



OFFICE OF THE
City Auditor

Waste Management Services Audit

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THE CITY OF
Edmonton

The Office of the City Auditor conducted
this project in accordance with the
*International Standards for the
Professional Practice of Internal Auditing*

Waste Management Services Audit

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Waste Management Services Audit

Executive Summary

The Waste Management Services (WMS) Audit was conducted at a unique developmental stage of the Waste Management Utility. In addition to being in its formative years, the Utility is undergoing significant transition with a recently approved Utility Fiscal Policy and the change from the long standing landfill based system.

WMS' mission is to provide waste management services for the City of Edmonton with due regard to the needs of residents, the preservation of natural resources, the protection of the environment and the financial capabilities of the City. City Council's governance role is to provide policy direction to ensure that business goals are accomplished, and to set utility rates that are reasonable for Edmontonians while allowing cost recovery. In 2010, City Council established a Utilities Committee comprising of four Councillors and an external Utility Advisor to assist in their governance role.

In this audit, the Office of the City Auditor assessed the overall governance framework of WMS, and how effectively, efficiently, and economically resources are being used to meet its goals.

Governance

The recently approved Utility Fiscal Policy provides a high level of detail regarding the fiscal performance of the WMS. Additionally, the Utility Advisor reviews the Utility's annual business plan and financial performance against approved budget, and annual budget documents. The implementation of this financial analysis represents a significant improvement in the rigor and transparency of the Utility's financial performance and will become a key driver in managing WMS operations and planning.

We found WMS policies and governing documents to be generally acceptable. However, we have recommended that regulating documents be enhanced to include performance measures to monitor cost and descriptions of cost allocations of WMS' major customer groups.

On August 30, 2006, the WMS received ISO 14001:2004 Certification for its Environmental Management System (EMS). In 2009, the WMS Environmental Management System was re-certified. We reviewed the governing documents and processes which WMS established to ensure compliance with federal and provincial waste legislation.

Performance Measurement

We assessed the sufficiency and reliability of key performance measures. Cost-based operational performance measures were published in 2007 to 2009 but omitted in 2010 in order to provide focus on measures in keeping with Council's Strategic Goals, Waste

Management's transition to a utility, and proposed financial indicators in a pending utility fiscal policy. WMS residential diversion target of 90% for 2013 will not be achieved due to a delay in the completion of the Biofuels facility, however WMS is optimistic this target can be achieved by 2015.

Financial Sustainability

We analyzed the current rate setting methodology to determine the financial sustainability of Waste Management Services. The current rate model ensures a projected balanced budget in order for WMS to be self-sufficient but this rate model does not identify costs attributable to each group of users.

We observed opportunities for WMS to conduct an enhanced review of billing costs during the negotiation with their service provider. Our analysis indicated that bad debt as a percentage of revenue has significantly increased in recent years for WMS. Currently, WMS faces a significant financial challenge in meeting its targeted debt ratios due to increased costs of capital expansion and phased addition of shared service costs.

Waste Collection Operations

We assessed the quality of work, cost efficiency, and productivity of waste collection service delivery. Customer complaints (quality measure) have declined in recent years. City staff productivity has increased in recent years and opportunities exist for WMS to further capitalize on potential cost savings through the reduction of non-collectable hours.

Revenue Opportunities

We reviewed two WMS business cases that lead to the creation of new revenue streams. We found the business plans were not updated annually to reflect changes that impact their ongoing feasibility, however changes were reflected in WMS annual budgets.

We also reviewed the process WMS follows to identify potential revenue opportunities and found that there is no documented process to track them. We believe opportunities exist to further partnerships with other regional local governments, federal and provincial governments, and educational institutions.

Conclusion

We have discussed our findings with WMS Management and the City's Utility Advisor. Six recommendations have been made to enhance the governance, financial sustainability, effectiveness and efficiency of WMS.

Waste Management Services Audit

1. Introduction

The City of Edmonton is recognized as a global leader in waste management. This leadership position evolved from a single focus on burying waste in landfills just twenty years ago, to today's integrated, sustainable system to divert much of Edmonton's residential waste from landfill. This leadership position was predicated in part by the need to find an alternative disposal site and Council's ultimate decision to move towards an integrated processing and disposal methodology, with emphasis given to waste diversion. In addition, as a result of this direction of Council, the Waste Management Utility required significant investment in capital infrastructure between 2008 and 2011. This resulted in customer rate increases needed to finance this capital investment as well as increased costs associated with waste processing (compared to landfilling).

The Waste Management Services (WMS) Audit was approved by City Council as part of the 2011 Office of the City Auditor's (OCA) annual plan. In this audit we assessed the overall governance framework within WMS and how effectively, efficiently, and economically resources are being used to meet its goals.

2. Background

2.1 Waste Management Services

The WMS mission is to provide waste management services for the City of Edmonton with due regard to the needs of residents, the preservation of natural resources, the protection of the environment and the financial sustainability of the Waste Management Utility.

The need to replace the Cloverbar Landfill was identified by the City in the early 1980's which initiated WMS to develop and implement a sustainable integrated waste management system. The system includes the reduction of waste at source, the diversion of waste through recycling and reuse programs, and recovery of products and energy from residual waste materials. These efforts contributed in extending the life of the Cloverbar Landfill site until August 2009.

To accommodate the waste recycling and recovery processes, the City constructed the Edmonton Waste Management Centre (EWMC) which also houses the Edmonton Waste Management Centre of Excellence. The Edmonton Waste Management Centre of Excellence is a partnership between Alberta Innovates - Technology Futures (AITF), AMEC Earth & Environmental, City of Edmonton, EPCOR Water Services Inc., Northern Alberta Institute of Technology (NAIT), and the University of Alberta. The Centre promotes research, development and training to increase scientific and applied knowledge in all areas of solid waste management and wastewater.

2.2 Organizational Structure

WMS is one of three branches within the Infrastructure Services Department. It is organized into two main operational sections, Collection Services and Processing and Disposal, and is supported by the main Branch-wide support section, Community Relations.

- 1) Collection Services** is responsible for the provision of all collection and drop-off services to the residential sector and provision of non-residential services to influence recycling in this sector. Additional programs include operation of Eco stations, Neighbourhood Recycling depots, and Community Big Bin Events.
- 2) Processing and Disposal** is responsible for processing of all residential waste and recyclables which occurs at the Edmonton Waste Management Centre. Waste that cannot be recovered or converted is disposed at landfills. The City currently has a long term agreement with Beaver Regional Waste Management Services Commission to use the Ryley Landfill and also an agreement to access capacity at the private West Edmonton Landfill until its projected closure in 2012.
- 3) Community Relations** is responsible for fostering the participation of Edmontonians in environmentally sustainable waste management practices through public education, public involvement, and ongoing communications and promotion. Programs developed by Community Relations include the Composter/Recycler Volunteer program, Waste Customer Support, School Programs, Outreach Programs, and the Reuse Centre.

2.3 Waste Management Services Resources

This section describes the current and historical operating and capital costs related to WMS. Costs for Community Relations are prorated between the two main operational sections of Collection Services and Processing and Disposal.

2.3.1. 2011 Operating Budget

Shown in Figure 1, are WMS' actual and budgeted expenditures from 2005 to 2011. The 2011 expenditure budget, approved at \$144.0 million, is comprised of \$52.4 million (36%) for Collection and \$91.6 million (64%) for Processing and Disposal. There are several factors contributing to cost increases such as fundamental changes to WMS operations to facilitate the Clover Bar Landfill closure (the primary factor), and absorption of Shared Service Costs. Additionally since 2005, the City has experienced moderate inflation compounded by population growth.

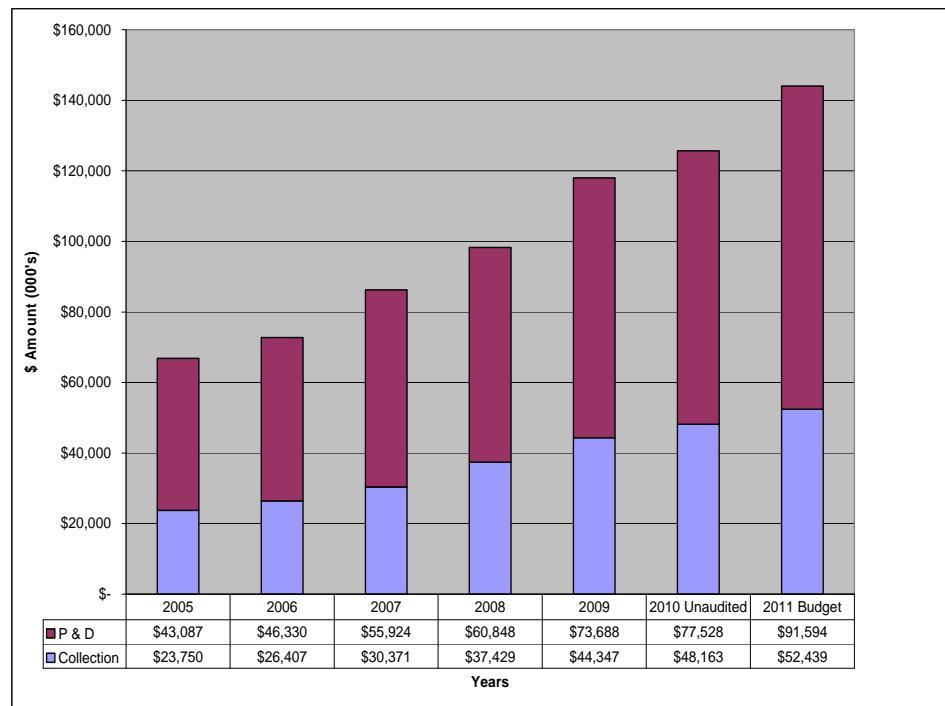
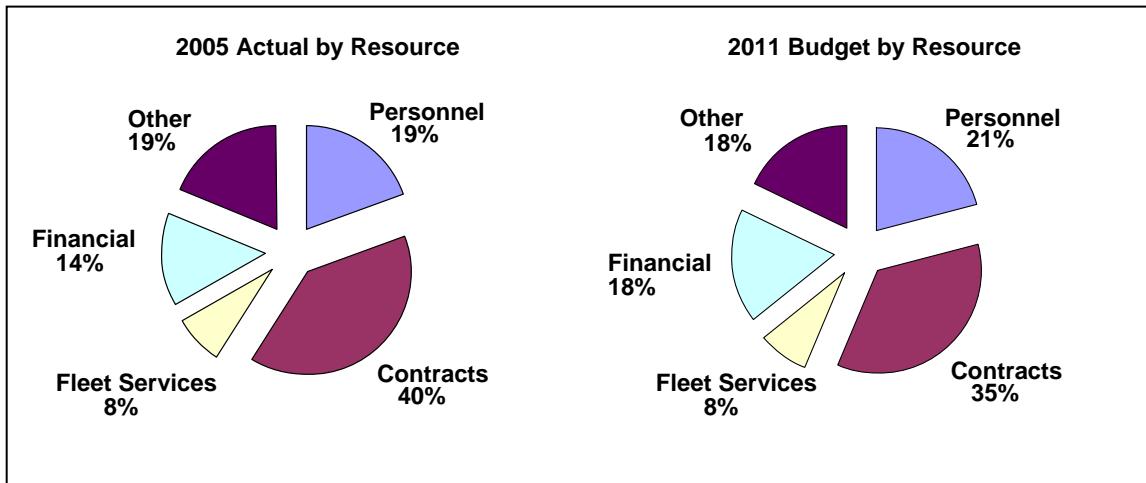
Figure 1: Operating Expenditures

Figure 2 provides an illustration of WMS' 2005 actual and 2011 budgeted expenses by resource type. In 2011 contract resources at 35% represent the largest resource type. From 2005 to 2011 financial costs (debt interest payments and depreciation expenses attributed to construction of capital assets), have increased from 14% to 18% of budgeted expenditures. Additionally, 2011 budgeted expenses include \$13.4 million in special provincial grant funding for the Edmonton Biofuels Facility. This amount is included in the "Other" category.

Figure 2: 2005 and 2011 WMS Resources by Category

2.3.2. Capital Budget

The actual and planned budget investment for capital projects is shown in Table 1. Through 2008 to 2011, in line with WMS' strategy to reduce dependency on landfills, significant investment was made towards the Integrated Processing and Transfer Facility, and EWMC infrastructure and equipment.

Table 1: WMS Capital Plan (2005-2013)
(thousands of dollars)

	2005 Actual	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Forecast	2012 Forecast	2013 Forecast
Total Capital	8,858	14,217	14,934	49,932	62,082	37,668	66,357	26,919	23,155
Capital relating to integrated processing									
Processing and Transfer Facility				24,420	34,188	3,387	24,854	2,500	-
Biofuels Research Facility				252	1,161	3,857	1,451	-	-
Gasification Facility					1,234	2,593	-	-	-
Kennedale Expansion					3,297	424	10,931	6,000	-
New capital initiatives									
Greys Paper					666	3,915	419	-	-
Construction & Demolition Facility						727	3,496	-	-
Ambleside Eco Station				7,084	4,210	1,251	1,751	-	-
NE Eco Station							3,500	7,668	5,500
"Normalized" Capital	8,858	14,217	14,934	18,176	17,326	21,514	19,955	10,751	17,655

2.4 Waste Management Services Governance

WMS operates under a utility model whereby City Council governs WMS and also regulates its utility rates. City Council's governance role is to provide policy direction and ensure that it accomplishes its business goals. City Council's regulating role is to set utility rates that are reasonable for Edmontonians while allowing WMS to cover the cost of its operations.

In 2009, the City contracted the services of an independent consulting firm to review WMS' governance and regulating structure. This review was timely given that WMS had just transitioned from a partially tax supported model into a utility rate-based model in January 2009. The intent of the review was to determine implications and improvement of this transition. WMS and City Council have acted upon several of the consultant's recommendations including the establishment of a Utilities Committee, the hiring of a Utility Rate Advisor, and the review and update of a utility fiscal policy.

2.4.1. Governance Structure

The current governance structure of WMS consists of City Council, a Utilities Committee, a Utility Advisor, and the Administration (the City Manager and WMS). The following is a high-level summary of the roles relating to the governance of WMS:

City Council: Provides policy direction, sets utility rates, and approves budget and discharges WMS matters to the Utilities committee.

Utilities Committee: Consists of four Councillors who serve on the Utilities Committee for three year terms. Additionally, the Mayor is a member of the Utilities Committee by virtue of office. Their role is:

1. To review reports from WMS that are directly or indirectly related to budget, policy, and rate decisions.
2. To deal with, and recommend to Council, items relating to policy and rate setting with respect to WMS.

Utility Advisor: The Utility Advisor is appointed by Council and reports to Council through the Utilities Committee, thus is independent of Administration. This independence ensures the following responsibilities are performed in an objective and impartial manner:

1. Reviews operational and budget submissions from WMS and assesses the submissions for reasonability and accuracy.
2. Provides utility costing advice and assistance to City Council and the Utilities Committee.
3. Provides rate-setting advice and assistance to City Council and the Utilities Committee.

Administration: Proposes plans, budgets, and utility rates to the Utilities Committee and Council for approval. WMS also prepares policies for City Council's approval on waste management and implements the approved WMS program.

2.4.2. Waste Management Policies

Currently, two policies guide operations at WMS:

1. *The Waste Management Policy (C527):* This policy outlines the environmental, economic and social requirements necessary to guide Edmonton's integrated waste management system.
2. *The Waste Management Utility Fiscal Policy (C558):* This policy supplements the existing *Waste Management Policy C527*, also provides direction and sets targets that will guide the long-term sustainability of the Utility.

3. Objectives, Scope and Methodology

3.1 Audit Objectives

During the planning phase of this audit, we conducted a risk assessment of WMS. This involved conducting interviews with Management from each section of WMS to gain an understanding of their business environment and the risks they face. We then asked them to assess the likelihood of each risk and the impact it would have if it did occur, considering the controls they have in place.

The results from the risk assessment formed the basis for developing our audit objectives and programs. The following were the audit objectives for this audit:

1. Review and assess WMS' legislative framework and compliance.
2. Assess the sufficiency, and reliability of WMS' key performance measures.
3. Assess WMS' financial sustainability in the delivery of waste management services.
4. Assess the effectiveness and efficiency of WMS' waste collection operations.
5. Assess WMS' strategy to pursue a greater market share of commercial waste collection and disposal.

3.2 Scope and Methodology

The scope of this project was largely determined from the selected audit objectives defined above. The scope included relevant legislation and available performance measures; available operating and capital financial information; detailed review of waste collections operations and a high-level review of processing and disposal operations; and a review of WMS' activities related to commercial revenue opportunities.

Our methodology included the identification and analysis of current legislation relative to WMS, as well as research of similar legislation for comparative purposes. We reviewed and analyzed available historical and projected financial information and available performance measurement targets and results. We met with management and financial support personnel to discuss both financial and performance data in detail. Additionally we surveyed other municipalities and conducted research for comparison.

During fieldwork we met and interviewed management and staff, reviewed operational procedures and controls, and conducted site visits to view operations first hand. We also reviewed management's business plans and discussed assumptions related to projections.

4. Observations

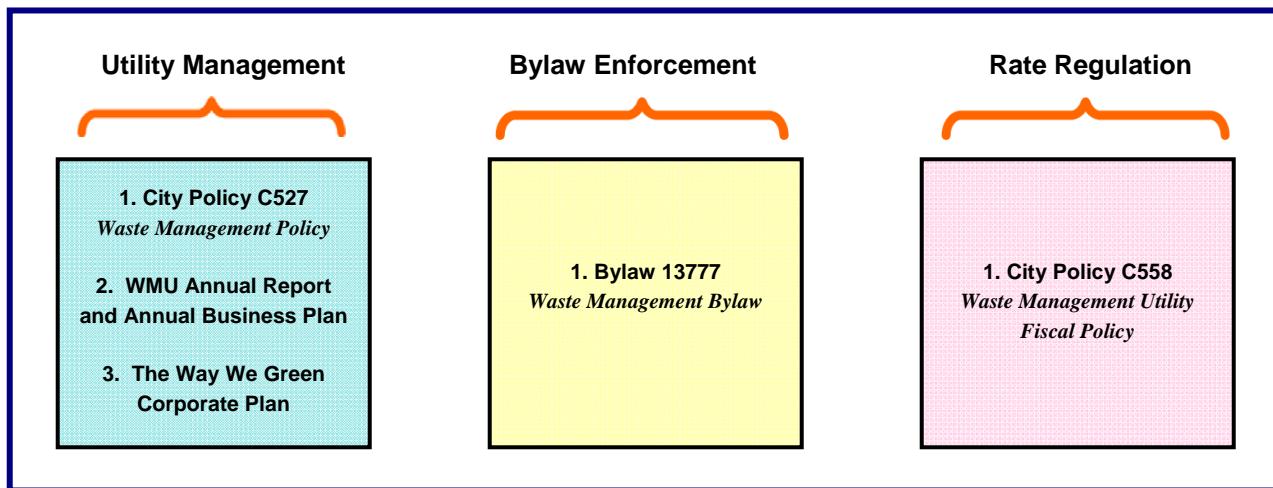
4.1 Governance

We assessed the adequacy of WMS' governing documents and the methods and processes put in place to ensure compliance with federal and provincial waste legislation.

4.1.1. Adequacy of Governing Documents

Our research in utility management revealed that well managed utility organizations have governing documents that cover utility management, bylaw enforcement and rate regulation. Figure 3 provides a pictorial representation of WMS' governing documents in these key areas.

Figure 3: Governing Documents



Governing documents include Policy C527 *Waste Management Policy*, WMU Annual Report and WMU Annual Business Plan, The Way We Green¹, and Waste Management Bylaw (Bylaw 13777).

We assessed the adequacy of WMS' governing documents against criteria set out in the publication "Towards Auditing Waste Management."² We observed that its governing documents adequately discuss waste management and are regularly reviewed. Also, the quantitative targets were appropriately reflected in Policy C527 and in the WMU Annual Report and WMU Annual Business Plan.

We also assessed the adequacy of C558 *Waste Management Utility Fiscal Policy*. This document governs WMS' residential rate setting activities and includes policy controls, such as financial reserves that are meant to safeguard the financial health of the entity.

¹ The Way We Green is currently under review, therefore, assessing the adequacy of this document is outside the scope of this audit.

² This publication was prepared by the International Organization of Supreme Audit Institutions' (INTOSAI) Working Group of Environmental Auditing and included members such as the Auditor General of Canada.

We assessed the adequacy of the fiscal policy in relation to criteria discussed in “*Principles of Public Utility Rates*³. ” Table 2 summarizes the results of our assessment.

Table 2: Adequacy of Rate Regulating Document

Criteria	Fiscal Policy is Adequate
1. Adequate Revenue Generation to Cover Costs	✓
2. Revenue Stability	✓
3. Rate Stability	✓
4. Cost-efficiency of Services	X
5. Efficiency of Service Use by Rate Payers (i.e. avoid waste)	N/A -Addressed by Bylaw 13777
6. Promotion of Dynamic Efficiency (i.e. Innovation)	✓
7. Fair Method of Cost Allocation Between and Within Major Classes of Rate Payers	X
8. Transparent and Easily Understood Rate Calculations	N/A- Addressed by internal financial procedures
9. Public Acceptance of Rates	N/A- Public elects council to make decisions on its behalf

As shown in Table 2, the fiscal policy is adequate in terms of having policy controls that monitor the stability of revenues and utility rates, and ensure that sufficient funds exist to finance operating costs and capital investments in existing and future infrastructure. While we found the fiscal policy adequate in the above areas, we observed that there were gaps in the following areas:

Cost-efficiency of Services Provided: WMS’ current fiscal policy does not address control(s) which monitor the cost-efficiency of services provided. Cost-based operational performance measures were published in 2007 to 2009 but omitted in 2010 to provide focus on measures in keeping with Council’s Strategic Goals, Waste Management’s transition to a utility, and proposed financial indicators in a pending utility fiscal policy. WMS has indicated that cost efficiency measures will be addressed in 2012.

Fair Method of Cost Allocation: There are two major customer groups of regulated rate payers – single family and multi-family residential customers. The fiscal policy does not provide information on how rates/fees are fairly allocated between single and multi-family customers. In 2010 WMS contracted a consultant to conduct a Cost of Services Study which validated the current ratio of allocation as being appropriate.

The OCA concludes that WMS can improve the adequacy of its fiscal policy by incorporating measures which monitor cost-efficiency and provide rate-setting information on its key customer groups.

³ The *Principles of Public Utility Rates* were developed by John Bonbright, a leading and world renowned expert in utility management. In the utility industry Bonbright’s criteria serve as a reference point for the regulation and management of public utilities.

Recommendation 1: Adequacy of Regulating Documents

The OCA recommends that WMS incorporate into the regulating documents:

- Performance measures of cost-efficiency.
- Descriptions and fair methods of cost allocations of WMS' major customer groups.

Management Response: Accepted.

Action Plan & Timelines:

Cost-based performance measures will be included in formal documentation for the Utility in 2012, starting with the 2012 Budget.

Information on cost allocation and efficiency will be added to the next iteration of the Utility Fiscal Policy planned for 2014.

Responsible Party: Manager, Waste Management Services

4.1.2. Compliance to Legislation

We observed that WMS' environmental compliance is maintained primarily through its ongoing administration of *ISO 14001: Environmental Management Systems (ISO)*. As a requirement of the ISO certification, we observed that WMS maintains a comprehensive legal registry which charts out key legislation by area and operational function. Based on our review, this legal registry is appropriate in enabling management to identify and monitor its compliance to important legislation.

To observe evidence of compliance, we selected the following five samples of pervasive legislation that directly impacts WMS' operations:

1. Environmental Protection and Enhancement Act (EPEA)
2. Waste Control Regulation (Part of the EPEA)
3. Occupational Health and Safety Act
4. Dangerous Goods Transportation and Handling Act
5. Traffic Safety Act

For all five samples we observed evidence of compliance in the form of certifications and licenses.

In conclusion, we observed that WMS has appropriate methods and processes in place to monitor compliance to its legislative environment.

4.2 Performance Measures Evaluation

Through our review we assessed the sufficiency and reliability of WMS' key performance measures and financial indicators.

In 2011, the Utility Fiscal Policy C558 was approved and WMS has indicated that it is their intention that all of the financial indicators listed within the approved policy be reported upon. This is demonstrated in their Waste Management Utility Business Plan 2012-2014 presented to the Utility Committee on June 16, 2011. WMS has indicated that these indicators will be updated when the 2012 budget is presented, and again when the 2011 results are known.

WMS has internal processes to monitor costs and in addition, the Utility Advisor reviews the Utility's annual business plan, actual financial performance against approved budget, and annual budget documents.

4.2.1. Sufficiency of Externally Reported Measures

We assessed the sufficiency of the reported external performance measures from a rate regulating and operational perspective.

Rate Regulation (Financial Indicators)

From a rate regulating perspective, our focus was to only assess the sufficiency of the financial indicators since the stability of utility rates is dependant upon an entity's financial health. Accordingly, these indicators were assessed against Bonbright's principles discussed earlier⁴ since they are widely used in the utility industry.

As shown in Table 3 we observed that WMS' existing financial indicators monitor the stability of rates, the stability of revenues, and also assess whether or not adequate revenues are being generated to recover costs.

Table 3: Sufficiency of Financial Indicators

Criteria	Name of Financial Indicator	Are Financial Indicators Sufficient?
1. Adequate Revenue Generation to Cover Costs	<i>Rates Sufficient to Meet Expenses</i>	✓
2. Revenue Stability	<i>Rates Sufficient to Meet Expenses</i>	✓
3. Rate Stability	<i>Financial Stabilization Reserve</i>	✓

Operational (Performance Measures)

From an operational perspective, the reported measures were assessed for sufficiency against their objectives, mission statement and their strategic departmental outcomes. The departmental outcomes address WMS' mission to provide waste management services for the City of Edmonton with due regard to the needs of residents, the

⁴ Note that only the first three of Bonbright's principles were used as criteria in this case since they are directly concerned with the financial health of a utility.

preservation of natural resources, the protection of the environment, and the financial capabilities of the City. As previously discussed, cost-based operational performance measures were published in 2007 to 2009 but are not currently reported. WMS has indicated that cost-based operational performance measures will be publicly reported in 2012.

We also surveyed the cities of Winnipeg, Calgary, Red Deer, Toronto, and Vancouver in order to determine what indicators or measures of cost, if any, did their waste management departments publicly report. Our survey found that three of the five municipalities publicly reported such information. Specific examples include the *Operating Cost of Collection per Tonne*, the *Operating Cost per Household*, and the *Operating Cost per % Diversion Rate Achieved*.

Failing to publicly report such measures limits the ability of both Council and the rate-payer to monitor the entity's performance. Given that citizens are rate-payers, and that costs drive utility rates, clear and easily understood measures of cost-efficiency are needed to enhance WMS' accountability, particularly to the rate-payer. (See *Recommendation 1*)

4.2.2. Reliability of Reported Measures

We selected and assessed the reliability of WMS's reported measures. The measures were chosen for their strategic importance in relation to Council's priorities for WMS, the achievement of WMS' mission, and significance of the measures to its key operating activities.

We considered a measure reliable if the information used to calculate the measure could be traced to original source data and was based on reasonable and substantiated estimates. Our assessment is summarized in Table 4.

Table 4: Assessment of Key Performance Measures

Performance Measure	Measure was Reliable
1. Customer Satisfaction Levels (Collection Services)	✓
2. Number of Incidents (Workplace Safety)	✓
3. Percentage of Homeowners Recycling	✓
4. Greenhouse Gases Reduction	✓
5. Number of Patrons visiting Eco Stations and Big-Bin Events	✓
6. Missed Collections per 10,000 Stops	✓
7. Residential Waste Diversion Rate	X

As reflected in the table, the OCA observed WMS performance measures are reliable, with the exception of the *Residential Waste Diversion Rate*

4.2.3. Calculating Residential Waste Diversion Rate

The *Residential Waste Diversion Rate* (diversion rate) is used by WMS to assess the portion of residential waste that is diverted from landfills as a result of its recycling and composting activities as well as residential waste reduction.

Using WMS' own methodology we re-calculated the 2008 to 2010 diversion rates and observed a variance in WMS reported rates. Table 5 highlights the differences between the OCA's calculations and the rates publicly reported by WMS.

Table 5: Reporting Differences for the Residential Waste Diversion Rate

Residential Waste Diversion Rate	2008 Actual	2009 Actual	2010 Actual	2013 Target
OCA Re-calculated	57%	44%	44%	83%
WMS – Reported Result	60%	41%	44%	90%

The OCA further assessed the reliability of the 2013 diversion rate target (i.e. 90%). Using substantiated estimates of population, waste diversion growth, and tonnage information, the OCA determined a target of 83% resulting in a difference of 7% from the target of 90%. The difference was due to aggressive assumptions made by WMS. WMS has indicated that these waste management targets are purposefully high given that they are a target.

Recommendation 2: Residential Waste Diversion Rate

The OCA recommends that WMS develop a process to ensure that estimates used to compute the *Residential Waste Diversion Rate* are substantiated with current data.

Management Response: Accepted in the context provided below.

Action Plan & Timelines:

WMS agrees that the 90% diversion target will not be achieved in 2013 but rather 2015. The latest information from Enerkem Alberta Biofuels shows that full commissioning of the Biofuels Facility to 100% throughput will be complete September 2014. The target of 90% diversion will be set back to year 2015, the first full year of operation at full capacity. Revised completion date of the Biofuels Facility was reported in the Utility's recent Business Plan and revised target dates will be presented in the 2012 budget submission.

A more rigorous approach will be applied going forward with the responsibility for formalizing documentation centralized under one position by the end of 2011.

Responsible Party: Manager, Waste Management Services

4.3 Financial Sustainability

We analyzed the current rate setting methodology to determine the financial sustainability of WMS. Additionally we reviewed the WMS processes for billing and management of bad debt. The *Waste Management Utility Fiscal Policy – C558* defines financial sustainability as the achievement of all targets for financial indicators. We analyzed two WMS financial indicators and targets to determine whether they were achieved.

4.3.1. Utility Rate Pricing Model

The utility rate model establishes the monthly residential utility rate by ensuring projected revenues generated will be equal to projected expenses (operating and capital) for the year. We reviewed the utility rate model to determine whether the rates set result in a balanced budget.

In determining the monthly utility rate, the total budgeted expenditure of the utility forms the starting point. The total budgeted expenditure is then reduced by the projected non-rate revenue such as the Edmonton Waste Management Centre tipping fees including construction waste fees, sale of end products, commercial waste collection fees, and marketing of environmental offsets arising from waste diversion activities. Also, WMS may draw from its retained earnings (stabilization reserve) to lower the amount needed to be recovered. The balance remaining is divided by an equivalent number of residential households to determine the monthly utility rate.

Table 6: Utility Rate Model

	2010	2011
Total Budgeted Expenses	\$129,590,000	\$144,033,000
Less:		
Non-Rate Revenue	(24,339,000)	(36,484,000)
Transfers from Retained Earnings	(6,493,000)	(3,400,000)
Rate Revenue Required	\$98,758,000	\$104,149,000
Equivalent Households	275,348	276,921
Equivalent Households Yearly Rate	\$358.67	\$376.10
Single-Family Monthly Rate	\$29.89	\$31.34
Multi-Family Monthly Rate (65%)	\$19.43	\$20.37

Table 6 illustrates the utility rate pricing model for 2010 and 2011. Rates are based on a pooling of all expenses and revenues and do not distinguish between the specific costs incurred by various user groups. As a result, a risk of cross subsidizing exists.

As shown above, the single-family monthly rate is derived by dividing Rate Revenue Required by an estimated Equivalent Households value. Based on historical data, WMS has determined that a multi-family residence generates 65% of the amount of waste

compared to a single family home. This historical percentage is used to calculate the multi-family rate. For 2011, the multi-family rate is equivalent to \$20.37 per month.

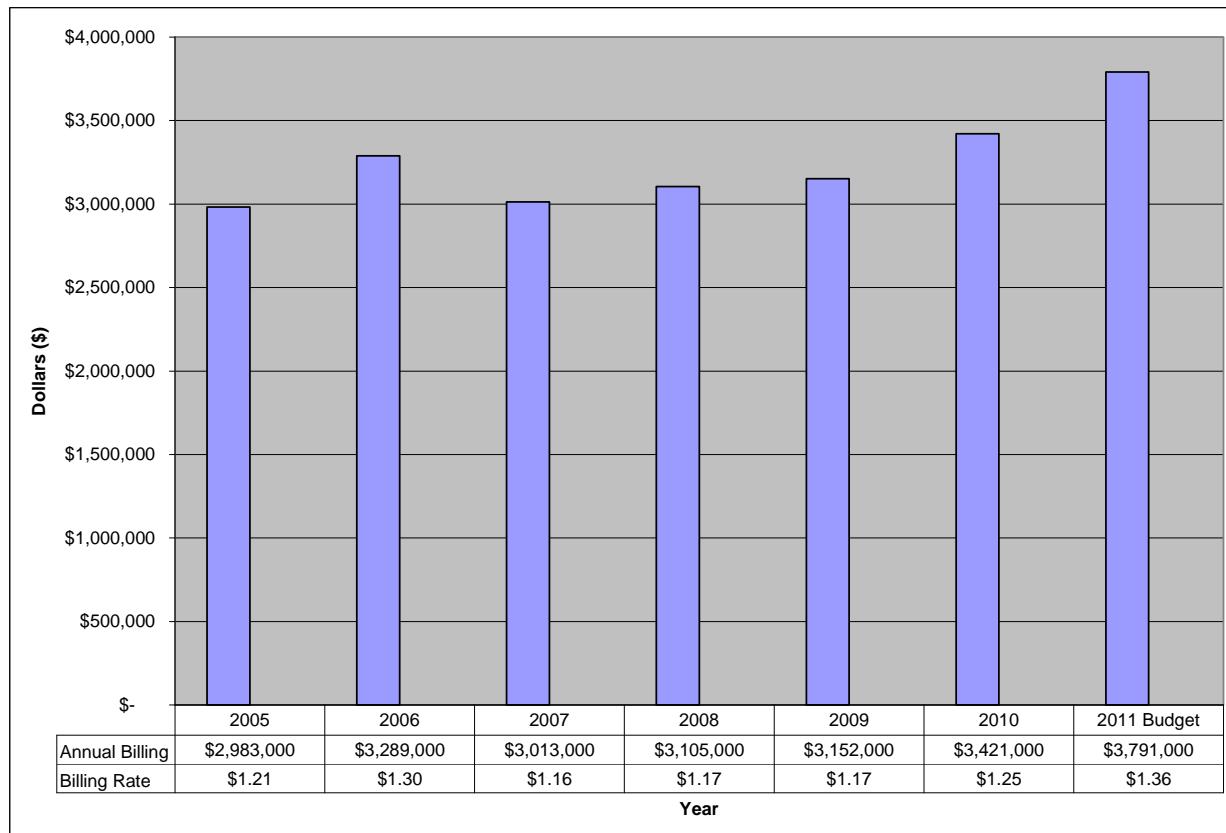
In 2010, WMS hired a consultant to conduct a Cost of Services Study (COSS) which identified the total costs of user groups (single-family, multi-family, and commercial/industrial) and compared these to associated revenue streams. The study supports WMS's current allocation based on the relative amount of waste generated for collection where direct allocation of costs is not feasible. WMS has indicated that the consultant methodology will be used in the review and development of a revised rate setting model for allocating costs between customer classes.

In summary, we observed that the current rate model ensures a projected balanced budget in order for WMS to be self-sufficient. However, the method of allocating rates between groups does not currently use the more rigorous analysis of actual cost to service each group as recommended in the COSS. (See Recommendation 1)

4.3.2 Billings Process

Since 2001, the function of monthly rate billings to residential households has been contracted out to an external service provider, EPCOR Energy Alberta Inc. (EPCOR). As the primary point of customer care, EPCOR provides services such as a contact centre, account maintenance, processing of billings, and payments and collections. Under the current billing model, customers receive a consolidated utility bill for their utility usage including power, water, drainage and waste management. An account is created when a customer initiates a request for power and water services.

Figure 4 illustrates the billing rate (monthly fee per account) EPCOR charges for this billing service. From 2005 to 2010, the actual annual billings from EPCOR have ranged from \$3.0 million per year to \$3.4 million per year, totaling approximately \$19.0 million. For 2011, this expense is budgeted at \$3.8 million. Billing cost increases can be attributed to the increased EPCOR monthly fee and the increase in the number of accounts established.

Figure 4: Billing Costs

EPCOR Monthly Fee

The current service level agreement is for a two-year term, from January 1, 2010 to December 31, 2011, as approved by the Transportation and Infrastructure (formerly Transportation and Public Works) Committee on November 16, 2010. Schedule B of this agreement, "Basis of Payment for Contract Services" specifies the billing terms as \$1.25 per account per month for 2010 and \$1.36 per account per month in 2011.

The monthly rate is calculated based on EPCOR's gross cost to operate all its billings services. Certain costs including customer services, corporate allocations, property taxes, depreciations, and return margin are then allocated amongst each of its billings groups. WMS is included in the billing group called Utility Associates which also includes EPCOR Water Services Inc., and City of Edmonton Drainage Services. WMS is allocated 23.94% of the costs attributed to Utility Associates.

In the past few years, billing costs for WMS have increased. We believe opportunities exist for WMS to conduct an enhanced review of billing costs during the negotiation with the service provider.

Recommendation 3: Review of Billing Agreement

The OCA recommends that WMS conduct a periodic review of their billing agreement including an analysis of alternative service delivery opportunities.

Management Response: Accepted.**Action Plan & Timelines:**

WMS will conduct a periodic review of the billing agreement in conjunction with renewal negotiations. With the current agreement ending in 2011, the next review is now underway and will focus on terms and cost of service since time does not permit the introduction of an alternative service provider by January 1, 2012.

Since a review of alternative service delivery was conducted in the latter half of 2010, the next review of potential service providers will be planned for 2013 and must be done in conjunction with Drainage Services.

Responsible Party: Manager, Waste Management Services**4.3.3 Bad Debt Incurred**

EPCOR manages the combined utility bill, and each month WMS receives a prorated portion of the total utility revenue collected. WMS' bad debt appears to be increasing annually, and therefore we included it in our review. Bad debt is comprised of billings that are not collected by EPCOR, resulting in reduced revenue collected.

Table 7: Bad Debt as a Percentage of Utility Rate Revenue

Year	Utility Rate Revenue	Bad Debts	Bad Debt as a % of Revenue	Average Percentage
2005	\$38,566,000	\$187,000	0.485%	0.306%
2006	\$40,072,000	\$100,000	0.250%	
2007	\$43,633,000	\$104,000	0.238%	
2008	\$48,102,000	\$131,000	0.272%	
2009	\$85,782,000	\$352,000	0.410%	
2010	\$97,916,000	\$380,000	0.388%	
2011 (Budget)	\$104,149,000	\$446,000	0.428%	

As shown in Table 7, bad debt was \$187,000 in 2005 and will be an estimated \$446,000 in 2011. This change in total bad debt is partially attributed to the increase in the total amount of utility service fees collected since 2005.

Our analysis shows that from 2005 to 2008, the average bad debt was \$130,500 for average revenues of \$42.6 million (0.306%). Since 2009, bad debt has risen from \$352,000 (.410%) to a forecasted level of \$446,000 (0.428%) in 2011.

The budgeted expense for bad debt is part of the overall expenses of WMS and has a direct impact on the calculation of the monthly utility rate. The projected bad debt of \$446,000 for 2011 is equivalent to annual waste management fees from approximately 1,200 single-family households. Our analysis indicates that even after taking into account increased overall utility rate revenue, bad debt as a percentage of revenue has significantly increased in recent years for WMS.

Recommendation 4: Bad Debt Strategy

The OCA recommends that WMS work with the service provider to develop a strategy to monitor bad debt levels associated with provision of the utility service.

Management Response: Accepted.

Action Plan & Timelines:

The actual bad debt over 2009 and 2010 averaged 0.399%. While this is an increase over the previous four year's average of 0.306%, an initial review of bad debt as a percentage of total rate revenue is consistent between Waste Management Utility and Drainage Services Utilities.

Given limited resources that now permit only monthly tracking and cursory analysis, the Waste Management Utility will engage all Utility Associates to develop a common strategy to monitor bad debt. Discussion will be initiated at the next formal meeting of Utility Partners planned for late summer 2011.

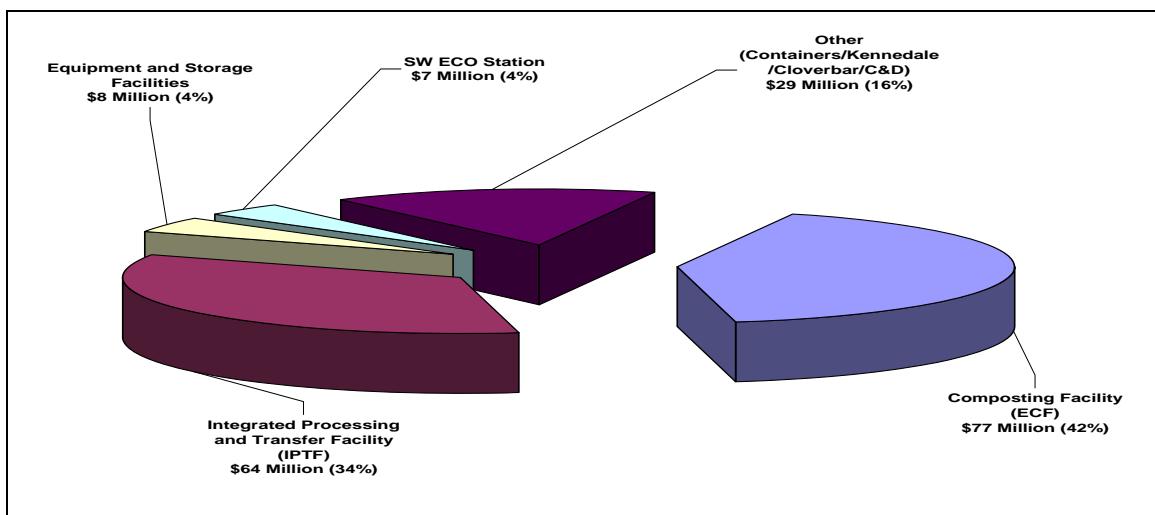
Responsible Party: Manager, Waste Management Services

4.3.4 Debt Management

In order to move from a landfill model to today's integrated, sustainable system to divert waste, the City has heavily invested into the Edmonton Waste Management Centre through the use of long-term debt to finance these projects.

Figure 5 is an illustration of WMS' 2010 outstanding long-term debt. The Composting Facility (\$77 million) and the Integrated Processing and Transfer Facility (\$64 million) make up the majority of the balance. In contrast to a City department, WMS, under a utility model must recover all capital investment costs through its own revenue sources.

Figure 5: 2010 Long-term Outstanding Debt by Asset



In 2010, the outstanding debt of \$185.0 million resulted in financial cost of approximately \$9.3 million in interest payments and \$14.9 million in net amortization. This financial cost of \$24.2 million was approximately 19% of the overall 2010 expenditures of \$125.7 million.

WMS monitors its debt against the debt ratios specified in the *Waste Management Utility Fiscal Policy*. These include:

1. Debt to Net Assets Ratio – a measure of the extent of capital investment that is financed through debt.
2. Debt Coverage Ratio – a measure of the Utility's ability to meet both interest and principal payment obligations.

Debt to Net Assets Ratio

Table 8 includes a six-year summary of WMS' projected long-term debt levels, as well as their estimated net book value for non-contributed assets (assets financed by WMS).

Table 8: Debt to Net Assets Ratio

Debt to Net Assets Ratio	2010 Actual	2011 Forecast	2012 Forecast	2013 Forcast	2014 Forecast	2015 Forecast
Long Term Debt (\$000)	184,487	220,549	232,357	233,292	227,249	234,372
Net Book Value of Non-Contributed Assets (\$000)	204,748	253,784	272,383	276,868	276,895	290,711
Debt to Net Assets Ratio	90%	87%	85%	84%	82%	81%
Fiscal Policy Target				Less Than 60%		

As shown in the table above, WMS relies on long-term debt to finance its capital needs. Long-term debt is anticipated to increase to \$234 million by the year 2015. In 2010, 90% of WMS' non-contributed assets were financed by debt. This ratio is anticipated to decrease to 81% in the year 2015.

The *Utility Fiscal Policy* states that the targeted debt to net assets ratio is to be less than 60%. This means that 60% or less of the capital investment should be financed by debt. WMS is not meeting this target and is not anticipated to meet this target in the foreseeable future.

Debt Coverage Ratio

Table 9 includes a six year summary of WMS' projected income available to meet its debt obligations, as well as their estimated annual debt obligation which includes the principal and interest payment on the debt.

Table 9: Debt Coverage Ratio

Debt Coverage Ratio	2010 Actual	2011 Forecast	2012 Forecast	2013 Forecast	2014 Forecast	2015 Forecast
Income available to meet debt obligations (\$000)	15,708	21,623	29,328	32,977	36,808	42,341
Annual debt obligation (principal & interest (\$000))	18,836	22,262	25,603	27,663	29,067	30,940
Debt Coverage Ratio	0.8	1.0	1.1	1.2	1.3	1.4
Fiscal Policy Target	1.3 or higher					

As shown in the table above, the net income before interest and depreciation is forecasted to increase by 170% from \$15.7 million in 2010 to \$42.3 million in 2015. Additionally, the annual debt obligation is also expected to increase by 64% from \$18.8 million in 2010 to \$30.9 million in 2015. Overall, the debt coverage ratio is expected to increase on a yearly basis. This is attributed to the net income increasing by a greater amount than the annual debt obligation.

The financial indicators are part of the reporting requirements in both the annual budget and the annual reporting processes which provide the Utility Committee and City Council information when considering customer rates and program levels. The *Utility Fiscal Policy* states that the targeted debt coverage ratio is 1.3 or higher. This means that an excess of 30% or more of income should be available to meet the debt obligations. WMS is anticipating meeting this targeted ratio of 1.3 by the year 2014.

WMS has made Council aware of challenges with respect to meeting these stated financial indicator targets though a public report which stated:

“It is recognized that the policy targets will be achieved over time in order to balance financial sustainability with reasonable rate increases as determined by Council.”

4.4 Waste Collections Operations

4.4.1 Municipal Programs Comparison

We researched collection services provided by other municipalities within Alberta. Table 10 provides a comparison of municipalities and illustrates differences in residential waste collection services. All source information was obtained from municipal websites and approved municipal bylaws.

Table 10: 2011 Single-Family Municipal Waste Collection Programs

Location	Waste Collection			Recycling		Organics (Yard/Food Waste)	
	Automated	Manual	Large Item Collection	Curbside	Drop Off	Curbside	Drop Off
Beaumont	✓	X	✓	✓	✓	✓	X
Calgary	✓	✓	X	✓	✓	✓	X
Edmonton (WMS)	X ⁵	✓	X ⁵	✓	✓	✓ ⁶	✓
Fort Saskatchewan	X	✓	✓	✓	✓	X	✓
Leduc	✓	✓	✓	✓	✓	✓	✓
Red Deer	X	✓	X	✓	✓	✓	✓
Spruce Grove	✓	X	✓	✓	✓	✓	✓
St. Albert	✓ ⁷	✓	✓	✓	✓	✓	✓
Stony Plain	X ⁸	✓	✓	✓	✓	✓	✓
Strathcona County	✓	X	✓	✓	✓	✓	✓

Automated waste collection services use trucks with mechanical arms to collect garbage from wheeled carts. As shown in Table 10, Edmonton is one of four municipalities from the ten municipalities researched that are not currently using automated residential collection services. The City of Calgary has introduced the automated collection service to improve their cost efficiency and also as a safer means to collect waste since it reduces heavy lifting and contact with sharp objects.

WMS has indicated that automated and semi-automated waste collection systems referenced in Table 10 cannot be safely accommodated in all areas of the City. Given that their current focus is implementation of integrated waste processing and disposal with the associated significant capital investments, WMS has indicated that they cannot embark on another significant capital intensive venture at this time.

Edmonton provides large item collection services through its Big Bin Events, and similar to the larger municipalities of Calgary and Red Deer, does not provide curb side pick up of these items. Within Edmonton, large items can be disposed at ECO stations and EWMC for a fee.

⁵ Edmonton WMS collects large items during Big Bin Events only.

⁶ Edmonton WMS Organics collection is included within its two-stream collection process .

⁷ St. Albert automated service began in June 2011.

⁸ Stony Plain provides automated service for organic pick up only.

Edmonton uses a two-stream waste collection (Waste + Recycling), and yard waste is collected with residential waste and processed at the EWMC. WMS indicated that in determining the collection system for Edmonton, the piloting of three-stream collection was not successful and residents overwhelmingly preferred a two-stream collection system.

Participation in Edmonton's composting program takes place automatically, through Edmonton's two-stream collection, leading to a high capture of the residential waste stream for composting with less collection infrastructure. In contrast, participation in composting programs within municipalities with three-stream collection systems is still voluntary and could lead to lower capture of organic waste.

Our findings have highlighted that differences exist for waste management services for municipalities within Alberta. WMS management indicated they are continuously monitoring what waste management services are provided by other municipalities and additionally, the practicality of providing these services within Edmonton.

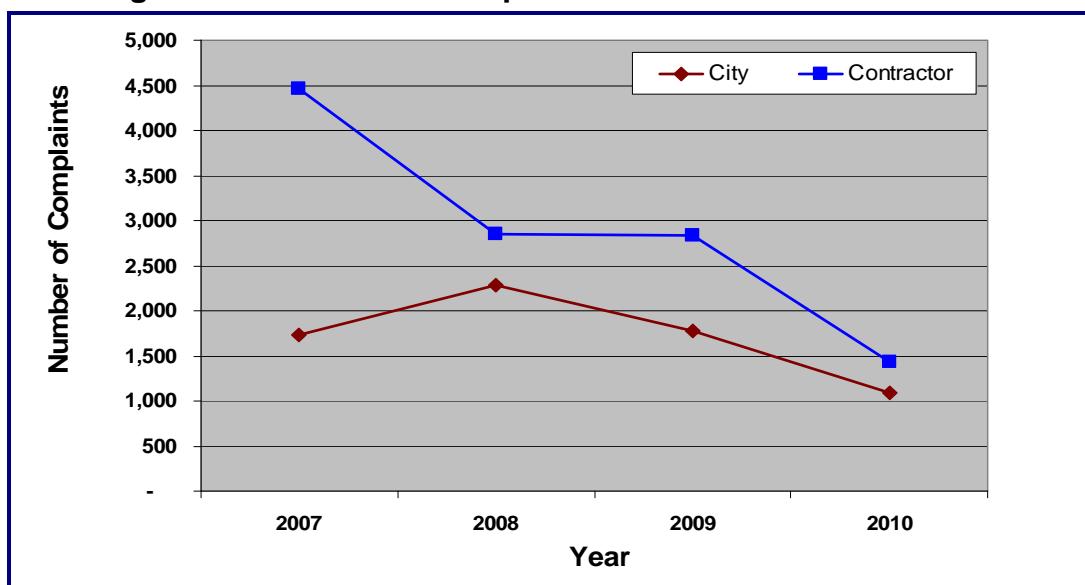
4.4.2. WMS Collection Program

We reviewed WMS' collection operations to assess the quality of work, cost efficiency, and productivity. Waste collection services for the City are performed with a combination of City staff and contractors.

Quality of Work

We assessed the quality of work based on number of complaints due to missed collections. We observed that WMS ensures high quality collection services through a City-managed inspection service of all City waste collection areas. Both City and contractor staff have reduced missed collections complaints since 2007 as illustrated in Figure 6.

Figure 6: Numbers of Complaints due to Missed Collections



Cost Efficiency

Working with WMS, we calculated the cost efficiency based on collection cost per tonnage of single-family refuse collection.

Table 11: Single Family Refuse Collection

Year	City			Contractor		
	Tonnes	Cost (\$000)	Cost Per Tonne	Tonnes	Cost (\$000)	Cost Per Tonne
2008	84,798	\$7,754	\$91.44	78,937	\$7,005	\$88.74
2009	75,189	\$7,581	\$100.83	83,203	\$7,529	\$90.49
2010	81,500	\$7,914	\$97.10	88,615	\$7,755	\$87.51

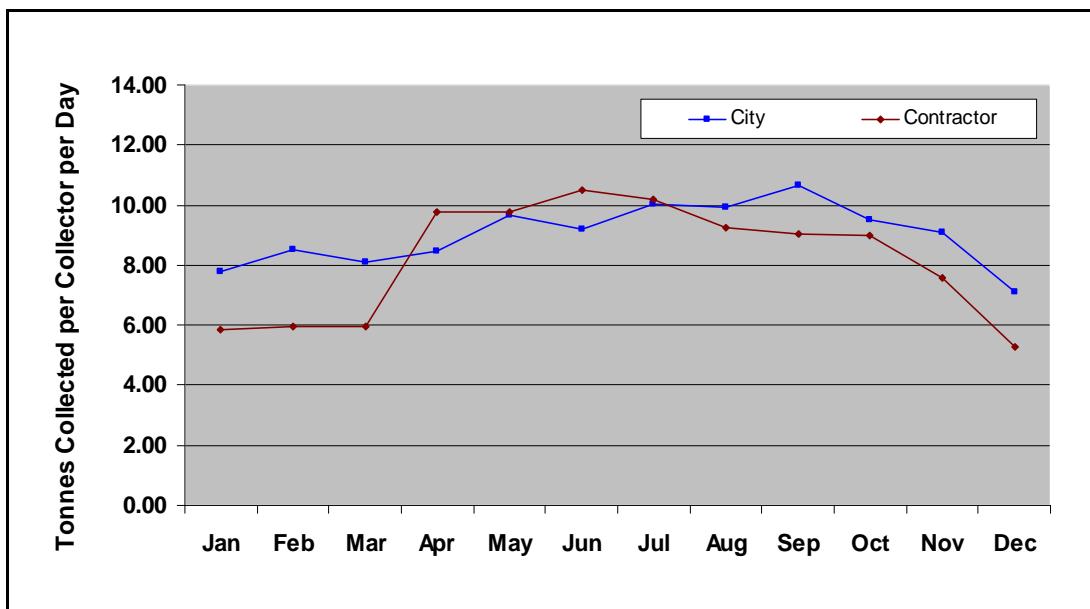
As shown in Table 11, single-family refuse collected by the City has declined from 84,798 tonnes in 2008 to 81,500 tonnes in 2010. In contrast, the refuse collected by the contractor has increased from 78,937 tonnes in 2008 to 88,615 tonnes in 2010. WMS indicated that the increase in contractor workload was due to the realignment of City collection maps for the 2008 contract which unexpectedly increased the contractor workload.

For the year 2008, the cost per tonne for waste collected by City staff (\$91.44) was 3% higher than the Contractor cost (\$88.74). For 2009 and 2010, the cost per tonne for City staff was 10% higher. WMS has indicated that cost trends differ between the City and contractors. For the City, cost tends to increase in a linear fashion as the change in annual wages (one of the main cost drivers) follows a general linear trend. For contracts, cost tends to increase in significant steps, typically at contract renewal in a three to five year cycle.

Productivity

In assessing worker productivity, we reviewed tonnage collected per collector per day.

Figure 7: 2010 City and Contractor Productivity



We observed that both City and contractor staff productivity was high during peak collection season (May to October, 2010), as shown in Figure 7. However, productivity for City staff was higher than for Contractor staff during low season (November 2010 to April 2010). WMS managers indicated that the reason for this variance is that the City may have a higher ratio of temporary to permanent staff. Temporary staff, hired for peak season work, can be released during low season which leads to increased productivity. WMS is currently implementing a planning software tool to further optimize collection routing efficiency.

City staff productivity has increased in recent years. For example, in 2008 productivity measured in tonnes collected per person, was 9.07 and increased to 10.00 in 2010 (based on reported July results). We observed that although City staff productivity has improved, efficiency gains have not resulted in actual savings because non-collectable (non-productive) hours for City staff have increased. As shown in Table 12, the percentage of City non-collectable hours to totals hours has increased from 24.4% in 2008 to 28.1% in 2010 (or 3.7%). An increase in non-collectable hours results in a corresponding decrease in available collectable hours. This has resulted in the need for additional resources with an estimated value of \$110,000 per year.

Table 12: City Staff Collectable Hours (for Single-Family Refuse Only)

Year	Non-collectable		Collectable		Total Hours
	Hours	%	Hours	%	
2008	21,186	24.4	65,693	75.6	86,879
2009	22,983	28.1	58,891	71.9	81,874
2010	24,260	28.1	61,974	71.9	86,234

*Information based on waste collection only and excludes recyclables collection

We reviewed WMS performance data and reporting which showed that increases in non-collectable hours are primarily due to work stoppages because of truck breakdowns, trucks getting stuck (snow), daily vehicle safety checks, injury time to staff, and delays in waste delivery to the EWMC caused by train crossings.

In summary, we believe that the current resource mix for collection services provides for high quality services, and reasonable cost efficient services. However, we believe that opportunities exist for WMS to further capitalize on potential cost savings through the reduction of non-collectable hours.

Recommendation 5: Collection Productivity

The OCA recommends that WMS review opportunities to reduce non-collectable hours in order to capitalize on productivity gains and reduce waste collection costs.

Management Response: Accepted.**Action Plan & Timelines:**

Administration will continue to pursue all opportunities to reduce non-collectable hours including:

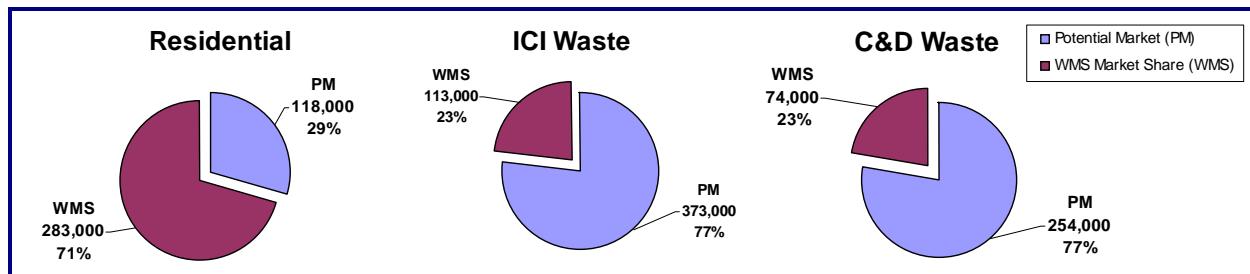
- (1) continuing to work with Fleet Services to increase availability of collection vehicles and to continue to transition to more productive vehicles;
- (2) optimizing collection routes with application of Route Smart technology to all routes by December 2012; and
- (3) implementing 4-day collection and 10 hour shifts by July 2012.

Responsible Party: Manager, Waste Management Services

4.5 Revenue Opportunities

Edmonton Capital Region is a group of 35 municipalities centered around Edmonton. Currently, Edmonton controls 100% of the residential sector in Edmonton, which represents 71% of the total residential waste generated in the Edmonton Capital Region. WMS also holds 23% of the Industrial Commercial Institutional (ICI) market share and 23% of the Construction and Demolition (C&D) market share. Figure 8 illustrates the potential waste market for the three market sectors, and WMS' current market share. Also it demonstrates that a potential market exists for WMS in the Edmonton Capital Region.

Figure 8: 2010 Edmonton Capital Region Waste Sectors
(Waste weight in tonnes)



The *Waste Management Policy C527* indicates WMS' activities in delivering a sustainable, integrated waste management system include the following:

1. Optional regular direct collection services to the non-residential sector⁹;
2. Processing and disposal services for residential and non-residential sectors.

In addition to rate revenue from residential customers, WMS is engaged in activities that generate additional revenue and influence the waste management practices within the

⁹ According to Alberta Environment, non-residential solid waste includes construction, renovation and demolition (C&D) waste and industrial commercial and institutional (ICI) waste.

Edmonton Capital Region such as the sale of Greenhouse Gas reduction credits from the composting program, and extending services to non-residential sectors.

To assess WMS' strategy of pursuing a greater market share of non-residential waste collection and disposal, we reviewed WMS' business cases for commercial waste revenue opportunities, evaluated its process, and analyzed other opportunities to expand its market share.

4.5.1. Non-Residential Business Cases Review

In 2009, WMS developed two business cases to help in the creation of new revenue streams. They are:

1. *Commercial Collection Program Business Case*: Developed to assess the feasibility of providing refuse and recycling collection and processing services to the non-residential waste market.
2. *Expanded C&D Processing Operations Business Case*: Developed to capture a greater share of the C&D market; anticipating the moving forward of new Government of Alberta legislation that would compel project owners and contractors to take steps to recycle C&D waste.

We assessed these two business cases to determine if they contained the five key components that will provide positive support for investments based on information at the time they were prepared. Table 13 shows these key components and our assessment of WMS' business cases.

Table 13: Business Case Assessment

Key Component	Commercial Collection	Expanded C&D
1. Market analysis is in place.	✓	✓
2. Major assumptions are reasonable.	✓	✓
3. Appropriate financial analyses are in place.	✓	✓
4. Financial, operational, and political impacts are identified.	✓	✓
5. Formal annual reviews of the business case are performed to ensure projects remain feasible.	✗	✗

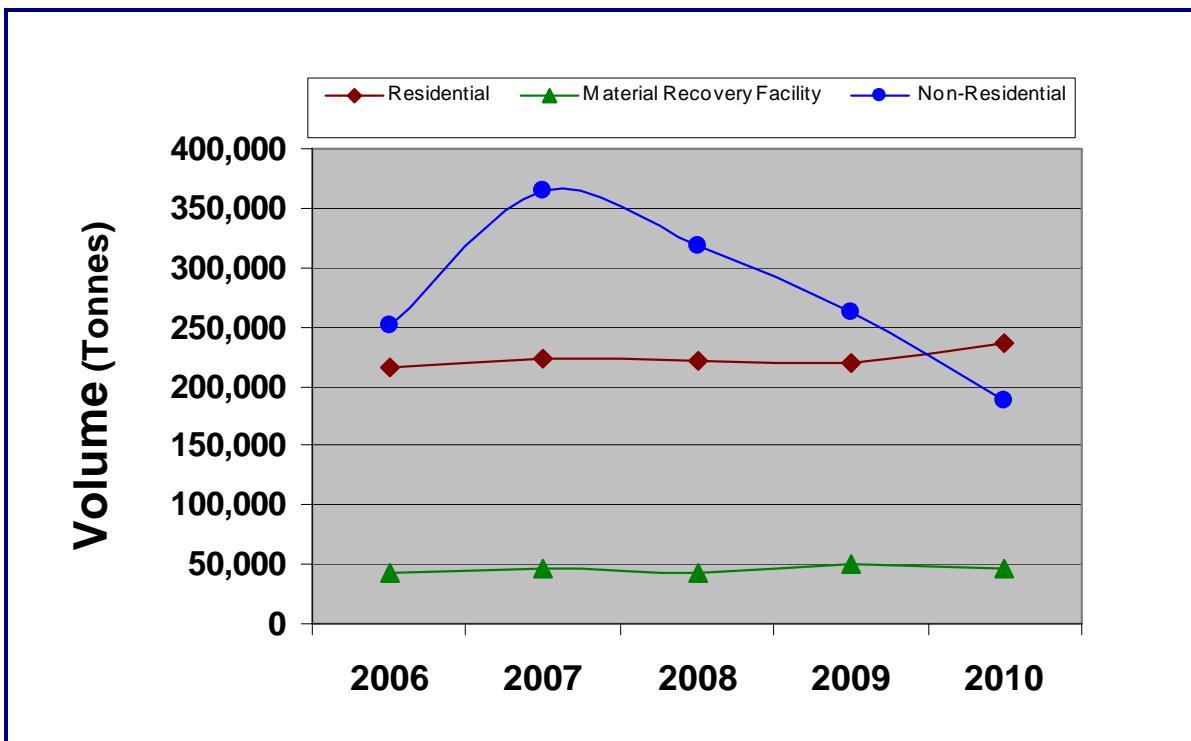
Our analysis shows that the non-residential business cases included most of the key components required in a business case. However, we found that WMS is not reviewing its business cases on an annual basis to ensure that the projects remain feasible over time. We learned the following during our audit:

- Provincial legislation mandating the recycling of C&D waste will not move forward in the near term.
- Building permits issued in Edmonton have also decreased compared to the previous year.

As illustrated in Figure 9, WMS non-residential waste volume has been declining since 2007. WMS has indicated that they believe the key reason for the decline in non-residential waste flow to the EWMC in recent years is a shift by major commercial waste haulers to cheaper disposal options rather than a decline in regional C&D material flow.

WMS has also indicated that there are several initiatives implemented or pending which will have a positive impact on mixed C&D waste delivery to EWMC including: The Way We Green, LEED/ BOMA certification, COE Green Building Strategy and the Canadian Standards Association draft procedure for dismantling buildings for reuse. The recent economic outlook for Alberta has also been more positive compared to previous years.

Figure 9: Waste Volumes by Sector Delivered to EWMC



In 2010, the two businesses resulted in WMS gaining 62 new commercial waste accounts through the *Commercial Collection Program*. Additionally, WMS expanded its C&D processing operations to contain mixed and sorted loads of waste for further separation of recyclable materials.

In summary, we believe that in order for WMS to operate in an environment of good governance, it must continually provide relevant and up-to-date information such as its business plans to the governing body that supports decision-making. WMS has indicated that they will review its business cases on an annual basis and report in its annual Business Plan to Utility Committee on initiatives with significant changes.

4.5.2. Other Revenue Opportunities

Currently, WMS identifies other potential revenue opportunities through industry publications, conferences, tradeshows, industry contacts and experiences. It is also approached by private sector businesses with proposals. WMS conducts analysis on ideas that are practical and in line with its operating and financial plans for further consideration. This informal process is ongoing with profitable opportunities being presented during the budget process.

As part of this audit, we researched and analyzed other revenue opportunities that WMS could potentially explore to increase its non-rate revenue. As a recognized leader in waste management, we believe an opportunity exists for WMS to increase its partnership with other local governments, federal and provincial governments, and educational institutions. These opportunities are discussed below.

Other Municipalities

In 2010, the EWMC received a small amount of waste from surrounding municipalities and generated revenue of \$100,590. We believe there is a potential to extend WMS' services to other municipalities. A major benefit of encouraging surrounding municipalities to use the EWMC is that it will assist them in aligning with the provincial government's objective of increasing waste diversion rates. It will also increase the volume of waste processed at the EWMC. By increasing the volume, recovery of the fixed cost is distributed across a larger base, thus the cost to process each tonnage of the waste will be reduced.

WMS has indicated that the matter of collaboration with other regional municipal governments is a complex one which has been vigorously pursued over the years on both political and administrative fronts. Activity towards regional collaboration is facilitated through the Capital Region Waste Minimization Advisory Committee.

For smaller municipalities, land filling waste is still the primary way of disposing their waste as it is cheaper to landfill waste than to process and dispose of it. The challenge for this revenue opportunity is to implement a fee that is attractive to the surrounding municipalities and aligns to their organizational environmental goals. Education on the environmental benefits, competitive fee structure, as well as relationship building is essential for the success of this alternative.

Government, Educational, and City-Owned Facilities

Edmonton is a major cultural, governmental and educational centre for Alberta. Currently, private contractors are collecting most of the waste from schools, governments and City-owned facilities. We believe there is potential to increase waste collected by the City from these facilities. Furthermore, Edmonton should set a good example for its citizens by using its own facilities to divert more recyclable materials from the landfill.

In our review, we did not observe a documented process to identify, assess, prioritize, and update potential revenue opportunities. Without a documented process, there is a risk of potentially missing some revenue opportunities.

Recommendation 6: Market Share

The OCA recommends that WMS develop a documented process to identify, assess, prioritize, and update potential revenue opportunities.

Management Response: Accepted**Action Plan & Timelines:**

WMS will provide documentation in the Waste Management Utility Annual Business Plan that is presented to the Utility Committee of Council and will proceed to expand the market share of waste management services on three fronts:

1. Pending grant funding, WMS will participate in a study with the Capital Region Waste Minimization Advisory Committee to determine opportunities for collaboration in waste management operations including use of the Edmonton Waste Management Centre. The study report by consultants is expected by the end of 2012.
2. WMS began business development activity in the non-residential sector in 2010 and will continue to seek opportunities to grow this business (collection contracts for waste and recyclables) through full staffing of this activity by November 30, 2011.
3. WMS will develop a specific marketing plan for its commingled construction and demolition waste processing service by December 31, 2011 and begin implementation by January 31, 2012.

Responsible Party: Manager, Waste Management Services

5. Conclusion

In this audit we assessed the overall governance framework within WMS and how effectively, efficiently, and economically resources are being used to meet their goals. Our findings were discussed with WMS Management and the City's Utility Advisor.

Governance

We found WMS policies and governing documents to be generally acceptable. However, we recommend that regulating documents be enhanced to include performance measures to monitor cost efficiency in addition to fair methods to allocate costs to WMS' major customer groups. We reviewed WMS' processes and believe they provide assurance of compliance with federal and provincial legislation.

Performance Measurement

We found that WMS performance measures are reliable, with the exception of the *Residential Waste Diversion Rate*. We observed that the WMS 2013 diversion rate target of 90% was based on several aggressive assumptions made by WMS. WMS has indicated that this target is purposefully high and that this diversion rate will not likely be achieved until 2015. We have recommended that WMS enhance its process for computing the residential waste diversion rate.

Financial Sustainability

We observed that the current rate model ensures a projected balanced budget in order for WMS to be self-sufficient but this rate model does not identify costs attributable to each group of users. We observed opportunities for WMS to conduct an enhanced review of billing costs during the negotiation with the service provider. Our analysis indicated that bad debt as a percentage of revenue has significantly increased in recent years for WMS. WMS faces a significant financial challenge in increased costs of capital expansion, the phased addition of shared service costs, and accounting changes for tangible capital assets while meeting its targeted debt ratios.

Waste Collection Operations

We found that customer complaints (quality measure) have declined in recent years. We also found that City staff productivity has increased in recent years and that an opportunity to reduce costs exists by reducing non-collectable hours. We have recommended WMS review opportunities to capitalize on productivity gains.

Revenue Opportunities

We found that there is no documented process to identify potential revenue opportunities. We believe opportunities exist to further partnerships with other regional local governments, federal and provincial governments, and educational institutions.

We acknowledge and thank the WMS' management and staff for their efforts and openness during this audit.