Agenda – Executive Policy Committee – March 19, 2014

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – March 13, 2014

Item No. 2 Comprehensive Integrated Waste Management Strategy (CIWMS) 2013 Annual Report

STANDING COMMITTEE RECOMMENDATION:

On March 13, 2014, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the following to Council:

1. That this report be received as information.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Agenda – Executive Policy Committee – March 19, 2014

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – March 13, 2014

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On March 13, 2014, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

On February 4, 2014 the Standing Policy Committee on Infrastructure Renewal and Public Works laid the matter over to its meeting on March 13, 2014.

On October 1, 2013, the Standing Policy Committee on Infrastructure Renewal and Public Works received the verbal update regarding Emterra Collection Issues to be incorporated with the 1st Annual Report on the Waste Minimization Master Plan from the Director of Water and Waste as information.

On June 18, 2013, the Standing Policy Committee on Infrastructure Renewal and Public Works requested the Winnipeg Public Service to report back within 60 days to Standing Committee on the level of services provided by Emterra.

ADMINISTRATIVE REPORT

Title: **Comprehensive Integrated Waste Management Strategy (CIWMS) 2013 Annual Report**

Critical Path: **Standing Policy Committee on Infrastructure Renewal and Public Works – Executive Policy Committee – Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
D.E. Drohomerski, C.E.T. Manager of Solid Waste Services	Diane P. Sacher, P. Eng., Director of Water and Waste	n/a	D. Joshi A/CAO

RECOMMENDATIONS

That Council receive this report as information.

REASON FOR THE REPORT

In the report to Council, approved on October 19, 2011, recommendation 28 indicated the following “That the Public Service publish an annual report on the status of the master plan.”

This is the first such report to be tabled with City Council.

IMPLICATIONS OF THE RECOMMENDATIONS

The Annual Report to Council summarizes the accomplishments and financial results that were realized in 2013, the first full year of implementation of the Comprehensive Integrated Waste Management Strategy (CIWMS), as well as the plan and objectives that have been set for 2014.

The Comprehensive Integrated Waste Management Plan (CIWMP) approved by City Council is achieving the expected diversion results:

- Diversion rate of 28.1% which is a 55% increase in just over one year.
    - 99.65% of households only require one 240 litre garbage cart
    - Garbage collected in the area formerly known as Autobin is down 60%
    - There has been no reported increase in abandoned waste

The first year, albeit with some challenges, was successful in meeting the goals and objectives. This report describes in further detail:

1. Program Accomplishments – 2012/2013
2. Waste Diversion Results
3. Financial Results - 2013
4. Program Implementation
5. 2014 Implementation Plan
6. CIWMP Detailed Recommendation Status

1. Program Accomplishments

The first phase of implementing the plan focused on the collection side of recycling and garbage and the modification of the City's Utility billing system to incorporate the new Waste Diversion Fee.

Recycling and Garbage Collection

- Provided a new, standard sized recycling container to 190,000 dwellings;
- Provided a new, standard sized garbage container to 145,000 dwellings;
- Changed the collection day from the 'add-a-day' system to a set collection day, thereby increasing the amount of collection from 50 pickups per year to 52 pickups per year and decreasing the duration between pickups that previously occurred due to statutory holidays;
- Provided each dwelling with an information package on the new collection services, 2012 and 2013 calendar with their new collection day, two sample paper yard waste bags and a reusable bag which contained the aforementioned material.
- Changed the large item payment (appliances, furniture, mattresses) from $20 for 1-6 items to $5 per item, with a maximum of ten items per collection;
- Started the new collection services throughout Winnipeg by October 1, with the AutoBin area starting on August 1.
- In the AutoBin area, the new collection services coincided with the removal of approximately 5,800 AutoBins, which were removed in four weeks.
- Created the Reasonable Accommodation Policy that allows for a reduction or optimization in service to properties served by carts that are between 2 and 7 dwelling units.
- Created a cart inventory management software solution to manage the 390,000 carts belonging to the City of Winnipeg.

Leaf and Yard Waste Collection

- Added a new bi-weekly yard waste collection service with collection in paper bags or reusable containers;
- Constructed a windrow-style yard waste composting facility at Brady Road Resource Management Facility. The composting pad size is 11 hectares and is capable of processing more than 25,000 tonnes of yard waste annually. In 2013 residents diverted more than 23,000 tonnes of yard waste through the curbside collection program as well as the self-haul to the Brady Road Resource Management Facility.
- The leaf and yard waste is being composted at the new composting facility at Brady Road Resource Management Facility. Once cured, the finished product will be tested for

conformance to the Canadian Council of Ministers of the Environment and the Compost Quality Alliance guidelines before being made available for public use.

4R Winnipeg Depots

- Retained an engineering consultant to undertake the design services for the first two depots at Brady Road Resource Management Facility and Pacific Avenue.
- Secured land on Pacific Avenue for the construction of the second depot.
- Started developing agreements with household hazardous waste and electronic waste stewards for the collection and handling of materials at these sites.
- In keeping with the branding that was developed in 2012 for the program, the public name was determined to be the 4R Winnipeg Depots. The logo of the depot is shown below:



Organics

- Started developing an organics strategy that will identify opportunities to deal with all types of organic material that arrive at Brady in one form or another including kitchen waste, Biosolids and animal waste.

Recycling Processing

- Secured longer term recycling capacity through the expansion of the existing Materials Recovery Facility. The expansion included equipment to automatically sort certain plastic items, a larger receiving area for the storage of incoming material and increased the processing capacity by 50% to over 80,000 tonnes per year.

Solid Waste By-law

- Drafted the new Solid Waste By-law to reflect the collection changes and modified the Neighbourhood Livability By-law to provide the ability for stronger enforcement on illegal dumping. The new By-law was adopted by Council on July 18, 2012.

Impact on Business Processes and Information Technology Infrastructure

- The implementation of the new services resulted in numerous new and amended business processes and system changes:
    - Addition of the waste diversion fee to the department's utility bill for 195,000 customers.
    - Design and implementation of a collection management system to manage the over $14 million the City invested in carts for automated garbage and recycling collection. This includes data necessary to manage billing issues, additional services and collection contract performance.
    - Development of processes, in cooperation with 311, to implement a system to respond to customer inquiries/service requests and also to track service complaints for the purpose of administering the collection contracts.
    - Implementation of a reasonable accommodation policy for properties that are assessed as multi-dwelling units but are occupied as single family dwellings, and processes to manage service upgrades.

2. Waste Diversion Results

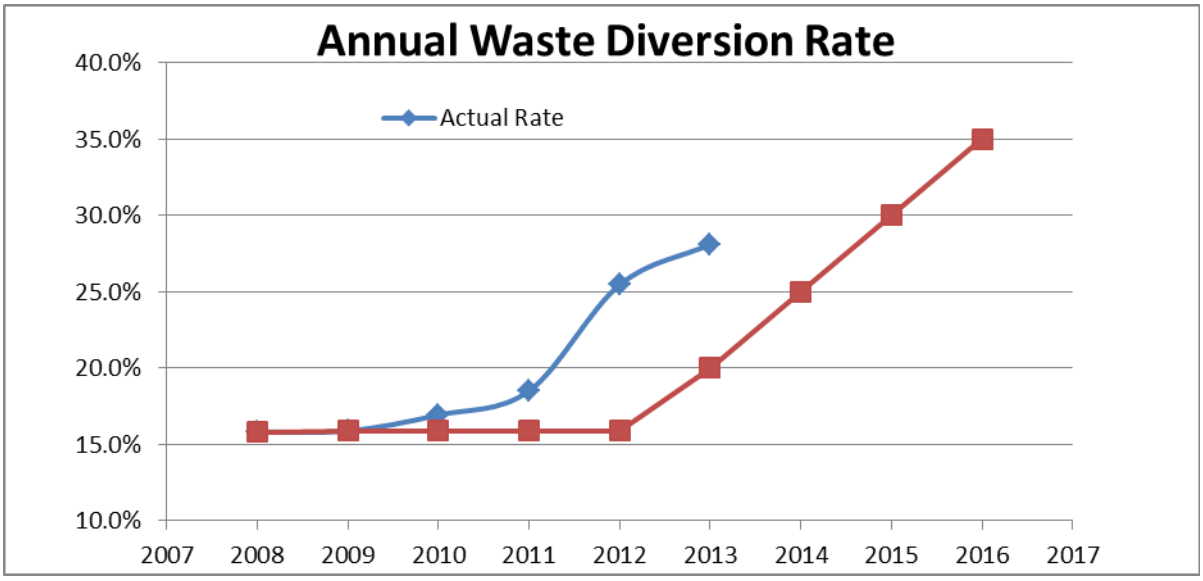
The waste diversion rate in 2013 was 28.1%, far surpassing expectations in the first year of the program.

Winnipeg had been averaging a 10-15% waste diversion rate for many years even with improvements to the blue box recycling program, and seasonal Leaf It With Us depots. The waste diversion rate in 2009 was 15%. Prior to completion of the CIWMP study, the Department had started to see a small increase in the waste diversion number, related primarily to the introduction of carts in the northwest part of Winnipeg as well as increased public awareness during the public consultation process of CIWMP. The introduction of the new services in 2012 saw an immediate increase in the waste diversion rate despite being introduced more than half-way through the year and some of the challenges with implementation of the new services that residents incurred, specifically with respect to the availability of paper yard waste bags from retailers.

In 2011, the last full year before the program changed, the diversion rate was 18.1%. The waste diversion rate in 2013 of 28.1% is a 55% increase since the implementation of the new services.

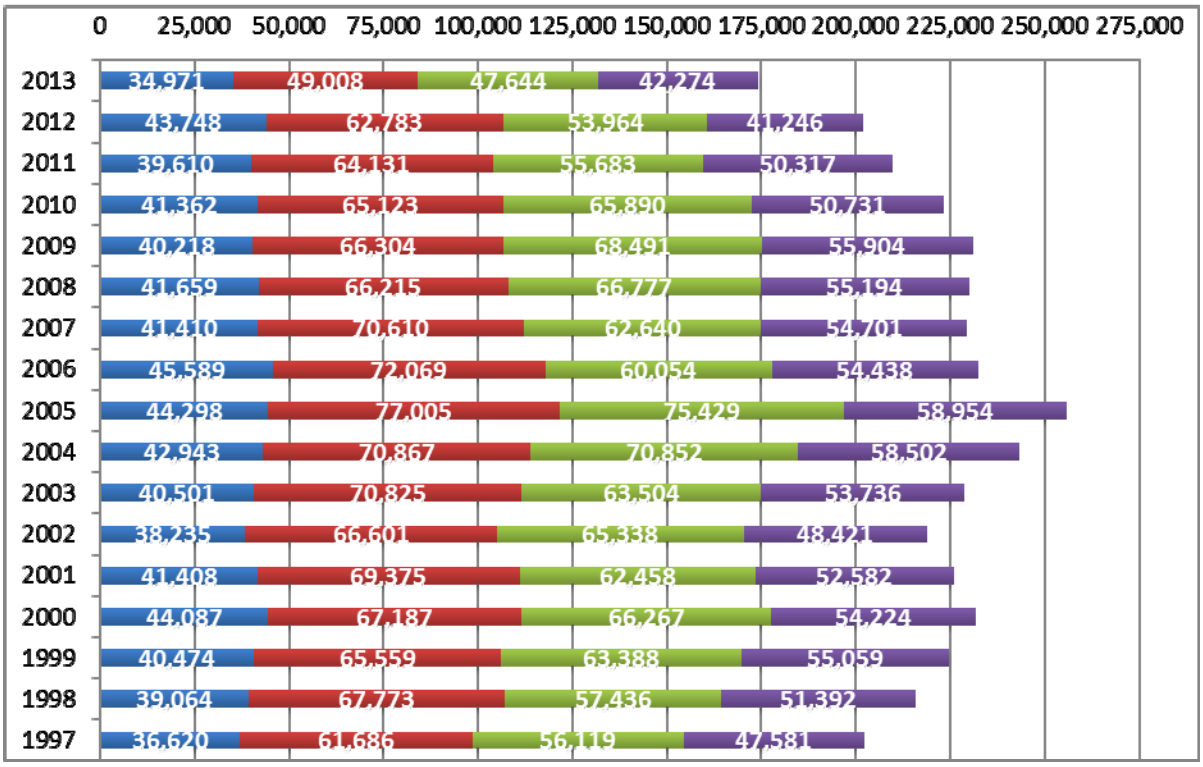
The chart below shows the waste diversion goals established by the master plan as well as the actual rate since 2009. At present, we are approximately two years ahead of schedule to reach the short term goal of 35% set out in the master plan.

Waste Diversion Rate



The amount of garbage collected and landfilled through the residential collection program in 2013, decreased 21% from 2011 tonnage, the last full year of the old services. The chart below shows that the garbage collected and landfilled in 2013 is the lowest amount since 1997 by at least 25,000 tonnes. This is in spite of an increase in population of approximately 85,000 residents during the same time frame.

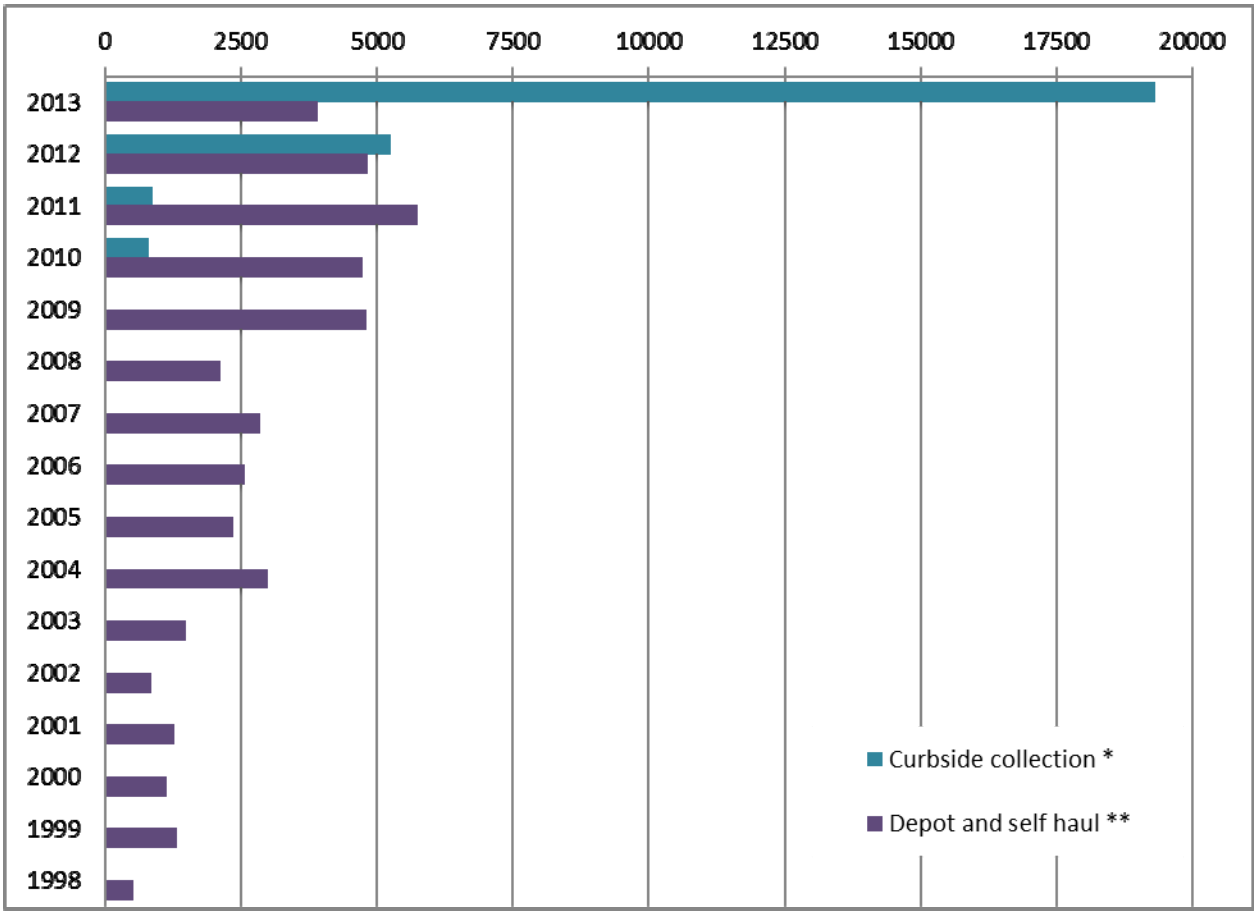
Garbage tonnage by quarter 1997 – 2013



2013 was the first full year of service with cart collection as well as a full season of leaf and yard waste collection. It is of particular note how well residents have embraced the yard waste pickup program throughout the city. Even with the late spring delaying the growing season by a month and the relatively dry period between August and October resulting in lower tonnes of material collected, the amount of yard waste collected in 2013 exceeded expectations in both quantity and quality. In total Winnipegger's diverted more than 23,000 tonnes of yard waste from the landfill, a fourfold increase over 2012.

The chart below indicates the tonnes of yard waste diverted from the landfill. Until 2012, residents dropped off their yard waste in the spring and fall at one of the 10 Leaf It With Us depots throughout Winnipeg. 2013 was the first full year of curbside bi-weekly yard waste collection for residents.

Yard waste tonnage 1998 – 2013



* Yard waste material collected at the curb from the following properties:

- single family homes,
- other residential properties with seven units or less, and
- businesses, registered charities and places of worship that have signed up for cart collection service.

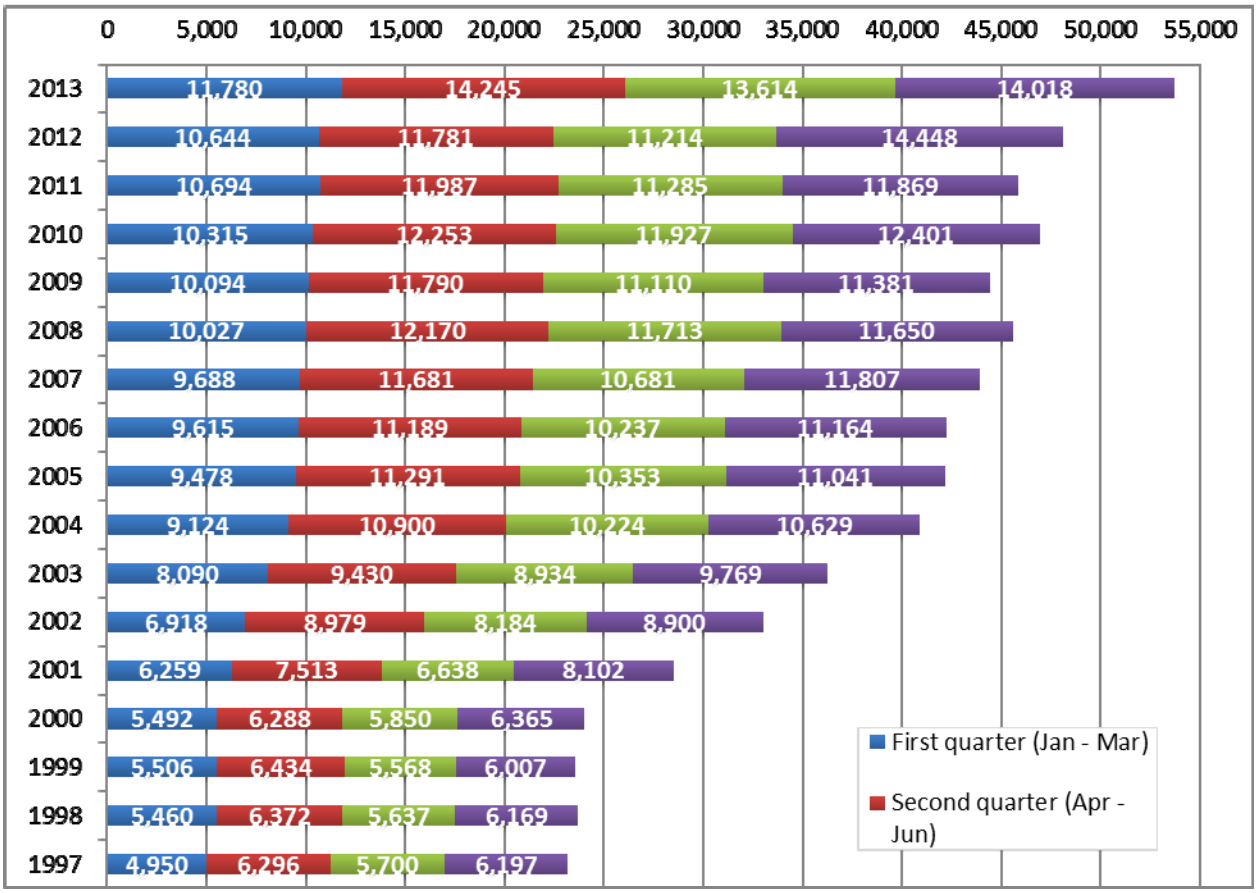
** Yard waste material delivered by citizens to City yard waste depots, including:

- the Leaf It With Us Depots (closed in 2012), and

- The yard waste composting area at the Brady Road Resource Management Facility.

There are benefits to have a cart for recyclables that goes beyond having more storage capacity. Two additional benefits both relate to having a lidded container store the material; there is less wind-blown recyclable litter in neighbourhoods than with the blue box system and the material is kept dry which makes processing the products easier, normally resulting in a higher value product. 2013 saw a 17% increase in the amount of recyclables collected compared to 2011.

Recycling Tonnage by quarter 1997 – 2013



Collection Statistics

With a collection changeover of this magnitude, there will always be comparisons to the previous system which at the time was comfortable to everyone. Concerns over cart size, abandoned waste, excess waste were all raised prior to the new implementation of cart collection. However, data indicates that residents have adapted well to the new system.

- Abandoned waste reports have decreased 340% from 2011 (7222) to 2013 (2119)
- Large item pickup requests have decreased 15% from 2011 (15,300) to 2013 (13,295)
- Requests for excess waste pickup totalled 1,500 in 2013
- Residents and businesses have upgraded 700 garbage carts and 450 recycling carts to larger sizes since 2012. These totals represent less than 0.35% of garbage carts and 0.25% of recycling carts in the city.
- There have been a total of 1,100 requests to repair or replace garbage and recycling carts as a result of damage which wasn't caused by the collection contractor. This equates to 0.3% of the carts at residential and small business properties.

3. Financial Results

Recycling and Garbage Collection

New contracts were secured for certain areas of the city which, coupled with more collection dates from the new weekly schedule, saw the residential collection costs for single family dwellings for garbage total $8.4M and $5.58M for recycling in 2013. This is less than costs incurred in 2011 (the last full year of former service model) of $9.3M for garbage collection and $6.2M for recycling collection.

Start-up costs for the new program included an extensive public consultation process as well as the purchase of garbage and recycling carts for residents which was $7.1M and $9.0M respectively. These carts have an expected 20 year life span and responsibility for their care and upkeep rests with the individual home owners. Annual capital amounts are included in future budgets to accommodate additional cart purchases for new housing builds within the City.

Leaf and Yard Waste Collection

The composting facility for the leaf and yard waste was completed in November, 2013 at a cost of $3.0M.

2013 saw a full year of leaf and yard waste collection at a cost of $2.14M. Operating costs were less than expected as an early winter resulted in a shortened collection season for these materials.

Community Resource Recovery Centres

The first 4R Winnipeg Depot will be open in September, 2014, at the Brady Road Resource Management Facility. The Capital budget for the first two depots is $7.2M. In 2013, $164,000 was spent on engineering and design work for the new facility.

Ongoing operational expenses for this and future depots have been included in the 2014-2016 operating budgets.

Organics

An organics feasibility study planned for 2014 is underway and $200,000 in capital funding to develop this strategy was approved in the 2013 capital budget.

Material Recycling Facility

The material recycling facility was expanded in 2012/13 to accommodate the additional tonnage of recyclables collected. The facility is owned and operated by Emterra and the expansion costs translated into a new, increased per tonne operating cost incurred by the City. The 2013 recycling processing cost was $7.8M compared to $4.1M which was the cost in 2011 (the last full year of the former service model).

Waste Diversion Reserve Fund

Funding for these waste reduction initiatives comes from the waste diversion fee. In 2013 $9.72M was collected. Total program costs for 2013, including amortization and debt costs, were $8.09M resulting in a transfer to the Waste Diversion Reserve Fund of $1.63M.

Capital projects funded out of the reserve during the year totaled $678,000.

- $500,000 was allocated to the construction of the leaf and yard waste composting facility,
  $178,000 was allocated to information technology systems necessary to support the new operations and manage customer service.

As 2013 was the first full year of service, the December 31, 2013 balance in the Waste Diversion Reserve is $952,000. This will be used towards funding future waste diversion initiatives, most notably the construction and operation of the planned remaining three 4R Winnipeg depots.

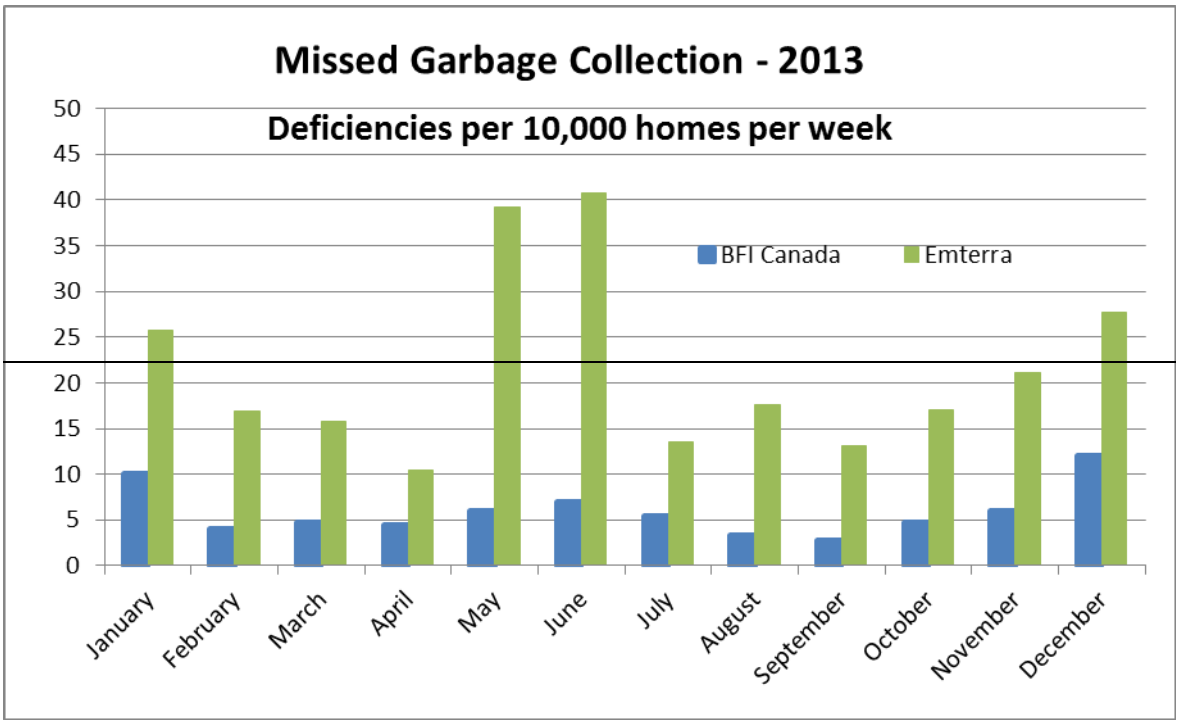
4. Program Implementation

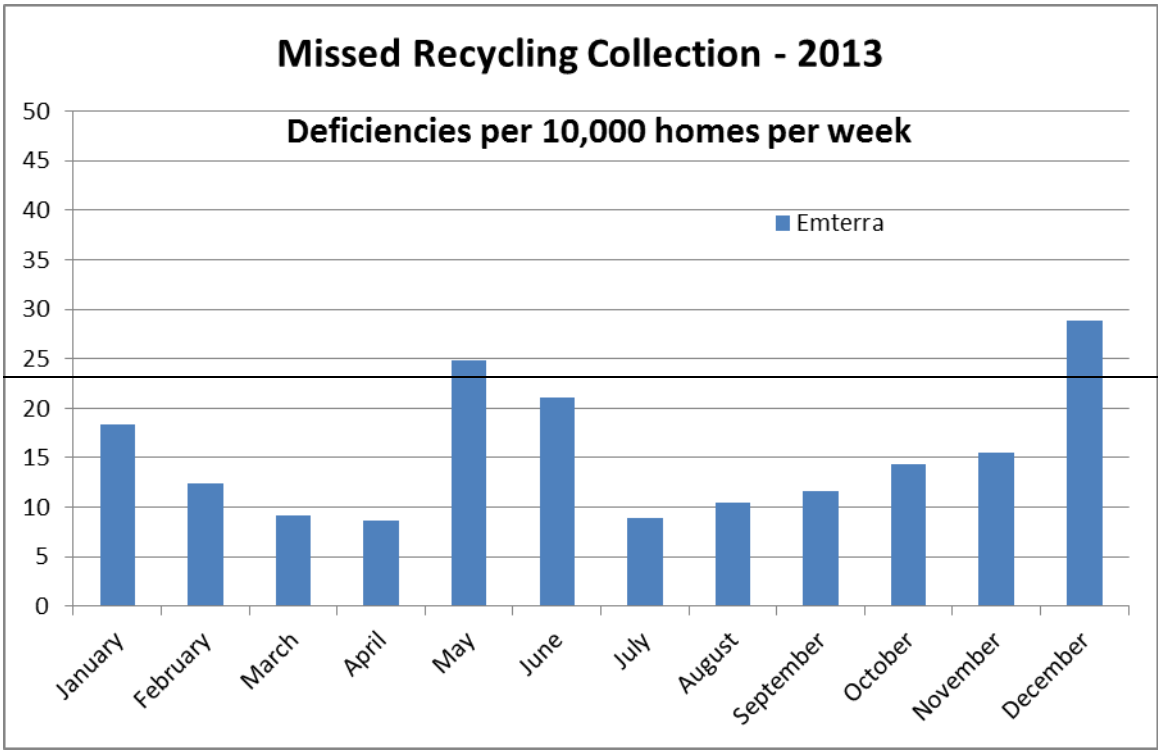
The implementation of the new collection services was very challenging due in part to the transition period from existing to new services and the large scale changeover on October 1, 2012. We completely changed what we collect, when we collect and how we collect it for almost every resident in Winnipeg and these changes were made in a one week period from the old systems to the new system. With any collection changeover, there will always be challenges for a short period while the operators adjust to unfamiliar routes and nuances in collection locations at some properties. Past experience has shown that the transition to consistent collection services usually take approximately one month to achieve as the operators become comfortable with their routes.

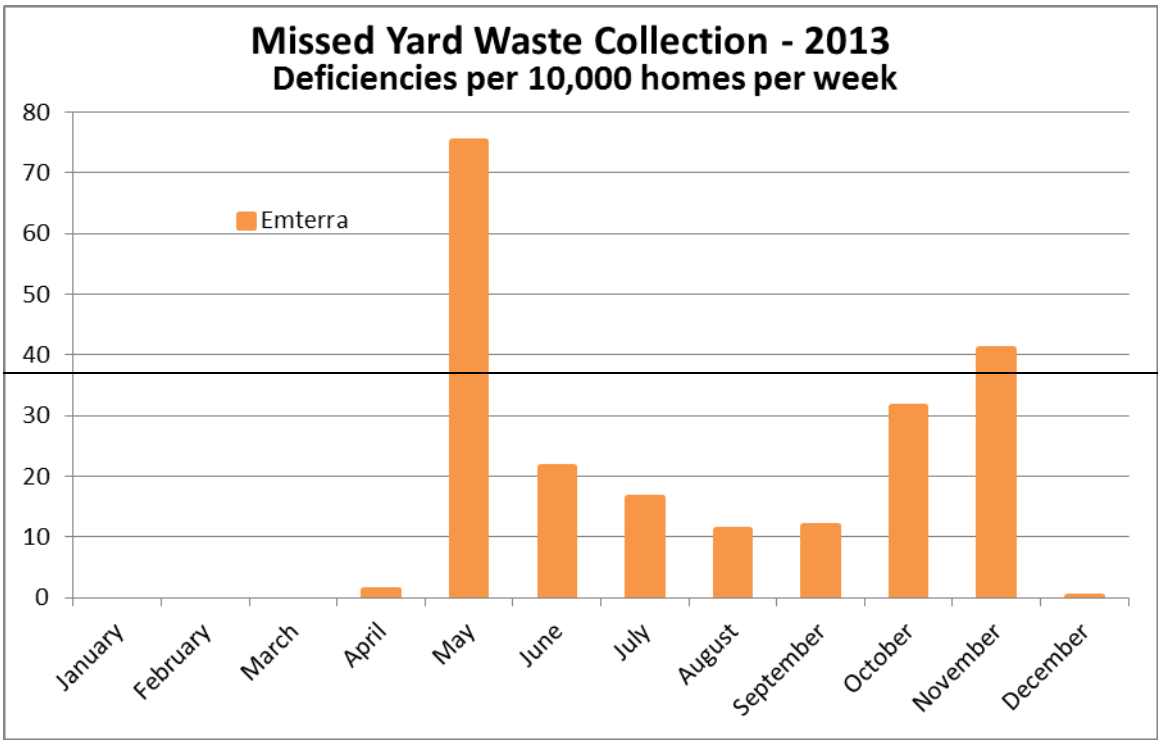
In 2013, Emterra stated that the prolonged cold weather in January and December caused delays in collection services caused by equipment breakdowns and the physical demands of working in the cold for their semi-automated collection staff. Emterra also stated that they had issues with providing adequate, appropriate equipment during the start-up of yard waste collection in May. Both of the reasons above contributed to the high volume of collection-related calls to 311 in 2013.

The charts below indicate the total complaints for missed collections on a weekly basis for each month in 2013 for garbage, recycling and yard waste for all cart collection areas in Winnipeg. To normalize the information, the deficiencies are per 10,000 homes collected, which is a standard used in Winnipeg collection since at least 2001 and had been adapted from other jurisdictions. BFI collects garbage at 45,000 locations per week and Emterra collects garbage at 145,000 locations per week. Emterra collects recycling at 190,000 locations per week as well as 95,000 yard waste collections per week during the yard waste collection season.

In 2013, the number of deficiencies for missed garbage collection was 1,395 for BFI Canada and 16,295 for Emterra. There were 15,269 missed collection services deficiencies in Emterra cart collection areas and 8,854 deficiencies for missed yard waste collection.







The Department continues to work with the service providers through the contract terms and conditions to improve collection services and thereby reduce the number of deficiencies.

5. 2014 Implementation Plan

4R Winnipeg Depots

The second phase of implementation has shifted from collection activities to developing the first of up to four 4R Winnipeg Depots. The first centre will be located at the Brady Road Resource Management Facility with construction starting in spring 2014 and the second facility will be constructed on Pacific Avenue between McPhillips and Weston Streets in 2014/15. Dillon Engineering was retained in 2013 to provide design and engineering services for these two facilities.

The site at Brady is 5 hectares (about the size of 6 football fields). Residents will be able to drop off materials that can be resold, recycled, composted or reused, such as:

- large household items (e.g., furniture),
- household hazardous waste,
- construction and demolition materials,
- wood,
- metals,
- electronic waste, and
- yard waste

Operation of the Brady depot will allow the closing of the residential tipping area and allow the landfill operations to consolidate to a smaller area, providing increased efficiencies and less impact on neighbouring residential communities through the reduction of wind-blown litter and odour mitigation. The Waste Minimization Strategy estimated that the diversion of material through these depots would contribute an approximate 3% increase towards the overall waste diversion goal.

Yard Waste Diversion

Work will continue toward developing public awareness of the benefits of grasscycling (mulching) and backyard composting to residents as well as continued involvement in community events to promote the program and answer questions from the public. Feedback from these events has been positive and well received by staff and the public alike.

Organics

Completion of the organics strategy, which will consider kitchen waste, biosolids and animal waste, started in 2013 with a report to Council expected in late 2014. The report will recommend a long term strategy to manage these organics.

6. CIWMP Detailed Recommendation Status

Summarized below are the 30 recommendations that were contained in the report adopted by Council on October 19, 2011, 27 of which have been fully implemented:

	CIWMP Recommendations in the Report approved by Council on October 19, 2011	Status
	Garbage Collection System	
1	That all single family residential premises served with manual and AutoBin collection be served with the automated garbage cart system consisting of one 240-litre cart collection per cycle, consistent with the existing automated garbage cart collection system in the northwest area of the city.	√
2	That replacement garbage carts for lost carts be provided to residents at cost.	√
3	That bulky waste service be provided at a charge of $5.00 per item, up to a maximum of ten (10) items per collection.	√
4	That surplus waste be collected consistent with the bulky waste charge ($5.00 per pickup of up to three standard size garbage bags).	√
5	That the abandoned waste collection service continue	√
6	That collection system changes be initiated in 2012.	√
	Diversion (including Recycling)	
7	That all single family residential premises be served with the automated recycling cart system, consisting of one 240-litre cart collection per cycle.	√
8	That replacement recycling carts for lost carts be provided to residents at cost.	√
9	That additional or larger recycling carts be provided to residents at cost, with no limit on collection volume, where quantities justify.	√
10	That near term and longer term recycling processing capacity be secured to accommodate the growth in recycling	√
11	That, subject to recommendation #1 above, a leaf and yard waste collection program using approved compostable bags and/or hard-wall containers (e.g., old garbage cans) be implemented for 7 months per year on a bi-weekly collection basis and the existing Leaf-It-Depots be closed in 2013.	√
12	That a source separated organics (kitchen organics) trial be conducted for residential households in 2014, subject to approval of capital budgets, and based on the results, recommendations be brought forward regarding a full-scale program with an implementation by 2017.	*
13	That, based on results of the source separated organics trial program and subject to capital budget approval, a full scale source separated organics program be	*

CIWMP Recommendations in the Report approved by Council on October 19, 2011		Status
	implemented.	
14	That all organics collected through the above programs be composted at composting facilities to be developed at Brady Road landfill site, subject to capital budget approval.	√
15	That, subject to the approval of capital budgets, beginning in 2013, up to 4 Community Resource Recovery Centres (CRRCs) be developed in strategic locations, with initial sites at Brady Road Landfill and in the north area of the city (location to be determined), and that an access fee of $5.00 be applied for all material except those covered under other programs, such as household hazardous waste, electronic waste or recycling.	√
16	That non-profit organizations and product stewards be considered for partnership at CRRCs to divert material rather than disposing of it.	√
17	That discussions with the multifamily residential sector be ongoing for future program improvements including, but not limited to, improved recycling and possible future source separated organics.	√
Brady Road Landfill/Brady Road Resource Management Facility		
18	That the focus of Brady Road Landfill area be changed from waste burial to resource recovery, and therefore be renamed as the Brady Road Resource Management Facility.	√
Implementation Requirements and Ongoing		
19	That staffing for 2012 to carry out the foregoing programs per Table 6 – Proposed Staff Plan be approved in advance of approval of the 2012 Operating Budget.	√
20	That the program costs be funded through a combination of property tax support and a user fee collected on the water bill, with property taxes supporting the diversion programs and the user fee funding the balance of garbage collection costs. The user fee charge would be $50.00 per single-family dwelling unit per year, billed quarterly ($12.50/3 months) on the water bill, no later than October 1, 2012.	√
21	That a user fee charge of $4.17 per single-family dwelling unit per month, as defined by the Solid Waste By-law No. 1340/76 of seven or less dwellings per property, billed quarterly ($12.50/3 months) on the water bill, be approved, to be implemented no earlier than October 1, 2012, and that a waste diversion reserve fund be established where all surplus monies collected through this user fee be dedicated to waste diversion programs.	√
22	That a first charge on the 2012 Capital Budget be authorized in an amount of $16.6 million in accordance with Subsection 288(2) of The City of Winnipeg Charter to allow timely contract award for the development and purchase of automated recycling and garbage carts for delivery in 2012 as recommended in No. 1 and No. 7 above and that the related financing requirements be referred to the 2012 Capital Budget Process, broken down as follows: A. $9.35 million for recycling carts in the Solid Waste Utility's 2012 Provision for Implementation of the Waste Management Strategy capital project and B. $7.25 million for a new 2012 capital project - Provision for Implementation of the Waste Management Strategy – Automated Garbage Carts in the	√

CIWMP Recommendations in the Report approved by Council on October 19, 2011		Status
	General Revenue Fund.	
23	That a first charge on the 2012 Capital Budget be authorized in an amount of $400,000 in accordance with Subsection 288(2) of The City of Winnipeg Charter to allow for timely contract award for the development and implementation of the billing system changes as recommended in No. 20 for the Solid Waste Utility's 2012 Provision for Implementation of the Waste Management Strategy capital project and that the related financing requirements be referred to the 2012 Capital. Budget process.	√
24	That authority be delegated to the Chief Administrative Officer , in order to shorten the time-period for approval of contracts critical for 2012 implementation such as, garbage collection services estimated at $7,300,000, recycling collection services estimated at $4,700,000 and yard waste collection services estimated at $2,500,000 per year to allow time for the successful bidder(s) to order equipment.	√
25	That a communication plan, as well as a promotion and education and enforcement plan, be developed to support these recommendations as well as existing programs.	√
26	That the Solid Waste By-law No. 1340/76 be updated with recommendations from the master plan and be approved by City Council no later than September 2012.	√
27	That small commercial establishments eligible for garbage collection service under the Solid Waste By-law No. 1340/76, be charged the same user fee as single-family dwelling units and therefore be eligible for the same waste diversion services.	√
28	That the Winnipeg Public Service publish an annual report on the status of the Master Plan.	√
29	That discussions with industrial, commercial and institutional sectors, and construction and demolition sectors be ongoing for future program improvements.	√
30	That a Waste and Diversion Advisory Committee of knowledgeable volunteer citizens (similar to the Active Transportation Advisory Committee) be created to work with the Public Service to provide advice and recommendations for the completion, implementation, and continual improvement of the Garbage and Recycling Master Plan."	◊

√ Accomplished

* Capital funding for programs will be dependent on outcome of organics strategy report

◊ Developing a scope and framework for the committee in 2014

HISTORY

On October 19, 2011, Council adopted the Comprehensive Integrated Waste Management Strategy that recommended standardizing garbage collection services, enhancing recycling collection, adding a curbside leaf and yard waste collection, implementation of resource recovery centres and implementing the Waste Diversion fee to fund the changes to the system.

On March 9, 2010 the Standing Policy Committee on Infrastructure Renewal and Public Works referred the February 24, 2010 Council Motion, pertaining to developing a city-wide waste reduction plan in consultation with the public, to the Winnipeg Public Service for report back.

OurWinnipeg identifies the need to carry out a comprehensive waste management strategy to integrate and optimize the service level and efficiency of all facets of the solid waste management system, while minimizing environmental impacts.

In 2009, Winnipeggers landfilled in excess of 340,000 tonnes of residential garbage per year and recycled and composted approximately 54,000 tonnes of residential material, for a diversion rate of about 15%, one of the lowest in Canada. At the same time, the Public Service was recommending changes to the garbage and recycling collection systems based on feedback from collectors, industry trends and other municipalities in North America. As a result, in June 2010, Council directed the Public Service to create a waste diversion strategy, with consultation from the public, to increase the waste diversion rate, explore options for material collection and provide uniform service for the citizens of Winnipeg. Council adopted the Comprehensive Integrated Waste Management Strategy on October 29, 2011 with the overall strategy of the plan to increase the diversion rate to 35% by 2016 and greater than 50% by 2020 and thereafter. The implementation of the plan began in 2012.

FINANCIAL IMPACT

Financial Impact Statement Date: February 18, 2014

Project Name: Comprehensive Integrated Waste Management Strategy 2013 Annual Report

COMMENTS:

This report is submitted for information only and as a result there is no financial impact associated with this report.

Original Signed by

Moira Geer, C.A.
Manager of Finance & Administration

CONSULTATION

In preparing this report there was consultation with:

SUBMITTED BY

Department: Water and Waste
Division: Solid Waste Services/Finance and Administration
Prepared by: D. Drohomerski, L. Fisher
Date: March 6, 2014
File No. G101