

Port Coquitlam Green Cart Program

City of Port Coquitlam in Metro Vancouver, BC



Population: 59,060 (2013 BC Stats)

Land Area: 29.17 km²

Density: 1,931.3 persons/km²

Median Age: 39.2

Housing Mix – SF/MF – 75:25

Average persons per household: 2.7

**2012 Metro Vancouver Per Capita Disposal Rate:
561 kg/capita/year**

**Pre-program Per Household Waste Disposal Rate:
634 kg/household/year**

**Pre-program SF Per Capita Waste Disposal Rate:
235 kg/capita/year**

**Current Program Per Household Waste Disposal Rate:
450 kg/household/year**

**Current SF Per Capita Waste Disposal Rate:
166.6 kg/capita/year**

Program Highlights / Summary

The City of Port Coquitlam became the first city in Metro Vancouver to offer curbside collection of fruit and vegetable scraps in July 2008. In November 2009, they became the first city in the region to collect all food scraps, including meats, bones and food-soiled papers. Multi-family (MF) homes on the curbside collection program were included in April 2011, and recently the program expanded to allow inclusion of any MFs that were qualified to join the program (e.g., no longer under private hauler contracts). The City currently services 436 MF units and this is growing.

The City of Port Coquitlam provides fully automated waste collection services to over 11,936 residential properties throughout the City. The City provides 240-litre green waste carts to all properties that receive the service. Organics (commingled food and yard waste) are collected weekly (May to December) and bi-weekly the rest of the year. Garbage and recycling are collected bi-weekly year-round. Organic material is processed at the privately owned and operated Fraser Richmond Soil & Fibre.

Curbside collection of food scraps and food-soiled papers plays an important role in the City's waste reduction efforts. The City of Port Coquitlam is challenging residents to push the community's 63% diversion rate to at least 70% (by 2015), the goal set by Metro Vancouver Zero Waste initiative. They are also on track to meet the Integrated Solid Waste and Resource Management Plan target for a total ban of organic waste from the landfill by 2015.

Organics Case Study 7:

Waste Recycling – Single-family Residential Collection Program, Kitchen Scraps & Yard Waste

Diversion rate prior to the program was 55% (with collection of recyclables and vegetable / fruit peelings organics). A pilot study done by the City in 2009 found that alternate-week garbage pick-up as well as expanded kitchen waste collection garnered the best results. Port Coquitlam residents currently divert 63% of their household waste away from the landfill (through recycling and organics diversion) saving tens of thousands in disposal fees each year. They are setting the goal of 70% diversion.

Combined with other waste reduction efforts such as alternate-week garbage pickup, the City's Green Cart Program diverted 480 kg food and yard waste per household in 2013 and reduced per household disposal rates from 634 kg per year to 450 kg per year, representing a reduction in per household disposal of 29%.

The compost and various soil amendments (topsoil / mulch) developed at Fraser Richmond Soil & Fibre is sold back to landscape contractors through a network of distributors across the lower mainland.

Program Details

Collection

The City of Port Coquitlam provides fully automated waste collection services to over 11,500 residential properties throughout the City. The City provides - carts to all properties that receive the service.

The City made lidded kitchen pails, suitable for collecting food scraps or food-soiled papers, available to all residents in exchange for a coupon sent out in the curbside calendar (See Promotion / Education section). Organics (kitchen scraps and yard waste) are emptied into the 240-litre green carts provided by the city. The City's own crews collect the automated carts (organics are collected weekly May to end of November and bi-weekly beginning of December to the end of April).

Multi-family (MF) homes on the curbside collection program were included in April 2011, and recently the program expanded to allow inclusion of any MFs that were qualified to join the program (e.g., no longer under private hauler contracts). The City currently services 436 MF units and this is growing.

Processing

The green cart materials collected by the City are brought to Fraser Richmond Soil and Fibre where they are composted in a unique form of aerobic composting, where Unturned Covered Aerated Static Pile (UCASP) technology increases their operational efficiency and creates top quality compost.

Promotion / Education

Kitchen Composter Starter Kits were made available at any City facility. The kits included:

- a lidded pail suitable for collecting food scraps or food-soiled papers for the green cart or backyard composter, and
- a food scraps collection brochure, with tips and a waste-sorting chart. Tips on keeping animals away were also included.



Organics Case Study 7: Waste Recycling – Single-family Residential Collection Program, Kitchen Scraps & Yard Waste

Supporting Policies and Regulations

The addition of food scraps and food-soiled papers to the curbside collection of yard waste and fruit and vegetable peelings plays an important role in the City's waste reduction efforts, which also included the introduction of alternate-week garbage pickup in January 2010. The City launched these waste-reduction initiatives for two key reasons:

- To divert more household waste from the landfill (more than 47% of garbage was considered compostable organic material), and
- To protect taxpayers from rising garbage disposal costs – fees rose 18% in 2011 and are expected to continue to escalate, with no change to green waste costs. In conjunction with alternate-week garbage pickup, the program saved taxpayers \$165,000 in 2010.

The City of Port Coquitlam is challenging residents to push the community's 63% diversion rate to at least 70% (by 2015), the goal set by Metro Vancouver Zero Waste initiative. They are also on track to meet the Integrated Solid Waste and Resource Management Plan target for a total ban of organic waste from the landfill by 2015.

Program Results

Financial Data

Capital Costs

There was no purchase of green carts required specifically for this program, as the carts were already on the curb for garden and yard organics. Approximately 12,000 kitchen pails were purchased for \$5 each, with educational / promotional materials being covered under an existing budget.

Operating Costs

The combined fee for the organics and garbage service is \$176.80 per household per annum. The organics portion (separate cart for organics) is estimated in the range of \$77 to \$80 per household per annum. The City uses annual taxes to pay for the service; however, break these costs out on the tax notice so residents are aware of them. Cost to MFs interested in voluntary participation is \$12 per unit per year (one 240 L green cart is supplied to complex at no additional cost), paid by the MF building.

Staffing Implications

Two temporary full-time staff were originally hired as ambassadors for a 3-month period when the automated carts were being delivered to residents. No additional staffing was required as part of the expanded food scraps collection (to include meat, dairy, fats).

Cost Recovery

In conjunction with alternate-week garbage pickup, the program saved taxpayers \$165,000 in 2010 (about half of which was landfill disposal costs, which property owners pay directly on their property tax bill). If the status quo had been maintained, Port Coquitlam taxpayers would have paid \$225,000 more per year for waste collection services by 2014.

At a regional level, the reduced use of household garbage disposal also reduces the wastewater treatment costs paid by all taxpayers.

Organics Case Study 7: Waste Recycling – Single-family Residential Collection Program, Kitchen Scraps & Yard Waste

Environmental

Reduction and Diversion

Diversion rate prior to the program was 55% (recycling and vegetable / fruit peelings & yard waste organics already collected). A pilot study done by the City in 2009 found that alternate-week garbage pick-up as well as expanded kitchen waste collection garnered the best results – residents diverted 65% of their waste. Of particular note is that while green / kitchen waste diversion increased almost 9% through expanded food waste collection, recycling diversion also increased by more than 7% with no change to that program.

Port Coquitlam residents currently divert 63% of their household waste away from the landfill (through recycling and organics diversion) saving tens of thousands in disposal fees each year. They are setting the goal of 70% diversion.

The program is also intended to reduce the use of in-sink garbage disposals, which significantly adds to the energy use and cost to treat the City's wastewater.

Disposal Impact / Landfill Space Savings

Combined with other waste-reduction efforts such as alternate-week garbage pickup, the City's Green Cart Program diverted 5,731 tonnes from the landfill in 2013. Prior to program implementation the per-household disposal rate was 634 kg per household per year. After program implementation the per-household disposal rate dropped to 450 kg per year which represents a 29% drop in waste disposal.

Pre-program Per Household waste Disposal Rate: 634 kg/household/year

Pre-program Per Capita Waste Disposal Rate: 235 kg/capita/year

Current Program Per Household Waste Disposal Rate: 450 kg/household/year

Current Per Capita Waste Disposal Rate: 166.6 kg/capita/year

GHG Reduction

The decision to go to bi-weekly organics collection for part of the year was intended to not only be a cost savings measure, but also see GHG savings through less collection vehicles on the road per week.

**2012 GHG reduction* = 2021.5 CO₂e diverted
(Diverting 5,549 tonnes of organics from landfill)**

**2013 GHG reduction* = 2087.8 CO₂e diverted
(Diverting 5,731 tonnes of organics from landfill.)**

*as a result of case study program

Social

Political Acceptability

The Council of the day recognized the benefits and supported the change.

Community / User Acceptability

After the 2009 pilot of 200 households, 85% supported the biweekly pickup schedule and 81% supported expanded food waste collection.



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Community Economic Development

The compost and various soil amendments (topsoil / mulch) developed at Fraser Richmond Soil and Fibre is sold back to landscape contractors where the material originated, through a network of distributors across the lower mainland.

Lessons Learned

- The City was quick to respond to issues as they arose – providing weekly green waste collection mid-May to mid-November to alleviate concerns of wildlife attractants.
- Although the green carts are usually collected first to avoid wildlife scavenging of the food scraps, the City of Port Coquitlam began to collect green carts later in the day whenever overnight temperatures fell below zero. The change was initiated because waste was freezing inside the carts and would not dislodge when crews attempted to empty them (when the humidity factor was high). Cold weather sufficiently reduces odours that attract wildlife, on the days when collection takes place later to allow the contents to thaw from the side of the cart. The City recently added additional days of collection over the Christmas holidays to alleviate odour issues during this higher volume time.
- Regional landfill disposal fees rose 18% in 2011 and are continuing to escalate much higher than the fees for processing green cart materials. Waste services are a pass-through cost that is directly funded by taxpayers. Given that up to 47% of all garbage is compostable food scraps and food-soiled papers, the savings will continue to be significant with high resident participation.

Communities with Similar Programs

Surrey, Vancouver and Port Moody use automated collection for all three materials (waste, recycling, and organics). City of Richmond used automated collection for organics only.

- City of Surrey – www.surrey.ca
- City of Vancouver – www.vancouver.ca
- City of Port Moody – www.portmoody.ca
- City of Richmond – www.richmond.ca

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