

--	--

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON DECEMBER 16, 2014
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT	GARBAGE AND RECYCLING COLLECTION – STATUS AND POTENTIAL NEXT STEPS

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer and with the support of the Director, Environment, Fleet and Solid Waste, the following actions **BE TAKEN** with respect to garbage and recycling collection:

- a) the Civic Administration **BE DIRECTED** to take no action to change the frequency of garbage and recycling pick up at this time;
- b) the Civic Administration **BE DIRECTED** to continue to keep Municipal Council apprised of any new information that becomes available that is relevant to recycling and garbage collection programs in addition to what is stated in d);
- c) the Civic Administration **BE DIRECTED** to further examine and implement a number of optimization actions in the next six to nine months to improve the efficiency of these programs as outlined in this report in order to reduce costs for sanitation operations between \$150,000 and \$200,000 per year; and
- d) the Civic Administration **BE DIRECTED** to prepare and submit the following reports to the Municipal Council in 2015 and 2016:
 - i) a report(s) reviewing and/or taking action on the recommendations as presented by PricewaterhouseCoopers (PwC) in its audit report entitled Solid Waste (Garbage) Collection and Recycling Process Review and any further recommendations identified by the Audit Committee, and approved by the Municipal Council,
 - ii) a report examining the advantages and disadvantages of using a cart-based, semi or fully automated, garbage collection system,
 - iii) a report examining the advantages and disadvantages of compressed natural gas (CNG) to fuel garbage packers and other compatible City fleet, along with potential synergies with fleet from other agencies, boards and commissions; and
 - iv) a status report on the use of Green Bins to divert food scraps and other organics in Ontario and selected Canadian municipalities and potential next steps for London.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Blue Box Recycling Collection and Processing Contracts (July 21, 2014 meeting of the Civic Works Committee (CWC), Item #15)
- Interim Waste Diversion Plan (July 21, 2014 meeting of the CWC, Item #18)
- Updates – Proposed Waste Reduction Act and Related Matters for Financing the Blue Box Program (February 3, 2014 meeting of the CWC, Item #8)
- Waste Diversion and Garbage Collection Updates (November 25, 2013 meeting of the CWC, Item #7)
- Waste Diversion and Garbage Collection Updates (October 28, 2013 meeting of the CWC, Item #9)
- Status Report: Update of Road Map to Maximize Waste Diversion 2.0 (July 22, 2013 meeting of the CWC, Item #14)

--	--

- Status – Green Bin and Modified Garbage Collection Pilot Project (October 1, 2012 meeting of the CWC, Item #4)
- Solid Waste Management Updates (April 23, 2012 meeting of the CWC, Item #17)
- Interim Business Plan for the Green Bin Program and Zero Waste Strategies (January 11, 2010 meeting of the Environment & Transportation Committee (ETC), Item #11)

BACKGROUND

PURPOSE AND REPORT HIGHLIGHTS:

The purpose of this Report is to provide the Civic Works Committee and Council with:

- Part A: Previous Cost Details on Garbage Collection Alternatives for London
- Part B: Public Feedback on Different Garbage and Recycling Collection Frequency Schedules
- Part C: Previous Solid Waste Benchmarking Data – Collection and System Costs
- Part D: Garbage and Recycling Collection Best Practices/Optimization Review
- Part E: PricewaterhouseCoopers (PwC) Solid Waste (Garbage) Collection and Recycling Process Review
- Part F: Proposed Cost Savings Through Garbage Collection System Optimization

Information is presented in each of the Parts of this Report along with more comprehensive details contained in the appendices. The box below contains the Report Highlights for each Part.

<p>REPORT HIGHLIGHTS</p> <p>Part A: Previous Cost Details on Garbage Collection Alternatives for London</p> <ul style="list-style-type: none"> • The existing curbside garbage and recycling collection systems costs \$7 million or \$60 per household per year. • Optimization activities can reduce this amount between \$150,000 and \$200,000 per year (\$1 or \$2 per household). • A seasonal collection system, biweekly garbage in the winter (6 months) and weekly in the summer with recycling weekly year round would cost between \$700,000 and \$1 million more per year (about \$7 per household). 85% of the cost is associated with recycling pickup. • An almost weekly service (50 pickups per year) would cost between \$700,000 and \$900,000 more per year (about \$7 per household). 70% of the cost is associated with recycling pickup. • A 'true' weekly service (52 pickups per year) would cost between \$1.1 million and \$1.3 million more per year (about \$10 per household). 60% of the cost is associated with recycling pickup. <p>Part B: Public Feedback on Frequency of Garbage and Recycling Collection Schedules</p> <p>According to a systematic, proportional random sample public opinion poll, there is:</p> <ul style="list-style-type: none"> • A high level of satisfaction with the current collection schedule (86% of residents were satisfied or very satisfied). <p style="text-align: right;">. . . . continued on next page</p>
--

--	--

- Similar levels of support for a weekly same day collection schedule and the current schedule, when asked at the same time.
- Lower levels of support for a seasonal collection schedule and a 5 business day collection schedule, when asked at the same time.
- Less support for paying more for weekly collection (44% found it acceptable or somewhat acceptable to pay more while 55% found it unacceptable or somewhat unacceptable to pay more).

According to an informal, unscientific form of feedback (voting), almost 1,250 votes were received and the collection schedules in order of preference are:

- existing collection schedule
- weekly collection
- seasonal collection
- 5 “business day” collection (almost weekly).

Part C: Previous Solid Waste Benchmarking Data – Collection and System Costs

- In 2013 using the OMBI method of direct and indirect costing, the cost per household for curbside garbage collection in London was \$48 per household or \$91 per tonne.
- Of the \$24.8 million spent by the City on all solid waste management services, 67% (\$16.7 million) is spent on private service providers, contractors and vendors.
- With respect to garbage collection services total cost, 27% (\$2.4 million) is spent on private service providers, contractors and vendors (5% is contracted to private service providers plus another 22% is spent on garbage packers, etc. used by the public sector).
- Summary 2013 benchmark costs suggest that City of London garbage collection costs and overall waste management costs are lower than the majority of municipalities.
 - London’s cost to collect a tonne of garbage in 2013 is \$91 per tonne compared to an average cost of \$116 per tonne. Overall, London had the fourth lowest cost of the eleven municipalities reporting (Ontario Municipal Benchmarking Initiative - OMBI - municipalities represent 60% of Ontario’s population). In 2012, it was the fourth lowest as well and there were thirteen municipalities reporting that year.
 - For all waste management services and on a per household basis, London’s cost to manage waste is \$128 per household compared to an average cost of \$203 per household. Overall, London had the lowest cost per household of the twelve municipalities reporting.

Part D: Garbage and Recycling Collection Best Practices/Optimization Review

- 20 potential practices and/or optimization actions for garbage collection and 11 for recycling collection have been identified based on a literature and Internet review conducted by City staff, discussions with sanitation operators and CUPE Local 107 Executive and City of London management experience.

Part E: PricewaterhouseCoopers (PwC) Solid Waste (Garbage) Collection and Recycling Process Review

PwC has identified that the following controls are operating effectively:

. . . . continued on next page

--	--

- The frequency of waste collection is appropriate given management’s thorough analysis of the costs and benefits.
- Management monitors performance of the waste collection division by comparing key indicators to similar municipalities. The data indicates that the City’s cost to collect a tonne of garbage and cost per household is better than the average.
- Management has examined the costs and benefits of outsourcing versus in-house waste collection. The current balance between both options for waste collection is generally appropriate given the service levels determined by Council.
- The recycling collection and facility operations tender process is appropriately overseen by Purchasing and Supply and in line with City purchasing policies.
- Recycling facility monitoring controls are operating effectively and the City is able to recover operating costs through the sale of materials and fees.

8 specific actions that may produce costs savings in the short and medium term have been identified by PwC under the heading Performance-Based Considerations.

Part F: Proposed Cost Savings Through Garbage Collection System Optimization

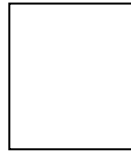
- Between \$150,000 and \$200,000 in potential cost savings have been identified by implementing and/or examining 7 practices/actions. In addition another 8 items have been identified for further analysis, evaluation and reporting back to Committee.
- In the last 10 years, there has been a reduction in the per household cost (\$2013) to collect garbage by 15% due to the implementation of a number of cost containment and cost reduction strategies.

CONTEXT:

In November 2013, staff provided the CWC with information (municipal benchmarking data) on garbage collection and related waste management costs, alternative garbage and recycling collection schedules and the document *Road Map 2.0 – The Road to Increased Resource Recovery and Zero Waste* (Road Map 2.0). Subsequently, Council at its December 3, 2013 meeting passed a number of resolutions including these clauses pertinent to this CWC Report:

- b) the Civic Administration BE DIRECTED to report back to the Civic Works Committee, by April 2014, with respect to:*
 - i) an identification and evaluation of best practices implemented in other municipalities for garbage and recycling collection;*
 - ii) an evaluation of the City of London’s current collection system in order to identify opportunities for further savings through optimization;*
 - iii) public feedback with respect to frequency of garbage and recycling collection; and,*
 - iv) an evaluation of the advantages and disadvantages of contracting garbage collection, and identification of the processes that are required to be followed if such an option were to be pursued;*

Resolutions b i), ii) and iii) are addressed in this Report. A Confidential Companion Report has been submitted to the Corporate Services Committee regarding b iv) of the above resolution.



DISCUSSION

PART A: PREVIOUS COST DETAILS ON GARBAGE COLLECTION ALTERNATIVES FOR LONDON

Background

At the October 28, 2013 and November 25, 2013 CWC meetings, it was noted that from time to time, a review of London’s waste collection system is undertaken to confirm whether or not the current collection system is the most appropriate system for London. The last time this review was undertaken in 2007 it was decided to continue with the current six day collection system.

The main reasons for this decision were the \$1.7 million estimated cost increase (\$900,000 for additional garbage collection, \$700,000 in additional recycling collection and \$100,000 in other costs) for a weekly collection system, and the split in public opinion as to which system was preferred given the costs.

Over the years the City’s curbside collection system has evolved and in the past residents have had both a weekly, same day service and “five business day” collection system. The history of the City’s collection system is identified in Table 1.

The City of London is the only municipality in Ontario that operates a “six day” collection system for curbside garbage and recycling. This change occurred in mid-1996 (17 years ago) and has resulted in avoided costs of between \$17 and \$20 million since that date.

In the current system garbage and recyclables are collected every six business days and residents receive 42 collections per year. Most collections are eight days apart but can be as much as 12 or 13 days apart over the Christmas holiday period.

Prior to the introduction of the “six day” collection cycle in 1996, garbage and recyclables were collected every five business days (five day collection cycle) and residents received 50 collections per year. Under this system the collection day remained the same until a Statutory Holiday at which time it moved forward one day.

Most municipalities in the Province operate a weekly garbage collection system (52 collections per year) or a biweekly garbage collection system (26 collections per year). Municipalities that provide bi-weekly garbage collection also have a Green Bin program. When a Statutory Holiday occurs, the collection day typically moves forward for one day for that week (e.g., Friday’s collection takes place on Saturday) although some municipalities do collect on the Statutory Holiday.

The vast majority of recycling collection systems are weekly.

A few smaller municipalities in Ontario operate a “seasonal” collection system in which garbage is collected weekly for the warmer months and bi-weekly in the cooler months.

In the November 25, 2013 CWC, Table 2 was presented and contains the operating cost estimates of 3 alternative collection systems for London along with an optimized existing collection system.

- The existing curbside garbage and recycling collection systems costs \$7 million or \$60 per household per year.
- Optimization activities may reduce this amount between \$150,000 and \$200,000 per year.
- A seasonal collection system, biweekly garbage in the winter (6 months) and weekly in the summer with recycling weekly year round, would cost between \$700,000 and \$1 million more per year (about \$7 per household). 85% of the cost is associated with recycling pickup.
- An almost weekly service (50 pickups per year) would cost between \$700,000 and \$900,000 more per year (about \$7 per household). 70% of the cost is associated with recycling pickup.
- A ‘true’ weekly service (52 pickups per year) would cost between \$1.1 million and \$1.3 million more per year (about \$10 per household). 60% of the cost is associated with recycling pickup.

--	--

Table 1: History of London’s Curbside Collection Systems

Period	Description of Garbage Collection System	Major Changes to Materials Collected at the Curb
Prior to 1979	<ul style="list-style-type: none"> • 52 pickups per year • when a Statutory Holiday occurs, pickup days would move forward one day for that week only (e.g., Friday's pickup takes place on Saturday) • one spring and one fall collection of bulky items 	<p>1975 – collection changed from “rear yard” to curbside collection</p> <p>1978 – limited collection of separated newspapers begins</p>
1979 to 1995	<ul style="list-style-type: none"> • calendar introduced • 50 pickups per year • when a Statutory Holiday occurs, pickup days would move forward one day and stay on that day until the next Statutory Holiday • one spring and one fall collection of bulky items until 1994 • bulky items collected at each pickup starting in in 1995 	<p>1980’s – construction and demolition waste banned</p> <p>1990 – curbside recycling introduced (materials collected include newspaper, glass, steel, aluminum and 2 litre plastic soft drink bottles)</p> <p>1994 – Ministry of the Environment (MOE) 3 R’s Regulations enacted</p> <p>1995 – curbside recycling expanded to include mixed household paper, cardboard, boxboard, telephone books, magazines, rigid plastics (#1, 2, 4, 5)</p> <ul style="list-style-type: none"> – one spring and one fall collection of brush and scrap metal introduced – grass clippings and white goods (e.g., appliances) banned – one city-wide pickup of fall leaves using vacuum vehicles
1996 to present	<ul style="list-style-type: none"> • 42 pickups per year • pickup days would move forward after each collection • bulky items collected at each pickup 	<p>1996 – the brush and leaf vacuum program changed to 6 yard materials collection (Green) weeks and 3 fall leaf collection weeks</p> <ul style="list-style-type: none"> – scrap metal collection discontinued <p>2006 – four container limit introduced</p> <p>2009 – recycling expanded to include milk/juice cartons, drink boxes and empty paint cans</p> <p>2010 – electronics no longer collected with garbage</p> <p>2011 – recycling expanded to include more plastics (clamshells and #3, #6 & #7 containers), empty aerosol containers and cardboard cans</p> <p>2014 – recycling expanded to include paper cups (e.g., coffee & takeout beverage cups), ice cream tubs and clear rigid packaging (e.g., difficult to open packaging around toys)</p>

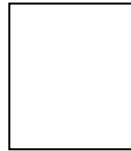


Table 2: Curbside Garbage and Recycling Collection Options – Estimated Operating Costs

Description (Garbage and Recycling)	Estimated Change in Cost Compared to Existing System (and Percentage of Total Cost/Savings)			Estimated Average Cost Per Household Served ^c	
	Services provided by Municipal Employees ^a	Services provided by Contractors ^b	Total Cost (Savings)	\$/hhld	Change
Existing collection system <ul style="list-style-type: none"> collection every 6 business days 42 pickups per year 	\$0	\$0	\$0	\$60 ^d	-
Optimized existing collection^e <ul style="list-style-type: none"> collection every 6 business days 42 pickups per year 	(-\$100,000 to -\$200,000)	\$0	(-\$100,000 to -\$200,000)	\$59	(\$1)
Seasonal collection^f <ul style="list-style-type: none"> garbage - weekly summer; biweekly winter recycling - weekly 39 pickups/year 	\$0 to \$200,000 (~15%)	\$700,000 to \$800,000 (~85%)	\$700,000 to \$1,000,000	\$67	\$7
5 day collection <ul style="list-style-type: none"> collection every 5 business days 50 pickups per year system 	\$200,000 to \$300,000 (~30%)	\$500,000 to \$600,000 (~70%)	\$700,000 to \$900,000	\$67	\$7
Weekly collection <ul style="list-style-type: none"> weekly collection 52 pickups/year 	\$400,000 to \$500,000 (~40%)	\$700,000 to \$800,000 (~60%)	\$1,100,000 to \$1,300,000	\$70	\$10

Notes

- a) Collection of 95% of curbside households plus landfill operations on Statutory Holidays.
- b) Collection of recyclables from all curbside households and garbage from 5% of curbside households. Does not include potential charge for contractor’s capital requirements (vehicles).
- c) Based on average of system cost divided by 117,000 curbside households.
- d) Total existing annual cost of curbside garbage and recycling collection is approximately \$7 million (includes Waste Diversion Organization funding for Blue Box collection)(\$7 million / 117,000 households = \$60 per household).
- e) Potential optimizations vary and may require adjustments to the level of service.
- f) Potential for lower costs in the future.

PART B: PUBLIC FEEDBACK ON DIFFERENT GARBAGE AND RECYCLING COLLECTION FREQUENCY SCHEDULES

From City staff’s perspective, advantages and disadvantages of each of the four different garbage and recycling collection schedules were previously provided (November 25, 2013) and repeated on Table 3 (next page).

Council requested staff obtain public opinion and feedback on the four different collection schedules. The feedback consisted of a survey of public opinion, feedback on our website and outreach at community centers, libraries and recreation facilities.

--	--

Table 3: Comparison of Curbside Garbage and Recycling Collection Options

Description	Advantages	Disadvantages
<p>1. a) Existing collection system</p> <ul style="list-style-type: none"> Collection every 6 business days 42 pickups per year 	<ul style="list-style-type: none"> Cost efficient 4 container limit is reasonable to generous Bulky item collection occurs with 42 pickups per year 	<ul style="list-style-type: none"> Longer cycle times between collections in warm weather and over Christmas can be an inconvenience to some residents Garbage & recycling sometimes placed at the curb on the wrong day
<p>b) Optimized existing collection system</p> <ul style="list-style-type: none"> Collection every 6 business days 42 pickups per year 	<ul style="list-style-type: none"> Most cost efficient 4 container limit is reasonable to generous Bulky item collection occurs with 42 pickups per year Savings of \$1 per household served 	<ul style="list-style-type: none"> Same disadvantages as above plus may require some adjustments to service levels
<p>2. Seasonal collection</p> <ul style="list-style-type: none"> Weekly same day summer; biweekly same day winter for garbage pickup 39 pickups per year Weekly recycling pickup as biweekly is not viewed as a 'best practice' and London would receive less funding from Waste Diversion Ontario. It is also less convenient for residents 	<ul style="list-style-type: none"> No long cycles between garbage collection in summer Less confusion as to when garbage is collected Possible future cost savings 	<ul style="list-style-type: none"> Longer cycle times between collections in winter can be an inconvenience to some residents Fewer annual collections than existing system Higher cost than existing system (\$7 per household) with potential for lower cost in the future
<p>3. Five "business" day collection</p> <ul style="list-style-type: none"> Collection every 5 business days 50 pickups per year 	<ul style="list-style-type: none"> 20% more pickups per year Only two long cycles per year between garbage collections Less confusion as to when garbage and recycling is collected 	<ul style="list-style-type: none"> Higher cost than existing system (\$7 per household)
<p>4. Weekly collection</p> <ul style="list-style-type: none"> Weekly same day collection 52 pickups per year 	<ul style="list-style-type: none"> 25% more pickups per year No long cycles between garbage collections No confusion as to when garbage and recycling is collected Potential reduction in litter (less overflowing Blue Boxes from long cycle times; less garbage out over weekends) 	<ul style="list-style-type: none"> Highest cost system (\$10 per household more than existing system)

Community Engagement

Public Opinion Survey

Nordex Research was retained in March 2014 to canvass public opinion on the City's garbage and recycling collection schedule. Nordex carried out a systematic, proportional random sample (N = 300) of London residents through a telephone interview on March 24, 25 and 27, 2014. The estimated margin of error is +/- 5.5 percent at 95 per cent confidence levels assuming 35 and 65 percent sample proportions. Nordex Research's findings are presented in Appendix A and summarized below:

--

--

- Table 4 - a high level of satisfaction with the current collection schedule (86% of residents were satisfied or very satisfied)
- Table 5 - similar levels of support for a weekly same day collection schedule and the current schedule, when asked at the same time
- Table 5 - lower levels of support for a seasonal collection schedule and a 5 business day collection schedule, when asked at the same time
- Table 6 - limited support for paying more for weekly collection (44% found it acceptable or somewhat acceptable to pay more while 55% found it unacceptable or somewhat unacceptable to pay more). 42%, about 4 out of every 10 homes, found it very unacceptable to pay more.

Table 4: Responses to “How satisfied are you with the current schedule for garbage pick-ups by the City of London?”

Response	Percent
very satisfied	51.0%
somewhat satisfied	34.7%
not so satisfied	7.7%
not satisfied at all	6.6%
don't know	0.0%

Table 5: Responses to “How important is it for you to have. . . .”:

Response	Weekly, Same Day Service	Seasonal (collection) Schedule	7- 10 Day Service (every 5 business days)	8-13 Day Service (Current System)
very important	50.0%	16.3%	19.3%	45.3%
somewhat important	17.0%	20.7%	32.0%	23.7%
not so important	15.0%	13.3%	22.7%	13.0%
not important at all	17.7%	48.3%	23.7%	18.0%
don't know	0.3%	1.4%	2.3%	0.0%
	100%	100%	100%	100%

Table 6: Responses to “Each of the higher service programs beyond the current service could cost Londoners extra taxes, if implemented (\$700,000 to \$1.3 million. . about \$7 to 10 per household). How acceptable to you are these possible new tax increases”?

Response	Percent
very acceptable	18.7%
somewhat acceptable	25.0%
somewhat unacceptable	13.3%
very much unacceptable	42.0%
don't know	1.0%

Community Outreach

Residents (noting that some could have been from outside London) were also given the opportunity to vote on their preferred collection schedule at an unstaffed interactive display that was taken to 17 locations from February through June (community centers, libraries and recreation facilities), at the Lifestyle Home Show (January 24-26, 2014), the Spring Home & Garden Show (April 11-13, 2014) and London CityGreen (March, April 2014). Details on the display, a list of the locations and voting results are presented in Appendix B.

Residents were asked to “Pick the Recycling and Garbage Collection Schedule You Want!” using the format in Table 7.

--	--

Table 7: Pick the Recycling & Garbage Collection Schedule You Want!

Options	Current Schedule	Seasonal	5 Days	Weekly
Place a dot under which schedule you prefer				
How would it work?	No change – Collection once every 6 business days	Collection on the same day. Garbage is weekly in summer, bi-weekly in winter. Recycling is weekly.	Collection once every 5 business days. The collection day moves forward after a statutory holiday.	Same day collection every week
Number of Collections Per Year	42	39 – garbage 52 – recycling	50	52
Additional Annual Cost	\$0	\$700,000 to \$1,000,000	\$700,000 to \$900,000	\$1,100,000 to \$1,300,000
Additional Cost per Household	\$0	\$7	\$7	\$10

Almost 1,250 votes were received in this informal, unscientific form of feedback. The summary of how participants voted is presented in Table 8. The collection schedules in order of voting preference are:

- existing collection schedule
- weekly collection
- seasonal collection
- 5 “business day” collection.

Table 8: Summary of Votes Received on the Interactive Engagement Board to the Question: “Pick the Recycling and Garbage Collection Schedule You Want!”

	Current Schedule	Seasonal	5 Days	Weekly	Total (votes received)
Community Centres, Recreation Facilities & Libraries	47%	10%	8%	35%	960
Lifestyle Home Show, Spring Home & Garden Show & London City Green	54%	10%	3%	33%	289
All locations	49%	10%	7%	34%	1,249

Outcome – Staff Recommendation

Based on City staff review of the cost information from Part A and community opinion (survey) and community feedback from Part B, we are recommending that no further action on changing the frequency of garbage and recycling collection be taken at this time. Further, City staff when requested or new information becomes available.

--	--

PART C: PREVIOUS SOLID WASTE BENCHMARKING DATA – COLLECTION AND SYSTEM COSTS

Cost information from municipal benchmarking sources on garbage collection and related waste management costs was provided to Committee and Council in November 2013. These data have been printed again in Appendix C. Additional 2013 OMBI data that is now available has been added to the tables in Appendix C. OMBI data acts as a source of credible information to assist Council, City staff and citizens in understanding how their municipality is performing over time and in relation to others. OMBI municipalities provide services to over 60% of Ontario’s population.

Garbage collection cost information for London is presented below for the period 2011 to 2013 (Table 9). The data show that on a cost per tonne and a cost per household basis, the cost continues to decrease.

Table 9: OMBI Benchmark Costs for London (2011 to 2013)

Benchmark	2011	2012	2013
Cost per tonne	\$93	\$92	\$91
Cost per household	\$51	\$49	\$48

As illustrated in Tables 10 and 11, a significant portion of solid waste management services are attributable to private service providers, contractors and vendors. Of the \$24.8 million spent by the City on all solid waste management services, 67% (\$16.7 million) is spent on private service providers, contractors and vendors. With respect to garbage collection services total cost, 5% is contracted to private service providers plus another 22% is spent on garbage packers, fuel, etc. used by the public sector.

Providing solid waste services as outlined above allows the City to better understand and benchmark private sector costs to ensure services provided by the public sector are competitive.

Table 10: Percentage of 2013 Cost Spent on Private Sector Versus Public Sector by Type of Service

Area	Contractor ^e	Other Private Sector Services ^f	Total % of Budget Spent on the Private Sector	Total % Spent on Public Sector
Garbage Collection ^a	5%	22%	27%	73%
Recycling Collection ^b	95%	2%	97%	3%
All Collection Services ^c	39%	14%	53%	47%
All Waste Management Services ^d	57%	10%	67%	33%

Notes:

- a) Includes curbside and multi-residential garbage collection, yard material collection, fall leaf collection and litter box collection.
- b) Includes curbside, multi-residential and facilities recycling collection.
- c) Includes curbside and multi-residential garbage collection, yard material collection, fall leaf collection, litter box collection, and curbside, multi-residential and facilities recycling collection.
- d) All waste management service areas (composting/recycling and collection/disposal) including operations, planning, contract administration and capital costs. Based on 2013 actual operation costs and typical annual capital costs of \$2.5 million.
- e) Contracted goods and services provided directly to the public.
- f) Contracted goods and services purchased by the City to allow City staff to provide services to the public. Examples include garbage packers, fuel, etc.

Table 11: Total 2013 Cost Spent on Private Sector Versus Public Sector by Type of Service

Area	Contractor ^e	Other Private Sector Services ^f	Total Budget Spent on the Private Sector	Total Budget
Garbage Collection ^a	\$450,000	\$1,940,000	\$2,390,000	\$8,810,000
Recycling Collection ^b	\$4,990,000	100,000	\$5,090,000	\$5,240,000
All Collection Services ^c	\$5,440,000	\$1,940,000	\$7,480,000	\$14,050,000
All Waste Management Services ^d	\$14,200,000	\$2,500,000	\$16,700,000	\$24,800,000

Notes:

- a) Includes curbside and multi-residential garbage collection, yard material collection, fall leaf collection and litter box collection.
- b) Includes curbside, multi-residential and facilities recycling collection.
- c) Includes curbside and multi-residential garbage collection, yard material collection, fall leaf collection, litter box collection, and curbside, multi-residential and facilities recycling collection.
- d) All waste management service areas (composting/recycling and collection/disposal) including operations, planning, contract administration and capital costs. Based on 2013 actual operation costs and typical annual capital costs of \$2.5 million
- e) Contracted goods and services provided directly to the public.
- f) Contracted goods and services purchased by the City to allow City staff to provide services to the public. Examples include garbage packers, fuel, etc.

PART D: GARBAGE AND RECYCLING COLLECTION BEST PRACTICES/ OPTIMIZATION REVIEW

Garbage Collection – Best Practices/Optimization Review

To identify what practices and optimization actions could be implemented in London to further improve garbage collection efficiency a number of areas were consulted:

- Literature and Internet review
- Discussions with sanitation operators and CUPE 107 Executive
- City of London management experience

In addition, PricewaterhouseCoopers (PwC) was approved by Council to audit garbage collection and recycling services as part of their roles and responsibilities via the City’s Audit Committee. The findings of PwC are provided in Appendix D and summarized in in Part E.

General findings are as follows:

- At this time, there is limited information available on proven best practices. The use of the word ‘best’ practice is common, however it is generally not accompanied by evidence to support it being a ‘best’ practice.
- The use of the terms benchmarks, practices and best practices are often used but sometimes not defined. For example, a benchmark is sometimes viewed as a high performance mark when all it really achieves is a number at a point in time (e.g., yearend number).
- Areas for efficiency improvements and optimization actions in garbage and recycling collection are identified in a number of reports and identified during discussions.

--	--

- Efficiency improvements and optimization actions in garbage and recycling collection are often community specific (e.g., rural versus urban or suburban, small versus large municipality, with or without a green bin, etc.).
- 20 potential practices and/or optimization actions for garbage collection have been identified from the three areas consulted and are listed on Table 12. These practices or actions reflect what has occurred in other municipalities.

City staff have also identified with a Yes the practices/actions that are a higher priority for further consideration based on this review. It should be noted that further review and analysis on all items is required to determine the real potential for costs savings or cost containment. Additionally some practices/actions noted could actually conflict with one another or some become redundant if certain ones are implemented.

Table 12: Summary of Potential (Best) Practices/Optimization Actions for Garbage Collection Based on Action in Other Cities

#	Practice/Action	Brief Description	Higher Priority for Further Consideration
1	Implementing on-route (beat) collection optimization	Examine opportunities to increase efficiency (e.g., twinning stops, more right hand turns) while on-route collecting garbage.	Yes
2	Implementing off-route collection optimization	Examine opportunities to reduce time spent off-route (travel, unloading, etc.).	Yes
3	Increasing productivity through various initiatives	Using various initiatives such as additional training to increase staff productivity while maintaining health and safety requirements.	Yes
4	Changing the length of the work day	Adjust the length of the work day (e.g., 10 hour days) to increase efficiency (e.g., more on route time).	-
5	Adding a second collection shift	Reduce the number of trucks in the system by adding second collection shift.	-
6	Reducing container/bag limits	Reducing container/bag limits may reduce amount of garbage collected and possibly costs.	Already under review
7	Restricting/eliminating the use of garbage cans	May be able to increase the number of homes collected by a truck because emptying garbage cans takes longer than loading garbage bags.	-
8	Implementing user fees for garbage collection	User fees will reduce the amount of garbage collected (and possibly costs) and provide revenue.	-
9	Reducing/changing how bulky items are collected	Reducing/adjusting bulky item collection may allow time for trucks to collect garbage from more homes.	-
10	Implementing garbage carts and semi or fully automated garbage collection	Fully automated trucks are more expensive to purchase but may offer other offsetting benefits.	Yes
11	Realigning and adjusting the size of collection zones	The last major zone adjustment was in 2007/2008. Realigning the zones may lead to collection efficiencies.	Yes

--	--

Table 12: Summary of Potential (Best) Practices/Optimization Actions for Garbage Collection Based on Action in Other Cities

#	Practice/Action	Brief Description	Higher Priority for Further Consideration
12	Adding more sources (pickups) of garbage/role of shared services	Collection of garbage from additional non-residential sources (e.g., not-for-profits, boards, etc.) that are on/near existing routes may provide “economies of scale”.	-
13	Changing or reducing sources (pickups) of garbage	City currently collects from a variety of non-residential sources (e.g. small business, not-for-profits, boards, etc.). Reducing the number of sources may reduce costs.	-
14	Reducing the service frequency of garbage collection	Less frequent garbage collection (e.g., bi-weekly collection) would require less labour and fleet resources but is likely not practical without implementation of a Green Bin program.	-
15	Reviewing and implementing on-board vehicle technologies	Technology systems such as GPS/ Telematics, on-board weighing systems, etc. can assist with fuel consumption, on-board weights to further optimize individual vehicles.	Yes
16	Reviewing the type of collection packers	For example, sideloader garbage trucks may be an option.	Yes
17	Reviewing the size of collection packers	Larger garbage trucks may reduce the number of trips to the landfill and allow time to collect more homes.	Yes
18	Picking up garbage on one side of the street	Reduces travel distance of trucks (only travel streets once) but may introduce safety concerns for residents that must cross the street and may create neighbour disputes.	-
19	Changing from diesel to compressed natural gas	Significant investment required for natural gas fueling station but fuel costs reduced by 30 to 60%.	Yes
20	Reducing number of spare trucks in fleet	In some situations there are opportunities to reduce the number of spare trucks by renting extra trucks when needed or doing routine maintenance at night.	-

Recycling Collection – Best Practices/Optimization Review

To identify what practices and optimization exercise could be implemented in London to further improve recycling collection efficiency a number of items were consulted:

- Literature and Internet review
- Discussions with Miller Waste Systems staff
- City of London management experience

--	--

Eleven (11) potential practices and/or optimization actions have been identified from the three areas consulted and are listed on Table 13. It is noted that this is a contracted service and therefore any operational changes (e.g., type of truck) is beyond the control of the City and is decided by the contractor when they bid the work. Operational changes beyond the control of the City can only be considered as part of the next contract are also noted on the Table 12.

Table 13: Summary of Potential (Best) Practices/Optimization Actions for Recycling Collection Based on Action in Other Cities

#	Practice	Description	Could this Practice Reduce Cost in London (Yes, Likely, Uncertain)	This Item Can be Further Explored for the Next Collection Contract
1	Single stream collection	Collecting all recyclables together may decrease collection costs but increases processing costs.	Uncertain - Likely	Yes
2	Implementing recycling carts and automated collection	Typically only used in conjunction with single stream collection systems.	Uncertain - Likely	Yes
3	Co-collection of garbage with recyclables	Typically only used in conjunction with single stream collection systems.	Uncertain - likely	Yes
4	Adding a second collection shift	Reduce the number of trucks in the system by adding second collection shift. Contract currently requires trucks off the street by 5 pm which prevents a second shift.	Uncertain - Likely	Yes
5	Realigning and adjusting the size of collection zones	The last major zone adjustment was in 2007/2008. Realigning the zones may lead to collection efficiencies.	Yes	-
6	Adding more sources (pickups) of recyclables/role of shared services	Allow contractor to collect recyclables from additional non-residential sources (e.g. small business, not-for-profits, boards, etc.) that our on/near existing routes may provide "economies of scale". Current contract does not permit this.	Yes	Yes
7	Changing or reducing sources (pickups) of recyclables	City currently collects from a variety of non-residential sources (e.g. small business, not-for-profits, boards, etc.). Reducing the number of sources will reduce costs.	Yes	-
8	Reducing the service frequency of recycling collection	Less frequent recycling collection (e.g., bi-weekly collection) would require less labour and fleet resources.	Yes	Yes
9	Picking up recyclables on one side of the street	Reduces travel distance of trucks (only travel streets once) but may introduce safety concerns for residents that must cross the street and may create neighbour disputes.	Uncertain - Likely	-

--	--

Table 13: Summary of Potential (Best) Practices/Optimization Actions for Recycling Collection Based on Action in Other Cities

#	Practice	Description	Could this Practice Reduce Cost in London (Yes, Likely, Uncertain)	This Item Can be Further Explored for the Next Collection Contract
10	Changing from diesel to compressed natural gas	Significant investment required for natural gas fueling station but fuel costs reduced by 30 to 60%.	Likely - Yes	Yes
11	Reducing number of spare trucks in fleet	In some situations there are opportunities to reduce the number of spare trucks by renting extra trucks when needed or doing routine maintenance at night. Contract currently requires minimum number of spare trucks.	Uncertain - Likely	Yes

PART E: PRICEWATERHOUSECOOPERS (PwC) SOLID WASTE (GARBAGE) COLLECTION AND RECYCLING PROCESS REVIEW

PricewaterhouseCoopers (PwC) is the City’s Internal Auditor and has held this role since early 2011. In December 2013 the Audit Committee recommended and Council approved the Proposed Risk Assessment and Performance-Based Audit Plan for the 2014 - 2016 years which included a performance-based internal audit of the solid waste collection service. The Audit Plan notes that each individual audit project will be performed in a risk-based, targeted manner in which key controls and functions will be prioritized.

The report called Solid Waste (Garbage) Collection and Recycling Process Review was submitted to the Audit Committee by PwC on December 15, 2014. The complete report is found in Appendix D. Three key sections have been directly extracted from the PwC report and placed below:

Controls Operating Effectively

- The frequency of waste collection is appropriate given management’s thorough analysis of the costs and benefits.
- Management monitors performance of the waste collection division by comparing key indicators to similar municipalities. The data indicates that the City’s cost to collect a tonne of garbage and cost per household is better than the average.
- Management has examined the costs and benefits of outsourcing versus in-house waste collection. The current balance between both options for waste collection is generally appropriate given the service levels determined by Council.
- The recycling collection and facility operations tender process is appropriately overseen by Purchasing and Supply and in line with City purchasing policies.
- Recycling facility monitoring controls are operating effectively and the City is able to recover operating costs through the sale of materials and fees.

Performance-Based Considerations

- Increasing the multi-residential fees for a second pick-up of waste collection by \$2 per unit could potentially generate additional annual revenues of \$85,000.

--	--

- If fees for second pick-up of multi-residential bins was increased to recover the full cost of this service, revenues could increase by up to \$485,000.
- Optimizing waste collection beats, including analyzing the current collection structure and adjustments to the alignment and size of collection zones, could reduce collection costs by approximately \$150,000 to \$200,000.
- Other recommendations could have a minor to major impact on the cost of service and revenue streams once further analysis is performed.

Observations & Actions

Actions	Timing for Additional Work	Rating
#1 Review of waste collection strategy	2015 – 2016	Satisfactory
#2 Collection route optimization and communication enhancements	February 2015	Needs Improvement
#3 Review of revenue structure	2015 – 2016	Satisfactory
#4 Review of waste collection agreement with Western University	March 2017	Needs Improvement
#5 Review garbage bin rental fee for multi-residential buildings	September 2015	Needs Improvement
#6 Review of rates charged for second garbage pickup at multi-residential buildings	September 2015	Needs Improvement
#7 Garbage bin rental options for multi-residential building garbage collection	On-going	Satisfactory
#8 Recycling operating reserve fund	September 2015	Needs Improvement

PART F: PROPOSED COST SAVINGS THROUGH GARBAGE COLLECTION SYSTEM OPTIMIZATION

Background

Part D and Part E have highlighted numerous short term, medium term and longer term opportunities for further cost containment and cost reduction in garbage collection and, to a lesser extent, with recycling services. City staff have reviewed the opportunities and identified from a priority perspective the items that should be implemented and/or further examined in the short term (next 3 to 24 months) and have placed a higher priority on several practices/actions for the next six to nine months. We are recommending the further examination and implementation of a number of practices/actions and have targeted cost savings of between \$150,000 and \$200,000 in garbage collection.

The next section identifies what has occurred over the last 10 years. It is important to note that we have already implemented a number of operational strategies to contain/reduce cost.

10 Year Cost Reduction and Cost Savings Trend

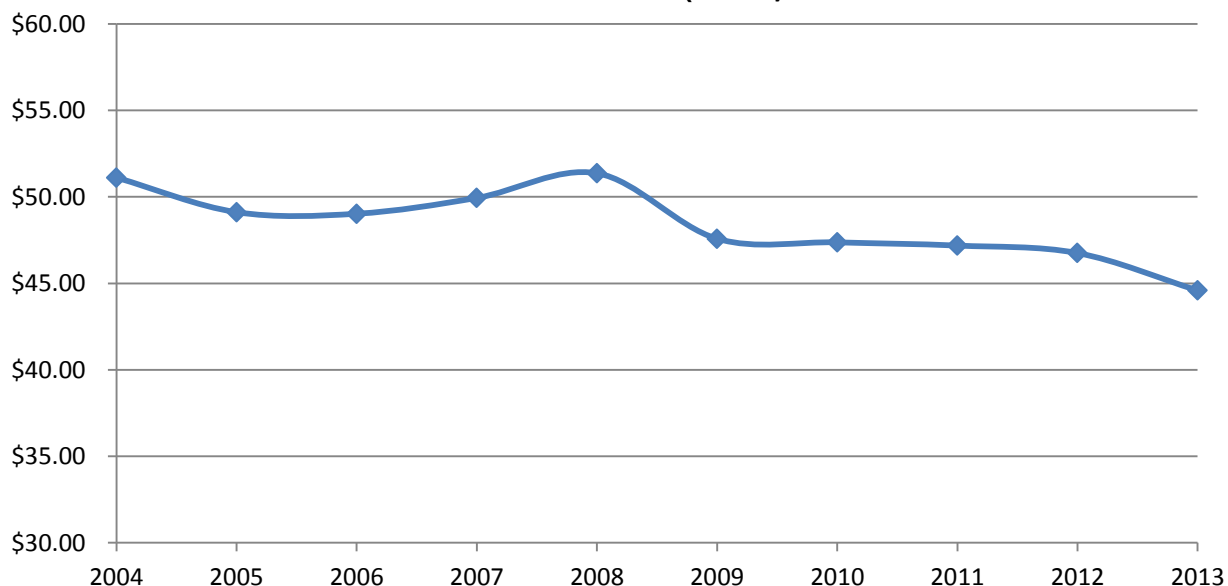
The cost of collecting garbage, yard materials and fall leaves by City staff has been decreasing over the last decade when taking into account the increase in the number of homes being collected and inflation.

Over the last decade the total cost of collecting garbage, yard materials and fall leaves has increased at the rate of inflation (costs have increased by 17% and inflation has increased by 17%). During this same period the number of homes being collected has increased by 15%.

Overall, there has been a reduction in the per household cost (\$2013) to collect garbage by 15% over the last 10 years as illustrated on Figure 1 (next page). This illustrates that cost containment and cost reduction strategies implemented over the last 10 years as part of a continuous improvement philosophy have been working.

--	--

Figure 1: Net Household Collection Cost for Garbage, Yard Materials and Leaves (\$2013)



Note: Average net household cost for curbside and multi-residential homes. Multi-residential homes do not receive yard material or leaf collection. These costs do not include indirect costs (e.g., Human Resources, Finance, etc.) which amount to an additional cost of approximately 10% per year but do include revenue (e.g., bin rental, etc.) which reduces cost by approximately 7%.

Outcome – Staff Recommendation

Based on our review, current understanding and discussions to date and as identified in Part D (from Table 12) and Part E (PwC audit report, Appendix D), City staff plan to further examine and/or implement the following practices/actions and, as noted above, have targeted cost savings of between \$150,000 and \$200,000:

City Identified Practice/Action	Consistent With PwC Report – Observations & Actions
1. Implementing on-route (beat) collection optimization	Action #2
2. Implementing off-route collection optimization	Action #2
3. Increasing productivity through various initiatives	Action #2
11. Realigning and adjusting the size of collection zones	Action #2
15. Reviewing and implementing on-board vehicle technologies	Action #2
16. Reviewing the type of collection packers	Action #1
17. Reviewing the size of collection packers	Action #1

City staff are further intending to undertake additional review and report back to Council of the potential for additional savings or benefits from:

City Identified Practice/Action	Consistent With PwC Report – Observations & Actions
10. Implementing garbage carts and semi or fully automated garbage collection	Action #1
19. Changing from diesel to compressed natural gas	Not identified

--	--

City staff will address the remaining Actions from the PwC Audit Report and any further recommendations identified by the Audit Committee and approved by Council. Currently these items include:

Actions	Timing for Additional Work
#3 Review of revenue structure	2015 – 2016
#4 Review of waste collection agreement with Western University	March 2017
#5 Review garbage bin rental fee for multi-residential buildings	September 2015
#6 Review of rates charged for second garbage pickup at multi-residential buildings	September 2015
#7 Garbage bin rental options for multi-residential building garbage collection	On-going
#8 Recycling operating reserve fund	September 2015

ACKNOWLEDGEMENTS

This report was prepared with the assistance of Kevin Springer, Manager, Solid Waste Collection and Anne Boyd, Waste Diversion Coordinator. City staff would also like to acknowledge John Lauzon, Sanitation Operator and Wayne Piper, CUPE Local 107 Union Steward and Sanitation Operator and the CUPE Local 107 Executive representatives: Alastair Bruff, President; Dennis Reed, Vice President; and Jamie McBride, Vice President..

PREPARED BY:	
WESLEY ABBOTT, P. ENG. DIVISION MANAGER SOLID WASTE MANAGEMENT	
PREPARED AND RECOMMENDED BY:	RECOMMENDED BY:
JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENGINEERING SERVICES & CITY ENGINEER

Appendix A Public Opinion Survey – Collection Services with a Focus on Garbage Pickup

Appendix B Summary of Community Outreach on Garbage and Recycling Collection Schedule

Appendix C Solid Waste Benchmarking Data – Collection and System Costs

Appendix D PricewaterhouseCoopers (PwC) Garbage Collection and Recycling Process Review

c Veronica McAlea Major, Managing Director, Corporate Services and Chief Human Resources Officer

--	--

APPENDIX A
PUBLIC OPINION SURVEY – COLLECTION SERVICES WITH A FOCUS ON
GARBAGE PICKUP

Garbage Scheduling Survey

March 2014

Nordex Research
P.O. Box 122, Stn. B
London, ON N6A 4V6

--	--

Introduction

Nordex Research was commissioned by the City of London in March 2014 to canvass public opinion across the city on garbage scheduling. We carried out a systematic, proportional random sample (N=300) of London residents through live interview telephone research on March 24, 25 and 27, 2014. The estimated sampling error is +/- 5.5 percent at 95 per cent confidence levels assuming 35 and 65 per cent sample proportions.

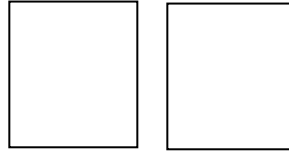
This is our fourth such project for the client on this general subject-matter, after a city-wide survey in June 2008, and two surveys of Glen Cairn neighbourhood residents during (April-May 2012) and after (Oct.-Nov. 2012) a pilot project on greens bins and a seasonal garbage collections schedule. In this survey, the principal focus is on three alternatives to the current 8-13 day collection schedule, i.e. 1) weekly, same day service, 2) an alternating weekly and bi-weekly seasonal schedule, and 3) reversion to a previous weekly system, styled "7-10 day" service where weekly service is bumped one day when statutory holidays occur. We also canvass responses to specific tax increases emanating from the alternative schedules, and questions on satisfaction with all current collection services including blue boxes and "green week" pick-ups.

In demographic terms, the survey conforms to our usual configuration of the most active Londoners involved in public policy and public service inquiries. Baby boomers (45-64 yr.) dominate the survey (52%), followed in this case by females (61%). In addition, professionals & managers (25%), non-management working occupations (24%), and retirees (35%) are salient demographic categories.

Each ward of the city is proportionately represented, the mean average being 7.4% of the sample per ward. See the results on all demographic categories in Table 10.

Satisfaction with the Current Schedule

As a big picture response, a majority of respondents (51%) are "very satisfied" with the "current schedule of garbage pick-ups in London." The ratio for satisfaction versus dissatisfaction is 6:1, quite high for public



services.¹ As we shall shortly observe, this result shapes almost all of the following results, even where these results ebb and flow from positive to negative. See Table 1.

Table 1 How satisfied are you with the current schedule for garbage pick-ups by the City of London?

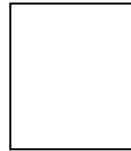
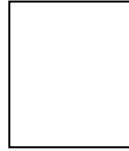
	%	
1) very satisfied	51.0	Ratio: 6:1
2) somewhat satisfied	34.7	
3) not so satisfied	7.7	
4) not satisfied at all	6.6	
5) don't know	0.0	

We also note from the results of Table 1 that there are positive statistical correlations with components of two other tables. For example, there is a positive correlation between those “very satisfied” on current garbage collection and those “very satisfied” on the current blue box service (Table 6). We find a similar relation between those “very satisfied” with current garbage collection and those “very satisfied” with the green week service (Table 8). See appended data sets.

Why Dissatisfaction, if Any?

We asked respondents who are not satisfied with the current garbage pick-up schedule why they are dissatisfied. We received 30 responses that turn the question around somewhat; they offer a corrective i.e. 30 positive responses are in support of a *more* regular “weekly/same day” service. Since this is an open-ended question, the resort to weekly/same day service comes as a result of no prompting from us, and before the weekly same day question was posed in Question 4a.

¹ Response set ratios at Nordex are calculated by adding the results of the positive categories, i.e. “very satisfied” and “somewhat satisfied” together and then comparing this number in a ratio format to the two negative categories i.e. “not so satisfied” and “not satisfied at all.” The “don’t know” category is excluded from the calculation. We engage in ratio analysis in order to factor in negatives against positives, which allows us a clearer idea about the real and balanced public reaction to a question rather than simply recording the positive quotient exclusively. As we know in public life, negative responses to public policy or services tend to be more influential to outcomes than comparable positives. For example, in the case of split opinion (1:1), where positives are quantitatively equal to negatives, a governing agency is effectively precluded from proceeding. Why? Democratic governments cannot proceed productively when 50% of the population opposes an initiative. And so a 1:1 ratio is a danger sign for governing agencies even though apparently 50% are in support. Similarly, a 2:1 ratio can reveal soft support; quite literally one-third of respondents oppose and the commitment of the other two-thirds is usually soft. A 3:1 ratio indicates the beginning of popularity for a public policy or service; a governing agency is on the cusp of popular support. A 4:1 ratio, and beyond, means a governing agency is in a comfortable position in terms of public opinion support and can proceed with confidence.



In addition, there are 12 responses indicating a comparable demand; the need “more frequent” service or complain that the garbage collection service is “too infrequent.” Others complain that they are forced to consult their garbage collections calendar on a regular basis because of the current, irregular, 8-13 day service. There are similar complaints about the uneven rotation, again, the 8-13 say service. See also other responses in Table 2

Table 2 (If not satisfied) Why do you say that?

	# of responses
Regular same day/7 day pick-up needed	30
More frequent/too infrequent service	12
Always have to check calendar/confusing	7
Don't like/hate rotation (e.g. especially at Christmas; especially with high taxes)	6
Good in winter/bad in summer	5
Holiday/service disruptions too frequent	4
Broken bins by handlers	4
More service in summer	3
Sloppy pick-ups; garbage often left behind	2
Pick up times inconvenient (time of day)	1
Too selective on what is picked up	1
Better containers	1
More garden waste pick-ups	1
Green bin needed	1
	<u>78</u>

Possible Factors Influencing Garbage Schedules

We asked about three contextual factors that might have some influence on choices about garbage collection schedules: 1) regular scheduling, 2) neighbours putting refuse and recycling out on the wrong day, and 3) foul, smelly garbage in the summertime. The only one that resonates with respondents concerns “regular scheduling” – “regular” being defined by respondents. This factor, “regular scheduling,” is supported by a significant 7:2+ ratio; moreover, almost two-thirds of respondents say regular scheduling is “very important.”

On “regular scheduling” (Table 3a), we find a high positive correlation with Table 4a, i.e. weekly, same day collections. A statistically significant proportion of those reporting “regular scheduling” as important also say weekly same day service is important. Similarly, a statistically significant proportion of those saying “regular scheduling” is unimportant also report weekly, same day service is unimportant. The same high positive correlation exists between “regular scheduling” and the 7-10 say collection service (Table 4c); a statistically significant proportion of those saying regular scheduling is important also say the 7-10 day service is important, and a statistically significant proportion of those saying regular scheduling is unimportant also say the 7-10 day

service is unimportant. Finally, there is a high negative correlation between regular scheduling and the current 8-13 day collection service (Table 4d); a statistically significant proportion of those who say regular scheduling is important say the 8-13 day service is unimportant, and a statistically significant proportion of those who say regular scheduling is unimportant say the 8-13 day service is important. See appended data set.

On neighbours putting garbage out on the wrong day and foul, smelly garbage in the hot summer months, neither factor resonates with respondents. Indeed, a significant majority (58%) say the neighbour “issue” is “not important at all,” and there is split opinion on “foul, smelly garbage” in the summertime. See Table 3.

Table 3 When you consider garbage pick-up services, and longer or shorter pick-up schedules, for you, how important are the following issues?

	Very Imp	Somewhat Imp	Not So Imp	Not Imp At All	DK	Ratio
a) regular scheduling	62.0	16.3	9.7	11.7	0.3	7:2+
b) neighbours putting garbage & recycling out on the wrong day	11.3	12.7	17.3	57.7	1.0	3:1 neg.
c) foul, smelly garbage in the hot summer months	34.7	17.7	12.3	34.3	1.0	11:10

Garbage Scheduling Alternatives, Plus the Current Schedule

As noted, the alternative garbage collection schedules were also canvassed: 1) weekly, same-day service, 2) seasonal weekly and biweekly service, and 3) a 7-10 day service based on a schedule used years ago in the city.

By a 2:1 margin, respondents favour the **weekly, same day** service. See Table 4a. Moreover, support for this alternative is “hard” support -- as soft support is typical for many 2:1 response scenarios. Fully 50% of respondents say weekly same day service is “very important.”

A **seasonal weekly and biweekly schedule** does not receive the same kind of support, i.e. weekly pick-ups in the warm/hot months and bi-weekly pick-ups in the cool/cold months. By more than a 3:2 negative ratio, respondents reject this alternative; close to a majority (48%) say this alternative is “not important at all,” the most negative response. See Table 4b.

There is split opinion (11:10) on a schedule offered by the City years ago, the **7-10 day alternative** when garbage was picked up weekly except for weeks with statutory holidays, when, for example, Monday services shifted to Tuesday, and Tuesday services shifted to Wednesday etc. See Table 4c.

--	--

Finally, we asked about the **current 8-13 day** service. Respondents support this schedule by a just over a 2:1 margin, and this 2:1 level of support is reasonably “hard;” 45% report that this schedule is “very important” to retain. See Table 4d.

Table 4 The City of London is thinking about alternatives different from your current garbage & recycling pick-up schedule.

a) For example, how important is it for you to have **weekly, same day service**, when garbage & recycling pick-ups are always on the same day every 7 days, and statutory holidays don't cause any disruption?

%		
1) very important	50.0	Ratio 2:1
2) somewhat important	17.0	
3) not so important	15.0	
4) not important at all	17.7	
5) don't know	0.3	

b) Or, a change to a **seasonal schedule** when in the warm months there is weekly same day garbage and recycling pick-ups, and in the cold months there is same day service every 2 weeks?

%		
1) very important	16.3	Ratio: 3:2+ negative
2) somewhat important	20.7	
3) not so important	13.3	
4) not important at all	48.3	
5) don't know	1.4	

c) Or, a change back to London's previous **7-10 day service**, when pickups were weekly except for statutory holidays, and Monday service shifted to Tuesday, Tues. service shifted to Wed., etc?

%		
1) very important	19.3	Ratio: 11:10
2) somewhat important	32.0	
3) not so important	22.7	
4) not important at all	23.7	
5) don't know	2.3	

d) As you know, right now, you currently have **8-13 day garbage & recycling pick-up** service. How important is to you to retain this current level of service?

1) very important	45.3	Ratio: 2.2:1
2) somewhat important	23.7	
3) not so important	13.0	
4) not important at all	18.0	
5) don't know	0.0	

Willingness to Pay Extra Taxes for Alternatives

There is no significant support for paying extra taxes to receive one of the alternative garbage schedule pick-ups. Indeed, the ratio is in opposition by a 4:3 margin; more than 40% say paying extra taxes is “very much unacceptable.” See Table 5.

--	--

Table 5 Each of the higher service programs beyond your current service could cost Londoners extra taxes, if implemented; an extra \$700,000 to \$1.3 million per year in total, which is about \$7-10 per household. How acceptable to you are these possible new tax increases?

	%	
1) very acceptable	18.7	Ratio: 4:3 negative
2) somewhat acceptable	25.0	
3) somewhat unacceptable	13.3	
4) very much unacceptable	42.0	
5) don't know	1.0	

There is a high positive correlation between weekly same day service (Table 4a) and acceptance or rejection of paying extra for this service (Table 5); a statistically significant proportion of those saying the service is important are prepared to pay extra, and a statistically significant proportion of those saying the service is unimportant say paying extra is "unacceptable."

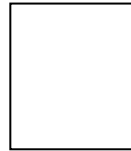
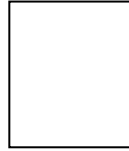
There is a similar high positive correlation between those favouring or opposing the 7-10 day service (Table 4c) and the willingness of respondents or the lack of it to pay extra for this service (Table 5). See appended data set.

A Test on Paying Extra

Having noted the foregoing 4:3 negative ratio on paying extra, we decided to canvass this issue in relation to the most popular alternative service, the weekly same day option (Table 4a). In particular, we wanted to find out if support for weekly same day service (2:1 support) would shift when the extra taxes question intervened.

The best test was thought to be determining how many respondents who say weekly same day service is "very important," but shifted to the negative on the extra taxes question. As it turns out, the cross-tabulation indicates that 67 respondents who say weekly same service is "very important" also say paying extra is "unacceptable," and two-thirds of this group say paying extra is "very much unacceptable." See appended data set.

Extrapolating from the foregoing figures, we can theoretically subtract 67 respondents from the "very important" category in Table 4a leaving us with a total of 83 respondents who still think weekly same day service is "very important." This means that the 2:1 hard support for weekly same day service theoretically shifts to 4:3 opposition when factoring in the cross-tabulated negative responses on paying extra. This calculation does not



include those shifting to the negative from the “somewhat important” category in Table 4a, which as we observe from the appended data is 30 respondents; 30 respondents out of 51 in this category. From any perspective the cost factor i.e. rising taxation, is a defeating factor for weekly same day service.

Our review of the cross-tabulated figures from Tables 4a and 5 underscores how quickly support for a public service option can evaporate when “costs” are integrated into the calculation of initial support – at least in the City of London.

We need not go further with Tables 4b and 4c given the negative and split opinion responses in these tables.

Blue Box Satisfaction?

As expected from previous Nordex surveys, respondents offer very high support for the blue box recycling service. By a 10:1 ratio, respondents say they are satisfied with the blue box service. Indeed, almost two-thirds of respondents say they are “very satisfied.” See Table 6.

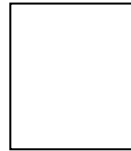
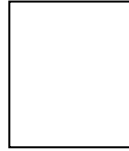
Table 6 How satisfied are you with the City’s blue box recycling service?

	%	
1) very satisfied	62.7	Ratio: 10:1
2) somewhat satisfied	28.0	
3) not so satisfied	7.7	
4) not satisfied at all	1.0	
5) don’t know	0.6	

There is a positive correlation between respondents’ reactions to the current 8-13 day service (Table 4d) and their reaction to the blue box service (Table 6); a statistically significant proportion of those who say the 8-13 day service is “very important” also say they are “very satisfied” with the blue box service, and a statistically significant proportion of those who say 8-13 day collections are unimportant are only “somewhat satisfied” with the blue box service. See appended data set.

Blue Box Dissatisfaction?

If the blue box service has a notable problem for an otherwise highly rated service, it is with the handlers on the trucks. We received up to 21 complaints on handlers breaking blue boxes, leaving a mess after the pick-



ups, or just not showing up. One respondent reports a “fight with a recycling guy.” Another individual claims that multiple additional boxes had to be purchased over the years because of rough handling.

The other salient complaints concern restrictions on items going into the blue box. See Table 7.

Table 7 (If not satisfied) Why do you say that?*

	# of responses
1) Poor handlers, breaking boxes	18
2) More items for recycling	12
3) Items left behind	4
4) Strict rules too much (e.g rinsing cans)	4
5) AWOL handlers	2
6) Stolen boxes	1
7) Confrontation with recycling guy	1
8) Box too small	1
9) Confusing eligibility	1
10) Other (e.g. greens bins needed)	10 = 54 responses
11) N/A	246

*Some negatives above come from the “somewhat satisfied” category in Table 6. This is the classic “good ... but” response that respondents often invoke.

Satisfaction with Green Week Pick-ups?

In general, respondents are quite satisfied with the “green week” pick-up service. By a 5:1 ratio, they approve of the service. Almost 50% said they are “very satisfied.” See Table 8.

Table 8 How satisfied are you with the City's “green week” collection service that picks up yard waste and leaves, 8 times per year?

	%	
1) very satisfied	48.0	Ratio: 5:1
2) somewhat satisfied	30.0	
3) not so satisfied	10.7	
4) not satisfied at all	4.0	
5) don't know	7.3	

Dissatisfaction with the Green Week Service?

A leading group of respondents answering this question about “dissatisfaction” actually want to make a pitch for more service. We received 36 responses encouraging more frequent green week service.

On the negative side, a few respondents complain about paper bags breaking open, and tardy pick-ups. Up to 17 responses are recorded on late pick-ups and “better schedules.” See Table 9.

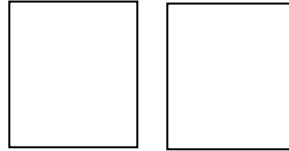


Table 9 (If not satisfied) Why do you say that?

	# of responses
1) More frequent service/service too infrequent	36
2) Paper bags deficient	9
3) Tardiness, pick-ups not on specific	9
4) Better scheduling needed	7
5) Rules too strict (e.g. colour of bags)	2
6) Messy process	2
7) More materials should be accepted	2
8) Never see them	1
9) Other	6 = 74
10) N/A	226

Demographics

As noted in the introduction, baby boomers (45-65 yr.) dominate other age cohorts in this survey. They are also statistically significant in the results of various categories of Tables 3, 4 and 5. For example, boomers are most likely to say “regular scheduling” is “very important” (Table 3a); they are most likely to say “foul, smelly garbage” in the summertime is a “very important” issue (Table 3c); they are most likely to say weekly, same day garbage pick-ups (Table 4a) are “very important,” and they are most likely to say paying extra (Table 5) for garbage scheduling alternatives is “very acceptable” -- among the 19% of respondents who actually say that.

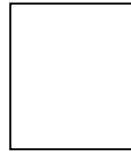
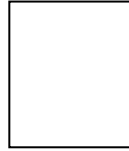
Residents of Wards 4, 6, 7, 10 and 14 are also more likely to say weekly, same day garbage pick-ups are “very important” (Table 4a).

Foul, smelly garbage in the summertime (Table 3c) is most likely to be an issue for residents of Wards 2, 3, 5 and 10.

Table 10 Demographic Results

Age %	Gender	Family Income
1) 18-25 1.0	1) male 39.0	1) <\$45k/yr 28.3
2) 26-44 13.0	2) female 61.0	2) \$45-85k/yr 37.3
3) 45-65 52.3		3) >\$85k/yr 31.0
4) 66-80 27.7		4) don't know 0.7
5) >80 5.0		5) refuse 2.7
6) refuse 1.0		

Occupation %	1) prof'l/mgr.	2) sales	3) service	4) office	5) constr'n/trd.
25.0	7.3	4.7	4.3	5.3	
6) factory 1.0	7) technical 1.7	8) student 0.7	9) farmer 0.0	10) homemaker 9.7	
11) retired 35.0	12) unemployed 2.0	13) disabled 1.3	14) artisan 0.7	15) dk/refuse 1.3	



Wards	%	Ward 1	8.0	Ward 2	8.0	Ward 3	6.7	Ward 4	8.3	Ward 5	7.0	Ward 6	6.0	Ward 7	7.0
		Ward 8	6.3	Ward 9	6.3	Ward 10	7.7	Ward 11	8.7	Ward 12	6.3	Ward 13	7.0	Ward 14	6.7

Summary Analysis

The central finding of this survey turns on the more than 85% of respondents who are satisfied with the current garbage collection schedule (Table 1); fully 51% are “very satisfied.” Evaluating the results of the alternative collection schedules should be filtered through this central finding. Another primary finding is respondents’ general unwillingness to pay extra in taxes on any alternative collection schedule; 55% say paying extra is unacceptable (Table 5). And, when we dig down into support after the extra taxes question is posed, for example, on the weekly, same day collection alternative, respondents’ 2:1 positive support degenerates into solid opposition. In addition, a key secondary finding is respondents’ demand for regularity in garbage collections (see Table 3a); 78% say a regular schedule is important, close to two-thirds say it is “very important.”

And so, respondents as a whole are just as happy with the status quo for garbage collections. Indeed, this observation is supported by high approval ratios for the blue box program and the green week collection service. Satisfaction with the current service, again, appears to be mediated through the key cost factor (i.e. rejecting higher taxes for alternative services). Even the demand for regular service cannot breach the threshold of support needed to make the key alternative, a weekly, same day service, more popular than the status quo. And, while the current collection schedule is not a runaway success in terms of respondent support – its irregularity is somewhat self-defeating – it does have a 69% level of approval. In the end, the garbage collection alternatives – which were the primary research objects of this survey – are defeated by the prospect of rising taxation (i.e. weekly same day service), by outright public rejection (the weekly & biweekly seasonal service²) and by public disagreement (the 7-10 day service). The default option is the current 8-13 day service.

² It should be noted that the Glen Cairn survey carried out by Nordex in Oct.-Nov 2012 revealed a leading plurality of support for a future weekly & biweekly seasonal schedule. In this scenario, the client stipulated that a future seasonal weekly & biweekly service would not cost participants extra. There was also majority support among respondents for a seasonal schedule they had participated in for the previous 12 months. This suggests that actual experience makes a difference on acceptance of the seasonal service, assuming no tax increases.

--	--

Telephone # _____

Garbage Scheduling Survey

March 2014

Hello, I'm calling from Opinion Research Group. I wonder I could have a few minutes of your time for a brief survey on garbage collection services provided by the City of London?

Are you a resident of London, and 18 years of age or older? (If no, politely decline interview.)

Do you currently receive curbside recycling and garbage pick-up at your home? (If no., politely decline interview.)

1. How satisfied are you with the current schedule for garbage pick-ups by the City of London?
 1) very satisfied 2) somewhat sat. 3) not so satisfied 4) not sat. at all 5) don't know 6) refuse

2. (If not satisfied) Why do you say that?
 Negative
 1) _____ 2) _____ dk

3. When you consider garbage pick-up services, and longer or shorter pick-up schedules, for you, how important are the following issues?

	Very Imp	Somewhat Imp	Not So Imp	Not Imp At All	DK
1) regular scheduling	—	—	—	—	—
2) neighbours putting garbage & recycling out on the wrong day	—	—	—	—	—
3) foul, smelly garbage in the hot summer mo.'s	—	—	—	—	—

4. The City of London is thinking about alternatives different from your current garbage & recycling pick-up schedule.
 - a) For example, how important is it for you to have **weekly, same day service**, when garbage & recycling pick-ups are always on the same day every 7 days, and statutory holidays don't cause any disruption?
 1) very important 2) somewhat imp. 3) not so important 4) not imp. at all 5) don't know 6) refuse

 - b) Or, a change to a **seasonal schedule** when in the warm months there is weekly same day garbage and recycling pick-ups, and in the cold months there is same day service every 2 weeks?
 1) very important 2) somewhat imp. 3) not so important 4) not imp. at all 5) don't know 6) refuse

 - c) Or, a change back to London's previous **7-10 day service**, when pickups were weekly except for statutory holidays, and Monday service shifted to Tuesday, Tues. service shifted to Wed., etc?
 1) very important 2) somewhat imp. 3) not so important 4) not imp. at all 5) don't know 6) refuse

 - d) As you know, right now, you currently have **8-13 day garbage & recycling pick-up service**. How important is to you to retain this current level of service?
 1) very important 2) somewhat imp. 3) not so important 4) not imp. at all 5) don't know 6) refuse

5. Each of the higher service programs beyond your current service could cost Londoners extra taxes, if implemented; an extra \$700,000 to \$1.3 million per year in total, which is about \$7-10 per household. How acceptable to you are these possible new tax increases?
 1) very acceptable 2) somewhat acc. 3) somewhat unacceptable 4) very much unacc. 5) dk

--	--

6. How satisfied are you with the City's blue box recycling service?

- 1) very satisfied 2) somewhat sat. 3) not so satisfied 4) not sat. at all 5) don't know 6) refuse

7. (If not satisfied) Why do you say that?

Negative

- 1) _____ 2) _____ dk

8. How satisfied are you with the City's "green week" collection service that picks up yard waste and leaves, 8 times per year?

- 1) very satisfied 2) somewhat sat. 3) not so satisfied 4) not sat. at all 5) don't know 6) refuse

9. (If not satisfied) Why do you say that?

Negative

- 1) _____ 2) _____ dk

10. Age 11. Gender 12. Family Income

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> 1) 18-25 2) 26-44 3) 45-65 4) 66-80 5) >80 6) refuse | <ul style="list-style-type: none"> 1) male 2) female | <ul style="list-style-type: none"> 1) <\$45k/yr 2) \$45-85k/yr 3) >\$85k/yr 4) dk 5) refuse |
|--|--|--|

13. Occupation 1) prof'l/mgr 2) sales 3) service 4) office 5) constr'n/trd 6) factory 7) technical
8) student 9) farmer 10) homemaker 11) retired 12) unemployed 13) disabled 14) artisan 15) dk/refuse

14. Ward 1 Ward 2 Ward 3 Ward 4 Ward 5 Ward 6 Ward 7 Ward 8 Ward 9 Ward 10 Ward 11
Ward 12 Ward 13 Ward 14

Interviewer

--	--

APPENDIX B
SUMMARY OF COMMUNITY OUTREACH ON GARBAGE AND RECYCLING
COLLECTION SCHEDULE

Community Events and Outreach Displays

Location	Type	Duration
Lifestyle Home Show (Western Fair District)	Staffed Display	January 23 - January 26
Kinsmen Arena	Unstaffed Interactive Display	February 6 - February 13
North London Community Centre	Unstaffed Interactive Display	February 13 – February 20
Carling Arena	Unstaffed Interactive Display	February 20 - February 27
South London Community Centre	Unstaffed Interactive Display	February 27 - March 6
Carling Heights Community Centre	Unstaffed Interactive Display	March 6 - March 13
Stoney Creek Community Centre	Unstaffed Interactive Display	March 13 - March 27
Stronach Community Centre	Unstaffed Interactive Display	April 4 - April 11
Home & Garden Show (Western Fair District)	Staffed Display	April 11 - April 13
Kiwanis Seniors' Community Centre	Unstaffed Interactive Display	April 11 - April 17
Medway Community Centre	Unstaffed Interactive Display	April 17 - April 25
CityGreen (located at Citi Plaza)	Staffed Display	March - April
Masonville Library	Unstaffed Interactive Display	April 23 - May 6
Beacock Library	Unstaffed Interactive Display	May 6 - April 13
Earl Nichols Arena	Unstaffed Interactive Display	May 2 - May 16
Hamilton Road Senior Centre	Unstaffed Interactive Display	May 2 - May 16
Crouch Library	Unstaffed Interactive Display	May 13 - May 20
Westmount Library	Unstaffed Interactive Display	May 20 - May 27
Landon Library	Unstaffed Interactive Display	May 27 - June 3
Byron Library	Unstaffed Interactive Display	June 11- June 18

--	--

Results of Voting by Location

Location	Garbage Schedule							
	Current		Weekly		Seasonal		5 Day	
	#	%	#	%	#	%	#	%
<i>Community Events</i>								
Lifestyle Home Show	92	55%	53	32%	18	11%	4	2%
Home & Garden Show	45	58%	27	35%	4	5%	1	1%
CityGreen	19	42%	15	33%	8	18%	3	7%
<i>Subtotal</i>	156	54%	95	33%	30	10%	8	3%
<i>Unstaffed Interactive Display</i>								
Kinsmen Arena	16	26%	10	16%	25	40%	11	18%
North London Community Centre	41	60%	25	37%	2	3%	0	0%
Carling Arena	47	42%	51	46%	6	5%	8	7%
South London Community Centre	22	24%	56	61%	11	12%	3	3%
Carling Heights Community Centre	34	49%	22	31%	9	13%	5	7%
Stoney Creek Community Centre	102	52%	56	29%	14	7%	24	12%
Stronach Community Centre	3	30%	5	50%	2	20%	0	0%
Kiwanis Seniors' Community Centre	16	89%	1	6%	0	0%	1	6%
Medway Community Centre	9	43%	6	29%	3	14%	3	14%
Masonville Library	35	56%	21	34%	3	5%	3	5%
Beacock Library	21	58%	12	33%	1	3%	2	6%
Earl Nichols	10	29%	7	21%	2	6%	15	44%
Hamilton Road Senior Centre	14	82%	0	0%	2	12%	1	6%
Crouch Library	15	50%	11	37%	4	13%	0	0%
Westmount Library	47	48%	39	40%	8	8%	3	3%
Landon Library	7	41%	8	47%	1	6%	1	6%
Byron Library	12	67%	2	11%	4	22%	0	0%
<i>Subtotal</i>	451	47%	332	35%	97	10%	80	8%
Total	607	49%	427	34%	127	10%	88	7%

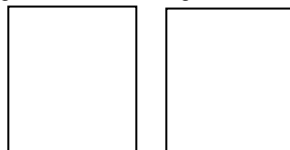
--	--

Unstaffed Interactive Display



CityGreen (located at Citi Plaza, corner of Wellington Street and King Street)





APPENDIX C

SOLID WASTE BENCHMARKING DATA – COLLECTION AND SYSTEM COSTS

Part 1: Summary Details - Benchmarking Data

Summary benchmark costs from two sources, previously provided to Civic Works Committee on November 25, 2013, are presented in Table C-1. This table has been updated to include 2013 data. Table C-1 suggests that City of London garbage collection costs and overall waste management costs are lower than the majority of municipalities. Further details are provided in Part 2 of Appendix C.

Table C-1: Solid Waste Management Cost Benchmarks

Benchmark	Year	London Cost	Other Municipalities		Comments
			Average Cost ^a	Median ^b Cost	
2012 and 2013 OMBI Data					
Cost to Collect a Tonne of Garbage • Curbside & multi-residential costs • See Table C-2	2012	\$99 (revised to \$92)	\$125 (revised to \$121)	\$119	London has fourth lowest cost in 2012 and 2013 of the Ontario municipalities reporting. (London's updated cost for 2012 is \$92 per tonne. Yard waste and fall leaf collection costs were included in the previous number).
	2013	\$91	\$116	\$97	
Total Waste System Cost per Tonne • See Table C-3	2012	\$81	\$188	\$182	London has second lowest cost in 2012 and the lowest cost in 2013 of the Ontario municipalities reporting.
	2013	\$80	\$149	\$133	
Total Waste System Cost per Household • See Table C-3	2012	\$143	\$228	\$223	London has the lowest cost in 2012 and 2013 of the Ontario municipalities reporting.
	2013	\$128	\$203	\$211	
Total Waste System Cost per Person • See Table C-3	2012	\$66	\$114	\$101	London has the lowest cost in 2012 and 2013 of the Ontario municipalities reporting
	2013	\$59	\$97	\$87	
C.D. Howe Institute report <i>Picking up Savings</i> (2008 Data)					
Cost to Collect a Tonne of Garbage • See Table C-4	2008	\$75 ^c	94 ^d	Not available	London 20% lower than average (See footnote).
Cost to Collect per Household • See Table C-4	2008	\$47 ^c	52 ^d	Not available	London 10% lower than average (See footnote).
Total Waste System Cost per Person • See Table C-5	2008	\$50 to \$66 ^e	\$89 ^f	\$91	London cost either the lowest or among the lowest reported.

Notes:

- a) Toronto restated in 2013 cost to collect garbage from \$113/tonne to \$65/tonne which resulted in a change in the average cost.
- b) Median defined - the value/quantity at the midpoint of the values/quantities (half above, half below).
- c) Average of reported Municipal Performance Measurement Program (MPMP) costs for the period 2004 to 2008 (in real 2002 dollars).
- d) From C.D. Howe Institute report for Ontario municipalities for the period 2001-2008 (in real 2002 dollars).
- e) London's data is for 2012 cost adjusted to 2008 dollars to be consistent with C.D. Howe Institute report. A range is presented for the Total Annual Cost per Resident because the exact methodology used to determine costs in the C.D. Howe Institute report was not known.
- f) From C.D. Howe Institute report for Ontario for the nine largest municipalities in Canada using 2008 data.

--	--

The first source is from the Ontario Municipal Benchmarking Initiative (OMBI) which collects data for more than 850 measures across thirty-seven (37) municipal service areas. OMBI acts as a source of credible information to assist Council, City staff and citizens in understanding how their municipality is performing over time and in relation to others. OMBI municipalities provide services to over 60% of Ontario’s population.

The second source of information is from the C.D. Howe Institute report (2010) which examined contracting out municipal waste management services versus having the services provided by the public sector. This report also presented cost information on garbage collection, recycling, waste disposal, and the cost of all waste management services for the nine largest municipalities in Canada. London data was not included in this report. Data is generally from 2008 and prior.

It must be remembered when looking at benchmark costs that no two solid waste management collection systems are the same and these differences have an impact on the cost. Accordingly benchmark costs are typically not a true “apples to apples” comparison. Examples of differences in garbage collection include:

- Frequency of collection (varies from 26 to 52 times per year)
- Co-collection (some municipalities collect Green Bin materials and garbage in the same truck)
- Bulky item collection (some municipalities collect at various service levels and others do not)
- Multi-residential collection (some municipalities collect at various service levels and others do not)

In addition to the above noted differences in garbage collection, overall waste management costs can be influenced by:

- Ownership of a landfill
- Level of composting system in place (e.g., leaf and yard waste versus type of Green Bin program)
- Success of waste diversion programs
- Administrative and management structure in place

Part 2: Benchmarking Data – Further Details

Benchmarking data from the 2012 Ontario Municipal Benchmarking Initiative (OMBI) and 2010 C.D. Howe Institute report *Picking up Savings* is presented below. Table C-2 shows the 2012 and 2013 OMBI data for the cost to collect a tonne of garbage for participating Ontario municipalities along with the type of service provider for curbside collection. This table shows that London’s cost to collect a tonne of garbage was \$92 per tonne (revised from \$99 as noted) compared to an average cost of \$121 per tonne in 2012 and the cost to collect was \$91 per tonne compared to an average cost of \$116 in 2013. Overall, London had the fourth lowest cost of the municipalities reporting in both years.

Table C-2: Total Cost to Collect a Tonne of Garbage

Municipality	Garbage Collection Cost (\$/tonne)		Service Provider
	2012	2013	
Barrie	\$123	Not available	Contractor
Durham ^a	\$86	\$88	Contractor
Halton	\$132	\$153	Contractor
Hamilton	\$167	\$165	45% Public / 55% Contractor
London^b	\$99 (\$92)	(\$91)	95% Public / 5% Contractor
Muskoka	\$246	Not available	Contractor
Niagara	\$101	\$97	Contractor
Ottawa	\$95	\$93	40% Public / 60% Contractor
Sudbury	\$131	\$137	60% Public / 40% Contractor
Thunder Bay	\$142	\$192	Contractor
Toronto ^c	\$113 (\$69)	\$69	50% Public / 50% Contractor

Table continued on next page

--	--

Municipality	Garbage Collection Cost (\$/tonne)		Service Provider
	2012	2013	
Waterloo	\$119	\$115	Contractor
Windsor	\$75	\$77	Contractor
Average Cost^d	\$125 (\$121)	\$116	
Median Cost	\$119 (\$119)	\$97	

Notes

- a) Excludes Oshawa and Whitby which are collected by the lower tier municipalities using predominately municipal forces.
- b) London's updated cost for 2012, presented in in Part F, is \$92 per tonne. Yard and fall leaf collection costs were included in the previous number.
- c) The City of Toronto restated its 2012 garbage collection costs removing approximately \$20,000,000 in costs. Staff are seeking additional information from Toronto about this revision.
- d) Significant drop in median cost from 2012 to 2013 attributed to some higher cost municipalities not reporting in 2013.

Table C-3 shows the 2012 and 2013 OMBI data for the total solid waste management system cost for participating Ontario municipalities. This table shows that London's cost to manage waste is the lowest of the OMBI municipalities. On a per tonne basis, London's cost ranged from \$80 to \$81 per tonne compared to a median cost of \$182 per tonne in 2012 and a median cost of \$133 in 2013. Overall, London had the second lowest cost per tonne of the twelve municipalities reporting in 2012 and the lowest cost of the nine municipalities reporting in 2013.

On a per household basis, London's cost to manage waste is ranged from \$128 (2013) to \$143 (2012) per household compared to a median cost of \$223 per household in 2012 and a median cost of \$211 in 2013. Overall, London had the lowest cost per household in both years. On a per person basis, London's cost to manage waste ranged from \$59 (2013) to \$66 (2012) per person compared to a median cost of \$101 per person in 2012 and a median cost of \$87 in 2013. Overall, London had the lowest cost per person in both years.

Table C-3: Total Solid Waste System Cost per Tonne, Household, Person

Municipality	Total Solid Waste System Cost					
	(\$/tonne)		(\$/hhld)		(\$/person)	
	2012	2013	2012	2013	2012	2013
Barrie	\$170	n.a.	\$191	n.a.	\$73	n.a.
Halton	\$181	\$189	\$191	\$194	\$70	\$71
Hamilton	\$237	\$208	\$234	\$211	\$97	\$87
London	\$81 (2nd lowest)	\$80 (lowest)	\$143 (lowest)	\$128 (lowest)	\$66 (lowest)	\$59 (lowest)
Muskoka	\$327	n.a.	\$319	\$n.a.	\$259	n.a.
Niagara	\$257	\$114	\$344	\$153	\$152	\$68
Ottawa	\$213	\$113	\$182	\$159	\$101	\$88
Sudbury	\$115	\$133	\$233	\$274	\$162	\$190
Thunder Bay	\$73	\$107	\$212	\$250	\$103	\$121
Toronto	\$236	\$230	\$254	\$238	\$109	\$102
Waterloo	\$181	\$164	\$257	\$222	\$101	\$87
Windsor	\$183	n.a.	\$182	n.a.	\$76	n.a.
Average Cost	\$188	\$149	\$229	\$203	\$114	\$98
Median Cost	\$182	\$133	\$223	\$211	\$101	\$87

--	--

Table C-4 shows information about garbage collection costs for Ontario municipalities taken from the C.D. Howe Institute report *Picking up Savings* plus information for the City of London. This table shows that London's garbage collection costs on a per tonne basis or a per household basis are significantly below average costs and compare favorably with municipalities that contract out a large portion or all of their residential garbage collection.

Table C-4 : C.D. Howe Institute Report – Garbage Collection Costs

	C.D. Howe Institute report <i>Picking up Savings</i> Average Costs ^a Ontario Municipalities, by Quartile Percentage of Budget Contracted (2001-2008 in 2002 real dollars)					London (2004 to 2008)		
	Contracting percentage quartile ^b					Ontario Average	2002 ^c Real Dollars	No inflation adjustment ^d
	0 to 25	25 to 50	50 to 75	75 to 100				
Average % of operating budget contracted	32%	83%	93%	100%	77%	4%	4%	
Cost to Collect a Tonne of Garbage	\$121	\$77	\$81	\$92	\$94	\$75	\$82	
Cost to Collect per Household	\$56	\$51	\$56	\$50	\$52	\$47	\$51	

Notes

- a) From C.D. Howe Institute Report which used Ontario Ministry of Municipal Affairs and Housing data. This Ministry is responsible for publishing the Municipal Performance Measurement Program (MPMP) data.
- b) Quartiles were created in the C.D. Howe Institute Report to form equally sized groups of municipalities.
- c) Average of reported MPMP costs for the period 2004 to 2008 in real 2002 dollars. In other words, all costs were converted to 2002 dollars.
- d) Average of reported London MPMP costs for the period 2004 to 2008. No adjustment for inflation was made between the five years of data.

Table C-5 shows information about the nine largest municipalities in Canada from the C.D. Howe Institute report *Picking up Savings* plus information added for the City of London. The information from *Picking up Savings* is from 2008. The information for the City of London is based on 2012 costs adjusted to 2008 dollars.

This table shows that London's overall solid waste management costs are among the lowest in Canada for a large municipality.

Table C-5: Waste Service Contracting^a

	City of Vancouver	City of Calgary	City of Edmonton	City of Winnipeg	City of Hamilton	Peel Region	City of Toronto	City of Ottawa	City of Montreal	City of London
Single-Family Solid Waste Collection	All public employees	All public employees	Approx. 50% contracted, approx. 50% public employees	All contracted	Approx. 50% contracted, approx. 50% public employees	All contracted	Approx. 20% contracted, approx. 80% public employees	Approx. 85% contracted, approx. 15% public employees	Approximately half of boroughs contracted	4% contracted, 96% public employees
Recycling	Single-family residential: all public employees. Multi-residential: contracted downtown: public employees elsewhere	Private until 2008, now all public employees	Approx. 50% contracted, approx. 50% public employees for single-family residential	All contracted	All contracted	All contracted	Approx. 20% contracted, approx. 80% public employees	Approx. 85% contracted, approx. 15% public employees	Mostly contracted	All contracted
Disposal	Publicly collected waste disposed at municipally owned and operated landfill, recycling to contracted facilities	Municipally owned and operated	Contracted operation, municipally owned fully integrated waste disposal site	Municipally owned and operated landfill, some waste to private landfill	Contracted operation, municipally owned	Contracted service to privately owned and operated disposal sites	Private contractors for haulage, landfill contracted operation, municipally owned	Two municipally owned landfills. One with contracted operation	Mix of private and municipal owned landfills	Mostly contracted operation, some public. Municipally owned
Total annual waste cost per resident (\$ per person)	\$92	\$71	\$135	\$57	\$91	\$79	\$127	\$53	\$95	\$50 to \$66 ^b

Notes a) Information from the 2010 report C.D. Howe Institute report *Picking up Savings* except for London. Information from C.D. Howe Institute report is for Canada's nine largest municipalities and is based on 2008 data.
 b) London's data is for 2012 cost adjusted to 2008 dollars to be consistent with the data presented in the C.D. Howe Institute report. A range is presented for the *Total Annual Cost per Resident* because the exact methodology used to determine costs in the C.D. Howe Institute report was not known.

--	--

APPENDIX D
PRICEWATERHOUSECOOPERS (PwC) SOLID WASTE (GARBAGE) COLLECTION AND RECYCLING PROCESS REVIEW

www.pwc.com/ca

The Corporation of the City of London
Report on Internal Audit Results

**- Engineering and Environmental Services:
Solid Waste (Garbage) Collection and
Recycling Process Review**

December 15, 2014

pwc




Agenda

	Page
Rating Scale - Opportunities for Improvement	3
Summary of Risks & Scope - Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review	5
Action Plan Summary - Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review	6
Observations & Actions Plans - Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review	7

Agenda Item #

Page #

Rating Scale – Opportunities for Improvement

- **Satisfactory**

Controls are present to mitigate process/business risk, however an opportunity exists for improvement.
- **Needs Improvement**

Existing controls may not mitigate process/business risk and management should consider implementing a stronger control structure.
- **Unsatisfactory**

Control weaknesses are significant and the overall exposure to risk is unacceptable. Immediate attention and oversight from management is required.

Agenda Item #

Page #

***Engineering & Environmental Services:
Solid Waste (Garbage) Collection and Recycling
Process Review***

Agenda Item #

Page #

Summary of Risks & Scope

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review

Scope

- Evaluation of current waste collection system (garbage, recycling, yard waste)
- Consideration of ongoing investigations being conducted by civic administration, including Green Bins
- Multi-residential collection and bin rental fees
- Evaluate the optimization and utilization of the current collection route structure
- Additional revenue opportunities
- Evaluate contracted waste collection (Western, Lambeth)
- Effectiveness of monitoring controls over the recycling facility and the operations of the Miller Group

Potential Risks

- The waste collection system may not include best practices or emerging trends
- Outsourcing of collection services versus performing in-house may be more economical
- Costs associated with waste collection contracts may be greater than the revenue earned on the contracts
- Monitoring controls over recycling revenue may not be effective
- Fees for rental of waste bins and additional collection pick-up for multi-residential locations may not reasonably recover operating costs for these services
- Waste collection route utilization may not be monitored and maximized, resulting in additional costs

Controls Operating Effectively

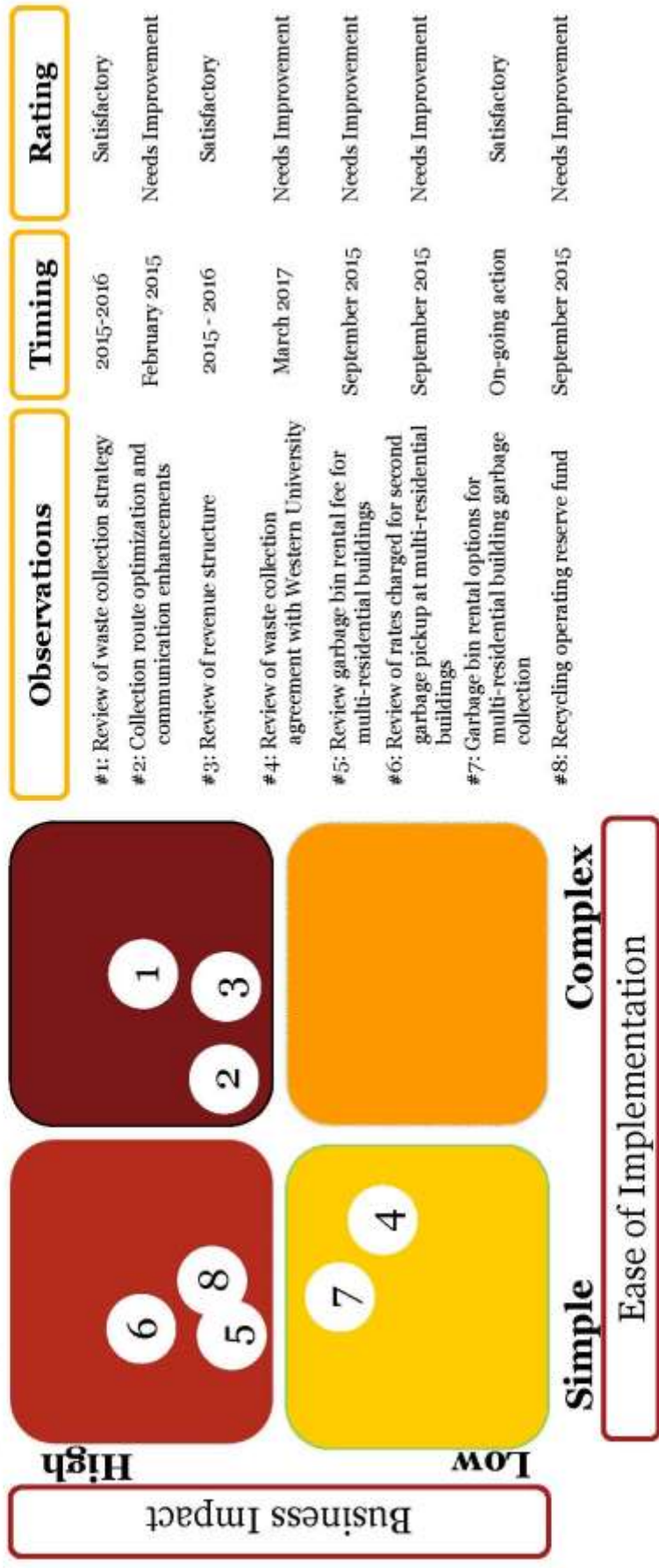
- The frequency of waste collection is appropriate given management's thorough analysis of the costs and benefits.
- Management monitors performance of the waste collection division by comparing key indicators to similar municipalities. The data indicates that the City's cost to collect a tonne of garbage and cost per household is better than the average.
- Management has examined the costs and benefits of outsourcing versus in-house waste collection. The current balance between both options for waste collection is generally appropriate given the service levels determined by Council.
- Recycling facility monitoring controls are operating effectively and the City is able to recover costs through the sale of materials and fees.
- The recycling collection and facility operations tender process is appropriately overseen by Purchasing and Supply and in line with City purchasing policies.

Performance Based Considerations

- Increasing the multi-residential fees for a second pick-up of waste collection by \$2 per unit could potentially generate additional annual revenues of \$85,000.
- If fees for second pick-up of multi-residential bins were increased to recover the full cost of this service, revenues could increase by up to \$485,000.
- Optimizing waste collection beats, including analyzing the current collection structure and adjustments to the alignment and size of collection zones, could reduce collection costs by approximately \$150,000-\$200,000.
- Other recommendations could have a minor to major impact on the cost of service and revenue streams once further analysis is performed.

Action Plan Summary

Engineering and Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review



Agenda Item #

Page #

- High Business Impact, Easy to Implement
- High Business Impact, Difficult to Implement
- Low Business Impact, Easy to Implement
- Low Business Impact, Difficult to Implement

Observations & Action Plans - #1

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review



Satisfactory

Observation

Review of waste collection strategy

There are many different waste collection strategies that have been implemented by municipalities across Ontario. Currently, the City enforces a four container limit per collection for residential properties and is investigating reducing this limit. The City considered and continues to investigate the cart-based collection system and the collection of organic waste.

Business Impact

There is a potential risk that the City is not capitalizing on emerging trends that may decrease operating costs and/or promote waste diversion.

Action Plan

It is recommended that the City continues the process of evaluating waste collection alternatives and strategies. This includes considering reducing the container limit to be more consistent with other municipalities (while considering the six business day collection cycle) and provide bag tags for containers over the limit. Also, management should continue to evaluate the semi- and fully-automated cart-based collection systems and the use of Green Bins and ensure either a further analysis (Green Bin) or a full analysis of these alternatives is completed and provided to Council.

Action Plan Lead

Director, Environment, Fleet & Solid Waste

Timing

2015 - 2016

Agenda Item #

Page #

Observations & Action Plans -#2

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review

Needs Improvement 

Observation

Collection route optimization and communication enhancements

A major revision of garbage collection routes has not been undertaken since 2008. It is noted that minor adjustments to routes are performed on an ongoing basis as the City expands.

Business Impact

There is a potential risk of under-utilization of resources to most efficiently facilitate garbage collection. This could result in potentially increased labour and fuel costs associated with inefficient garbage collection routes, and additional trips to the landfill for dumping with multiple partially full trucks.

Action Plan

It is recommended that the City perform a thorough review and optimization of the garbage collection routes. The review needs to look at how current zones are aligned, the size of zones and the type of housing stock being served. The review must deal with several facts such as the landfill site is in the southern most area of the municipality and substantial growth is occurring in the north and northwest areas.

Additionally, it is recommended that a more efficient communication system is implemented between garbage collection staff and supervisors during garbage collection. This will increase opportunities for garbage collection crews that are not dumping full loads to assist other routes to ensure trucks are fully utilized.

Action Plan Lead

Director, Environment, Fleet & Solid Waste

Timing

February 2015

Agenda Item #

Page #

Observations & Action Plans -#3

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review



Satisfactory

Observation

Review of revenue structure

Currently, approximately 90% of garbage collection costs are paid through municipal taxes. The remaining portion is recovered through fees charged to multi-residential units and the University of Western Ontario. Also, large and bulky items are picked up on every residential (curbside) scheduled collection free of charge, which differs from some municipalities.

Business Impact

Garbage collection is a fundamental service for Londoners. There is a risk that medium and longer term financing for garbage collection (and related items) could be eroded and/or jeopardized due to competing interests for the use of municipal taxes. This could increase collection costs. Some funding alternatives could lead to increased waste diversion. Also, there is the potential for waste collection efficiencies to be gained which in turn reduces cost and/or creates additional revenue sources for collection services.

Action Plan

It is recommended that management considers different sustainable funding alternatives as it relates to waste collection. Some of the these options include but are not limited to: pay-as-you-throw, flat rate included on residential tax bills, variable rate systems based on volume of garbage and a tiered rate system with preferences to those properties that meet waste diversion targets. It is also recommended that management reviews the large and bulky pick-up items which could include: reducing pick-up to once a month, user pay, scheduled pick-up and pick-up systems utilizing a certain number of pick-ups per year.

Action Plan Lead

Director, Environment, Fleet & Solid Waste

Timing

2015 - 2016

Agenda Item #

Page #

Needs Improvement 

Observations & Action Plans -#4
Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review

Observation

Review of waste collection agreement with Western University
 Through a negotiated agreement the City provides bulk bin and bulk collection (collection points) to the University of Western Ontario. Prior to the June 1, 2014 revised agreement, garbage collection and disposal services were negotiated with the university approximately 10 years ago.

Business Impact

There is a risk that over time as the student population grows and cost of living increases, the costs related to collection at Western are greater than the fees paid.

Action Plan

It is recommended that the City reassess the cost of services provided to Western on a more frequent basis and renegotiate fees when collection costs are greater than the fees.

Action Plan Lead

Director, Environment, Fleet & Solid Waste Manager, Solid Waste Collection

Timing

March 2017

Agenda Item #

Page #

Needs Improvement 

Observations & Action Plans -#5

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review

Observation

Review garbage bin rental fee for multi-residential buildings
 Under the current fee structure, the City does not fully recover the expenses incurred associated with bin rental and first garbage collection for multi-residential buildings. Although it could be argued that multi-residential buildings are taxpayers who should be entitled to garbage collection the same as stand-alone residences, the City does not offer similar collection to commercial and industrial taxpayers who are often profit-oriented entities similar to many multi-residential buildings, and many other municipalities do not offer this service.

Business Impact

The City of London is not recovering the costs associated with multi-residential building garbage bin rental and first garbage collection pickup. This could result in lost revenues opportunities for the City, that does not mirror the costs that are associated with the services provided to multi-residential buildings. There is a potential risk that the current fee structure is contributing to lower recycling rates.

Action Plan

It is recommended that, in evaluating the current fee structure of waste collection, the City should explore opportunities to generate additional revenues through increasing the fee charged to multi-residential buildings to increase cost recovery and limit losses associated with garbage bin rental and pickup at those locations.

Action Plan Lead

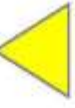
Director, Environmental, Fleet & Solid Waste
 Manager, Solid Waste Collection

Timing

September 2015

Agenda Item #

Page #



Observations & Action Plans -#6

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review

Observation

Review of rates charged for second garbage pickup at multi-residential buildings

The current fee charged to multi-residential buildings for a second garbage collection may not be sufficient to adequately recover the costs associated with the second pickup.

Business Impact

There is a potential risk that the City of London is not recovering the costs associated with multi-residential building additional garbage collection. This could result in lost revenue opportunities for the City, that does not mirror the costs that are associated with the services provided to multi-residential buildings. There is a potential risk that the current fee structure is contributing to lower recycling rates.

Action Plan

It is recommended that Solid Waste Collection perform a formal review of the fee structure charged to multi-residential buildings in relation to the second garbage collection pickup. Municipal Council needs to determine what level of direct cost recovery (versus taxation) is appropriate for this class of properties ranging from current cost recovery levels to full cost recovery. This activity can be undertaken at the same time as Action Plan #5.

Action Plan Lead

Director, Environment, Fleet & Solid Waste
Manager, Solid Waste Collection

Timing

September 2015

Observations & Action Plans -#7

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review



Satisfactory

Observation

Garbage bin rental options for multi-residential building garbage collection

Currently the City of London offers multi-residential units the option of renting steel or composite garbage bins for collection purposes. The City charges the same rental rates for both garbage bin options, regardless of the associated costs. The City currently favours composite garbage bins over steel bins.

Action Plan

It is recommended that the City require multi-residential units to rent composite bins for garbage pick up, unless there are circumstances where based on previous experience the Solid Waste Collection deems a steel bin to be more appropriate for garbage collection if there is a risk of the bin being vandalized.

Action Plan Lead

Manager, Solid Waste Collection

Timing

On-going action

Business Impact

There is a potential opportunity for the City to have greater use of composite bins for multi-residential units to reduce costs associated with maintenance and replacement of the steel bins. Composite bins currently in use require a higher initial investment per bin; however, this is offset by the reduced maintenance costs and the longer useful life of the composite bins.

Agenda Item #

Page #

Observations & Action Plans -#8

Needs Improvement

Engineering & Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review



Observation

Recycling operating reserve fund

The revenues received from recycling materials is based on market rates that fluctuate month to month. Therefore, the recycling operations budget is difficult to predict year over year. The actual profit can range from \$0.5 to \$2 million. Over a 10-year period the average profit is expected to average approximately \$1 million.

Action Plan

It is recommended that the City consider establishing a reserve for the operations of the recycling facility to smooth the earnings in a year of over- and under-performance. In a year of over-performance, the additional profit received over the budget is transferred to the reserve and in a year of under-performance funds, from the operating reserve can be used to meet budget.

Alternatively, it is recommended that the City's Finance Division review the existing corporate practice to manage the corporate operating budget which is susceptible to volatility noting that the current practice is to make use of the Operating Budget Contingency Reserve (OBCR) to manage the budget on a corporate basis when required. This reserve is used to manage fluctuations for all City operations, including all divisions that are subject to volatility where no legislation exists. (For example; the Social Services Division, which incurs significant variations due to caseload changes in Ontario Works, the OBCR has been used when required).

Business Impact

There is a risk that the funding budget for recycling operations may result in lower profit than expected, thereby causing large fluctuations in profit and subsidization when budget is not met.

Action Plan Lead

Director, Financial Planning and Policy

Timing

September 2015

Agenda Item #

Page #

Agenda Item #

Page #

This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PricewaterhouseCoopers LLP, its members, employees and agents do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

© 2013 PricewaterhouseCoopers LLP. All rights reserved. In this document, "PwC" refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership, which is a member firm of PricewaterhouseCoopers International Limited, each member firm of which is a separate legal entity.