Supports Item No. 2
PT&E Committee Agenda
October 17, 2012

CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date:	October 9, 2012
Contact:	Albert Shamess
Contact No.:	604.873.7300
RTS No.:	9761
VanRIMS No.:	08-2000-20
Meeting Date:	October 17, 2012

TO: Standing Committee on Planning, Transportation and Environment

FROM: General Manager, Engineering Services

SUBJECT: Food Scraps Diversion Update & Full Phase 2 Implementation

RECOMMENDATION

A. THAT Council approve full implementation of food scraps recycling including a switch to weekly collection of green bins and every-other-week collection of garbage for single-family and duplex homes supported by a comprehensive communications campaign for launch in early 2013, as set out in this report.

B. THAT Council approve one-time implementation costs of up to $5.4 million for operating costs as described in the Financial Implications section of this report, funded as a loan from the Capital Financing Fund (Solid Waste Capital Reserve) based on a budget and terms acceptable to the Chief Financial Officer with repayment by Solid Waste Utility fees. Final budget to be approved by the City Manager and Chief Financial Officer.

C. THAT Council approve a total upset budget of up to $5 million for capital improvements to the City's solid waste transfer operations, funded as a loan from the Capital Financing Fund (Solid Waste Capital Reserve) based on budget and terms acceptable to the Chief Financial Officer with repayment by Solid Waste Utility fees. Final budget to be approved by City Manager and Chief Financial Officer.

D. THAT Council approve, in principle, the introduction of mandatory recycling of compostable waste from all sectors in Vancouver, including multi-family (MF) residential, commercial, industrial and institutional (ICI) sectors, and direct staff to report back with a recommended approach for the diversion of these materials from the MF and ICI sectors that aligns with a planned region-wide ban on the disposal of compostable organics by 2015.

E. THAT Council instruct the Director of Legal Services to bring forward amendments to the Solid Waste By-Law, generally in accordance with the principles described within this report.

REPORT SUMMARY

Food scraps and food soiled paper represent about 40% by weight of garbage disposed to landfill or incineration in the region. As part of Metro Vancouver's Integrated Solid Waste and Resource Management Plan, banning the disposal of compostable organic waste from landfill disposal is targeted for 2015. Maximizing diversion of compostable organic waste is also a key action in enabling the City to meet the Greenest City 2020 Zero Waste target of reducing total waste to landfill or incinerator by 50% from 2008 levels.

This report seeks Council approval to implement the final phase of the expanded food scraps recycling program for single-family and duplex homes, including changing the collection frequency to weekly organics and every-other-week garbage collection supported by a comprehensive communications campaign. It also seeks approval for staff to initiate a process for introducing mandatory recycling of compostable organic wastes from all sectors in preparation for the regional disposal ban by 2015.

The City initiated the food scraps recycling program in 2010 by allowing residents receiving City solid waste collection services to include fruit and vegetable scraps in their green bins. In 2011, a pilot project was initiated to test an expanded program, including all food scraps and food soiled paper, and included the proposed change in collection frequency. The pilot project involved 2,000 homes in Sunset and Riley Park and tested impacts of the collection frequency switch and various methods of communicating program information, and gathered key operational information.

The pilot project resulted in two primary conclusions:

- Switching to weekly green bin and biweekly garbage collection supported by a comprehensive communications and outreach campaign is the most effective tactic for increasing the diversion of compostable material for recycling and reducing waste. This has also been the experience of similar cities, such as Portland, Ottawa and Seattle.
- The amount of additional compostable material with a city-wide program for single family and duplex properties is expected to be significant - potentially double the current annual tonnage of about 25,000 tonnes per year. Handling this increase of material requires upgrading of our solid waste infrastructure. Modifications will be required in each of the three components of the solid waste system: collection, transfer, and processing.

Recognizing that there are a number of residents interested in recycling more food scraps, as an interim strategy prior to changing collection frequencies, full food scraps recycling was made available to all single family and duplex residents on September 11, 2012. Since it has been confirmed that switching collection frequencies coupled with a comprehensive communications program will be the major drivers to maximizing participation, we expect that the overall voluntary program uptake will be low. However, this expansion allows residents an opportunity to begin recycling all of their food scraps, while we address

infrastructure requirements needed to accommodate the significant increase in tonnage expected with a switch in garbage and green bin collection frequencies.

There are two areas of investment needed for city-wide launch of the collection switch – capital investment in facilities and expenditure in the necessary operational changes and related communication and public outreach strategies. The most significant capital investment will be in providing suitable transfer capacity to handle the expected increase in organic material separately from the garbage. The current available space and operating layout at the Vancouver South Transfer Station is insufficient to handle the increased volume and separation of material. Staff's preliminary estimate of the capital cost for providing additional transfer capacity is in the range of $3 to $5 million. This covers the cost for additional covered building space, associated equipment and expected construction requirements. Accordingly, Council authority for a maximum expenditure of $5 million is sought. Once cost estimates are refined, the final budget will require City Manager and Chief Financial Officer approval.

The estimated one-time cost to implement the necessary collections program operational changes and provide a comprehensive communications program is $5.4 million. Key aspects of the operating portion include one-time costs for:

- development and distribution of appropriate educational materials on program requirements to encourage the required change in behaviour, and inform and support residents;
- purchase and delivery of kitchen containers for residents;
- purchase and delivery of garbage and green bins for those residents that may wish to change their cart size;
- additional, temporary 311 personnel to respond to increased citizen demand for information and for processing cart size change requests;
- additional capacity for responsive collection during the transition period, to facilitate a smooth change;
- additional education/enforcement personnel during program roll out to provide follow up for residents who contaminate their green bin (with plastic bags, for example) or who should consider cart size changes.

Council approval for maximum total spending authority of $10.4 million is therefore recommended in this report.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

March 4, 2010: Council approved the first phase of city-wide food scraps recycling, including the addition of raw fruit and vegetable scraps to yard trimmings collection for single family residential properties. Council also directed staff to develop an implementation plan for converting to weekly organics collection and biweekly garbage collection.

January 5, 2011: Council adopted various Greenest City 2020 targets, including reducing total waste to landfill or incinerator by 50% from 2008 levels.

March 1, 2011: Council endorsed the general approach outlined in Metro Vancouver's proposed Integrated Solid Waste and Resource Management Plan, which includes actions for mandatory diversion of organics waste from disposal by 2015.

July 5, 2011 Council adopted in principle the Greenest City 2020 Action Plan (GCAP), and directed staff to begin implementation of the highest priority short term actions, one of which is to collect all compostables from single family residential properties on a weekly basis and introduce every-other-week garbage collection.

July 14, 2011: Council approved the second phase of city-wide food scraps recycling involving pilot food scraps recycling programs for the single and multi-family sectors.

September 11, 2012: Residents were provided the opportunity to add all types of food scraps and food soiled paper to their green bins.

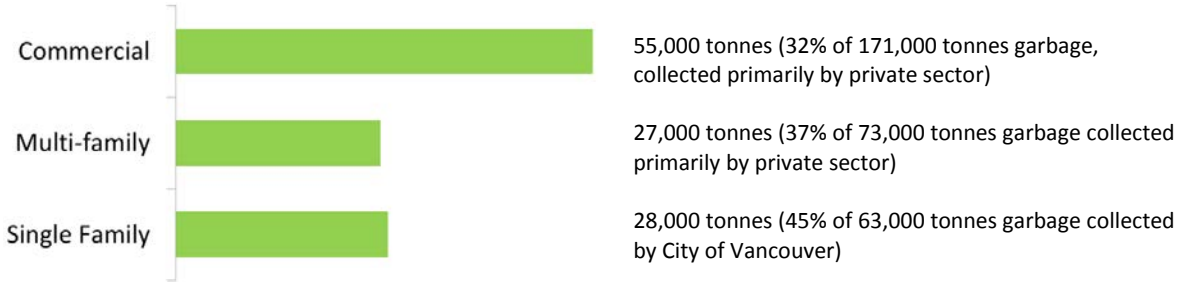
REPORT

Background/Context

As part of the Regional Integrated Solid Waste and Resource Management Plan (ISWRMP), Metro Vancouver has targeted 2015 for a ban on the disposal of compostable organic waste, including food scraps, with garbage. Diversion of food scraps from garbage for beneficial use is also a core strategy within our Greenest City Zero Waste Plan, and switching to weekly organics and every-other-week garbage collection for single family homes is integral to the success of that strategy.

In the Metro Vancouver region, over 3 million tonnes of solid waste is generated each year from all sectors, with about 55% of this diverted to recycling and composting. Still, about 1.4 million tonnes is sent for disposal across the region. In Vancouver, compostable food scraps (including food soiled paper) still makes up about 40% of total remaining solid waste disposed. Figure 1 shows the estimated amount of food scraps available for diversion from the three primary sectors in Vancouver.

Figure 1: Estimated Tonnes Vancouver Food Scraps Still Disposed with Garbage by Sector
(Based on Metro Vancouver 2011 Solid Waste Composition Study and 2010 Solid Waste Quantities)



As reported to Council in 2010 (RTS 8427), food scraps diversion planning and implementation is occurring in three phases. The status is as follows:

Phase 1 2010 – Allow single family and duplex homes to add raw fruit and vegetable kitchen scraps to their yard trimmings in green bins for composting collection. No change in weekly garbage and every-other-week green bin collection.

This was successfully implemented on April 22, 2010 for all single family and duplex residents in Vancouver (approximately 110,000 homes). With this voluntary program, which was one of the first in the Metro region, the City has documented that only about 2.5% of food scraps from this sector were being collected in green bins, with approximately 12% of households participating in the program. The significant use of backyard composting in Vancouver contributes to this low level of collections - it is estimated that about 50,000 backyard composters are in consistent use throughout Vancouver, resulting in the diversion of approximately 6,000 tonnes of food scraps annually. Backyard composting of raw fruit and vegetable peelings remains a key strategy for diverting food scraps, however, to optimize food scrap diversion across the residential sector, an additional collection program is necessary.

Phase 2 – 2011/2012/2013 - Allow single family and duplex residents to add the full spectrum of food waste (fruits, vegetables, meat, fish, dairy, bread, cereal products, and food soiled paper) in their green bins. Convert to weekly collection of organics and every-other-week collection of garbage.

In fall 2011, a Phase 2 pilot was launched involving 2,000 single family and duplex homes in Riley Park and Sunset. The purpose of the pilot was to assess the operational impact of adding additional materials to the green waste stream, and to test several community-based social marketing strategies prior to city-wide launch. The information collected has been used in the design and planning of the city-wide program for all single family and duplex homes, which is the subject of this report. While the data collection portion of the pilot has ended, the service change in Riley Park and Sunset is ongoing, consistent with the Greenest City plan to implement these changes city-wide. Further details on the Phase 2 Pilot project are provided in Appendix A.

Building on the success of the pilot program, on September 11, 2012 the program was expanded to allow all residents in single family and duplex homes to add the full spectrum of food scraps to their green bin without any change in collection frequency. The public response to the program so far has been largely positive, with one of the main comments being a desire to move to weekly organics collection. Research from Vancouver's pilot and other cities across the continent confirms that moving to every-other-week garbage and weekly organics collection is fundamental to maximizing the amount of organics diverted from garbage. This switch in collection frequency is the final phase in the organics recycling program roll-out to single family and duplex homes, and the recommended plan for implementing and promoting this service change is provided below.

Phase 3 – 2013/2014 – Work with Metro Vancouver and the private waste hauling and organics materials processing sectors to develop and implement options for diverting food waste from multi-family residential buildings and the business community.

About 75% of the total food scraps disposed with garbage originates from the multi-family (MF) and industrial, commercial and institutional (ICI) sectors combined. The ISWRMP commits Metro Vancouver and member municipalities to work collaboratively on the development and implementation of plans for diverting food scraps from those sectors, and a 2015 disposal ban on these materials is identified as a principal action.

There are currently about 160,000 suites in a total of 5,000 MF buildings in Vancouver. The majority of these properties receive garbage collection service from private sector waste

hauling companies. City forces provide garbage and green bin collection to about 1,000 of the total MF buildings with service limited to smaller buildings, such as triplexes, townhomes and some small apartments, located within our regular single family residential collection routes.

As part of the ground work to develop strategies for diverting food scraps from buildings other than single family homes, a MF food scraps recycling pilot project was conducted from April to July 2012. The purpose of the pilot was to better understand opportunities and barriers unique to that sector. The project included three MF buildings ranging in size from 6 to 22 units that currently receive City garbage and yard trimmings collection. The project expanded the list of materials collected to include the same materials as the single family pilot project – all food scraps and food soiled paper, and both garbage and green bins were collected weekly. Generally, the pilot was considered successful and well received by both residents and building managers. Findings from the project are currently being used to help in the development of MF food scraps diversion options, discussed further below. Summary details of the pilot are provided in Appendix A.

Monitoring private sector progress and developing options for organic waste diversion in the ICI sector is also underway. Currently, it appears the pace that private sector food scraps processing capacity build-up is occurring is not as fast as was anticipated when the regional solid waste management plan was finalized in 2010. Regardless, private sector ICI food scraps hauling and processing opportunities now exist.

Additional recommendations for accelerating uptake from both MF buildings and the ICI sector will be the focus of a future report to Council.

Strategic Analysis

Phase 2 Collection Switch Implementation Plan

Switching collection frequencies for single family and duplex homes to weekly organics and every-other-week garbage collection provides an effective incentive for residents to participate in the City's food scraps recycling program, and has been found to drive rapid response. Less frequent garbage and more frequent organics collection motivates residents to place their food scraps in their green bin, rather than in the garbage where it would remain until collected every-other-week. Biweekly garbage collection also stimulates additional recycling, and can motivate changes in consumption habits as residents start to consider the impact on the volume of waste they generate when making both purchasing and disposal decisions. Also, continuing to collect garbage every week becomes unnecessary when the majority of the putrescible portion of solid waste disposed (food scraps) is collected weekly.

The pilot project confirmed that implementing the proposed collection change city-wide requires temporary additional resources and a thorough operations and communications plan. The plan developed is based primarily on the following:

- With less frequent garbage collection there is a net increase in the use of larger garbage carts. Although food scraps make up about 40% by weight of residential garbage collected by the City, it is only about 10% of the total volume;
- When green bins are used to capture the full spectrum of food scraps, regular set-out of green bins occurs (average set-out increases from about 60% to 90%, resulting in about 14,000 additional bin collections per week);

- A comprehensive communications and outreach program is necessary to support the collections switch, promote the desired behaviour changes, and so that citizen inquiries and program issues that arise can be properly responded to.

The major elements of that plan are summarized below, and additional details are provided in Appendix B. A budget summary for program implementation is provided under Financial Implications.

Collection Operations

- Service change implementation is planned to occur starting in spring 2013. The exact date will be established and broadly communicated to the public concurrent with the distribution of the 2013 solid waste collections calendar early in the New Year.
- Implementing a service transition involving 100,000 homes across the entire city and in a short timeframe involves managing and coordinating numerous logistics. Service change implementation will be completed city-wide in a fashion which allows for effective program operation and to accommodate the expected increase in requests for cart changes. We anticipate that upwards of 20,000 garbage cart and green bin size change requests may be received during program start-up. In addition, with biweekly garbage collection a gap of between 17 and 19 days between collections will occur in December-January due to statutory holidays. During the pilot this was found to cause problems with overflowing garbage carts, increased debris in lanes and an increased number of public complaints. In order to minimize issues at that time of year, two extra city-wide garbage, green bin and recycling collection days are planned over the December/January holiday period.

Material Transfer

- Based on the pilot results, the amount of compostable organics collected is expected to double by the second half of 2013. The current transfer facility cannot adequately accommodate this increased capacity demand. Additional space is needed for:
    - load receiving and inspection,
    - to prevent contamination with garbage,
    - to safely manage increased truck volumes,
    - to facilitate the installation of additional controls for odour and liquid run-off.
- Several options for increasing the transfer capacity to address these issues over the coming months are currently being investigated with the assistance of a consultant; options under consideration include expanding current operations into Manitoba Yards and repurposing the City's abandoned auto lot on Kent Avenue South.

Material Processing

- Staff are currently reviewing private sector processing options. There remains limited private sector processing capacity in the region; organic material currently collected by the City is processed into compost at Fraser Richmond Soil and Fibre in Richmond under an agreement with Metro Vancouver. Given the significant amount of additional material that is estimated to be collected with a switch in collection frequencies, a review of additional potential processing arrangements is underway. Staff will update Council on changes if they occur.

Program Communications

A cornerstone of the program's success is a comprehensive communications and engagement strategy. Engineering and Communications staff are working jointly on developing a comprehensive plan that includes the following:

- The communications program will build on industry best practices, research from other jurisdictions that have successfully rolled out this type of program, and the community-based social marketing program employed during the City's pilot project in Sunset and Riley Park. Strategies and tactics will be designed to maximize awareness and participation, and promote the desired behaviour changes. It will provide tools to correct behavior around contamination issues (placement of food scraps in plastic bags for instance).
    - Competitive proposals outlining a range of options have been reviewed and the proposal with best overall value indicates a budget in the range of $800,000 to $1,000,000. Notwithstanding some operational differences, our estimated communications program costs fall in the middle of that spent in other cities with similar programs. The following cities have launched or are launching food scraps recycling programs with the following communications program budgets:

Portland	$640,000
Oakland	$700,000
Surrey	$700,000
Seattle	$950,000
Ottawa	$1.2 million

    - The design, production and deployment of public education and awareness tactics will support each stage of the program, including raising awareness of impending collection service changes, through to actual service changes and then follow up. During this phase communications will drive participation and educate residents about how to avoid contamination.
- Kitchen containers were provided to about half of the households in the pilot program to test the impact that they would have on both participation and contamination levels. Kitchen containers proved to be an effective tool for encouraging behavior change, increasing participation by about 7%, and slightly decreasing contamination levels, and thus are recommended as a key component of the city-wide program. They also provide a durable, visible prompt for residents. For planning purposes, it is assumed that purchasing and distributing kitchen containers to all households will be included as part of the overall communications plan. Accordingly a cost estimate of $720,000 for the supply and city-wide distribution of 120,000 containers is included in the overall budget request. This estimate will be refined when competitive bids for containers are received. In addition, staff will explore opportunities for cost savings and any alternative approaches with respect to distributing kitchen containers that could result in savings to the City.
- A key aspect of the overall communications program is to ensure adequate resourcing of the City's 311 call centre for the expected increase in calls when the program launches. 311 will play a key role in supporting behaviour change. Judging by information from other cities and from what was experienced during the pilot we anticipate that the call volume will increase by about 35%, with an estimated additional 80,000 interactions over a four to six month period following service change. A combination of additional temporary staff, increasing the hours of existing auxiliary staff and some overtime will be used to manage the additional call volumes. The budget proposed for this work ($466,000) is based on call volumes seen during the

pilot over the entire city and on call volume information from other cities that have recently implemented similar programs.

Phase 3 Multi-family and ICI Sector Diversion Planning

Efforts in the development of food scraps recycling to-date have focused on the single family sector as per Phases 1 and 2 of the strategy; the collection of waste materials from this sector is controlled directly by the City. With single family food scraps recycling now well underway, developing strategic options for diverting food scraps from the MF and ICI sectors, both of which are largely being serviced by the private sector, is the next key deliverable and a priority focus of staff.

Food scraps collection service is potentially a green economic growth opportunity within Metro Vancouver and a number of new businesses offering this service have recently started operations. There are currently between 15 and 20 private waste collection companies that now offer a food scraps recycling collection service. Unfortunately though, based on available information, voluntary uptake in MF and commercial buildings has been minimal.

Implementing a mandatory recycling requirement for food scraps is seen as a strategic option for driving diversion from these sectors. However, prior to implementing a regulatory requirement there are a number of issues which will require further consideration and analysis including:

- appropriate timing relative to a regional disposal ban;
- private sector collection, transfer and processing capacity limitations and emerging opportunities;
- enforcement options and approach;
- space constraints within multi-family, commercial and mixed use buildings;
- potential pressure for more dumpsters in laneways;
- increased commercial hauling truck traffic and emissions;
- alternative regulatory options that could be considered at a regional level, or as a partnered approach with the region or other municipalities with the goal being to drive programs forward more effectively and result in greater benefits overall;
- best practices from other jurisdictions where successful programs are in place or under development; and
- strategic roles for the City under various scenarios which represent best value and meet the objective of maximum waste diversion.

Staff have recently initiated work on an appropriate approach and strategy and a report back to Council with recommendations on how best to proceed is a priority for 2013.

Prior to the development of a full strategy, it is recommended that Council adopt in principle the introduction of mandatory recycling of compostable organic waste from all sectors in Vancouver. This reinforces the implementation of the program for single family residents and sends a strong signal to all multi-family residents, businesses, and building owners and operators in Vancouver that they need to begin preparations for diverting organic waste from disposal in advance of the 2015 regional disposal ban.

Implications/Related Issues/Risk (if applicable)

Financial

City of Vancouver residential garbage and green bin collection programs operate as a Utility. Costs within the Solid Waste Utility (SWU) are recovered through user fees rather than from property taxes. A net surplus or deficit accrued in a given year is normally reflected in the following years' SWU rates.

Implementation of the program outlined in this report will result in one-time and annual financial implications discussed as follows:

Implementation Costs – Operating & Capital

The one-time program implementation Operating cost is estimated as $4.9 million plus a contingency of approximately 10% ($490,000):

Implementation Operating Cost Details

	$ ESTIMATE
Operational:	
Additional Cart Supply	$568,000
Cart Change Transactions Temp Staff & Equipment	$830,000
Collections Transition Temp Staff & Equipment	$717,000
Project Coordination Temp Staff	$80,000
Field Inspection & Enforcement Temp Staff	$427,000
Communication:	
Communications Plan Development & Execution	$800,000
Kitchen Container Supply & Distribution	$720,000
Distribution of Communications Materials	$300,000
311 Contact Centre – Temp Staff & Equipment	$466,000
Subtotal	$4,908,000
10% contingency	$490,000
TOTAL	**$5,398,000**

The Capital implementation cost is for developing the additional transfer capacity and is currently being finalized. A consulting study is underway to develop options and estimate the cost for providing additional transfer capacity. Staff's preliminary estimate of the capital cost for providing the required capacity is $3 to $5 million and approval of $5 million is recommended for transfer station improvements. Final budget are subject to the approval of the City Manager and CFO.

Annual Costs

Once fully implemented, an increase in annual costs for ongoing program operation is also anticipated:

- The repayment of the capital and operating implementation cost of $10.4 million on a 10 year amortization, would be approximately $1.5 million per year, or a fee impact of about $15 per SWU customer annually for 10 years.

- The annual cost for operating a dedicated transfer facility for organics is estimated as $400,000/year, or a fee impact of about $4 per SWU customer on an ongoing basis.
- Reduced garbage collection frequency will result in a garbage collection program cost savings of about $3 million annually compared to current budget. However staff estimate a net increase in total annual collections program costs of approximately $300,000 incremental to current budget, or about $3 per SWU customer, due to increased labour and equipment needed to:
    - manage the increase in organics material collected separately,
    - respond to the increased frequency of green bins set out for collection, and
    - provide two extra collection days over Christmas starting with the 2013 December holiday period.
- Based on the pilot project, there may also be an increase in the amount of yard trimmings collected; this could lead to additional processing costs of about $600,000, or a fee impact of about $6 per SWU customer.

Annual cost implications will be refined once the program is underway in 2013 and actual resource requirements are established, and will form part of future SWU budget reports to Council for 2014 and beyond. However, at this time, the total net cost impact resulting from a combined total of one-time and program sustainment costs discussed above is estimated to be from $25 - $28 (weighted average) for a typical SWU customer, a 12% - 13% increase over current rates.

This estimated range represents a full year's costs that would apply for 2014 and beyond. If the changes recommended in this report are approved for implementation in 2013, the program will be rolled out mid-way through the year and staff are currently working on detailed estimates for the transitional year. These details will be provided to Council when the recommended 2013 SWU fees are brought forward later this year.

Overall, this report seeks total budget authorization of $10.4 million ($5.4 million one-time implementation cost plus $5.0 million estimated capital cost for additional transfer capacity), with funding provided as a loan from the Capital Financing Fund (Solid Waste Capital Reserve) on terms acceptable to the Chief Financial Officer, and with repayment by SWU fees. This includes all one-time costs as well as the operating costs for 2013.

Human Resources/Labour Relations

A number of short-term, temporary staff will be required to support the collection service changes. Partnering opportunities to fill some of these positions are being explored, such as co-op programs, and where possible, some positions may be filled using existing City staff under the light duty return-to-work program (recovering from injuries or sickness).

Sanitation Services and Human Resources have been meeting regularly with Union representatives to discuss employee concerns with the proposed switch in service delivery. This same process was proven successful when the City introduced the change to automated collections approximately eight years ago. Outstanding issues are minor and are expected to be resolved well before implementation.

Environmental

In Vancouver and the rest of the region, compostable food scraps and food soiled paper makes up about 40% of solid waste disposed. Implementing the program proposed in this report is expected to trigger significant additional diversion of compostable organics. Maximizing organics diversion is a key action to enable the City to comply with the upcoming 2015 ban on disposal of compostable organic material and for achieving the Greenest City 2020 Zero Waste target of reducing total waste to landfill or incinerator by 50% from 2008 levels (from roughly 480,000 to 240,000 tonnes by 2020). Organics diversion accounts for approximately an overall 20% of the reduction when all sectors are considered.

With the implementation of weekly green bin and biweekly garbage collection an additional 25,000 tonnes annually organic waste diverted and 3,000 tonnes per year of greenhouse gases avoided is estimated. Achieving the higher levels of recovery and diversion of compostable waste as targeted in the Greenest City Action Plan will also require action towards programs for multi-family and ICI generators.

Legal

The Vancouver Charter provides Council with the necessary authority to implement bylaw changes to require mandatory recycling of materials from different classes of property.

CONCLUSION

Moving to biweekly garbage and weekly organics collection has been shown to be a key driver for maximizing organics diversion and reducing garbage. It is also one of the four highest Zero Waste Greenest City priority short-term actions, and helps position the City to be in compliance with the planned regional disposal ban on compostable organic material by 2015. Further, Council's adoption in principle of mandatory recycling of compostable organic waste from all sectors in Vancouver sends a strong signal to all multi-family residents, businesses, and building owners and operators in Vancouver that they need to begin preparations for diverting organic waste from disposal in advance of the expected 2015 ban.

* * * * *

Single Family Sector Phase II Pilot Project Results – Riley Park and Sunset 2011

In fall 2011, the City launched a Phase II expanded food scraps pilot program in 2,000 single-family homes in Riley Park and Sunset which allowed for the addition of meat, fish, bread, dairy products, and food-soiled paper products such as pizza boxes and napkins. The Phase II pilot also included a change in collection frequency, reducing garbage collection to every-other-week and providing weekly collection of the organic waste. Phase II was initiated as a pilot project in order to assess the operational impact of adding additional materials to the green waste stream, and to test several community-based social marketing strategies prior to city-wide launch. The information collected was used to help inform the design and planning of a citywide program for all single-family Vancouver homes.

The program was generally well-received; with quick uptake and high awareness (95% of residents were aware of the program). In both pilot areas participation and diversion levels exceeded targets, while contamination (non-compostable materials such as garbage, plastic bags and coffee cups) found mixed in with green bin materials was slightly higher than target, but still manageable. The following table summarizes the results.

Key Metric	Pre-pilot	Target	Pilot Result
Average participation in food scraps recycling	17%	35%	45%
Diversion of food scraps[1]	2.5%	25%	53%[1]
Contamination	2.9%	Under 2.5%	3.9%

Notes: 1. Calculated based on food scraps recycled and Metro Vancouver–Solid Waste Composition Study 2009

Average participation in the food scraps recycling program (based on number of properties with food scraps in their green bin at time of collection) increased from 17% before the pilot to 45%, with a high of 60% measured. On average, there was about a 2000% increase in the amount of food scraps diverted in the pilot area (from 0.12 to 2.3 kg per household per week). Contamination was primarily comprised of food scraps in plastic bags and bags of garbage, most of which required separation by City forces prior to transfer of organic material loads for processing into compost.

There was also a 39%, or 5.59 kg per household per week reduction in garbage collected. This reduction in garbage is similar to what has been recently measured in Portland, Oregon, when they moved to biweekly garbage collection. The change in collection frequency to weekly green cart and biweekly garbage collection was the main driver in increasing diversion and reducing waste. In both Portland and in our pilot project areas the total increase in waste diversion is greater than just the increase in compostable organic material collected. It reflects an increased focus and diligence towards reducing overall waste generation and increased recycling when a biweekly garbage collection program is implemented.

Key data was also collected on a number of operational and logistical issues to help inform and prepare for the city-wide rollout.

Several community-based social marketing strategies were tested as part of the pilot in order to assess different methods of delivering the information needed by residents, including information delivered by mail (the control tactic), the impact of providing residents with a

kitchen container for food scraps, and the impact of door-to-door contact with residents (Figure 2).

Figure 2: Food Scraps Pilot Community Based Social Marketing Tactics Tested

Participation and contamination levels were measured in the various quadrants. In evaluating the results from the different communications approaches, it was found that:

- Provision of kitchen containers provided a durable, visible prompt for residents, and resulted in an increase in participation and a slight decrease in contamination levels. The participation rate of residents who received a kitchen container was 7% higher compared to the control group, and contamination was 0.7% lower.
- While door-to-door contact increased participation levels as compared to the control group (approximately 5% higher), these groups also had higher contamination rates (about 1.3% higher than in the group that received kitchen containers without personal contact).

Multi-family Sector Pilot Project Results

To better understand the opportunities and barriers unique to multi-family residential food scraps recycling, a small scale pilot project was conducted from April to July 2012. The pilot project took place in three multi-family buildings ranging in size from 6 to 22 units that currently receive City garbage and yard trimmings collection. The pilot project expanded the list of materials collected to include the same list of material as the single family pilot project – all food scraps and food soiled paper. Both garbage and food scraps with yard trimmings were collected weekly during this pilot program. Reducing to biweekly garbage

collection was not found feasible for the multi-family pilot since limited space prevented the use of larger or additional garbage bins.

Key findings of the multi-family pilot program are summarized as follows:

- Generally, the pilot was considered successful and well received by both residents and building managers.
- Self-reported participation rates among survey respondents was high (77%) and respondents reported that a majority of their food scraps were recycled.
- Two of the three buildings observed a significant decrease in their garbage volumes during the pilot program (estimated at 40% to 50%), while the third building did not observe a significant change.
- Food waste capture rates during the program were similar to what was found in the single family pilot program.
- Contamination rates were considered low at 1.4%
- The majority of respondents indicated that the provision of a kitchen container helped them participate in the program.
- All building managers indicated that they would recommend the program to other building managers and did not report any significant issues during the pilot.

Phase 2 Collection Switch Implementation Plan Details

Implementation of Service Changes:

- Service change implementation is planned to occur starting in spring 2013. May 1 is currently targeted as the start date, but is dependent on a number of operational factors that will be resolved in the coming months. The exact date will be established and broadly communicated to the public concurrent with the distribution of the 2013 solid waste collections calendar early in the New Year.
- The service changes are planned to occur over a total of 10 weeks. There are five collection zones across the city, and each zone is divided into two halves (North and South) for collection purposes. Each coloured zone would change collection frequency over a two week period. For example, one half zone, say Green North, would change in week 1, Green South in week 2, Purple North in week 3, Purple South in week 4, etc.

Collection Schedule over the December Holiday Period

- With biweekly garbage collection, a gap of between 17 and 19 days between collections will occur in December-January due to statutory holidays. During the pilot this was found to cause problems with overflowing garbage carts, increased debris in lanes and an increased number of public complaints. With full implementation of the collection program switch, two extra city-wide collection days are planned starting with the 2013 December holiday period. The incremental cost of providing this additional service (approximately $0.60 per Solid Waste Utility customer) will be incorporated into the recommended 2013 Solid Waste Utility collections budget that will be brought to Council later this year for approval.

Cart Changes

- About 23,000 cart change service requests are forecasted based on pilot results, with about 10,000 new carts being required, mostly in the two largest sizes. The estimated additional 23,000 transactions are likely to be requested over a relatively short period of time, and would equate to about 12 times normal activity levels.
- Temporary staff will be required to both administer and service the cart change requests.

Monitoring/Enforcement:

- A field team of temporary staff will monitor contamination and household program participation in zones as the program rolls out.
- Drivers will also visually assess contamination as carts are tipped into trucks. Contaminated carts will be tagged, and drivers to note location using onboard reporting systems.
- The field team will be refocused in areas of higher reported contamination, and will inspect and tag carts prior to pick-up.
- Load composition sampling and surveying at the transfer facility is also planned.

Contamination

- Contamination of green bins was an issue during the pilot program. The following is planned to address this:
    - Refined messaging in the communications program to provide more clarity on what are acceptable/not acceptable items

- Monitoring and enforcement of green bin contamination as outlined above
- Manual removal of visible contamination when the loads are received at the transfer facility.

Material Transfer

- Currently, about 25,000 tonnes per year of organics made up of about 95% yard trimmings and 5% food scraps is collected in the curbside program and transferred through the Vancouver South Transfer Station. Once the garbage-green bin collection frequency switch occurs in spring 2013, steady-state participation is expected by the second half of 2013. At that time the total amount of organic material is expected to double to 50,000 tonnes per year (25,000 tonnes current + 25,000 tonnes additional), with the food scraps fraction in the green bin increasing to about 25% by weight. The current transfer facility cannot adequately accommodate this increased capacity demand. Additional space is needed for load receiving and inspection, to prevent contamination with garbage, and to safely manage increased truck volumes, and additional controls for odour and liquid run-off are required. Staff's preliminary estimate for these improvements is in the range of $3 to $5 million. A consulting study is currently underway to develop options and prepare a refined cost estimate.

Communications

- A comprehensive multi-language communications and engagement program will be developed in support of this operational program.
- It will build on the successful community-based social marketing program employed during the City's pilot project in Sunset and Riley Park, and will be based on market research and best practices from our pilot and programs in other jurisdictions.
- Strategies and tactics will be designed to maximize awareness, support and promote the desired behaviour changes, and provide tools to correct behavior around contamination issues (placement of food scraps in plastic bags).

311

- A key aspect of the overall communications program is to ensure adequate resourcing of the City's 311 call centre for the increase in calls expected with program implementation. Additional resources are planned to adequately support program implementation and 311 will play a key role in supporting behaviour change. The 311 call centre will respond to resident's requests for cart changes and how-to inquiries and also will be able to help residents manage their garbage volumes by ensuring they have a thorough understanding of what can be composted and recycled, and what should go in the garbage. During the peak implementation period, it is anticipated:
  - that the number of calls handled by the 311 contact centre will increase by about 35%,
  - an additional 80,000 interactions estimated over a four to six month period after program implementation, and
  - the length of these calls are expected to be 25% longer than typical 311 calls.
- A combination of additional temporary staff, increasing the hours of existing auxiliary staff and some overtime will be used to manage the additional call volumes anticipated. The budget proposed for this work ($466,000) is based on scaling up call volumes seen during the pilot over the entire city and on call volume information from other cities, including Portland, that have recently implemented similar programs.