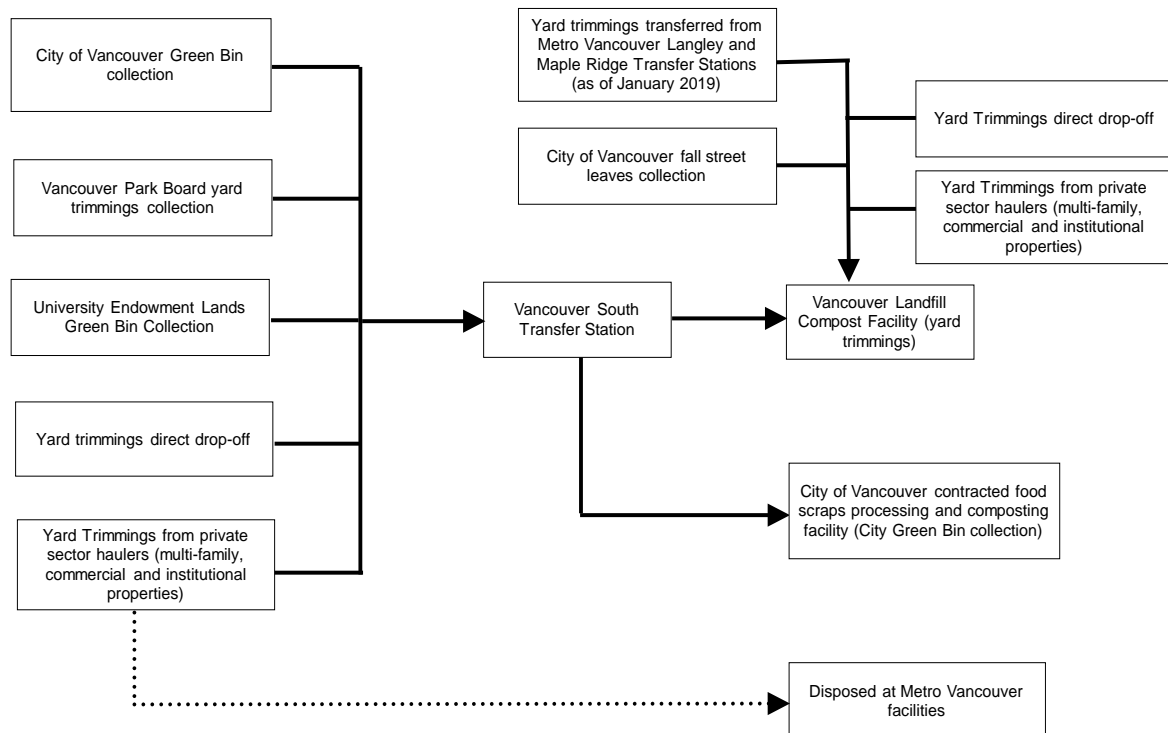




## GARBAGE



## YARD TRIMMINGS & FOOD SCRAPS



## **APPENDIX C - Summary of Notable Accomplishments Prior to 2018**

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### **2017**

#### **Apparel Waste Diversion Planning**

To better understand how to reduce apparel waste in the region, Division staff began work with the Leverage Lab, Metro Vancouver, the Vancouver Economic Commission, and industry. This group worked together to understand why clothing ends up in the garbage, what happens to donated items, how to support reuse and recycling options, and local entities with key roles in these activities.

#### **Construction & Demolition (C&D) Material Recovery Project**

In 2017, a C&D Material Recovery Pilot Project was initiated to establish whether the material received at the Vancouver Landfill can be processed to recover wood waste suitable for use as an alternative fuel for local cement kilns.

#### **Expanded Streetscape Recycling**

To provide more options for on-street recycling, the City piloted larger capacity garbage and streetscape recycling cart enclosure-style receptacles in the Downtown core. The original Recycle BC pilot bins were replaced with new zero waste stations that hold more and are more durable.

#### **Launch of Joint Municipal Regional Disaster Debris Management (DDM) Plan**

The Integrated Partnership for Regional Emergency Management in Metro Vancouver (IPREM) developed a joint municipal-regional plan to outline how debris will be managed, sorted, and disposed in the event of a large scale disaster. The City participated in the development of the plan and in a regional table-top exercise to test the joint DDM plan. The City also began work on integrating the joint DDM plan into existing emergency preparedness plans, and work to update and integrate the plans continues to this day.

#### **Pocket Ashtrays Distribution**

Division staff started distributing free pocket ashtrays at outreach events in 2017. Pocket ashtrays are intended to reduce cigarette butt litter and serve as an on-the-go cigarette butt ashtray and holder which can be reused again. An external outreach team was hired in 2018 to hand out pocket ashtrays during the summer months. Over 3,300 pocket ashtrays were distributed over 17 weekend outings in 2018.

#### **“Put Waste In Its Place” Anti-Litter Campaign**

An anti-litter campaign was developed as an educational tool to reduce litter and abandoned waste. The tag line “Put Waste In Its Place” was used to educate residents about the importance of not littering. The campaign has since expanded on cigarette butt litter as well as a tying in to the City’s neighbourhood cleanup programs. Advertisements on transit and on social media were used for the campaign.

#### **Zero Waste Planning**

Work continued on the development of a long-term zero waste plan for Vancouver with input from staff from across the city, and from stakeholders representing industry, non-profits, academia and other levels of government. Interest in the Division’s zero waste planning work from international solid waste professionals also begins to develop, with invitations for presentations from organizations in Australia, New Zealand and Spain.

## **2016**

### **Introduction of Separate Glass Collection (Grey Box)**

In March 2016, the City introduced a separate glass collection stream to all single-family, duplex and multi-family dwellings that received City recycling collection. The requirement to segregate glass from other container types was a requirement from Recycle BC, and separate glass collection continues to this day.

### **Street-Level Recycling Project in the West End**

In summer 2016, in partnership with Recycle BC, the City installed 31 zero waste recycling stations in the West End and Stanley Park as part of an on-street recycling pilot project. The purpose of the joint City and Recycle BC pilot was to evaluate certain operational aspects of a public space recycling program, such as container design.

### **Recycling Crews Redeployed to Street Cleaning**

In October 2016, Recycle BC took on full responsibility for Vancouver's residential recycling program and the City ended its term as their contracted service provider. This means that taxpayers no longer have to pay a recycling utility fee. This change freed up more staff and resources to work on other important programs that will help the City meet its zero waste and cleanest city goals, including preventing and collecting litter, dealing with abandoned and illegally dumped waste, and other work to help keep the city clean and green.

### **Long-term Zero Waste Plan**

In 2016 work started on the development of a long term strategic plan for Vancouver as a community to achieve zero waste. In the fall of 2016 residents, businesses, non-profit organizations and other levels of government participated in a series of workshops to provide industry expertise and public input for the development of a plan. An external advisory panel was also formed and research began on leading zero waste policies and practices taking place across the world. This work led to the development of the Zero Waste 2040 Strategic Plan.

### **The City Investigates Options for Single-Use Items Reduction**

In 2016, Council directed staff to investigate regulatory options to reduce waste from single-use items that commonly end up as litter and waste in street litter bins: drink cups, shopping bags, take-out food containers, and polystyrene foam cups and containers. Consultation began with a workshop in fall 2016 to identify regulatory options and best practices, and staff conducted research and analysis to report back to Council in 2017.

### **Launch of Dog Waste Collection Pilot**

The City began a dedicated dog waste collection pilot program in several parks in 2016. Since that time, several parks have been added, and the City is continuing to monitor the effectiveness of the program.

## **2015**

### **Solid Waste Management Reorganization**

Following a review of strategic priorities, long-term direction and staff resources, a reorganization of staff was completed in 2015 with the formation of two new branches in place of the Solid Waste Management Branch. Solid Waste Programs Branch now leads the implementation of new programs and supports ongoing program sustainment, including the

Clean Streets Team. Solid Waste Strategic Services Branch now leads long-range planning and provides project management for various cross-divisional projects.

### **Disposal Ban on Food Scraps and Clean Wood**

In early 2015, Metro Vancouver and the City implemented a ban on the disposal of food scraps and clean wood. In preparation for this, most City serviced multi-unit residential buildings had already enrolled in the City's Green Bin Program for organics. The Division also worked with buildings that are serviced by private haulers to start an organics disposal program for their buildings. A regional awareness program led by Metro Vancouver and supported by the City helped spread the word that "food isn't garbage!"

### **Green Demolition By-law**

In December 2015, Council received an update on the green demolition program and endorsed, in principle, an expansion of the by-law requirement to newer homes, incrementally over time, as well as incentives to encourage more deconstruction and reuse. More than 96% of single-family home demolitions have complied with the Green Demolition by-law, with an average diversion rate of 86%, compared to a typical demolition which only diverts around 50%. The by-law has resulted in nearly 10,000 tonnes of material being diverted from landfill in 2015. This plan is focused on smaller wood structures, because large concrete and steel buildings already have good recycling rates.

### **Organic Waste Diversion**

2015 was the three year milestone since the Division started collecting food scraps from residences as part of the Green Bin Program. Staff continued to engage residents throughout the year to promote the Green Bin Program and increase awareness of the organics disposal ban. The program has resulted in impressive results: the amount of food and yard waste collected annually from single-family and duplex homes increased by nearly 75%, garbage decreased by 45%, and nearly all multi-unit residential buildings with City waste collection have access to the Green Bin Program or have alternative diversion measures in place. Businesses are also diverting organics with seven out of 10 businesses that generate food waste reporting the establishment of organics-recycling programs. Division staff continue to contact and educate the remaining businesses about the disposal ban on food scraps, how businesses can comply with the ban and how they can reduce food waste.

### **20<sup>th</sup> Anniversary of Keep Vancouver Spectacular**

The Keep Vancouver Spectacular (KVS) program was established by the City of Vancouver and Tourism Vancouver to empower residents who want to help keep Vancouver clean, green and spectacular. In 2015, the 20<sup>th</sup> anniversary of the program was celebrated, and over 12,000 bags of litter were collected by volunteers with one volunteer alone collecting 560 bags.

### **Free Recycling Drop-Off Events for Electronics**

The Division teamed up with volunteers from the Keep Vancouver Spectacular program, ElectroRecycle and Encorp to set up electronic recycling drop-off events throughout the year. These drop-off events provide a convenient and free option for Vancouverites to recycle their electronics, small appliances, power tools and household batteries. In 2015, over 11,000 electronics and small appliances were diverted from disposal and recycled through the events.

## **2014**

### **Extended Producer Responsibility**

In May 2014 residential recycling collection under a Provincial Extended Producer Responsibility was launched and expanded to include materials such as milk cartons, Tetra Paks, paper cups, ice cream tubs and paper/metal containers such as frozen juice cans. Expanded polystyrene packaging and soft plastics such as plastic shopping bags were later added to the items accepted for recycling at the Vancouver Landfill and South Vancouver recycling depots (2015). City collection of residential recycling continued, but under contract with Recycle BC (formerly Multi-Materials BC), the agency responsible for these materials on behalf of business that produce them.

### **New GreenHUB Facility**

In 2014, the Division supported the planning and opening of the GreenHUB – a collaboration between a private sector recycler and a social enterprise. The new facility processes hundreds of tonnes of recyclables each month and runs its vehicle fleet on biodiesel. The collaboration improves the efficiency of both operations through shared space and resources. This unique pairing of a local business and a social enterprise represents an innovative co-location model for industrial operations in Vancouver. GreenHUB is one of many green businesses now located in the False Creek Flats.

### **Green Demolition Program**

As part of the Heritage Action Plan, the Green Demolition By-Law was approved in June 2014 requiring the diversion of 70 to 90 percent of materials from the demolition of pre-1940 homes. The anticipated waste diverted from disposal is around 6,000 to 9,000 tonnes each year. The plan aims to encourage preservation and renewal of character homes, while increasing the reuse and recycling of materials that hold character value. Across the region, clean wood (lumber and pallets that are unpainted, unstained, free of glue and untreated) makes up approximately 9% of all landfill waste. This program compliments a regional disposal ban on clean wood, planned for implementation in 2015.

### **Green Bin Program for City Serviced Multi-Family Residential Buildings (MURBs)**

The Division expanded the Green Bin Program to about 1,300 MURBs that already had garbage and/or yard trimmings collection service provided by the City. Staff assessed and enrolled each MURB by providing education materials and support to residents. By mid-2015, most of the targeted City serviced MURBs had been enrolled into the Green Bin Program.

### **Organic Waste Diversion Plans Required for All Buildings**

Council approved by-law amendments to require all buildings and businesses in Vancouver to implement an organic waste diversion plan starting Jan 1, 2015. The by-law is aimed at addressing MURBs and commercial properties not receiving City green bin service, in preparation for an organics disposal ban. The by-law also provides flexibility on how buildings and businesses can comply with the requirements.

## **2013**

### **Weekly Green Bin and Biweekly Garbage Collection**

Starting in May, 2013, the garbage and organics collection schedules for single family and duplex homes across the city were shifted to weekly green bin collection and bi-weekly garbage collection to further increase organic waste diversion. The amount of garbage produced by

those properties dropped by approximately 40 percent, and amount of green bin material collected increased approximately 60 percent. In the first full year of this program change, an unprecedented 39,000 tonnes of green bin material was diverted from disposal and used to produce compost.

### **Cigarette Butt Recycling Program**

The Division partnered with a recycling organization in a pilot project to collect and recycle cigarette butts in late 2013. The first of its kind in the world, this program cut down on toxic litter on city streets, while creating green jobs for people with barriers to employment. The City subsequently took over the program. Approximately 100 receptacles were installed throughout Downtown, with more than 200,000 butts collected in the first six months of the program.

### **Binner-Friendly Public Recycling Receptacles**

The binning community plays an important role in decreasing the amount of garbage disposed that could otherwise have been recycled. Public recycling receptacles were designed to allow easier access to refundable drinks containers for bidders, thanks to a partnership with Encorp Pacific and with input from United We Can. This program began in 2013 with 60 receptacles and another 100 were installed later in the year. Results show that with the new receptacles, 94 per cent fewer recyclable drinks containers go in the garbage.

## **2012**

### **Deconstruction Permit Program**

Pilot work initiated in 2011 helped inform the development of a voluntary deconstruction permit program for houses and duplexes, which was introduced in February 2012 to encourage deconstruction as an alternative to demolition. The benefit to industry is that the permit is issued faster than a demolition permit, and allows enough time for deconstruction and site preparation before building begins. The Division assisted staff from other Departments in the development and implementation of this program.

### **Expanded Food Scraps Recycling for All Properties**

In March 2012, the Division started a food scraps collection pilot for low-rise multi-family buildings. Work also included best practice research and collaboration with garbage collection companies. The pilot and research results helped shape a food scraps recycling strategy for all multi-family buildings in the city. Strategic options for diverting food scraps from commercial properties were also developed. On September 11, 2012, the City expanded full-food scraps recycling collection service to all single family and duplex homes citywide. Most multi-family residential, commercial and institutional buildings are serviced by private waste haulers. Accordingly, the City developed strategic options for these sectors in anticipation of a region wide organics disposal ban planned for 2015.

### **Extended Producer Responsibility**

The Division continued to provide input to the Province on the development of a new Extended Producer Responsibility (EPR) program for printed paper and packaging, as well as EPR programs for other products. As of October 2012, residents and businesses can recycle electronics including: TVs; computer equipment; small appliances; power tools; electric toys; lawnmowers; cell phones; and more. EPR programs also exist for hazardous waste, pharmaceuticals, beverage containers, tires and more.

## 2011

### **Deconstruction Pilot**

The Division supported a project whereby the City partnered with industry on a deconstruction and green jobs pilot project to deconstruct two homes in Vancouver and demonstrate the social, environmental and economic benefits of this approach. The project provided green jobs training for at risk youth and diverted 93 percent of all building materials from disposal (about 80 tonnes from each house).

### **Food Scraps Recycling Pilot for Single-Family and Duplex Houses**

In September 2011, the Division started the collection of all food scraps (including cooked foods, meats, fish, dairy, grains, etc.) with yard trimmings in the City's Green Bin Program, starting with 2,000 homes in the Riley Park and Sunset neighbourhoods. The new service tested several education approaches, and a switch in green bin service to weekly from bi-weekly and garbage collection to bi-weekly from weekly for the purpose of driving participation.

### **Food Scraps Drop Spot Program**

To give apartment and multi-family residents an early opportunity to recycle food scraps, the City provided a Greenest City Neighbourhood Grant to the Vancouver Farmers Market Society to run a food scraps drop spot at the West End Farmers Market. The drop spot received over 2,000 drop-offs and diverted over five tonnes of food scraps in the summer and fall of 2011.

### **Extended Producer Responsibility**

The Division helped shape the Province's development of a regulation requiring industry to develop an Extended Producer Responsibility program for all packaging and printed paper by May 2014, creating recycling opportunities for items collected in the residential Blue Box program.

### **Adoption of the Greenest City Action Plan**

Council adopted the Greenest City Action Plan in 2011, a strategy for putting Vancouver on the path to becoming the greenest city in the world through measurable and attainable targets. The plan includes a long-term goal of achieving zero waste, and set a 2020 target of reducing solid waste sent to landfill and incinerator by 50% from 2008 levels. The plan also includes priority actions for reducing waste and increasing diversion of litter and different waste streams such as organics and wood waste.

For information prior to 2011, refer [here](#).



## **APPENDIX D - 2018 Solid Waste Outreach and Planning Team Annual Report**

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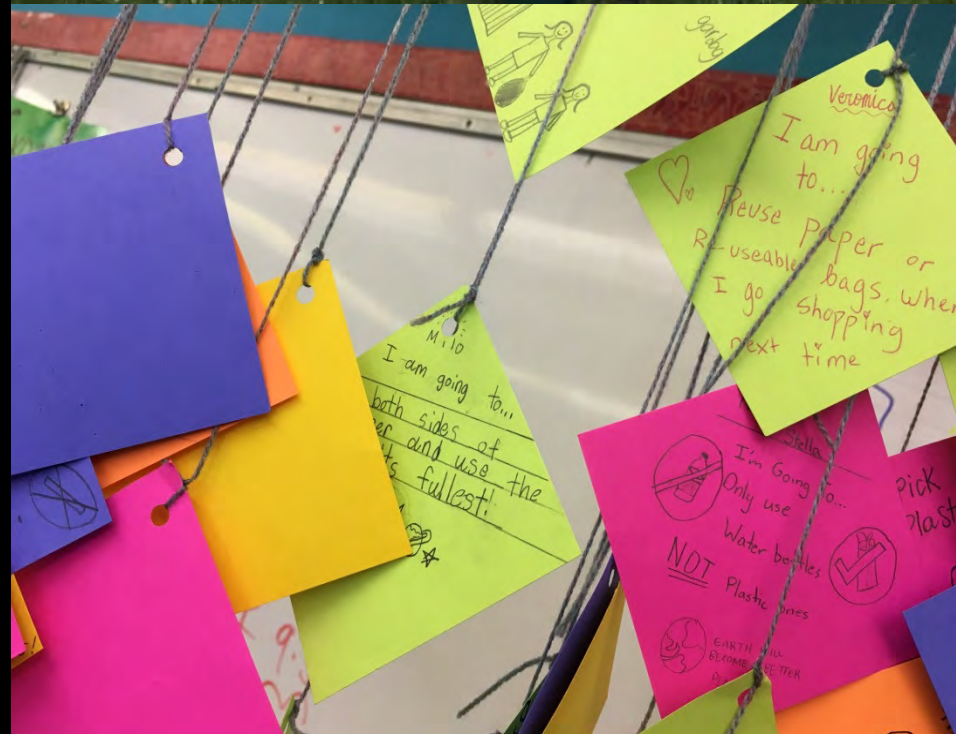


## 2018 Solid Waste Outreach and Planning Team Annual Report

Solid Waste Programs Branch

City of Vancouver

January 2019



## Background

As the City of Vancouver embarks on becoming the Greenest City in the world and a zero waste community, public education is being recognized more prominently as an integral part in achieving success.

Solid Waste Programs Branch has a dedicated team of staff who are focused on raising awareness and providing education on various solid waste programs and initiatives to the general public. The overarching objectives of the outreach and planning team include:

- Increase awareness on waste management and street cleaning programs and initiatives
- Build up waste literacy of the general public, especially students and newcomers to the City
- Collaborate internally with other branches and departments and externally with like-minded groups and organizations
- Foster positive and sustainable behavior changes towards waste
- Raise branch/division profile by continual promotion of various programs and by celebrating success stories
- Ensure the public understands and complies to regulations and bylaws

Work within the team can generally be categorized into the following four main groups:

- 1) Organics Diversion/Green Bin Program
- 2) Neighbourhood Cleanup Volunteer Program
- 3) Outreach and Education
- 4) Planning and Partnership

This document provides an overall summary of progress and achievements made by the team in 2018 and upcoming work and initiatives planned for 2019 and beyond.

## 1) Organics Diversion/Green Bin Program

- a) Organics diversion plan compliance check & outreach
  - Compliance check using business license data was on hold for the most part in 2018 due to resource constraints as well as issues with regional organic processing capacity in early 2018.
  - Staff continued to address complaints from the public related to lack of organics plan at specific buildings.
  - On average, the number of 311 calls related to organics and the green bin program in 2018 was about 27 calls per week. This is down from 33 calls per week in 2017 and a high of 94 calls per week in 2015 (during the first year of the organics disposal ban). Majority of the calls are resolved by 311 CSR.
- b) City Green Bin Program
  - 311 and Sanitation Services directed Staff with 13 requests from MURBs who want to join the Green Bin program. 10 were approved and enrolled.
  - Overall, 99.6% (1,338) City Served MURBs have access to the Green Bin program or use alternative measures to divert organic waste.
  - In recent years, overall green bin tonnages have shown a slight decreasing trend while garbage tonnages have shown a slight increasing trend. There are a number of contributing factors, some of which are more controllable by the City (e.g. stagnation with participation, awareness of program, etc.) than others (e.g. population growth). Staff will continue to monitor and see if an actual trend develops.

### Looking Ahead in 2019:

- Focus on getting bylaw compliance with the remaining City Service MURBs without green bin access.
- Explore the option to offer on-site lobby talks or presentation to problematic MURBs to re-educate residents about how to properly use the green bin.
- Review and update the Green Bin program webpages and education materials accordingly.
- Continue to leverage use of the business license

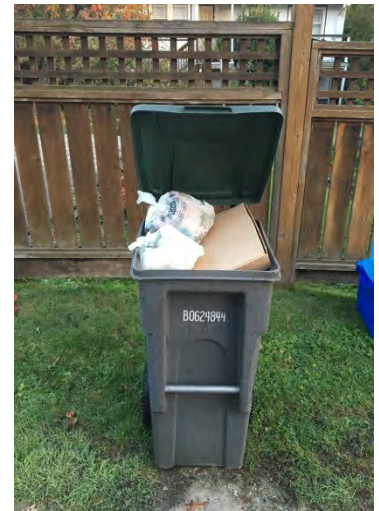
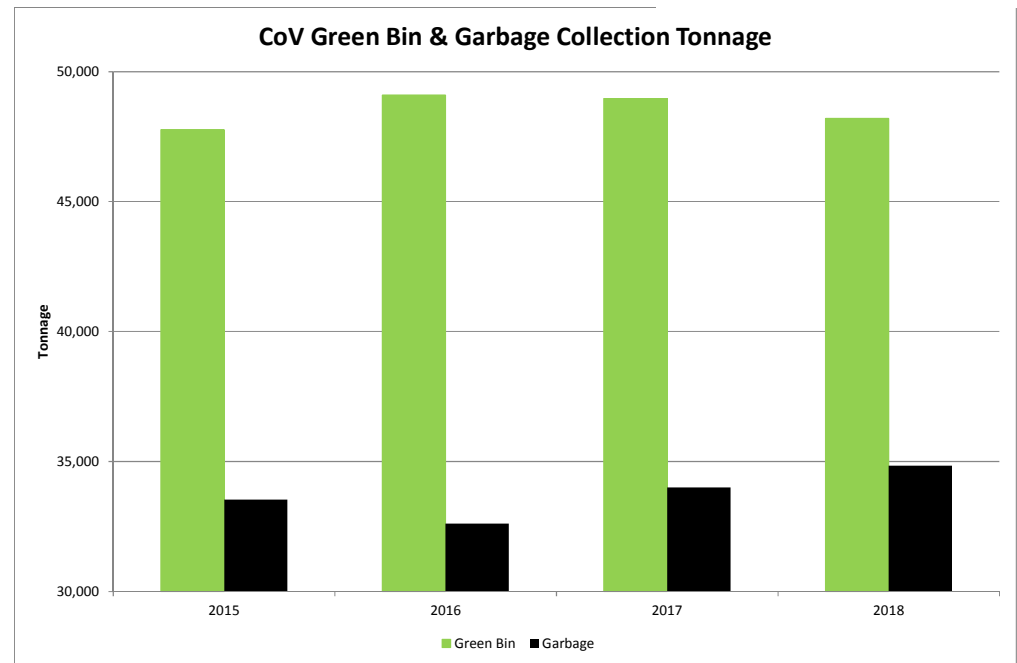


Figure 1 - Green Bin with Plastic Bag Contamination



- database and general public complaints to ensure compliance with regulation and bylaws.
- Explore ways to help reduce use of plastic and compostable plastic bags.
- Work with Streets Activities to target mobile food vendors who are not meeting their waste management requirements as outlined in their vending permits.
- Possibly work with the single-use item reduction group to provide passive outreach to food distribution businesses when the plastic straws and polystyrene cups/take-out containers distribution ban comes into effect.

## 2) Neighbourhood Cleanup Volunteer Programs

### a) Progress and Achievements

- Rebranded Keep Vancouver Spectacular to Neighbourhood Cleanup Party
- Continued to grow partnership with Great Canadian Shoreline Cleanup
- Partnered with Tourism Vancouver for the kickoff event in downtown
- Recognition event hosted over 100 volunteers at City Hall
- Reviewed and streamlined the registration process and improved use of the Better Impact volunteer database
- Use Community Policing Centres and City Farmer as satellite locations for volunteers to pick up cleanup supplies



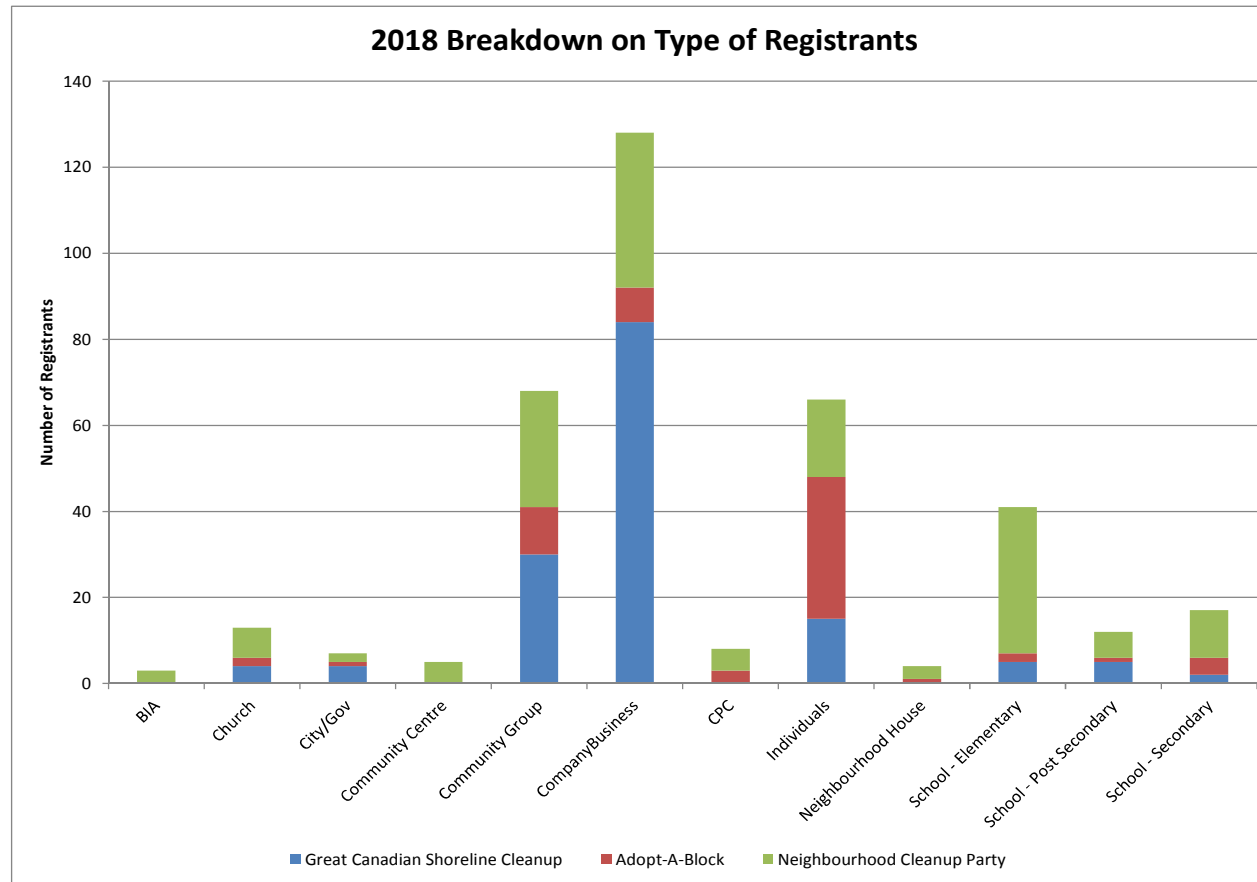
Figure 2 - Staff and Volunteers at Kick-Off Event

### b) Results

	Adopt-A-Block	Neighbourhood Cleanup Party	Great Canadian Shoreline Cleanup	TOTAL
# of Cleanups	1,955 (+254%)	222 (+11%)	159 (+563%)	2,336 (+201%)
# of Volunteers	7,579 (+60%)	13,145 (+11%)	4,410 (+512%)	25,134 (+27%)
# of Volunteer Hours	7,053 (+174%)	27,218 (-8%)	10,531 (+634%)	44,802 (+63%)
# of Registrants	68 (+79%)	157 (-15%)	149 (+521%)	374 (+52%)
# of Blocks Cleaned	4,697(+37%)	1,346 (-24%)	717 (+262%)	6,760 (+25%)
Percentage shown in parenthesis indicates changes compared to 2017				

- Overall, there is growth in all major categories being tracked. This can be attributed to a number of reasons such as continued growth of the program, change in brand image, better tracking process to ensure metrics are accurate and reliable, etc.

- There is significant jump in the number of cleanups, mostly contributed by the Adopt-a-block program and the partnership with Great Canadian Shoreline Cleanup.
- As shown from the chart below, in terms of groups registering for cleanups, Great Canadian Shoreline Cleanup is now contributing a significant percentage to the overall number of groups registered. This trend will and should continue to grow
- The largest types of registrants are businesses groups, individuals, community groups and schools.
- Staff will continue to monitor the stats generated by the various sub-programs to see if there is a trend





### Looking Ahead for 2019:

- Encourage more BIA, CPC, and schools to join the cleanup programs. Seek out other groups who would be good fit for the program
- Create a map to show the locations of all the cleanups
- Explore implementing fall leaf cleanup party as a seasonal program. Instead of litter, volunteers can remove fallen leaf from the street around their neighbourhood
- Implement an internal department challenge as part of the kick off program in the spring to drum up interest and participation amongst City staff
- Continue to explore different partnerships with different groups to expand the program (e.g. Butt Touchers, libraries, Vancouver Aquarium)
- Link cleanup program more prominently to cigarette butt litter and ocean plastics reduction

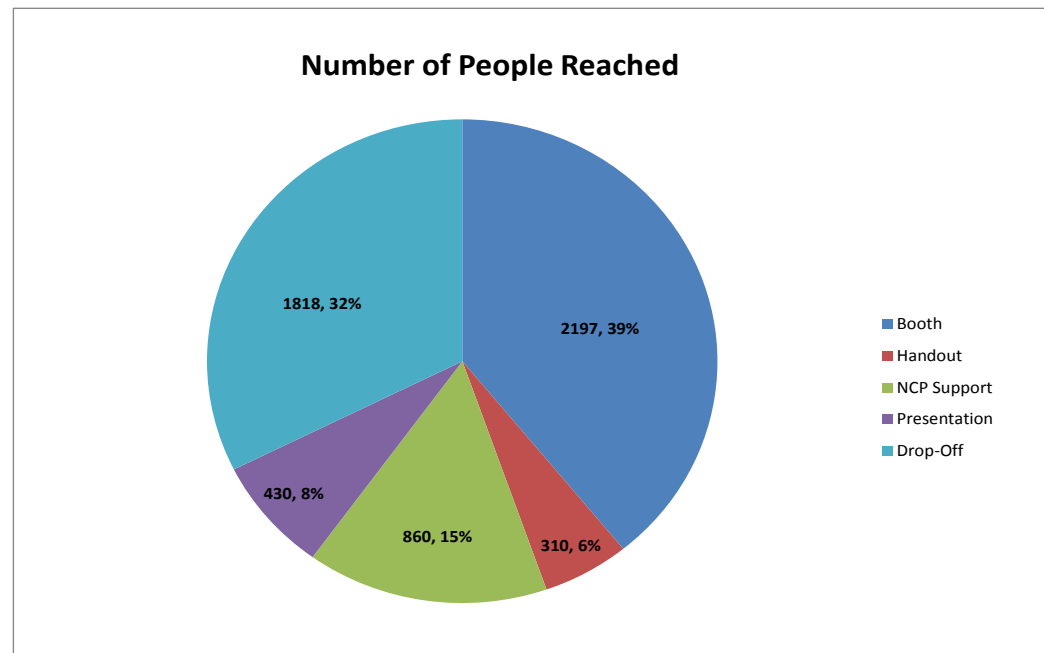
## 3) Outreach and Education

### a) Public Outreach

- Solid waste staff attended 32 events in 2018 ranging from hosting education booth at special events and presenting at schools to handing out pocket ashtrays and providing support at major cleanup events
- About 3,800 individuals were reached as part of this outreach work
- Staff at these events relay key messages about existing and upcoming programs, educate the public through interactive games, and provide giveaway to promote behaviour change

### b) Zero Waste Place

- Elements Society was hired to provide zero waste workshops for elementary and secondary classes for 2 years (with extension option of another 2 years)
- Staff and Elements Society co-developed the workshop during the summer in time to roll out the program for the current school year (2018-2019)
- The workshop was name Zero Waste Place to represent all locations that students live and learn at





- For the first year, Elements Society will offer the workshop to grade 5 classes with the aim of expanding the workshop to other grades in subsequent years
- Each registered class will receive 2 workshops along with pre and post workshop activities provided to the teachers. Students are encouraged to take on a waste related project after the 2<sup>nd</sup> workshop
- It is estimated about 170 workshops will be delivered to 85 classes and will reach over 2,000 unique students during the first year. The following table shows workshop related metrics up to the end of 2018

# of workshop 1 delivered	33
# of workshop 2 delivered	28
# of unique students participated	830
# of student participation in all workshops delivered	1,551
# of schools with workshops delivered	15

c) DreamRider School Plays

- DreamRider conducted 41 plays between April and May 2018
- Over 7,800 students and 390 teachers saw the Clean Up Your Act play which focuses on littering, vandalism, and graffiti
- DreamRider will perform both the Clean Up Your Act and Zero Heroes school plays in 2019. They will also trial 10 Planet Protector Academy classroom program targeting grade 3 and 4 classes

d) Waste Reduction Week (Oct 15-21, 2018)

- Due to the 2018 election, staff was only able to initiate an internal campaign
- Staff hosted education booth at 3 different work locations on 3 separate days and reached about 70 staff
- A “mugshot” campaign to encourage staff to use reusable mugs or drink cups was launched as part of the waste reduction week outreach. Over 90 staff participated in the photo submission
- Staff also partnered with Vancouver Public Library to set up book displays about waste



Figure 5 - Staff Promoting the "Mugshot" Campaign



Figure 3 - Students Collaborating during Zero Waste Place Workshop



Figure 4 - Library Display for Waste Reduction Week

reduction and a reusable cup draw. 12 branches participated.

e) Anti-Litter/Cigarette Butt Litter Reduction Campaign

- An external outreach engagement team was hired to educate the public on the street about cigarette butt litter. During the summer, the street team conducted 17 weekend outings and distributed over 3,300 pocket ashtrays
- An abandoned mattress (Matty) and a cigarette butt (Ashley) mascot costumes were created for the purpose of raising awareness about littering
- City continued to run the Put Waste in its Place campaign ads on buses and skytrain, transit shelters, and social media outlets.
- Social media ads on Facebook and Instagram resulted in close to 216,000 post engagement actions (commenting, sharing post, viewing pictures/videos, clicking a link)

*Looking Ahead for 2019:*

- Continue to find opportunities to showcase various solid waste programs at events that are suitable to attend
- Continue to refine Zero Waste Place with the aim to expand to grade 9 classes by next school year (2019-2020). Look at opportunities to support teachers and students after the workshops to sustain behavioral changes. Also explore opportunities to educate the teachers
- Work with DreamRider to ensure equal opportunities are provided for all schools in the City to register for the plays
- Expand the 2019 Waste Reduction Week program to include an external outreach component. Long term goal is to grow the program such that the general public is as familiar with this program as Bike to Work Week.
- Trial various initiatives to reduce cigarette butts on the street including 3D ads at bus shelter, pocket ashtray dispensers at various locations (library, community center, schools, etc.)
- Find more use of the mascot costumes to raise public awareness about cigarette butt and abandoned garbage
- Explore feasibility of gathering a pool of external volunteers to help with outreach at community center or other locations to educate the public (i.e. ambassador program)
- Explore the option of a City led certification program for students. This could link all the outreach initiatives together while providing the necessary information for students to become waste experts



Figure 6 - Ashley and Matty

#### 4) Planning and Partnership

##### a) Reuse & Recycling Drop-Off Event

- 9 events were held in 2018 and over 1,800 residents attended
- Over 43 tonnes of electronics, small appliances, computers & peripherals and over 13 tonnes of textiles were collected at these events. The total weight collected was the highest recorded
- Over 230 students and volunteers helped out at the drop-off events
- City partnered with Mattress Recycling to accept car seats at the events on a trial basis. Over 540 car seats were collected from 7 events. The collected car seats are disassembled and recycled
- Formal agreements were created and signed with both event partners (Salvation Army and Free Geek)
- Donated left over items from the event that have been disposed of as garbage to organization in need



Figure 7 - Student Volunteers helping out at a Drop-off Event

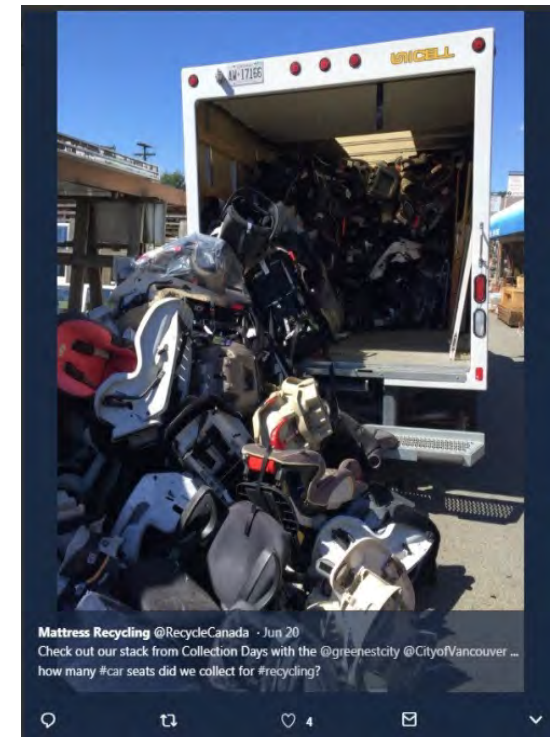
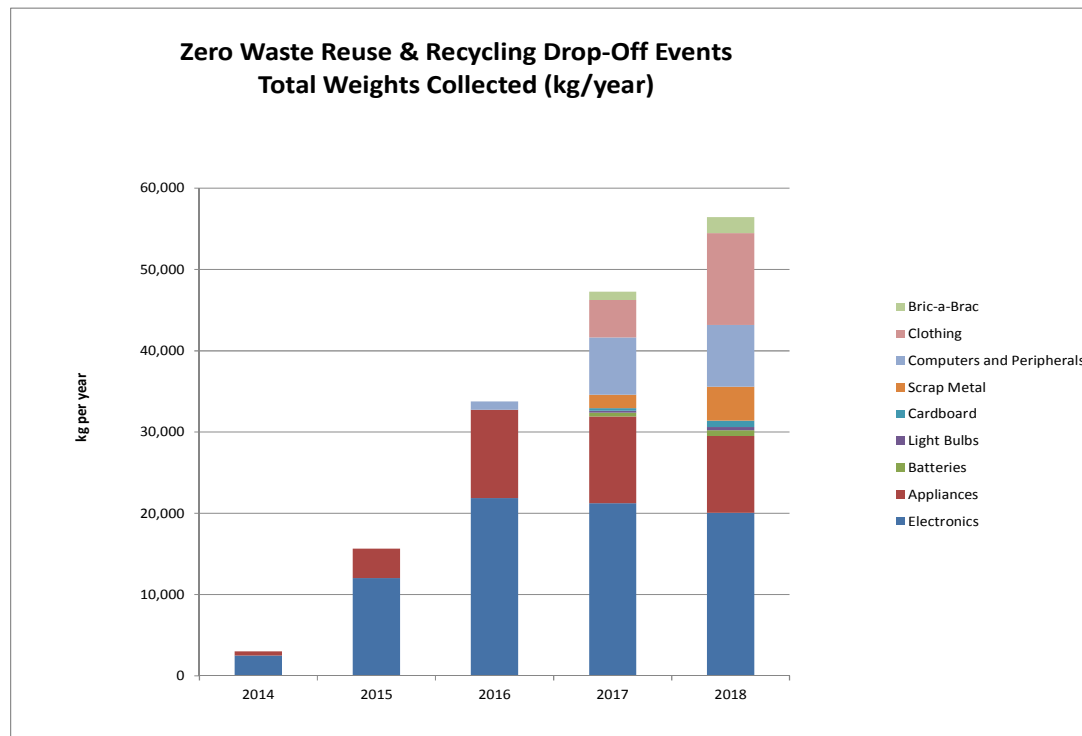


Figure 8 - Car Seats collected from a Drop-off Event



b) City Studio

- Staff worked with a SFU class to explore options on what a Zero Waste Ambassador program could look like in Vancouver
- Staff is working with City Studio and Emily Carr University on a public waste disposal etiquette project slated for early 2019

c) City Farmer

- Installed a bulletin board adjacent to the Arbutus Greenway entrance as a conduit to relay solid waste program information to the public
- Staff passed on key messages related to food waste reduction and neighbourhood cleanup party for City Farmer's educators to use when presenting at schools or at special events
- By slowly adding different solid waste layers to City Farmer, the aim is to transform the Demonstration Garden into a hub showcasing various zero waste initiatives instead of just composting



Figure 9 - Zero Waste Bulletin Board at City Farmer

*Looking Ahead for 2019:*

- Trial a series of repair workshops with external partners throughout 2019
- Continue to seek opportunities to donate left over items from the drop-off events to other organizations who may need them
- Use the artworks developed through the City Studio/Emily Carr etiquette project into an ad campaign for bus shelters and social media use
- Expand partnership with VPL to assist in promoting programs. This could include more displays and draws on specific days, pocket ashtrays dispensers, zero waste talk, and movie nights
- Work with TLO and external partners to align the landfill tours with Zero Waste Place
- Enhance partnership with Sanitation to raise the profile of solid waste work to the public
- Expand partnership with City Farmer and Arbutus Greenway team and leverage use of the Arbutus Greenway audience. This could include zero waste talks or events held at City Farmer. Target groups to adopt and clean sections of the Greenways
- Explore various partnership with external groups, including SUCCESS and MOSIAC to co-develop a series of zero waste talk for newcomers to the City
- Explore partnership with VIVA and artist in residence on arts project related to solid waste
- Explore opportunities to get business owners to pitch in and help keep their store front and sidewalk clean.
- Explore external partnership opportunities with the Vancouver Aquarium on ocean plastics and littering

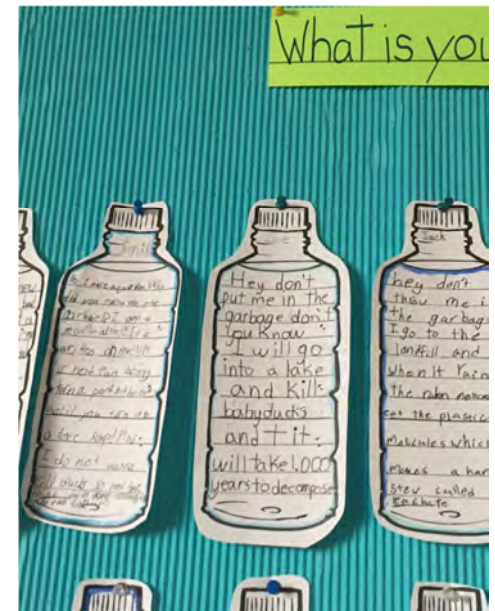


Figure 10 - Pre-Zero Waste Place Workshop Activities by Students