



City of Richmond

Report to Committee

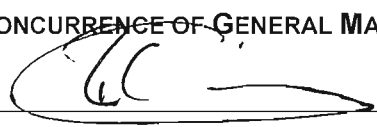


To: Public Works and Transportation Committee
From: Tom Stewart, ASCT.
Director, Public Works Operations
Date: January 7, 2014
File: 10-6405-01/2013-Vol
01
Re: **Weekly/Bi-Weekly Garbage Collection Pilot Program**

Staff Recommendation

1. That a pilot program for single-family garbage collection to evaluate weekly and bi-weekly service levels be undertaken commencing March, 2014.
2. That the Chief Administrative Officer and General Manager, Engineering & Public Works be authorized to negotiate and execute an amendment to Contract T.2988, Residential Solid Waste & Recycling Collection Services, to service, acquire, store, assemble, label, deliver, replace and undertake related tasks for the carts, undertake program evaluation and related items associated with this temporary pilot program.
3. That staff report back with a progress update of the pilot in July, including recommendations for:
 - a) services to those residents in the pilot at the conclusion of the program, and
 - b) City-provided garbage collection service levels as a permanent program to all residents serviced by the City.

Tom Stewart, ASCT.
Director, Public Works Operations
(604-233-3301)

Att. 2

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 
APPROVED BY CAO 	

Staff Report

Origin

At the October 23, 2013 meeting, Public Works and Transportation Committee considered a report regarding “Garbage Collection – Review of Service Level Options” (*Attachment 1*) and referred to staff:

- (a) to construct and recommend, including logistics and cost implications, a six-month pilot project to start in 2014 for Options No. 4 and No. 5;
- (b) to develop an educational program for residents in general and specific to the pilot areas, and;
- (c) to report on the relative expectations on the environmental reductions and costs.

This report presents the pilot program for consideration and approval, commencing March, 2014.

Analysis

The details of the proposed pilot program including logistics, costs, communications and measurements, are outlined below. The overall goal is to help gain resident input into a city-wide program to align the City’s garbage collection services with the goals for recycling and waste reduction, i.e. 70% waste diversion by 2015.

Program Logistics

It is proposed that the pilot program involve approximately 1,600 single-family and townhomes with City garbage service commencing March 3, 2014. Multi-family homes and commercial businesses are not included. The City’s existing collection service provider, Sierra Waste Services, would be retained to undertake various operational aspects of the pilot program.

Participants in the program would be provided with carts for their garbage collection service as part of leveraging the benefits and the positive feedback received from residents about the use of carts in the City’s Green Cart program. Participants would be divided into two groups of approximately 800 units each (Reference map in *Attachment 2*):

Group 1: Weekly collection using 120L carts.

Location: Area bounded by No. 3 and No. 4 Roads; and Williams Road and Steveston Highway. In the Wednesday collection zone area.

Group 2: Bi-Weekly collection using 240L carts.

Location: Area bounded by Garden City and No. 4 Roads, Capstan Way and Cambie Road; No. 4 and Shell Roads, Cambie Road and Alderbridge Way. In the Thursday collection zone area.

The locations for the pilot were selected based on a number of factors including:

- areas which correspond with truck routing to facilitate data collection (i.e. tonnage, fuel consumption, etc.);
- where the number of units could be kept relatively small recognizing that one group will be required to alter their services at the conclusion of the pilot (weekly switch to bi-weekly or vice versa) depending on the final option selected by Council;
- areas that had well rounded representation of different housing types (larger/smaller homes, larger/smaller yards, alleyways, row houses, newer homes, older homes, etc.)
- areas with broad yet representative demographics of the city.

Carts deliveries are scheduled to take place on February 21st and 22nd (for group 1, weekly collection, Wednesday zone), and February 28th and March 1st (for group 2, bi-weekly collection, Thursday zone). The pre-selected cart sizes will be delivered and then participants would have the option to change to a different cart size post delivery (either larger or smaller) to suit their individual needs. Cart size options available are: 80L, 120L, 240L and 360L.

It is proposed that Sierra Waste Services (the City's existing service provider) be retained to undertake the operational aspects of services necessary to deliver the program, including acquisition of carts, delivery, data evaluation and tracking, and the collection service.

The program would be evaluated after four months' operation and a report provided to Council to consider various options such as:

- continuing the cart-based service to residents in the pilot areas and transitioning each group to the same service level, i.e. either weekly or bi-weekly;
- continuing the cart-based collection to residents in the pilot areas as-is pending determination and implementation of a full-scale program;
- terminating the pilot program and reverting to existing levels of service for those in the pilot groups;
- determining the level of service for a full-scale program for all residents who receive City garbage collection service.

Funding is provided in the 2014 Sanitation and Recycling Utility budget to operate the pilot program for up to six months pending a determination by Council on service levels.

Program Costs

Participants:

There will be no additional costs or fee reductions to participants in the program (all residents will be assessed the 2014 approved utility rates in accordance with normal practise). When

considering their options to change to a different cart size, participants will be given information on the general variable rate pricing structure differences between cart sizes. This information can be used as a gauge to help guide their decision making, but will not result in any fee variation to participants.

City:

There are costs to the City for this program relating to the capital costs for the carts, and costs associated with implementation (delivery, education, etc.) of approximately \$225,000. There are also additional operating costs of approximately \$16,500 per month for additional time requirements associated with servicing carts vs. cans, program evaluation and adjustments, etc. or a total of approximately \$100,000 for six months of operation.

The associated City costs were considered and approved as part of the 2014 Utility Budgets and Rates (approved by Council November 25, 2013) with offsets from provision and existing capital allocations, therefore, there is no impact to the budget and rates charged to residents associated with this program.

Communications

The outreach program will consist of three principle phases including:

- Advance notification via direct mail to participants coupled with neighbourhood meetings.
- Information packages delivered to participants with their carts, an on-line discussion forum, telephone support and community recycling displays.
- Participant surveys, thank-you and feedback letters.

As the nature of the program is a pilot, adjustments are generally made to suit common participant feedback as the service unfolds. As an example, participants on weekly service may have the occasional need to dispose additional garbage (more than their 120L or other selected cart size). These participants may use up to one additional garbage can, if required, per week and purchase a \$2 garbage tag for any additional items above two, which is the same as the current level of service for garbage collection. Similarly, participants on bi-weekly service using 240L (or other selected cart size) may find they have the occasional need for additional pickups on the off-week for their garbage. While participants will be encouraged to use the cart size that suits their needs best for bi-weekly collection, extra pick-ups on the off-week will be provided on request. The intent of the pilot will be to determine which method best encourages waste diversion, while being flexible during the pilot to get as much public feedback as possible.

This type of feedback is important for the city to not only make adjustments to suit participants' requirements, but is also key to the consultation process in order to design a suitable permanent program throughout the city. This type of feedback will be tracked and included as part of reporting back to Council on the pilot program.

As noted, staff will report to Council in July 2014 with an update and feedback on the pilot program in order to have a strategy in place to address services to those residents involved in the pilot at its conclusion. In addition, the report will outline recommendations for a broader-scale, permanent program to all residents with City-provided garbage collection service.

Program Performance Measures

A number of factors will be included in the evaluation of this program to help guide future decision making. Information will be collected prior to the start of the pilot (to establish baseline performance in each group) as well as during the pilot program. Key items include:

- Garbage: number of cans placed out for collection, size of cans, participation, number of extra bag stickers used, tonnage, truck fuel consumption,
- Blue Box: participation, tonnage, truck fuel consumption,
- Organics: participation, size of cart being used, if Green Cans are being used and how many, if yard waste bags are being used and how many, tonnage, truck fuel consumption.

Information will be tracked within each group and included in the report back to Council. The results will give a good indication of the existing and increased recycling performance under a weekly vs. bi-weekly service level for garbage collection. This information can then be used to help formulate a permanent program for all residents with city provided garbage collection.

Financial Impact

Funding for this program was approved as part of the 2014 Utility Budget and Rates. The costs are offset from provisional funding and existing capital allocations. There is no impact to the rates charged to residents associated with this pilot program.

Conclusion

In a move to design garbage collection services that align with the goals for recycling and waste diversion, a Weekly/Bi-Weekly Garbage Collection Pilot Program is proposed to be undertaken commencing March 3, 2014 and involving approximately 1,600 single-family and townhome residences. This program would leverage the benefits of wheeled carts for garbage with opportunities for adjusting capacity and frequency for garbage collection. Participants would be divided into two groups to help evaluate different service models. Some of the key service components being tested include the frequency of garbage pick-up (weekly or bi-weekly), preferred cart sizes based on frequency and variable rate pricing factors.

Program evaluation will include participation rates, diversion rates, feedback on cart convenience, preferences and general usage, and input from participants related to collection frequency and tolerance for variable fees based on cart sizes. As well, collection service vehicle fuel emissions and fuel consumption will also be measured.

An amendment agreement under Contract T.2988 with Sierra Waste Services to conduct various aspects of the pilot program including cart acquisition, delivery, program evaluation/statistics

tracking and collection services is recommended as it would allow the time frame identified in this report to be met. In addition, they are the city's current service provider. Early results would be reported back to Council in July 2014 for information and consideration of continued services for residents involved in the pilot program as well as a permanent program in relation to garbage collection service levels for all residents with City-provided service.

A handwritten signature in black ink, appearing to read "S. Bycraft", with a stylized, flowing script.

Suzanne Bycraft
Manager, Fleet & Environmental Programs
(604-233-3338)

SJB:

Attachment 1

**City of
Richmond****Report to Committee**

To: Public Works and Transportation Committee **Date:** October 11, 2013
From: Tom Stewart, AScT.
Director, Public Works Operations **File:** 10-6405-01/2013-Vol
01
Re: Garbage Collection - Review of Service Level Options

Staff Recommendation

1. That garbage collection service levels, outlined in Option 4 of the report from the Director, Public Works Operations dated October 11, 2013, be referred to the 2014 utility and capital budget processes to:
 - a) provide wheeled carts to all residents serviced with City garbage collection;
 - b) introduce variable rate pricing based on the size of cart preferred by residents.
2. Staff report back on details and requirements to implement the program.

Tom Stewart, AScT.
Director, Public Works Operations
(604-233-3301)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
REVIEWED BY DIRECTORS	INITIALS: DW
APPROVED BY CAO 	

3097518

PWT - 111

Attachment 1 (Cont'd)

October 11, 2013

- 2 -

Staff Report**Origin**

In the annual *Report 2012 – Recycling and Solid Waste Management*, it was identified that staff would undertake a review of existing service levels for garbage collection, including variable rate programs such as 'pay as you throw' and bi-weekly collection. Variable rate incentive programs and/or garbage service level reductions can help to further waste diversion objectives through increased recycling and decreased waste disposal.

This report presents options for Council's consideration.

Analysis**Background**

The City has continued to expand its recycling services to residents as part of striving to achieve 70% waste diversion by 2015 in accordance with the regional Integrated Solid Waste and Resource Management Plan (ISWRMP) and the City's Solid Waste Strategic Framework. In order to achieve this diversion target and lay the groundwork for aspiring to 80% diversion by 2020 per the ISWRMP, additional actions must be undertaken to divert waste – the status quo is not an option. Early actions are also critical as part of capitalizing on savings through diverting material away from disposal and into more cost-effective recycling material management and as part of taking advantage of those early gains before tipping fees rise. Tipping fees are projected to increase from the current rate of \$107 per tonne to \$151 per tonne by 2017. Reducing and recycling additional waste is also very important as part of best practices for demand side management to defer regional capital costs for new waste disposal infrastructure, which is ultimately reflected in the system costs shared by residents and the community as a whole.

To support residents and provide greater access to recycling, the City introduced the Green Cart program in June, 2013 to make yard trimmings and food scraps recycling more convenient for residents in single-family homes, and to expand organics recycling services to residents in townhomes. In the first two months of implementation, performance of this program was at 68% diversion for single-family households. While organics tonnages are higher in the summer months and this contributes to the high diversion rate for this period, it is nonetheless a positive reflection of the benefit of organics recycling initiatives. To this point, the City is currently introducing a pilot program for organics recycling in apartments.

Through the Blue Box and Green Cart recycling programs, residents in single-family and townhomes are now able to divert the majority of their household waste to recycling. Given these recycling alternatives are in place, adjusting service levels for garbage collection is the next aggressive and progressive step needed to drive additional waste diversion.

There are two variables which can be considered either individually or in combination to encourage residents to make maximum use of available recycling options by creating disincentives to waste disposal. These include: a) introducing financial incentives through variable rate programs, and/or b) service level reductions.

5927632

PWT - 112

Attachment 1 (Cont'd)

October 11, 2013

- 3 -

a) Variable Rate Programs

A variable rate program, also typically referred to as "Pay-As-You-Throw", results in a sliding-scale fee structure for garbage disposal based on the size of garbage container used by residents, i.e. a lower cost for smaller-sized garbage containers and a higher cost for larger-sized containers. For the purpose of this report, it is assumed that under a variable rate program the City would provide carts for garbage collection in a range of sizes similar to that used in the Green Cart program, i.e. 80 litres, 120 litres, 240 litres and 360 litres. Residents would have the option to choose the cart size of their choice and pay the associated rate established by the City for each various container size.

A variable rate program can be used for either weekly or bi-weekly garbage collection service, provided carts are provided as part of the program.

Key Advantages

- Residents have ability to influence the amount they pay based on volume of garbage generated, i.e. user pay
- Financial incentives are created to increase recycling/diversion and reduce garbage
- Carts are provided for garbage collection service

Key Disadvantages

- Additional administrative work necessary to track cart sizes in order to appropriately assess costs
- Capital cost to provide and deliver garbage carts can be substantial

b) Garbage Collection Service Level Reductions

Service levels for garbage collection can be reduced by placing additional limits on the number of garbage cans allowed per week (i.e. one can vs. two cans) or by collecting garbage every two weeks instead of weekly. Recycling collection services can remain unaffected, i.e. weekly Blue Box and Green Cart collection. By reducing the number of garbage containers collected each week or by collecting garbage every other week, residents are motivated to recycle more and dispose less. Both the City of Surrey and the City of Vancouver have implemented bi-weekly garbage collection service using carts. The City of Surrey also collects recycling (in carts) on a bi-weekly basis (alternates with garbage).

Garbage collection service levels can be adjusted under the City's current program where residents provide their own garbage containers, or if the City opts to provide carts to residents. Reductions in garbage collection service levels can also be used in combination with variable rate programs provided carts are used in the program.

Key Advantages

- Reduction to one can/week can be easily implemented and residents can continue to use/provide their own containers (no added capital cost)

Key Disadvantages

- Service level reductions (regardless of one can/week or bi-weekly) have limited cost savings compared to what residents might otherwise expect

5697636

PWT - 113

Attachment 1 (Cont'd)

October 11, 2013

- 4 -

Key Advantages

- Bi-weekly collection provides considerable incentive for residents to reduce garbage and increase recycling due to the inconvenience of every other week garbage collection (with no added capital cost if carts are not used)

Key Disadvantages

- Potential for contamination of garbage into other recycling streams (Blue Box/Green Cart) since residents are motivated to get rid of their waste
- Potential for increased illegal dumping (including dumping of household garbage into neighbourhood park garbage containers, commercial dumpsters, etc.)

Review of Service Level Options

There are five different options explored in this report for Council's consideration, including:

- 1) Status Quo – Two cans collected weekly (where residents provide their own containers);
- 2) One can collected weekly (where residents provide their own container);
- 3) Two cans collected bi-weekly (where residents provide their own containers);
- 4) Weekly cart collection using variable rate pricing (where carts are provided by the City);
- 5) Bi-weekly cart collection using variable rate pricing (where carts are provided by the City).

Each is explored in more detail below, and is summarized in *Attachment 1*. Some key assumptions used in this evaluation are: the waste shifts from garbage to recycling (e.g. reduced garbage disposal but increased recycling processing); broad assumptions must be applied to estimate the selection percentage of different sized carts residents may choose; and collection costs are higher to service City-provided carts vs. resident-provided cans.

In considering these options, it is helpful to have background information on the City's current garbage collection service levels as outlined in Option 1.

1. *Option 1 - Current Service Level/Status Quo:* The current level of service for curbside City garbage collection is:

- Weekly Collection: for up to two, 100 litre containers/bags, or a maximum of 200 litres per household per week;
- Additional Containers: residents may purchase a \$2 garbage tag and adhere it to each additional container/bag.

In addition, the City offers the following options for disposing of additional and/or large items:

- Additional Garbage: residents may also dispose of additional garbage by purchasing a \$5 garbage disposal voucher which they may use at the Vancouver Landfill to dispose of up to \$20 worth of material which they deliver themselves;

DRAFT

PWT - 114

Attachment 1 (Cont'd)

October 11, 2013

- 5 -

- **Large Items:** the City also introduced a large item pickup program (in June, 2013) where residents may have up to four large items collected annually at curbside (residents with City garbage and/or Green Cart service).

Some challenges with the existing service are that residents frequently use over-sized containers with wheels (120 litre or larger). Missing lids, broken handles, broken wheels and/or broken containers are common complaints – principally due to the quality of containers available for purchase by residents. Garbage can also become scattered by animals. These are challenges which could be addressed if the City were to provide designated carts for garbage collection.

2. *Option 2: One Garbage Can Collected Weekly*

Under this option, garbage collection service would be reduced to one, 100-litre container per week. Residents are responsible for providing their own containers. Additional bags of garbage could be collected if a garbage tag is used. The price of the additional garbage container tag could be increased from \$2/each to \$3/each as a further deterrent to additional garbage.

This is a fairly straight forward option and likely the easiest/quickest to implement. Information could be communicated to residents and a transition period established for implementation (i.e. 3 – 6 months).

Anticipated challenges with this option are: residents may use over-sized containers (120 litre or 140 litre containers) and overstuff garbage into containers. This could translate into operational concerns and complaints and real or perceived service level inequities (if oversized containers are tagged, residents will complain their garbage was not collected; if the oversized containers are being collected, residents will complain that the rules aren't being equally applied; where garbage is stuffed into containers, it will become lodged and difficult to empty). Illegal dumping activities could increase and there could be increased contamination in the recycling stream.

Some cost savings are expected through reduced tipping fees since more waste is expected to be recycled, or approximately \$125,000 annually. As such, this option is estimated to result in annual cost savings of approximately \$2.26 per household.

3. *Option 3: Two Garbage Cans Collected Bi-Weekly*

With this option, the level of service for garbage collection is reduced to collection of two, 100-litre containers bi-weekly, or every two weeks. Residents provide their own containers. Additional items could be collected as outlined in Option 1, i.e. via a garbage tag.

This option can also be implemented fairly readily, with allowance for a communication and transition period established for implementation (3 – 6 months).

As noted previously, bi-weekly collection service has the advantage of creating a strong incentive for residents to expand their recycling efforts by making garbage collection less

10/2/2013

PWT - 115

CNCL - 357

Attachment 1 (Cont'd)

October 11, 2013

- 6 -

convenient. Disadvantages may include: potential use of oversized containers (as in Option 2); illegal dumping activities could increase, and there could be increased contamination in the recycling stream. These are issues which might be expected to be at a high level at the outset of the program change, and then taper to lower significance as residents become more accustomed to the changes.

Cost savings are expected through reduced collection costs and tipping fees since more waste is expected to be recycled, or approximately \$185,000 annually, equal to approximately \$4.18 per household.

4. *Option 4: Weekly Garbage Collection with Variable Rate Pricing Using Carts (Recommended Option)*

With this option, the City would provide carts to residents based on subscription to various sized carts, i.e. 80 litres, 120 litres, 240 litres and 360 litres. Carts would be emptied weekly. Staff would recommend the base or standard cart size be 120 litres to encourage less garbage (i.e. vs. 200 litres under the current program). Residents would have the option to subscribe to the smaller 80 litre sized cart or to a larger cart size, and pay the established rate. The incentive to reduce waste is built into the rate structure. The option to dispose of additional garbage could continue to be made available via a garbage tag, and it would be recommended to increase the tag cost to \$3/each.

Collection costs are higher under this option due to the additional time required to service carts vs. cans or bags. Once estimated garbage disposal savings are considered, the net operating cost of this option is approximately \$400,000. There is also an additional initial capital cost to purchase the carts for residents, estimated at \$2.2 million. The cart acquisition cost would not be reflected in the rates charged to residents as a funding provision has been established for this purpose.

This option requires a longer transition and implementation period due to the need to allow for a sign-up period, order and deliver carts, etc. or approximately 9-10 months.

Waste diversion is encouraged by reducing the weekly limit from the existing 200 litres maximum to a standard of 120 litres and by offering variable rates to create financial incentives to reduce garbage.

There are added collection costs under this option for servicing garbage carts, which are offset somewhat by reduced garbage tonnage. Overall, this option is expected to result in an annual increase of approximately \$8.84 per household (based on a standard 120 litre cart). However, residents can save by selecting a smaller cart size or pay additional amounts for a larger cart size.

5. *Option 5: Bi-weekly Garbage Collection with Variable Rate Pricing Using Carts*

This option is similar to Option 4, with the exception that garbage carts are collected every other week (or bi-weekly). Carts are provided by the City, with the standard recommended size being 240 litres due to collection frequency being every other week. The incentive to reduce waste is built into the rate structure. The option to dispose of

2027638

PWT - 116

Attachment 1 (Cont'd)

October 11, 2013

- 7 -

additional garbage could continue to be made available via a garbage tag, and it would be recommended to increase the tag cost to \$3/each.

Collection costs remain consistent with current costs (i.e. although it is more expensive to collect material from carts, this is offset due to bi-weekly servicing). There are added costs anticipated associated with additional administrative support as well as operating impacts from potential dumping and related issues, which are principally offset resulting in a net annual operating budget impact of approximately \$50,000. There is no anticipated change in the annual operating cost per household based on the standard size container issued. Residents would continue to have the option to pay less or more based on the container size of their choice.

This option requires approximately 9-10 months for implementation and transition.

There are capital/start up costs associated with this option, estimated at \$2.2 million. The cart acquisition cost would not be reflected in the rates charged to residents as a funding provision has been established for this purpose.

A summary of the options, which describes the key cost centres and an estimate of how each is impacted throughout the various options is provided below. Note that these costs use projected 2014 costs for an average single-family household as the base case for comparison purposes. The existing 2013 single-family household cost is also shown for information. The projected rate increases for 2014 relates to full year implementation costs for new programs introduced in June, 2013, i.e. the Green Cart and Large Item programs as well as reduced revenue projections for recycling commodities based on market conditions.

<i>Estimated Annual Cost Impact of Options Based on Single-Family Household</i>						
<i>Service Component</i>	<i>2013 Current Net Cost</i>	<i>Option 1: Status Quo 2014 Projected Cost</i>	<i>Changes to Option 1 – Status Quo Net Rate</i>			
			<i>Option 2: One 100 L Can Weekly</i>	<i>Option 3: Two 100 L Cans Bi-Weekly</i>	<i>Option 4: Carts Weekly (Based on 120 L Standard)</i>	<i>Option 5: Carts Bi-Weekly (Based on 240 L Standard)</i>
Garbage	\$106.00	\$106.20	-\$3.76	-\$5.68	\$7.22	-\$1.20
Yard Waste	\$77.50	\$82.30	\$1.00	\$1.00	\$1.01	\$0.75
Recycling	\$31.30	\$34.00	\$0.50	\$0.50	\$0.61	\$0.45
Other ¹	\$36.60	\$41.30				
Total	\$251.40	\$263.80	-\$2.26	-\$4.18	\$8.84	\$0.00

¹Large item program, litter collection, Recycling Depot, illegal dumping, environmental, and administration.

Recommended Option

Staff recommend Option 4. This approach provides carts to residents, building on the success of the Green Cart program. Many positive comments have been received from residents about the convenience of using carts for their organics, and many have requested that carts also be provided for residents to use for their garbage. Providing standard carts to residents will help to alleviate many common complaints ranging from missing lids to scattered garbage and litter in neighbourhoods. Maintaining weekly garbage collection service using a standard cart of a lesser

Attachment 1 (Cont'd)

October 11, 2013

- 8 -

size (120 litres) coupled with providing variable rate incentives for alternative size carts provides maximum choice to residents while at the same time encouraging waste diversion. As such, this program is expected to help further the City's goal toward 70% waste diversion by 2015.

Financial Impact

This report has no direct financial impact as these details will be provided as part of the 2014 utility budget process for Council's consideration. It is expected that any financial impact affecting the rates charged to residents associated with this initiative would be principally reflected in 2015, based on an estimated late third quarter program implementation. Capital funding for cart acquisitions is available in the General Solid Waste and Recycling Provision.

Conclusion

This report presents options for garbage collection service level adjustments to help further waste diversion objectives. The suggested approach to provide weekly collection service using City-provided carts of a reduced capacity over current service levels (i.e. 120 litres vs. 200 litres), coupled with variable rate incentives for smaller or larger cart sizes, balances convenience and choice while encouraging additional waste diversion.



Suzanne Bycraft
Manager, Fleet & Environmental Programs
(604-233-3338)

0997638

PWT - 118

Attachment 1 (Cont'd)

October 11, 2013

- 9 -

Attachment 1

Option	Service Level		Containers		Additional Garbage			Anticipated Annual Cost		Capital Cost	Implementation Timeframe
	Weekly	Bi-weekly	Resident Provided	City Provided	Tag Cost Each	\$5 Garbage Voucher Program	Large Item Pick Up (4 items)	Based on 2014 Budget	Difference Over 2014 Projected		
1	✓		2 x 100 litres can		\$2	✓	✓	\$263.80**	None	N/A	N/A
2	✓		1 x 100 litres can		\$3	✓	✓	\$261.54**	-\$2.26	N/A	3 to 6 months
3		✓	2 x 100 litres can		\$3	✓	✓	\$259.62**	-\$4.18	N/A	3 to 6 months
4	✓			1 x 80 litres cart	\$3	✓	✓	\$234.84	-\$28.96	\$2.2 Million	9 to 10 months
				1 x 120 litres cart*				\$272.64	\$8.84		
				1 x 240 litres cart				\$326.64	\$62.84		
				1 x 360 litres cart				\$369.84	\$106.04		
5		✓		1 x 80 litres cart	\$3	✓	✓	\$222.00	-\$41.80	\$2.2 Million	9 to 10 months
				1 x 120 litres cart				\$241.44	-\$22.36		
				1 x 240 litres cart*				\$263.80	\$0.00		
				1 x 360 litres cart				\$341.88	\$78.08		

PWT - 119

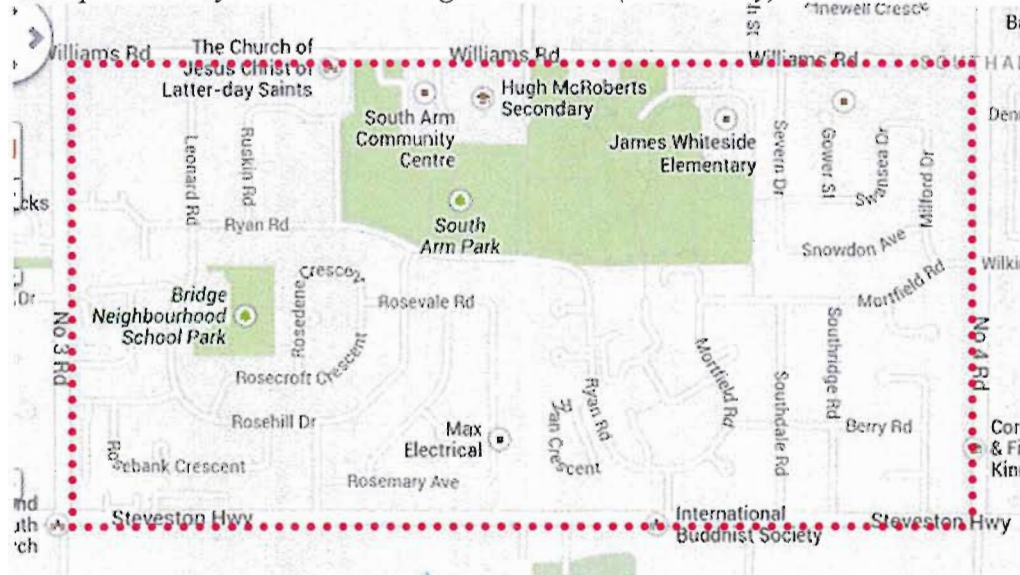
Legend: * Standard size

** Based on Average Single Family Home

597538

Weekly/Biweekly Garbage Collection Pilot Program

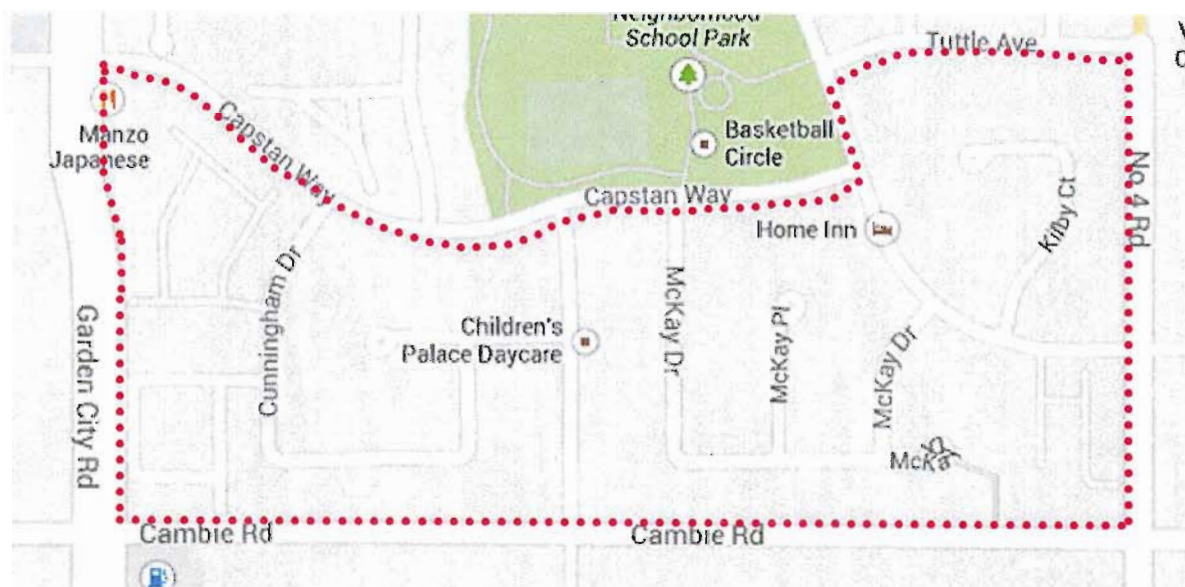
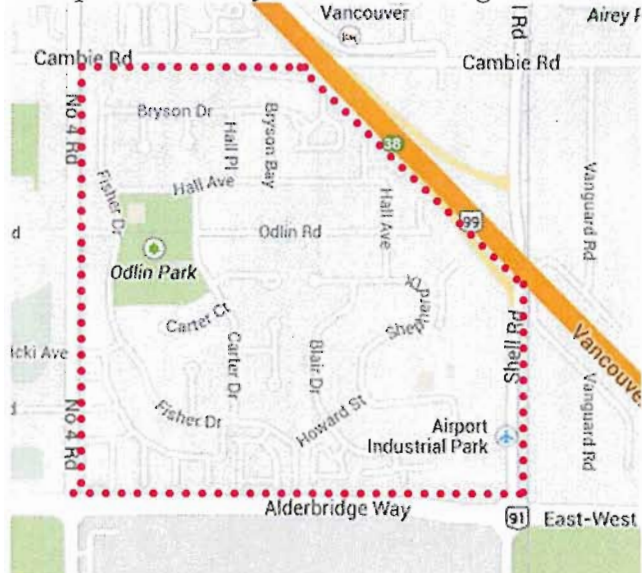
Group 1: Weekly Collection Using 120L Carts (Wednesday)



Pilot duration: March 3, 2014 to August 29, 2013

Weekly/Biweekly Garbage Collection Pilot Program

Group 2: Bi-Weekly Collection Using 240L Carts (Thursday)



Pilot Duration: March 3, 2014 to August 29, 2013