

CITY OF HAMILTON

PUBLIC WORKS DEPARTMENT
Operations & Waste Management Division

TO: Chair and Members Public Works Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: April 18, 2011	
SUBJECT/REPORT NO: Activity Based Costing for Public Sector Waste Collection 2013-2020 (PW04113a) - (City Wide)	
SUBMITTED BY: Gerry Davis, CMA General Manager Public Works Department	PREPARED BY: Blair Smith 905-546-2424, Extension 4770
SIGNATURE:	Pat Parker 905-546-2424, Extension 3916

RECOMMENDATION

- (a) That Report PW04113a be received;
- (b) That, for the purpose of determining the overall best value for the waste collection system for the collection period 2013 to 2020:
 - (i) The public service review include the internal costing for the curbside collection of garbage, organics, recycling, leaf and yard waste and bulk waste in the A Zones;
 - (ii) The private sector be invited to submit pricing through a Request for Proposals for the curbside collection of garbage, organics, recycling, leaf and yard waste and bulk waste in the B Zones; the curbside collection of recycling in the B Zones; the curbside collection of recycling in the A Zones; the City-wide collection of cart recycling and bin garbage;
- (c) That the General Manager of Public Works report back to Council on the results of the internal costing and RFP process.

EXECUTIVE SUMMARY

This report addresses only the way in which waste collection services should be delivered, or who actually performs the collection activities. A companion Information Report PW11030, *Waste Collection and Recycling Processing Procurement Processes for 2013-2020*, addresses the approach to waste collection services and the way in which the services will be provided from 2013-2020.

The purpose of this report is to review the results of the current waste collection service delivery model and to recommend an approach to service delivery for the next collection period. The current approach is a competitive model where there is a 50/50 public/private split in service providers for garbage, organics, bulk and leaf & yard waste collection.

The public/private service delivery model was approved by Council in 2004 (Report PW04113) based on favourable results of the activity based costing approach that was first initiated in 2002. To compare the costs, the city was divided into three pairs of collection zones with similar characteristics. The zones are provided in Appendix A of the Report PW04113a, with A Zones being collected by public forces and B Zones collected by private sector forces.

Alternatives for Consideration - See Page 5

The Activity Based Costing analysis indicates that the competitive model continues to be effective with public and private sector costs being comparable. The City's public forces provide waste collection services at a competitive cost with the private sector with the public sector cost at \$95.29 and the private sector cost at \$96.45 per eligible property in 2009. The previous results showed the City's costs being higher than the private sector, which illustrates the benefits of a competitive model.

It is therefore recommended that a Request for Proposals (RFP) be issued for a range of waste of collection services for the B Zones and City-wide collection of recycling. It is also recommended that an internal costing be undertaken as a parallel process to the RFP for public sector collection of recyclable materials in the A Zones in addition to the collection of garbage, organics, leaf and yard waste and bulk waste for the purpose of comparing costs. The results of the service delivery alternatives and costing will be presented in a report to the Public Works Committee along with a recommended waste collection service model and award of any associated contracts.

Proceeding in this manner does not commit Council to changing the services delivered by the public sector, but it does allow for a complete comparison of the competitive costs for the upcoming service period.

FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial: There are no direct financial implications associated with the recommendation. The cost of the future waste collection system will be determined through the internal costing for public sector services and through the Request for

Proposals (RFP) process for the contracted services. It will be necessary for staff to report back on the award of any new service contracts.

Staffing: Similar to the financial implications there are no staffing implications associated with the recommendation in this report. Staffing implications will be addressed on the report on the award of new service contracts.

Legal: There are no legal implications associated with the recommendation in this report. Legal Services staff will be involved in the RFP preparation and evaluation process and contract preparation and execution for any new service provider(s) for the contract period covering 2013-2020.

HISTORICAL BACKGROUND

Following amalgamation in 2001, Council approved Report TOE0118a, *Uniform Waste Collection Service Levels – Harmonization of Waste Collection Services*. To address the mix of private and public service delivery that was occurring in the former municipalities, a service delivery model was approved to continue with the blend of public and private service delivery, but on a more organized basis. Six (6) waste collection zones were established – two (2) urban zones, two (2) suburban zones and two (2) rural zones – each pair with similar numbers of households and, as best as possible, similar collection characteristics. The collection zone map is included as Appendix A to Report PW04113a. The curbside waste collection services (garbage, bulk and leaf & yard) were split 50%-50% between public service delivery and private contracted services. In conjunction with this structure, an Activity Based Costing model was developed to compare the performance and costs of the public sector service delivery with the contract costs of the private service delivery.

In October of 2004 Report PW04113, *Activity Based Costing/Waste Collection Services*, provided an update on the comparison of public and private service delivery costs and performance in preparation for the next contract period that was to start in 2006 with the implementation of the Green Cart program. It was determined that the costs between public and private services for curbside waste collection were similar and that the same model should be maintained for the contract period from 2006 to 2013.

The 2004 ABC analysis showed the public sector cost of \$71.91 per household to be substantially higher than the private sector cost of \$60.88. At the time, the household database was still being refined but the ABC model provided a good basis for continuing to refine the cost analysis for the future.

It is noted that other services for bin garbage, blue box and blue carts for eligible multi-residential and commercial properties continued to be contracted out as they had been in the past. It was not feasible to acquire the front end load trucks and staffing to provide this service at costs comparable to the private sector at the time.

Subsequently the City-wide recycling contract ended in 2008. As a result of difficulties with the contractor, consideration was given to the possibility of the public sector providing some or all of the recycling collection service. As such a RFP was issued for a 5-year contract to coincide with the end of the other waste collection contracts. To

address the possible public sector involvement and options around single stream collection (and processing) and a four day collection week, proponents were able to bid on up to twelve (12) options making the RFP process and the evaluation process extremely cumbersome. In the internal costing exercise the cost for the public sector to deliver recycling services was higher than the cost of the private sector. In April 2007, Report PW07057/FC07052 recommended the City-wide award of the recycling collection contract to National Waste Services Inc..

The following table shows the zones, general description and the number of households used in the Activity Based Costing analysis:

Table 1: Overview of Collection Zones

ZONE	SIZE (APPROX # OF HOUSEHOLDS)			APPROXIMATE AREA
	2007	2008	2009	
A1 (urban)	50,600	51,800	*51,400	Hamilton District (lower)
B1 (urban)	52,600	52,700	53,500	Mountain areas of Hamilton & Stoney Creek Districts
A2 (suburban)	12,500	12,500	12,500	Dundas & Hamilton (West) Districts
B2 (suburban)	14,000	14,200	14,600	Stoney Creek District
A3 (suburban/rural)	12,400	13,500	14,000	Flamborough & rural Ancaster Districts
B3 (suburban/rural)	16,000	16,000	17,200	Ancaster & Glanbrook Districts

* The reduction in the number of households in the A1 Zone relates to continuous improvement in the waste collection data base, and a low replacement rate for older curbside units in the lower city.

The following table shows the current waste collection service delivery model:

Table 2: Current Service Providers for Various Waste Collection Services

SERVICE	ZONE	SERVICE PROVIDER
Garbage/Green Cart	B1, B2, B3	National Waste Services Inc.
Leaf and Yard	B1, B2, B3	National Waste Services Inc.
Bulk	B1, B2, B3	National Waste Services Inc.
Bin Garbage	City Wide	National Waste Services Inc.
Blue Box/Cart Recycling	City Wide	National Waste Services Inc.
Garbage/Green Cart	A1, A2, A3	City Public Forces
Leaf and Yard	A1, A2, A3	City Public Forces
Bulk	A1, A2, A3	City Public Forces

All of the current waste collection contracts come to an end at the same time on March 29, 2013. Most waste collection trucks have a lifecycle of about 7 years and will therefore need to be replaced for 2013. It takes more than a year for new trucks to be

obtained regardless of whether they are for public or private sector use therefore decisions must be made by early 2012 to allow staff and successful bidders to order their trucks in time for the start of the new collection period from 2013 to 2020. (see Information Report PW11030, *Waste Collection and Recycling Processing Procurement Processes for 2013-2020*).

The purpose of this report is to update Public Works Committee on the recent Activity Based Costing analysis and to recommend an approach to costing the service delivery of waste collection for the 2013-2020 collection period that reflects best practices and garners the best pricing for these services.

POLICY IMPLICATIONS

This report relates to the Public Works Business Plan and the Solid Waste Management Master Plan.

Public Works Business Plan – Communities: The waste collection model contributes to the provision of services that the community is connected with and trusts.

Processes: Activity based planning and costing are a normal part of waste collection service delivery planning.

Finances: The waste collection service model strives to deliver service levels with corresponding budgets.

Solid Waste Management Master Plan – Recommendation #15: The waste collection model and contractual agreements with the private sector provide the City with adequate control and financial protection to ensure services will continue to be delivered.

Purchasing Policy No. 22 - Policy for In-House Bid Submissions

The internal costing is developed by an in-house team of staff, which functions apart from the staff working on the RFP documents in an effort to maintain fairness. Every effort is being made to maintain confidentiality of the RFP development. Documents will be secured and the in-house team has been advised not to discuss the process with other staff. Discussion has taken place with regard to an in-house bid as opposed to an in-house costing, and it is considered that the in-house costing approach is appropriate. The in-house costing approach will enable staff to determine the cost of waste collection in a similar process to the RFP proponents while recognizing the differences of an internal approach and that many of the RFP components are not applicable. Internal costs will be developed for the key technical elements of the collection operations. This approach is considered by the Purchasing staff to be acceptable within the policy.

RELEVANT CONSULTATION

The results of the Activity Based Costing analysis have been presented to the Solid Waste Management Master Plan Steering Committee who is in support of recommendations that will facilitate comparative costing.

The ABC results were also shared with the Waste Reduction Task Force who supports an approach that generates the best pricing, as most residents are not aware of who delivers waste collection services.

The approach to the RFP and the internal costing for waste collection services has been discussed with the Corporate Finance and Purchasing Divisions of the Corporate Services Department.

Preliminary discussions have been held with CUPE 5167 and they will be involved in the public sector service delivery costing process.

ANALYSIS / RATIONALE FOR RECOMMENDATION

It is proposed that the City continue with the current waste collection service delivery model and that the public sector service costing also include the option of collection of recyclable material in the A Zones.

A Request for Proposals would be issued for the contracted services which will include options for recycling in the A Zones and City-wide.

This model provides the City with a balanced approach to waste collection, the environment of competition between the public and private sectors, comparable costs and manageable capital costs.

A report to the Public Works Committee will be presented early in 2012 on the award of collection contracts and processing of recyclable materials.

ALTERNATIVES FOR CONSIDERATION

In reviewing the alternatives for consideration, this section contains

- an overview of public and private service delivery of waste collection
- the results of the Activity Based Costing (ABC) analysis for 2007, 2008 and 2009
- complaint and call tracking results
- options for consideration for the next collection period

1. Overview of Public and Private Service Delivery of Waste Collection

There has been a great deal of news recently about the matter of private versus public waste collection as the City of Toronto is poised to make changes. In recent published documents, there continues to be mixed opinions on the matter of public versus private waste collection services.

Some of the purported advantages of private collection services include lower wage and benefit costs, higher productivity, elimination of capital requirements and the opportunity to solicit competitive prices from private sector service providers. Some disadvantages include concern for loss of control, inability to make adjustments without increasing costs, need for contract management including consequences for failure to provide prescribed services, costs that outweigh benefits and loss of internal expertise.

Considered advantages of public sector collection services include municipal control and the flexibility to make changes, a municipality's lower cost of borrowing and that municipalities don't pay taxes and insurance in the same ways that the private sector does. Disadvantages of a full public sector service model is the elimination competition for service delivery quality, the potential for complacency and collective bargaining agreement restrictions, supervisory requirements and the capital investment required for collection fleet.

There are a number of advantages to split collection models that results from a competitive process within and between service providers. Public sector costs are minimized given the comparison to private sector costs. Competitive pricing is also obtained on private sector work as a result of the bidding process. In addition, a private sector component can have a positive impact on public sector productivity. The municipality can still maintain control, transparency and accountability with a split model. A split model minimizes exposure to future higher costs of private sector monopoly. Impacts on public sector collective bargaining agreements can be minimized in many cases. Labour disruptions may be easier to manage with split collection models. Capital requirements are also balanced. A disadvantage around the split model is that it may be viewed by labour unions as a step to full privatization of the service.

Based on the functional differences of the models, the split model for waste collection services continues to be a best practice as provides overall best value for City tax payers. The competitive model has potential customer service and cost advantages over either fully private or fully public service delivery as outlined in the analysis below.

2. Activity Based Costing (ABC) Analysis

ABC is the measurement of inputs required to achieve a specific output. As it pertains to waste collection, this tool is used to identify the resources required to collect specific types of waste from the curbside of City of Hamilton properties and measure the effort exerted and achievements of the effort, which is expressed as the types and amounts of waste collected and delivered to the various processing facilities. The results are only comparable on a "Unit Cost" basis. In waste collection, the Unit Cost could be a cost per tonne or may more appropriately be a cost per eligible property.

Costs associated with the collection service delivery for garbage, organics, leaf and yard waste and bulk include "direct", "indirect" and "overhead" costs.

Direct costs in the publicly serviced A Zones include the labour and fleet costs by material type. In the contracted B Zones, direct costs are based on the monthly contract invoices.

Indirect costs in the A Zones include waste collection administration (management, superintendent, foremen), customer service including supervision based on the apportioned calls, human resource costs (vacations, training, work accommodation) and supplies (safety equipment, office and maintenance supplies). In the B Zones, indirect costs include a portion of the waste collection administration, contract supervision and a portion of the customer service calls.

Overhead costs include portions of the offices of the Senior Director and Support Services Group associated with the collection of garbage, organics, leaf and yard waste and bulk waste and are allocated based on the eligible properties in the zones.

The following table shows the cost comparison between the A Zones and B Zones for the collection of garbage, organics, leaf and yard waste and bulk waste for the years 2007, 2008 and 2009. Costs have not been compared to 2006 and prior years as organic waste (green cart) collection was introduced in April 2006:

Table 3: Summary of Waste Collection Costs Per Eligible Property (Household)

YEAR	A ZONES (PUBLIC SERVICE)	B ZONES (PRIVATE SERVICE)
2007	\$89.59	\$94.76
2008	\$93.69	\$102.13
2009	\$95.29	\$96.45

A more detailed table showing the costs associated with the collection programs is included as Appendix B to Report PW04113a.

The updated analysis shows that public sector costs are now lower than private sector costs, a change from the 2003 review. The private sector costs are a result of a competitive bidding process and vary from year to year relative to consumer price and diesel fuel indices. The costing result demonstrates the benefits of the split collection model.

3. Customer Satisfaction Analysis

Customer satisfaction for all zones is also measured by documenting all calls in a format that captures the name and address of the caller, the zone and nature of the complaint. This information is captured and stored in the City's Hansen software.

The call data is provided in Table 4 and the analysis showed that in general, service complaints were comparable between the public and private sectors. These include only complaints such as missed collection, damaged containers and waste materials remaining on the ground. The following table shows a comparison of the service complaints, households and number of complaints per household for the A and B Zones for 2010.

Table 4: Comparison of Complaints – A and B Zones

2010 FACTOR	A ZONES (PUBLIC SERVICE DELIVERY)	B ZONES (CONTRACTED SERVICE DELIVERY)
No. of Complaints	13,084	10,053
No. of Households	78,500	85,600
No. of Complaints/ Household	.17	.12

It is clear that the customer service aspect of waste collection is similar in either the zones collected by public forces or the private sector.

4. Options for Consideration

In the review of best practices including industry information, Activity Based Costing and customer service quality, there are a number of ways that waste collection service could be delivered.

The options for consideration include:

1. continuing with the 50%-50% service delivery for collection of garbage, organics, leaf and yard waste and bulk waste; 100% private contracted collection of recyclables and bin garbage service
2. adding recycling collection to the split service delivery model to have a 50%-50% split for collection of garbage, organics, leaf and yard waste, bulk and recyclables; 100% private contracted collection of bin garbage service (Recommended option)
3. 50%-50% service delivery model for all waste collection services, including bin garbage service and recycling, i.e. 50-50 split collection model for garbage, organics, leaf and yard waste, bulk waste, recyclables and bin garbage
4. 100% public service delivery of all services
5. 100% private contracted collection of all services

Staff is recommending that recycling collection, as described in Option 2, be explored as part of the internal costing and RFP process to allow full comparison of costs based on the various approaches to waste collection services being evaluated for 2013-2020 as outlined in companion Information Report PW11030, *Waste Collection and Recycling Processing Procurement Processes for 2013-2020*. This approach is required as a new service level may result recycling being co-collected with garbage or organics and as a result Option 1 has not been recommended. Further the results of the ABC analysis suggests that the public service delivery has become more efficient in the past six (6) years and that collection of recyclables could well be done cost competitively by the public sector.

Inclusion of recycling collection may also result in efficiencies in the number of trucks required for collection. The cost of buying or leasing trucks for public sector use would be determined through a tender for the services that are costed and reflected in the public sector costing. Alternative approaches will be explored to minimize capital budget requirements, given the forecasted demands on the fleet reserve.

Option 3 adds bin garbage collection from multi-residential buildings to the split competitive model. This option is not recommended as the location of the multi-residential buildings does not fit into the collection zone model and can not be split in the same way as the curbside services. Given the more specialized equipment and small number of trucks, exploring public sector service delivery has not been recommended.

It is recognized that the detailed costing would need to consider the number of trucks and FTEs required in Options 2, 3 and 4 to carry out the public portion of the recycling service delivery.

Option 5 would not require any up front capital for trucks but is not be viewed favourably by CUPE as it would also result in a reduction of approximately 50 FTEs. Staff would still be required to manage contracts.

Options 4 and 5 do not support the environment of competition that makes the blended or split approach to waste collection attractive.

All costs would be determined through the detailed internal costing for comparison with the private sector pricing received through the RFP process.

5. Conclusion

Based on the best practices and advantages associated with the split collection model, the comparative costs of the ABC analysis and the customer service statistics, the split waste collection model provides a service delivery model suited to the City's needs, and which is efficient and cost effective. Inclusion of recycling collection in the model may not be incrementally significant if additional efficiencies can be achieved through alternative collection methods. Moving forward with a comparative analysis does not commit Council to increasing the portion of the service delivered by the public sector, but it does allow for a complete comparison of the costs for the upcoming service period. A competitive model for waste collection provides overall best value for the City.

CORPORATE STRATEGIC PLAN

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

Skilled, Innovative & Respectful Organization

- ◆ More innovation, greater teamwork, better client focus

Financial Sustainability

- ◆ Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative and cost effective manner

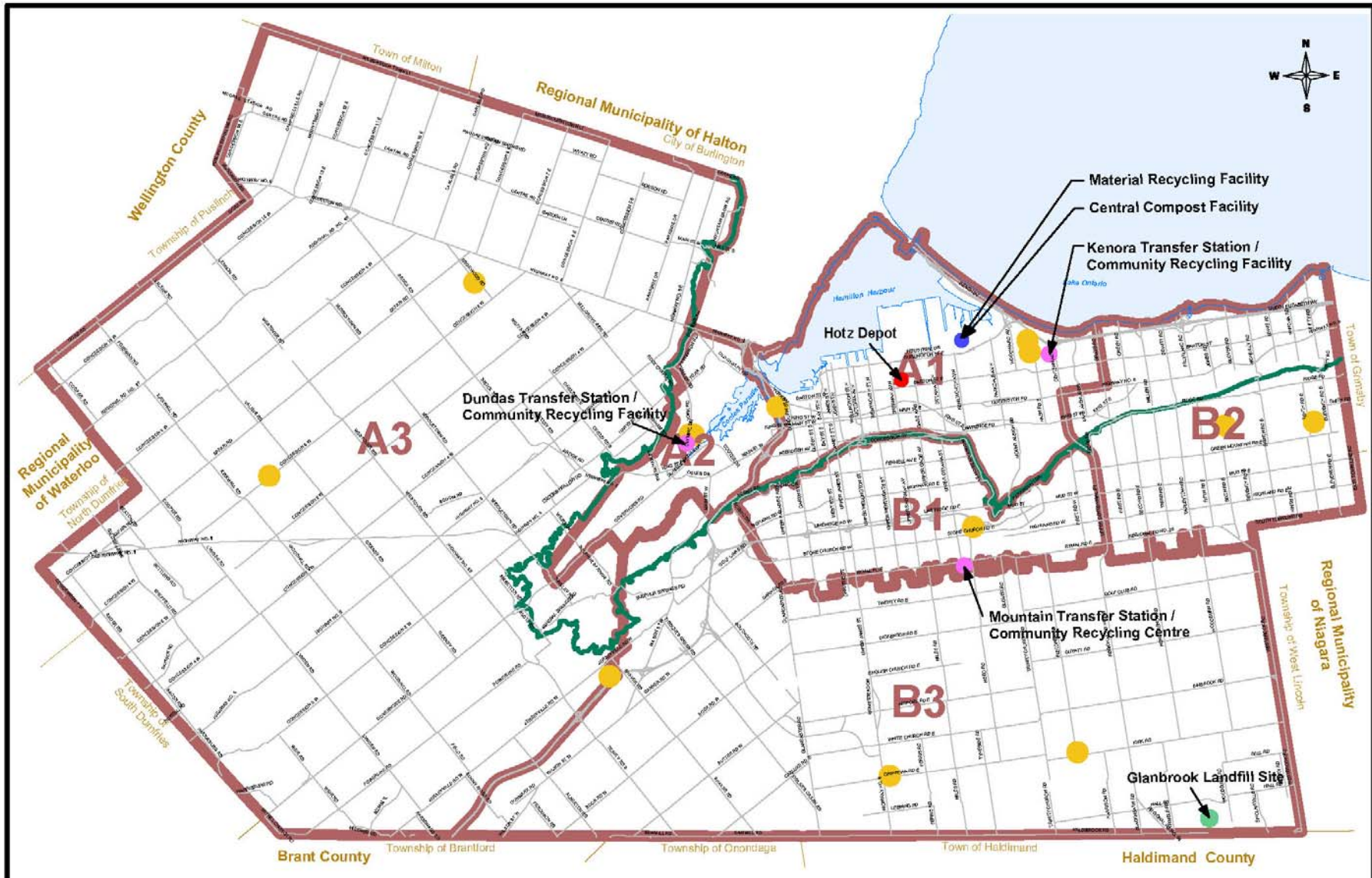
Growing Our Economy

- ◆ Competitive business environment

APPENDICES / SCHEDULES

Appendix A - City of Hamilton Collection Zones

Appendix B - Waste Collection Activity Based Cost Report For the Years 2007 to 2009



**City of Hamilton
Collection Zones**

Legend

- Glanbrook Composting and Landfill Site
- RRC (Material Recycling and Compost Facility)
- Hotz Depot
- Closed Landfill Site
- Transfer Stations/Community Recycling Centers
- Waste Collection Zones

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APPENDIX "B"

PW04113a

Collection Activity Based Costing Report For the Years 2007 to 2009										
Year	Description	Zone A1	Zone A2	Zone A3	Total A	Zone B1	Zone B2	Zone B3	Total B	YTD Total
2007	Total Cost of Activity	\$ 4,618,153	\$ 1,009,426	\$ 1,217,813	\$ 6,845,392	\$ 4,855,945	\$ 1,426,848	\$ 1,550,154	\$ 7,832,947	\$ 14,678,340
	Households/Units	50,575	12,454	13,378	76,407	52,610	13,972	16,080	82,662	159,069
	Total annual cost per eligible property	\$ 91.31	\$ 81.05	\$ 91.03	\$ 89.59	\$ 92.30	\$ 102.12	\$ 96.40	\$ 94.76	\$ 92.28
2008	Total Cost of Activity	\$ 4,756,572	\$ 1,111,383	\$ 1,412,194	\$ 7,280,149	\$ 5,211,008	\$ 1,528,280	\$ 1,689,716	\$ 8,429,003	\$15,709,152.21
	Households/Units	51,763	12,496	13,449	77,708	52,696	14,154	15,680	82,530	160,238
	Total annual cost per eligible property	\$ 91.89	\$ 88.94	\$ 105.00	\$ 93.69	\$ 98.89	\$ 107.98	\$ 107.76	\$ 102.13	\$ 98.04
2009	Total Cost of Activity	\$ 4,868,409	\$ 1,085,258	\$ 1,463,830	\$ 7,417,497	\$ 5,115,374	\$ 1,594,306	\$ 1,510,090	\$ 8,219,769	\$15,637,265.80
	Households/Units	51,386	12,462	13,996	77,844	53,439	14,600	17,182	85,221	163,065
	Total annual cost per eligible property	\$ 94.74	\$ 87.09	\$ 104.59	\$ 95.29	\$ 95.72	\$ 109.20	\$ 87.89	\$ 96.45	\$ 95.90