



**Report of the Auditor General
of the Ville de Montréal**
to the City Council and to the
Urban Agglomeration Council

For the Year Ended December 31, 2014

4.10

**COLLECTION AND
TRANSPORTATION
OF RECYCLABLE MATERIALS
BY DIRECT LABOUR**



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List of Acronyms

OHS	occupational health and safety	RPASO	review of program activities, services and operations
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4.10. Collection and Transportation of Recyclable Materials by Direct Labour

1. Introduction

In exercising their powers,¹ the boroughs of the Ville de Montréal (the City) are responsible for planning and organizing the collection² of recyclable materials that residents discard on their respective territories. The term “recyclable materials” refers mainly to paper,³ glass,⁴ metal,⁵ plastic containers and plastic wrap.⁶

In exercising this responsibility, boroughs can choose to do the work of collecting recyclable materials internally or entrust it to a private contractor (on a contract basis).

Historically, according to the documents consulted, the practice of collecting recyclable materials, or collective selection, began to take root in the boroughs of the former Ville de Montréal in 1989. At that time, Montreal residents had to separate recyclable materials by type in various bins. Trucks were equipped with separate compartments to respect the initial sorting done by residents when recyclable materials were collected. Later, compactor trucks were introduced to collect unsorted materials deposited in bins by residents.

In most of the City’s boroughs, the collection of recyclable materials has been done by contract from the outset. However, in 2009, Ahuntsic-Cartierville, Le Sud-Ouest and Villeray–Saint-Michel–Parc-Extension boroughs elected to handle the collection of recyclable materials using their own resources (by direct labour). However, Le Sud-Ouest borough, after using its own internal resources to provide this service throughout its territory from 2009 to 2011, decided to go back to outsourcing the collection of recyclable materials on part of its territory while continuing to insource this work on the other part. Le Plateau-Mont-Royal

¹ Under the *Act respecting the exercise of certain municipal powers in certain urban agglomerations* (CQLR, chapter E-20.001), jurisdiction over waste material management is distributed as follows: the related municipalities and the City’s boroughs are responsible for the collection and transportation of waste materials to recovery or disposal sites determined by the agglomeration. The agglomeration is itself responsible for the reclamation and disposal of waste materials and other aspects of their management if they are hazardous.

² In this audit report, to facilitate reading of the text, the term “collection” is used to refer to both collection and transportation activities.

³ Newsprint, fine paper, corrugated board or cardboard, flyers, journals, magazines, cereal boxes, egg cartons, telephone books, books, brown paper bags and any other material of the same type.

⁴ Glass bottles or jars, soft drink, spring water, food product, household maintenance, beauty and health product containers, garden pots.

⁵ Food cans, aluminum cans, all metal lids.

⁶ Juice and dairy product containers, packaging, grocery and overwrap bags, bread bags, food product bags and dry cleaning bags.

borough undertook the collection of recyclable materials internally on part of its territory in 2009 and extended this to its entire territory in 2010. Unlike the other three boroughs, it continued to use its own internal resources to provide the service of collecting household waste on part of its territory.

The boroughs that chose to handle the collection of recyclable materials by direct labour were already using their own resources to handle the collection of household waste on part of their territories before they contracted out all the work, with the exception of Le Plateau-Mont-Royal borough, which continued to use its own resources for household waste collection on part of its territory. These boroughs reassigned resources that were previously handling household waste collection to recyclable materials collection. The main factors cited by boroughs as motivating their decision to provide this service using internal resources instead of outsourcing it are:

- The context of the RPASO (review of program activities, services and operations), which, in the case of Le Plateau-Mont-Royal borough, was intended to reduce operating costs;
- The opportunity to reduce costs while meeting the minimum employment level;
- The high occupational health and safety (OHS) costs observed in household waste collection operations;
- The motivation of employees, who considered the collection of household waste to be unrewarding work;
- Anticipation of a significant increase in costs upon expiry of existing contracts for the collection of recyclable materials.

As part of this audit, we held a consultation with the other 15 boroughs to ask them why they chose not to consider the option of handling recyclable materials collection by direct labour, and we obtained the following information:

- Prior to 2009, all boroughs contracted out 100% of the collection of household waste and recyclable materials, with the exception of Mercier–Hochelaga-Maisonneuve, which handled household waste collection on part of its territory by direct labour;
- All boroughs remarked that using this mode of operation for collection would mean they would have to hire more staff and purchase additional equipment, which would lead to additional costs;
- All expected or feared an increase in OHS and overtime costs;
- Two boroughs, LaSalle and Mercier–Hochelaga-Maisonneuve, considered providing the service of collecting recyclable materials by direct labour. However, this did not get past the reflection stage.

In view of the issues (quality of public services, savings to be realized, internal expertise, etc.) involved in the decision to handle this operation internally, we thought it worthwhile to

undertake this audit because it would assure us that this decision was sound and appropriate and that it enabled the boroughs concerned to realize the potential savings they anticipated.

2. Purpose and Scope of the Audit

The purpose of the audit was to ensure that the boroughs' decision to handle recyclable materials collection using their own human and material resources (internally, or by direct labour) is supported by conclusive analyses of their financial viability and operational efficiency.

For this purpose, we focused our efforts on boroughs that elected to have recyclable materials collection done by their own employees: Ahuntsic-Cartierville, Le Plateau-Mont-Royal, Le Sud-Ouest and Villeray–Saint-Michel–Parc-Extension boroughs. The period covered by this audit was from 2009 to 2013 inclusively. Prior to this period, this activity was contracted out for the most part. We examined the documents that these boroughs produced to support their decision to handle recyclable materials collection internally. We also examined the enforcement of certain clauses in the collective agreement dealing with the transfer of activities performed by contract to a publicly controlled system, the mechanisms established to monitor this activity and the financial data obtained during this reference period (2009-2013).

In addition, we held a telephone consultation with the other 15 boroughs to enquire about the reasons motivating their decision to continue contracting out recyclable materials collection.

3. Summary of Findings

During our audit, we identified deficiencies in analyses concerning the decision to handle recyclable materials collection by direct labour. For the four boroughs concerned, the following points are an overall summary of our findings with respect to:

- Analyses that were conducted to demonstrate the advantages of having internal resources handle all operations related to recyclable materials collection (section 4.1):
 - Ahuntsic-Cartierville, Le Plateau-Mont-Royal and Le Sud-Ouest boroughs conducted a brief or incomplete analysis to support their decision to handle this activity internally;
 - Villeray–Saint-Michel–Parc-Extension borough did not produce any formal analysis to support its choice;
 - The analyses do not take into account the causal relationships between changes in the costs of household waste collection (change in the mode of operation from

insourcing to outsourcing) and changes in the costs of recyclable materials collection (change in the mode of operation from outsourcing to insourcing).

- The establishment of both mechanisms for monitoring and evaluating the performance obtained as a result of the changeover in the operational mode for recyclable materials collection to direct labour and accountability reporting mechanisms (section 4.2):
 - No borough established periodic operational performance monitoring and evaluation mechanisms used for transfer of this activity;
 - No borough produced formal, structured accountability reporting.

4. Detailed Findings and Recommendations

According to the data submitted to us, from 2009 to 2013, the four boroughs spent a total of \$33.8 million on recyclable materials collection by direct labour. Table 1 shows the actual annual expenditures for each of the four boroughs covered by our audit.

**Table 1 – Recyclable Materials Collection by Direct Labour
Actual Costs from 2009 to 2013
(in thousands of dollars)**

Borough	2009	2010	2011	2012	2013	Total
Ahuntsic-Cartierville	2,432.6	2,220.6	2,425.3	2,216.7	2,223.8	11,519.0
Le Plateau-Mont-Royal ^[a]	1,039.2	1,406.0	1,325.3	1,432.1	1,443.4	6,646.0
Le Sud-Ouest ^[b]	1,562.3	1,579.9	1,632.9	1,171.5	1,042.4	6,989.0
Villeray–Saint-Michel–Parc-Extension	1,706.5	1,621.2	1,689.0	1,808.6	1,838.2	8,663.5
Total	6,740.6	6,827.7	7,072.5	6,628.9	6,547.8	33,817.5

^[a] In 2009, recyclable materials collection was done by direct labour only on part of this borough's territory. Since 2010, this activity has been carried out by direct labour on its entire territory.

^[b] Since 2012, recyclable materials collection has been contracted out on part of this borough's territory.

Source: Data submitted by boroughs.

4.1. Analyses Supporting the Decision to Change the Mode of Operation for Recyclable Materials Collection to Direct Labour

The decision to provide the recyclable materials collection service by direct labour even though this service has always been contracted out is a strategic decision requiring a cost evaluation and formal approval of the borough council. To determine whether such a mechanism was used to support this decision, we examined the following elements. First, we consulted analyses developed by boroughs showing the advantages of handling all operations associated with recyclable materials collection by direct labour. Second, we

ensured that all operational data supporting these analyses were complete, reliable and verifiable. Third, we checked to make sure that business units documented their analyses and recommendations and submitted them formally to the borough council so that it could make a decision on the strategy to be adopted.

4.1.A. Background and Findings

4.1.1. Ahuntsic-Cartierville Borough

Before the change in the mode of operation used in residual materials management (collection of household waste and recyclable materials), 57% of household waste collection was outsourced, at an annual cost of \$930,800, and 43% of it was done by direct labour, at an annual cost of \$1,746,600, amounting to a total of \$2,677,400 for 2008. As for recyclable materials collection, 100% of it was outsourced, at a total annual cost of \$1,483,700 for 2008. Overall, the costs of residual materials collection totalled \$4,161,100⁷ in 2008.

In 2008, as the expiry date of existing contracts for recyclable materials collection (2003-2008) in Ahuntsic-Cartierville borough approached, management embarked on a reflection process to review the methods used for this activity. For this purpose, the Direction des travaux publics et de l'aménagement urbain and the Division de l'administration, des relations avec les citoyens et du greffe of the Direction de la performance, des relations avec les citoyens, du greffe et des services administratifs jointly conducted an economic analysis, which was presented in the form of a budget scenario. This analysis was based on the underlying assumption that all employees assigned to the collection of household waste—a total of 24 people—would be transferred to recyclable materials collection.

To support these conclusions, the analysis was based on budget and operational data on the collection of household waste, such as:

- labour and social security costs (30%) for using the services of blue collar workers (drivers and garbage collectors);
- the cost of equipment (rental of compactor trucks or purchase of trucks);
- a rough estimate of fuel costs.

⁷ Document produced by the borough entitled *Évaluation du transfert de la collecte sélective en régie à 100 %*, [TRANSLATION: *Evaluation of the transfer of the selective collection to 100% direct labour*] May 8, 2007.

Finally, the analysis anticipated the following benefits: substantial potential savings for the borough and a foreseeable drop in the OHS cost. It also identified possible obstacles to be overcome, such as:

- future negotiations with the blue collar workers' union;
- the purchase of additional equipment (trucks);
- the reorganization of territories (10 territories in which eight teams handle collective selection by direct labour) by means of proposed new collection routes.

This analysis is summary and incomplete, because it does not take into account OHS costs, truck purchase costs (depreciation), additional operating costs (fuel and maintenance) for the compactor truck fleet, overtime and management and administration fees.

Even though we have at our disposal a document entitled *Évaluation du transfert de la collecte sélective en régie à 100 %* [TRANSLATION: *Evaluation of the transfer of the selective collection to 100% direct labour*], dated May 8, 2007, and a decision-making summary stating that recyclable materials collection will be handled internally, we were given no assurance that the borough's elected officials were clearly informed of the costs of each household waste and recyclable materials collection activity from 2008 to 2009 and the changes in costs involved.

With respect to the potential savings assessment, savings estimates were based on the assumption that household waste collection teams (24 people) would handle selective collection with no increase or reduction in blue collar workers and without any additional investments. These expected "potential savings" of \$552,900 were calculated based on the costs of the selective collection contract that existed in 2008, or \$1,483,700; additional costs were subtracted from this amount for the outsourcing of 100% of household waste collection (increase from 57% to 100% of the work covered by contract), or \$930,800. These costs should have been compared with the costs of recyclable materials collection both before and after the change in the mode of operation.

Table 2 shows changes in costs associated with the collection of household waste and recyclable materials.

Table 2 – Changes in Costs Associated with the Collection of Household Waste and Recyclable Materials from 2007 to 2013
(in thousands of dollars)

	Historical situation		Situation after changeover to 100% direct labour for recyclable materials collection				
	2007	2008	2009	2010	2011	2012	2013
Household waste collection							
By contract (100%) ^[a]	–	–	3,434.3	3,571.7	3,714.5	3,863.1	4,017.6
By contract (57%)	925.6	930.8	–	–	–	–	–
Internally (43%)	1,707.9	1,746.6	–	–	–	–	–
Total	2,633.5	2,677.4	3,434.3	3,571.7	3,714.5	3,863.1	4,017.6
Variation			28%	4%	4%	4%	4%
Recyclable materials collection							
By contract (100%)	1,467.5	1,483.7	–	–	–	–	–
Internally (100%)	–	–	2,432.6	2,220.6	2,425.3	2,216.7	2,223.8
Total	1,467.5	1,483.7	2,432.6	2,220.6	2,425.3	2,216.7	2,223.8
Variation			64%	-9%	9%	-9%	0.3%
Residual materials collection							
Overall total	4,101.0	4,161.1	5,866.9	5,792.3	6,139.8	6,079.8	6,241.4
Variation			41%	-1%	6%	-1%	3%

^[a] According to the decision-making summary (1084656007) a five-year contract was awarded for household waste collection. Source: Data supplied by the borough.

The analysis of changes in costs from 2008 to 2013 leads to the following findings:

- With respect to the collection of household waste:

The overall cost increased from \$2,677,400 in 2008 to \$3,434,300 in 2009, for a 28% increase. This variation is due mainly to the fact that the portion of the territory covered by contract increased to 100% (part of the territory was covered by direct labour in 2008), as well as the integration of bulky waste into waste collection.

- With respect to the collection of recyclable materials:

The overall cost increased from \$1,483,700 in 2008 to \$2,432,600 in 2009, for a 64% increase. This situation results from the complete transfer of human resources (24 people) previously assigned to household waste collection to recyclable materials collection and the rental of additional equipment.

The fluctuations noted from 2010 to 2012 are mainly due to variations in overtime and rolling stock maintenance costs.

Overall, the cost of residual materials collection, which was \$4,161,100 in 2008 increased to \$5,866,900 in 2009, for a 41% increase.

4.1.2. Le Plateau-Mont-Royal Borough

When the borough changed its mode of operation for residual materials collection in 2009, household waste collection was handled in part on a contract basis, at an annual cost of \$853,900 in 2008, and in part by direct labour, at an annual cost of \$3,005,600, for a total of \$3,859,500. As for recyclable materials collection, 100% of this activity was performed by contract in 2008, at a total annual cost of \$2,140,400. Overall, the costs of residual materials collection totalled \$5,999,900 in 2008.

The changeover from outsourcing to 100% direct labour for recyclable materials collection took place over a two-year period. An initial transfer of 15.8 person-years previously assigned to the collection of household waste to the collection of recyclable materials took place in 2009, and a second transfer of 6.2 person-years was made in 2010. The changeover, which was made under the RPASO, allowed a medium-term reduction of 4.5 person-years in staff assigned to household waste collection, as shown in Table 3.

Table 3 – Changes in Staff Assigned to Residual Materials Collection from 2008 to 2010 During the RPASO (in person-years)

	2008	2009	2010
Household waste collection by direct labour	50.5	31.3	24.0
Recyclable materials collection by direct labour		15.8	22.0
Total	50.5	47.1	46.0

Source: Data supplied by the borough.

The decision to make these changes is the result of a reflection process embarked on by managers and elected officials, who reached the following conclusions:

- Handling 100% of recyclable materials collection by direct labour;
- Integration of the collection of large items into private contracts;
- Elimination of one of the two household waste collections for a six-month period;
- Making changes to a certain number of operational arrangements, such as:
 - the collection methods and the type of container used by Montreal residents,
 - collection spread over five days and carried out in the daytime,
 - collection of recyclable materials in bulk (previously residents sorted recyclable materials).

With respect to the documentation supporting the decision, we made the following findings:

- The source of the parameters that were used for the analysis are mainly the borough's budget data and the results of the review of household waste and recyclable materials collection activities performed under the RPASO;
- Since downsizing is the central focus of concern under the RPASO, the analysis essentially took payroll data into account, failing to examine other costs that are essential to decision-making (e.g., equipment maintenance, fuel, overtime).

Table 4 shows changes in costs associated with the collection of household waste and recyclable materials during the various implementation phases of the operational strategy.

Table 4 – Changes in Costs Associated with the Collection of Household Waste and Recyclable Materials from 2007 to 2013
(in thousands of dollars)

	Historical situation		Situation during the implementation period for recyclable materials collection by direct labour		Situation after the changeover to recyclable materials collection by 100% direct labour		
	2007	2008	2009	2010	2011	2012	2013
Household waste collection							
By contract	800.1	853.9	1,939.0	2,222.6	2,226.9	2,232.1	2,243.1
Internally	2,970.4	3,005.6	2,334.1	1,922.4	1,775.4	1,434.6	953.6
Total	3,770.5	3,859.5	4,273.1	4,145.0	4,002.3	3,666.7	3,196.7
Variation			11%	-3%	-3%	-8%	-13%
Collection of recyclable materials							
By contract ^[a]	1,930.1	2,140.4	538.6	159.7	–	–	–
Internally ^[a]	–	–	1,039.2	1,406.0	1,325.3	1,432.1	1,443.4
Total	1,930.1	2,140.4	1,577.8	1,565.7	1,325.3	1,432.1	1,443.4
Variation			-26%	-1%	-15%	8%	0.8%
Collection of residual materials							
Overall total	5,700.6	5,999.9	5,850.9	5,710.7	5,327.6	5,098.8	4,640.1
Variation			-2%	-2%	-7%	-4%	-9%

^[a] 100% of recyclable materials collection done by contract for 2007 and 2008; divided between modes of operation by contract and by direct labour for 2009; and carried out 100% by direct labour as of 2010.

Source: Data supplied by the borough.

The analysis of changes in costs associated with the collection of household waste and recyclable materials leads to the following findings:

- With respect to household waste collection:

Beginning in 2009, the borough gradually increased spending on household waste collection by contract, with a \$1.4 million increase from 2008 to 2011; in the same period, it continued to spend a smaller proportion on direct labour for household waste collection, reducing this expenditure by \$1.2 million.

Generally, the 11% increase witnessed from 2008 to 2009 for the costs of household waste collection (by contract and by direct labour) is associated with the increase in the portion of the borough's territory that was covered by contract. Subsequently, costs decreased gradually due to the transfer of resources used for household waste collection to recyclable materials collection for 2009 and 2010.

In 2012, the borough gradually introduced organic waste collection by direct labour, resulting in reduced costs for household waste collection by direct labour from 2011 to 2013. The overall effect of this change was a decrease in the overall costs of household waste collection, from \$3.9 million in 2008 to \$3.2 million in 2013.

- With respect to the collection of recyclable materials:

The borough completed implementation of the collection of recyclable materials by direct labour in 2010. This led to a reduction in expenditures for this activity, from \$2,140,400 in 2008 to \$1,325,300 in 2011, for an overall decrease of 38%.

Generally, as shown in Table 4, the borough reduced its costs for the collection of residual materials by 5%, from \$5,999,900 to \$5,710,700, from 2008 to 2010, but without taking into account all costs. The costs continued to drop in subsequent years, mainly because of the introduction of organic waste collection.

4.1.3. Le Sud-Ouest Borough

Up until 2008, household waste collection was done by contract (70%) and by direct labour (30%), and 100% of the collection of recyclable materials was contracted out. In 2009, the borough made changes in the modes of operation for these types of collection on two occasions.

First, beginning in 2009 and up until 2011, the borough decided to handle 100% of recyclable materials collection by direct labour and 100% of the collection of household waste, bulky waste and green waste by contract.

Subsequently, in 2012, the borough divided its territory into two sectors⁸ and made a decision to handle the various types of collection in both sectors as follows:

- Collection of household waste and bulky waste: by contract and by direct labour;
- Collection of recyclable materials: by contract and by direct labour;
- Collection of illegally dumped waste, construction materials, green waste and public recycling and waste bins: by direct labour.

These changes in the mode of operation for managing residual materials collection were supported by analyses.

The first analysis, which concerns the first changeover (2009), was submitted to the elected officials in September 2008.⁹ In order to handle 100% of recyclable materials collection by direct labour, the analysis recommended the reassignment of three compactor trucks, the rental of three other trucks and the transfer of 18 employees to this activity. It also recommended relevant operational parameters (weekly frequency of collection for each collection type, the adaptation of trucks originally used for household waste collection, an internal and external communication plan targeting the public, etc.). Finally, this analysis estimated the costs of collecting recyclable materials to be \$1,556,020 and forecast savings of \$177,255 for the borough.

According to our understanding of the documents supplied by the borough, this evaluation took into account both direct costs (payroll and others) and indirect costs, mainly OHS costs. In the absence of detailed costs, we found no evidence that equipment maintenance and operation costs and management fees were taken into account in the proposed estimates.

The second analysis, which concerns the second changeover (2012), essentially addressed a concern for cleanliness in the residual materials management model. Since 2009, the borough provided collection services twice a week for household and bulky waste and once a week for recyclable materials for each dwelling unit. As a result, residual materials were found on sidewalks three days out of seven, since the collection days were not the same.

⁸ Sector 1 is located south of the Lachine Canal and represents 65% of the borough's territory. Sector 2 is located north of the Lachine Canal and represents 35% of the borough's territory.

⁹ Submitted by the borough's Direction des travaux publics in 2008, with 2007 used as a reference year.

In light of this situation, the Direction des travaux publics conducted a comprehensive analysis¹⁰ of the management of residual materials on its territory, using the environment, costs and cleanliness as the evaluation criteria. Under the strategy that was adopted for the residual materials management model, the collection of household waste and bulky waste was to be reduced from twice to once a week, and they were to be collected on the same day as recyclable materials. Residual materials were found on sidewalks only one day out of seven.

To ensure proper coordination between household and bulky waste collection and recyclable materials collection, the borough's territory was separated into two sectors. In one of the sectors, household waste and recyclable materials would be collected on a contract basis while in the other sector these activities would be carried out by direct labour. For each dwelling unit, service would be provided under the new management model, namely a single collection on the same weekday. With this model, the Direction des travaux publics anticipated a decrease of \$557,417 in the overall cost of the collection of residual materials (household waste and recyclable materials), or a 16% decrease in the costs obtained in 2011, which were estimated to be \$3,446,580.

Table 5 shows changes in costs associated with the collection of household waste and recyclable materials based on various changes in the operational strategy.

¹⁰ Submitted by the borough's Direction des travaux publics on August 11, 2011.

Table 5 – Changes in Costs Associated with the Collection of Household Waste and Recyclable Materials from 2007 to 2013
(in thousands of dollars)

	Historical situation, with 100% of recyclable materials collection outsourced		Situation after the changeover to 100% of recyclable materials collection by direct labour			Situation after the territory was separated into two sectors and residual materials collection was done by both outsourcing and by direct labour	
	2007	2008	2009	2010	2011	2012	2013
Household waste collection							
By contract ^[a]	1,715.9	1,779.2	1,848.3	1,902.5	2,088.1	1,155.6	710.4
Internally ^[b]	511.6	517.7	–	–	–	1,004.1	1,389.8
Total	2,227.5	2,296.9	1,848.3	1,902.5	2,088.1	2,159.7	2,100.2
Variation			-20%	3%	10%	3%	-3%
Recyclable materials collection							
By contract ^[c]	966.2	976.6	–	–	–	337.6	469.3
Internally ^[c]	–	–	1,562.3	1,579.9	1,632.9	1,171.5	1,042.4
Total	966.2	976.6	1,562.3	1,579.9	1,632.9	1,509.1	1,511.7
Variation			60%	1%	3%	-8%	0.2%
Residual materials collection							
Overall total	3,193.7	3,273.5	3,410.6	3,482.4	3,721.0	3,668.8	3,611.9
Variation			4%	2%	7%	-1%	-2%

^[a] Household waste collection service provided on part of the territory by contract for 2007, 2008, 2012 and 2013. From 2009 to 2011, the collection service was contracted out on all of the territory.

^[b] Household waste collection service provided on part of the territory by direct labour for 2007, 2008, 2012 and 2013.

^[c] 100% of recyclable materials collection service provided by contract for 2007 and 2008; from 2009 to 2011 100% of this service was provided by direct labour. As of 2012, the collection service was provided under the mixed model, involving both contract work and direct labour on the borough's territory, which was separated into two sectors.

Source: Data supplied by the borough.

The analysis of changes in the costs associated with the collection of household waste and recyclable materials, taking into account changes in modes of operation, leads to the following findings:

- With respect to the household waste collection:

Expenditures for household waste collection dropped from \$2,296,900 in 2008 to \$1,848,300 in 2009, for a 20% decrease. The variation was due mainly to the transfer of resources in order to handle household waste collection by direct labour. From 2008 to 2009, the costs of contracts increased by 4%, from \$1,779,200 to \$1,848,300, as a result of a 100% increase in the size of the territory to be covered.

Later, during the second change in the mode of operation, in 2012, total expenditures for household waste collection, as shown in Table 5, increased from \$2,088,100 in 2011 to

\$2,159,700 in 2012, a 3% increase that was due to the renewed use, in part, of direct labour to handle household waste collection. Indeed, the cost of this activity by direct labour increased to \$1,004,100 in 2012, whereas it dropped to \$1,155,600 by contract.

- With respect to the collection of recyclable materials:

During the first change in the mode of operations, which took place in 2009, 100% of the recyclable materials collection was transferred from contract work to direct labour, with impacts on the costs that ranged from \$976,600 in 2008 to \$1,562,300 in 2009, for a 60% increase.

During the second changeover in the mode of operations, in 2012, under the mixed formula, whereby recyclable materials were collected by contract on part of the territory and by direct labour on the other part, the costs of recyclable materials collection declined from \$1,632,900 in 2011 to \$1,509,100 in 2012, for an 8% decrease.

The variation observed in 2009 for the costs associated with the collection of household waste and recyclable materials may be suitable for analysis for changes made in the modes of operation, i.e. the transition from 100% of the work done by contract to 100% of the work done by direct labour, while the other parameters remained unchanged (the number of collections, the number of collection days, etc.). In the case of the second change, the analysis of the variations noted is more complex, because it was necessary to take into account the percentages of collections handled by contract compared to those handled by direct labour, the operational parameters (a single collection of household waste and recyclable materials per day, on the same day and at the same time, once a week) which directly affect the costs of the collection, regardless of the mode used (outsourcing as opposed to direct labour).

Generally, as illustrated in Table 5, a cost comparison for the collection of residual materials from 2008 to 2013 reveals that these costs rose from \$3,273,500 to \$3,611,900, for a 10% increase.

4.1.4. Villeray–Saint-Michel–Parc-Extension Borough

When the borough changed the mode of operation for residual materials collection in 2009, 100% of recyclable materials collection was handled by contract at an annual cost of \$1,821,800 in 2008. Household waste collection was handled partly on a contract basis, at

an annual cost of \$2,894,600 and partly by direct labour, at an annual cost of \$3,200,000;¹¹ the total combined cost was \$6,094,600. Overall, the costs of collecting residual materials totalled \$7,916,400 in 2008.

When contracts for the collection of recyclable materials came to term, the Direction des travaux publics, anticipating a possible increase in the costs of these contracts, conducted an analysis to examine the appropriateness of using internal resources to handle the collection of recyclable materials. However, despite our request, we did not obtain a formal document on this analysis.

The people we met with supplied us with what appears to be a reconstruction of the amounts spent on the collection of recyclable materials since 2006. We were provided with explanatory notes on the methodology used for estimates, which documented the following items:

- Labour costs and added social security costs;
- Truck rental;
- Fleet repair costs (10 compactor trucks);
- Fuel, for which some data were obtained by extrapolation.

The decision-making summaries we consulted (2009, 2010 and 2011), which deal with the rental or purchase of equipment used for the collection of recyclable materials, show that the borough increasingly had recourse to these rentals or acquisitions, which reflects the fact that there was no background document assessing needs when it was decided that the collection of recyclable materials would be handled internally. However, in the 2009 decision-making summary¹² requesting that a rental contract be awarded for a dump truck, the following note is found under the heading “Justification”:

[TRANSLATION] As of January 1, 2009, the Direction des travaux publics made a major change in the organization of its collections. Indeed, [recyclable] materials collection is now handled completely by direct labour while [household] waste collection is now handled out by contractors.

In conclusion, we found no evidence that a well-documented, structured analysis had been prepared and submitted to elected officials for decision-making.

Table 6 shows changes in costs associated with the collection of household waste and recyclable materials from 2007 to 2013 based on various changes in the operational strategy.

¹¹ This cost of \$3,200,000 includes household waste, bulky waste, green waste, the collection of Christmas trees and public recycling and waste bins.

¹² GDD 1091309007.

Table 6 – Changes in Costs Associated with the Collection of Household Waste and Recyclable Materials from 2007 to 2013
(in thousands of dollars)

	Historical situation		Situation after the changeover to 100% of recyclable materials collection handled by direct labour				
	2007	2008	2009	2010	2011	2012	2013
Household waste collection							
By contract ^[a]	2,830.2	2,894.6	2,993.8	3,184.2	3,225.1	3,356.9	3,430.5
Internally ^[b]	3,240.2	3,200.0	–	–	–	–	–
Total	6,070.4	6,094.6	2,993.8	3,184.2	3,225.1	3,356.9	3,430.5
Variation			-51%	6%	1%	4%	2%
Recyclable materials collection							
By contract (100%)	1,756.4	1,821.8	–	–	–	–	–
Internally (100%)	–	–	1,706.5	1,621.2	1,689.0	1,808.6	1,828.2
Total	1,756.4	1,821.8	1,706.5	1,621.2	1,689.0	1,808.6	1,828.2
Variation			-6%	-5%	4%	7%	1%
Residual materials collection							
Overall cost	7,826.8	7,916.4	4,700.3	4,805.4	4,914.1	5,165.5	5,258.7
Variation			-41%	2%	2%	5%	2%

^[a] Household waste collection was contracted out for part of the territory for 2007 and 2008. From 2009 to 2013, 100% of household waste collection was contracted out for the entire territory.

^[b] Household waste collection done on part of the territory by direct labour for 2007 and 2008.

Source: Data submitted by the borough.

The analysis of changes in costs associated with the collection of household waste and recyclable materials, taking into account changes in modes of operation, leads to the following findings:

- With respect to the collection of household waste:

With respect to the changeover made in 2009, expenditures for the outsourcing of household waste collection rose by 3%, from \$2,894,600 in 2008 to \$2,993,800 in 2009, which, in our view, raises serious questions about the validity of the data that the borough provided us with, especially since this collection covers 100% of the territory. Furthermore, household waste collection in the part of the borough's territory that was previously covered by direct labour cost the borough \$3,200,000.

- With respect to the collection of recyclable materials:

The changeover, in 2009, to 100% of recyclable materials collection handled by direct labour was reflected in a reduction in expenditures of \$115,300 (6%) for this activity; these expenditures decreased from \$1,821,800 in 2008 to \$1,706,500 in 2009.

4.1.B. Recommendation

We recommend that Ahuntsic-Cartierville, Le Plateau-Mont-Royal, Le Sud-Ouest and Villeray–Saint-Michel–Parc-Extension boroughs, as part of changeovers in modes of operation from contracting out to direct labour, for all activities performed, consider all cost components and various qualitative aspects before adopting a new operational strategy.

Business units' responses:

AHUNTSIC-CARTIERVILLE BOROUGH

[TRANSLATION] Budget compilation and analysis (financial, material and human resources) for each activity. (Planned completion: October 2015)

Compilation and analysis of requests and complaints for each activity. (Planned completion: October 2015)

Production of a report on the situation in anticipation of the development of an operational strategy. (Planned completion: October 2015)

LE PLATEAU-MONT-ROYAL BOROUGH

[TRANSLATION] Le Plateau-Mont-Royal borough undertakes to consider all cost components as well as various qualitative aspects before adopting a new operational strategy, within the framework of changes in the mode of operation from contract work to direct labour for all activities. (Planned completion: December 2015)

LE SUD-OUEST BOROUGH

[TRANSLATION] During the next analysis, which will concern a return to direct labour for certain activities now performed by private contractors, we will make sure that we include all components affected by the possible change.

In 2012, we decided to take a comprehensive approach. Le Sud-Ouest borough proposed using an analytical method that takes into account all residual material collections on its territory; waste, recycling, public recycling and waste bins, green waste and Construction/Renovation/Demolition (CRD) waste. However, in accounting for all these costs, we found it impossible to put an exact figure on each individual cost component. We therefore had to fall back on aggregate data, with the result that some cost components were underestimated.

Since this situation arose, we have been working with the finance department to ensure that the costs allocated to each element of the residual materials collection activity is properly identified in terms of both projected and actual expenditures. This will put us in a better position, during the next changeover, to have more accurate data on the actual costs of an operational change. (Planned completion: December 2015)

VILLERAY–SAINT-MICHEL–PARC-EXTENSION BOROUGH

[TRANSLATION] Update of detailed budget data for each activity (human, financial and material resources) in the various accounting systems, so that we will be better able to document analyses conducted prior to decision-making in the development of operational strategies. (Planned completion: October 2015)

4.1.C. Recommendation

We recommend that the Direction générale, should it decide to prioritize the use of internal resources to perform activities, develop a model containing all cost components as well as the various qualitative aspects, that could be used to help all boroughs make an informed decision and promote joint action.

Business unit's response:

[TRANSLATION] The City created the Service de la performance organisationnelle. One of its twelve priority projects is the implementation of activity-based management, which is intended to determine the full costs of the City's main activities. In the future, activity-based management will be the basis for the key management decisions, including the decision as to whether to have activities performed by direct labour or by contract.

The process of implementing activity-based management will begin in the fall of 2015 and will be spread over a period of about 3 years. The establishment of a model for public works activities (including recyclable materials management) should be 50% completed as of December 31, 2016 and 100% completed as of December 31, 2017. (Planned completion: December 2016 (50%) and December 2017 (100%))

**4.2. Operational Performance Monitoring and Evaluation
Mechanisms and Accountability Reporting Mechanisms**

To support the decision-making process and demonstrate that elected officials' concerns were taken into account, the managers of each borough had to submit results of analyses they conducted to the borough council. This would reflect the borough's commitment to achieving the underlying objectives of the strategy set forth by elected officials. For this purpose, in order to evaluate the effectiveness of changes made to the mode of operation used for recyclable materials collection, the borough had to establish mechanisms for monitoring changes in operational outcomes resulting from the impacts of these changes. During our audit, we verified whether these performance monitoring and evaluation mechanisms were in place. These mechanisms should include criteria related to the quality of the work done, public satisfaction, staying within budgets and compilation of all associated costs. These same mechanisms should enable the borough to prepare periodic

accountability reports on monitoring operations and costs to ensure that the decision to continue providing this service using internal resources is still appropriate in light of all the parameters established.

4.2.A. Background and Findings

4.2.1. Ahuntsic-Cartierville Borough

In this borough, the change in the mode of operation for recyclable materials collection (from outsourcing to insourcing) was initiated in 2009. To make this decision, the Direction des travaux publics conducted an analysis highlighting the advantages of adopting this solution.

Our audit established that this analysis was submitted to the borough's management at the same time as the annual budget framework was submitted. However, we had no assurance that this was the subject of a formal submission to the borough council.

At our request, we obtained tables showing statistics on OHS costs, the average tonnage for 2010 and 2011, the actual annual costs for the period from 2009 to 2013 and letters of agreement signed as part of the establishment of the collection of recyclable materials by direct labour.

We found that the borough did not establish a formal mechanism for monitoring changes in operational parameters involved in the establishment of recyclable materials collection. Systems for compiling data on actual costs, accidents and tonnages no doubt exist, but there was no report integrating the various types of information that can be used to monitor changes in the collection of recyclable materials as a whole. We did not track down any such document. According to our understanding, monitoring is done reactively, as a result of an obvious fact (incident, complaint, etc.). There is no management chart used for monitoring.

We noted that there was no accountability reporting within the framework of the change in the mode of collecting recyclable materials to direct labour. According to the information obtained, the Direction des travaux publics prepares reports upon request, but not systematically.

4.2.2. Le Plateau-Mont-Royal Borough

For Le Plateau-Mont-Royal borough, the catalyst for changing the mode of operation for collection was the RPASO conducted in 2008. At that time, the resulting analysis formally

recommended that internal resources be used for recyclable materials collection. A summary of the RPASO recommendations and the results of the analysis were submitted to management and the borough council at the same time.

In the case of Le Plateau-Mont-Royal borough, we noted that there is no mechanism for evaluating the performance of activities performed by direct labour. The analysis conducted under the RPASO had focused on the payroll and downsizing. No performance monitoring criterion or indicator was defined in the establishment of the collection of recyclable materials. In our opinion, the borough should have provided for mechanisms and measures that would enable it to evaluate the performance of this activity by direct labour.

Furthermore, there was no report integrating the various types of information used to monitor changes in recyclable materials collection as a whole. There was no formal assessment, except budget monitoring. On the other hand, overtime is monitored on the basis of changes in budget allocations, but this is not done systematically.

With respect to accountability, the information obtained reveals that management produces an annual report on tonnage when the budget is prepared. However, we noted that there was no formal, structured accountability reporting within the context of the transfer of the mode of collecting recyclable materials to direct labour.

4.2.3. Le Sud-Ouest Borough

The documents that we examined show that the Direction des travaux publics submitted the results of the analysis conducted in 2008 to the borough council. A decision-making summary explicitly states that, since 2009, the collection of recyclable materials is done by direct labour. However, this decision was not the subject of a council resolution.

In 2011, the Direction des travaux publics conducted a comprehensive analysis of its management of residual materials on its territory. This analysis was conducted not as part of an evaluation process that was provided for or planned when the collection of recyclable materials was established in 2009, but at the request of the borough council, which was seeking a solution to sanitation problems in general.

From 2009 to 2011, according to the documents obtained, no mechanisms were in place for systematically monitoring and evaluating the performance of the collection of recyclable materials.

At our request, the borough produced tables showing the actual costs for the collection of recyclable materials from 2009 to 2014. However, we did not obtain any evidence that they are produced and analyzed systematically or that they are the subject of periodic follow-up reports.

Furthermore, in light of the information obtained from people we met within Le Sud-Ouest borough, no formal accountability reporting process was in place for the collection of recyclable materials by direct labour.

4.2.4. Villeray–Saint-Michel–Parc-Extension Borough

In this borough, the collection of recyclable materials by direct labour began in January 2009. Based on the information we obtained, it was not possible to establish that a structured analysis had been produced.

At our request, the borough produced the following documents:

- A reconstruction of the actual costs associated with the collection of recyclable materials from 2006 to 2013;
- The letter of agreement signed with blue collar workers as part of the establishment of the collection of recyclable materials by direct labour (2009);
- A CSST statement¹³ that includes a list of occupational injuries for each worker;
- A list of accidents with a description of events for each worker;
- A list summarizing the costs of rolling stock for each vehicle category (2009-2013).

Examination of these documents showed that the information, while incomplete, is accessible. However, it is not used to monitor changes in individual costs (OHS costs, costs of rolling stock, etc.). Moreover, no mechanism was provided for that purpose. Furthermore, there was no report integrating these data for the purpose of monitoring or evaluating the overall performance of recyclable materials collection.

There is no particular accountability for recyclable materials collection by direct labour.

¹³ Commission de la santé et de la sécurité du travail.

4.2.B. Recommendation

We recommend that Ahuntsic-Cartierville, Le Plateau-Mont-Royal, Le Sud-Ouest and Villeray–Saint-Michel–Parc-Extension boroughs:

- formally prepare an assessment of the results obtained for residual materials collection since the change in the operational strategy was implemented in 2009;
- take the necessary steps to ensure that, subsequently, succinct management reports are produced periodically for this activity performed both by direct labour and by contract;

in order to inform elected officials of changes in costs and ensure that the operational strategy selected is still the best solution.

Business units' responses:

AHUNTSIC-CARTIERVILLE BOROUGH

[TRANSLATION] Production and submission of an assessment retroactive to January 2009. (Planned completion: October 2015)

Submission of a management follow-up report twice a year, in January and June. Submission of the results to elected officials. (Planned completion: October 2015)

LE PLATEAU-MONT-ROYAL BOROUGH

[TRANSLATION] Le Plateau-Mont-Royal borough will develop a report presenting a comparative statement of results from the 2007 to 2015 budget period to show changes in the costs of residual materials collection since the operational strategy was implemented in 2009. The report will be prepared by December 31, 2015 and will be submitted to elected officials at an information meeting.

In addition, the borough will submit a semi-annual report on changes in costs of the blue-collar activity to the managers concerned, in order to analyze changes and explain variances.

A re-evaluation will be carried out during the budget preparatory exercises to assess whether or not it is appropriate to continue to have the collection and transportation of recyclable materials handled by direct labour. (Planned completion: December 2015)

LE SUD-OUEST BOROUGH

[TRANSLATION] Before May 1, 2015, we will submit to council members a comprehensive assessment of the results obtained from the two operational changes that have taken place since 2009.

Subsequently, every year in May, we will submit to the council members an assessment of results for the previous year. In this way, the council will be aware of

changes in costs and be able to make any necessary changes to the guidelines before the budget is tabled the following year. **(Planned completion: May 2015)**

VILLERAY–SAINT-MICHEL–PARC-EXTENSION BOROUGH

[TRANSLATION] Production of the detailed assessment of results in two (2) phases:

- *Update of detailed data for 2015 retroactively to January 1, 2015; **(Planned completion: April 2015)***
- *Update of detailed data covering the period from January 1, 2009 to December 31, 2014; **(Planned completion: September 2015)***
- *Once the assessment is completely updated from January 1, 2009 until the present, production of a semi-annual management report in January and in June of every year. Elected officials will be informed at the same time. **(Planned completion: October 2015)***

5. General Conclusion

The main reason that prompted four boroughs, in 2009 and in 2010, to handle the collection of recyclable materials on their respective territories by direct labour was to generate savings, because some boroughs were expecting substantial price hikes from contractors when contracts that were coming to term were to be renewed.

However, our audit did not provide any evidence that their decision was based on an exhaustive analysis of all the factors that should have influenced their decision. Instead, following our audit, what we obtained, in view of the financial data that boroughs submitted to us, was a mixed picture. According to these cost compilations, in two boroughs (Ahuntsic-Cartierville and Le Sud-Ouest), the expenditures for this activity actually increased rather than decreased, while in the other two (Le Plateau-Mont-Royal and Villeray–Saint-Michel–Parc-Extension), costs did in fact decline. However, in all cases, the analyses were incomplete and did not take into account all relevant costs associated with the activity.

As part of our audit, we also contacted the other 15 boroughs that continue, year after year, to entrust the work of collecting recyclable materials entirely to contractors. According to all these boroughs, it would be more expensive to change this operational strategy and have the City's internal resources handle this activity. However, we were not provided with any structured analysis to support their perception.

Still, it is curious that most boroughs (15) have a different perception from the four boroughs that elected to change their modes of operation. More surprising still is that two of these four boroughs, within which part of all of this activity is carried out by direct labour, reached the conclusion that costs are higher than when they outsource this activity. However, even after

several years, these two boroughs have kept this mode of operation. It is possible that other qualitative factors were taken into consideration by these boroughs, but we found no documented analysis to that effect.

As a result, we are not certain that all the elements relevant to decision-making were submitted to borough councils to support this operational change, especially since it was not demonstrated that the boroughs were able to generate savings.

The mode of operation for the collection of recyclable materials (from contracting out to direct labour) was changed by moving internal resources away from the collection of household waste (from direct labour to outsourcing). In attempting to reduce costs associated with the collection of recyclable materials, the boroughs had to offset this shortage of internal resources for other activities by awarding additional contracts to contractors, which invariably led to higher costs for the collection of household waste. A comprehensive analysis method should have been employed to assess the financial and qualitative impacts of these two types of collections.

Moreover, these four boroughs did not put in place mechanisms for monitoring and evaluating the performance of each of these activities in order to determine whether the potential savings were realized as expected and whether the other qualitative factors taken into account were well founded. A periodic assessment dealing primarily with all costs associated with the collection of recyclable materials and household waste was not relayed to elected officials in each borough so that they could make sure that the decision made was still appropriate. Under the circumstances, then, it is difficult to conclude that these changes in operational strategy were beneficial.

Finally, under the Borough Financing Plan Reform, the City needs to review its methods for several operational activities, particularly in the area of the removal, transportation and disposal of residual materials.¹⁴ It is therefore crucially important that, before any changes in operational strategy (from direct labour to outsourcing, and vice versa) are decided upon, all cost components and the various qualitative aspects are taken into account in the comprehensive evaluation. A model should be developed by the Direction générale so that it will have assurance that all boroughs follow the same procedure and it can consider the same elements before a decision is made on the mode of operation to be adopted.

¹⁴ Under section 85.5 of *Charter of Ville de Montréal*, the City council was declared, as of January 1, 2015, to have jurisdiction over the removal, transportation and disposal of residual materials (Resolution CM14 1126).