

DILLON
CONSULTING

CITY OF VANCOUVER

Street Litter Audits

2023 Results



November 2023 – 23-6461



November 15, 2023

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Street Litter Audits – 2023 Results

Dillon Consulting Limited is pleased to present the City of Vancouver with the 2023 street litter audit results. This report summarizes the information collected during the street litter audits that took place September 5 to 8, 2023, providing an overview of the current accumulation and composition of litter at 124 pre-selected City of Vancouver litter site locations. These results have been compared to the following audits completed in previous years:

- Average of the audits from 2015 (baseline) to 2019;
- Average of the audits in 2020 and 2021 (pandemic influence); and,
- Audit in 2022.

Thank you for the opportunity to assist you once again with this important assignment. We look forward to discussing this report with you and supporting your ongoing litter and waste management initiatives.

Sincerely,

DILLON CONSULTING LIMITED

A handwritten signature in black ink, appearing to read "Klaryssa Lawrie".

Klaryssa Lawrie, EP
Associate, Project Manager

Our file: 23-6461

KML:kml

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Executive Summary

The City of Vancouver (City) retained Dillon Consulting Limited (Dillon) to conduct the City's eighth round of street litter audits since the 2015 initiation (baseline), at 124 pre-selected locations within Vancouver. Since the baseline there have been several revisions to sites and categories. These revisions have been provided in Appendix A and are not discussed in detail within the body of this report.

This year's audits took place from September 5 to 8, 2023. One hundred and twenty-four (124) of the predetermined sites were audited with the purpose of providing a 'snapshot' assessment of the composition and amount of accumulated litter present on the streets of Vancouver. Two types of litter were assessed:

- Large Litter – Any litter that is equal to or larger than four square inches; and,
- Small Litter – Any litter that is smaller than four square inches.

Within each site, a site survey and assessments on large litter and small litter were completed. An additional assessment, referred to as a 'supersite' evaluation, was completed at 21 of the pre-selected sites (approximately 1 out of 6). The purpose of the supersite audit is to provide a comprehensive review of small litter accumulation and help the City expand its knowledge on small litter type and occurrences. As this process is quite time consuming and labour intensive, it is not completed at all of the sites.

Fourteen sites in 2023 were situated immediately adjacent to active construction. In the analysis, these fourteen sites were removed and analyzed separately.

Overall, the 2023 litter audit key findings were as follows:

- Forty-one percent (41%) of sites were given a cleanliness index ranking of 2; and,
- An additional 49% were ranked as a 1, for **a total of 90% of sites either having no noticeable litter or only noticeable litter in certain areas.**

The specific key findings for the large litter assessment were as follows:

- In 2023, items within the primary large litter categories were identified by the different material composition types. The largest material type observed was paper (44%), followed by plastic (34%) and household hygiene (6%).
- **Overall, there was a 42% increase in the average number of large litter per site observed in 2023** compared to the average of 2015 through 2019, a 45% increase from the average of the 2020 and 2021 audit, and a 43% increase from the 2022 audit.
- The most common secondary categories were 'other miscellaneous' (31%), paper/fibre materials (18%), and cups (8%). Photos of 'other miscellaneous materials' are provided in Appendix C.

- The most common tertiary categories of large litter observed were miscellaneous paper and non-brand towels/napkins. Both categories represented 11%, respectively, of all large litter surveyed in 2023.
- Of the 1,579.5 pieces of large litter audited, 4% were personal protective equipment (PPE) and other medical waste-related items (disposable masks, gloves, and disinfecting wipes).
- There were two sites that had no large litter accumulation at all.
- Within the fourteen sites that were immediately adjacent to construction, the average number of large litter items per site was 18.4 pieces of litter. This was, on average, 28% more large litter than the sites that did not have construction directly adjacent (at 14.4 pieces).
- Single-use Items (SUIs) targeted by Vancouver's bylaws to reduce SUIs (shopping bags, disposable cups, foam cups and take-out containers, plastic straws, and utensils) made up 14% of all observed large litter items in 2023.
- The largest observed SUI category was disposable cups (non-foam) which accounted for 8.9% of all observed large litter items, overall.

The key findings of the small litter assessment include the following:

- The most common categories of small litter observed were paper (33%), cigarette butts/debris (25%) and plastic film (15%).
- Overall, in 2023, there was a 12% decrease in the small litter observed from the average results observed in 2015 to 2019, a 11% decrease from the average results observed in 2020-2021, and a 28% decrease from the 2022 audit.
- Within the fourteen sites that were immediately adjacent to construction, the average number of small litter items per site was 6.6 pieces of litter. This was, on average, 6% more small litter than the sites that did not have construction directly adjacent (at 6.2 pieces).
- There were eighteen sites that had no small litter accumulation whatsoever.

The key findings of the supersite (21 Sites) assessments were:

- **The most common categories of small litter observed were chewing gum (35%) and cigarette butts/debris (34%) which accounted for a combined 69% of all small litter observed on the supersites.**
- The average number of small litter items per site was 218.0 pieces of small litter. This was less than the average pieces observed in the previous litter audits.
- The total small litter audited in the 2023 supersites was 4,578 pieces.

Introduction

The City of Vancouver (City) is home to over 660,000 residents across an area of 114 km². In 2018, the City developed a Zero Waste 2040 Strategic Plan (Plan) which establishes a vision to be a zero-waste community by 2040. The Plan identifies various community directions and City actions needed to shift toward a zero-waste future state. The Plan identifies a priority action to 'Implement a Single-Use Item Reduction Strategy (Strategy)'. The objective of the Strategy is to reduce the use of plastic and paper shopping bags, expanded polystyrene foam take-out containers and cups, disposable hot and cold drink cups, take-out food containers, and single-use straws and utensils. The [Vancouver Single-Use Item \(SUI\) Reduction Strategy](#) was created through consultation and input of over 8,000 people from October 2016 to April 2018, with actions to 2025.

Many of these SUIs are identified in this and previous litter audits. The Strategy has resulted in SUI bylaw adoption legislating bans, requirements for businesses, and additional actions that (among other priorities) are intended to minimize litter and garbage resulting from single-use items. Starting January 1, 2020, a Single-Use Item Bylaw came into effect. As part of the bylaw, the following bans and actions came into effect. They are as follows:

- A ban on plastic and compostable plastic shopping bags, fees on paper and new reusable shopping bags;
- A plastic straw ban unless required due to accessibility issues;
- A by-request requirement for single-use utensils; and,
- A ban on foam cups and foam take-out containers.

Ongoing street litter audits are a valuable means to monitor progress towards the goal of reducing street litter and abandoned garbage in public spaces. The City has been conducting litter audits since 2015, when a baseline assessment was completed. The baseline sites were audited with the purpose of providing a 'snapshot' assessment of the composition of the accumulated litter present on the streets of Vancouver. Types of litter were classified into 2 categories:

- Large Litter – Equal to or larger than 4 square inches; and,
- Small Litter – Smaller than 4 square inches.

Follow-up audits have been completed for years 2017 through 2023 for comparison. Since the 2015 baseline assessment, additional sites and material categories have been included in the follow-up audits. Details on the year-to-year revisions to sites and/or categories are provided in Appendix A.

The Cleanliness Index, developed by Dillon in partnership with the City, is a parallel project with similar objectives. To date, two Cleanliness Index surveys have been completed by the City. Methodology of the litter audit was amended slightly in 2020 to ensure consistent terminology regarding initial visual assessment/rankings of sites.

This year marks the eighth round of litter audits completed by Dillon for the City.

The main objectives of the street litter audits include:

- A detailed analysis of large litter items within the survey area;
- A detailed analysis of small litter items that fall within three small subsections of each survey area; and,
- A detailed analysis of small litter items in ‘supersites’ found within the entirety of 21 of the survey sites.

Analysis and reporting of results with a focus on a comparison to:

- The baseline and previous years’ results, both Covid (2020 to 2022) and pre-Covid (2015, 2017 to 2019); and,
- 2022 results.

2.0 Methodology

This section of the report provides a brief overview of the street litter audit methodology. The detailed methodology is provided in Appendix C.

2.1 Conducting the Litter Audit

Dillon staff followed the same standard litter audit methodology used in the 2015, and 2017 through 2023 audits. Areas were measured to be 200 feet x 18 feet, whenever possible. When an audit area was full sized (i.e., 200 feet x 18 feet), it was termed a “fixed site”. The site width may have been less than 18 feet in certain cases. This included scenarios such as when residential property lines exist or when a commercial storefront was less than the prescribed distance. In these cases, each site was 200 feet in length by the available width. These sites are termed “variable sites”.

From the beginning of the pre-selected site, the team used a measuring device to measure 50 feet ahead of the start of the site. Using a temporary marking method (e.g., pylons), a mark was made on the pavement to denote the starting point of the pre-selected audit site. From this point the team used a measuring device to measure 100 feet, marking the roadway with another temporary identifier to show the mid-point of the site. A final measurement of an additional 100 feet denoted the end of the audit site.

The width measurements were taken at the start, midpoint, and end of the site. The width of the site was measured 1.5 feet from inside the curb or the start of the pavement, towards the outer edge of the site. The maximum width was 18 feet and marked to indicate the boundary.

2.1.1 Site Survey

Before any litter audits were initiated, a site survey was completed. During the site survey Dillon staff recorded relevant information about the litter site and the surrounding vicinity. Information collected on these forms included:

- Date and time;
- Audit team;
- Site identification;
- Audit area size;
- Characteristics and type of adjacent road;
- General attributes of the area;
- If the site was immediately adjacent to construction; and,
- Cleanliness Index Rating.

A detailed overview of the Cleanliness Index (CI) rankings is provided in Appendix C. Large litter material category examples are also provided pictographically in Appendix C.

2.1.2 Classification of Large Litter

To maintain consistency with the previous litter audits, large litter was defined as any litter that was greater than or equal to 4 square inches in size. In order to assist the team completing the audit, a template was created to illustrate what 4 square inches equated to in multiple shapes (Appendix C). Large litter audits took place throughout the entire site. A first and second pass was completed on the site and litter observed was recorded on a large litter data form (Appendix E). An average number of litter items for the first and second passes were used as the value for the amount of large litter observed on a site. There was a total of 128 large litter tertiary categories. These categories are provided in Appendix E with the large litter data form.

2.1.3 Classification of Small Litter

Small litter was defined as observed litter that was less than 4 square inches in size. The small litter audit involved examining three sections within the audit site. Dillon staff constructed a small litter frame using PVC plastic tubing measuring one foot wide and six feet long to serve as the template. Up to three consecutive “flips” of the template frame were completed to cross the 18-foot boundary of the site. The litter auditor observed and counted all of the small litter contained within the template at three locations within each site: at the start, midpoint and end of the site. All data was recorded on the small litter form provided in Appendix E. This form also describes the 26 small litter categories used in the litter audits.

2.1.4 Supersite

The supersite audits involved having Dillon staff record *all* the small litter observed within the fixed or variable site for a more thorough assessment of small litter. This was accomplished by having one team member record data while the other is counting small litter within the site. Supersite audits were completed at 21 pre-determined sites as selected by the City. Supersite evaluation forms and categories are additionally provided in Appendix E.

2.1.5 Photographic Record of the Site

During the site survey, the litter audit team took photographs of the site from three points. The first photograph was taken from the beginning of the site looking towards the end of the site. The second photograph was taken from the mid-point of the site looking into the site (towards the boundary from the road) and the final photograph was taken from the end of the site looking towards the start. Photo 1 to Photo 4 provide an example of the photographs taken at each site.

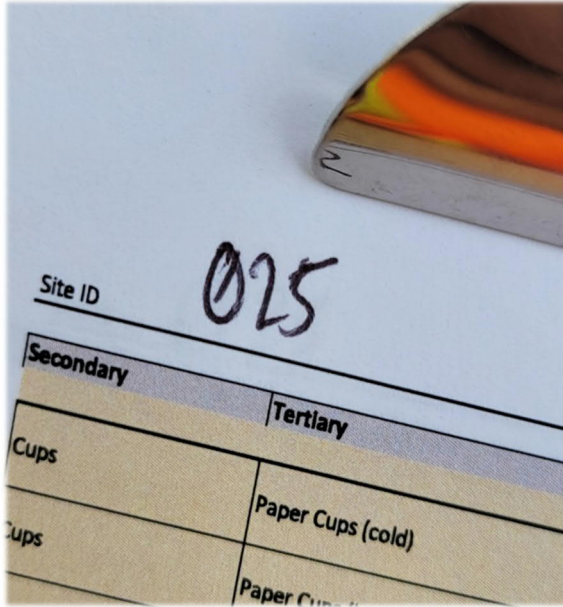


Photo 1: Site Location Photo



Photo 2: Beginning of Litter Site



Photo 3: Middle of Litter Site



Photo 4: End of Litter Site

3.0

Summary of Litter Results

This section of the report provides both the detailed results of the 2023 litter audit as well as a comparison to the average of the audits completed from 2015 (baseline) to 2019, average of the audits completed from the 2020 and 2021 audits, and a direct comparison to the 2022 audit. Visual Assessments of litter sites are provided in Section 3.1. Sections 3.2, 3.3 and 3.4 provide Large Litter Results, Small Litter and Supersite Results, respectively, for the 110 sites without immediately adjacent construction. Sites that were determined to be immediately adjacent to construction have results summarized in Section 0.

3.1

Visual Assessments of Litter Sites

As a part of the site survey, Dillon staff collected information about the area and adjacent roads of the audit sites. Dillon staff visually assessed the site and ranked it on a scale from 1 to 4 based on the Cleanliness Index Developed for the City. Sites were ranked using the following criteria:

- Ranking of 1 – No Noticeable Litter or Very Little;
- Ranking of 2 – Noticeable Litter in Certain Areas;
- Ranking of 3 – Consistent Noticeable Litter or Large Items or a Concentrated Pile of garbage/Litter; and,
- Ranking of 4 – Requires More than One Person for Cleaning and Requires City Attention.

Overall, 41% of sites were given a cleanliness index ranking of 2. An additional 49% were ranked as a 1, for a total of 90% of sites either having no noticeable litter or only noticeable litter in certain areas. Six percent (6%) were ranked as a 3 and 4% were ranked as having a cleanliness index ranking of 4. Table 1 provides a breakdown by site type and the average visual rating observed. The sites where construction was observed were given a ranking of 1 (sites 46, 48, 69, 79 and 102), 2 (sites 15, 40, 63, 73 and 86), 3 (sites 17 and 97) and 4 (site 12).

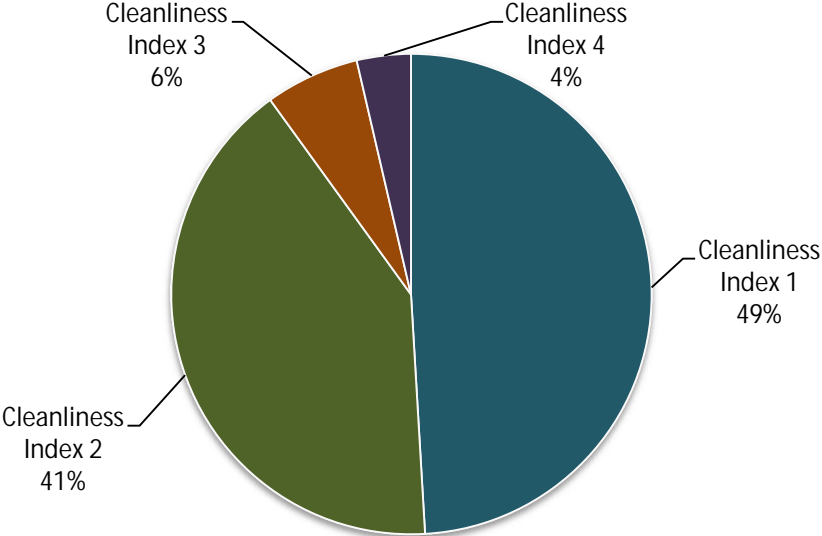


Figure 1: Visual Assessment Ranking of All Litter Sites

Table 1: Average Visual Ranking by Site Type

Site Type	Average Visual Rating
Commercial	1.9
Industrial	2.3
Institutional	1.3
Multi-Family	1.5
Single- Family	1.6
Mixed Use	2.3

3.2 Large Litter Results

Large litter is any piece of litter that is equal or greater than 4 square inches. This section of the report provides results for large litter by material type, secondary category and tertiary category. In 2023, the average number of large litter items per site was 14.4 pieces. The most common tertiary category of large litter observed was Miscellaneous Paper. Miscellaneous Paper represented 11% of all large litter surveyed in 2023.

Table 2 illustrates the 20 most common large litter items observed (by tertiary category) in the 2023 street litter audits. These 20 item types accounted for 70% of the total large litter items observed. The complete list of items is provided in Appendix F. As noted in Section 2.0 the large litter methodology requires two passes of an entire site. These passes are averaged for the total number of litter items observed. Due to this, there may be items that are observed on only one pass and therefore are averaged to 0.5 pieces of litter.



Table 2: Top 20 Large Litter Items by Tertiary Category

Number	Large Litter Item	Number Observed	% of Total Large Litter Items Observed	Cumulative Total (%)
1	Misc. Paper	176.5	11%	11%
2	Non-Brand Towels/Napkins	167	11%	22%
3	Misc. Plastic	141	9%	31%
4	Plastic Wrap	66.5	4%	35%
5	Receipts (business forms, bus tickets)	65	4%	39%
6	Plastic/ Composite Other	60	4%	43%
7	Cup Lids, Pieces	54	3%	46%
8	Paperboard (boxboard)	40	3%	49%
9	Plastic Drink Cups	38.5	2%	51%
10	Printed Material	32.5	2%	53%
11	Straws (paper)	32.5	2%	55%
12	Pet Waste (loose)	30.5	2%	57%
13	Branded Napkins / Serviettes	30	2%	59%
14	Other Cloth	29	2%	61%
15	Candy Bar Wrappers	26.5	2%	63%
16	Foil Materials/Foil Pieces	24	2%	64%
17	Stationary (school, business etc.)	23.5	1%	66%
18	Masks	22	1%	67%
19	Snack Food Packaging	22	1%	68%
20	Disinfecting Wipes	21.5	1%	70%
Total Top 20		1,103	70%	-
Total All Large Litter		1,579.5	100%	-

3.2.1 Large Litter by Primary Material Type (12)

Items within the large litter categories were classified into 12 primary categories based on their known material composition types. Figure 2 illustrates the breakdown by material type of all 1,579.5 pieces of large litter observed in 2023. The largest material type observed was paper (44%), followed by plastic (34%) and household hygiene (6%). Household hygiene material types included medical waste and pet waste. Table 3 presents the results in tabular form.

Figure 2: Large Litter by Material Type

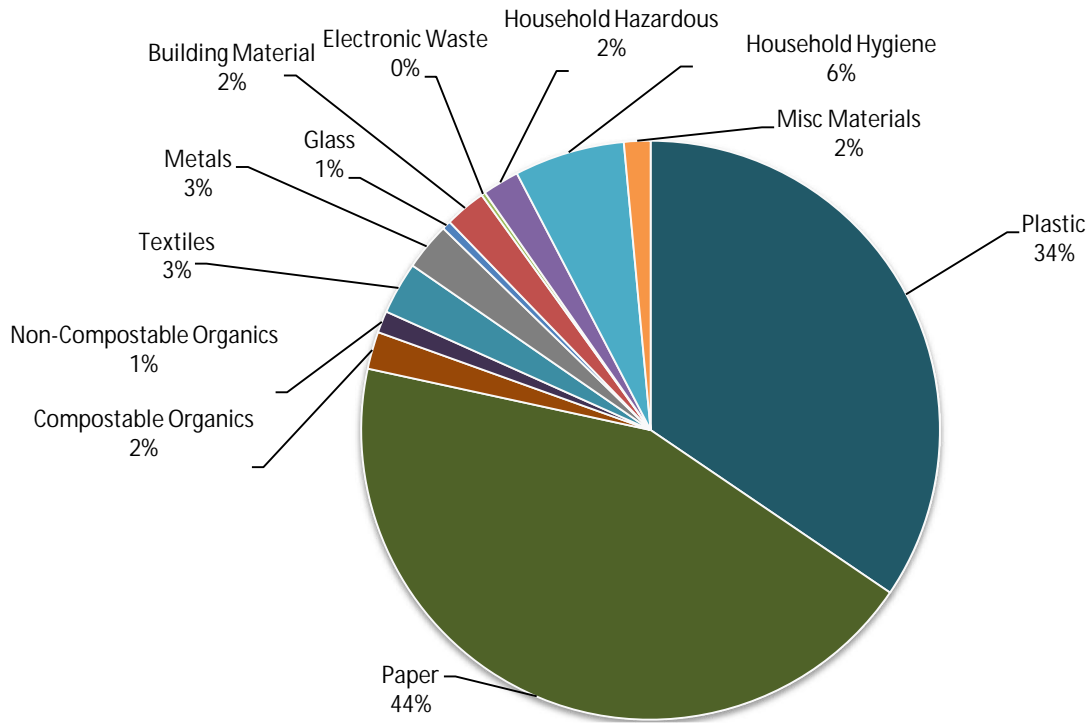


Table 3: Large Litter by Primary Material Type

Material	Total Litter	% of Litter
Paper	694	44%
Plastic	544.5	34%
Household Hygiene	97	6%
Textiles	46	3%
Metals	42	3%
Building Material	36.5	2%
Compostable Organics	33	2%
Household Hazardous	33	2%
Misc. Materials	23.5	1%
Non-Compostable Organics	19	1%
Glass	8	1%
Electronic Waste	3	0%
Total	1,579.5	100%

3.2.2 Large Litter by Category (16)

Each of the large litter items were classified into 16 secondary categories and 128 tertiary categories during the 2023 litter audits. Table 4 provides a summary of the total amount of large litter observed for each of the 16 secondary categories and Figure 3 presents the information graphically. The secondary category 'Other Miscellaneous' (31%) was the most common category of litter observed. Miscellaneous litter included items such as miscellaneous paper, plastic, as well as household items. Paper/fibre material (18%) was second highest category. Cups (8%) were the next most common secondary category of litter recorded in 2023. Figure 4 compares the largest three tertiary categories from 2023 and previous litter audits.

Table 4: Large Litter Result Totals by Secondary Category (16)

Secondary Category	Observed Number of Items	Percent of Large Litter Observed
Beverage Containers	25	2%
Other Packaging	5	0%
Cups	133	8%
Bags	37	2%
Other Packaging (Boxes)	69.5	4%
Other Containers	23.5	1%
Food Wraps/ Containers	89	6%
Take Out Extras	97.5	6%
Trays	1	0%
Confectionary/Snack	86.5	5%
Cloth	46	3%
Other Miscellaneous Packaging	101.5	6%
Paper/Fibre Material	292	18%
Tobacco Products	26.5	2%
Other Miscellaneous	489	31%
Medical Waste	57.5	4%
Total	1,579.5	100%

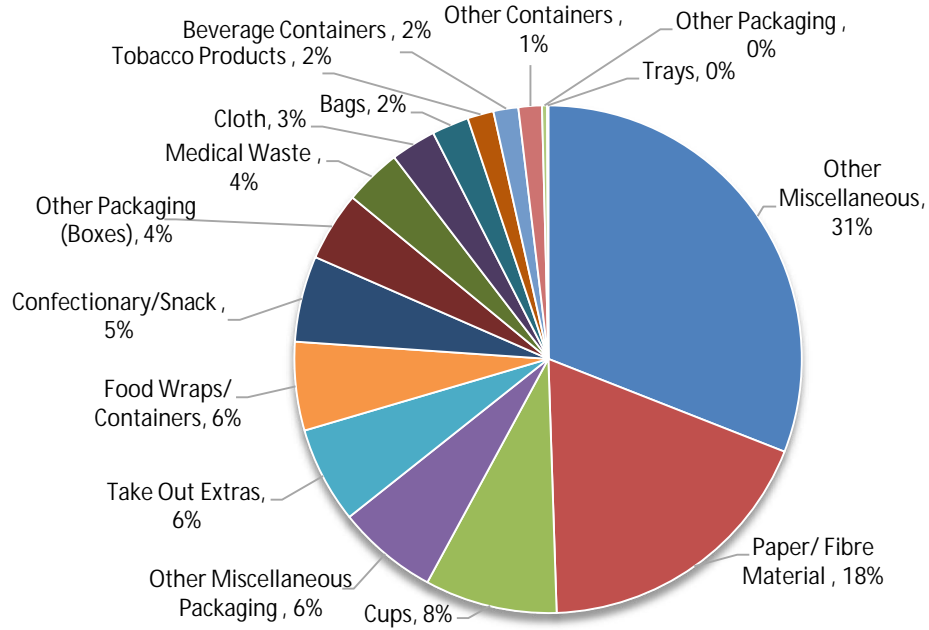


Figure 3: Large Litter Items by Secondary Category

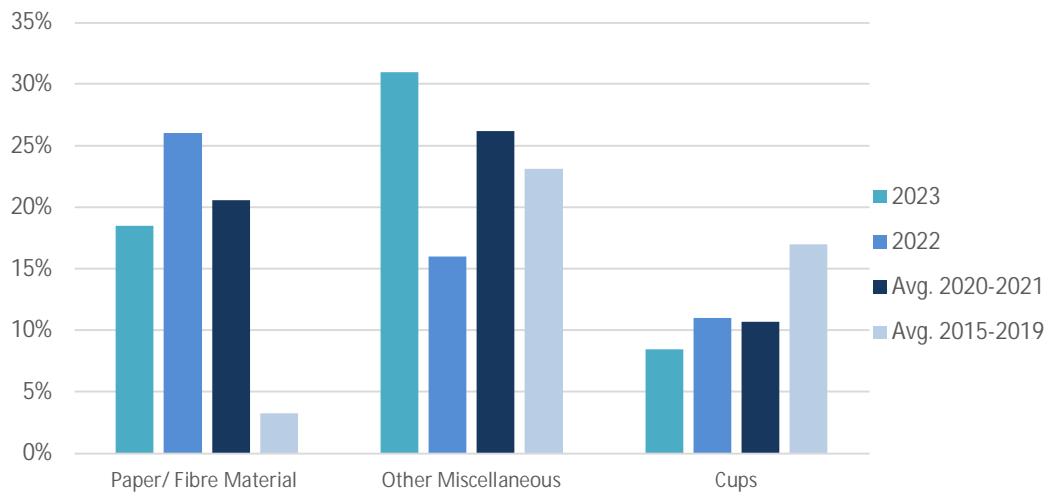


Figure 4: Large Litter Comparison

3.2.3 Large Litter Results by Tertiary Category (128)

There are several tertiary categories within each of the 16 secondary categories. The secondary categories were divided into 125 categories for the baseline audit and follow-up audits for 2017 through 2022. In 2023, straws and utensils categories were further classified by the material composition type making 128 categories. The breakdown of litter by each of the 16 secondary categories into the 128 tertiary categories is provided in the sub-sections below. An analysis of the tertiary items that are also considered single-use Items (SUIs) is included in the sub-section below.

3.2.3.1

Beverage Containers

Beverage containers accounted for 2% (n=25) of all large litter observed in the 2023 audits. The largest tertiary categories evaluated for beverage containers in 2023 were beer cans (20%), followed by soft drink (cans) (16%), soft drink (plastic) (16%) and water (plastic) (16%). Figure 5 illustrates the breakdown of the beverage container category. Figure 6 compares the highest five tertiary categories from 2022, as well as the average of the 2015 to 2019 audits and the 2020 and 2021 audits.

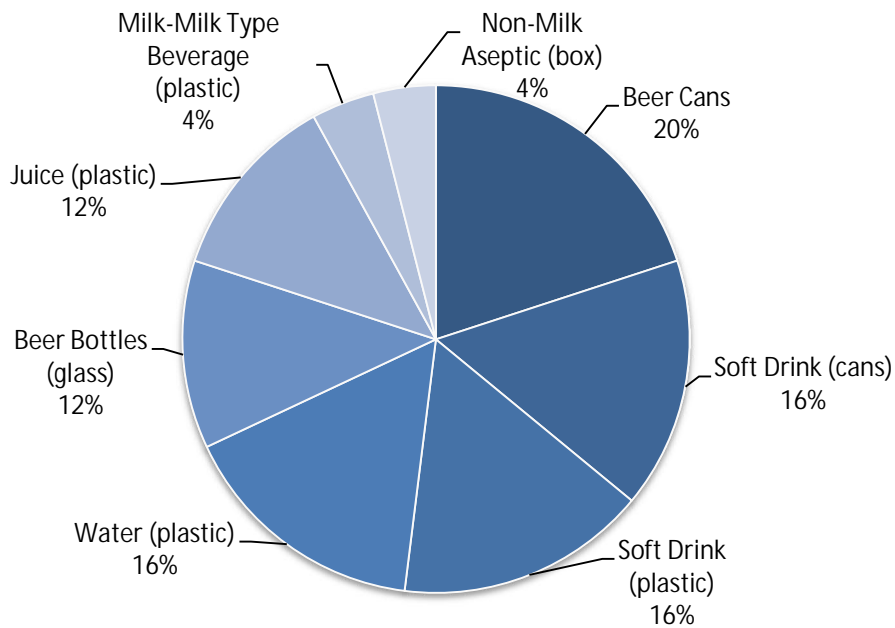


Figure 5: Beverage Containers Composition 2023

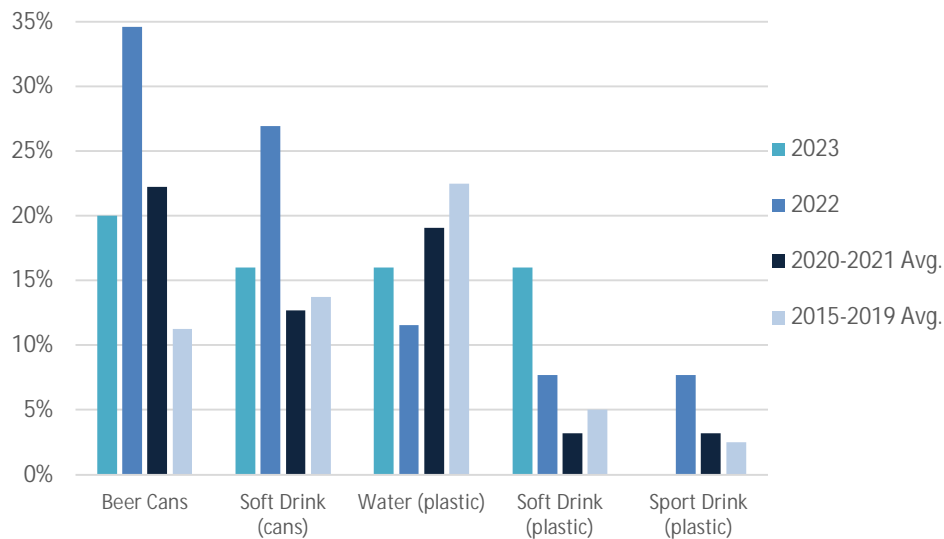


Figure 6: Beverage Containers Previous Audit Comparison

3.2.3.2

Other Packaging

'Other packaging' accounted for 0% (n=5) of the overall large litter observed for the City's 2023 audits. The largest tertiary categories evaluated for other packaging in 2023 was broken container glass (60%). Figure 7 illustrates the results of the other packaging category. Figure 8 compares the highest three tertiary categories for 2023 and the previous audit years.

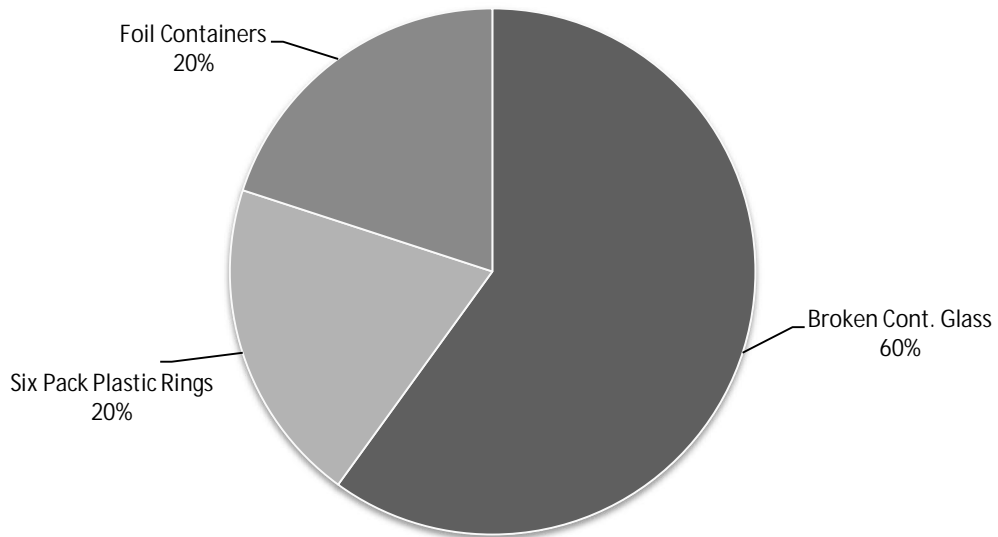


Figure 7: Other Packaging Composition 2023

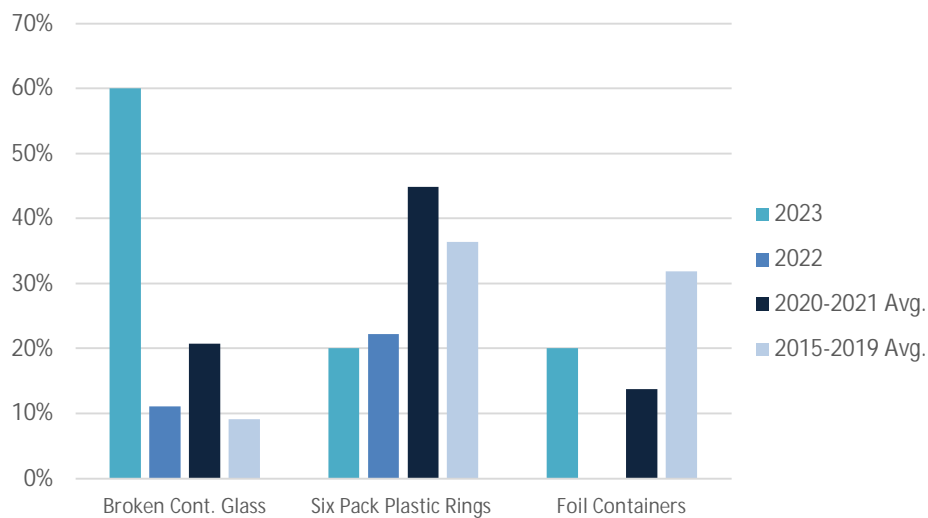


Figure 8: Other Packaging Previous Audit Comparison

3.2.3.3

Cups

Cups were the third largest category observed in the 2023 street litter audits and represented 8% (n=133) of all large litter observed. Cup lids and/or pieces were the largest tertiary category (40%), followed by plastic drink cups (29%) and paper cups (cold) (15%), and Figure 9 illustrates the breakdown of the cups category while Figure 10 compares the largest four tertiary from 2023 and the previous litter audits.

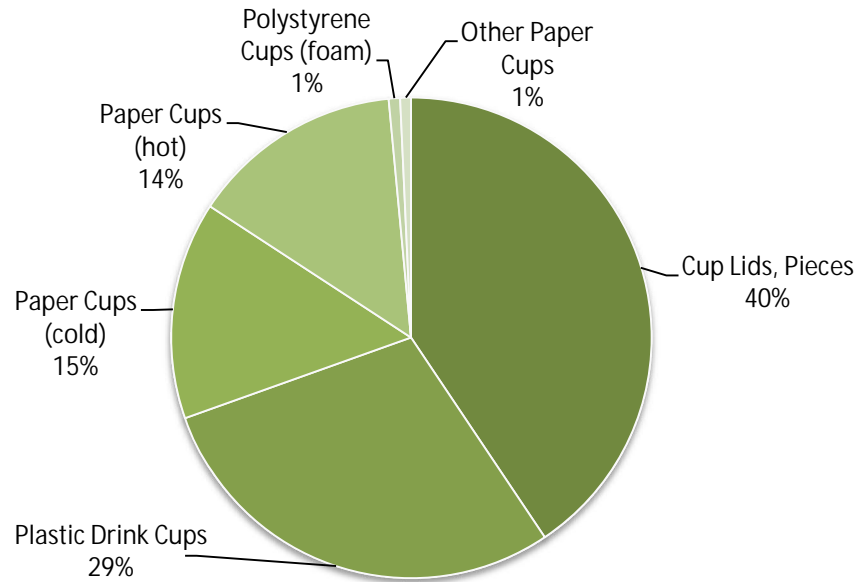


Figure 9: Cups Composition 2023

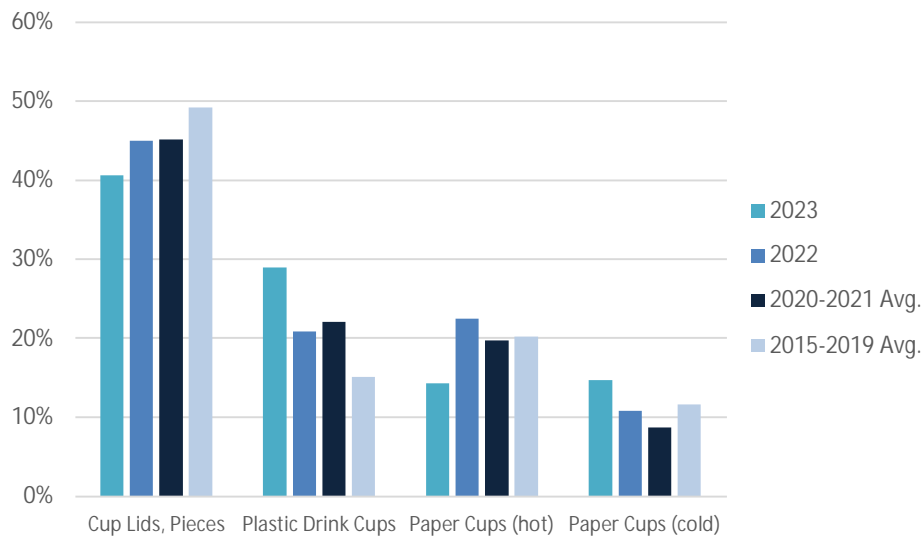


Figure 10: Cups Previous Audit Comparison

3.2.3.4 Bags

Bags represented 2% (n=37) of all large litter observed in 2023. This category predominantly consisted of zipper bags/sandwich bags (30%) and paper bags- fast food (30%). Figure 11 illustrates the 2023 composition of the bags category while Figure 12 compares the highest five tertiary categories from 2023 and the previous litter audits.

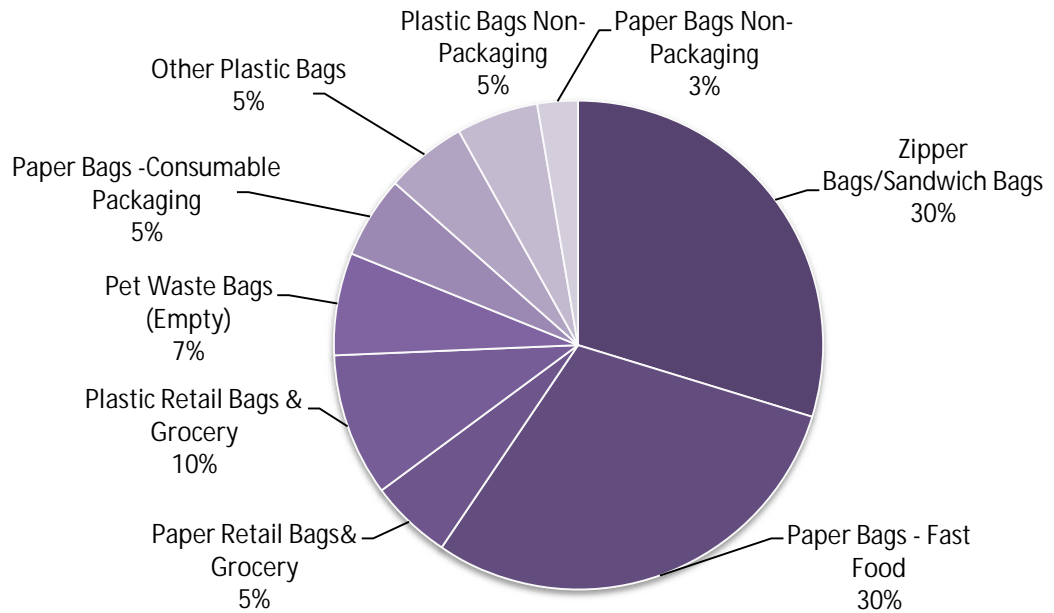


Figure 11: Bags Composition 2023

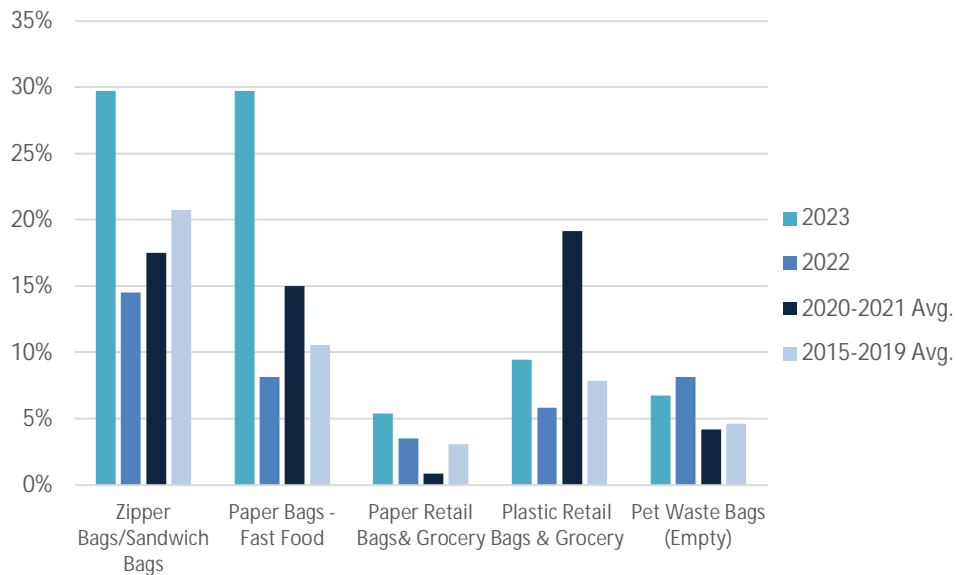


Figure 12: Bags Previous Audit Comparison

3.2.3.5

Other Packaging (Boxes)

Other packaging (boxes) represented 4% (n=69.5) of the accumulated large litter in the 2023 street litter audits. The largest tertiary categories evaluated for other packaging (boxes) consisted of paperboard (boxboard) (58%) and cardboard boxes/box material (18%) as illustrated in Figure 13. The highest four tertiary categories observed in litter audits from 2023 and previous years are illustrated in Figure 14.

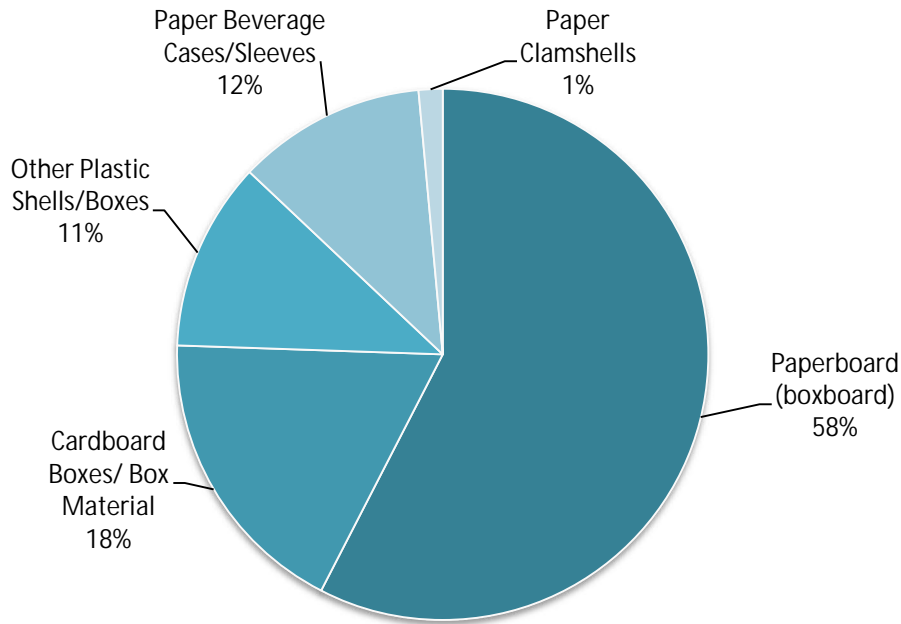


Figure 13: Other Packaging (Boxes) Composition 2023

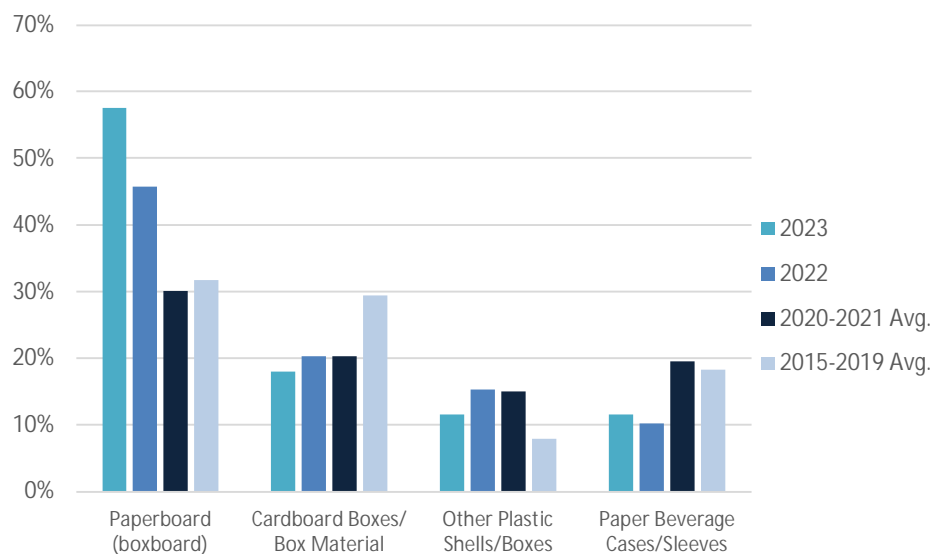


Figure 14: Other Packaging (Boxes) Previous Audit Comparison

3.2.3.6

Other Containers

In the 2023 audits, other containers represented 1% (n=23.5) of all large litter observed. The breakdown of this category was mostly plastic jars/bottles/lids (75%). The composition of other containers is illustrated in Figure 15 while a comparison of the largest three tertiary categories in 2023 and the previous year’s audit results is illustrated in Figure 16.

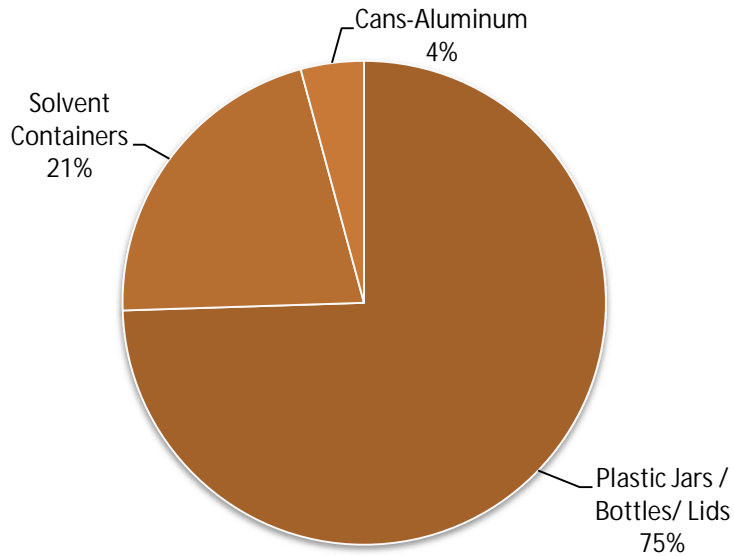


Figure 15: Other Containers Composition 2023

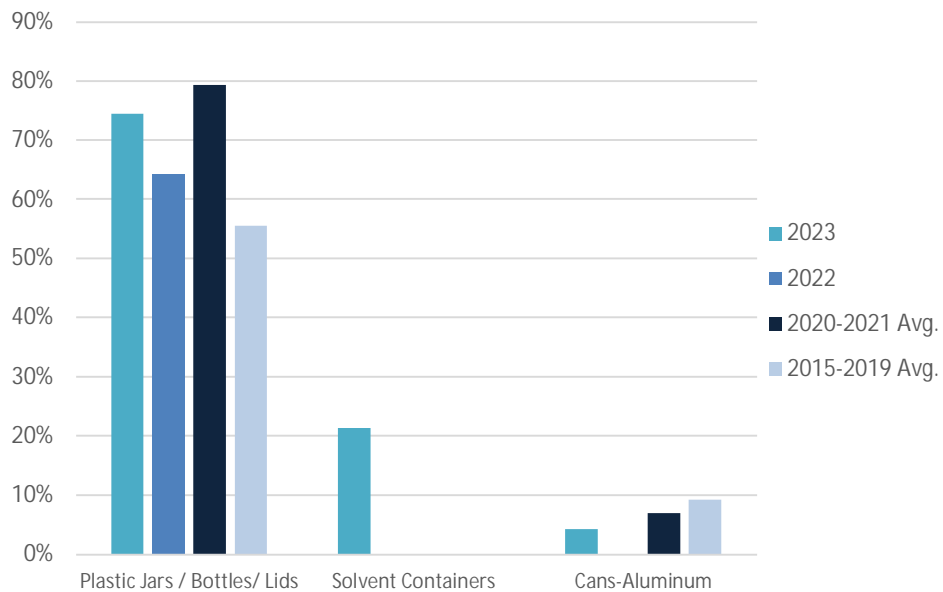


Figure 16: Other Containers Previous Audit Comparison

3.2.3.7

Food Wraps/Containers

Food wraps/containers represented 6% (n=89) of the litter observed in this audit. Figure 17 illustrates the breakdown of this category. The tertiary categories that comprised of food wraps/containers were plastic food wrap (75%), paper wrap (22%), and paper/foil composite wrap (3%). Figure 18 compares all tertiary categories from 2023 and previous audit years.

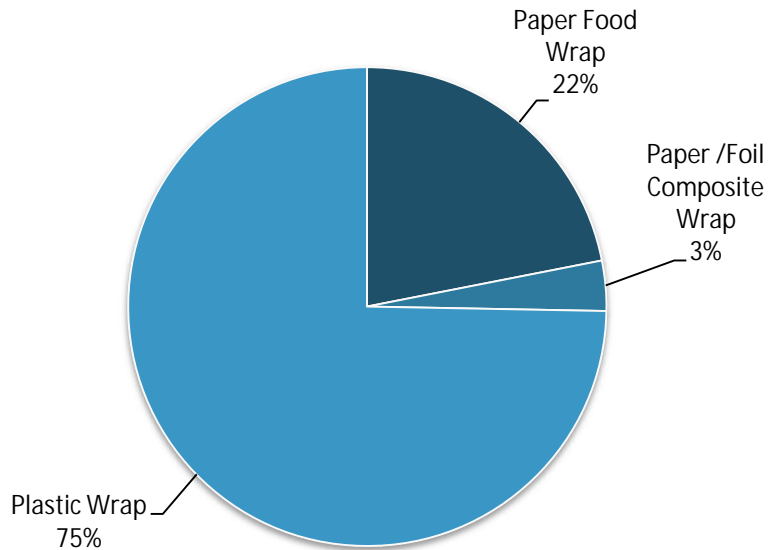


Figure 17: Food Wraps/Containers Composition 2023

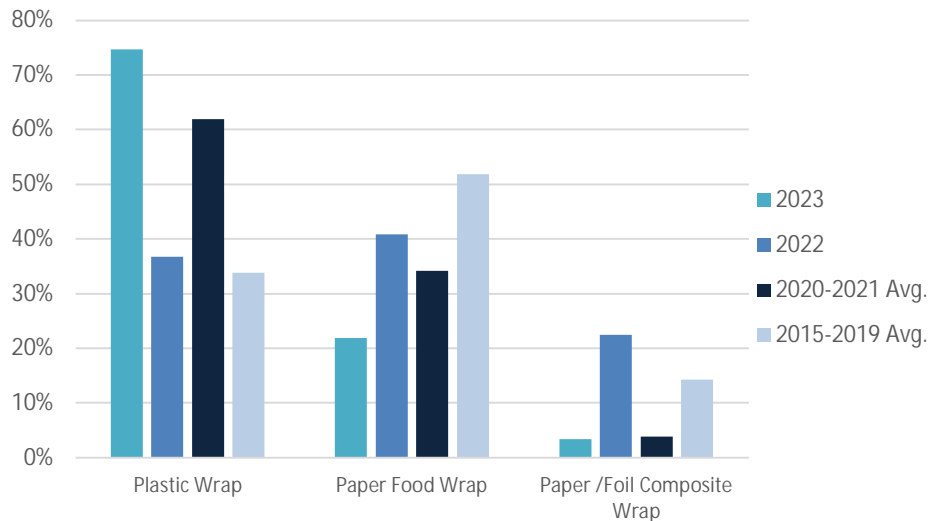


Figure 18: Food Wraps/Containers Previous Audit Comparison

3.2.3.8

Take out Extras

Take out extras accounted for 5% (n=97.5) of the large litter observed. Take out extras was largely comprised of straws (paper) (33%), branded napkins/serviettes (31%), and straws (plastic) (14%). Figure 19 illustrates the breakdown of this category while Figure 20 compares the highest four tertiary categories from 2023 and previously conducted litter audits. It should be noted that Figure 20 shows a combined percentage of all material types for tertiary categories straws and utensils for comparison with previous years' audits. These tertiary categories were not classified by material type in previous years.

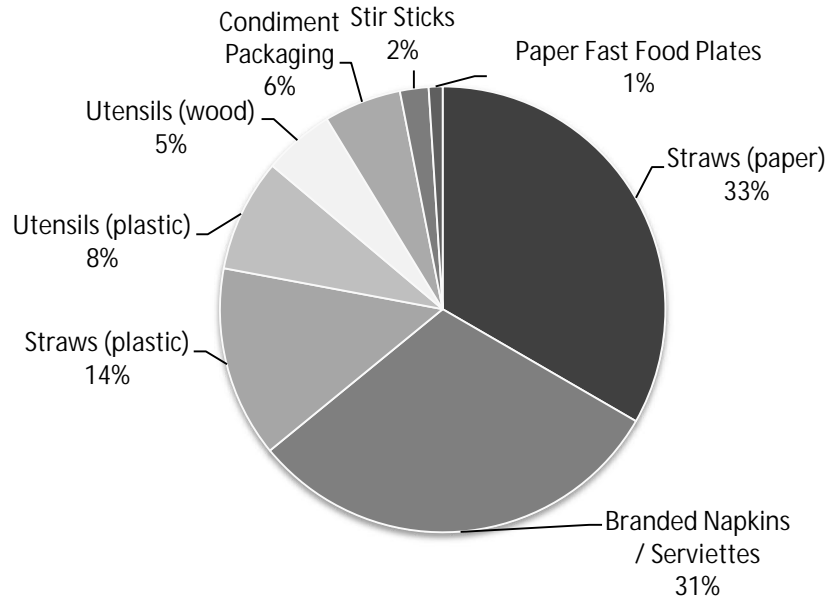


Figure 19: Take Out Extras Composition 2023

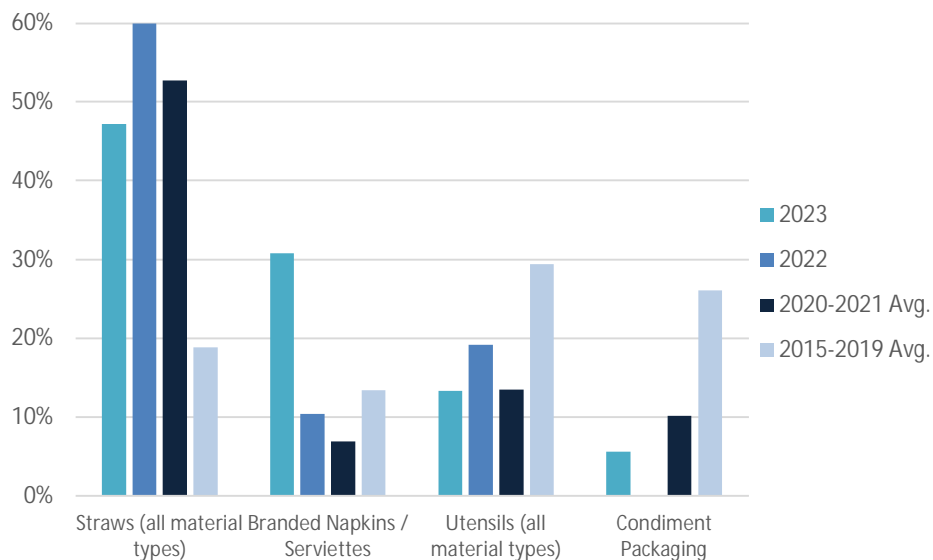


Figure 20: Take Out Extras Previous Audit Comparison

3.2.3.9 Trays

Trays accounted for less than 0% (n=1) of the large litter observed during 2023. Trays were entirely comprised of paper trays. Figure 21 compares tertiary categories from all previous litter audits.

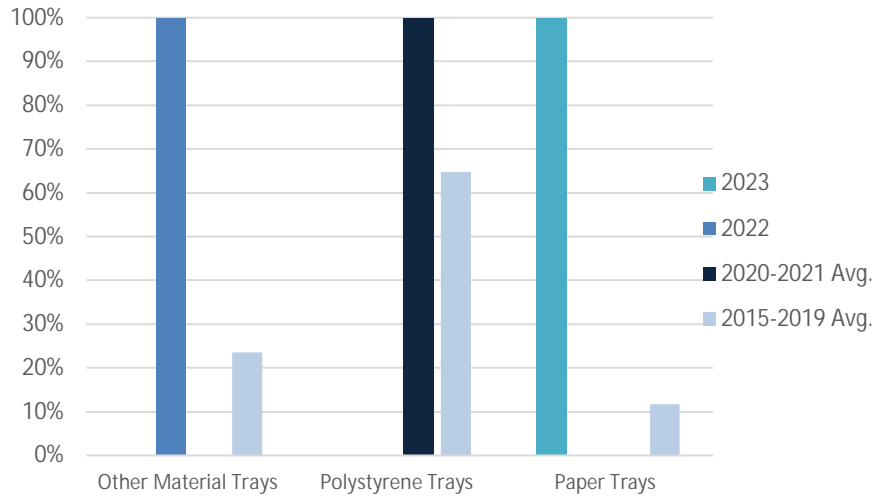


Figure 21: Trays Previous Audit Comparison

3.2.3.10

Confectionary/Snacks

Confectionary/ snacks category represented 5% (n=86.5) of all large litter observed in 2023. The most frequently observed tertiary categories for large litter were candy bar wrappers (31%) and snack food packaging (25%). Figure 22 illustrates the results of the confectionary/snacks category breakdown. Figure 23 compares the highest four tertiary categories from the 2023 litter audit and previous litter audits.

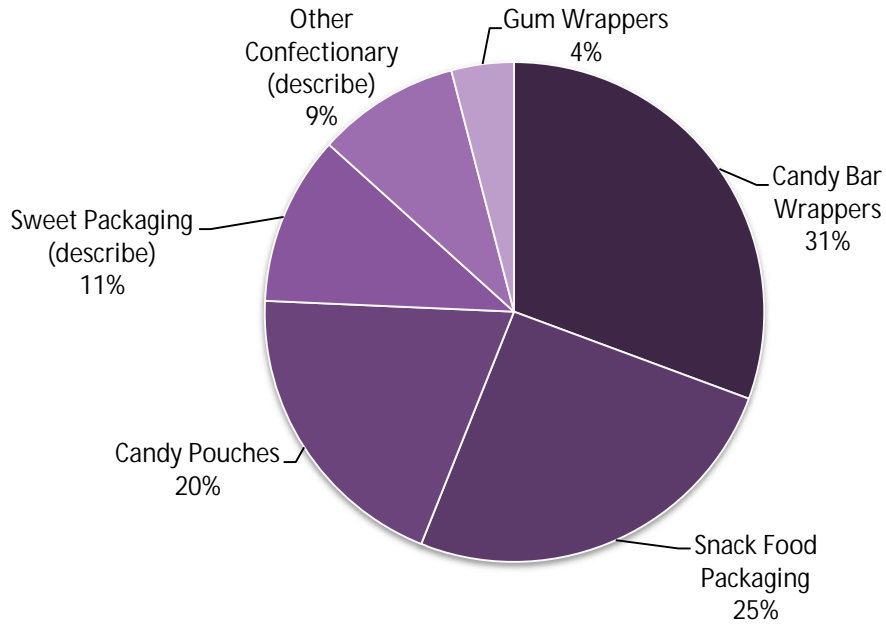


Figure 22: Confectionary/Snacks Composition 2023

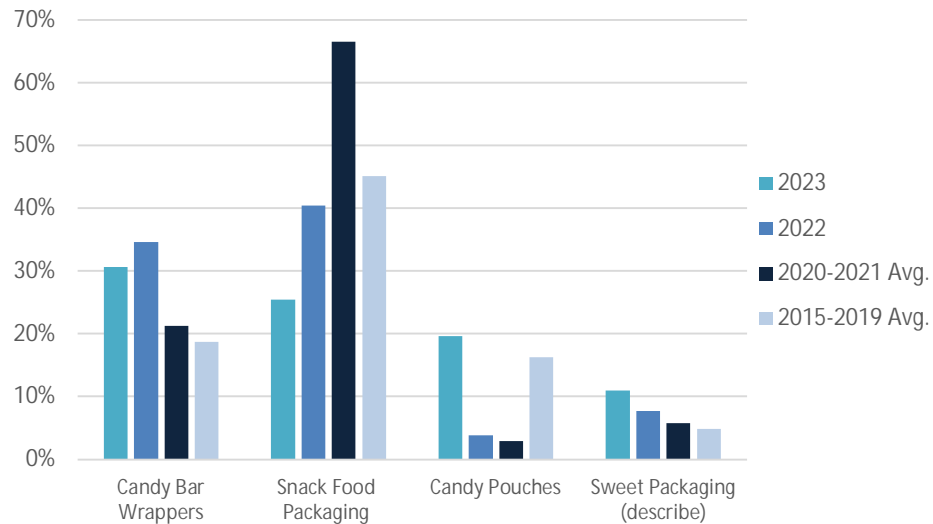


Figure 23: Confectionary/Snack Previous Audit Comparison

3.2.3.11

Cloth

The cloth category was split 37% for clothing or clothing pieces and 63% for other cloth. Cloth represented 3% (n=46) of all large litter observed in 2023 (Figure 24). Figure 25 compares the tertiary categories observed in 2023 and in previous litter audits.

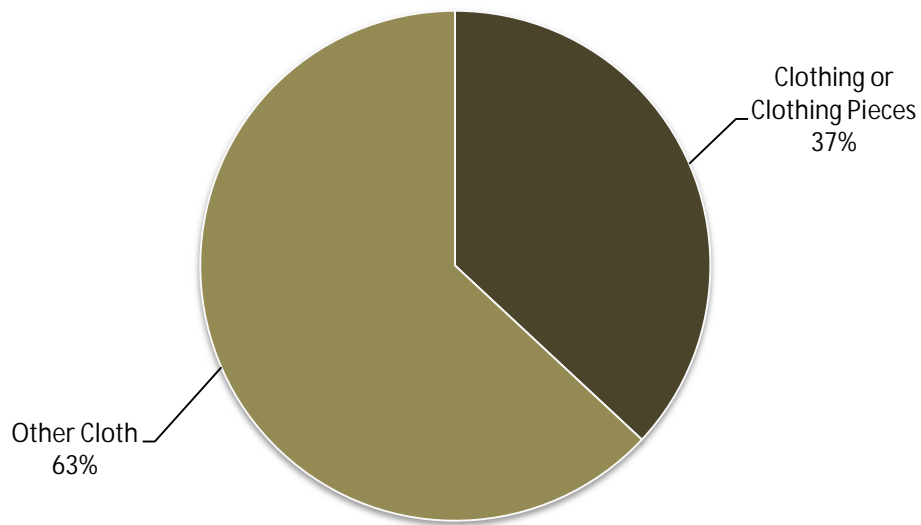


Figure 24: Cloth Composition, 2023

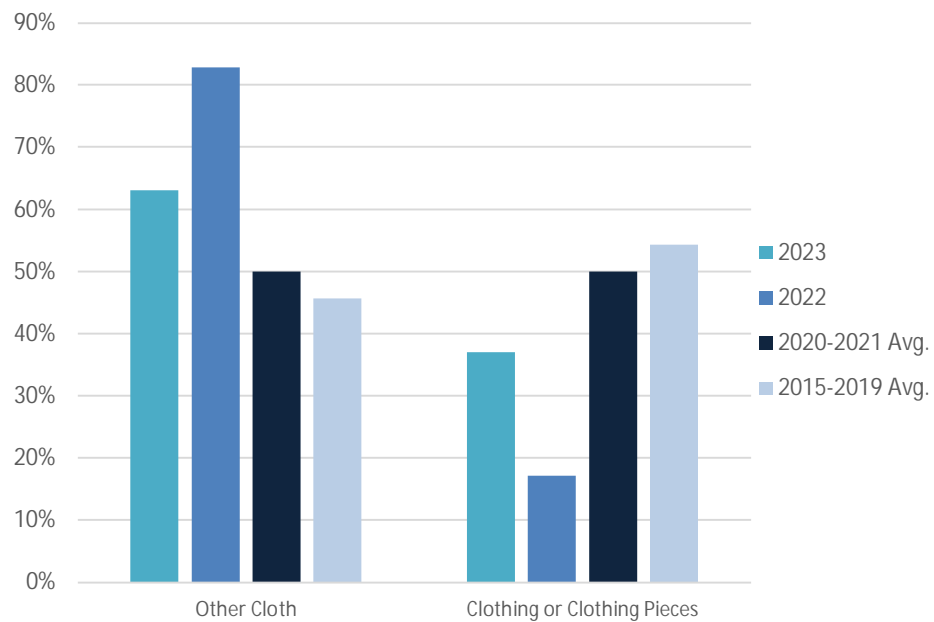


Figure 25: Cloth Previous Audit Comparison

3.2.3.12

Other Miscellaneous Packaging

Other miscellaneous packaging represented 6% (n=101.5) of the large litter observed in 2023. Plastic/composite other (59%) and plastic packaging other (14%) comprised of the majority the 'other miscellaneous packaging' category. Figure 26 illustrates the breakdown of this category and Figure 27 compares the tertiary categories observed in 2023 and to previous litter audits.

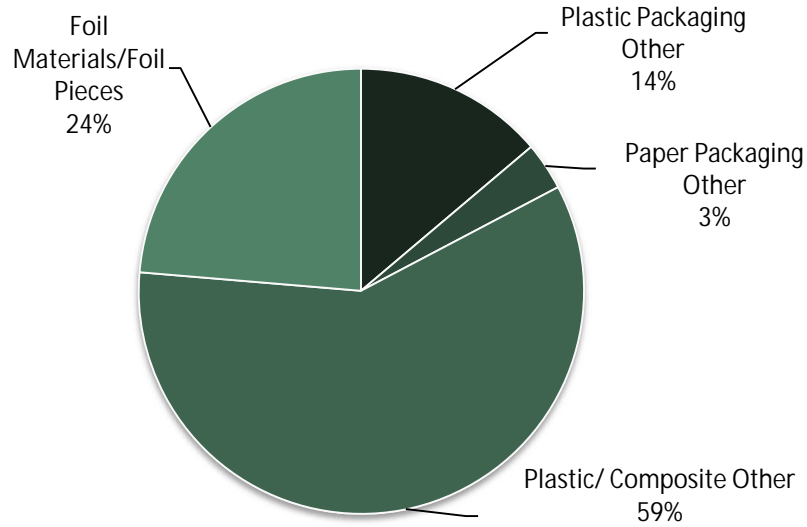


Figure 26: Other Miscellaneous Packaging Composition 2023

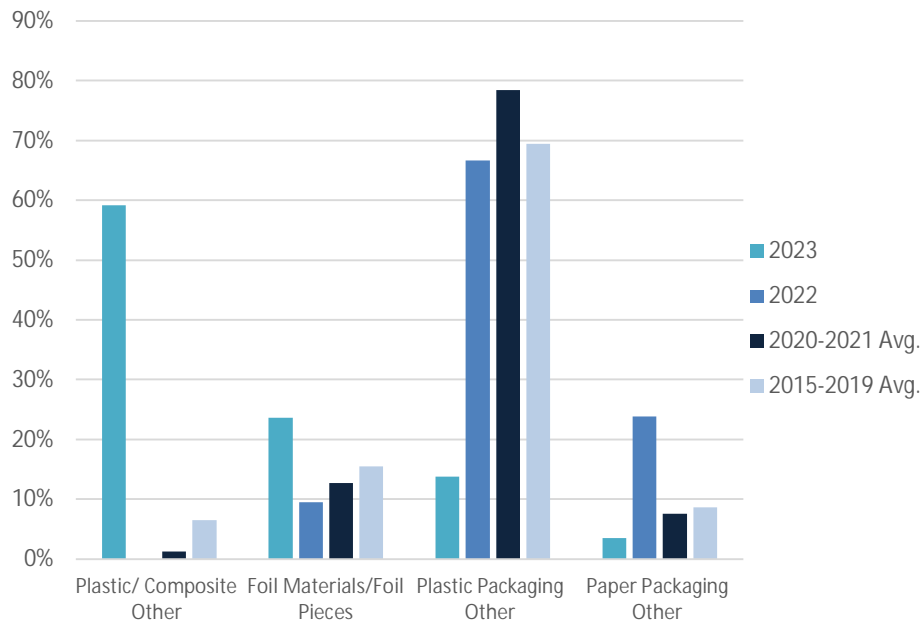


Figure 27: Other Miscellaneous Packaging Previous Audit Comparison

3.2.3.13

Paper/Fibre Materials

Paper/Fibre Materials were the second highest secondary category, in terms of items most littered and represented 18% (n=292) of all large litter observed in the 2023 street litter audits. The majority of the paper/fibre materials category was non-brand name towels/napkins (57%), receipts (22%) and printed material (11%). Figure 28 provides the detailed breakdown of this category. Figure 29 compares the highest three tertiary categories from all the audits.

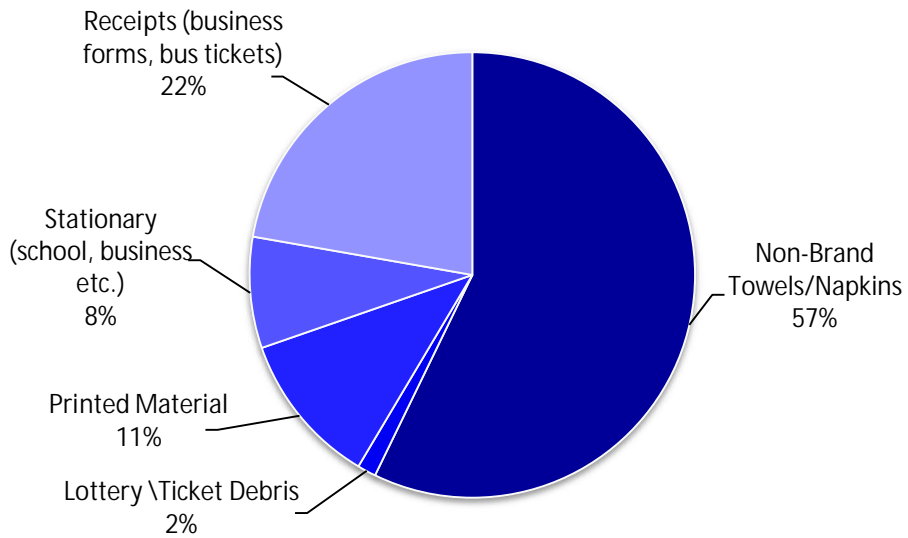


Figure 28: Paper/Fibre Composition 2023

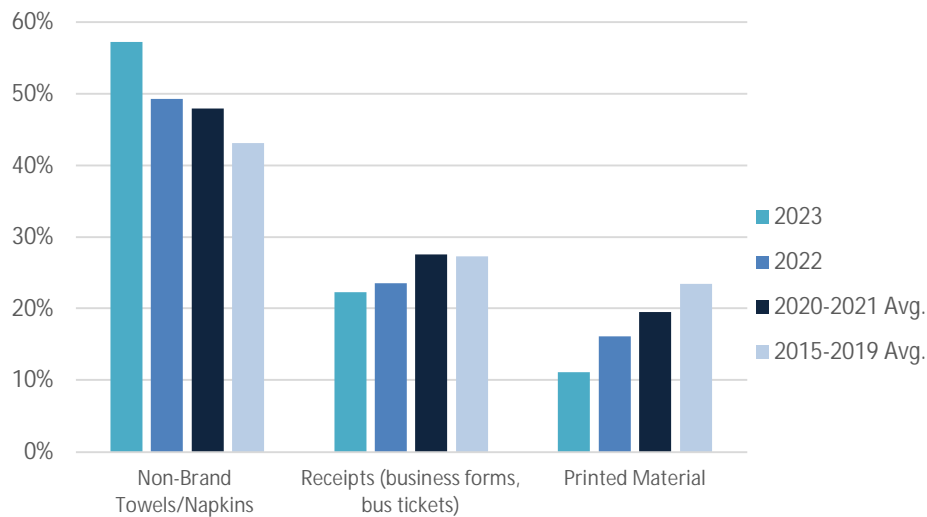


Figure 29: Paper/Fibre Material Previous Audit Comparison

3.2.3.14

Tobacco Products

In 2023, tobacco products were 2% (n=26.5) of the large litter items surveyed. Within this category, 75% was 'tobacco other' and 25% cigarette/cigar debris. Tobacco other includes cigarette packaging and cellophane wrapping (Figure 30). Figure 31 compares the two tertiary categories from 2023 and previous litter audits.

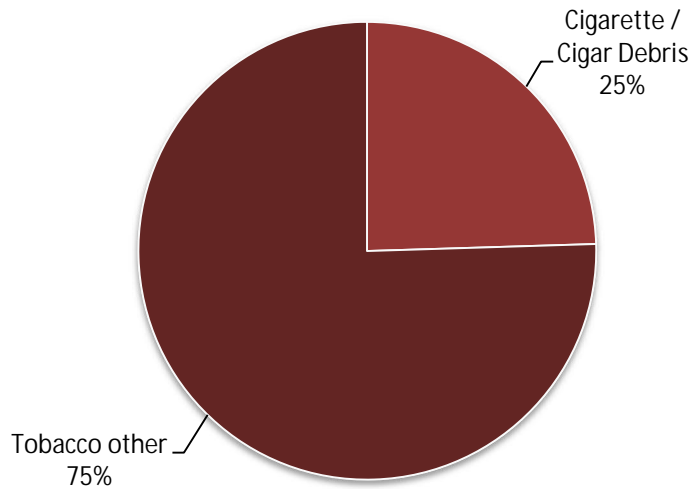


Figure 30: Tobacco Products Composition, 2023

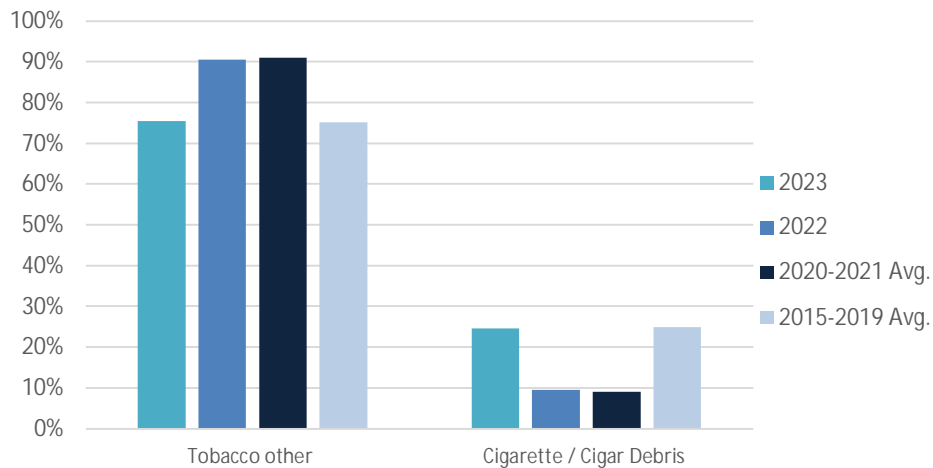


Figure 31: Tobacco Products Previous Audit Comparison

3.2.3.15

Other Miscellaneous

'Other miscellaneous' was the largest secondary categories observed in 2023, representing 31% (n=489) of all large litter. The highest tertiary categories assessed in 2023 included: miscellaneous paper (36%) and miscellaneous plastic (29%). It should be noted that miscellaneous paper and plastic were made up of paper and plastic litter that did not fit into any other category or could not be identified as such. Examples of 'other miscellaneous' large litter material category are provided pictographically in Appendix C. Figure 32 illustrates the breakdown of this category while Figure 33 compares the highest four tertiary categories observed in the 2023 audits to the previous studies.

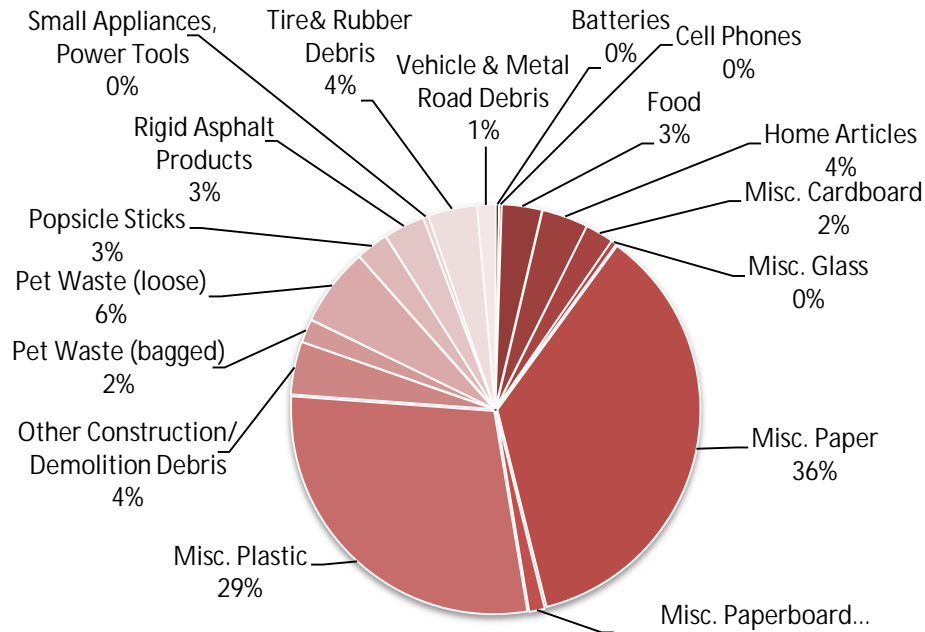


Figure 32: Other Miscellaneous Composition 2023

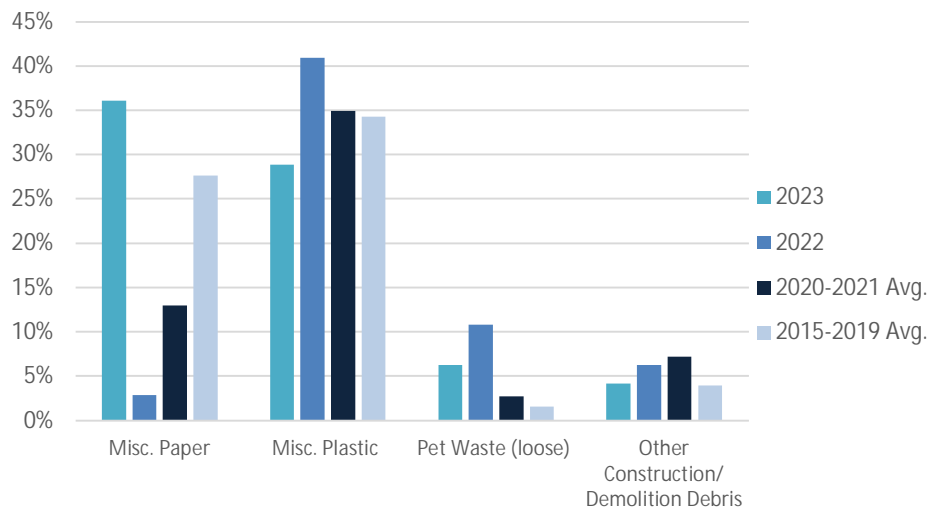


Figure 33: Other Miscellaneous Previous Audit Comparison

3.2.3.16

Medical Waste

Medical waste accounted for 4% (n=57.5) of the large litter observed. In 2020, medical waste was added as a new category to track litter related to the COVID-19 pandemic. This included disinfecting wipes, disposable gloves, and masks. Figure 34 illustrates the breakdown of this category. Comparison to the 2022 and average of the 2020 to 2021 audits is provided in Figure 35.

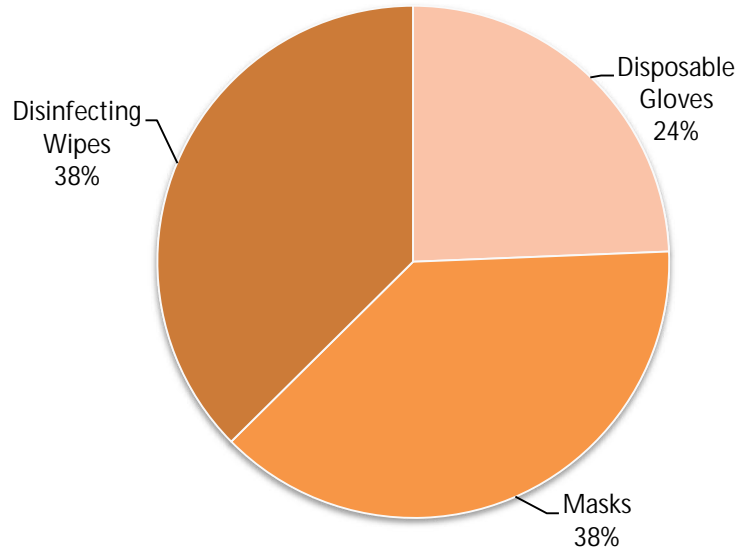


Figure 34: Medical Waste Composition 2023

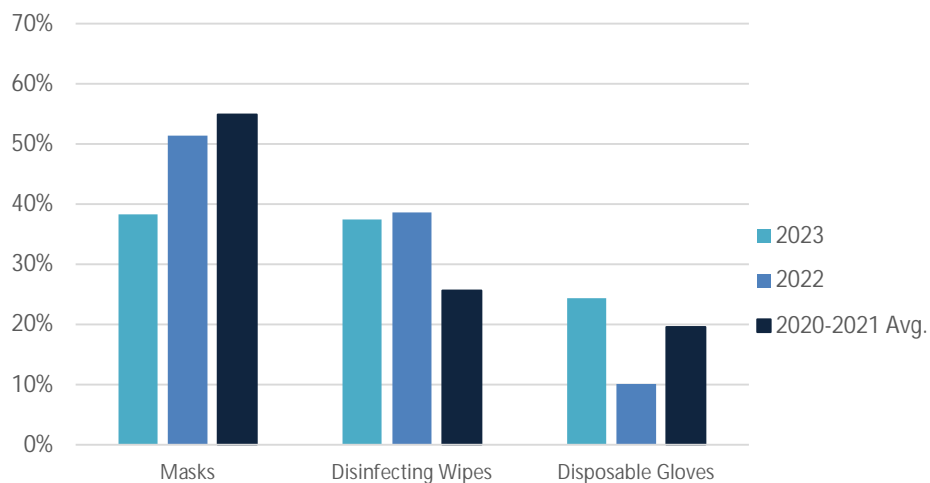


Figure 35: Medical Waste Previous Audit Comparison

3.2.3.17

Single-Use Items

Of the 1,579.5 pieces of large litter audited, 22% (344) of these items were considered single-use Items (SUIs). Figure 36 illustrates these results. Comparison to the 2022 and average of the 2020 to 2021 audits is provided in Figure 37. Of the 344 SUIs, the majority were disposable cups (non-foam) (35%), other SUIs (plastic food wrap, paper and poly fast food plates, plastic stir sticks, etc.) (20%), medical waste (17%), (15%) and straws (paper and plastic) (13%). Figure 38 illustrates the breakdown of this category.

Figure 39 provides a comparison to the 2022 and average of the 2020 and 2021 audits.

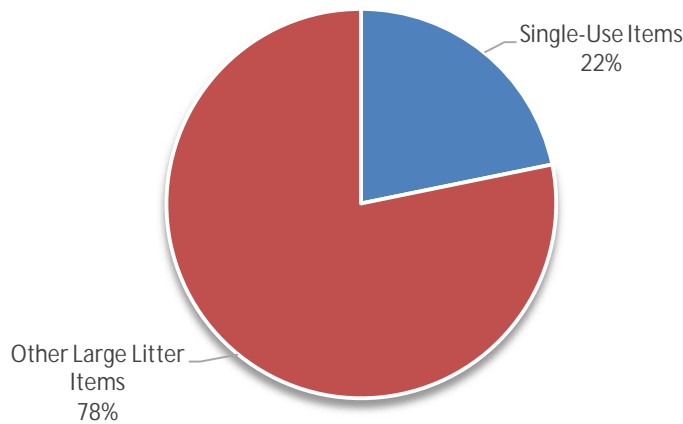


Figure 36: Single-Use Items Comparison

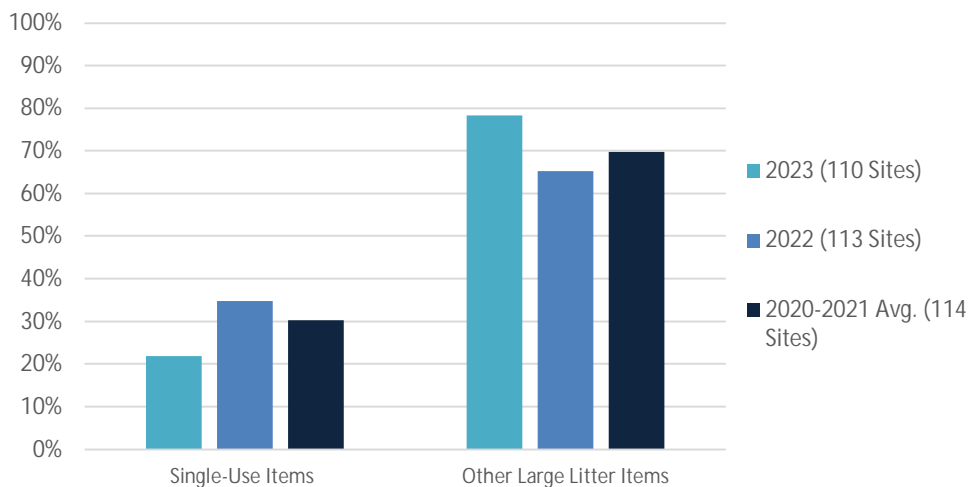


Figure 37: Single-Use Items Previous Audit Comparison

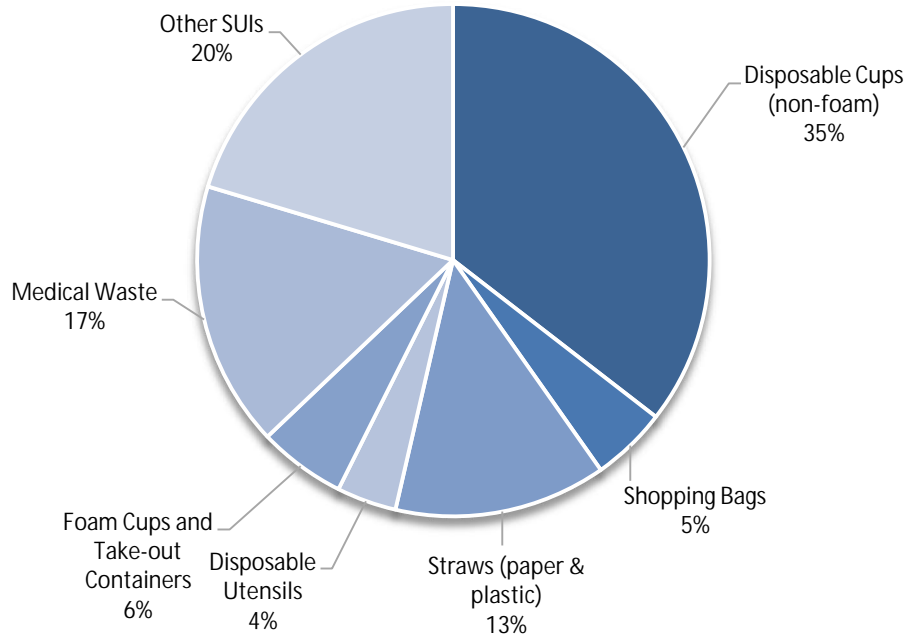


Figure 38: Single-Use Items by Category

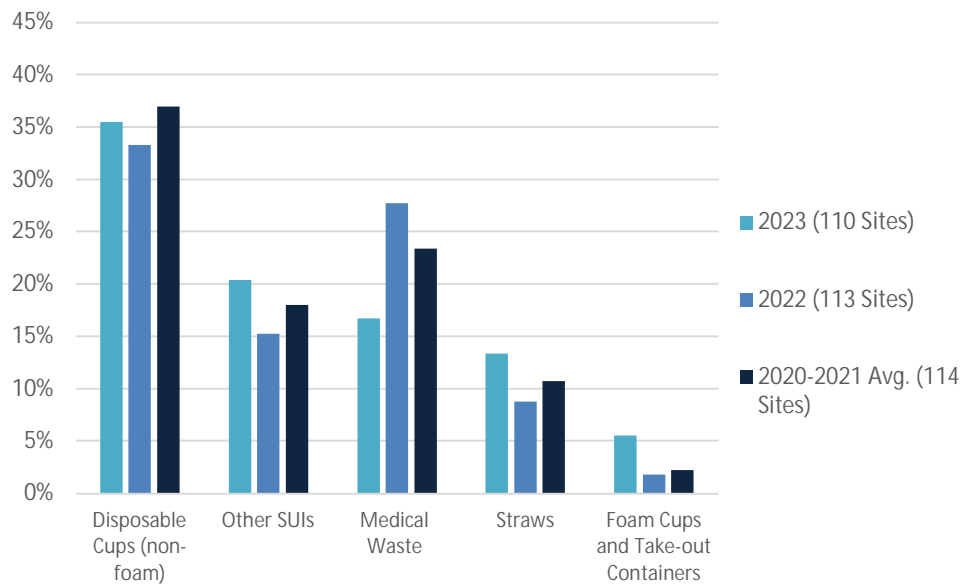


Figure 39: Single-Use Items by Category Previous Audit Comparison

New, in the 2023 audit, straws and utensils were classified by material type. The breakdown of straws and utensils by material composition type for 2023 are provided in Figure 40 and Figure 41.

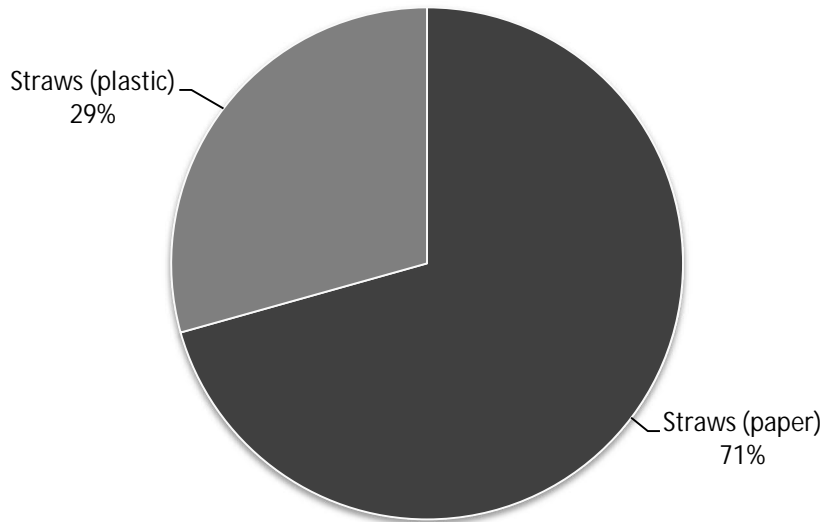


Figure 40: Breakdown of Straws Items by Material Type 2023

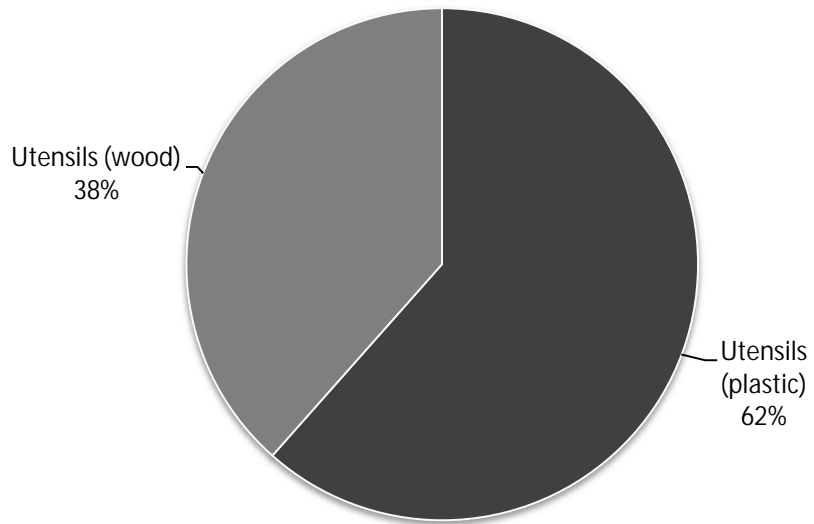


Figure 41: Breakdown of Utensil Items by Material Type 2023

3.2.4 Large Litter by Sites

The ten litter sites having the greatest number of large litter pieces are listed below in Table 5. The site with the most accumulated large litter in 2023 was Site 60 with 87 pieces of large litter observed. This site is zoned single-family. In total, 40% of sites in the “top 10” were single-family (sites 4, 57, 60, and 92). An additional 30% were commercial (sites 41, 112 and 114), 20% were multi-family (sites 55 and 107), and 10% were mixed-use (site 96). A full ranking of sites is provided in Appendix G. Of note, two of the top ten sites – Sites 55 and 114 were also litter sites with the highest number of large litter pieces in the 2022 audits.

Table 5: Large Litter Site Rankings

Site Number	Number of Pieces of Large Litter	Hundred Block	Street Name
60	87	7200	Dumfries Street
4	51	2000	Stainsbury Avenue
92	40	2200	East Pender Street
57	38.5	7800	Ross Street
114	38	4000	MacDonald Street
41	37.5	300	Terminal Avenue
107	33	600	Powell Street
96	32.5	1000	East Pender Street
55	32	3400	Vanness Avenue
112	31.5	6400	Cambie Street

3.2.5 Large Litter by Zoning

Sites were zoned by their typical land-use. Zones used to categorize sites included: Commercial, mixed-use, single-family, multi-family, institutional and industrial. A breakdown of the number of sites per zone is provided in Table 6.

Table 6: Number of Litter Sites per Zoning

Zoning Type	Number of Litter Sites	Avg. # of Large Litter Items per Site
Commercial	24	24
Mixed Use	3	14.4
Single-Family	60	23.5
Multi-Family	17	14.3
Institutional	3	14.1
Industrial	3	5.7

A breakdown of large litter composition per zoning type is provided in Table 7 (See following page) and illustrated in Figure 42.

Table 7: Large Litter Composition by Zoning Type

Large Litter Category	Overall	Commercial	Mixed Use	Single-Family	Multi-Family	Institutional	Industrial
Avg. # of Large Litter per Site	14.4	14.4	23.5	14.3	14.1	5.7	15.7
Beverage Containers	2%	1%	1%	2%	2%	0%	2%
Other Packaging	0%	0%	0%	0%	0%	6%	0%
Cups	8%	8%	11%	8%	7%	0%	26%
Bags	2%	4%	2%	2%	3%	0%	2%
Other Packaging (Boxes)	4%	5%	1%	5%	3%	0%	9%
Other Containers	1%	1%	1%	2%	1%	0%	2%
Food Wraps/ Containers	6%	5%	7%	4%	11%	3%	13%
Take Out Extras	6%	5%	7%	7%	6%	9%	4%
Trays	0%	0%	0%	0%	0%	0%	0%
Confectionary/ Snack	5%	5%	3%	6%	5%	0%	2%
Cloth	3%	2%	1%	3%	3%	0%	2%
Other Miscellaneous Packaging	6%	7%	7%	6%	3%	44%	6%
Paper/ Fibre Material	18%	16%	25%	18%	24%	12%	6%
Tobacco Products	2%	2%	1%	2%	0%	0%	2%
Other Miscellaneous	31%	35%	25%	31%	29%	26%	19%
Medical Waste	4%	3%	6%	3%	4%	0%	4%
Total	100%	100%	100%	100%	100%	100%	100%

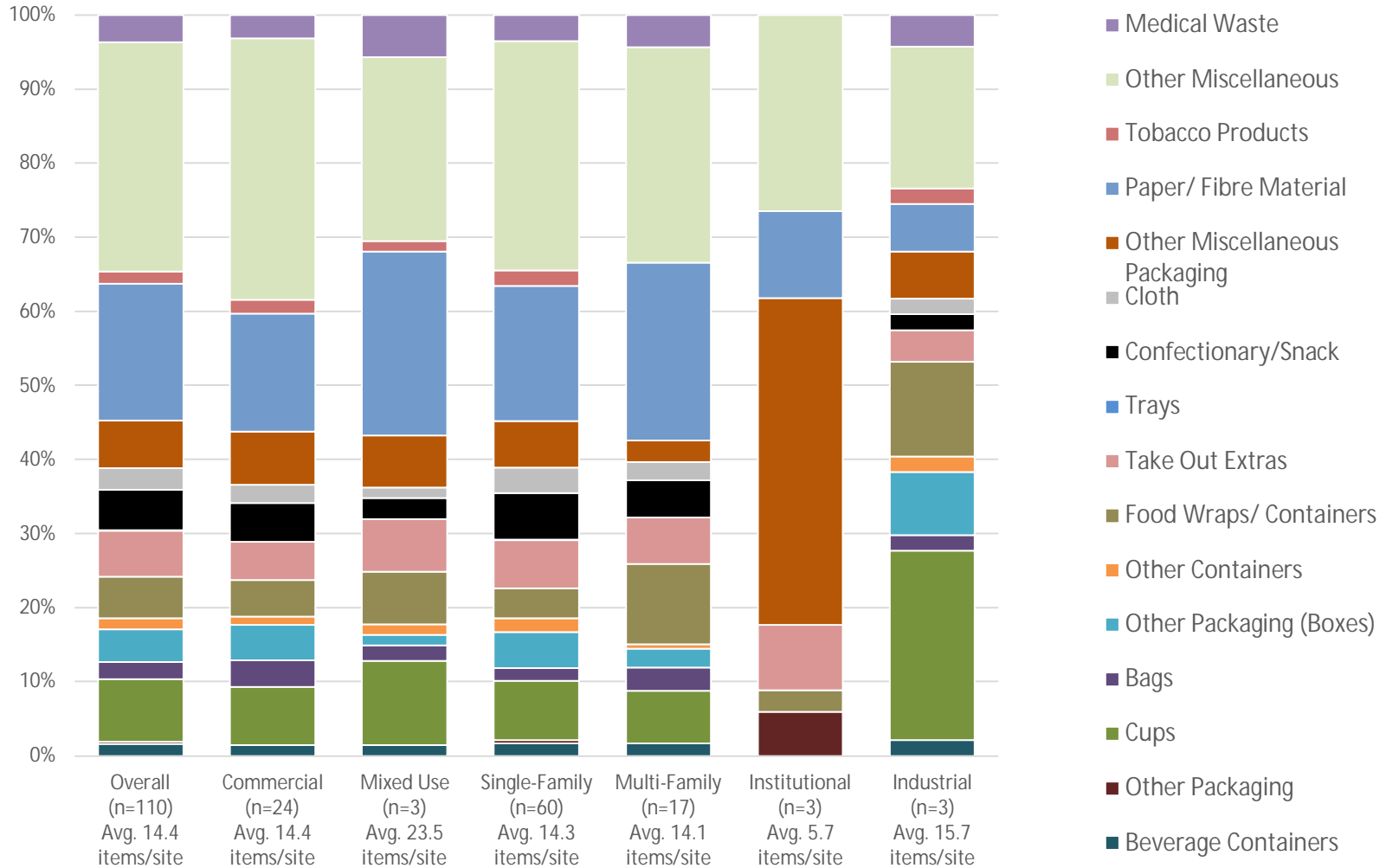


Figure 42: Large Litter Composition by Zone Type

3.2.6 Large Litter Results Compared to Previous Studies

The composition and average accumulation from 2023 are compared by secondary category to the average number of items for audit years 2015 to 2019, average number of items for audit years 2020 and 2021, and audit year 2022 in Table 8. Table 9 represents the average number of items per site as percentages. The audits completed in 2020 and 2021 are averaged and included in the comparison and are considered anomalous years due to the influence of COVID-19 on litter accumulation and consumer habits. It should be noted medical waste was not assessed as a separate category in the baseline audit study, having only been added in 2020. Also, of note these values do not include sites that were immediately adjacent to construction.

Overall, there was a 42% increase in the average number of large litter items per site observed in 2023 (14.4 pieces per site) compared to the average of 2015 through 2019 (10.1 pieces per site), a 45% increase from the average of the 2020 and 2021 audit (9.9 pieces per site), and a 43% increase from the 2022 audit (10.0 pieces per site).

The top three categories with the highest litter amounts remain the same, cups, paper/ fibre material, and 'other miscellaneous', this is illustrated in Table 8. Compared to previous audits paper/ fibre materials increased, from its lowest value observed in the average number for 2020 and 2021 (2.0) to 2023 (2.7) which is a 31% increase. 'Other miscellaneous' increased by 185% in 2023 (4.4) from its lowest value in 2022 (1.6). The lowest category of all the previous Vancouver audits remains trays with an average that does not appear over 0% for any of the audits.

Table 8: Vancouver Large Litter Audit Results in Comparison to Previous Audits in Vancouver (Average Number of Items per Site)

Category	Vancouver 2015 to 2019 (106 Average Sites)	Vancouver 2020 and 2021 (114 Average Sites)	Vancouver 2022 (113 Sites)	Vancouver 2023 (110 Sites)
Beverage Containers	0.2	0.3	0.2	0.2
Other Packaging	0.1	0.1	0.1	0.0
Cups	1.7	1.1	1.1	1.2
Bags	0.6	0.5	0.8	0.3
Other Packaging (Boxes)	0.3	0.3	0.5	0.6
Other Containers	0.1	0.1	0.1	0.2
Food Wraps/ Containers	0.3	0.3	0.4	0.8
Take Out Extras	0.5	0.6	0.5	0.9
Trays	0.0	0.0	0.0	0.0
Confectionary/Snack	0.8	0.6	0.5	0.8
Cloth	0.2	0.1	0.3	0.4
Other Miscellaneous Packaging	0.3	0.3	0.2	0.9
Paper/ Fibre Material	2.1	2.0	2.6	2.7
Tobacco Products	0.5	0.2	0.2	0.2
Other Miscellaneous	2.3	2.6	1.6	4.4
Medical Waste	n/a	0.7	1.0	0.5
Total	10.1	9.9	10.0	14.4

Table 9: Vancouver Large Litter Audit Results in Comparison to Previous Audits in Vancouver (by Percent Breakdown)

Category	Vancouver 2015 to 2019 (106 Average Sites)	Vancouver 2020 and 2021 (114 Average Sites)	Vancouver 2022 (113 Sites)	Vancouver 2023 (110 Sites)
Beverage Containers	2%	3%	2%	2%
Other Packaging	1%	1%	1%	0%
Cups	17%	10%	11%	8%
Bags	6%	6%	8%	2%
Other Packaging (Boxes)	3%	2%	5%	4%
Other Containers	1%	1%	1%	1%
Food Wraps/ Containers	3%	2%	4%	6%
Take Out Extras	5%	8%	5%	6%
Trays	0%	0%	0%	0%
Confectionary/ Snack	8%	6%	5%	5%
Cloth	2%	1%	3%	3%
Other Miscellaneous Packaging	3%	0%	2%	6%
Paper/ Fibre Material	20%	20%	26%	18%
Tobacco Products	5%	3%	2%	2%
Other Miscellaneous	23%	31%	16%	31%
Medical Waste	n/a	5%	10%	4%
Total	100%	100%	100%	100%

The average number of litter items per year and the composition of those materials has changed throughout each year of the audit. Figure 43 illustrates the annual results of litter composition throughout each audit year based on average number of litter items per site.

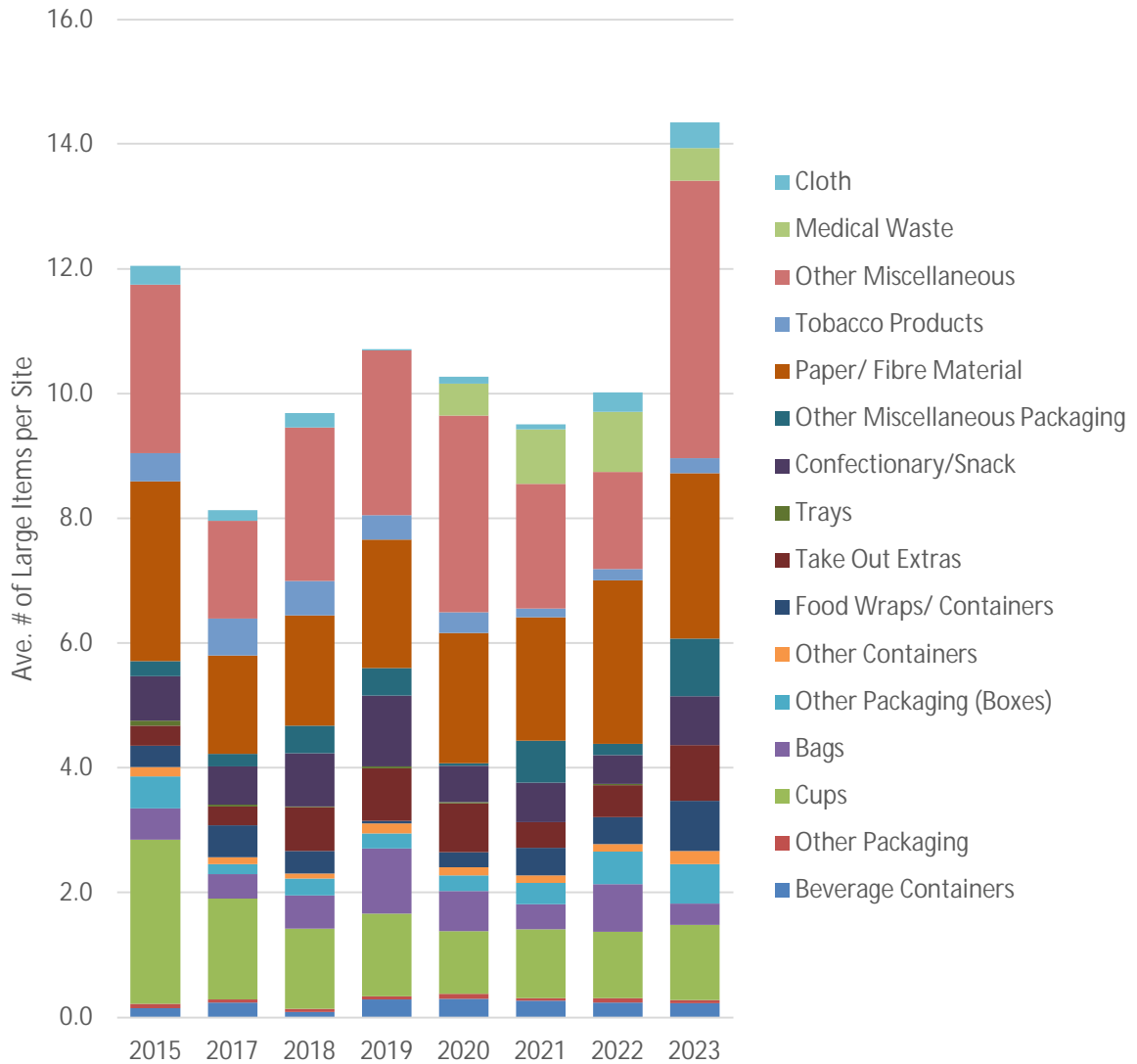


Figure 43: Comparison of Large Litter Categories by Year

3.2.7 Large Litter Statistical Analysis

The average number of large litter items per site in the 2023 audits was 14.4 pieces. There were two sites that had no large litter accumulation whatsoever. Of the 110 sites surveyed, four sites had an average of 14 pieces of large litter within the site, 68 sites had fewer than 14 pieces and 38 sites had more than 14 pieces of large litter.

3.3 Small Litter Results

Small litter is any piece of litter that is less than 4 square inches. Small litter was divided into 26 categories for the baseline audit and follow-up audits for 2017 through 2020. In 2021, vapes and vaping equipment categories were added to the small litter audit making 28 categories.

As noted previously, the small litter audit involved examining three sections within the audit site, not the entire site (Supersite audit). This section reviews small litter by category, site and as compared to the average of the baseline (2015) to 2019, average of the 2020 and 2021 results, and 2022 results. In 2023, the average number of small litter items per site with no construction adjacent was 6.2 pieces. The most common categories of small litter observed were paper (33%), cigarette butts/debris (25%), and plastic film (15%). Table 10 provides these results (illustrated graphically in Figure 44).

Table 10: Small Litter Data 2023

Category	Total Number of Items	% of Total
Cigarette Butts/Debris	172	25%
Other Tobacco	0	0%
Bottle Caps	0	0%
Straws	1	0%
Candy Packaging and Wrappers	4	1%
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	1	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	23	3%
Glass	20	3%
Paper	223	33%
Cup Sleeves	2	0%
Plastic Film	101	15%
Hard Plastic	46	7%
Aluminum/Foil Debris	20	3%
Rubber	4	1%
Metal (not aluminum)	6	1%
Chewing Gum (stuck on pavement)	43	6%
Food and Food Scraps	4	1%
Pet Waste (bagged)	0	0%
Pet Waste (loose)	1	0%
Needles/Syringes	0	0%
Medications	0	0%
Cell Phones	0	0%
Audio-Visual Devices	0	0%
Batteries	0	0%
Other Electronic Waste	0	0%
Other Material	6	1%
Vapes	3	0%
Vaping Equipment	0	0%
Total Site Small Litter	680	100%

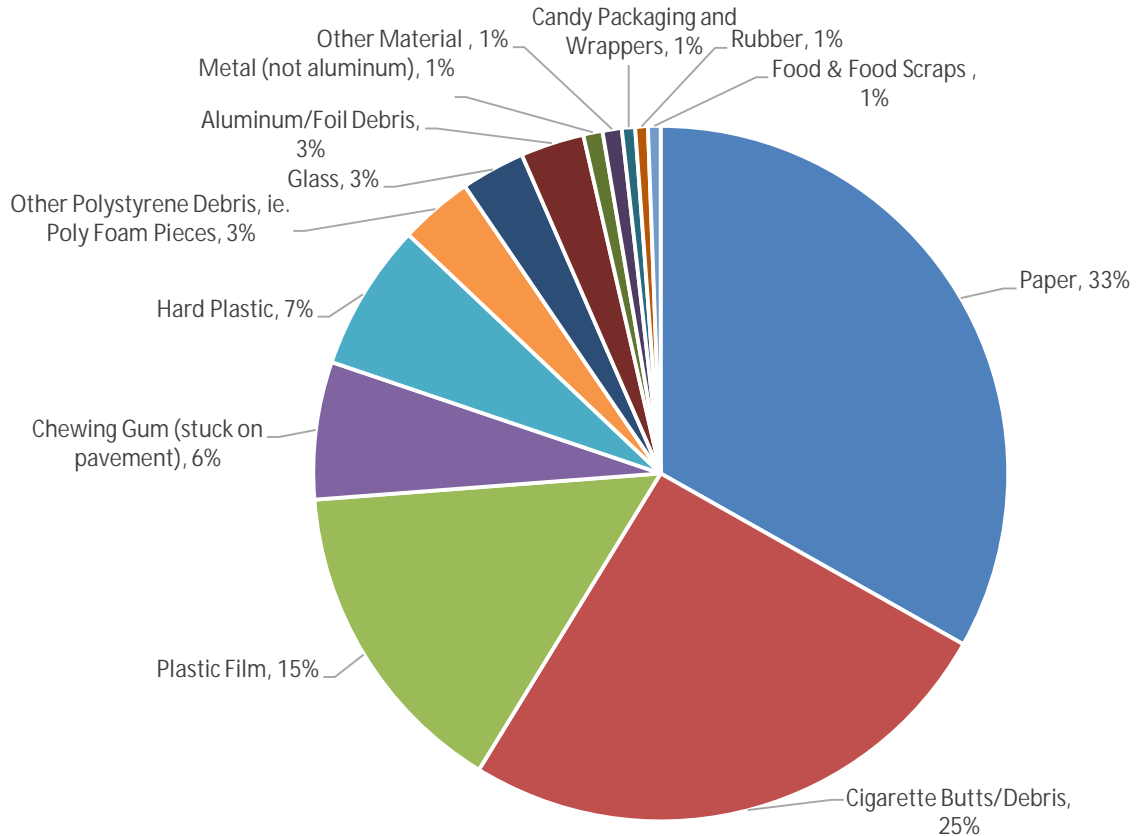


Figure 44: Small Litter Composition, 2023

3.3.1 Small Litter by Sites

The ten small litter sites with the most observed small litter are listed below in Table 11. The site with the most accumulated small litter in 2023 was Site 62 with 50 pieces of small litter observed. Site 62 is zoned for commercial use. In total, 50% of sites in the “top 10” were commercial (sites 22, 41, 62, 110, and 118). An additional 20% were multi-family (sites 13 and 107), 20% were industrial (sites 52 and 54), and 10% were single family (site 60). A full ranking of sites is provided in Appendix G. Of note, four of the top ten sites - Sites 41, 54, 62, and 118 were also litter sites with the highest number of large litter pieces in the 2022 audits.

Table 11: Small Litter Site Rankings

Site Number	Number of Pieces of Small Litter	Zoning	Hundred Block	Street Name
62	50	Commercial	2400	Kingsway
118	41	Commercial	3500	Kingsway
110	29	Commercial	400	Main Street
22	24	Commercial	2400	West 41st Avenue
13	20	Multi-Family	3500	Euclid Avenue
60	19	Single Family	7200	Dumfries Street
107	19	Multi-Family	600	Powell Street
54	18	Industrial	1100	Clark Drive
52	17	Industrial	600	Evans Street
41	16	Commercial	300	Terminal Avenue

3.3.2 Small Litter by Zoning

Sites were zoned by their typical land-use. Zones used to categorize sites included: Commercial, mixed-use, single-family, multi-family, institutional and industrial. A breakdown of the number of sites per zone is provided in Table 12.

Table 12: Number of Litter Sites per Zoning

Zoning Type	Number of Litter Sites	Avg. # of Small Litter Items per Site
Commercial	24	12.0
Mixed Use	3	6.7
Single-Family	60	3.3
Multi-Family	17	7.9
Institutional	3	1.3
Industrial	3	12.7

A breakdown of small litter composition per zoning type is provided in Table 13 and illustrated in Figure 45.

Table 13: Small Litter Composition by Zoning Type

Small Litter Category	Overall	Commercial	Mixed Use	Single-Family	Multi-Family	Institutional	Industrial
Avg. # of Small Litter per Site	6.2	12.0	6.7	3.3	7.9	1.3	12.7
Cigarette Butts/Debris	25%	25%	45%	21%	29%	50%	24%
Other Tobacco	0%	0%	0%	0%	0%	0%	0%
Bottle Caps	0%	0%	0%	0%	0%	0%	0%
Straws	0%	0%	0%	1%	0%	0%	0%
Candy Packaging and Wrappers	1%	0%	0%	2%	0%	0%	0%
Expanded Polystyrene Packing Materials, i.e., Foam Peanuts	0%	0%	0%	0%	1%	0%	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	3%	7%	0%	2%	0%	0%	0%
Glass	3%	4%	0%	2%	3%	0%	0%
Paper	33%	27%	45%	44%	28%	0%	32%
Cup Sleeves	0%	0%	0%	0%	1%	0%	0%
Plastic Film	15%	17%	10%	10%	15%	25%	24%
Hard Plastic	7%	3%	0%	8%	12%	0%	11%
Aluminum/Foil Debris	3%	3%	0%	4%	2%	0%	3%
Rubber	1%	0%	0%	1%	1%	0%	0%
Metal (not aluminum)	1%	1%	0%	2%	0%	0%	0%
Chewing Gum (stuck on pavement)	6%	10%	0%	2%	4%	25%	8%
Food & Food Scraps	1%	0%	0%	0%	3%	0%	0%
Pet Waste (bagged)	0%	0%	0%	0%	0%	0%	0%
Pet Waste (loose)	0%	0%	0%	1%	0%	0%	0%
Needles/Syringes	0%	0%	0%	0%	0%	0%	0%
Medications	0%	0%	0%	0%	0%	0%	0%
Cell Phones	0%	0%	0%	0%	0%	0%	0%
Audio-Visual devices	0%	0%	0%	0%	0%	0%	0%
Batteries	0%	0%	0%	0%	0%	0%	0%
Other Electronic Waste	0%	0%	0%	0%	0%	0%	0%
Other Material	1%	1%	0%	2%	1%	0%	0%
Vapes	0%	0%	0%	2%	0%	0%	0%
Vaping Equipment	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%

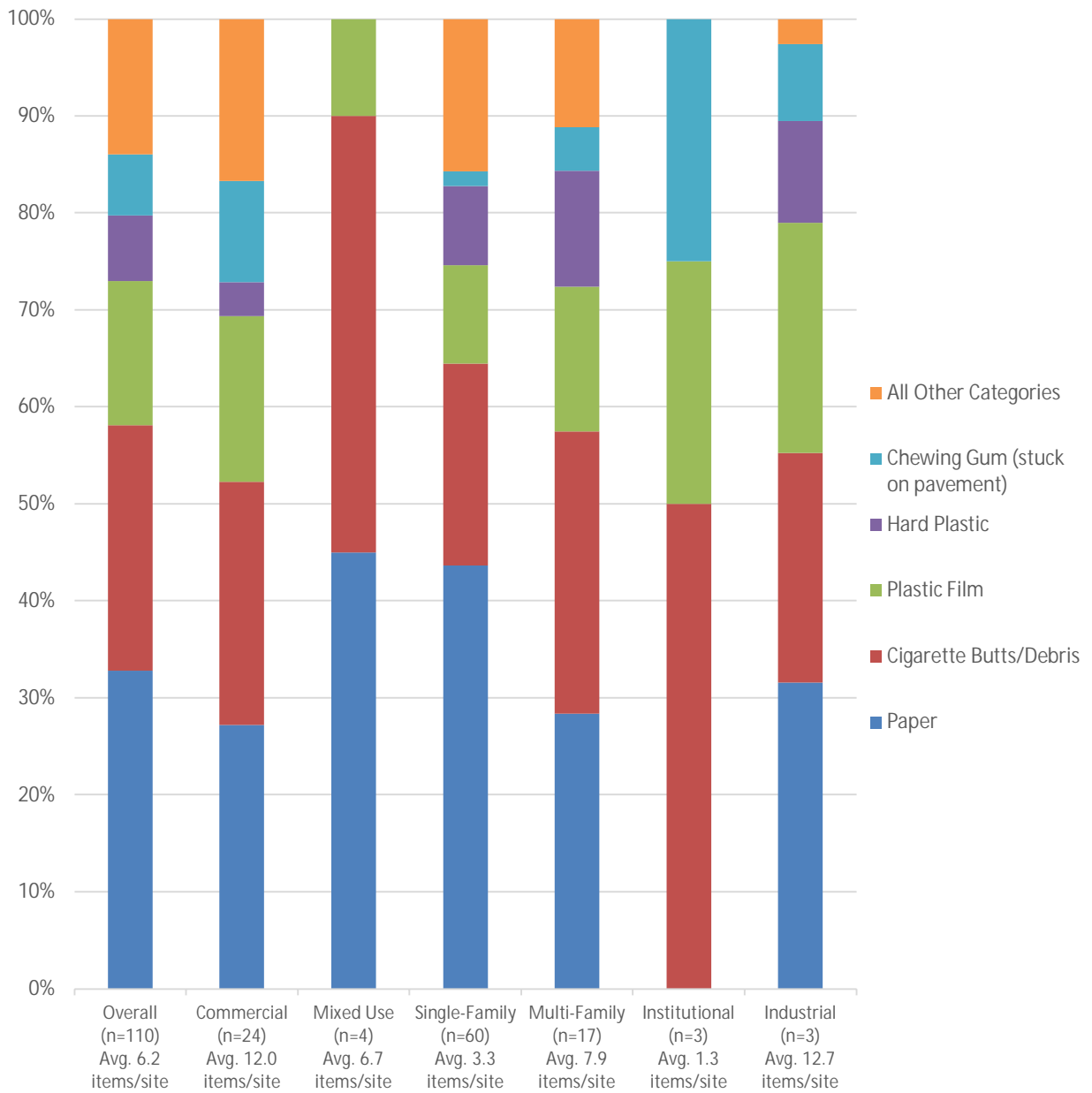


Figure 45: Smaller Litter Composition by Zone Type

3.3.3 Small Litter Results Compared to Previous Studies

The composition and average accumulation from 2023 are compared by category to the average number of items for audit years 2015 to 2019 in Table 14. The audits completed in 2020 and 2021 are averaged and included in Table 14 and Table 15, but it is considered an anomalous year due to the influence of COVID-19. It should be noted these values do not include the 14 sites that were immediately adjacent to construction in 2023 or those sites from previous audits.

A comparison of the average accumulated small litter by year is presented in Figure 46. It should be noted vapes and vaping equipment waste was not assessed as a separate category in the audit studies conducted previously, having only been added in 2021.

Overall, there was a 12% decrease in the average number of small litter per site observed in 2023 compared to the average of 2015 through 2019, a 11% decrease from the average of 2020 to 2020, and a 28% decrease from the 2022 audit.

In 2023, the top three categories were paper, cigarette butts/ debris and chewing gum which is consistent with previous audits in the City. The top three categories for 2023 compared to previous audit years is illustrated in Figure 47. Compared to previous audits cigarette butts/ debris and chewing gum have been on a downward trend. Cigarettes from its highest value in 2015 to 2019 (2.2) to 2023 (1.6), a 27% decrease. Chewing gum from its highest value in 2015 to 2019 (1.7) to 2023 (0.4) which is a decrease of 77%. There are multiple small litter categories which the average does not appear over 0% for any of the audits.

Table 14: Vancouver Small Litter Results (Average Number of Items per Site)

Category	Vancouver 2015 to 2019 (106 Average Sites)	Vancouver 2020 and 2021 (114 Average Sites)	Vancouver 2022 (113 Sites)	Vancouver 2023 (110 Sites)
Cigarette Butts/Debris	2.2	1.8	1.5	1.6
Other Tobacco	0.0	0.0	0.0	0.0
Bottle Caps	0.0	0.0	0.0	0.0
Straws	0.0	0.0	0.0	0.0
Candy Packaging and Wrappers	0.2	0.2	0.3	0.0
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	0.1	0.1	0.0	0.0
Other Polystyrene Debris (i.e., Poly Foam Pieces)	0.1	0.1	0.0	0.2
Glass	0.2	0.6	2.5	0.2
Paper	1.2	1.1	1.8	2.0
Cup Sleeves	0.0	0.0	0.0	0.0
Plastic Film	0.4	0.3	0.6	0.9
Hard Plastic	0.4	0.6	0.8	0.4
Aluminum/Foil Debris	0.2	0.3	0.2	0.2
Rubber	0.0	0.0	0.0	0.0
Metal (Not Aluminum)	0.1	0.2	0.0	0.1
Chewing Gum (Stuck on Pavement)	1.7	1.2	0.3	0.4
Food and Food Scraps	0.1	0.1	0.3	0.0
Pet Waste (Bagged)	0.0	0.0	0.0	0.0
Pet Waste (Loose)	0.0	0.0	0.0	0.0
Needles/Syringes	0.0	0.0	0.0	0.0
Medications	0.0	0.0	0.0	0.0
Cell Phones	0.0	0.0	0.0	0.0
Audio-Visual Devices	0.0	0.0	0.0	0.0
Batteries	0.0	0.0	0.0	0.0
Other Electronic Waste	0.0	0.0	0.0	0.0
Other Material	0.1	0.1	0.2	0.1
Vaping	n/a	--	0.0	0.0
Vaping Equipment	n/a	--	0.0	0.0
Total	7.0	6.9	8.5	6.2

Table 15: Vancouver Small Litter Audit Results (Percentage Breakdown)

Category	Vancouver 2015 to 2019 (106 Average Sites)	Vancouver 2020 and 2021 (114 Average Sites)	Vancouver 2022 (113 Sites)	Vancouver 2023 (110 Sites)
Cigarette Butts/Debris	29%	24%	18%	25%
Other Tobacco	0%	0%	0%	0%
Bottle Caps	0%	0%	0%	0%
Straws	0%	0%	0%	0%
Candy Packaging and Wrappers	3%	3%	3%	1%
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	1%	2%	0%	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	1%	1%	0%	3%
Glass	5%	11%	29%	3%
Paper	17%	17%	21%	33%
Cup Sleeves	0%	0%	0%	0%
Plastic Film	5%	2%	7%	15%
Hard Plastic	6%	8%	9%	7%
Aluminum/Foil Debris	4%	4%	2%	3%
Rubber	0%	0%	0%	1%
Metal (Not Aluminum)	1%	1%	1%	1%
Chewing Gum (Stuck on Pavement)	22%	19%	4%	6%
Food and Food Scraps	1%	1%	4%	1%
Pet Waste (Bagged)	0%	0%	0%	0%
Pet Waste (Loose)	0%	0%	0%	0%
Needles/Syringes	0%	0%	0%	0%
Medications	0%	0%	0%	0%
Cell Phones	0%	0%	0%	0%
Audio-Visual Devices	0%	0%	0%	0%
Batteries	0%	0%	0%	0%
Other Electronic Waste	0%	0%	0%	0%
Other Material	3%	3%	2%	1%
Vaping	n/a	n/a	0.0	0%
Vaping Equipment	n/a	n/a	0.0	0%
Total	100%	100%	100%	100%

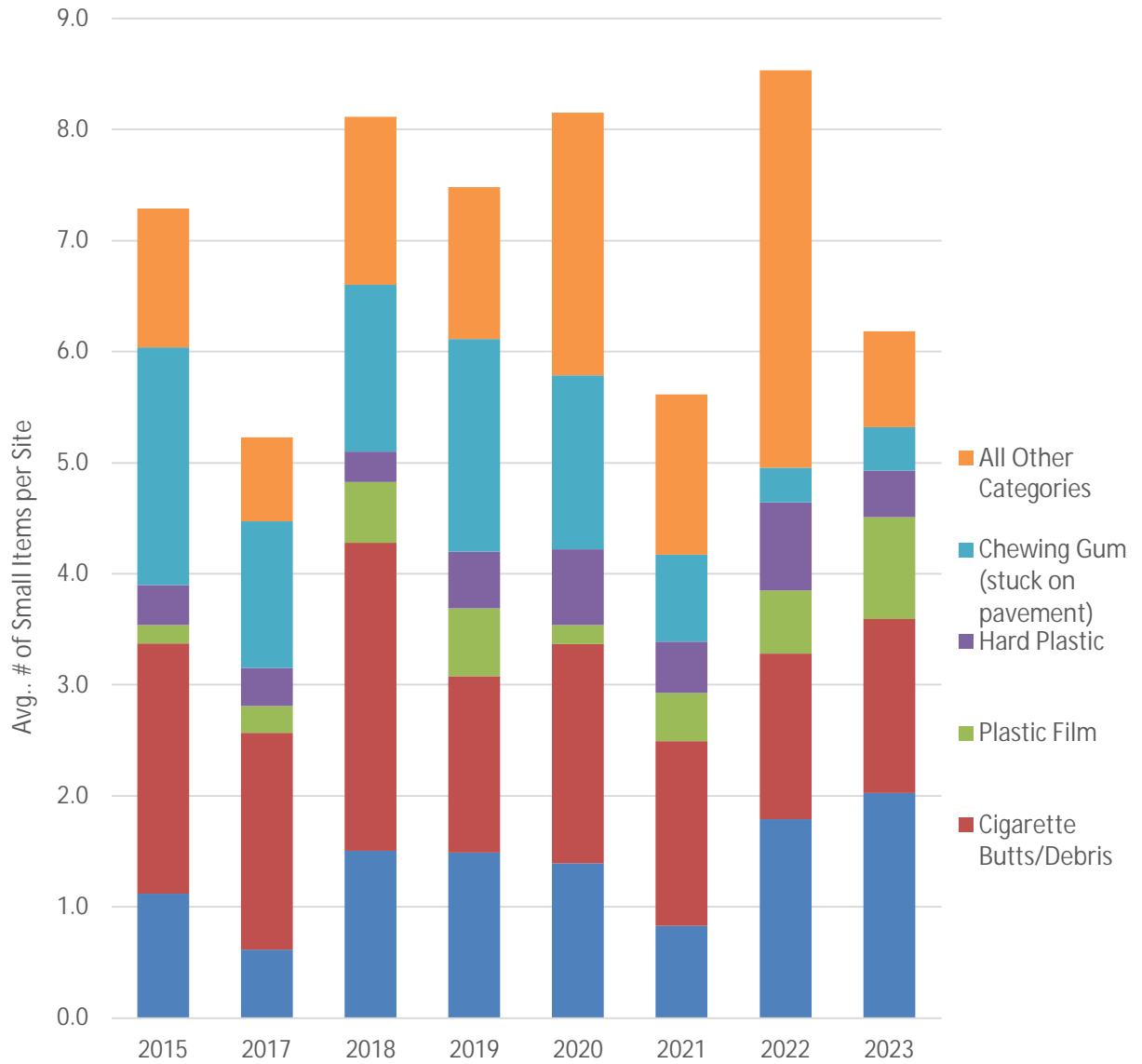


Figure 46: Comparison of Small Litter Categories by Year

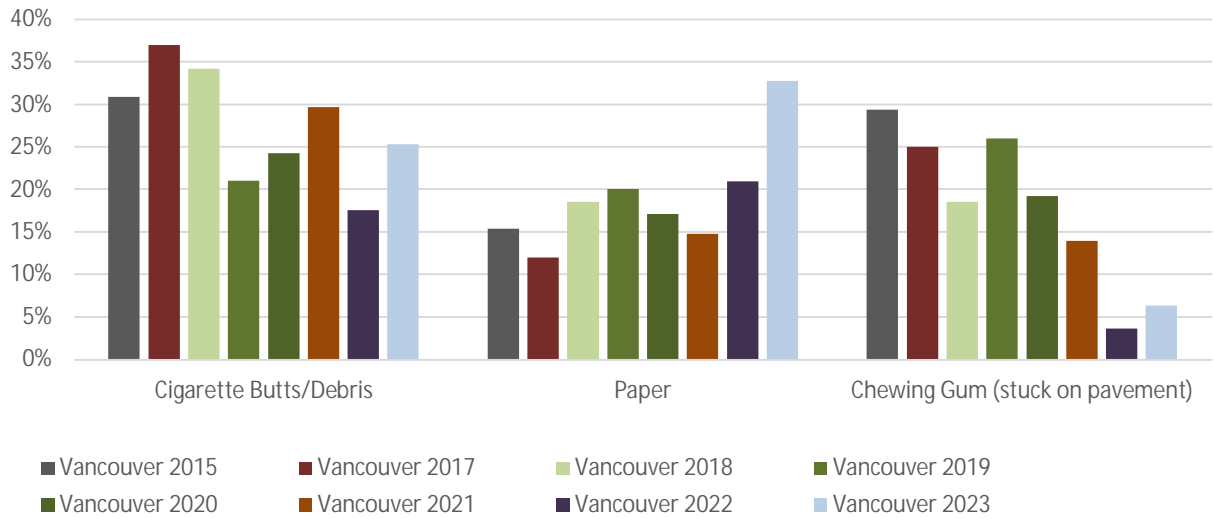


Figure 47: Comparison of Top Small Litter Categories

3.3.4 Small Litter Statistical Analysis

The average number of small litter items per site in the 2023 audits was observed at 6.2 pieces with no construction adjacent. There were 18 sites that had no small litter accumulation whatsoever. Of the 110 sites surveyed with no construction adjacent, four sites had an average of six pieces of small litter within the site, 69 sites had fewer than six pieces and 37 sites had more than six pieces of small litter.

3.4 Small Litter Supersite Results

A site is considered a supersite is when *all* small litter within the site is observed and counted, not only the three segmented portions of the site (beginning, end and mid-point). This assessment was completed at 21 pre-determined sites. Nineteen of the supersites were included in all the previous audits conducted in 2015 through 2023, however in 2020 an additional site was included (20 supersites for 2020 through 2022) and another additional supersite was included in 2023.

In 2023, the average number of small litter items per supersite was 218.0 pieces. The most common categories of small litter observed were chewing gum (35%), cigarette butts/debris (34%) and which accounted for a combined 69% of all small litter observed on the supersites. Table 16 provides these results.

Table 16: Supersite Litter Data 2023

Category	Total Number of Items	% of Total
Cigarette Butts/Debris	1,569	34%
Other Tobacco	0	0%
Bottle Caps	12	0%
Straws	8	0%
Candy Packaging and Wrappers	55	1%
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	19	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	0	0%
Glass	40	1%
Paper	578	13%
Cup Sleeves	0	0%
Plastic Film	193	4%
Hard Plastic	164	4%
Aluminum/Foil Debris	75	2%
Rubber	25	1%
Metal (Not Aluminum)	40	1%
Chewing Gum (Stuck on Pavement)	1,624	35%
Food and Food Scraps	22	0%
Pet Waste (Bagged)	4	0%
Pet Waste (Loose)	3	0%
Needles/Syringes	0	0%
Medications	0	0%
Cell Phones	0	0%
Audio-Visual Devices	0	0%
Batteries	2	0%
Other Electronic Waste	2	0%
Other Material	142	3%
Vaping	1	0%
Vaping Equipment	0	0%
Total Supersite Small Litter	4,578	100%

All 21 supersites are ranked from highest amount of litter to least in Table 17. The site with the most accumulated litter in 2023 was Site 108 with 556 pieces of small litter observed. In 2023, Site 97 had construction occurring immediately adjacent to the site.

Table 17: Supersite Rankings 2023

Site Number	Number of Pieces of Small Litter	Hundred Block	Street Name
108	556	5600	Main Street
106	541	1000	Burrard Street
54	480	1100	Clark Drive
31	463	2700	East Hastings Street
41	437	300	Terminal Avenue
97	352	800	Commercial Drive
109	340	1000	Kingsway
38	272	1000	West Georgia Street
18	170	800	Hornby Street
101	138	1700	West Broadway
52	131	600	Evans Street
104	124	1100	Denman Street
56	122	2900	Horley Street
26	106	2000	Wall Street
77	100	5500	Main Street
32	75	1800	Yew Street
21	62	300	East 39th Avenue
42	44	1700	West 3rd Avenue
65	31	7500	Selkirk Street
82	28	900	East 24th Avenue
122	6	1300	West 55th Avenue

3.4.1 2023 Supersite Small Litter Results Compared to Other Audits

Results from the 2023 supersite small litter audits were compared to the average of 2015 to 2019, average of 2020 and 2021, and 2022 results, seen in Table 18 and Table 19. Table 20 compares the number small litter found at the supersites in 2023 and the previous audits.

Overall, there was a 19% decrease in the litter accumulated at the supersites in 2023 compared to the average 2015 to 2019 results. There was a 3% decrease compared to the average 2020 and 2021 audits and 3% decrease compared to the 2022 audit. Figure 48 illustrates the top five categories of the small litter at the supersites, this includes cigarette butts/ debris, chewing gum (stuck on pavement), paper, plastic film, and hard plastic. Cigarette butts/ debris, chewing gum (stuck on pavement) and paper are consistently in the top categories. In previous years, plastic film not in the top categories with its lowest value in 2015 to 2019 of 4.2 and it has increased to 9.2 in 2023, a 119% increase. Glass was typically a top category for previous supersite litter audits. In 2023, glass was at its lowest value of 1.9 compared to its highest value observed in the average of 2020 and 2021(16.2), decreasing by 88%.

Table 18: Vancouver Supersite Small Litter Comparison (Average Number of Items per Site)

Category	Vancouver 2015 to 2019 (19 Sites)	Vancouver 2020 and 2021 (20 Sites)	Vancouver 2022 (20 Sites)	Vancouver 2023 (21 Sites)
Cigarette Butts/Debris	103.1	78.8	86.9	74.7
Other Tobacco	0.1	0.1	0.0	0.0
Bottle Caps	0.6	0.6	0.6	0.6
Straws	0.2	0.3	0.3	0.4
Candy Packaging and Wrappers	4.2	3.35	4.0	2.6
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	0.1	2	0.2	0.9
Other Polystyrene Debris (i.e., Poly Foam Pieces)	0.4	0.65	0.3	0.0
Glass	5.7	16.25	11.6	1.9
Paper	20.2	22.8	35.5	27.5
Cup Sleeves	0.0	0.15	0.0	0.0
Plastic Film	4.8	6.5	4.9	9.2
Hard Plastic	7.3	9.9	12.8	7.8
Aluminum/Foil Debris	4.0	5.25	1.4	3.6
Rubber	0.6	0.85	0.5	1.2
Metal (Not Aluminum)	1.3	2.7	1.3	1.9
Chewing Gum (Stuck on Pavement)	138.6	69.7	55.8	77.3
Food and Food Scraps	2.2	2.15	7.3	1.0
Pet Waste (Bagged)	0.1	0	0.0	0.2
Pet Waste (Loose)	0.1	0.05	0.2	0.1
Needles/Syringes	0.0	0.1	0.1	0.0
Medications	0.0	0.05	0.1	0.0
Cell Phones	0.0	0	0.0	0.0
Audio-Visual Devices	0.0	0.05	0.0	0.0
Batteries	0.1	0.05	1.1	0.1
Other Electronic Waste	0.0	0.05	0.1	0.1
Other Material	2.6	2.1	1.4	6.8
Vaping	n/a	0.2	0.0	0.0
Vaping Equipment	n/a	0.1	0.0	0.0
Total	296.3	224.8	225.9	218.0

Table 19: Vancouver Supersite Small Litter Comparison (Percentage Breakdown)

Category	Vancouver 2015 to 2019 (19 Sites)	Vancouver 2020 and 2021 (20 Sites)	Vancouver 2022 (20 Sites)	Vancouver 2022 (20 Sites)
Cigarette Butts/Debris	36%	35%	38%	34%
Other Tobacco	0%	0%	0%	0%
Bottle Caps	0%	0%	0%	0%
Straws	0%	0%	0%	0%
Candy Packaging and Wrappers	1%	1%	2%	1%
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	0%	1%	0%	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	0%	0%	0%	0%
Glass	2%	7%	5%	1%
Paper	6%	10%	16%	13%
Cup Sleeves	0%	0%	0%	0%
Plastic Film	1%	3%	2%	4%
Hard Plastic	2%	4%	6%	4%
Aluminum/Foil Debris	1%	2%	1%	2%
Rubber	0%	0%	0%	1%
Metal (Not Aluminum)	0%	1%	1%	1%
Chewing Gum (stuck on pavement)	47%	31%	25%	35%
Food and Food Scraps	1%	1%	3%	0%
Pet Waste (Bagged)	0%	0%	0%	0%
Pet Waste (Loose)	0%	0%	0%	0%
Needles/Syringes	0%	0%	0%	0%
Medications	0%	0%	0%	0%
Cell Phones	0%	0%	0%	0%
Audio-Visual Devices	0%	0%	0%	0%
Batteries	0%	0%	0%	0%
Other Electronic Waste	0%	0%	0%	0%
Other Material	1%	1%	1%	3%
Vaping	n/a	0%	0%	0%
Vaping Equipment	n/a	0%	0%	0%
Total	100%	100%	100%	100%

Table 20: Supersite Audit Results by Site and Year

Site Number	2023 Number of Pieces of Small Litter	2022 Number of Pieces of Small Litter	2020-2021 Avg. Number of Pieces of Small Litter	2019-2015 Ave. Number of Pieces of Small Litter
108	556	508	340	471
106	541	802	533	585
54	480	395	471	363
31	463	427	369.5	363
41	437	613	295	497
97	352	220	436.5	285
109	340	109	164.5	329
38	272	165	580	589
18	170	29	195	303
101	138	212	245.5	280
52	131	184	100	121
104	124	283	296.5	352
56	122	119	68.5	78
26	106	74	54.5	99
77	100	183	83	161
32	75	33	134	120
21	62	27	13	23
42	44	71	75	83
65	31	16	4	-
82	28	48	23.5	44
122	6	-	-	-
Total Small Litter	4,578	4,518	4,482	5,144

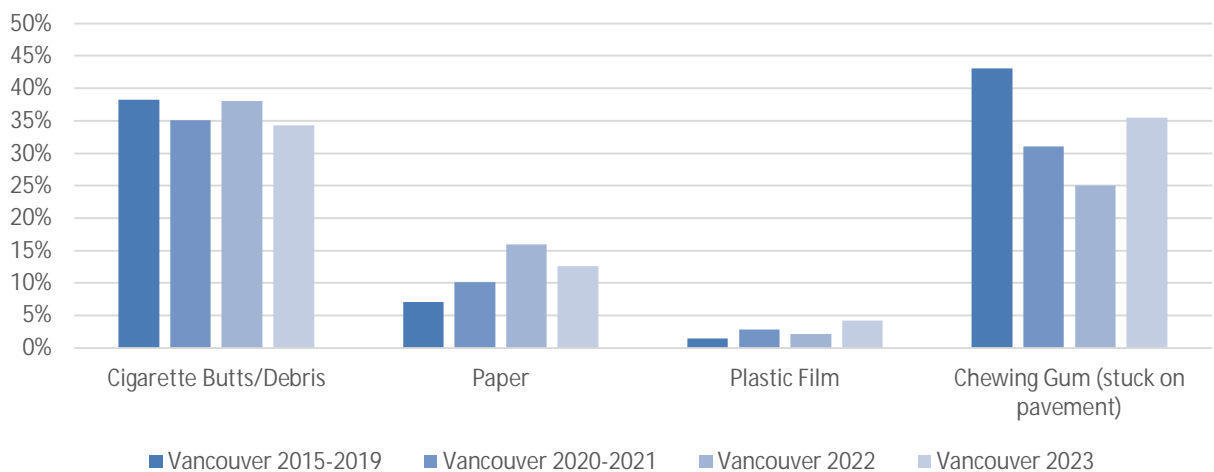


Figure 48: Comparison of Top Supersite Litter Categories

3.4.2 Supersite Small Litter Statistical Analysis

The average number of small litter items per supersite in the 2023 audits was 218.0 pieces. All sites observed had some amount of small litter accumulated. Of the 21 sites surveyed, 13 sites had less than 218 pieces of small litter and eight sites had more than 218 pieces of small litter.

3.4.3 Overall Litter Accumulation on Supersites

When a site is observed as a supersite every piece of litter is recorded. Table 21 illustrates the combined results of small and large litter for each site. Of all the supersites, Site 108 had the most accumulated litter with 569 pieces of litter counted.

Table 21: Overall Combined Small and Large Litter for Supersites

Site Number	Number of Pieces of Small Litter	Number of Pieces of Large Litter	Total Litter
108	556	13	569
106	541	3.5	544.5
54	480	12	492
41	437	37.5	474.5
31	463	2	465
97	352	39	391
109	340	5	345
38	272	7.5	279.5
18	170	2	172
52	131	26	157
101	138	7.5	145.5
56	122	7	129
104	124	2	126
77	100	17	117
26	106	6	112
32	75	7.5	82.5
21	62	10	72
42	44	22.5	66.5
65	31	11	42
82	28	14	42
122	6	3	9

3.5 Sites Immediately Adjacent to Construction

Dillon staff were asked to note if any sites had construction occurring immediately adjacent to the site being studied. There were 14 sites where this occurred in 2023 (Sites 12, 15, 17, 40, 46, 48, 63, 69, 73, 75, 79, 86, 97, and 102). These 14 sites were analyzed separately as the construction activities were expected to increase accumulation of litter.

3.5.1 Large Litter Results

Within the 14 sites immediately adjacent to construction, the average number of large litter items per site was 18.4 pieces of litter. This was, on average 28% more litter than the sites that did not have construction directly adjacent. Overall, the breakdown by material type did not drastically differ between the sites that had construction adjacent and the sites that did not.

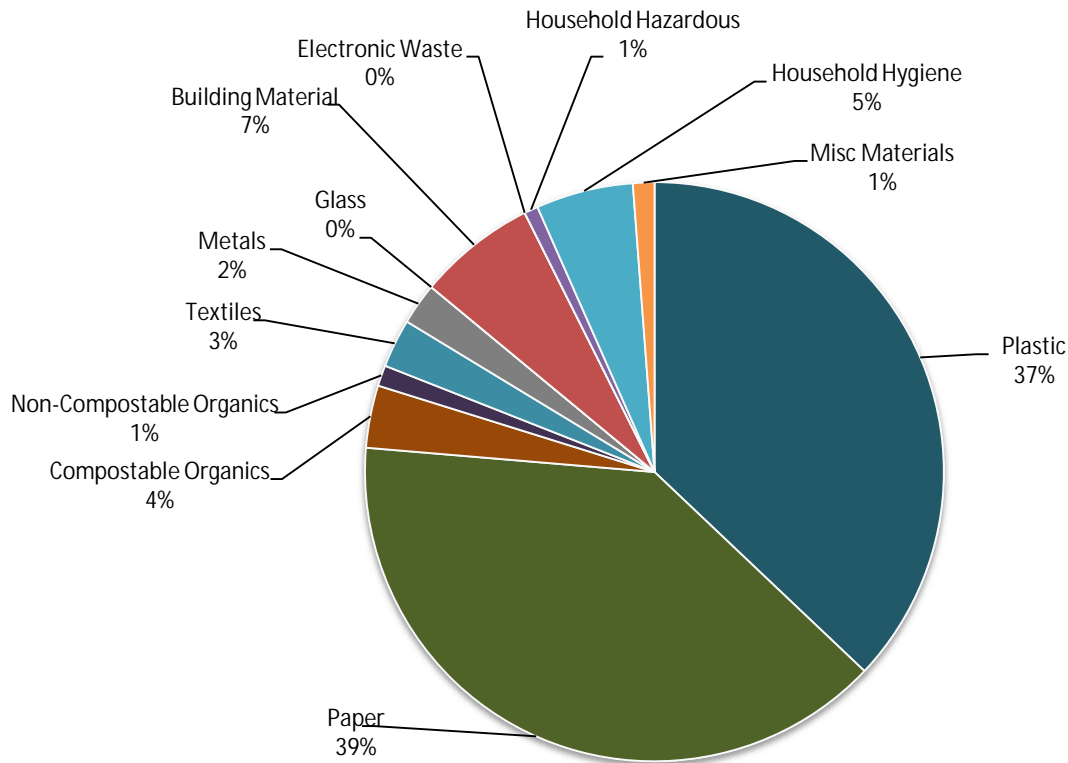


Figure 49- Litter Sites with Immediately Adjacent Construction – Large Litter by Material Type

The general composition of items by secondary category similarly did not drastically differ between the sites that had construction adjacent and the sites that did not. Figure 50 illustrates the composition of litter by secondary category found within the construction-adjacent sites. Table 22 provides a comparison of large litter observed on sites with and without construction adjacent, based on secondary category.

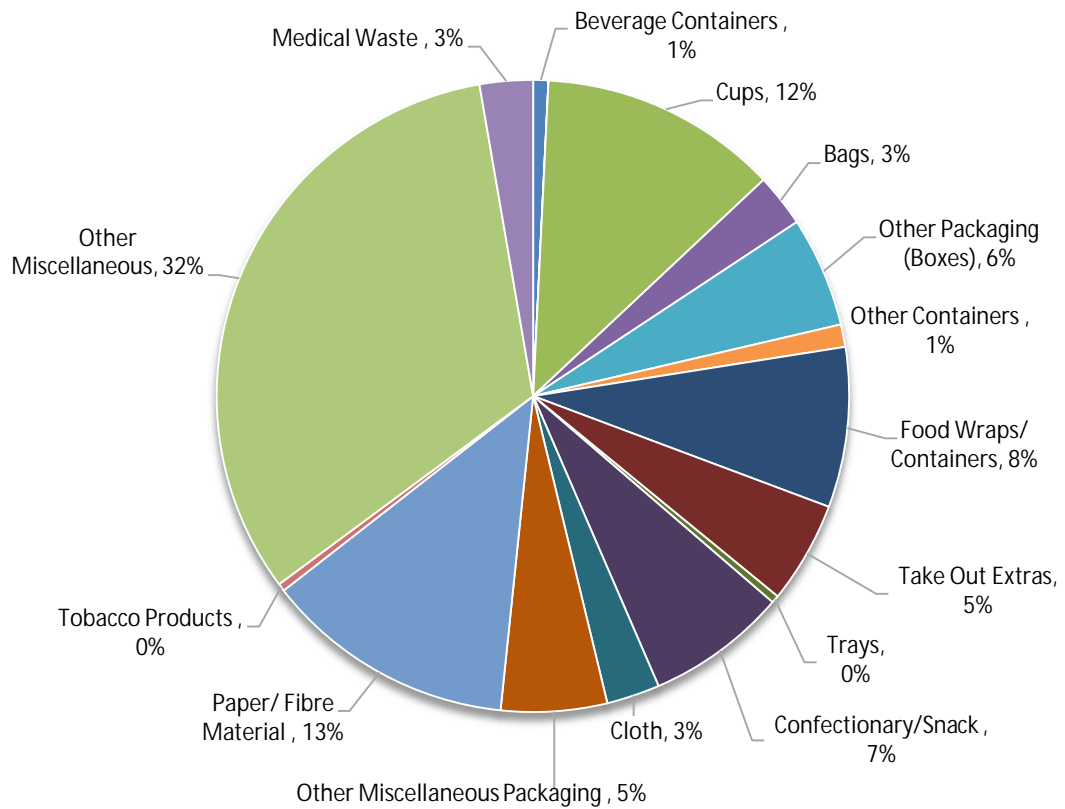


Figure 50: Litter Sites with Immediately Adjacent Construction – Large Litter by Secondary Category

Table 22: Large Litter Categories Comparison for Sites with and without Construction Adjacent

Category	Sites with Construction	Sites without Construction
Avg. Items per Site	18.4	14.4
Beverage Containers	1%	2%
Other Packaging	0%	0%
Cups	12%	8%
Bags	3%	2%
Other Packaging (Boxes)	6%	4%
Other Containers	1%	1%
Food Wraps/Containers	8%	6%
Take Out Extras	5%	6%
Trays	0%	0%
Confectionary/Snack	7%	5%
Cloth	3%	3%
Other Miscellaneous Packaging	5%	6%
Paper/Fibre Material	13%	18%
Tobacco Products	0%	2%
Other Miscellaneous	32%	31%
Medical Waste	3%	4%
Total	100%	100%

3.5.2**Small Litter Results**

Within the 14 sites that were immediately adjacent to construction, the average number of small litter items per site was 6.6 pieces of litter. This was, on average, 6% more than small litter accumulated at the sites that did not have construction (at 6.2 pieces). Table 23 provides a comparison of small litter observed on sites with and without construction adjacent, based on category.

Overall, the comparison is quite similar from one category to the next. The most significant difference is the decrease in paper on sites with construction nearby (13% with construction adjacent, 33% without construction) and an increase in chewing gum stuck on pavement (25% on construction sites and 6% on sites without construction).

Table 23: Small Litter Comparison for Sites with and without Construction Adjacent

Category	Sites with Construction	Sites without Construction
Avg. Items per Site	6.6	6.2
Cigarette Butts/Debris	25%	25%
Other Tobacco	0%	0%
Bottle Caps	0%	0%
Straws	0%	0%
Candy Packaging and Wrappers	2%	1%
Expanded Polystyrene Packing Materials (i.e., Foam Peanuts)	0%	0%
Other Polystyrene Debris (i.e., Poly Foam Pieces)	1%	3%
Glass	0%	3%
Paper	13%	33%
Cup Sleeves	1%	0%
Plastic Film	15%	15%
Hard Plastic	15%	7%
Aluminum/Foil Debris	0%	3%
Rubber	0%	1%
Metal (Not Aluminum)	1%	1%
Chewing Gum (Stuck on Pavement)	25%	6%
Food and Food Scraps	0%	1%
Pet Waste (Bagged)	0%	0%
Pet Waste (Loose)	0%	0%
Needles/Syringes	0%	0%
Medications	0%	0%
Cell Phones	0%	0%
Audio-Visual Devices	0%	0%
Batteries	0%	0%
Other Electronic Waste	0%	0%
Other Material	1%	1%
Vaping	0%	0%
Vaping Equipment	0%	0%
Total Site Small Litter	100%	100%

4.0

Additional Observations

The City of Vancouver is conducting a variety of ongoing public spaces programs promoting waste diversion in the public realm. These programs support the GCAP and are a part of ongoing zero waste initiatives that aim to promote diversion and reduce litter (particularly of SUIs).

During the litter audits, Dillon staff would note if there were any City waste receptacles within 50 m of the site. There were several different types of receptacles noticed within and around the litter sites as illustrated in Figure 51 through Figure 54.

The downtown on-street recycling project started in the summer of 2017 with 15 new three stream waste receptacles being installed in the downtown core. In 2018 there were 28 more receptacles installed, ten in the summer and 18 in the winter. It is our current understanding that there has not been any analysis done to determine if the installation of these receptacles has assisted in reducing curbside littering. However, more public spaces receptacles have been installed as required in high need areas.



Figure 51: Single Stream Garbage Receptacle



Figure 52: Single Stream Receptacle and Recyclable Beverage Container



Figure 53: Downtown Core Three Stream Receptacles

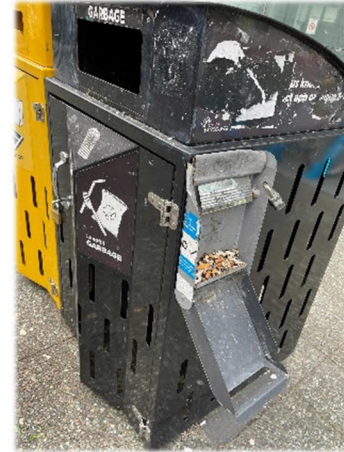


Figure 54: Cigarette Receptacle

There were 101 sites (81%) where City litter bins were *not* within 50 m of the site being audited and 23 sites (19%) where there were City litter receptacles within 50 m. Sites in proximity to waste receptacles had a lower average of large litter (14.6 pieces) compared to sites without (14.9 pieces). Small litter was on average higher where there were waste receptacles (9.8 pieces) versus when there were no waste receptacles (5.4 pieces). These results are illustrated in Figure 55. It should be noted that the City installs waste receptacles in high-traffic areas, and in some instances, waste receptacles are installed because of litter issues in specific areas. Thus, the fact that there typically is more litter accumulation near waste receptacles is not necessarily due to the presence of the receptacle itself. The increase in litter accumulation near waste receptacles may simply be due to the nature of the area where receptacles are installed.

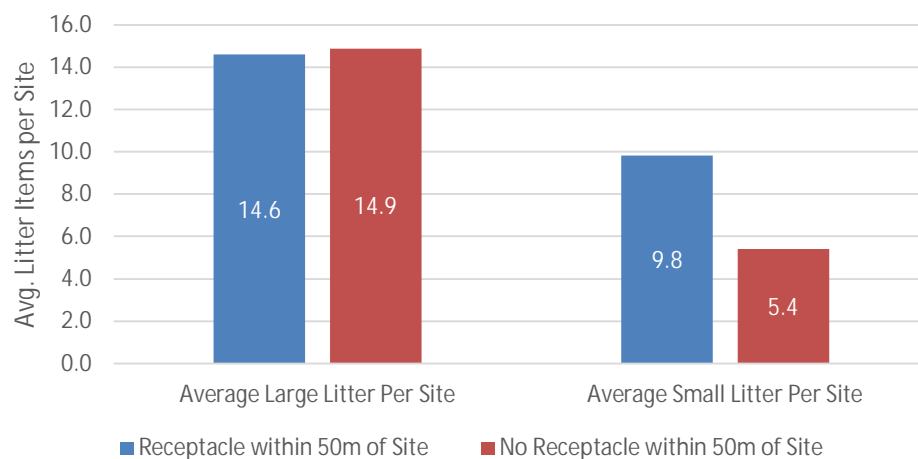


Figure 55: Average Large and Small Litter Pieces per Site (2023) based on the Presence of Waste Receptacle

5.0

Site Ranking and Attributes

Dillon staff ranked each of the 124 audited sites in three different ways, as follows:

1. Total number of large litter items audited within each site;
2. Total number of small litter items audited within each site; and
3. Total number of combined large and small litter items within each site.

Table 24 indicates the top ten sites, demonstrating the greatest accumulation of large and small litter combined. A full list of all sites is provided in Appendix G.

In an effort to examine the audit results further, various attributes which may contribute to litter levels were examined. Attributes potentially associated with the ten sites having the highest amount of combined litter are provided in Table 24. Of these sites, 30% had construction adjacent to the site and 30% had a fast-food restaurant within sight. A convenience store was noted within sight in 40% of the sites. There was a bus stop within the survey area of 30% of the sites and City litter receptacles were within 50 m of 20% of the sites.

Table 24: Combined Ranking for Large and Small Litter

Site Number	All Litter	Hundred Block	Street Name	Fast Food	Convenience Store	Bus Stop	Litter Bin	Construction
60	106	7200	Dumfries Street	N	N	N	N	N
12	72.5	5000	Slocan Street	N	N	N	N	Y
62	64	2400	Kingsway	N	Y	N	N	N
4	61	2000	Stainsbury Avenue	N	N	N	N	N
102	58	5600	Cambie Street	N	N	Y	Y	Y
97	54	800	Commercial Drive	N	Y	N	N	Y
41	53.5	300	Terminal Avenue	Y	N	N	N	N
107	52	600	Powell Street	N	N	N	N	N
110	52	400	Main Street	Y	Y	Y	Y	N
22	51	2400	West 41st Avenue	Y	Y	Y	N	N

6.0 Conclusions

6.1 Key Findings of the Large Litter Audits

Large litter was observed at 120 of 124 sites. Fourteen of these audits are analyzed separately as they were immediately adjacent to construction sites. The specific key findings of the large litter audits were:

- In 2023, items within the primary large litter categories were identified by the different material composition types. The largest material type observed was paper (44%), followed by plastic (34%) and household hygiene (6%).
- In 2023, the most common secondary categories for large litter observed ‘other miscellaneous’ (31%) – see examples in Appendix C. Paper/fibre materials (18%), and cups (8%) were the next most commonly observed.
- Overall, there was a 42% increase in the average number of large litter items per site observed in 2023 (14.4 pieces per site) compared to the average of 2015 through 2019 (10.1 pieces per site), a 45% increase from the average of the 2020 and 2021 audit (9.9 pieces per site), and a 43% increase from the 2022 audit (10.0 pieces per site).
- The most common tertiary category of large litter observed was ‘miscellaneous paper’. Miscellaneous paper represented 11% of all large litter surveyed in 2023.
- Of the 1,579.5 pieces of large litter audited, 4% were PPE and other medical waste items (disposable masks, gloves, and disinfecting wipes). This is a decrease from average of the 2020 and 2021 audits (7%) and 2022 audits (10%).
- Within the 14 sites that were immediately adjacent to construction, the average number of large litter items per site was 18.4 pieces of litter. This was, on average, 28% more large litter than the sites that did not have construction directly adjacent (at 14.4 pieces).

6.2 Key Findings of the Small Litter Audits

Small litter was observed at 103 of the 124 sites. Fourteen of these audits are analyzed separately as they were immediately adjacent to construction. The specific key findings of the small litter audits were:

- The most common categories of small litter observed were paper (33%), cigarette butts/ debris (25%) and plastic film (15%).
- Overall, in 2023, there was a 12% decrease in the small litter observed from the average results observed in 2015 to 2019, a 11% decrease from the average results observed in 2020-2021, and a 28% decrease from the 2022 audit.
- Within the fourteen sites that were immediately adjacent to construction, the average number of small litter items per site was 6.6 pieces of litter. This was, on average, 6% more small litter than the sites that did not have construction directly adjacent (at 6.2 pieces).

Key Findings of Supersite Audits

Supersite audits were completed within 21 sites. The specific key findings of the supersite assessments were:

- **The most common categories of small litter observed were chewing gum (35%) and cigarette butts/debris (34%) which accounted for a combined 69% of all small litter observed on the supersites.**
- The average number of small litter items per site was 218.0 pieces of small litter. This was less than the average pieces observed in the previous litter audits.
- The total small litter audited in the 2023 supersites was 4,578 pieces.

7.0

Recommendations

Our team understands the best practices to combat litter and illegal waste. These practices include:

- Bylaw Enforcement;
- Staffing;
- Reporting;
- Education;
- Community Engagement;
- Responsibility;
- Campaigns; and,
- Infrastructure.

Success in combating litter and illegal waste is not an easy task for municipalities. It is recommended that follow-up litter audits be completed to assess the success of litter abatement practices and City-wide litter and SUI diversion programs.

7.1

Focus for Campaigns and Education

The City has several programs and initiatives in place to reduce litter. Currently, the City is implementing and starting to enforce a Single Use-Item Strategy. The strategy includes bans and actions that focus on shopping bags, single-use cups, plastic straws, utensils and foam cups and take-out containers. Although the single-use cup bylaw was repealed in March 2023, reducing SUIs is still a priority of the City and all other aspects of the strategy remain in place as businesses are encouraged to continue adopting reusable options. Single-use items accounted for 22% of the total large litter observed in 2023, lower than in 2022 (35%), 2021 (33%) and 2020 (27%). Although the single-use cup bylaw was repealed in March 2023, reducing SUIs is still a priority of the City and all other aspects of the strategy remain in place as businesses are encouraged to continue adopting reusable options.

During the 2017 street litter audits it was determined that 20% of large litter observed was cups. Progressive reduction has been noted in this category as 13% of the large litter was cups in 2018, 12% in 2019, 10% in 2020, and 8% in 2023. The increase in cups observed in 2021 (12%) and 2022 (11%) may have been an anomaly due to pandemic influences and larger takeout usage by residents. Continuing to target single-use items should positively impact litter abatement within the City.

Of the 1,579.5 pieces of large litter audits observed in the 2023 audits, 4% were PPE and other medical waste items (disposal masks, gloves and disinfecting wipes). This is a decrease from the percentage of PPE and other medical waste items observed in the 2020 audit (5%), 2021 audit (9%), and 2022 audit (10%). The decrease in observed medical waste may be influenced by a change in public health practices, as well as the timing of the audit. PPE continues to have a presence as observed since the pandemic and continued proper disposal should be encouraged and advertised, especially during influenza season.

Effective in April 2020, food vendors are banned from supplying plastic straws (with accessibility exceptions) and single-use utensils can only be provided upon customer request in the City. In 2023, straws accounted for 3% and utensils 1% of the total large litter observed. Notably, the majority of the straws observed in 2023 were paper (71%) and not plastic. Plastic was however the primary material category observed for utensils (62%), possible since there is no ban on plastic utensils presently.

It is recommended that targeted litter campaigns on large litter items (including all SUIs) continue to focus on the reduction of:

- Cups;
- Straws; and,
- Take out extras such as napkins, utensils, condiment packaging.

Should the City create more of a targeted approach to litter abatement it is recommended that the campaigns focus on these small litter categories:

- Chewing gum; and,
- Cigarette butts/debris.

In regard to cigarette butts/debris, this may include increased offering of cigarette waste receptacles in high volume pedestrian locations, in addition to expanding the City's pocket ashtray program that provides on-the-go cigarette butt containers.

The City notes it costs taxpayers \$2.5 million a year for the City to collect disposable cups and takeout containers from public waste bins and litter. Focusing campaigns and educational outreach on targeted items, and possibly in specific areas of the City noted for high litter accumulation, could decrease the requirement for litter management within these areas.

Limitations

It is important to note the information contained within this report, detailing the 2023 litter audit results, is a “snapshot” in time. These results only reflect the conditions of the period of time in which they were collected. Seasonal variability and weather, among other factors, can affect the amount of accumulated litter within an area. The litter audit results for the assessments that took place September 5 to 8, 2023, are those reflected in this report.

Appendix A

Summary of Annual Changes to Audit Methodology

Summary of Changes to Audit Methodology



Since the 2015 baseline assessment, additional sites and material categories have been included in the follow-up audits. These changes are detailed in the table below. Additional modifications and unique conditions that may impact the year-to-year audits have also been detailed.

Year	Site Modification	Large Litter Category Modifications	Small Litter Category Modifications	Additional Modifications and Unique Conditions
2015 (baseline)	<ul style="list-style-type: none"> 108 sites assessed. 19 supersites assessed. Sites 29 and 99 removed from audits due to lack of access. 	<ul style="list-style-type: none"> 15 large litter categories. 120 large litter subcategories. 	<ul style="list-style-type: none"> 26 small litter categories. 	
2017	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes.
2018	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes.
2019	<ul style="list-style-type: none"> Two new sites added to include the Marpole neighbourhood (sites 111 and 112). 110 sites assessed. 19 supersites assessed. 	<ul style="list-style-type: none"> Two new large litter sub-categories were added to the "Take out Extras" category (straws and stir-sticks). 15 large litter categories. 122 large litter subcategories. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes.
2020	<ul style="list-style-type: none"> 14 sites added into overall analysis (Sites 113 to 126). One additional supersite (Site 65) assessed. 124 sites assessed. 20 supersites assessed. 	<ul style="list-style-type: none"> Medical waste added to large litter category (includes the following sub-categories: disposable gloves, masks and disinfecting wipes). 16 large litter categories. 125 large litter subcategories. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> COVID-19. Cleanliness Index (CI) ranking used as a visual ranking of site for 2020 and subsequent litter audits.
2021	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> No changes. 	<ul style="list-style-type: none"> Vaping and vaping equipment added. 28 small litter categories. 	<ul style="list-style-type: none"> COVID-19.

Year	Site Modification	Large Litter Category Modifications	Small Litter Category Modifications	Additional Modifications and Unique Conditions
2022	<ul style="list-style-type: none"> • 123 sites assessed. • Site 110 removed from audit this year due to lack of access. 	<ul style="list-style-type: none"> • No changes. 	<ul style="list-style-type: none"> • No changes. 	<ul style="list-style-type: none"> • COVID-19.
2023	<ul style="list-style-type: none"> • No changes 	<ul style="list-style-type: none"> • Overall classification modified to comprise of primary, secondary, and tertiary categories. • The 12 primary categories are classified based on known material composition types. • The secondary categories comprise of the 16 large litter categories from previous litter audits. • The tertiary categories comprise of the subcategories from previous litter audits. • Straw and utensils were further classified by material type under the tertiary category. Additions include straws (paper), straws (plastic), utensils (paper), utensils (wood) and utensils (plastic). • 128 large litter secondary categories. 	<ul style="list-style-type: none"> • No changes. 	<ul style="list-style-type: none"> • No changes.

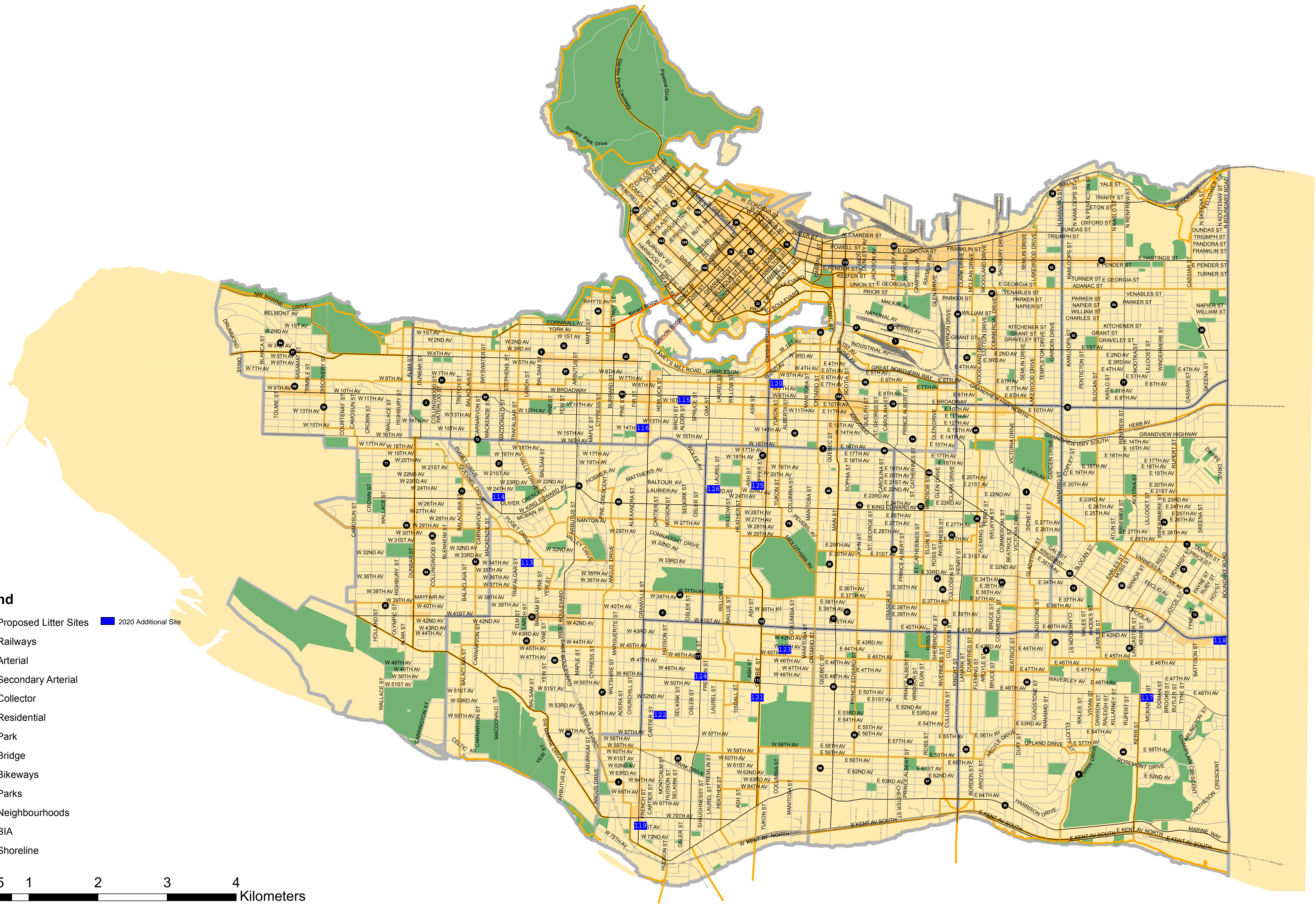
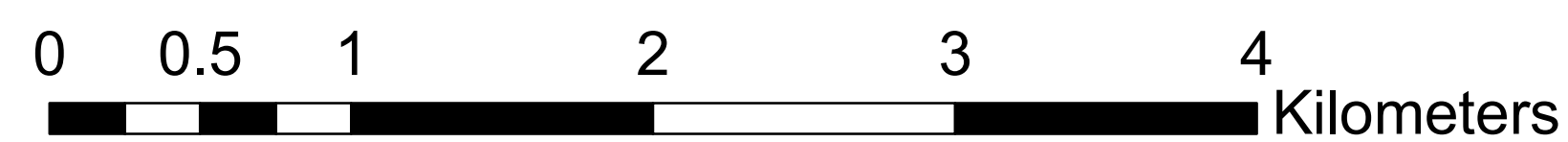
Appendix B

Site Distribution Maps and Litter Hot Spots



Legend

- Proposed Litter Sites
- 2020 Additional Site
- Railways
- Arterial
- Secondary Arterial
- Collector
- Residential
- Park
- Bridge
- Bikeways
- Parks
- ▭ Neighbourhoods
- ▭ BIA
- ▭ Shoreline

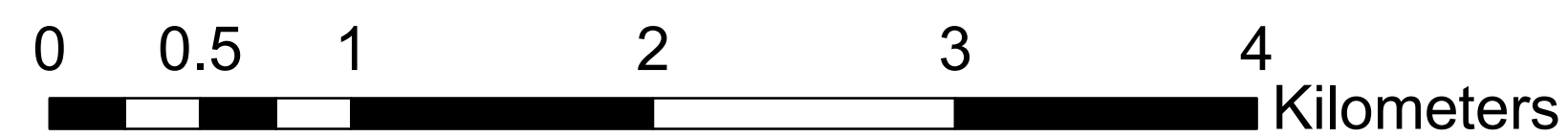




Top 10 Large Litter Sites

Legend

- Proposed Litter Sites
- 2020 Additional Site
- Railways
- Arterial
- Secondary Arterial
- Collector
- Residential
- Park
- Bridge
- Bikeways
- Parks
- ▭ Neighbourhoods
- ▭ BIA
- ▭ Shoreline

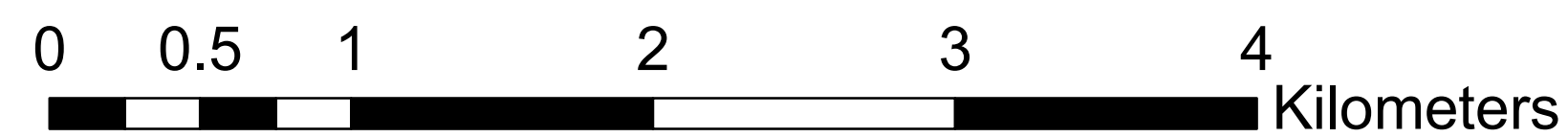




Top 10 Small Litter Sites

Legend

- Proposed Litter Sites
- 2020 Additional Site
- Railways
- Arterial
- Secondary Arterial
- Collector
- Residential
- Park
- Bridge
- Bikeways
- Parks
- ▭ Neighbourhoods
- ▭ BIA
- ▭ Shoreline

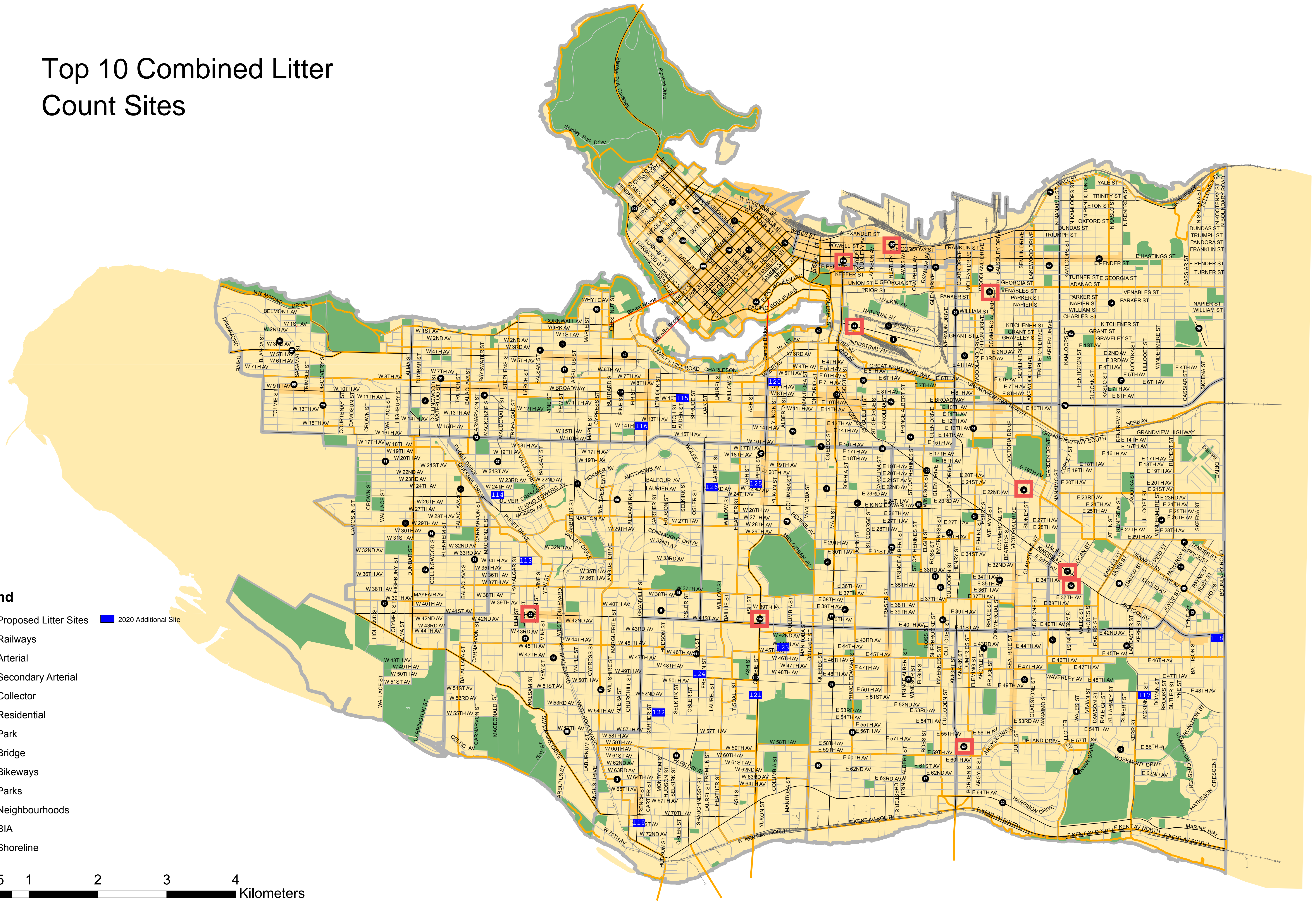
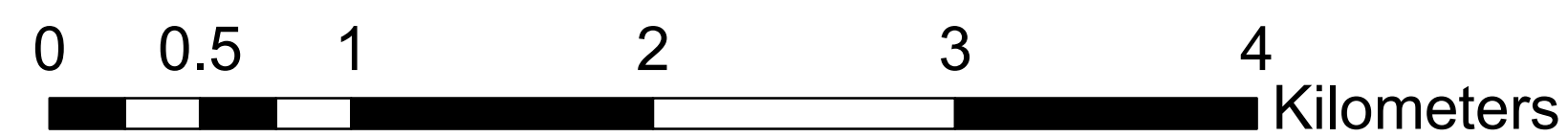




Top 10 Combined Litter Count Sites

Legend

- Proposed Litter Sites
- 2020 Additional Site
- Railways
- Arterial
- Secondary Arterial
- Collector
- Residential
- Park
- Bridge
- Bikeways
- Parks
- ▭ Neighbourhoods
- ▭ BIA
- ▭ Shoreline



Appendix C

Detailed Methodology

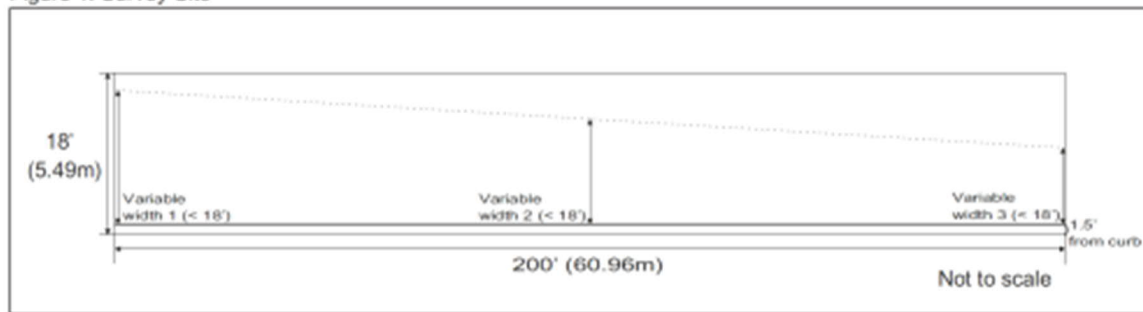
Conducting the Litter Audit

Audit area at the sites should be the same size. Audit Areas are to be 200 feet x 18 feet. These full-sized audit areas are termed “fixed” sites. The site width may be less than 18 feet in some cases, such as when in commercial areas the storefront is set back less than the prescribed distance. In these cases, each site should be 200 feet in length by the width available (<18 feet), which will be recorded. These sites are termed “variable” sites.

Beginning at the front of the parked car or the start of the site, the team shall use a measuring device to measure 50 feet ahead of the start of the site. Using street marking paint (water based to dissolve) or some other temporary marking method (e.g., chalk, pylons), a mark should be made on the pavement ahead to denote the starting point of the audit site. From this point the team will measure 100 feet, marking the roadway with another identifier to show the mid-point of the site. A final measurement of an additional 100 feet denotes the end of the audit site. As mentioned above, each site is to be 200 feet in length.

The width measurement shall be taken at the start, midpoint, and end of the site. The width of the site should be measured 1.5 feet from inside the curb or the start of the pavement, towards the outer edge of the site, up to a maximum width of 18 feet and marked to indicate the boundary. This rule is set to include 1.5 feet into the street since curbs are normal catchment structures, for which the City is responsible for litter clean up. Refer to Figure 1 below depicting the audit site setup.

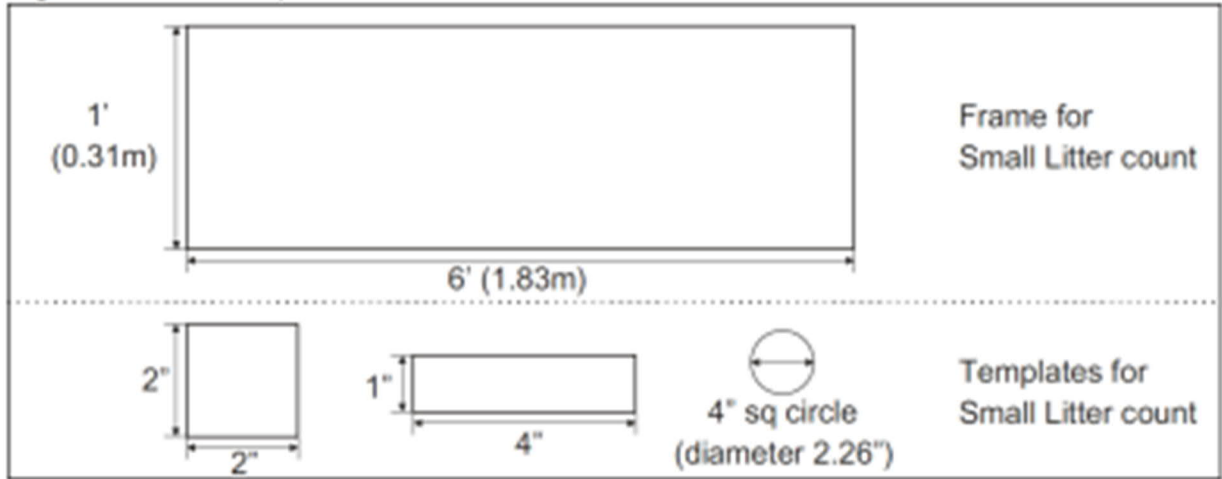
Figure 1: Survey Site



Classification of Large Litter

For purposes of classifying litter, and in accordance with the methods used in previous litter surveys, large litter is defined as being greater than 4 square inches in size. To assist the field teams with determining the litter sizes, each audit team will be provided with three templates of 4 square inches in rectangle, square and round shape form. Refer to Figure 2 depicting diagrams of the litter templates. At each site location this litter audit will observe and document large litter in 12 primary categories, 16 secondary categories and 128 tertiary categories.

Figure 2: Litter Templates










Classification of Small Litter and Supersites










Small litter is defined as those pieces of debris that are less than 4 square inches in size. It is classified under 28 categories. The small litter audit involves examining three segments, or slices taken through the audit site. A frame shall be constructed for each audit team, using ½ inch PVC plastic tubing (or a similar material) to act as the template. This frame shall measure 1 foot wide and 6 feet long. Three successive “flips” of the frame will complete crossing the site to the 18-foot boundary of the site. The litter auditor will observe and count all the small litter contained within the frames at three locations within each site: at the start, mid-point and end of the site. At each segment three flips of the frame will be analyzed, thus surveying a total of 18 square feet segment for a total of 54 square feet of the entire site. See Figure 3 for a depiction of the site setup for the small litter survey. The Site Surveyor Form – Small Litter Count Sheet will be used to record the findings for each site. All small litter within supersites is to be observed, counted and classified as per the small litter categories outlined.

Figure 3: Small Litter Site Layout



Cleanliness Index

Cleanliness Rating	Evaluation Meaning	Photographic Example	Cleaning Effort by One Person	Equipment Needed
1	The site appears clean, <u>no noticeable litter</u> or very little		 <ul style="list-style-type: none"> • Minor to no effort cleaning • Requires less than 10 minutes cleanup 	 <p>Litter, if any, would fit in a sandwich-sized Ziploc bag</p> <p>OR</p> <p>No equipment needed</p>
2	The site has <u>noticeable litter</u> in certain areas		 <ul style="list-style-type: none"> • Minor cleaning • Requires 10-30 minutes of cleanup 	 <p>Litter picker</p>  <p>Litter would fit in a plastic grocery bag</p>

Cleanliness Rating	Evaluation Meaning	Photographic Example	Cleaning Effort by One Person	Equipment Needed
<p style="font-size: 2em; color: #0070C0;">3</p>	<p>The site has <u>consistent noticeable litter</u> or a large item or a concentrated pile of garbage/litter</p>		<div style="text-align: center;">  </div> <ul style="list-style-type: none"> Major cleaning Requires 30-60 minutes of cleanup 	<div style="text-align: center;">  <p>Litter picker</p>  <p>Broom/rake</p>  <p>Litter would fit in a big garbage bag</p> </div>
<p style="font-size: 2em; color: #D9534F;">4</p>	<p>The site may require more than one person for cleaning, <u>requires City attention</u></p>		<div style="text-align: center;">  </div> <ul style="list-style-type: none"> Requires more than one person Requires City attention 	<div style="text-align: center;">  <p>Flatbed pickup truck</p> <p>OR</p>  <p>Rear loader packer</p> </div>

Large Litter Material Category Examples

Below are examples for large litter materials categories that are more ambiguous or encompass several items.

Home Article Photos



Misc. Cardboard Photos



Misc. Paper Photos



Home Plastic Photos



Appendix D

Site Location Details

Site Location Details

Site #	Building Number	Street	Hundred Block	Date	Start	End	Team	Fixed	Width 1	Width 2	Width 3	Street Type	Lanes	Divided	Area	Grass Ht (inches)	Fast Food	Names of Fast Food	Conv. Store	Stop	Bus Stop within Sight	Bus Stop within Survey Area	Traffic Calming	Litter Bin	Catch Points	Litter Visual Index	Clean Up	Comments	Construction	City Type	
1	730	Terminal Avenue	700	06-09-2023	8:56	9:08	B	N	14	14	14	MAJOR	6	Y	COMMERCIAL	3" - 6"	Y	Starbucks across the street	N	Y	Y	N	N	N	N	CURB, GRASS LINE, TREE LINE, HEDGE, OTHER	2	N	driveway to Acura at Section 3; Auto showrooms in site (Acura, Toyota); Starbucks across street	N	CO
2	3550	West 11th Ave	3500	05-09-2023	2:43	2:50	A	N	13.5	14	13.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
3	1629	West 14th Avenue	1600	07-09-2023	3:10	3:30	A	N	16.5	17.5	17	MINOR	2	N	RESIDENTIAL	-	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF
4	2055	Stainsbury Avenue	2000	07-09-2023	1:14	1:29	B	N	12	12	12	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	4	N	neighbors complain of blackberries blocking sidewalk; grid fence for tree line in section 3; grid fence for vacant lot in section 3	N	SF
5	5400	Cartier Street	5400	07-09-2023	7:10	7:25	A	N	8.5	9	9	MINOR	2	N	RESIDENTIAL, INSTITUTIONAL	N/A	N	n/a	N	Y	N	N	N	N	N	CURB	1	N	none	N	INST
6	7683	Vivian Drive	7600	08-09-2023	9:41	9:47	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	3	N	Fraserview Golf Course across the street	N	SF
7	50	East 16th Avenue	0	06-09-2023	3:06	3:15	B	N	10	8.5	6.5	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	HEDGE, CURB, GRASS LINE	2	N	driveway and walkways to homes	N	MF
8	2416	West 3rd Avenue	2400	05-09-2023	12:04	12:15	A	N	16.5	16.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE, TREE LINE	1	Y	none	N	MF
9	5916	Argyle Street	5900	08-09-2023	10:57	11:05	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	2	N	none	N	SF
10	3419	Wellington Avenue	3400	07-09-2023	2:55	3:05	B	N	13.6	14.6	13.5	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	Y	N	N	N	N	FENCE, CURB, GRASS LINE, TREE LINE	2	N	none	N	SF
11	3402	East 29th Avenue	3400	07-09-2023	2:36	2:45	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	1	N	alleyway between Sections 2 and 3	N	SF
12	5036	Slocan Street	5000	08-09-2023	11:33	11:40	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, CURB, GRASS LINE, TREE LINE, OTHER	4	N	majority of large litter was in construction area; home construction between Sections 2 and 3; started at 5:00p; Slocan St and headed South; lots of litter inside grid fencing of 2 trees in tree line due to construction between Sections 2 and 3	Y	SF
13	3547	Euclid Avenue	3500	07-09-2023	3:41	3:52	B	N	17	17	15	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	entry ways/ stairwell to homes; Gaston Park south of Section 1; lots of leaf litter along site	N	MF
14	846	East 14th Avenue	800	06-09-2023	11:57	12:05	B	N	14.5	14.5	14.5	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	overgrown weeds and grass in Section 3	N	SF
15	636	East Broadway	600	06-09-2023	12:20	12:27	B	N	15	10	10	MAJOR	6	Y	COMMERCIAL, RESIDENTIAL	<3"	Y	SUBWAY	Y	Y	Y	N	Y	Y	Y	FENCE, CURB, OTHER	2	Y	restaurants and stores along site; started at 6:50 E Broadway	Y	MIX
16	3890	East Boulevard	3800	06-09-2023	2:55	3:05	A	N	6.5	6.5	5.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
17	2130	Renfrew	2000	07-09-2023	8:06	8:20	B	N	11	11	11	MAJOR	6	N	RESIDENTIAL	over 6"	N	n/a	N	Y	Y	N	Y	Y	Y	FENCE, CURB, GRASS LINE, OTHER	3	Y	Fog Hollow Neighborhood House across st; school across street; large spruce over Section 2	Y	SF
18	845	Hornby Street	800	05-09-2023	11:24	11:41	B	N	12.5	13	13	MAJOR	2	N	COMMERCIAL, RESIDENTIAL, INSTITUTIONAL	N/A	Y	Terrace Store	Y	Y	Y	N	N	N	N	HEDGE, CURB, TREE LINE, OTHER	1	Y	Wedgewood Hotel and Spa in site; restaurants along site	N	CO
19	725	Granville Street	700	05-09-2023	12:50	12:59	B	Y	18	18	18	MAJOR	2	N	COMMERCIAL	N/A	Y	FATBURGER, Tokyo Katsudon Food truck	Y	Y	Y	Y	N	Y	Y	CURB, OTHER	2	Y	restaurants and stores along site; litter index was a 2 then a 1 after clean-up	N	CO
20	4838	Quebec Street	4800	07-09-2023	9:30	9:40	A	N	16.5	16.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF
21	304	East 39th Avenue	300	07-09-2023	9:00	9:20	A	N	17	16.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF
22	2431	West 41st Avenue	2400	06-09-2023	12:55	1:10	A	N	11.5	10.5	10.5	MAJOR	3	N	COMMERCIAL, RESIDENTIAL, PARKLAND	N/A	Y	Minnerva's Restaurant	Y	Y	Y	Y	N	N	N	CURB	2	N	none	N	CO
23	1287	East 28th Avenue	1200	07-09-2023	11:30	11:40	A	N	16.5	16	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	FENCE, CURB, GRASS LINE	2	N	none	N	SF
24	500	Glen Drive	500	05-09-2023	3:50	3:59	B	N	9	15	15	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	alleyway separating site	N	SF
25	5537	Wallace Street	5500	06-09-2023	10:36	10:44	A	N	16	16	16	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
26	2355	Wall Street	2000	07-09-2023	10:21	10:35	B	N	18	18	17	MINOR	4	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	Y	N	N	FENCE, HEDGE, OTHER	1	N	no curb, street level same as sidewalk, plant bed in Section 3	N	MF
27	4505	West 4th Avenue	4500	05-09-2023	1:27	1:35	A	N	14.5	8.5	8	MAJOR	4	N	RESIDENTIAL	<3"	N	n/a	N	Y	Y	Y	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
28	4304	West 12th Avenue	4300	05-09-2023	2:18	2:29	A	N	17	16.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	N	N	N	N	Y	N	CURB, GRASS LINE	2	N	none	N	SF
30	8303	Beatrice Street	8300	08-09-2023	10:04	10:10	B	N	13.5	13.5	14.6	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, OTHER	2	N	alleyway in Section 3	N	SF
31	2720	East Hastings Street	2700	07-09-2023	9:45	10:06	B	N	14	14	14	MAJOR	6	N	COMMERCIAL, RESIDENTIAL	3" - 6"	Y	Chalime	Y	Y	Y	Y	N	Y	Y	CURB, TREE LINE, OTHER	1	N	restaurants and stores, medical dental centre along site	N	CO
32	1817	Yew Street	1800	05-09-2023	10:48	11:13	A	N	11.5	18	12	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	N	CURB, GRASS LINE	1	N	none	N	MF
33	990	Beatty Street	900	05-09-2023	1:59	2:09	B	N	10	16.5	16	MINOR	4	N	COMMERCIAL, RESIDENTIAL	3" - 6"	N	n/a	Y	Y	N	N	Y	N	Y	FENCE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	restaurants within site; plant boxes across street (bike lanes divider)	N	MF
34	4150	Knight Street	4100	07-09-2023	1:50	1:59	B	N	11	11	11	MAJOR	6	Y	PARKLAND	3" - 6"	N	n/a	Y	Y	Y	N	N	Y	Y	FENCE, CURB, GRASS LINE, TREE LINE	2	N	wired fence of King Crest Park	N	SF
35	197	West 14th Avenue	100	06-09-2023	2:43	2:50	B	N	14	14.5	14.5	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	none	N	SF
36	2222	Prince Edward Street	2200	06-09-2023	1:16	1:23	B	N	15	10	11	MINOR	2	N	RESIDENTIAL, PARKLAND	3" - 6"	N	n/a	N	Y	N	N	N	Y	Y	HEDGE, GRASS LINE, TREE LINE, OTHER	1	N	huge horse chestnut and plant bed by Section 3; no concrete curb (soft curb)	N	MF

Site Location Details

Site #	Building Number	Street	Hundred Block	Date	Start	End	Team	Fixed	Width 1	Width 2	Width 3	Street Type	Lanes	Divided	Area	Grass Ht (inches)	Fast Food	Names of Fast Food	Conv. Store	Stop	Bus Stop within Sight	Bus Stop Within Survey Area	Traffic Calming	Litter Bin	Catch Points	Litter Visual Index	Clean Up	Comments	Construction	City Type	
37	2822	West 20th Avenue	2800	06-09-2023	7:48	7:59	A	N	16.5	16.5	15.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	FENCE, CURB, GRASS LINE	1	N	none	N	SF	
38	1025	West Georgia Street	1000	05-09-2023	12:20	12:41	B	N	17	18	18	MAJOR	6	N	COMMERCIAL	<3"	Y	Food Truck	N	Y	Y	Y	N	Y	FENCE, CURB, TREE LINE, OTHER	2	N	bike lane along W Georgia	N	CO	
39	1465	Koolomay Street	1000	07-09-2023	8:44	8:50	B	N	12	12	14	MINOR	4	N	COMMERCIAL, INDUSTRIAL	<3"	Y	Bosa Foods	N	N	N	N	N	N	FENCE, CURB, GRASS LINE, OTHER	1	N	no sidewalk on this side of street	N	IN	
40	43	East 1st Avenue	0	06-09-2023	4:28	4:36	B	N	13.7	14.5	13.5	MINOR	2	Y	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	unable to audit front of 43 E 1st Ave due to construction, did adjacent properties on E 1st Ave landscaped patch at times, unmowed grass and weeds in grassline especially at base of tree lines; 3 people talked to Danielle	Y	MF	
41	306	Terminal Avenue	300	06-09-2023	8:09	8:44	B	N	10	12	12	MAJOR	6	Y	COMMERCIAL	over 6"	Y	TIM HORTONS	N	Y	Y	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	none	N	CO	
42	1718	West 3rd Avenue	1700	05-09-2023	9:40	10:08	A	N	13.5	13.5	14.5	MINOR	2	N	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB	1	N	none	N	CO	
43	6040	Larch Street	6000	06-09-2023	11:50	12:10	A	N	16.5	16	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	Y	N	CURB, GRASS LINE	1	N	none	N	SF	
44	2837	Woodland Drive	2800	06-09-2023	3:52	4:01	B	N	13	10	13.6	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	Y	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	none	N	SF	
45	1218	West 37th Avenue	1200	07-09-2023	7:30	7:40	A	N	11.5	12	13	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF	
46	3003	East 59th Avenue	3000	08-09-2023	9:21	9:29	B	N	15	15	15	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, CURB, GRASS LINE, TREE LINE	1	N	site is along Rupert St heading north	Y	SF	
47	556	West 17th Avenue	500	06-09-2023	3:28	3:34	B	N	16.5	16.5	16.5	MINOR	4	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	none	N	SF	
48	3789	Quebec Street	3700	07-09-2023	10:10	10:25	A	N	16.5	15.5	16	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	Y	SF	
49	3205	Carolina Street	3200	06-09-2023	11:36	11:46	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	driveway at Section 2	N	SF	
50	2941	West 10th Avenue	2900	05-09-2023	3:30	3:39	A	N	16.5	15	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	N	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF	
51	3405	West 8th Avenue	3400	05-09-2023	3:03	3:12	A	N	6.5	6.5	6	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	N	Y	N	N	N	CURB, GRASS LINE	1	N	girl mowing the lawn	N	SF	
52	620	Evans Street	600	06-09-2023	9:19	9:38	B	N	14	11	11	MINOR	4	N	COMMERCIAL, INDUSTRIAL	3" - 6"	N	n/a	N	N	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	started at 620 Evans St and headed East, 1 person from Lexus had chat with Rodolfo, Via Rail across street	N	IN	
53	1835	McLean Drive	1800	06-09-2023	10:35	10:48	B	N	13.5	15.5	11	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	leaf litter entire length of site; bird poop along pavement/sidewalk	N	MF	
54	1140	Clark Drive	1100	06-09-2023	10:01	10:26	B	N	11.5	11.5	11.5	MAJOR	6	N	COMMERCIAL	over 6"	N	n/a	N	Y	Y	Y	Y	N	Y	HEDGE, CURB, OTHER	4	Y	Pacific Alignment Inc - driveway in Section 2 and wall in Section 3; Frozen Dimsum Mtg in Section 1	N	IN
55	3438	Vanness Avenue	3400	07-09-2023	3:20	3:29	B	N	11.5	4.6	18	MINOR	4	N	COMMERCIAL, RESIDENTIAL	<3"	Y	A&W	N	Y	Y	N	N	Y	FENCE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	alleyway in Section 2	N	MF	
56	2965	Horley Street	2900	08-09-2023	8:10	8:29	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	2	N	driveway and entryways to 2965 Horley St units	N	MF	
57	7808	Ross Street	7800	08-09-2023	1:15	1:35	A	N	14.5	18	14	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB	1	N	none	N	SF	
58	5780	Berkeley Street	5700	08-09-2023	11:16	11:23	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	started at 5790 Berkeley St and headed North	N	SF	
59	395	East 56th Avenue	300	08-09-2023	1:50	2:15	A	N	15.5	15.5	16	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
60	7288	Dumfries Street	7200	08-09-2023	10:25	10:44	B	N	17	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	4	N	started at 7360 Dumfries St and headed South; 7/11, Subway, and Cashmonet and gasoline station seen NW of Section 1; alleyway in Section 2	N	SF	
61	5002	Commercial Street	5000	08-09-2023	1:05	1:13	B	N	15.8	18	18	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	2	N	site is along E 34th Ave; started at 5002 Commercial St and headed East down E 34th Ave; lots of leaf litter on site	N	SF	
62	2400	Kingsway	2400	08-09-2023	12:04	12:13	B	N	16	16	16	MAJOR	6	Y	COMMERCIAL	over 6"	N	n/a	Y	Y	N	N	N	N	CURB, GRASS LINE, TREE LINE, OTHER	3	N	started by motel driveway entrance and headed West	N	CO	
63	1506	Kamloops Street	1500	07-09-2023	9:09	9:18	B	N	14.2	14	14	MINOR	2	N	RESIDENTIAL	3" - 6"	N	n/a	N	N	N	N	N	N	CURB, GRASS LINE, TREE LINE	2	N	mature tree line; lots of leaf litter along site; home renovation along Section 2	Y	SF	
64	2880	Venables Street	2800	07-09-2023	9:30	9:37	B	N	15	15	15	MINOR	4	N	RESIDENTIAL, INSTITUTIONAL	3" - 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	1	N	Notre Dame Regional Secondary in Section 1	N	INST	
65	7596	Salkirk Street	7500	08-09-2023	7:45	8:05	A	N	18	17.5	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
66	1304	Walnut Street	1300	05-09-2023	10:22	10:36	A	N	14	14	13.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF	
67	2134	Yew Street	2100	05-09-2023	11:24	11:47	A	N	11.5	12	12.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	Y	N	CURB, GRASS LINE	2	N	none	N	MF	
68	2138	West 47th Avenue	2100	06-09-2023	11:18	11:24	A	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
69	3998	Marguerite Street	2500	06-09-2023	1:45	1:55	A	N	15	15.5	14.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	Y	SF	
70	2455	East Broadway	2400	07-09-2023	12:00	12:11	B	N	10.6	11	7.7	MAJOR	6	Y	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	N	N	Y	N	N	N	N	FENCE, HEDGE, CURB, OTHER	2	N	wired fence in Section 1 (vacant lot)	N	MX
71	3906	West 20th Avenue	3900	06-09-2023	7:11	7:20	A	N	15.5	16.5	16	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
72	3021	West 16th Avenue	3200	05-09-2023	4:18	4:27	A	N	15	16.5	15	MAJOR	2	N	RESIDENTIAL, PARKLAND	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
73	3205	West 24th Avenue	3200	06-09-2023	8:45	8:54	A	N	18	17.5	17.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	Y	SF	

Site Location Details

Site #	Building Number	Street	Hundred Block	Date	Start	End	Team	Fixed	Width 1	Width 2	Width 3	Street Type	Lanes	Divided	Area	Grass Ht (inches)	Fast Food	Names of Fast Food	Conv. Store	Stop	Bus Stop within Sight	Bus Stop Within Survey Area	Traffic Calming	Litter Bin	Catch Points	Litter Visual Index	Clean Up	Comments	Construction	City Type
74	3212	East 26th Avenue	3200	07-09-2023	2:20	2:28	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	Y	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE	1	N	overgrown grass along Section 1	N	SF
75	420	Homer Street	400	05-09-2023	2:23	2:34	B	N	15	15	15	MINOR	2	N	COMMERCIAL, RESIDENTIAL	3"-6"	N	n/a	N	Y	Y	Y	N	Y	CURB, TREE LINE, OTHER	1	N	alleyway in Section 2 with waste bins; road construction in progress	Y	CO
76	710	East 30th Avenue	700	07-09-2023	11:45	12:00	A	N	9	8	9	MINOR	2	N	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	Y	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	N	MIX
77	5999	Main Street	5500	07-09-2023	8:25	8:50	A	N	8.5	7.5	15.5	MAJOR	4	N	RESIDENTIAL	N/A	N	n/a	N	Y	Y	Y	N	Y	CURB	2	N	none	N	SF
78	3949	Prince Edward Street	3900	07-09-2023	10:35	10:45	A	N	14.5	18	14.5	MINOR	2	N	RESIDENTIAL, INSTITUTIONAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
79	286	Talbotman Avenue	200	07-09-2023	9:50	10:00	A	N	14.5	14	14	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	N	N	N	N	N	CURB, GRASS LINE	1	N	none	Y	SF
80	1610	Haro Street	1600	05-09-2023	9:11	9:30	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	3"-6"	N	n/a	N	Y	N	N	Y	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	driveway towards Lauriaton Towers; bike lane along site	N	MF
81	4938	Sherbrooke Street	4900	07-09-2023	12:50	1:05	A	N	8.5	8.5	9	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
82	957	East 24th Avenue	900	07-09-2023	10:55	11:10	A	N	14	15.5	15.5	MINOR	2	N	RESIDENTIAL, PARKLAND	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
83	5569	Inverness Street	5500	07-09-2023	1:45	2:00	A	N	16.5	17	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	Y	N	N	CURB, GRASS LINE	1	N	none	N	SF
84	3522	West 35th Avenue	3500	06-09-2023	9:48	9:58	A	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
85	3707	West 29th Avenue	3700	06-09-2023	9:09	9:24	A	N	16	16	16	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	Y	N	CURB, GRASS LINE	2	N	none	N	SF
86	3483	West 30th Avenue	3400	06-09-2023	9:28	9:40	A	N	8.5	5.5	8	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	Y	SF
87	6692	Angus Drive	6600	07-09-2023	2:40	3:00	A	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
88	2104	West 57th Avenue	2100	07-09-2023	2:20	2:30	A	N	10.5	8	12.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	N	SF
89	6507	Main Street	6500	08-09-2023	1:40	1:50	B	N	18	18	12	MAJOR	4	N	COMMERCIAL, RESIDENTIAL	3"-6"	Y	TIM HORTONS	N	Y	Y	N	N	Y	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	started at 6507 Main St and headed West along E 49th Ave; site along E 49th Ave	N	CO
90	81	East 61st Avenue	0	08-09-2023	12:50	1:10	A	N	17.5	15.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB	1	N	none	N	SF
91	2995	West 34th Avenue	2900	06-09-2023	10:12	10:19	A	N	17.5	16.5	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
92	2255	East Pender Street	2200	07-09-2023	10:47	10:57	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL	over 6"	N	n/a	N	Y	N	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	none	N	SF
93	1225	East 35th Avenue	1200	07-09-2023	1:25	1:40	A	N	12.5	8	6	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
94	1875	Tolmie Street	1800	05-09-2023	1:03	1:13	A	N	15	16	14	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF
95	4494	West 9th Avenue	4900	05-09-2023	1:50	2:00	A	N	11.5	11.5	10	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	FENCE, CURB, GRASS LINE	1	N	none	N	SF
96	1710	East Pender Street	1000	05-09-2023	4:15	4:27	B	N	16.5	14	18	MINOR	4	N	RESIDENTIAL	<3"	N	n/a	N	Y	Y	N	N	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	driveways to building (Section 3)	N	MIX
97	841	Commercial Drive	800	07-09-2023	11:19	11:43	B	N	8	15	14	MINOR	2	N	COMMERCIAL	over 6"	N	n/a	Y	Y	Y	N	N	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	3	N	existing construction in Sections 2 to 3; overhead platforms due to construction in Section 3; trailer office in Section 3; restaurants and stores along site (Uprising Breads Bakery, Sandon Avenue Bakery)	Y	MIX
98	2994	East 43rd Avenue	2900	08-09-2023	8:41	8:49	B	N	10.6	10.6	10.6	MAJOR	4	N	RESIDENTIAL	3"-6"	N	n/a	N	Y	Y	Y	N	N	FENCE, CURB, GRASS LINE	2	N	site is along Rupert St and E 43rd; fenced vacant school lot south of Section 3 across 44th Ave	N	SF
100	1215	Comox Street	1200	05-09-2023	10:00	10:14	B	N	15	14.5	15.5	MINOR	2	N	RESIDENTIAL	3"-6"	N	n/a	N	Y	Y	N	Y	Y	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	bike lane along site; street graffiti in Section 1	N	MF
101	1727	West Broadway	1700	05-09-2023	8:39	9:02	A	Y	18	18	18	MAJOR	6	N	COMMERCIAL, RESIDENTIAL	N/A	N	n/a	N	Y	Y	Y	N	Y	CURB	2	N	none	N	CO
102	5655	Cambie Street	5600	07-09-2023	7:50	8:10	A	Y	18	18	18	MAJOR	4	Y	COMMERCIAL, RESIDENTIAL	N/A	N	n/a	N	Y	Y	Y	N	Y	CURB	2	N	none	Y	CO
103	1180	Broughton Street	1100	05-09-2023	10:20	10:30	B	Y	18	18	18	MINOR	2	N	RESIDENTIAL, INSTITUTIONAL	3"-6"	N	n/a	N	Y	Y	N	N	N	FENCE, HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	1	N	Guardian Angels Catholic Church across the street	N	MF
104	1193	Denman Street	1100	05-09-2023	8:34	8:57	B	N	13	12	0	MAJOR	4	N	COMMERCIAL, RESIDENTIAL	N/A	Y	CHICKEN WORLD	Y	Y	Y	Y	N	Y	CURB, TREE LINE, OTHER	1	N	Marlin Way Convenience across street	N	CO
105	1300	Robson Street	1300	05-09-2023	9:42	9:53	B	N	18	13.8	18	MAJOR	2	N	COMMERCIAL, RESIDENTIAL	N/A	Y	BUBBLE WORLD	Y	Y	Y	Y	N	Y	FENCE, CURB, TREE LINE, OTHER	1	Y	Listel Hotel along site	N	CO
106	1081	Burrard Street	1000	05-09-2023	10:50	11:05	B	N	14.5	10.5	18	MAJOR	6	N	COMMERCIAL, RESIDENTIAL, INSTITUTIONAL	N/A	N	n/a	N	Y	Y	N	N	Y	FENCE, HEDGE, CURB, TREE LINE, OTHER	2	N	St. Pauls Hospital along site; bike lanes along site	N	INST
107	668	Powell Street	600	05-09-2023	3:20	3:35	B	N	13	13	14.5	MAJOR	4	N	COMMERCIAL	3"-6"	N	n/a	N	Y	Y	N	N	N	CURB, GRASS LINE, TREE LINE, OTHER	2	N	bus stop across street; lots of dog poop	N	MF
108	2415	Main Street	5600	06-09-2023	1:53	2:21	B	N	12	13	13	MAJOR	6	Y	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	N	Y	Y	Y	N	Y	HEDGE, CURB, TREE LINE, OTHER	4	N	grass patches off curb; large cardboard box with garbage inside and chair/stool came after doing small/large audit and during super audit	N	CO
109	1045	Kingsway	1000	06-09-2023	11:05	11:26	B	N	14.5	15	15	MAJOR	6	N	COMMERCIAL, RESIDENTIAL, INSTITUTIONAL	over 6"	N	n/a	Y	Y	Y	N	N	N	CURB, TREE LINE, OTHER	2	Y	First Church of the Nazarenes across the street; leaf litter in Section 3	N	CO
110	426	Main Street	400	05-09-2023	2:54	3:05	B	Y	18	18	18	MAJOR	6	N	COMMERCIAL, RESIDENTIAL	N/A	Y	VAN MART	Y	Y	Y	Y	N	Y	CURB, TREE LINE, OTHER	2	N	restaurants, stores, and banks (Royal Bank, TD) along site; Van Mart Super Convenience across street	N	CO
111	6106	Oak Street	6100	08-09-2023	9:15	9:40	A	N	9.5	9.5	9.5	MAJOR	6	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE, TREE LINE	1	N	none	N	SF
112	6459	Cambie Street	6400	08-09-2023	10:20	10:40	A	N	17	17.5	17.5	MAJOR	4	Y	RESIDENTIAL	<3"	N	n/a	N	Y	Y	Y	N	Y	CURB	2	N	none	N	CO
113	2627	West 34th Avenue	2600	06-09-2023	1:15	1:30	A	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF

Site Location Details

Site #	Building Number	Street	Hundred Block	Date	Start	End	Team	Fixed	Width 1	Width 2	Width 3	Street Type	Lanes	Divided	Area	Grass Ht. (inches)	Fast Food	Names of Fast Food	Conv. Store	Stop	Bus Stop within Sight	Bus Stop Within Survey Area	Traffic Calming	Litter Bin	Catch Points	Litter Visual Index	Clean Up	Comments	Construction	City Type	
114	4051	MacDonald Street	4000	06-09-2023	8:12	8:27	A	N	11.5	18	17.5	MAJOR	2	N	COMMERCIAL, RESIDENTIAL	N/A	Y	MOKS PIZZA, KOREANS DREAMY BAKESHOP, RIDGE GARDEN	N	Y	N	N	N	N	N	CURB	2	N	none	N	CO
115	1260	West 10th Avenue	1200	05-09-2023	8:00	8:20	A	N	6.5	7	6.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	N	N	N	Y	N	GRASS LINE	1	N	none	N	MF	
116	3001	Fir Street	3000	05-09-2023	9:13	9:28	A	N	7	7	7	MINOR	3	N	COMMERCIAL, RESIDENTIAL	N/A	N	n/a	N	Y	N	N	N	N	CURB	1	N	none	N	SF	
117	3114	East 49th Avenue	3100	08-09-2023	9:00	9:08	B	N	14	9.6	11	MAJOR	5	N	COMMERCIAL, RESIDENTIAL, INSTITUTIONAL	3"-6"	Y	SHELL SELECT	Y	Y	Y	Y	N	N	HEDGE, CURB, GRASS LINE, TREE LINE, OTHER	2	N	Shell gas station in Section 1: Killarney Community Centre/School across Kerr St	N	CO	
118	3588	Kingsway	3500	07-09-2023	4:04	4:12	B	N	15.5	15.5	15.5	MAJOR	6	N	COMMERCIAL	over 6"	Y	POTATO CORNER	Y	Y	Y	N	N	N	HEDGE, CURB, TREE LINE, OTHER	2	N	restaurants and stores along site	N	CO	
119	1510	West 71st Avenue	1500	08-09-2023	7:15	7:35	A	N	12	12.5	12.5	MINOR	2	N	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	2	N	none	N	CO	
120	7575	Cambie Street	7500	08-09-2023	11:40	12:00	A	N	17.5	17.5	17.5	MAJOR	4	Y	COMMERCIAL, RESIDENTIAL	<3"	N	n/a	N	Y	Y	Y	N	Y	CURB	1	N	none	N	CO	
121	649	West 52nd Avenue	600	08-09-2023	11:00	11:25	A	N	18	18	13	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	Y	N	CURB	1	N	none	N	SF	
122	1345	West 52nd Avenue	1300	08-09-2023	8:10	8:30	A	Y	18	18	18	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
123	6018	Alberta Street	6000	08-09-2023	9:50	10:10	A	N	15	18	14.5	MINOR	2	N	RESIDENTIAL, PARK AND	<3"	N	n/a	N	Y	N	N	N	N	CURB	1	N	none	N	MF	
124	6525	Oak Street	6500	08-09-2023	8:40	9:10	A	N	10	10	11	MAJOR	6	N	COMMERCIAL, RESIDENTIAL	N/A	Y	SUSHI MURA	Y	Y	Y	Y	N	Y	CURB	2	N	none	N	CO	
125	595	West 23rd Avenue	500	06-09-2023	3:20	3:30	A	N	16.5	16.5	16.5	MINOR	2	N	RESIDENTIAL	<3"	N	n/a	N	Y	N	N	N	N	CURB, GRASS LINE	1	N	none	N	SF	
126	3880	Oak Street	3800	06-09-2023	2:20	2:35	A	N	12	9	8.5	MAJOR	6	N	COMMERCIAL, RESIDENTIAL	N/A	Y	SABRA GLATT, KOSHER BAKERY	N	Y	N	N	N	N	CURB	1	N	none	N	CO	

Appendix E

Field Forms

Site Surveyor Form

Site ID Number: _____ Site Name: _____

Site Description (Hundred block, street, side of street, etc)

Hundred Block: _____ Street Name: _____ Side of Street (NSEW) _____

Date: _____ (DD/MM/YYYY) Start Time: _____ (AM/PM) End Time: _____ (AM/PM)

Team ID _____ Surveyors Names: _____

Site type: Fixed Variable Site length: **Always 200 feet long**

If variable:

Width 1 - Start: _____ ft. (up to 18ft.)

Width 2 - Middle: _____ ft. (up to 18ft.)

Width 3 - End: _____ ft. (up to 18ft.)

Street Type (check one): Major City Street Minor City Street Laneway

Number of Lanes: 2 4 6 Other
(explain): _____

Is the roadway divided: Y / N

Area Attributes:

(Check all that apply): Commercial Residential Industrial Parkland Institutional

Grass Height (Check one): N/A < 3" 3" – 6" Over 6"

Fast Food:	Name of Fast food facility:	Convenience Store:	Stop sign or Traffic light:	Bus stop within sight:	Bus stop within Survey Area:
Y / N		Y / N	Y / N	Y / N	Y / N

Traffic Calming Device within survey area? (Median budge etc.): Y / N

If yes, then describe _____

City street/park litter bin within 50 meter radius of site boundary: Y / N

City street/park litter bin details: _____

Catch point: fence hedge curb grass line tree line other (explain in details)

Details: _____

Visual rating of site (refer to cleanliness index) _____ Number of Photos taken: _____

Evidence of litter cleanup: Y / N Is the site immediately adjacent to construction? Y/ N

Cleanup details: _____

Additional Comments: _____

Site Surveyor Form - Small Litter (<4") Count Sheet

Date (DD/MM/YY): _____

Start Time: _____ End Time: _____

Team ID: _____ Surveyors Names: _____

Site ID Number: _____

Site Name: _____

SMALL LITTER CATEGORY	Item	Section #1*				Section #2				Section #3				Grand Total
		Flip 1	Flip 2	Flip 3	Total	Flip 1	Flip 2	Flip 3	Total	Flip 1	Flip 2	Flip 3	Total	
Cigarette butts/debris	1													
Other tobacco	2													
Bottle caps	3													
Straws	4													
Candy packaging and wrappers	5													
Expanded Polystyrene packing materials, ie. foam peanuts	6													
Other polystyrene debris, ie. poly foam pieces	7													
Glass	8													
Paper	9													
Cup Sleeves	10													
Plastic film	11													
Hard plastic	12													
Aluminum/foil debris	13													
Rubber	14													
Metal (not aluminum)	15													
Chewing gum (stuck on pavement)	16													
Food & Food Scraps	17													
Pet Waste (bagged)	18													
Pet Waste (loose)	19													
Needles/Syringes	20													
Medications	21													
Cell Phones	22													
Audio-Visual devices	23													
Batteries	24													
Other Electronic Waste	25													
Other Material	26													

*closest to vehicle/starting point

Site ID _____

Secondary	Tertiary	Pass 1	Total	Pass 2	Total	Bran Name Observed
Paper/ Fibre Material						
Cups	Paper Cups (cold)					
Cups	Paper Cups (hot)					
Cups	Other Paper Cups					
Beverage Containers	Juice (gable top)					
Beverage Containers	Milk-Milk Type Beverage (gable top)					
Beverage Containers	Non-Milk Aseptic (box)					
Beverage Containers	Milk-Milk Type Beverage (Aseptic)					
Other Packaging	Non-Beverage Aseptic Box					
Other Packaging	Non-Beverage Gable Top					
Bags	Paper Retail Bags& Grocery					
Bags	Paper Bags - Fast Food					
Bags	Paper Bags -Consumable Packaging					
Bags	Paper Bags Non-Packaging					
Other Packaging (Boxes)	Cardboard Boxes/ Box Material					
Other Packaging (Boxes)	Paperboard (boxboard)					
Other Packaging (Boxes)	Paper Beverage Cases/Sleeves					
Other Packaging (Boxes)	Paper Clamshells					
Food Wraps/ Containers	Paper Food Wrap					
Food Wraps/ Containers	Paper /Foil Composite Wrap					
Take Out Extras	Branded Napkins / Serviettes					
Take Out Extras	Paper Fast Food Plates					
Take Out Extras	Poly Fast Food Plates					
Take Out Extras	Utensils (paper)					
Take Out Extras	Straws (paper)					
Trays	Paper Trays					
Paper/ Fibre Material	Non-Brand Towels/Napkins					
Paper/ Fibre Material	Lottery \Ticket Debris					
Paper/ Fibre Material	Printed Material					
Paper/ Fibre Material	Stationary (school, business etc.)					
Paper/ Fibre Material	Receipts (business forms, bus tickets)					
Other Miscellaneous Packaging	Paper Packaging Other					
Other Miscellaneous	Misc. Paper					
Other Miscellaneous	Misc. Paperboard					
Other Miscellaneous	Misc. Cardboard					
Plastic						
Beverage Containers	Soft Drink (plastic)					
Beverage Containers	Sport Drink (plastic)					
Beverage Containers	Water (plastic)					
Beverage Containers	Wine/ Liquor (plastic/other)					
Beverage Containers	Juice (plastic)					
Beverage Containers	Milk-Milk Type Beverage (plastic)					
Other Packaging	Six Pack Plastic Rings					
Cups	Plastic Drink Cups					
Cups	Polystyrene Cups (foam)					
Cups	Cup Lids, Pieces					

Site ID _____

Secondary	Tertiary	Pass 1	Total	Pass 2	Total	Bran Name Observed
Bags	Plastic Retail Bags & Grocery					
Bags	Plastic Bags - Fast Food					
Bags	Plastic Bags -Consumable Packaging					
Bags	Plastic Bags-Dry-Cleaning Bags					
Bags	Other Plastic Bags					
Bags	Pet Waste Bags (Empty)					
Bags	Plastic Bags Non-Packaging					
Bags	Zipper Bags/Sandwich Bags					
Other Packaging (Boxes)	Polystyrene Clamshells					
Other Packaging (Boxes)	Other Plastic Shells/Boxes					
Other Containers	Plastic Jars / Bottles/ Lids					
Food Wraps/ Containers	Plastic Wrap					
Take Out Extras	Condiment Packaging					
Take Out Extras	Other Plastic Fast Food Plates					
Take Out Extras	Utensils (plastic)					
Take Out Extras	Straws (plastic)					
Trays	Polystyrene Trays					
Confectionary/Snack	Candy Bar Wrappers					
Confectionary/Snack	Candy Pouches					
Confectionary/Snack	Sweet Packaging (describe)					
Confectionary/Snack	Other Confectionary (describe)					
Confectionary/Snack	Snack Food Packaging					
Other Miscellaneous Packaging	Plastic Packaging Other					
Other Miscellaneous Packaging	Plastic/ Composite Other					
Other Miscellaneous	Misc. Plastic					
Compostable Organics						
Other Miscellaneous	Food					
Other Miscellaneous	Popsicle Sticks					
Take Out Extras	Utensils (wood)					
Other Miscellaneous	Tire & Rubber Debris					
Textiles						
Cloth	Clothing or Clothing Pieces					
Cloth	Other Cloth					
Metal						
Beverage Containers	Beer Cans					
Beverage Containers	Soft Drink (cans)					
Beverage Containers	Drink Foil Pouches					
Beverage Containers	Beverage Bi-Metal					
Other Packaging	Foil Pouches					
Other Packaging	Foil Containers					
Other Containers	Cans/Containers-Steel					
Other Containers	Cans-Aluminum					
Other Containers	Spiral Wound Containers					
Other Containers	Other Aerosol Containers					
Take Out Extras	Aluminum Food Containers					
Other Miscellaneous	Vehicle & Metal Road Debris					
Other Miscellaneous Packaging	Foil Materials/Foil Pieces					

Site ID _____

Secondary	Tertiary	Pass 1	Total	Pass 2	Total	Bran Name Observed
Glass						
Beverage Containers	Beer Bottles (glass)					
Beverage Containers	Soft Drink (glass)					
Beverage Containers	Sport Drink (glass)					
Beverage Containers	Water (glass)					
Beverage Containers	Wine/ Liquor (glass)					
Beverage Containers	Juice (glass)					
Beverage Containers	Milk-Milk Type Beverage (Glass)					
Other Packaging	Broken Cont. Glass					
Other Containers	Glass Jars/ Bottles Misc.					
Other Miscellaneous	Misc. Glass					
Other Miscellaneous	Light Bulbs					
Building Materials						
Other Miscellaneous	Gypsum/ Drywall					
Other Miscellaneous	Rigid Asphalt Products					
Other Miscellaneous	Carpet					
Other Miscellaneous	Other Construction/ Demolition Debris					
Electronics						
Other Miscellaneous	Cell Phones					
Other Miscellaneous	Audio-Visual Devices					
Other Miscellaneous	Electronic Toys					
Other Miscellaneous	Small Appliances, Power Tools					
Other Miscellaneous	Alarms					
Hazardous						
Tobacco Products	Cigarette / Cigar Debris					
Tobacco Products	Tobacco other					
Other Miscellaneous	Batteries					
Other Miscellaneous	Medications					
Other Containers	Paint Containers/Cans					
Other Containers	Pesticide Containers					
Other Containers	Used Lubricating Oil Containers					
Other Containers	Solvent Containers					
Other Containers	Gasoline Containers					
Hygiene						
Other Miscellaneous	Pet Waste (bagged)					
Other Miscellaneous	Pet Waste (loose)					
Medical Waste	Disposable Gloves					
Medical Waste	Masks					
Medical Waste	Disinfecting Wipes					
Other						
Other Containers	Container Lids					
Take Out Extras	Stir Sticks					
Take Out Extras	Plates-Other Materials					
Trays	Other Material Trays					
Confectionary/Snack	Gum Wrappers					
Other Miscellaneous	Home Articles					

Super Site Litter Survey Form

Site ID:

Site Name:

Date:

Time:

Survey Team:

CATEGORY	PASS 1	TOTAL
Small Litter Categories		
Cigarette butts/debris		
Other tobacco		
Bottle caps		
Straws		
Candy packaging and wrappers		
Expanded Polystyrene packing materials, i.e.. foam peanuts		
Other polystyrene debris, i.e.. poly foam pieces		
Glass		
Paper		
Cup Sleeves		
Plastic film		
Hard plastic		
Aluminum/foil debris		
Rubber		
Metal (not aluminum)		
Chewing gum (stuck on pavement)		
Food & Food Scraps		
Pet Waste Loose		
Pet Waste (bagged)		
Needles/Syringes		
Medications		
Cell Phones		
Audio-Visual devices		
Batteries		
Other Electronic Waste		
Other Material		

Appendix F

Litter Data

Ranked Large Litter Result by Tertiary Category (Sites Without Construction Adjacent)

Primary Large Litter Category	Secondary Large Litter Category	Tertiary Large Litter Category	Total Items	Percentage
Paper	Other Miscellaneous	Misc. Paper	176.5	11%
Paper	Paper/ Fibre Material	Non-Brand Towels/Napkins	167	11%
Plastic	Other Miscellaneous	Misc. Plastic	141	9%
Plastic	Food Wraps/ Containers	Plastic Wrap	66.5	4%
Paper	Paper/ Fibre Material	Receipts (business forms, bus tickets)	65	4%
Plastic	Other Miscellaneous Packaging	Plastic/ Composite Other	60	4%
Plastic	Cups	Cup Lids, Pieces	54	3%
Paper	Other Packaging (Boxes)	Paperboard (boxboard)	40	3%
Plastic	Cups	Plastic Drink Cups	38.5	2%
Paper	Paper/ Fibre Material	Printed Material	32.5	2%
Paper	Take Out Extras	Straws (paper)	32.5	2%
Household Hygiene	Other Miscellaneous	Pet Waste (loose)	30.5	2%
Paper	Take Out Extras	Branded Napkins / Serviettes	30	2%
Textiles	Cloth	Other Cloth	29	2%
Plastic	Confectionary/Snack	Candy Bar Wrappers	26.5	2%
Metals	Other Miscellaneous Packaging	Foil Materials/Foil Pieces	24	2%
Paper	Paper/ Fibre Material	Stationary (school, business etc.)	23.5	1%
Household Hygiene	Medical Waste	Masks	22	1%
Plastic	Confectionary/Snack	Snack Food Packaging	22	1%
Household Hygiene	Medical Waste	Disinfecting Wipes	21.5	1%
Building Material	Other Miscellaneous	Other Construction/ Demolition Debris	20.5	1%
Household Hazardous	Tobacco Products	Tobacco other	20	1%
Paper	Cups	Paper Cups (cold)	19.5	1%
Paper	Food Wraps/ Containers	Paper Food Wrap	19.5	1%
Paper	Cups	Paper Cups (hot)	19	1%
Non-Compostable	Other Miscellaneous	Tire & Rubber Debris	19	1%
Misc Materials	Other Miscellaneous	Home Articles	18	1%
Plastic	Other Containers	Plastic Jars / Bottles/ Lids	17.5	1%
Plastic	Confectionary/Snack	Candy Pouches	17	1%
Textiles	Cloth	Clothing or Clothing Pieces	17	1%
Building Material	Other Miscellaneous	Rigid Asphalt Products	16	1%
Compostable Organics	Other Miscellaneous	Food	15.5	1%
Household Hygiene	Medical Waste	Disposable Gloves	14	1%
Plastic	Other Miscellaneous Packaging	Plastic Packaging Other	14	1%
Plastic	Take Out Extras	Straws (plastic)	13.5	1%
Paper	Other Packaging (Boxes)	Cardboard Boxes/ Box Material	12.5	1%
Compostable Organics	Other Miscellaneous	Popsicle Sticks	12.5	1%
Paper	Other Miscellaneous	Misc. Cardboard	11	1%
Paper	Bags	Paper Bags - Fast Food	11	1%
Plastic	Bags	Zipper Bags/Sandwich Bags	11	1%
Plastic	Confectionary/Snack	Sweet Packaging (describe)	9.5	1%
Household Hygiene	Other Miscellaneous	Pet Waste (bagged)	9	1%
Plastic	Confectionary/Snack	Other Confectionary (describe)	8	1%
Plastic	Other Packaging (Boxes)	Other Plastic Shells/Boxes	8	1%
Paper	Other Packaging (Boxes)	Paper Beverage Cases/Sleeves	8	1%
Plastic	Take Out Extras	Utensils (plastic)	8	1%
Metals	Other Miscellaneous	Vehicle & Metal Road Debris	7	0%
Household Hazardous	Tobacco Products	Cigarette / Cigar Debris	6.5	0%
Paper	Other Miscellaneous	Misc. Paperboard	6	0%
Plastic	Take Out Extras	Condiment Packaging	5.5	0%
Metals	Beverage Containers	Beer Cans	5	0%
Household Hazardous	Other Containers	Solvent Containers	5	0%
Compostable Organics	Take Out Extras	Utensils (wood)	5	0%
Paper	Paper/ Fibre Material	Lottery \Ticket Debris	4	0%
Metals	Beverage Containers	Soft Drink (cans)	4	0%

Ranked Large Litter Result by Tertiary Category (Sites Without Construction Adjacent)

Primary Large Litter Category	Secondary Large Litter Category	Tertiary Large Litter Category	Total Items	Percentage
Plastic	Beverage Containers	Soft Drink (plastic)	4	0%
Plastic	Beverage Containers	Water (plastic)	4	0%
Misc Materials	Confectionary/Snack	Gum Wrappers	3.5	0%
Paper	Other Miscellaneous Packaging	Paper Packaging Other	3.5	0%
Plastic	Bags	Plastic Retail Bags & Grocery	3.5	0%
Glass	Beverage Containers	Beer Bottles (glass)	3	0%
Glass	Other Packaging	Broken Cont. Glass	3	0%
Plastic	Beverage Containers	Juice (plastic)	3	0%
Paper	Food Wraps/ Containers	Paper /Foil Composite Wrap	3	0%
Plastic	Bags	Pet Waste Bags (Empty)	2.5	0%
Glass	Other Miscellaneous	Misc. Glass	2	0%
Plastic	Bags	Other Plastic Bags	2	0%
Paper	Bags	Paper Bags -Consumable Packaging	2	0%
Paper	Bags	Paper Retail Bags& Grocery	2	0%
Plastic	Bags	Plastic Bags Non-Packaging	2	0%
Electronic Waste	Other Miscellaneous	Small Appliances, Power Tools	2	0%
Misc Materials	Take Out Extras	Stir Sticks	2	0%
Household Hazardous	Other Miscellaneous	Batteries	1.5	0%
Metals	Other Containers	Cans-Aluminum	1	0%
Electronic Waste	Other Miscellaneous	Cell Phones	1	0%
Metals	Other Packaging	Foil Containers	1	0%
Plastic	Beverage Containers	Milk-Milk Type Beverage (plastic)	1	0%
Paper	Beverage Containers	Non-Milk Aseptic (box)	1	0%
Paper	Cups	Other Paper Cups	1	0%
Paper	Bags	Paper Bags Non-Packaging	1	0%
Paper	Other Packaging (Boxes)	Paper Clamshells	1	0%
Paper	Take Out Extras	Paper Fast Food Plates	1	0%
Paper	Trays	Paper Trays	1	0%
Plastic	Cups	Polystyrene Cups (foam)	1	0%
Plastic	Other Packaging	Six Pack Plastic Rings	1	0%
Electronic Waste	Other Miscellaneous	Alarms	0	0%
Metals	Take Out Extras	Aluminum Food Containers	0	0%
Electronic Waste	Other Miscellaneous	Audio-Visual Devices	0	0%
Metals	Beverage Containers	Beverage Bi-Metal	0	0%
Metals	Other Containers	Cans/Containers-Steel	0	0%
Building Material	Other Miscellaneous	Carpet	0	0%
Misc Materials	Other Containers	Container Lids	0	0%
Metals	Beverage Containers	Drink Foil Pouches	0	0%
Electronic Waste	Other Miscellaneous	Electronic Toys	0	0%
Metals	Other Packaging	Foil Pouches	0	0%
Household Hazardous	Other Containers	Gasoline Containers	0	0%
Glass	Other Containers	Glass Jars/ Bottles Misc	0	0%
Building Material	Other Miscellaneous	Gypsum/ Drywall	0	0%
Paper	Beverage Containers	Juice (gable top)	0	0%
Glass	Beverage Containers	Juice (glass)	0	0%
Household Hazardous	Other Miscellaneous	Light Bulbs	0	0%
Household Hazardous	Other Miscellaneous	Medications	0	0%
Paper	Beverage Containers	Milk-Milk Type Beverage (Aseptic)	0	0%
Paper	Beverage Containers	Milk-Milk Type Beverage (gable top)	0	0%
Glass	Beverage Containers	Milk-Milk Type Beverage (Glass)	0	0%
Paper	Other Packaging	Non-Beverage Aseptic Box	0	0%
Paper	Other Packaging	Non-Beverage Gable Top	0	0%
Metals	Other Containers	Other Aerosol Containers	0	0%
Misc Materials	Trays	Other Material Trays	0	0%
Plastic	Take Out Extras	Other Plastic Fast Food Plates	0	0%

Ranked Large Litter Result by Tertiary Category (Sites Without Construction Adjacent)

Primary Large Litter Category	Secondary Large Litter Category	Tertiary Large Litter Category	Total Items	Percentage
Household Hazardous	Other Containers	Paint Containers/Cans	0	0%
Household Hazardous	Other Containers	Pesticide Containers	0	0%
Plastic	Bags	Plastic Bags - Fast Food	0	0%
Plastic	Bags	Plastic Bags -Consumable Packaging	0	0%
Plastic	Bags	Plastic Bags-Dry-Cleaning Bags	0	0%
Misc Materials	Take Out Extras	Plates-Other Materials	0	0%
Plastic	Take Out Extras	Poly Fast Food Plates	0	0%
Plastic	Other Packaging (Boxes)	Polystyrene Clamshells	0	0%
Plastic	Trays	Polystyrene Trays	0	0%
Glass	Beverage Containers	Soft Drink (glass)	0	0%
Metals	Other Containers	Spiral Wound Containers	0	0%
Glass	Beverage Containers	Sport Drink (glass)	0	0%
Plastic	Beverage Containers	Sport Drink (plastic)	0	0%
Household Hazardous	Other Containers	Used Lubricating Oil Containers	0	0%
Paper	Take Out Extras	Utensils (paper)	0	0%
Glass	Beverage Containers	Water (glass)	0	0%
Glass	Beverage Containers	Wine/ Liquor (glass)	0	0%
Plastic	Beverage Containers	Wine/ Liquor (plastic/other)	0	0%
Total Site Large Litter Items			1,579.5	100%

Ranked Small Litter Result by Category (Sites Without Construction Adjacent)

Small Litter Item	Total Items	Percent
Paper	223	33%
Cigarette Butts/Debris	172	25%
Plastic Film	101	15%
Hard Plastic	46	7%
Chewing Gum (stuck on pavement)	43	6%
Other Polystyrene Debris, ie. Poly Foam Pieces	23	3%
Glass	20	3%
Aluminum/Foil Debris	20	3%
Metal (not aluminum)	6	1%
Other Material	6	1%
Candy Packaging and Wrappers	4	1%
Rubber	4	1%
Food & Food Scraps	4	1%
Vapes	3	0%
Cup Sleeves	2	0%
Straws	1	0%
Expanded Polystyrene Packing Materials, ie. Foam Peanuts	1	0%
Pet Waste (loose)	1	0%
Other Tobacco	0	0%
Bottle Caps	0	0%
Pet Waste (bagged)	0	0%
Needles/Syringes	0	0%
Medications	0	0%
Cell Phones	0	0%
Audio-Visual devices	0	0%
Batteries	0	0%
Other Electronic Waste	0	0%
Vaping Equipment	0	0%
Total Site Small Litter	680	1

Appendix G

Ranking of Sites

Site Ranking by Large Litter Items, Small Litter Items and Total Litter Items

Site Number	Large Litter Items	Cleanliness Index Ranking
60	87	4
4	51	4
92	40	3
57	38.5	1
114	38	2
41	37.5	3
107	33	2
96	32.5	3
55	32	3
112	31.5	2
80	28	1
120	28	1
22	27	2
51	27	1
44	26	3
52	26	2
76	26	2
83	25	1
67	24	2
81	23	1
110	23	2
42	22.5	1
50	21	2
61	21	2
72	20.5	1
90	19.5	1
27	18.5	1
77	17	2
123	17	1
20	16.5	2
53	16.5	2
59	16.5	1
13	16	2
95	16	1
121	16	1
10	15	2
14	15	2
124	14.5	2
30	14	2
36	14	1
62	14	3
82	14	1
1	13.5	2
85	13.5	2
8	13	1
89	13	2

Site Number	Smaller Litter Items	Cleanliness Index Ranking
62	50	3
118	41	2
110	29	2
22	24	2
13	20	2
60	19	4
107	19	2
54	18	4
52	17	2
41	16	3
14	15	2
89	15	2
108	15	4
80	14	1
24	13	1
19	12	2
44	12	3
26	11	1
96	11	3
4	10	4
9	10	2
117	10	2
55	9	3
56	9	2
83	9	1
112	9	2
8	8	1
53	8	2
18	7	1
31	7	1
34	7	2
36	7	1
59	7	1
67	7	2
92	7	3
103	7	1
105	7	1
7	6	2
35	6	2
38	6	2
87	6	1
58	5	1
70	5	2
100	5	1
101	5	2
114	5	2

Site Number	Total Litter Items	Cleanliness Index Ranking
60	106	4
62	64	3
4	61	4
41	53.5	3
107	52	2
110	52	2
22	51	2
92	47	3
118	47	2
96	43.5	3
52	43	2
114	43	2
80	42	1
57	41.5	1
55	41	3
112	40.5	2
44	38	3
13	36	2
83	34	1
120	32	1
67	31	2
14	30	2
51	30	1
54	30	4
76	30	2
89	28	2
108	28	4
42	26.5	1
24	25.5	1
61	25	2
81	25	1
53	24.5	2
59	23.5	1
50	23	2
90	22.5	1
117	22	2
8	21	1
36	21	1
72	20.5	1
9	20	2
27	19.5	1
124	18.5	2
10	18	2
123	18	1
20	17.5	2
26	17	1

Site Ranking by Large Litter Items, Small Litter Items and Total Litter Items

Site Number	Large Litter Items	Cleanliness Index Ranking
108	13	4
5	12.5	1
24	12.5	1
66	12.5	2
84	12.5	1
49	12	2
54	12	4
70	12	2
116	12	1
117	12	2
125	12	1
16	11	1
35	11	2
45	11	2
65	11	1
43	10.5	1
9	10	2
21	10	2
71	10	1
94	10	1
37	9.5	1
6	9	3
39	9	1
105	9	1
2	8	1
3	8	2
33	8	1
119	8	2
32	7.5	1
38	7.5	2
68	7.5	1
78	7.5	1
101	7.5	2
103	7.5	1
11	7	1
34	7	2
56	7	2
111	6.5	1
23	6	2
26	6	1
91	6	1
93	6	1
118	6	2
126	6	1
7	5	2
109	5	2

Site Number	Smaller Litter Items	Cleanliness Index Ranking
42	4	1
61	4	2
74	4	1
76	4	2
94	4	1
104	4	1
109	4	2
120	4	1
124	4	2
126	4	1
1	3	2
10	3	2
11	3	1
23	3	2
33	3	1
39	3	1
45	3	2
49	3	2
51	3	1
57	3	1
64	3	1
66	3	2
78	3	1
90	3	1
116	3	1
16	2	1
30	2	2
47	2	2
50	2	2
65	2	1
71	2	1
81	2	1
98	2	2
119	2	2
20	1	2
27	1	1
28	1	2
37	1	1
85	1	2
91	1	1
93	1	1
95	1	1
106	1	2
113	1	1
123	1	1
125	1	1

Site Number	Total Litter Items	Cleanliness Index Ranking
35	17	2
70	17	2
77	17	2
95	17	1
1	16.5	2
30	16	2
56	16	2
105	16	1
121	16	1
19	15.5	2
66	15.5	2
49	15	2
116	15	1
85	14.5	2
103	14.5	1
34	14	2
45	14	2
82	14	1
94	14	1
38	13.5	2
16	13	1
65	13	1
125	13	1
5	12.5	1
84	12.5	1
101	12.5	2
39	12	1
71	12	1
7	11	2
33	11	1
37	10.5	1
43	10.5	1
78	10.5	1
11	10	1
21	10	2
87	10	1
119	10	2
126	10	1
6	9	3
18	9	1
23	9	2
31	9	1
109	9	2
2	8	1
3	8	2
58	8	1

Site Ranking by Large Litter Items, Small Litter Items and Total Litter Items

Site Number	Large Litter Items	Cleanliness Index Ranking
113	5	1
115	5	1
88	4.5	2
47	4	2
87	4	1
98	4	2
19	3.5	2
106	3.5	2
25	3	1
58	3	1
122	3	1
18	2	1
31	2	1
104	2	1
28	1.5	2
64	1	1
74	0	1
100	0	1

Site Number	Smaller Litter Items	Cleanliness Index Ranking
2	0	1
3	0	2
5	0	1
6	0	3
21	0	2
25	0	1
32	0	1
43	0	1
68	0	1
72	0	1
77	0	2
82	0	1
84	0	1
88	0	2
111	0	1
115	0	1
121	0	1
122	0	1

Site Number	Total Litter Items	Cleanliness Index Ranking
32	7.5	1
68	7.5	1
91	7	1
93	7	1
111	6.5	1
47	6	2
98	6	2
104	6	1
113	6	1
100	5	1
115	5	1
88	4.5	2
106	4.5	2
64	4	1
74	4	1
25	3	1
122	3	1
28	2.5	2