

City of Calgary Corporate Waste Reduction & Diversion

The City's corporate waste program has been in place for many years and includes standards for bin systems and signage, as well as catering guidelines and online resources for employees. The program was updated in 2017 with the implementation of food and yard waste diversion at City facilities.

Waste & Recycling Services is currently conducting an updated evaluation of corporate waste practices. The evaluation includes bylaw compliance inspections, waste spot checks and a waste composition study. Evaluation results will inform a strategy to improve corporate waste reduction and diversion. Preliminary results point to opportunities to adjust bin design for new and renovated City buildings, improve signage consistency, and expand education for employees and janitorial contractors. Food waste, soiled paper towels, and single-use items are the waste types that specifically warrant further reduction and diversion efforts at City facilities.

The City continues to work to lead by example on waste diversion.

Waste in Public Spaces (WIPS)

An estimated 2,000 tonnes of waste are collected from City-owned public spaces (e.g. LRT stations, bus stops, streetside/sidewalks, recreation and park spaces). There are over 6,300 bins in City-owned public spaces that are serviced over 1 million times per year, at a cost of more than \$4 million annually.

Most of this waste is disposed of in landfill as it cannot be recycled or composted. Despite public waste being one of the most difficult and expensive waste streams to divert from the landfill, it remains important that The City continue to reinforce its commitment to waste diversion and by implementing certain public waste best practices and encourage waste reduction through our Single-use Items Reduction Strategy. By reducing the number of single-use items like utensils, take-out bags and coffee cups in our public waste it reduces the complexity and cost of collecting and managing these materials when they are disposed.

Current State – Current Number and Types Of Bins Available

In 2018, Waste & Recycling Services worked with Parks, Mobility and Transit to increase the availability of recycling bins in City-owned public spaces. By the end of 2018, the project had tripled the number of recycling bins available to Calgarians in our parks and public spaces to over 900 recycling bins with a standard sign that clearly indicates to the public what recyclable materials are acceptable in these bins.

The City does not have tri-sorter (garbage, recycling and compost) bins distributed across City-owned public spaces due to the high cost of purchasing and installing this infrastructure and the increased operating costs required to service additional bins. Ensuring that Calgarians receive good value for money requires that The City take a targeted approach to waste diversion in City-owned public spaces, prioritizing the installation and servicing of diversion bins to locations where higher volumes and quality of divertables are generated.

Chart 1: Number of garbage and recycling bins in public spaces - 2024

Location type	Garbage	Recycling
Parks and pathways	4,216	272
Sidewalks, streetside and City-serviced BIAs	538	102
LRT stations and platforms	279	270
Recreation facilities - outdoor	334	180
Other City public spaces	85	85
Total	5,452	909

Image 1: Recycling and garbage bins in parks



Image 2: Recycling and garbage bin LRT platform



Image 3: Recycling and garbage bin BIA streetside



Image 4: BIA streetside bin with bottle/can ring



Waste in Public Spaces Best Practices

Well placed bins in the city centre, Business Improvement Areas (BIAs) and other prominent areas can reinforce our city's values as an inviting, clean and sustainability focused place to visit and to live.

To effectively collect and divert waste in public spaces, The City has established "Public waste best practices":

1. **Bin colour** – black/brown for garbage and blue for recycling.
2. **Bin pairing** – avoid stand alone recycling bins, wherever there is a recycling bin there should be a garbage bin within an arm's reach.
3. **Acceptable materials and signage** - standard signage is available through City Stores. Recycling bins must have signs.
4. **Bin locations** – ensure they are convenient and visible.
5. **Monitoring** – bin contents, volume and service frequency must be monitored and adjusted.

The City aims for a 5:1 ratio of garbage bins to recycling bins in City-owned public spaces, this has already been achieved in most public spaces (3:1 ratio on LRT platforms, 4:1 ratio streetside and BIAs, 5:1 in most parks).

Barriers To Diverting Waste in Public Spaces

Collecting and diverting waste in City-owned public spaces is challenging. These programs face unique challenges that can result in lower participation, higher contamination, and high operating costs.

Type of waste and contamination

The type of waste collected in City-owned public spaces varies depending on where the bins are located and the season. Off-leash and large city parks tend to have a high proportion of pet waste; parks with picnic amenities have more food packaging, food scraps and diapers; streetside and LRT platform bins are primarily comprised of on-the-go food and beverage packaging like paper coffee cups. A 2017 Public Spaces Waste Composition Study provides a detailed analysis of the waste composition of public spaces bins in Calgary, single-use items were a consistent theme throughout that study.

The 2017 Public Spaces Waste Composition Study provided insight into the waste diversion and waste reduction potential for waste generated in City-owned public spaces, including:

- **Recyclables:** coffee cups, plastic drink cups, pizza boxes and take-out containers are common in public spaces bins though they regularly contain liquids or are food-soiled, often too soiled or contaminated to recycle.
- **Food scraps** in parks with picnic amenities given that 40 per cent of waste in parks with picnic amenities is made up of compostable material (7 per cent dog waste and 33 per cent compostable by volume), parks with picnic amenities are the best candidate for testing a public spaces compost program.
- **Pet waste:** the majority of waste generated in off-leash dog parks is pet waste, pet waste can be composted at the Calgary Composting Facility if contained within certified compostable pet waste bags. In 2023 Parks and WRS partnered pilot pet waste diversion in two off-leash dog parks (see 2023 Pet Waste Diversion Pilot Study below).
- **Single-use items:** single-use items including paper and plastic drink cups, paper and plastic bags, cutlery and straws were found in abundance in bins across all locations. Most single-use items are used only once, or not at all, and tossed away. Waste reduction is the ideal strategy for these convenience items that can often be avoided or replaced with reusable options.

Image 5: 2017 Public Spaces Waste Composition Study, single-use items, and food-soiled plastic containers



Unfortunately, due to the incredibly high rates of contamination within public spaces recycling bins, the contents often need disposed of as garbage. Depositing a coffee cup or cold beverage cup with the remaining liquids, results in ruining of all the other good recyclables within that bin (and often within the entire load). Food-soiled packaging, condiments packets etc., have the same result. The contamination rate within public spaces recycling loads is often more than 50 per cent, resulting in many loads being disposed of as garbage.

There are several reasons why contamination occurs in public spaces bins:

- Impractical to clean or wash recyclables like food containers prior to recycling on-the-go.
- Lack of convenience and/or improper bin placement. It is critical to ensure that a garbage bin is within an arm's reach of a recycling bin.
- Confusion about how and what to recycle – this is why clear and consistent signage is important.
- Lack of understanding of why recycling is important – The City works to address this through promotion and education.
- Anonymity of public space recycling. Make it easy to put whatever you want in whichever bin you like.

Image 6: Typical contents of streetside garbage bin paired with recycling bin.



Image 7: Typical contents of parks recycling bin paired with a garbage bin.



Image 8: Average load of recyclables from City parks received at recycling sorting facility.



Cost

With over 6,300 garbage and recycling bins in City-owned public spaces that are serviced over 1 million times per year, the operating costs for collection of these bins adds up to more than \$4 million annually. Collection services are delivered through a combination of contracted service providers and City collection.

The City aims for and achieves a garbage to recycling bin ratio of 5:1. Achieving a greater ratio, i.e. 1:1 would require a capital investment of \$10-23 million for bin purchases and increasing the operating budget to more than \$16 million annually to service the new bins.

2023 Pet Waste Diversion Pilot

In 2023, Parks and WRS conducted a small-scale pet waste diversion collection pilot in two off-leash dog parks: Tom Campbell's Hill and Queen's Park Village. These parks were selected due to their proximity to observation and service routes, and having a defined entrance with garbage receptacles where green bins could be conveniently co-located.

The pilot project ran from April 5 – November 24, 2023. Five (5) pet-waste green bins were serviced by WRS Collection Services twice a week for the duration of the pilot. A total of 2,355 kilograms of pet waste was collected and hauled to the Calgary Composting Facility for processing.

The material received at the Composting Facility from the off-leash dog parks was **highly contaminated with pet waste contained in non-compostable plastic bags**. To address the confusion around plastic versus certified compostable bags, Parks installed pet waste bag

dispensers with certified compostable bags in the pilot locations which did result in slightly less contamination.

WRS Educators and Parks Ambassadors delivered onsite education and completed feedback surveys at the pilot locations. Based on the interactions with off-leash dog park users, the pilot was well received by park users. Confusion regarding differences between certified compostable and biodegradable bags was a recurring topic of discussion during the interactions.

If a pet waste diversion program were to be implemented in all off-leash parks in Calgary, the contamination levels would have a negative impact on the quality of the finished compost produced at the Calgary Composting Facility. The risk to the quality of the finished compost is not something that the Facility operator would be willing to accept as it would negatively impact their ability to market the compost to buyers.

Image 9: Pet waste diversion pilot bins

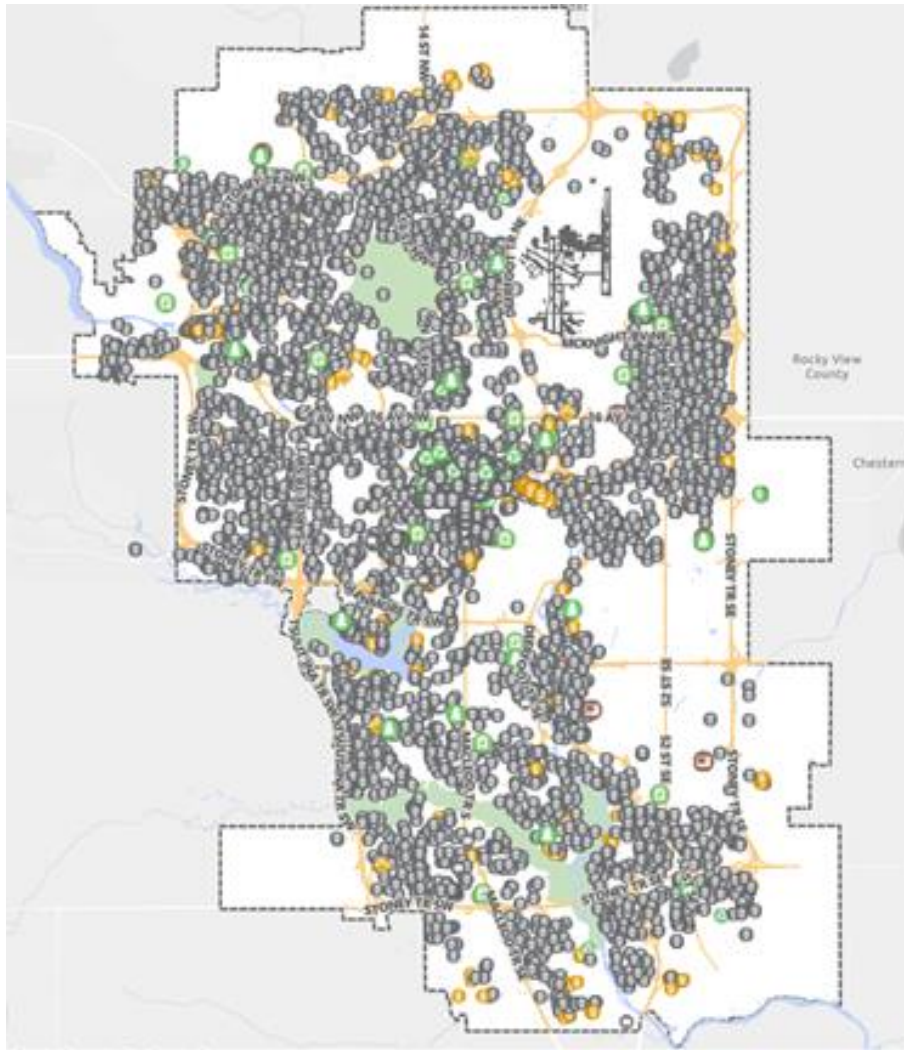





Image 10: Pet waste from diversion pilot at Calgary Composting Facility – highly contaminated with plastic pet waste bags.



City business units continue to work with Waste & Recycling Services to identify waste reduction and diversion opportunities for City-owned public spaces. City Business units continue to look for additional diversion opportunities while balancing the capital investment in diversion infrastructure (adding more recycling and composting bins) and the impacts to operating budgets required to service additional bins, with the type of waste generated in City-owned public spaces. Continuing to identify priority locations for diversion infrastructure, innovative solutions and piloting various diversion programs remains The City's priority for waste in public spaces.

Image 11: Map of waste containers in City-owned public spaces



-  Garbage Can
-  Recycling Can
-  Combo Garbage / Recycle