

Staff Report

Origin

At the July 22, 2013 meeting, Council approved a 15-month pilot program for food scraps and organics collection services for multi-family dwellings and commercial businesses. The pilot program commenced October 1, 2013 and runs through December 31, 2014.

This report presents the results of the pilot program and recommends that staff report back regarding implementation requirements for a City-provided centralized organics recycling program for multi-family residents.

This report supports Council's Term Goal #8 Sustainability:

To demonstrate leadership in sustainability through continued implementation of the City's Sustainability Framework.

8.1. Continued implementation and significant progress towards achieving the City's Sustainability Framework, and associated targets.

Analysis

Background – Pending Organics Disposal Ban

To advance waste diversion objectives and as a key strategy in the Integrated Solid Waste and Resource Management Plan, Metro Vancouver is implementing an organics disposal ban commencing January, 2015. The ban will apply to food scraps only (not food-soiled paper) from all residential and commercial sources. A ban on food scraps means they can no longer be disposed of in the garbage, i.e. in regional waste disposal facilities (but can continue to be managed through recycling/composting initiatives, i.e. such as Richmond's Green Cart program).

To help transition the public to the disposal ban, Metro Vancouver will undertake a phased implementation with gradually increasing restrictions as follows:

- A six-month education period commencing January 1, 2015;
- Starting July 1, 2015 through December 31, 2015, a 50% surcharge would be applied to loads of garbage with greater than 25% food scraps;
- Commencing January 1, 2016, the 50% surcharge would be applied to loads of garbage with greater than 10% food scraps;
- Effective January 1, 2017, the ban is fully implemented with a 50% surcharge applied to loads of garbage with greater than 5% food scraps.

The organics disposal ban was approved by the Metro Vancouver Board in October, 2014.

Multi-Family Organics Pilot Program

In preparation for the pending food scraps disposal ban, the City has been implementing recycling programs for residents over the past number of years. Currently, all residents in single-family homes and ground level townhomes have City-provided service. This comprises over 40,000 units or approximately 56% of total residences. There remain approximately 31,500 multi-family units in 700 complexes for which city service is not currently provided.

To help identify options for addressing this service gap, Council approved a 15-month pilot program to run from October 1, 2013 through December 31, 2014. The program was intended to target approximately 5,000 units with a variety of multi-family and mixed-use developments. Approximately four to six smaller commercial strip malls were also targeted as part of the pilot.

A summary of the program in its current operation is outlined below:

Program Details

Number of complexes	50
Number of commercial buildings	2 restaurants 3 facilities (City Hall, Minoru Seniors Centre, Terra Nova Community Garden) 1 private school (St. Joseph School)
Current number of units	5,877
Complexes using garbage carts	21 (1,576 units)
Complexes using Green Carts	47 (5,767 units)
Number of Green Carts	174
Number of garbage carts	136

The program was implemented in a graduated manner (i.e. as Strata Councils were engaged and resident information sessions were set up). The number of units has grown to over 5,800 units as property managers have requested the service as new buildings have come on line (in order to be compliant with the pending organics disposal ban).

Program Design

Green Carts have been located in central recycling areas within each complex and varying approaches are being tested (outlined in more detail below). Each resident has been provided with a kitchen catcher to use in their suite. An option to use City-provided garbage carts was also part of the program scope to see if this approach would help address space challenges that are typical in a multi-family setting. To provide a full service approach, in some cases cardboard container service was also provided. All carts are cleaned by the City on a monthly basis.

Four different approaches were targeted as part of the program:

Methodology	Recycling Room (Centralized Carts)	Residential Units
Group 1	Mirror of the curbside Green Cart program. Carts are not lined.	Use paper only to wrap food scraps.
Group 2	Cart(s) lined with compostable plastic bag.	Use paper only to wrap food scraps.
Group 3	Cart(s) lined with compostable plastic bag.	Residents are encouraged to use plastic bags to collect their food scraps but to empty the contents/food scraps into the Green Cart (then dispose of the plastic bag separately).
Group 4	Cart(s) lined with compostable plastic bag.	Residents are provided with certified compostable plastic bags to use to collect and dispose of their food scraps.

Program Education

Information about the pilot program was made available to residents through a number of means, including:

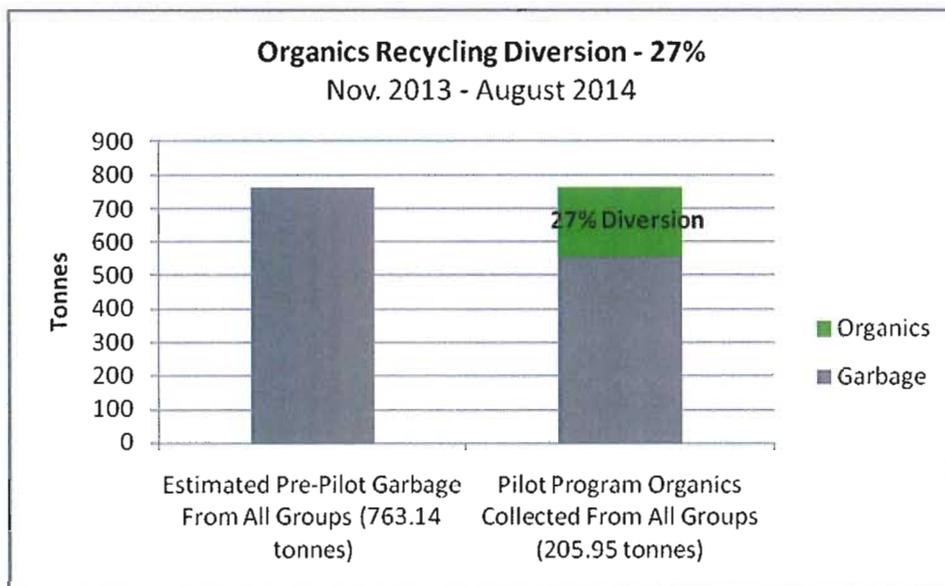
- Meetings with strata councils and property managers
- Letters to residents
- Information sessions/lobby displays held
- Starter kits distributed to residents (information brochures, kitchen catchers, sample bag liners, fridge magnet reminder, locations where to purchase paper bags, etc.)
- Meetings with on-site caretakers/building managers at program launch

Program Results

Residential

As part of the pilot program, overall waste generation and recycling rates were evaluated for organics only as well as for all waste materials (garbage, cardboard, Blue Cart recycling, and organics). A combination of actual and estimated weights were used based on best available data (measured for waste/recycling collected by the City; approximated where dumpster-style containers were used).

The analysis showed that overall, organics recycling diverted approximately 27% from estimated pre-pilot garbage tonnage. This is based on the assumption that the organics collected through the pilot program were previously being disposed of in the garbage. Data presented represents the period from November, 2013 – August, 2014.



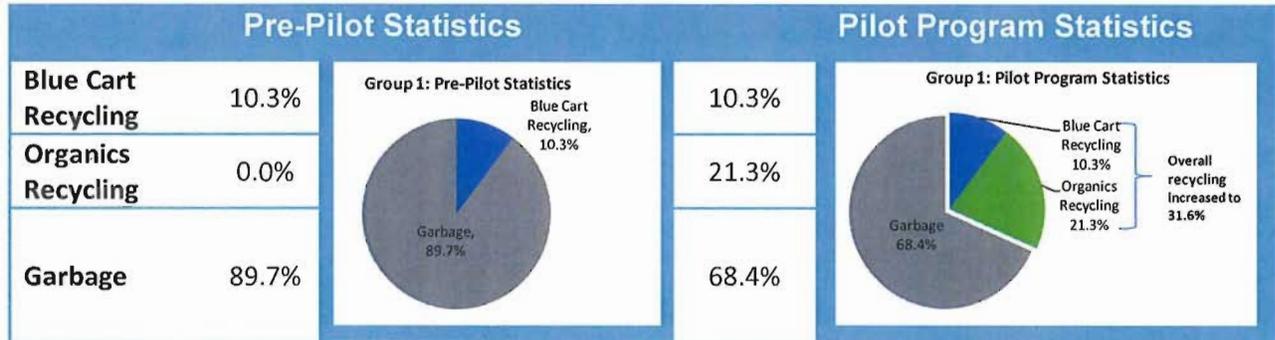
Overall contamination levels in the pilot were low (0.1%) due to constant, active management of the program and timely awareness and feedback to residents/strata councils and property managers. Our collection contractor and processor (Harvest Power) will notify the City where contaminated loads are present. Information and photos are sent to the strata councils/property management companies of those buildings where the contamination is identified and in some cases, staff provide the building manager/caretaker with a litter picker to remove contaminated materials. This approach has proven highly effective in minimizing contamination issues.

Program performance was monitored by measuring quantities collected per complex within each group. The highest performing group was Group 2, where 31.5% of estimated pre-pilot garbage was diverted through organics recycling. Group 3 was least performing group, with 18.4% of estimated pre-pilot garbage diverted through organics recycling.

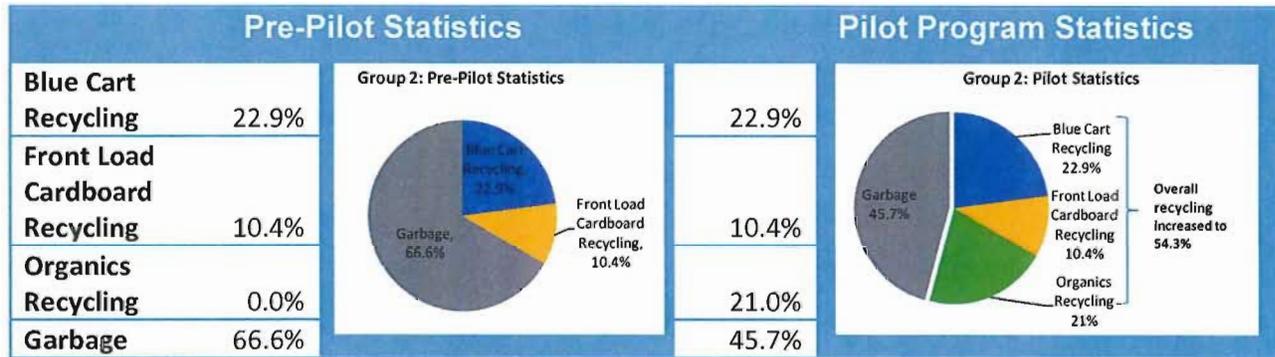
Multi-Family Organics Pilot Program (November, 2013 – August, 2014)					
Organics Diverted from Pre-Pilot Estimated Garbage					
	Current No. of Units	Pre-Pilot Estimated Garbage (Tonnes)	Pilot Estimated Garbage (Tonnes)	Organics Diverted (Tonnes)	% Organics Diverted from Pre-Pilot Garbage
Group 1 – Mirror Curbside	205	23.79	18.14	5.65	23.7%
Group 2 – Lined Carts (residents use paper bags only)	3,380	428.08	293.30	134.78	31.5%
Group 3 – Lined Carts (residents use plastic then discard)	1,415	229.31	187.14	42.17	18.4%
Group 4 – Lined Carts (residents use compostable plastic bags)	877	81.97	58.62	23.35	28.5%

When evaluating the impacts of organics recycling on the total estimated pre and pilot waste quantities, including other recycling, the following graphs show how organics recycling increased overall recycling performance for each group.

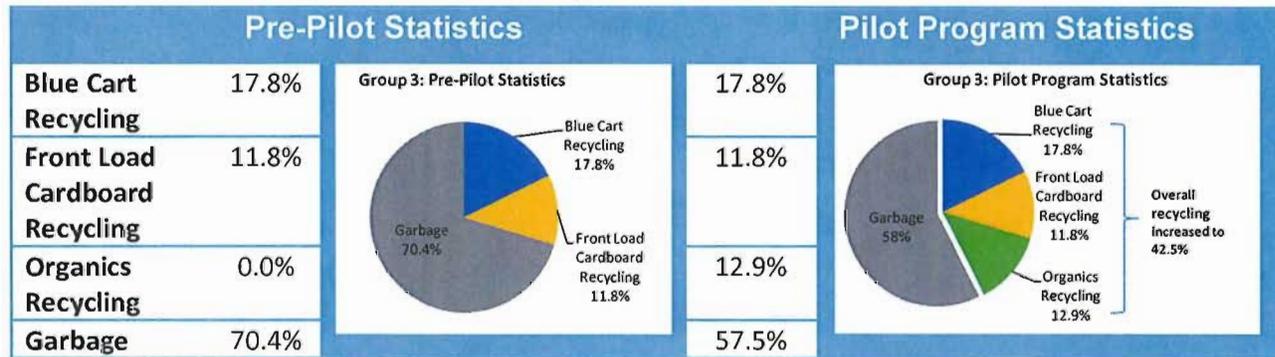
Group 1: Overall recycling increased 10.3% to 31.6%



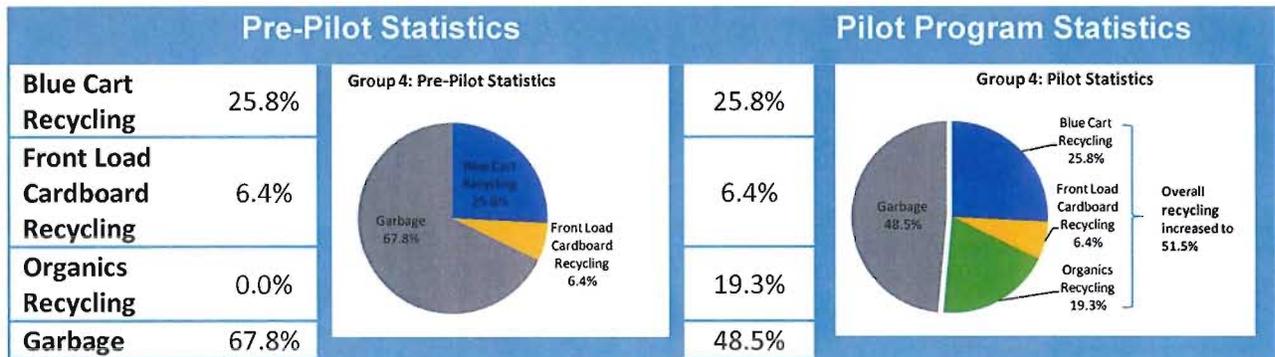
Group 2: Overall recycling increased from 33.3% to 54.3%



Group 3: Overall recycling increased from 29.6% to 42.5%

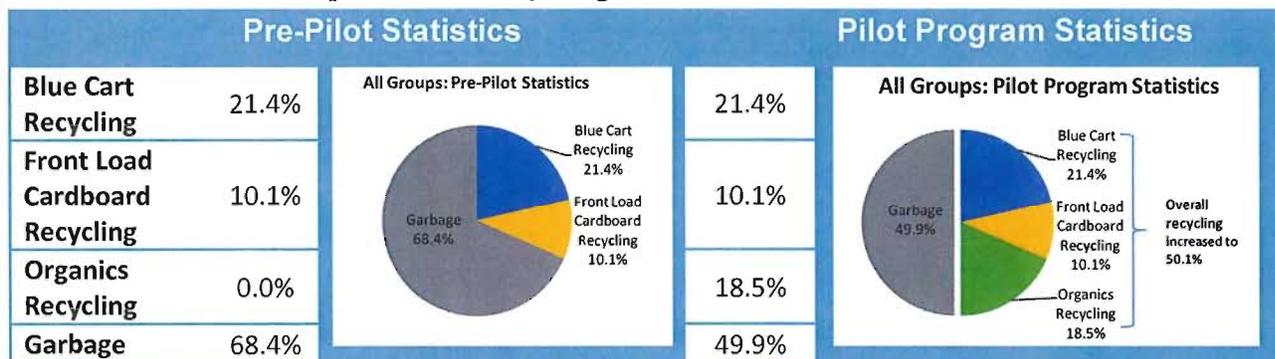


Group 4: Overall recycling increased from 32.2% to 51.5%



Where all groups are combined, it is estimated that multi-family residents were recycling approximately 31.5% of their waste, with the balance disposed as garbage (68.4%) before the organics program was implemented. Results from the pilot study showed that recycling levels increased to an average of 50% after food scraps/organics recycling was introduced.

All Groups: Overall recycling increased from 31.5% to 50.1%



Commercial

Uptake from the commercial sector was lower than expected due to a lack of willingness to modify existing arrangements as well as a lack of staff's ability to target this group more effectively due to time constraints. Volumes vary considerably as the data below reflects.

Location	Duration	Overall Organics Collected (Metric Tonnes)	Organics Collected Per Month (KG)
Restaurant (Steveston)	February to August (7 months)	2.81	400
Restaurant (Noodle House)	Included in mixed use development so no available measures	N/A	N/A
City Hall (1 floor)	December to August (9 months)	0.674	75
Minoru Seniors Centre	December to August (9 months)	1.3	144

Location	Duration	Overall Organics Collected (Metric Tonnes)	Organics Collected Per Month (KG)
Terra Nova Community Garden	April to August (5 months)	4.65	930
Private School	December to August (9 months)	0.77	86

Performance Evaluation and Key Findings

Feedback about the program was collected through a formal survey and through interactions with strata councils, property management companies and residents directly. In addition, the City's collection contractor (Sierra Waste) and processor (Harvest Power) provided feedback.

Key issues and findings included:

- Lining and regular cleaning service for carts were identified by stratas/residents at the outset as critical to gaining support for the program (due to concerns regarding smell, rodents, etc.).
- Group 1 had moderate performance (third out of 4) and had fewer participants due to strata concerns about carts not being lined.
- Group 2 had the highest performance, indicating that lined carts and resident use of paper bags to collect their food scraps is a suitable model for a full scale program.
- Group 3 had the lowest performance, indicating that encouraging the use of plastic bags to collect food scraps (and then empty and discard the plastic bags) was not effective in increasing diversion.
- In Group 4, it is interesting to note that allowing the use of compostable plastic bags did not result in higher diversion than requiring use of paper bags only. Staff note that there was less participation in this Group due to concerns from strata's about the potential to need to retrain their residents later if compostable plastic bags may not be permitted in a permanent program.
- In relation to compostable plastic bags, the compost site operator (Harvest Power) has advised that they can accept and manage the larger compostable cart plastic liners where provided by the City, where quality control can be assured. However, smaller/in-unit biodegradable/compostable plastic bags cannot be accepted due to varying standards, quality control issues and the increased handling they require (removing those considered contamination, longer time involved to bio-degrade, etc.)
- Adequate space for recycling is a key challenge in multi-family settings. A successful organics program should provide for multiple pickups per week of organics where space is a premium. Approximately 14% of complexes on the pilot have twice weekly organics collection.
- It is estimated that one 240L Green Cart per 25 units in a multi-family building will form part of the overall recommended space allocation guideline for waste/recycling

management as the program matures and residents become aware of the regional disposal ban.

- Approximately 40% (21 out of 50) of complexes took advantage of City-provided carts for garbage. This was offered as a way to help address space challenges, reduce available garbage capacity to encourage greater recycling, address/provide for easier manoeuvrability of garbage receptacles, provide greater flexibility, etc. While uptake was high, it is noted the service was provided at no charge as part of the pilot program. As there is demand from complexes for City garbage service in carts for the reasons noted, it is recommended that this service be offered as an optional component of a multi-family organics recycling program.
- Abundant, consistent, recurring, appropriate and diversity-appropriate education and cart labelling is a key requirement. Program roll-out, on-going management and education are resource intensive aspects due to the need for greater coordination involved in outreach/education to multi-family residents.
- Most residents use the kitchen catcher provided by the City for transporting their organics to the Green Cart area. Others used a variety of means, including paper bags, or plastic grocery bags (empty contents into Green Cart and dispose bag separately).
- The 'yuck' factor, time involved and inconvenience were identified as the key barriers to participation.
- Most residents considered it either somewhat or very important that the service be provided by the City (74% of survey respondents).
- Food scraps/organics recycling in the commercial locations varies considerably. The Terra Nova site volumes were very high due to the garden operation at that site.
- The pilot program indicated the slightly more than 4 kg/unit/month of organics were generated. It is expected that volumes would increase with continued education, organics disposal ban implementation, and program expansion with up to 8 kg/unit/month being estimated as achievable. Based on this, if a food scraps/organics recycling program were introduced for the over 30,000 multi-family units currently not serviced with organics recycling, an additional 1,500 – 3,000 tonnes annually would be expected to be diverted from the landfill.
- Concern was expressed by one private waste management service provider about the City offering organics recycling thereby diverting volumes from the garbage front end container service they provide to multi-family residents under existing garbage contracts.

A summary of the survey and results is outlined in Attachment 1.

Urban Development Institute (UDI) Liaison Committee Comments

Staff attended a discussion on September 24, 2014 with the City's UDI Liaison Committee at their request to discuss concerns regarding increasing space requirements for both recycling containers and collection vehicles. A further targeted meeting took place on October 23, 2014

with a representative group. Key issues raised and approaches for addressing these issues are outlined below:

1. Floor area ratio (FAR) exemptions were requested for recycling rooms. Staff have confirmed that FAR exemptions are already embedded in the City’s Zoning Bylaw for all utility rooms, including recycling rooms.
2. A Development Cost Charge (DCC) exemption was requested for the FAR required for recycling rooms. This issue will be considered as part of the DCC bylaw review in 2015.
3. Loading requirements for servicing recycling and garbage containers was identified as a key issue impacting development design, creating limitations in available design options. Staff are currently reviewing all loading requirements. This review will focus on ensuring on-site loading requirements meet operational requirements of the development (private loading and garbage/recycling servicing) without compromising urban design objectives. Potential Zoning Bylaw amendments will be brought to a future UDI Liaison Committee meeting for consultation prior to being forwarded to Council for consideration. In addition, staff are reviewing options for smaller-scale collection service vehicles as a potential future alternative.

Program Cost

Capital Cost	
Carts	\$27,000
Kitchen Catchers	\$26,000
Delivery Cost	\$5,000
Education, Launch and Start up Items	\$43,250
<i>Total Capital</i>	<i>\$101,250</i>
Monthly Operating Cost	
Collection and Cart Cleaning Services	\$14,850
Bag Supplies	\$1,625
Organics Processing	\$1,000
Garbage Disposal	\$825
<i>Total Monthly Operating Cost</i>	<i>\$18,300</i>

There is no cost to the participating residents in this program as all costs were funded from the sanitation provision due to the pilot nature of program.

Next Steps

Recognizing the 2015 organics disposal ban and the service gap that exists for multi-family residents, there are two approaches the City could take for a multi-family organics recycling program: allow residents to make their own service arrangements, or the City provides service to all residents. Each is discussed in further detail below.

Option 1 – Multi-Family Residents Contract Independently

Under this option, the City would not be involved in providing organics collection services to multi-family residents. Residents could independently make arrangements (likely through their strata councils/property management companies) to contract privately for services through their existing waste management service provider or other service providers. Alternatively, they could set up their own on-site composting system or other collection arrangements.

The City's role could be to:

- inform multi-family residents of the upcoming disposal ban and provide information and suggestions for how to proceed independently.
- implement a regulatory requirement via the Solid Waste and Recycling Regulation Bylaw No. 6803 to require all residents to recycle food scraps. This regulatory step is not required, but may help to provide further incentive to residents to establish independent programs.

Key advantages of this option:

- results in limited effort on the City's part to deliver the program, and
- leaves the organics collection work to private sector competition.

Key disadvantages of this option:

- service level inequity (i.e. City provides for single-family and townhome residents, but would not for multi-family residents),
- lack of program consistency from building to building (e.g. different service providers may use different types of containers and other materials),
- potential variations in program costs (since the City may be able to obtain favourable pricing based on a full-scale program for all residents),
- inability for the City to collect tonnage/diversion data.

Option 2 – City Provided Weekly Centralized Organics and Optional Weekly Centralized Garbage Collection Service

Under this option, the City could provide weekly service to all multi-family residents by either adding the service to existing solid waste and recycling services contract T.2988 with Sierra Waste Services (expires end of December, 2017), or by issuing a competitive tender to the marketplace. Proceeding under the existing service contract T.2988 would allow for implementation in the most expedient manner.

The scope of service provided by the City would include:

- Provision of carts and cart liners for centralized collection service.
- Monthly cleaning service for all carts.

- Provision of in-unit kitchen catchers for each multi-family unit (residents collect food scraps using paper bag liners and dispose of in designated Green Carts in a central collection area within their building).
- Weekly collection service of carts, with increased frequency (up to twice weekly) where space limitations dictate.
- Education and outreach program (starter kits, educational materials, posters, labels, lobby displays and presentations, etc.).
- Food scraps/organics material processing.
- Optional garbage collection service (in carts only).

Under this option, the City would design, develop, implement and manage the program on behalf of all multi-family residents, similar to the existing Green Cart program for single-family residents and some townhomes. To address the concern any private haulers have concerning removing any volumes from their current front end garbage container service, the City could permit an opt-out option for any multi-family buildings (on centralized cart collection only). The opt out would allow these buildings to contract privately with their existing or other haulers for organics collection service, provided they are able to demonstrate a designated organics collection service contract is in place. The opt out option provides residents with the ability to choose a different service provider (other than the City) should they wish.

Centralized garbage collection service using carts would be an optional service only at the discretion of the property management company/strata Council.

The service offered by the City would be undertaken on a cost-recovery basis, with the program operating costs for organics collection service charged to all residents in multi-family buildings. The only exception would be where a multi-family building has opted out of the program and arranged for independent organics collection service. There would be an alternative fee structure for weekly vs. twice weekly organics collection service, as well as for optional garbage collection service by the City in carts.

Estimated Costs

Estimated costs for City-provided collection service under existing service contract T.2988 with Sierra Waste Services are as follows.

	Estimated Cost
Capital Cost (includes carts, kitchen catchers, education/outreach, etc.)	~ \$650,000
Organics Operating Cost (includes collection, processing, cart cleaning services, liner bags, education, staff resource position for program implementation and management)	~ \$1.05 million annually
Garbage Collection Program Operating Cost (includes collection, disposal, cart cleaning services)	~ \$700,000 annually (variable based on participation)

An estimate of the rates for each multi-family unit is below.

Estimated Cost per Multi-Family Unit per Year – Centralized Cart Based Collection				
	Organics Collection Service		Garbage Collection Service (Optional)	
	<i>Weekly (Recommended)</i>	<i>Twice Weekly (Optional)</i>	<i>Weekly</i>	<i>Twice Weekly</i>
Per unit cost	\$30.00	\$55.00	\$50.00	\$88.50

Key advantages of this option:

- provides service level equity for residents in multi-family buildings (i.e. residents in single-family and ground level townhomes have City-provided service now),
- the service can be delivered in a timeframe that allows residents to comply with the pending regional disposal ban on organics,
- provides consistent-style of service to all residents in multi-family buildings,
- the City can ensure adequate space is provided as part of development permit reviews for organics recycling, and
- provides the ability to collect actual data/tonnage volumes collected to better measure recycling performance from multi-family buildings.

Key disadvantages of this option:

- added administration and resource support requirements on the part of the City (i.e. a new position required to implement, manage and administer the program – cost is built into/included in the estimated costs noted above)
- possible objections from private haulers concerning the City's involvement in providing collection service/diverting volumes from their front end/garbage container service.

Staff Recommendation

It is recommended that Option 2 (City Provided Service) be further reviewed and staff report back in the first quarter of 2015 on implementation timelines, contractual amendments to Contract T.2988 required to implement the service, and required bylaw amendments to Bylaw 6803 – Solid Waste and Recycling Regulation to enact the organics and garbage collection services for multi-family residents as outlined. These amendments would include the ability for a multi-family complex to opt out of City organics collection service if they can suitably demonstrate an alternative source-separated organics collection program is in place (i.e. through a private collector).

To avoid service interruption to those multi-family residents currently on the multi-family organics pilot program, it is recommended that the existing pilot program be continued pending determination on a full-scale program.

Financial Impact

Estimated costs to provide multi-family organics collection services are \$650,000 for capital/implementation costs and \$1.05 million for annual operating costs. This does not include costs for garbage collection services, which would vary depending on participation. All operating costs would be funded through fees charged to residents eligible for the program. It is recommended that capital/implementation costs be funded from provision, for consistency with how implementation costs have been managed with delivery of other similar programs in the City.

The 2015 Sanitation and Recycling budget includes \$450,000 for the existing multi-family organics collection pilot program, which is offset from a contribution from provision (no impact on rates). In light of the fact that the 2015 City utility rates have already been set via amending rate bylaws, it would be suggested that the added costs in 2015 for a full scale program be funded from the sanitation and recycling provision, with the cost to ratepayers applied commencing in 2016.

Conclusion

In light of the disposal ban on organics by Metro Vancouver in 2015, the City undertook a pilot program for multi-family organics recycling with approximately 5,900 units at approximately 50 sites commencing October, 2013. The results indicate that a centralized cart-based collection program for organics can divert an estimated 27% of current garbage volumes to recycling, helping multi-family residents improve their overall recycling performance to an estimated 50%.

There are approximately 32,000 residents in 700 complexes in Richmond that are currently not serviced by the City for organics collection (44% of residential units). This report outlines options and a suggested approach to provide organics collection service to these remaining residents not serviced by the City. The City can implement the service in a timely manner to help residents comply with the regional organics disposal ban by adding to the scope of existing Contract T.2988 with Sierra Waste Services to provide the service on the City's behalf.

This report recommends that staff report back on implementation timelines, refined costs, contractual and City bylaw amendments required to implement an organics collection service, with City garbage collection service also available as an option, to multi-family residents. To avoid service interruption to those multi-family residents currently on the pilot program, it is recommended the pilot program be continued pending a determination of a full-scale program for all multi-family residents.



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Att. 1: Multi-Family Resident Survey on Organics Collection Service

ATTACHMENT 1

Multi-Family Resident Survey on Organics Collection Service

Distribution method – Issued an information card along with communication about the expanded Blue Cart recycling (MMBC) to invite pilot program participants to go online to complete the survey.

Number of respondents – Received a total of 42 survey results out of approximately 5,000 invitation cards that were distributed (a 0.84% response rate).

	Response Count	Response Percent
1. Are you actively recycling food scraps?		
a) Yes	36	86%
b) No	6	14%
2. On average, when recycling your food scraps, how much would you estimate that your garbage is being reduced?		
a) 75% Less garbage	12	34%
b) 50% Less garbage	13	37%
c) 25% Less garbage	10	29%
3. What is working well? (Please select all that apply)		
a) Central collection area	31	86%
b) Cart labels and information posters	20	56%
c) Cart cleaning or liners	19	53%
4. What would make it easier to recycle food scraps?		
<p>General comments from respondents: <i>Cheaper paper bag liners, City to supply liners, bigger kitchen container, don't like having to empty food scraps and then throw away the plastic bag, better if the lid from green cart doesn't fall down when emptying stuff into the cart, more posters to increase awareness, only if people use the right bin.</i></p>		
5. What do you use to take your food scraps to the Green Cart?		
a) Kitchen container/bucket	12	33%
b) Paper bag	4	11%
c) Plastic grocery bag	5	14%
d) Compostable plastic bag	8	22%
e) Combination of the above options	7	19%

	Response Count	Response Percent
6. A number of communication methods were provided to share information about his new Green Cart recycling program. Please indicate the method you have used, select all that apply.		
a) Attend information session	22	61%
b) Read information brochure	31	86%
c) Read posters in recycling area	18	50%
d) Use magnet with Green Cart Tips	8	22%
7. Please indicate how useful each of the following communication methods was to you.		
a) Information session:		
• Not at all useful	4	11%
• Somewhat useful	10	28%
• Very useful	17	47%
• Not applicable	5	14%
b) Information brochure		
• Not at all useful	N/A	N/A
• Somewhat useful	8	24%
• Very useful	26	76%
c) Posters in recycling area		
• Not at all useful	1	3%
• Somewhat useful	13	36%
• Very useful	16	44%
• Not applicable	30	83%
d) Magnet with Green Cart Tips		
• Not at all useful	9	35%
• Somewhat useful	10	38%
• Very useful	7	27%
8. What do you believe is the biggest barrier preventing residents from recycling their food scraps? (Please select all that apply)		
a) Don't have time to separate food scraps from other household waste.	12	29%
b) Don't see any point in recycling my food scraps.	14	34%
c) It's inconvenient to bring them to a central area.	4	10%
d) Easier to use garburator.	19	46%
e) Don't know how to recycle food scraps.	13	32%
f) The "ick" factor, it's smelly and gross.	32	78%
g) Don't know about the Green Cart available in the building.	4	10%

	Response Count	Response Percent
9. How important is it for the City of Richmond to provide your recycling collection services versus having a private company to provide recycling service?		
a) Not at all important	3	9%
b) Not very important	6	17%
c) Somewhat important	11	31%
d) Very important	15	43%

10. Please share your suggestions to increase recycling and reduce garbage in your building:

General comments from respondents:

- *It is helpful to have signage with Chinese characters*
- *More informational meetings*
- *Kitchen container provide is hard to open for seniors*
- *All residents to use plastic bags to wrap food scraps*
- *Provide paper bag liners or show how to fold newspaper liner*