

Strathcona Green Zone Commercial Recycling and Composting Program

City of Vancouver in Metro Vancouver, BC



Population: 640,915

Land Area: 115 km²

Density: 5797.2 persons/km²

Median Age: 39.7

**Housing Mix – SF/MF – 40:60,
business range – light industrial,
some manufacturing, creative and design,
and some retail**

Average persons per household: 2.2

**2011 City of Vancouver Per Capita Disposal Rate:
643 kg/capita¹ (all sources)**

Program Highlights / Summary

As a result of conducting a Zero Waste Challenge in partnership with Metro Vancouver, the idea of the Strathcona Green Zone Commercial Recycling and Composting Program came about. With sponsorship from both the City of Vancouver and Metro Vancouver, this BIA created the Resource Park on a disused parking lot. The Resource Park houses a materials exchange, recycling collection hub, urban garden plots and a sitting area in addition to a micro-industrial composting facility. Food scraps are collected from commercial businesses (SBIA members) and composted in Jora 400K in-vessel composters.

SBIA works with the local community to reduce waste, share resources and create opportunities in the neighbourhood. Volunteers assist with the composting process and the garden beds. The level of support is very high with lots of interest within and beyond their district. Partnering with non-typical groups, such as community organizations and service providers, has been a very positive experience for the BIA. They use Mission Possible, a local social enterprise, to provide collection services. The compost program and Resource Park are a very positive part of the community (in an area with significant social and economic challenges) so this collaborative endeavour is a positive story. Business members have reported that the perception of the neighbourhood is shifting as a result of these kinds of initiatives.

In 2011, Metro Vancouver sponsored the SBIA's Zero Waste Challenge where 16 business members diverted 2300 kg of organic waste, 540 kg of soft plastic and 210 kg of mixed containers over nine weeks. The Zero Waste Challenge provided them with the capacity and information on their material flows that sparked the idea of the Green Zone. The pilot project established a partnership with Metro Vancouver to assist other BIAs in the region to undertake their own Zero Waste Challenge.

¹ 2012-2013 Greenest City Action Plan Update

<http://vancouver.ca/files/cov/greenest-city-2020-action-plan-2012-2013-implementation-update.pdf>

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The composting program at the Green Zone Resource Park diverts 2000 kg of organics per month from the waste stream. Since start up, about 40 metric tonnes of organics have been diverted, that would otherwise have gone to landfill, and 14.5 metric tonnes have been composted on site.

Program Details

Collection

Mission Possible, which is a local social enterprise helping people overcome homelessness, addiction and poverty through employment opportunities, collects organics from participating SBIA members. The organics are delivered to “micro-industrial” composting facility in the Green Zone Resource Park. The composting pilot ran from November 2012 until August 2013, partially sponsored by grants from the City of Vancouver. After the pilot phase, the program started charging a small fee to the participating businesses for collection of organics, mixed containers, and soft plastics.

Processing

The food waste is sorted by hand to remove contaminants and ensure the right balance of carbon to nitrogen and ensure correct moisture levels. The materials are then broken up using a Bokashi cycle pulveriser before going in the Jora composters. These are two-compartment rotating composters that allow for materials to be put in one compartment while compost in the previously filled compartment continues to mature. This project collects sufficient volumes of food waste to fill one composter at a time (about 16 kg per day of food waste for about three weeks) and rotate between their four composters. The compost compartments are insulated to allow for better heat retention and quicker composting. Once the composter is about 2/3 full (160-180 kg food waste and 60-80 kg co-composting materials), the materials are kept in the bin or 6-8 weeks (monitoring the temperature to ensure it spikes to kill the pathogens and then returns to ambient levels). The bins are rotated every day to aerate the compost. Once the composting is complete, the composter is emptied and the resulting soil amendment is used on their planter beds and in community-enhancing projects such as landscaping. They are looking for community partners to utilize the compost.

Planned improvements to the program include the increased use of vermiculture to finish the compost. This would create a higher quality end product as well as increase the amount of material that can be processed. The vermiculture system would use the Jora Composter to do the initial composting and to kill the pathogens (3-4 weeks) and then use vermiculture to finish the process and provide a denser, more nutrient rich end product.



Promotion / Education

To get BIA members to participate, they reached out to members through newsletters and direct contact. They also provide statistics on what is being diverted, showcase success stories and offer tours of the Resource Park. In January 2014, the City of Vancouver sent a notice to all businesses highlighting the upcoming Metro Vancouver organics disposal ban so they will use this to encourage more members to participate, noting that part of the program is already paid by their tax levies.

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Information about this program has been provided to 46 other BIAs, housing co-ops and larger organizations that may wish to set this up independently. Presentations have also been given to the South Vancouver Food Security Network, the Sustainable Business Leadership course at BCIT, Metro Vancouver Sustainability Breakfast series, the Recycling Council of BC annual conference, and many others.

Supporting Policies and Regulations

The MV Integrated Solid Waste and Resource Management Plan sets out a course of action to increase diversion rates. MV's goal is to achieve an overall 70% composting and recycling rate by 2015, and an 80% waste diversion rate by 2020. Diverting compostable organics is a priority to meet the target for a total ban of organic waste from the landfill by 2015.

In 2011, Metro Vancouver sponsored the SBIA's Zero Waste Challenge where members diverted 2.3 tonnes of organic waste, 0.54 tonnes soft plastic and 0.21 tonnes mixed containers over nine weeks. The Zero Waste Challenge provided them with the capacity and information on their material flows that sparked the idea of the Green Zone. The pilot project established a partnership with Metro Vancouver to assist other BIAs in the region to develop similar programs.



Program Results

Financial Data

Capital Costs

Start up costs of \$100,000 for the Zero Waste Challenge, lease on parking lot, building sheds (design, submitting drawings, materials, seismic tethering), four composters, negotiating licensing, advertising in newspaper, and securing Mission Possible as a service provider. This was for the whole Green Zone, not just the composting portion (includes resource exchange, recycling, garden beds and sitting area, plus security fencing and signage).

Operating Costs

Post set-up, it now costs \$2600 per month for staff, collection costs, bins, and biodegradable bags to operate the Resource Park.

Staffing Implications

Aside from the volunteer hours to create the Green Zone Resource Park, there is 0.5 FTE for a site coordinator, primarily to manage the composting, and 1 FTE for a sustainability coordinator position which was established to set up the SBIA Resource Exchange, then to implement the zero waste challenge and then set up the Green Zone and now is needed for ongoing development and management.

Cost Recovery

The City of Vancouver and Metro Vancouver both assisted in the creation of the Green Zone Resource Park. The City of Vancouver provided funding for a commercial composting and recycling pilot (\$40,000 through two different grants) and Metro Vancouver provided \$10,000 for the Zero Waste Challenge. The program has now moved to a fee for service model but kept prices very low to encourage



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participation. These fees generate approximately \$460/month in income. The finished product, “Strathcona Loama” has been sold locally but it has been a challenge to find the right price point and the right market. It is currently donated to contributing members or used in the Green Zone beds and area projects sponsored by the SBIA.

Environmental

Reduction and Diversion – 2000 kg/month diverted

Disposal Impact / Landfill Space Savings – 40 tonnes since start up

GHG Reduction – 23.4 tonnes²

Social

Political Acceptability

Financial support was provided from both the City of Vancouver and Metro Vancouver Regional District. The BC Ministry of Environment has also voiced their support and assisted in facilitating the process of understanding organics regulation and it’s relevance to a smaller scale operation.

Community / User Acceptability

SBIA works with the local community to reduce waste, share resources and create opportunities in the neighbourhood. Volunteers assist with the composting process. The support is very high with lots of interest within and beyond their district. Partnering with non-typical groups, such as community organizations and service providers, has been a very positive experience for the BIA. The positive media attention has attracted individuals and partners to assist. Four other BIAs have started their own zero waste challenges since hearing about this one.

Community Economic Development

They use Mission Possible, a local social enterprise, to provide collection services. The compost program and Resource Park are a very positive part of the community (in an area with social and economic challenges) so this collaborative endeavour is a positive story. Business members have reported that the perception of the neighbourhood is shifting as a result of these kinds of initiatives.

² Using Green Communities Carbon Neutral Framework, assuming all kitchen scraps, materials going to Vancouver Landfill otherwise, landfill gas capture efficiency of 41-60%. May underestimate GHGs as no transport is required for on-site composting.

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Lessons Learned

- Adding a vermiculture component will increase quality and capacity
- The original business plan included revenue from sales but as composting increases across the region, this product is no longer unique and it is harder to find a market. This is also a small-scale venture so it is necessary to find the right scale of customer.
- The program fits with the unique needs of this neighbourhood and came from the specific knowledge of local material flows, gained in the Zero Waste Challenge
- In addition to direct benefits, the program has generated collaboration and built capacity within the community, started conversations and increased business to business interaction.
- For small to medium size businesses, starting organics collection can be a challenge due to limited staff time and overhead costs
- A great example of public engagement; this project demonstrates how happy people are to help when asked (from neighbours to senior city officials)
- Waste policies at all government levels were never written to consider a neighbourhood scale, house, co-op or BIA, so it was a challenge to determine all the requirements and identify the responsible level of government. All levels of government could work together to coordinate regulations and to facilitate projects of this nature (particularly ones that collect from commercial sites to bring to a single non-profit location).

Communities with Similar Programs

- Downtown Victoria BIA (collects; but material goes to a commercial facility);
- Potato House Williams Lake – drop off and compost;
- Biocycle South Van – youth driven cycling compost pickup and compost at David Thompson School.

Program Contacts

Meg O'Shea, Sustainability Coordinator
Strathcona Business Improvement
Association
at meg@strathconabia.com
or by phone 604.258.2727

