

# **2015-2018 Waste & Recycling Services Indicative Rates & Fees**

**2014 May 5**

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## 1. Background

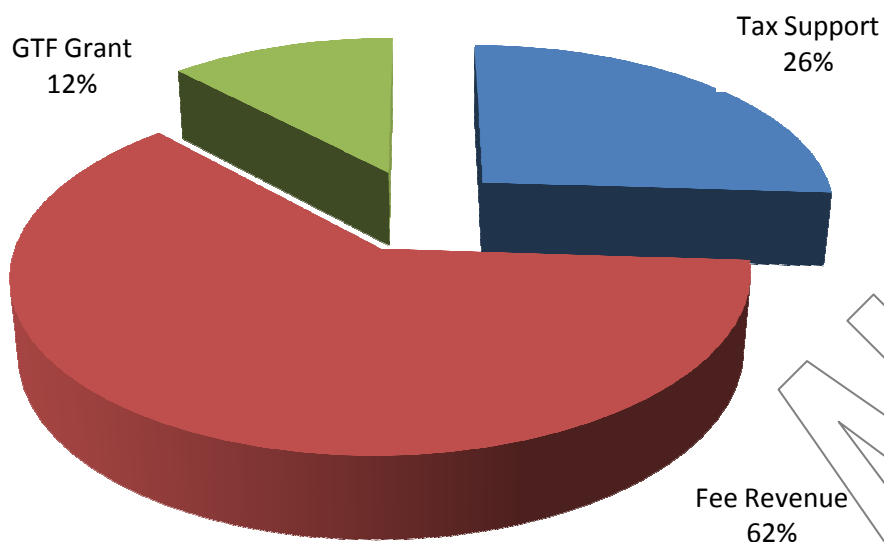
*Most of that material presented in this attachment was already presented at the 2014 March 17 Strategic Meeting of Council. It is repeated here for completeness, to provide background and rationale for the recommendations in this report.*

Waste & Recycling Services (WRS) provides a broad mix of front line services to the citizens of Calgary. WRS manages operational and environmental performance of The City's waste management facilities including: three active landfills; five inactive sites; and nine household hazardous waste drop-off locations that are operated in partnership with the Calgary Fire Department. WRS also operates community-based diversion programs including: leaf and pumpkin composting; Christmas tree mulching; electronics and paint recycling; community recycling depots (CRDs); community cleanups and waste management at special events/festivals; and the green cart composting program. Most visibly, WRS delivers black cart garbage and blue cart recycling collection services for over 300,000 residential customers.



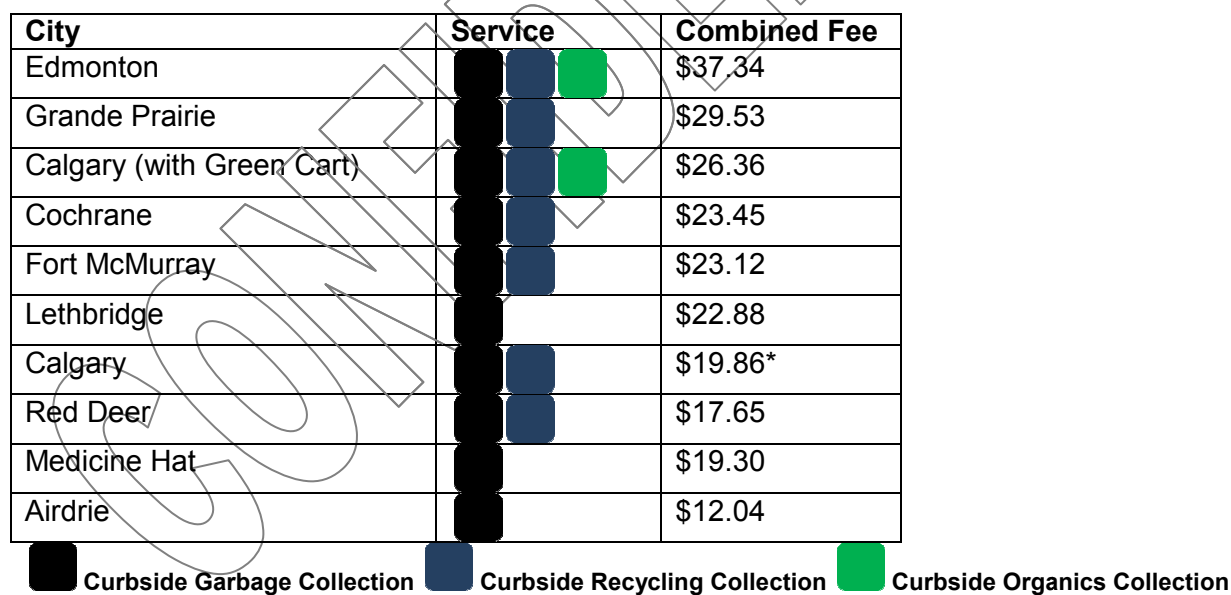
**Figure 1: WRS collection services**

WRS also provides education programs that support the waste hierarchy of reduce, reuse, recycle and residual management. These activities are funded through a combination of fees, including landfill tipping fees, the residential waste management charge (WMC), the blue cart recycling rate, tax support and Federal Gas Tax (GTF) funding grants, as shown in Figure 2.



**Figure 2: WRS 2013 Funding**

In 2014, the combined cost of these programs to Calgarians, including the blue cart recycling rate, the waste management charge and tax support was \$19.86 per month per household. This is lower than other large Alberta municipalities, as shown in Figure 3.



**Figure 3: Monthly per household waste user fees (\*including per household tax support for Calgary)**

Services provided by WRS are valued and citizen satisfaction consistently scores highly. In 2013, 95 per cent of citizens were satisfied with residential garbage collection, and 89 per cent of citizens were satisfied with City operated recycling programs. In addition, support for the green cart composting program is also strong with 89 per cent of residents in the participating communities saying they are satisfied with the program while 91 per cent support a city-wide program (Ipsos Reid survey, December 2012).

WRS is currently facing extraordinary inflationary pressures in the delivery of its services. Based on a review of historical operational costs since 2011 within the Collections division, costs associated with procuring and maintaining fleet have seen an increase, putting strain on the ability to maintain current service levels within the existing cost structure. Service level agreements and metrics are currently under review with Fleet Services and will be required as an input for full cost identification for 2015-2018 Collections division budgets.

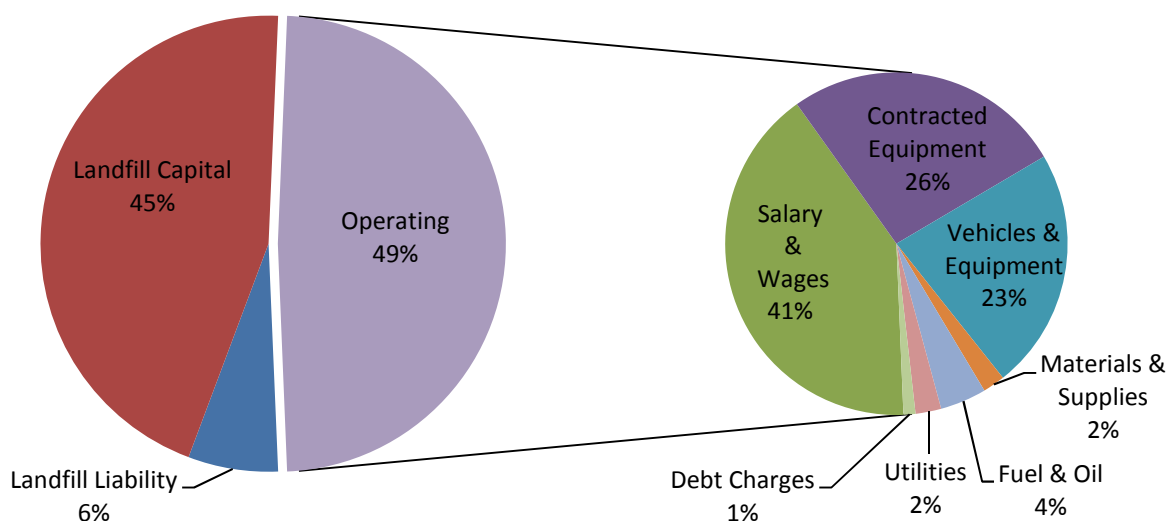
Development of new housing is the key driver for WRS' need to increase the capacity of frontline collection services. A portion of residential growth can be accommodated through route design and collection efficiencies, however, depending on the pace and location of new housing, a growth vehicle is required for every 3,500 to 3,800 new homes. The full cost of a vehicle includes its capital cost (incurred as a lease cost paid to Fleet Services), maintenance, fuel and driver. Each of these elements is subject to inflationary pressures and the ongoing increase in households (forecast to be between 5,300 and 6,500 per year) impacts WRS' operating budget requirement.

This report will present the 2015-2018 Waste & Recycling Services indicative rates and fees for Council's consideration. The report builds on background information including: Waste & Recycling Services Infrastructure Investment Plan 2015 to 2024 (UCS2014-0023); and, Waste & Recycling Services Financial Plan (UCS2014-0024) as previously presented to the Standing Policy Committee on Utilities and Corporate Services 2014 February 26.

## **2. Landfill Development & Operations**

The City of Calgary operates three active landfills; Spyhill, East Calgary and Shepard, and manages the disposal of municipal and non-hazardous industrial waste at these locations. In addition to the day-to-day operational activities, landfill site operation requires cell design and construction, surface water management, leachate collection and treatment, and landfill gas collection and utilization. Both active and inactive sites require environmental monitoring and capital investments in closure and post-closure care. These activities are funded through landfill tipping fees, the residential waste management charge (WMC) and federal gas tax funding (GTF). Landfill development and operations do not rely on any tax support.

In 2013, the total budget associated with Calgary's landfills was \$72 million. The allocation of those capital and operating expenditures is illustrated in Figure 4, including a breakdown of the operating expenses



**Figure 4: 2013 Landfill Expenditures**

## 2.1. Landfill Capital

The investments in the landfill program, as outlined in WRS' Infrastructure Investment Plan (WRIIP) are estimated to be \$228 million over the next 10 years, allowing for the installation of infrastructure needed to manage additional waste safely and in an environmentally responsible manner. Approximately 20 per cent of the investments in landfills are for the construction of new cells and caps to handle waste. As well, over half of the investments in landfills are related to environmental protection systems: leachate (the liquid produced from waste) collection and pre-treatment, landfill gas collection and stormwater management systems).



**Figure 5: Stormwater management and leachate pre-treatment systems**

## 2.2. Landfill Operating

Landfill operations include a broad spectrum of services. Scalehouse staff, traffic controllers and environmental monitoring are all required for efficient and safe operations that meet regulatory requirements and, increasingly, materials handling and diversion.

WRS contracts the heavy equipment required for earthmoving and waste handling and this cost, along with City vehicles and equipment, represent the next largest expenditures. In order to mitigate the risk associated with the price of fuel, WRS supplies fuel for both City fleet and equipment as well as the contracted equipment.

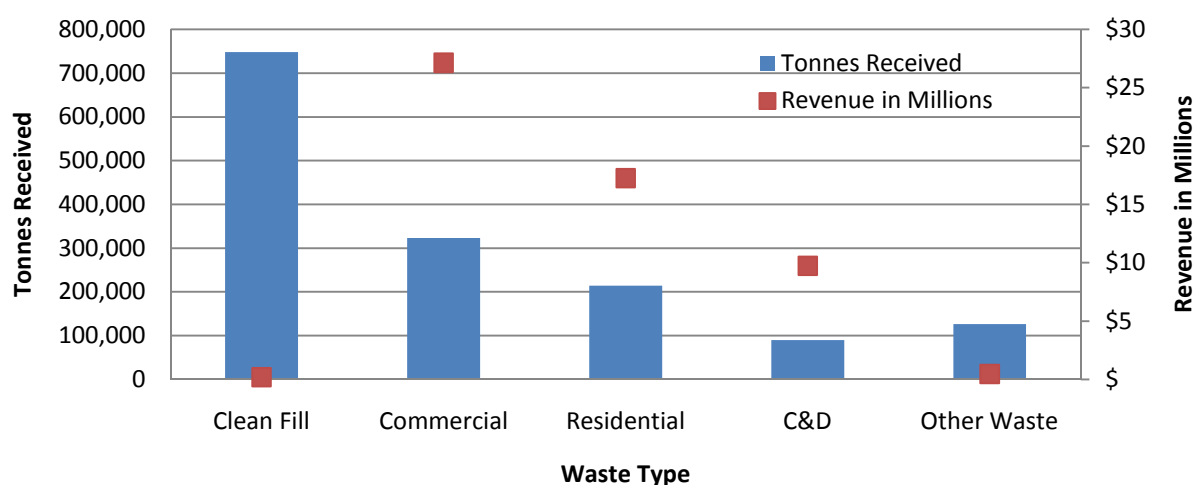
### 2.3. Landfill Liability

Funds need to be set aside to pay for long-term landfill closure and post-closure care. These activities include: landfill cell cap design and construction; environmental monitoring, landfill cap maintenance, drainage system maintenance and repair, operation and maintenance of leachate collection and treatment infrastructure and landfill gas collection and treatment facilities. Over the next 10-year timeframe, these investments will total approximately 20 per cent of the expenditures in the Landfill program.

The landfill liability fund was adjusted in 2012 from \$56.1 million to \$60.1 million and again in 2013 to \$64.7 million to the level required and to meet audit requirements. Over the next four-year business cycle the landfill liability will continue to be funded from landfill tipping fees and the WMC. In the 2015-2018 business plan and budget, WRS will continue to assess the appropriate landfill liability funding requirements and a long-term funding plan to achieve the end-of-life requirements will be developed.

### 2.4. Landfill Tipping Fees

Landfill tipping (disposal) fees are rates applied to, primarily, commercial haulers delivering waste to the landfills for disposal and generated \$36.9 million in revenue in 2013. The level of the tipping fee for “Basic Sanitary Waste” is the rate that is most commonly referred to and has been set at \$107 per tonne (1,000 kilograms) for 2014 and accounts for 63 per cent of tipping fee revenue. Figure 6 illustrates the main categories of waste received at Calgary’s landfills and the tipping fee revenues generated by each category. As illustrated in Figure 4, clean fill represents 60 per cent of the material going to landfill by weight. Clean fill is a critical operational requirement and is required to provide the necessary daily cover and landfill caps at each of the active sites. Clean fill is accepted for a low fee to ensure that it is available for the construction of the landfill. As such, it is not considered as part of our waste diversion goals.



**Figure 6: Landfill commercial waste composition and associated revenues**



The 2014 landfill rates are included as Appendix A. These rates include a series of fees that are applied to a variety of other classes of materials that are delivered to the waste management facilities. In addition to the base rate, a surcharged rate is applied to a class of materials that are described as “Designated Materials”. This higher rate is applied to a variety of materials that have demonstrated recycling markets within Calgary to encourage diversion. These materials currently include: concrete, brick and masonry blocks, asphalt, scrap metals, recyclable wood and drywall.

A selection of reduced fees are also applied to materials that are delivered as clean, source-separated materials that are managed on site by contracted material haulers who deliver them to established recycling markets. An example is shingles that are stockpiled separately on site and collected for processing in asphalt production. The fees charged for these materials are set to recover the direct handling costs for the recovery of materials that do not enter the disposal system.

Landfill operations face inflationary pressures in terms of salary & wage, contracted services, fuel and oil and vehicle and equipment expenses. WRS is managing the contracted service expenses by negotiating long-term contracts with service providers and providing fuel to contracted equipment to manage fuel-related inflationary pressures. WRS is currently facing extraordinary inflation pressures for its fleet and is negotiating a service level agreement with Fleet Services to manage vehicle and equipment costs over the 2015-2018 business cycle.

It is important to note that the tipping fee is set at a level to encourage private development of diversion opportunities. This price point has been successful in seeing the establishment of private sector processors and recyclers in Calgary. To maintain this pricing incentive and meet the 2.5 per cent to 3.5 per cent inflationary pressures on the capital and operating costs, incremental increases of \$3/tonne are recommended for tipping fees in the 2015-2018 business cycle.

### **3. Waste Management Charge (WMC)**

The WMC provides the residential component of funding for the capital investments and some of the operating costs of The City's three landfills. As of the beginning of 2014, 308,000 residential customers are being billed \$4.90 per month per household. The charge was established to close a significant capital and operating gap for The City's landfills. The residential volumes contribute approximately one third of the total volume of waste delivered to Calgary's landfills. First introduced in 2009, it serves as a “proxy” for a tipping fee assigned to the waste stream generated by residential customers. At its current rate of \$4.90 per household per month, it would effectively result in a contribution of \$80 per tonne of residential waste projected in 2014. With the introduction of the green cart composting program beginning in 2017, the volume of waste from residents will be significantly reduced, and would allow the proposed WMC rates to remain the same over the 2015-2018 business cycle.

### **4. Community Recycling Depots & Community Based Programs**

Community-based programs are a key element of WRS' 80/20 by 2020 waste diversion goal. WRS has implemented diversion programs such as leaf and pumpkin composting, Christmas tree mulching, electronics and paint recycling, community recycling depots (CRDs), community cleanups (in partnership with Animal and Bylaw Services), and recycling and composting at special events/festivals.



WRS currently operates a system of 47 CRDs located around Calgary. In 2013, 11,000 tonnes of recyclables were collected from this program, which is funded through tax support. Looking forward, the CRD program will be evaluated and reduced with the introduction of the multi-family recycling bylaw. Savings will be used to fund The City's cost of implementing the multi-family recycling strategy.

The seasonal programs and the CRD program cost \$6.9 million annually, excluding recoveries and revenue from the sale of recyclables, which offset these program costs by \$1.5 million.

## 5. Blue Cart Recycling

The blue cart recycling program provides curbside collection of recyclables from 302,600 Calgary households, as of December 31, 2013, and is funded through a monthly charge on the utility bill. The program consists of two contracted elements; collection and processing. The monthly charge covers debt servicing and other program expenditures such as customer billing expenses, public education, cart maintenance and replacement, program administration and a contribution to the sustainment reserve.

The overall cost of the program was \$27.5 million in 2013 and the sale of recyclable materials offset the cost of the program to residents by approximately \$4.3 million. As noted in the report on WRS' financial plan (UCS2014-0024), the monthly rate for the program was reduced by 18.9 per cent in 2012 because of program efficiencies.

The blue cart recycling program faces inflationary pressures in terms of salary & wage, contracted services, fuel and oil and vehicle and equipment expenses. WRS has managed the contracted processing expense by negotiating a long-term contract with Cascades, which owns and operates the sorting facility. Inflationary pressures on the operating costs result in annual increases of \$0.20/household/month (between 2.4 per cent and 2.6 per cent) to the blue cart program for 2015-2018.

## 6. Green Cart Residential Composting

WRS is introducing a residential green cart composting program to single-family residences beginning in 2017. The annual green cart composting program costs will include collections, facility operations, capital costs and administration and education, as shown in Figure 7.

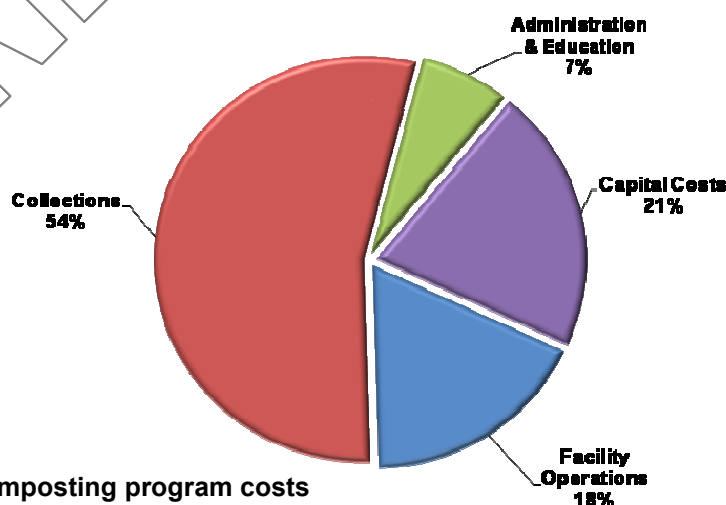


Figure 7: Annual green cart composting program costs

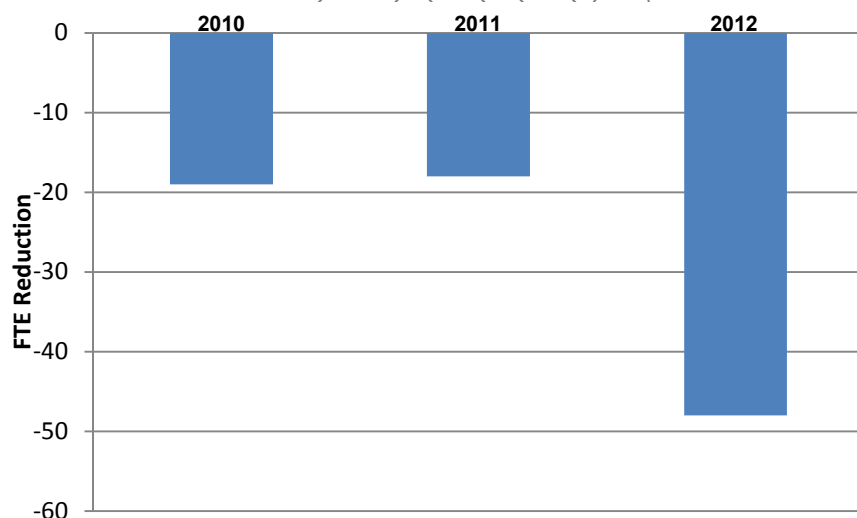
The current estimate for the annual operating cost for the program is projected to be \$36 million, in 2018 dollars. Reducing black cart collection to once every two weeks is projected to save \$10 million in 2018 dollars - \$2.50/household/month. These savings are based on the findings of the green cart pilot which saw a 40 per cent reduction in garbage in the participating communities.

The green cart composting program will be phased in starting in 2017, with the first full year of the program being 2018. To cover the program operating costs and the annual debt repayment for the processing facility, WRS recommends an indicative green cart fee of \$6.50/household/month as residents are provided service in 2017 and 2018 with an additional \$2.50/household/month in tax support from black cart savings.

## 7. Residential Garbage Collection

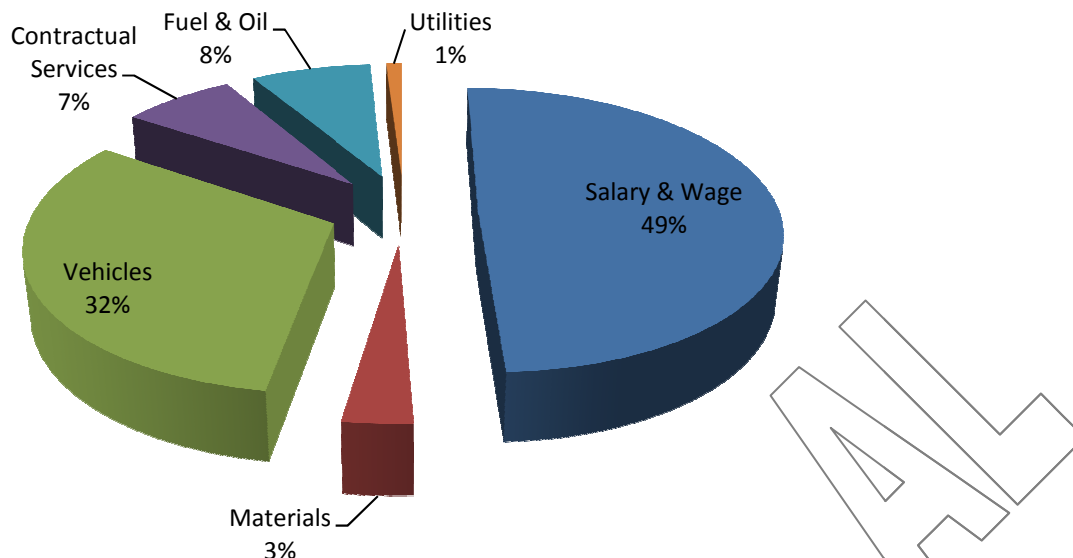
In 2013, WRS received \$26.3 million in tax support to fund residential garbage collection for 300,000 single family residences and \$4.6 million to provide residential garbage collection to 60,000 condominium units in 1,200 developments. Significant operational efficiencies were achieved during the 2009-2011 business cycle in the single-family residential sector with the introduction of blue cart recycling and black cart automated collection. In the 2012-2014 budget cycle, WRS was able to offset the full impacts of inflation and growth through the introduction of the blue cart program and the conversion to automated, black cart residential collection that was completed in 2011.

Improved collection efficiency resulted in a savings of full time equivalent (FTE) positions in 2010, 2011 and 2012 (Figure 8). These savings also covered the full costs of implementing the green cart organics pilot program. WRS continues to manage growth and maintain black cart operational efficiencies by completing annual route design revisions and through ongoing operational improvement efforts.



**Figure 8: WRS Collections FTE reduction from 2010 to 2012**

Figure 9 illustrates the expenditures associated with residential black cart collection, which are funded through tax support.



**Figure 9: Tax support residential garbage collection costs**

Further efficiencies are expected in black cart garbage collection beginning in 2017 with the introduction of the green cart composting program. It is proposed that savings achieved through the reduction of residential garbage collection from weekly to once every two weeks be reinvested into the green cart composting program to reduce the monthly charge for the program for single-family residences.

Preliminary indications are that the inflation and growth impacts in WRS tax supported operations requirements are in the range of 3.5 - 4.5 per cent.

## 8. Continual Improvement

Waste & Recycling Services will continue to implement opportunities to increase efficiencies and effectiveness and look for areas of improvement. The 2015-2018 Action Plan WRS will focus on:

- A cost of service study to assess the rates and fees allocated to each customer class and recommend funding allocation to be implemented in the 2019-2022 cycle.
- A review of financial policies and models, including the Landfill Liability Fund to ensure there is a long term funding plan for the end-of-life requirements of the City's active and inactive landfills. The financial focus will be a foundation for the 2019-2022 funding model. As Calgary moves to further increase waste diversion, additional capital investments, as outlined in WRIIP, and operational changes will be required, WRS' financial model will need to adapt to these scenarios.
- Further analysis and development of an implementation plan based on the outcomes and recommendations of the Collection Services Review. This review will inform Council about how the types of services and methods of service delivery compare to peer jurisdictions, and provide information about the relative efficiency and effectiveness of its current collection services. The results will be used to inform actions The City can take to improve service delivery efficiencies.

## 9. Recommendation

Administration recommends that the 2015-2018 Waste & Recycling Services indicative rates be developed based on the proposed rate scenario shown in Attachment 2. The indicative rates and fees discussed in this report represent the funding required over the next business cycle to accommodate growth and the differing inflationary pressures on labour, vehicles and equipment and fuel which represent the main areas of expenditure for WRS.

Administration also recommends that Waste & Recycling Services incorporate a Cost of Service Study and an evaluation of financial policies for 2019-2022 in the 2015-2018 Action Plan.

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## Appendix A

### SCHEDULE "B"

(Amended by Bylaw 65M2008, 69M2011)

#### WASTE & RECYCLING RATES

The rates or charges described in this Schedule are shown for the years 2012, 2013, and 2014, and shall apply in the calendar year indicated (from January 1 to December 31 inclusive).

<b>TABLE 1 – LANDFILL RATES – DISPOSAL RATES</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Basic Sanitary Waste	\$98/tonne	\$102/tonne	\$107/tonne
Industrial Waste	\$140/tonne	\$145/tonne	\$150/tonne
Industrial Waste Surcharge is applied to handle low weight, large volume loads	\$250/load	\$250/load	\$250/load
Designated Materials	\$140/tonne	\$145/tonne	\$150/tonne
Clean Fill charges will vary depending on site-specific clean fill requirements	\$0 - 5/tonne	\$0 - 5/tonne	\$0 - 5/tonne
Minimum charge for load less than 250 kilograms	\$15/load	\$15/load	\$15/load
Tires 4 or less to any landfill	No Charge	No Charge	No Charge
Tires 5 or more to Shepard landfill only	\$98/tonne	\$102/tonne	\$107/tonne
Refrigerant removal from equipment – surcharge regardless if it has been removed or not	\$15 /item	\$16 /item	\$17 /item