Agenda – Executive Policy Committee – October 12, 2011

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – October 3, 2011

Item No. 1 Garbage and Recycling Master Plan

STANDING COMMITTEE RECOMMENDATION:

On October 3, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service, as amended, and submits the following to Council:

1. That in order to achieve a greater than 50% waste diversion rate, the Comprehensive Integrated Waste Management Strategy, consisting of the following recommendations, be approved for implementation starting in 2012:

   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 10 items per collection.

   4. That surplus waste be collected consistent with the bulky waste charge ($5.00 per pickup of up to 3 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.

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10. That near term and longer term recycling processing capacity be secured to accommodate the growth in recycling.

11. That, subject to Recommendation No. 1, 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 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.

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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.

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 General Revenue Fund.

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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.

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

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – October 3, 2011

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On October 3, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service with the following amendments:

- Add the following words at the end of Recommendation 12:
  "with an implementation by 2017"

- Add the following words at the end of Recommendation 15:
  "for all material except those covered under other programs, such as household hazardous waste, electronic waste or recycling"

- Add the following words at the end of Recommendation 21:
  "and that a waste diversion reserve fund be established where all surplus monies collected through this user fee be dedicated to waste diversion programs"

- Add the following words at the end of Recommendation 25:
  "as well as existing programs",

and submitted the matter to the Executive Policy Committee and Council.

Also, on October 3, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works received from Peter Miller and Harvey Stevens, Green Action Centre, a presentation dated October 3, 2011 titled "Green Action Centre Comments" in support of the Garbage and Recycling Master Plan.

ADMINISTRATIVE REPORT

Title: **Comprehensive Integrated Waste Management Strategy (*Garbage and Recycling Master Plan*)**

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	B. D. MacBride, P. Eng Director of Water and Waste	M Ruta Chief Financial Officer	D Joshi Chief Operating Officer

RECOMMENDATIONS

That in order to achieve a greater than 50% waste diversion rate, Council approves the Comprehensive Integrated Waste Management Strategy, consisting of the following recommendations, for implementation starting in 2012.

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 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 seven months per year on a biweekly 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.
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 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 four 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.
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.
21. That Council approve a user fee charge of $4.17 per single-family dwelling unit per month, as defined by the Solid Waste Bylaw of seven or less dwellings per property, billed quarterly ($12.50/3 months) on the water bill, to be implemented no earlier than October 1, 2012.
22. That Council authorize a first charge on the 2012 Capital Budget 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 #1 and #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 General Revenue Fund.

23. That Council authorize a first charge on the 2012 Capital Budget 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 #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 Council delegate authority to the CAO, 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.
26. That the Solid Waste By-law 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, be charged the same user fee as single-family dwelling units and therefore be eligible for the same waste diversion services.
28. That the 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 the Public Service be authorized to do all things necessary to implement the foregoing.

REASON FOR THE REPORT

Solid Waste Services Division was instructed by Council on June 23, 2010 to undertake a Comprehensive Integrated Waste Management Plan.

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.

Under the Environment Act Licence # 2890, the City must submit to the Province of Manitoba, by December 31, 2011, a proposal for an environmental license for the Brady Road Landfill. Separate reports will be submitted to Council regarding the Brady landfill rezoning and Environment Act licencing application

IMPLICATIONS OF THE RECOMMENDATIONS

In 2009, Winnipeggers landfilled in excess of 340,000 tonnes of material per year and recycled and composted approximately 54,000 tonnes of material, for a diversion rate of about 15%. The recommendations in this plan will increase the diversion rate to 35% by 2016 and greater than 50% by 2020 and thereafter. The components in this plan must be considered as a system and not individual pieces in order to achieve the diversion rates noted above.

Benefits:
The plan has a number of economic, social and environmental benefits for the community and residents.

Economic benefits:

- Uniform service levels will give cost savings due to efficiencies in service delivery.
- Improvements to bulky waste fee structure and elimination of AutoBins is predicted to reduce the cost of collecting illegally abandoned waste.
- Less waste burial reduces long term perpetual care liabilities.
- New programs will provide economic opportunities for business and not-for-profit sector.

Social benefits:

- Improved programs give residents greater access to environmental programs (e.g., leaf and yard waste collection, community resource recovery centres, kitchen waste collection, improved recycling services).
- The community resource recovery centres will give residents greater access to diversion opportunities.
- The program design will help reduce illegal dumping and improve fairness by providing uniform services and fees throughout the city.
- Will provide more opportunities for green environmental business for resource recovery.
- The cart system will provide improved control for vermin, odours and wind-blown litter, and significantly reduce collection worker injuries.
- Removal of the AutoBin system is expected to reduce incidents of vandalism, fire and graffiti, and improve the appearance of neighbourhoods negatively impacted by these issues associated with AutoBins.

Environmental benefits:

- Significantly increased garbage diversion rates and reduced burial requirements.
- As a result of less burial requirements and closure of the residential tipping face at the Brady Road Landfill, there will be less odour, leachate production, improved safety and reduced operating costs.
- Will add to the lifespan of Brady Road Landfill, preserving capacity for the future.
- The plan estimates a significant overall reduction in greenhouse gas production as shown in table 5.

Process:

The vision and plan for the future of garbage and recycling services in Winnipeg was built through a three-phase, six-month public participation process.

Stakeholder Advisory Committee:
A Stakeholder Advisory Committee (SAC) met regularly to assist the City of Winnipeg by providing feedback and advice, and providing comments for the master plan. The SAC was made up of representatives from various community, industry, academic, consumer, provincial and environmental sectors. An external facilitator was used to conduct meetings.

Consultant:
Stantec Consulting Ltd. (Stantec) was retained to provide technical expertise on the master plan and environmental licensing for the City. Stantec, with expertise in environmental assessment, strategic analysis and planning in solid waste service provision, has developed municipal waste plans, solid waste system strategies, and environmental licensing for communities including County of Simcoe, City of Hamilton and the Region of York.

Other Communities:
As part of the research for this master plan, other similar sized cities in Canada and the US were consulted regarding waste management practices and integrated waste management plans.

Public Participation Process:

Phase 1 - Confirmed the guiding principles and determined the scope of the project. Guiding principles supported recommendations of equal service, improved programming and improved waste diversion. A waste expo was hosted at the Winnipeg Convention Centre.

Phase 2 - Options were provided to the public (via open houses, web and surveys) who gave feedback on which diversion and service types would be preferred. The Department conducted 11 open houses and four roundtable sessions throughout Winnipeg. Overall, Winnipeggers were supportive of the options that are being recommended.

Phase 3 - The public was informed through the website of the survey results and the consultant's executive summary and full report with recommendations, which have been submitted to Council. The executive summary is attached in Appendix B and is available at www.garbage.speakupwinnipeg.com.

In total, more than 2,500 people have participated in some form of the public participation process outlined above. There were over 10,000 unique visitors to SpeakUpWinnipeg.com and the online YouTube video channel garnered over 2,500 views.

Brady Road Landfill Environmental Licence – Incorporated in the above phases, the Brady Licensing and Garbage and Recycling Master Plan process were integrated to develop a system which emphasizes diversion and reduces reliance on waste burial.

Ongoing Processes
Discussions have started with representatives from the multi-family sector, industrial, commercial and institutional sectors, and construction and demolition sectors. This process is ongoing to further explore best practices to increase diversion in these sectors.

An initial scan of civic waste management practices was conducted. Further research on materials and diversion practices is needed in order to develop a targeted civic waste diversion strategy.

Garbage Collection Recommendations

The recommendations in this plan are intended to achieve a waste diversion target by 2020 of at least 50% from residential waste. To support stated diversion goals and programs, volume limits on garbage and increased diversion opportunities are necessary. Environmentally, this is the preferred solution, since limiting size of containers requires diversion, reduces burial of waste and supports the environmental licensing process as discussed later in this report. The City operates four different collection services for single-family residential, and a two-tiered bulky waste collection service. This is inequitable and more costly than providing uniform service. Based on the public participation process, administrative considerations and feedback from political sources, uniform garbage services are favoured. The garbage carts would help reduce litter, as carts are equipped with lids that prevent wind-blown litter and are resistant to vectors (disease carriers).

The integrated system of garbage carts, recycling carts, leaf and yard waste, and CRRCs should be implemented together, as they are interdependent programming elements for diversion. These programs should be implemented together starting in 2012. Implementation timing is critical, as service contracts are expiring and being extended at additional cost, and there is a risk of service disruptions, due to the reduced reliability of aging service vehicles in the extended contracts.

<u>Uniform level of service with automated cart collection</u>

It is recommended that:
- automated cart collection be implemented city-wide, replacing the current mix of collection (i.e., manual, AutoBin, wheelbarrow cart collection),
- each home be provided with one 240-litre cart (equal to three regular size garbage bags),
- residents could upgrade their service (e.g., larger size cart, extra cart) for an annual fee,
- residents could request a surplus waste collection on those occasions when they have more garbage than will fit in the cart, at a charge of $5 per volume equivalent to a standard garbage cart (up to three regular size garbage bags),
- replacement carts would be available to residents at cost.

Providing a uniform level of service will promote efficiency and service equity. Carts with a 240-litre capacity (holds about three standard garbage bags) are recommended, as they promote waste diversion with a suitable volume limit. In a recent survey:
- 91% of respondents stated that they throw out three standard garbage bags or less
- over half of respondents support the use of carts.
- of the people who responded at open houses, 79% support the use of carts.

Carts are also favoured because they are thought to be the most acceptable container choice when converting four different types of service to a consistent volume-limited service. The northwest section of Winnipeg already has 43,000 automated 240-litre carts that were successfully introduced in 2010. Consideration was also given to the fact that manual garbage collection increases worker-related injuries.

Neighbourhoods with AutoBin service have the lowest recycling rates of all service types in the city and highest per household waste generation rates, and there are significant issues with illegal dumping or abandoned waste, graffiti, vandalism and fires. In addition, AutoBin service vehicle manufacturing is obsolete. Nearly two-thirds (64%) of respondents in the AutoBin area indicated support for removing AutoBins.

As with garbage containers today, property owners would be responsible for:

- keeping the cart clean and in good repair
- storing the cart in a safe place
- removing the cart from the street or lane as soon as possible after collection
- replacing the cart if it is stolen or damaged.

The net cost of the change to automated garbage collection is estimated to save $500,000 per year over the current system including amortization of the carts over the warranty period of ten years.

Bulky waste

It is recommended that:

- up to ten items would be collected per pickup with a $5.00 per item charge
- the charge would apply to all customers requesting the service

Bulky waste is an additional service provided by the City to residential dwellings and is defined as household items such as mattresses, furniture and appliances that are heavier than 34 kg or longer than 1.5 metres in length. A uniform per-item charge of $5.00 is expected to encourage diversion, create consistent collection services and discourage abandoned waste.

Surplus Waste

It is recommended that:

- Up to three standard sized garbage bags be collected for a $5.00 charge
- Residents would contact 311 to request a surplus waste pickup

While 91% of residents indicate they throw out three bags of garbage or less per week, equal to a regular sized garbage cart, some residents have stated they occasionally need to dispose of additional waste as a result of holidays, events, etc. The surplus waste service allows for the disposal of up to three additional bags of waste for a $5.00 fee, equal to a bulky waste fee. The service would be requested in the same way as bulky waste, that is, by contacting 311 to request the service and have the fee added to their water bill.

Abandoned waste

It is recommended that the City continue its current practice of collecting abandoned waste from residential areas. It is expected that the amount of abandoned waste will diminish with the removal of AutoBins, changes to the bulky waste fee structure and the provision of other diversion programs.

Diversion Recommendations

The recommendations in this plan are intended to achieve a waste diversion target by 2020 of at least 50% from residential waste. As with garbage collection, implementation timing is critical as service contracts are expiring and being extended at additional cost. Since a goal of this plan is to increase diversion, garbage volumes will be restricted; this will require additional diversion opportunities such as enhanced recycling and organics collection. The integrated system of garbage carts, recycling carts, leaf and yard waste, and Community Resource Recovery Centres (CRRCs) should be implemented together, as they are interdependent programming elements for diversion. For these reasons, programs should be implemented starting in 2012.

Since waste volume is being limited, additional diversion capacity will be necessary in three key areas: self-hauled waste recycling and organics collection. Experience with the northwest sector of Winnipeg, which has already been successfully converted to a cart-based collection system, supports these conclusions.

Automated Recycling Cart Collection

It is recommended that:
- automated cart collection be implemented city-wide, replacing manual blue box collection
- each home be provided with one 240-litre cart (equal to four standard size blue boxes)
- residents could choose larger size carts or extra carts at cost (there would be no additional charge to service the carts)
- replacement carts would be available to residents at cost

The 240-litre cart size is consistent with most municipalities in Canada that offer this service. In a recent survey, over 6 out of10 respondents (63%) approve of the use of automated recycling carts. The estimated cost for each container is $50, and would be provided at no cost to the resident. Multi-Material Stewardship Manitoba (MMSM) is responsible to pay 80% of the net cost of an efficient municipal recycling program. Capital costs, such as recycling carts, are included in the funding agreement with municipalities.

As with blue boxes today, property owners would be responsible for:
- keeping the cart clean and in good repair
- storing the cart in a safe place
- removing the cart from the street or lane as soon as possible after collection
- replacing the cart if it is stolen or damaged

The current blue box program provides manual collection service to approximately 187,000 single-family dwellings. In the past six years, an increasing number of customers have been

using more than one blue box, as well as boxes that are larger than the standard size blue box, demonstrating a need for increased recycling container capacity. Multi-family dwellings are already serviced by an automated container collection system.

Many cities in Canada have switched single-family dwelling collection to an automated cart collection, offering more container capacity and less work-related injuries. An additional benefit of the recycling carts would be to help keep streets clean, as carts are equipped with lids that prevent wind-blown litter and protect the materials from the elements, helping maintain higher product value.

With the implementation of automated recycling cart collection, it is anticipated that an additional 30,000 tonnes per year (8% of overall residential waste) would be diverted from the landfill by the end of 2017 and includes increased participation, as well as an increase in dwellings in Winnipeg.

Materials Processing Capacity

It is recommended that:
- additional processing capacity be secured by mid-2012
- long-term processing capacity through a new facility be secured before 2016

Existing processing capacity is strained and near-term processing capacity needs to be acquired through a procurement process. The existing processing contract expires in 2017, and, due to the long lead times required to construct a new materials recovery facility, longer term recycling processing capacity needs to be developed and secured well in advance. In the latter case, there are a variety of procurement strategies available. Multi-Material Stewardship Manitoba (MMSM) is responsible to pay 80% of the net cost of an efficient municipal recycling program. Program costs are included in the funding agreement between MMSM and municipalities.

Yard Waste Organics Diversion

It is recommended that:
- biweekly manual curbside collection of yard waste be implemented every two weeks from April to November
- residents be required to package their yard waste in approved compostable bags or hard walled containers (e.g., old garbage cans)
- the seasonal Leaf It drop off depots be discontinued
- the seasonal Chip In drop off depots remain

With the introduction of automated garbage cart collection, residents will be limited to the volume in their garbage cart each collection. A seasonal yard waste collection program would allow residents to dispose of yard waste. A recent survey indicates that over two-thirds (69%) of residents dispose of organic waste in regular garbage. More than 7 out of 10 respondents (73%) indicated support for biweekly collection of yard waste from April to November.

Manual collection of yard waste is most practical, since there is a wide fluctuation in yard waste generated at each household, and garbage cart volumes could be regularly exceeded at

certain times of the year. The City would work with retailers to ensure sufficient quantities of compostable bags are available, as plastic bags would not be collected.

The material would be composted in a special area at the Brady Road Landfill, to be built at a cost of $2 million. With the increase in organic material collected, the yard waste composting facility at Brady Road would require extensive upgrading to manage the larger volume of material anticipated. The finished compost material is a valuable landfill cover material and soil amendment for landscaping needs by City departments. Marketing of finished compost would be investigated once quality and quantity was proven.

Once the curbside yard waste collection is in place, there would no longer be a need for the seasonal drop-off depots (Leaf It With Us). Yard waste could also be dropped off at one of the Community Resource Recovery Centres.

With expanded leaf and yard waste collection, it is anticipated that an additional 21,000 tonnes per year (6% of residential waste) would be diverted from the landfill. Keeping yard waste out of the landfill has several benefits, including reduced greenhouse gas production, improved landfill stability, reduced leachate and odour, and reduced disposal requirements.

Community Resource Recovery Centres

It is recommended that:

- up to four centres would be established where residents could drop off material that could be processed and reused, resold or recycled (e.g., construction and demolition material, household items)
- there would be a $5.00 access fee to support operating costs

Initially, in order to provide sufficient service, one site would be set up at Brady Road Landfill, with another site in the north part of the city. Eventually, two additional centres would be established in the east and west areas.

Based on consultations, a strong majority (91%) of Winnipeg residents support establishing Community Resource Recovery Centres (CRRCs). The implementation of CRRCs would further increase waste diversion, by focusing on the recovery of materials dropped off by residents. Residents would be allowed to drop off items including, but not limited to, reusable items and household items, as well as construction and demolition materials, and associated residual waste. These materials would be separated and further processed for reuse, resale or recycling.

It is expected that industry stewards (e.g., household hazardous waste, electronic waste) and non-profit organizations could participate, by potentially hosting on-site depots for various materials.

Each CRRC could divert up to 10,000 tonnes of material per year per site (3% of residential waste stream).

Source Separated Organics (Kitchen Waste) – Pilot Program

It is recommended that:
- automated kitchen waste cart collection be implemented in a trial area
- each home in the trial area be provided with one green cart to hold kitchen organic waste (e.g., fruit and vegetable scraps, coffee grounds)

Based on consultations, nearly two-thirds (63%) of Winnipeg residents indicate support for a curbside kitchen waste organics program. This reflects the same findings of the Our Winnipeg consultation process. A pilot program would explore public acceptability, cost, communications and collection related issues which would facilitate the development of a city-wide program. In the trial area, yard waste would continue to be collected in compostable bags. This material would be processed at the enhanced Yard Waste Composting Facility at Brady Road Landfill.

Based on the results of the pilot program recommendations will be brought forward for a full scale program. Estimated construction costs of an organics processing facility ranges from $45 million to $65 million depending on the technology. A variety of procurement strategies will be explored. Cost of organics collection carts for the full scale program is estimated to be $11.4 million.

This is the single-most long term measure to achieve the greater than 50% diversion target of the plan. Because of the significant volume and the nature of this material, proper processing including odour mitigation is a key objective and translates into significant cost.

Brady Road Landfill

It is recommended that:
- the Brady Road Landfill area be renamed the Brady Road Resource Management Facility

Upon approval of this report, steps will be taken to:
- rezone the site to accommodate diverse uses
- prepare an Environment Act proposal for licensing of the Brady Road Landfill site to reflect the uses outlined in the master plan

The lands set aside for the Brady Road Landfill offer opportunities for hosting different components of the proposed diversion program, which will significantly reduce the amount of waste requiring burial, with corresponding reductions in landfill gas and leachate production. For example, as indicated earlier in this report, residential quantities requiring burial will be reduced by approximately 35% in the near term and over 50% in the longer term. This emphasis on waste diversion supports the overall licensing process for the Brady Road Landfill, by way of predicted reduced environmental impacts from reduced rates of waste burial.

Shifting site usage from burial to diversion can be accomplished through near and longer term initiatives, such as:

- Community Resource Recovery Centre (significant advantages to allowing only one tipping face at the burial area)
- yard waste composting

- kitchen waste composting
- materials recovery facility
- industrial, commercial and institutional, and construction and demolition materials depot
- "Green Business Park" for commercial/industrial resource recovery, product development and sales
- landfill gas collection, processing and utilization
- diversion research and business development centre
- biofuels facility
- biosolids composting facility (being examined separately from this Master Plan work)

Other non-diversion, non-burial related activities could include:

- public park and sports field
- community gardens
- leachate pre-treatment/treatment facility, including engineered wetlands

Implementation Requirements

Timing

Implementation timing is critical and service contracts are coming due or have been extended at additional cost. The blue box collection, manual east area and AutoBin collection contracts will require extension until no later than the end of 2012, when the new system is expected to be fully implemented.

Funding

The current system is funded through a combination of tipping fees, tax support, extended producer responsibility funding (MMSM), material sales, user fees and grants. To fund changes in the program, additional revenue of $8 million to $10 million a year is required. It is recommended that the source of this additional revenue 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 $4.17 per single-family dwelling unit per month, billed quarterly ($12.50/3 months) on the water bill. A single-family dwelling unit is defined by the Solid Waste Bylaw of seven or less dwellings per address. A question in a recent Omnibus survey indicates that 62% of respondents are supportive of paying such a fee (see table on the following page).

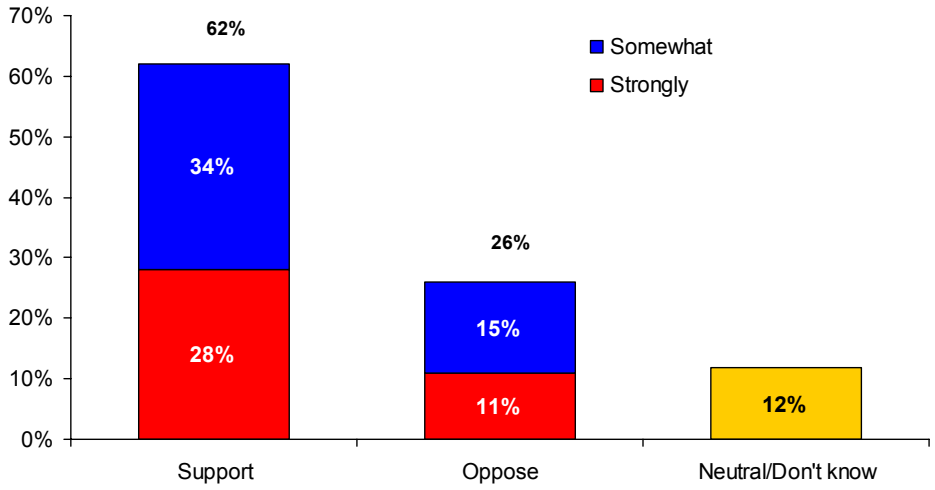
Diversion programs would be supported by property taxes. Other forms of user fees and tax support were examined but discounted as sources for the additional revenue. This form of user fee is used in other cities, as it is a fair way of charging for the services provided. With the significant diversion opportunities included in this plan, additional funding support through the Provincial Waste Reduction and Recycling Support (WRARS) fund will be discussed with the Province.

Implementation of this plan will bring Winnipeg on par with many other major cities in North America. The many social and environmental benefits are listed on page 5 under the "Benefits" section earlier in this report.

In June 2011, residents were polled to determine level of support for a user fee for the additional services being proposed. The question and results are below.

June 2011 Omnibus Results question:

"The City of Winnipeg is looking at making changes to how residential garbage is managed. The changes would expand services to recycle and recover materials from the waste stream and to collect and compost leaf and yard waste. They also involve providing equitable collection services across the City and improvements at the Brady Road landfill. These changes could result in an annual fee of $40-50 per household per year (less than $1 per week). How supportive would you be of such a fee, if it means it would help implement programs like improved recycling and curb side leaf & yard waste collection?" (n=504)



Staffing

Additional temporary and permanent staff will be required to implement the recommendations in the master plan, to support improved programming. See Table 6 for Proposed Staff Plan. Longer term staff requirements to support future programs, such as additional CRRCs and source separated organics, will be determined based on implementation requirements. Consulting services will be required to support program implementation, including the Brady Road Landfill master plan. The Community By-law Enforcement Services Division of the Community Services Department will be adding temporary positions to provide enforcement of the Liveability and Solid Waste by-laws during the implementation of collection changes. It is expected that these positions will be required for 2012 and 2013. The funding for these positions is included in this Plan.

Reporting

Routine monitoring and reporting of plan implementation should be carried out, including an annual status review. One indicator to include in reporting is a per-capita waste generation rate. It is recommended that the Public Service publish an annual report on the status of the master plan

Promotion, education and enforcement

It is recommended that a communication plan, as well as an education and enforcement plan, be developed to support these recommendations. Adequate promotion, education and enforcement are required to increase new program awareness and proper participation, especially in the area of waste diversion. Best practices show that successful diversion programs rely on sufficiently funded education and enforcement campaigns. An enforcement function will also be required to help encourage compliance and discourage abandoned waste.

Program Summary

The following tables and chart summarize the implications of the recommendations in this report:

Table 1 – Summary of Proposed Capital Investment 2012 - 2019

Capital Projects	Near Term Forecast					Long Term Forecast		
	2012	2013	2014	2015	2016	2017	2018	2019
Organics (Yard Waste) Composting Facility	2,000,000	-	-	-	-	-	-	-
Provision of Automated Recycling Collection Carts	9,350,000	-	-	-	-	-	-	-
Provision of Automated Refuse Collection Carts	7,250,000	-	-	-	-	-	-	-
Consulting Support for System Transition	400,000	200,000	200,000	-	-			
Community Resource Recovery Facilities (South and North)	-	2,700,000	3,400,000	-	-	-	-	-
Material Recycling Facility	-	-	20,000,000	-	-	-	-	-
Source Separated Organics	-	-	400,000	-		* $65,000,000	-	-
Provision of Automated Organics Collection Carts						11,400,000		
Community Resource Recovery Facilities (West and East)	-	-	-	-			$ 3,400,000	$ 3,400,000
Total Capital Projects	**$ 19,000,000**	**$ 2,900,000**	**$ 24,000,000**	**$ -**	**$ -**	**$ 11,400,000**	**$ 3,400,000**	**$ 3,400,000**
Total Strategy $ 64,100,000			**Total Near Term** $45,900,000				**Total Long Term** $ 18,200,000	

Note: All above noted items are included in the 2012 Capital Estimates submission for the Water and Waste Department as debt financed projects.

**** Estimated construction costs of an organics processing facility ranges from $45 million to $65 million depending on the technology. A variety of procurement strategies will be explored.***

Table 2 – Financial Impact on the Solid Waste Utility and Garbage Collection Operating Budgets for 2012 – 2016 (incremental to the 2012 and 2013 Adopted in Principle Operating Budgets)

Operating Budget	Near Term Forecast				
	2012	2013	2014	2015	2016
Revenue					
Sale of Recyclables [3]	$ (780,250)	$ (3,185,000)	$ (3,313,000)	$ (3,377,000)	$ (3,377,000)
CRRC User Fee [4]	-	(655,000)	(857,500)	(1,310,000)	(1,310,000)
Bulky Waste Fee [1]	(302,000)	(724,000)	(724,000)	(724,000)	(724,000)
Garbage Collection User Fee [2]	(2,355,250)	(9,421,000)	(9,421,000)	(9,421,000)	(9,421,000)
Total Projected Revenue	**$ (3,437,500)**	**$ (13,985,000)**	**$ (14,315,500)**	**$ (14,832,000)**	**$ (14,832,000)**
Expense					
Recycling [3]	985,650	3,879,600	3,879,600	3,879,600	3,879,600
CRRC Operating Costs [4]	-	738,500	2,356,500	3,236,000	3,236,000
Garbage Collection [5]	68,000	136,000	136,000	136,000	136,000
Implementation and Transition [6]	300,000	300,000			
Promotion and Education [7]	713,000	633,000	723,000	643,000	733,000
Organics Diversion [8]	870,850	4,478,000	4,478,000	4,478,000	4,478,000
Administration [9]	500,000	500,000	500,000	500,000	500,000
Amortization of Capital	-	3,319,900	2,242,400	1,959,400	1,869,400
Total Projected Expense	**$ 3,437,500**	**$ 13,985,000**	**$ 14,315,500**	**$ 14,832,000**	**$ 14,832,000**
Net Cost/(Benefit)	$ -	$ -	$ -	$ -	$ -

Key Assumptions

1 $50.00 fee per year, per single family dwelling unit, for 188,420 units. As described in recommendation #21
2 $5.00 per item fee as described in recommendation #3 and #4
3 Increase in recycling tonnage of approximately 50%. Costs net of stewardship grant and sale of recyclables
4 Large scale community depots as described in recommendation # 15; costs net of $5.00 fee
5 Increase in costs for cart purchases, offset by lower collection costs
6 Temporary resources required for cart and yard waste implementation in 2012 and 2013
7 Includes increased program promotion and education on new and existing programs
8 Leaf and yard waste collection and processing as described in recommendation #11
9 Includes billing support and new program management support

Table 3 – Proposed Implementation Schedule - Near Term Residential Component of Plan

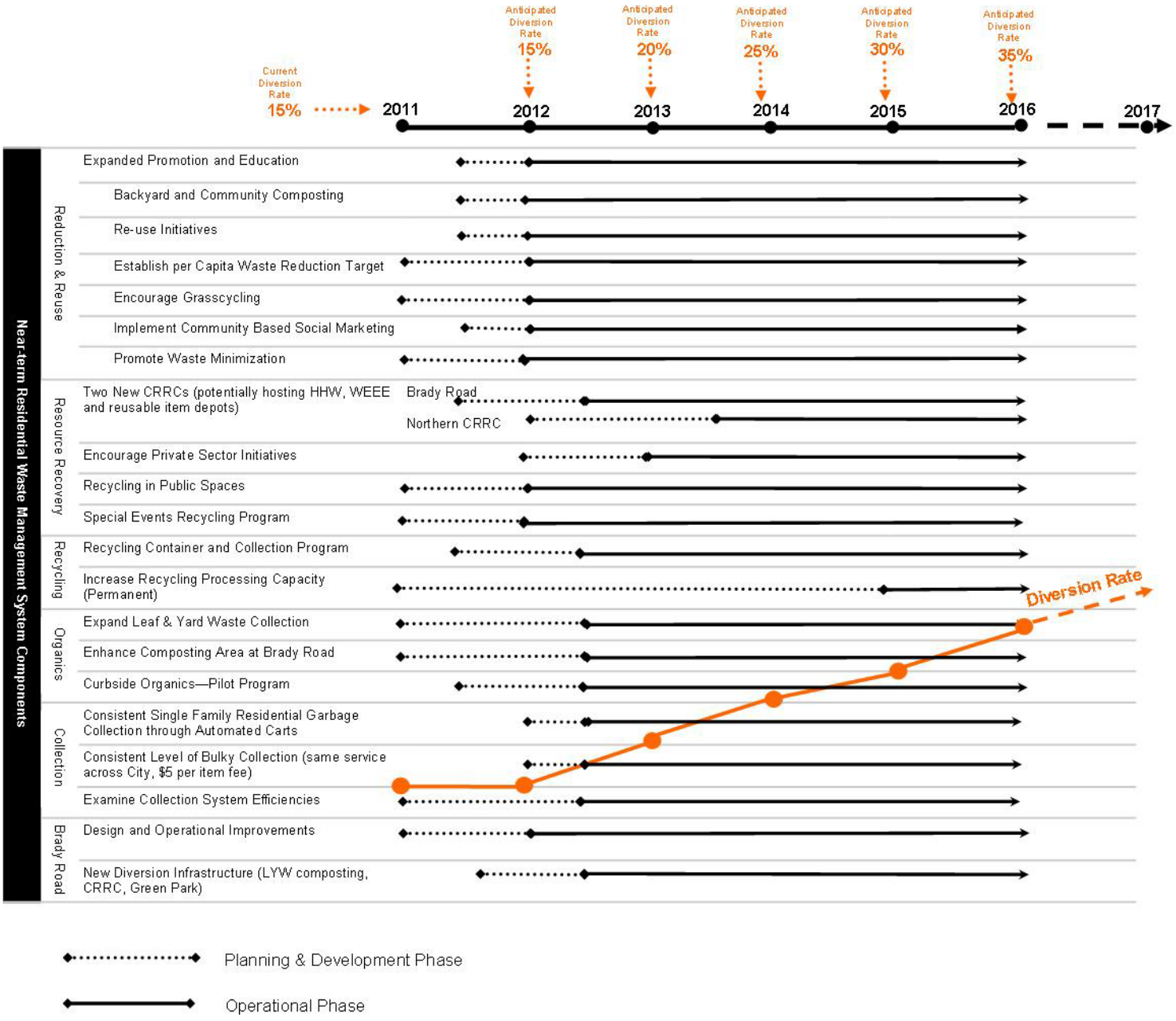


Table 4 – Proposed Implementation Schedule - Longer Term Residential Component of Plan

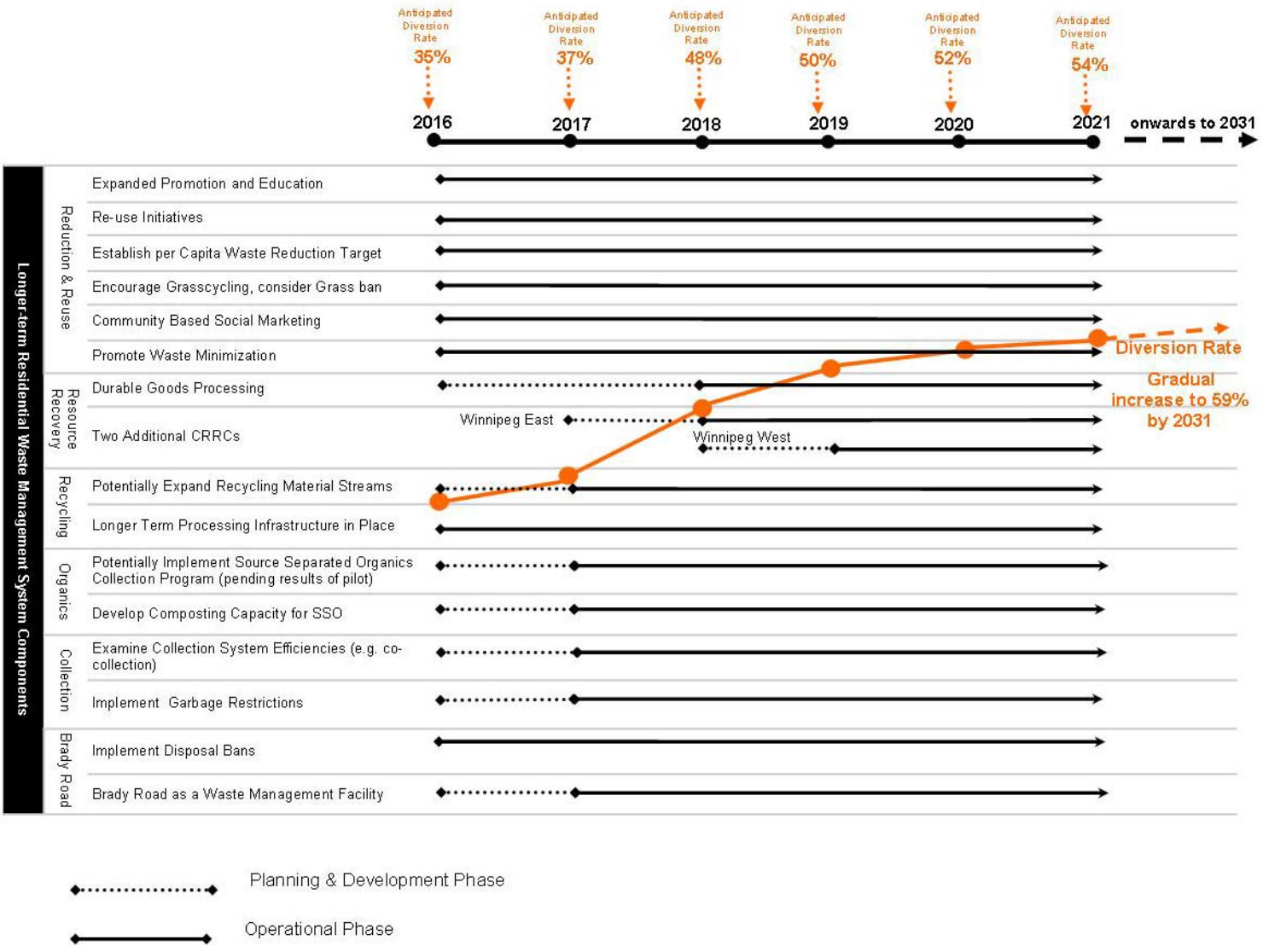


Table 5 – Estimated Avoided GHG Emissions Associated with Incremental Increased Waste Diversion

Waste Sector	Avoided Annual Emissions (Tonnes) Co2e *Near Term (2016)*	Avoided Annual Emissions (Tonnes) Co2e *Longer Term (2031)*	Total
Residential	-250,000	-182,000	-432,000
ICI and C&D	-50,000	-87,000	-137,000
TOTAL	-300,000	-269,000	-569,000

Table 6 – Proposed Staff Plan

2012:
2 Public Education and Marketing 1 By-law Constable dedicated to Solid Waste Services Division 2 Project Coordinators 1 Compliance and Reporting Officer – part of Brady Licencing 1 Technologist III Environmental (to support programs at Brady Landfill) 1 Technologist III Collection 8 Technical Assistants (summer students) – for implementation of carts
2013
1 Technologist III Compost 3 Operator III – for CRRC at Brady Landfill
2014 and beyond (for Stand Alone CRRC – per facility)
3 Foreman/supervisor positions 2 Operator III 6 customer service agents Above assumes facility is open 7 days per week, min 10 hours per day

HISTORY

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.

On May 23, 2001, Council adopted a modified Waste Minimization Strategy that has resulted in a comprehensive multi-family residential recycling program, expanded plastics recycling, a rate for small commercial bin service, recycling from community centers and sidewalk recycling.

On June 19, 1996, Council adopted the Waste Minimization Strategy for the City of Winnipeg. The approved strategy (unfunded) involved expanding recycling to multi-family residences, composting, fall leaf pickup, significant education and support of waste minimization, the phasing in of a ban of recyclables, leaf and yard waste from garbage once diversions are in place, lift limits and/or a bag/charge system, as well as consideration of bi-weekly garbage collection. Pursuant thereto, the Administration was requested to bring forward a specific action plan from the strategy document, including financial implications and an implementation strategy. Subsequently, the City's ability to fund the Waste minimization Strategy was affected by a significant loss of annual revenue resulting from the opening of the BFI/R.M. of Rosser landfill.

FINANCIAL IMPACT

Financial Impact Statement

Date: August 3, 2011

Project Name:

Comprehensive Integrated Waste Management Strategy

First Year of Program **2012**

	2012	2013	2014	2015	2016	Total
Capital						
Capital Expenditures Required	19,000,000	2,900,000	14,000,000	10,000,000		$ 45,900,000
Less: Existing Budgeted Costs - 2012 Forecast Adopted in Principle	19,000,000	2,900,000	3,600,000	-		$ 25,500,000
Additional Capital Budget Required	$ -	$ -	$ 10,400,000	$ 10,000,000	$ -	$ 20,400,000
Funding Sources:						
Debt - Internal						
Debt - External			10,400,000	10,000,000		
Grants (Enter Description Here)						
Reserves, Equity, Surplus						
Other - Enter Description Here						
Total Funding	$ -	$ -	$ 10,400,000	$ 10,000,000		
Total Additional Capital Budget Required	$ 20,400,000					
Total Additional Debt Required	$ 20,400,000					

Current Expenditures/Revenues					
Direct Costs	$ 2,657,250	$ 10,145,000	$ 10,145,000	$ 10,145,000	$ 10,145,000
Less: Incremental Revenue/Recovery	2,657,250	10,145,000	10,145,000	10,145,000	10,145,000
Net Cost/(Benefit)	$ -	$ -	$ -	$ -	
Less: Existing Budget Amounts					
Net Budget Adjustment Required	$ -	$ -	$ -	$ -	

Additional Comments: Existing Budgeted Capital Costs are on a cash flow basis and based on 2012 adopted in principle numbers in the 2011 Capital Budget. Budget authorization details are contained in Table 1. A first call on the 2012 proposed budget is required in the amount of $17 million.

Details of the incremental operating costs and revenue/recovery are contained in Table 2. The increased revenues offset the increased expenditures so the impact on the 2012 operating budget adopted in principle are negligible.

The revenue generated from the proposed fees for garbage collection will fund the enhanced waste management program. The 2012 adopted in principle mill rate support for garbage collection will be maintained.

Future budgets for the Solid Waste Utility and Garbage Collection will be adjusted based upon Council's decision with no change to the 2012 adopted in principle mill-rate support for Garbage Collection.

"Original signed by L. Szkwarek, C.G.A."
Lucy Szkwarek, C.G.A.
Acting Manager of Finance and Administration

CONSULTATION

In preparing this report there was consultation with:

1.1.1 Internal

Assessment and Taxation
Community Service - Community By-Law
Community Service – Community Resource Coordinators
Winnipeg Fire and Paramedic Service
Winnipeg Police Service
Planning, Property & Development - Planning and Land Use
Planning, Property & Development – Environmental Coordinator
Planning, Property & Development – Parks Planning
Planning, Property & Development – Universal Design Coordinator
Corporate Finance
Corporate Support Services – Legal Services
Corporate Support Services – 311
Public Works- Parks and Open Spaces
Public Works- Streets Maintenance

1.1.2 Stakeholder Advisory Committee

Government of Manitoba: Climate and Green Initiatives
Government of Manitoba: Waste Reduction/ Pollution Prevention
Consumers Association of Canada- Manitoba
Green Action Centre
Waste Management Canada Inc.
Multi-Material Stewardship Manitoba
University of Manitoba
EcoPIA – Ecological People in Action, University of Winnipeg
Mayor's Environmental Advisory Committee
Professional Property Managers Association
St Johns Residents' Association/Citizen Representative
Citizen Representative

1.1.3 External

Manitoba Conservation
Multi-Material Stewardship Manitoba
Professional Property Management Association
Canadian Green Building Council-Manitoba Chapter
Green Action Centre
Unitarian Church – Green Action Committee
Manitoba League of Persons with Disabilities
University of Manitoba Centre on Aging
Centre for Disability Studies Manitoba

Spence Neighbourhood Association
Dufferin Residents Association
Faraday Residents Association
Mynarski Residents Association
Canadian Beverage Container Recycling Association
Red River College
Ma Mawi Wi Chi Itata Centre

1.1.4 Industry

BFI Canada Inc.
Emterra Group
IPL Ltd.
Norseman Plastics Ltd.
CH2MHill
Edmonton Waste Management Centre of Excellence
Johnson Waste Management Ltd.
Waste Management Canada, Inc.
Cascade Inc.
Wood Anchor

SUBMITTED BY

Department: Water and Waste
Division: Solid Waste Services
Prepared by: D. Drohomerski, T. Kuluk, T. Sims
Date: September 23, 2011
File No. G101

Appendix A
Comprehensive Integrated Waste Management Plan Summary Table

Garbage Collection Service Recommendations

Service – Single Family Homes	Benefits to Residents, the Community and the Environment	Public Feedback
Garbage Collection **Current Status** ▪ A mix of manual, AutoBin, wheelbarrow cart collection, and automated garbage cart collection in the northwest area **Recommendation** ▪ Implement automated cart collection in remaining areas of the city, replacing manual, AutoBin, and wheelbarrow cart collection ▪ Deliver one 240-litre cart to each home (equal to 3 regular size garbage containers) ▪ Offer larger size carts or extra carts to residents for an annual fee ▪ Offer collection service at a cost when residents have more garbage than will fit in the cart ▪ Offer replacement carts at cost	▪ Uniform level of service across the city ▪ Cost savings in the long term because automated collection is more efficient than manual collection ▪ Safer work environment for garbage collectors ▪ Standard size container for collection ▪ Carts are extremely durable ▪ Limited cart size encourages residents to recycle and compost ▪ Fewer litter, odour and pest problems because the carts have lids ▪ Uniform community look on collection day ▪ Discourages unlimited garbage ▪ Reduces arson, illegal dumping and graffiti which are prone to areas with shared AutoBin service	▪ 91% of survey respondents indicate they throw out 3 standard size garbage bags or less each collection ▪ 52% of survey respondents support the automated garbage cart collection system ▪ 64% of survey respondents support removing AutoBins
Bulky Waste Collection **Current Status** ▪ Upon request, collect up to 6 items (e.g., appliances, mattresses, furniture) for a $20 collection charge ▪ No charge zone in the inner city **Recommendation** ▪ Upon request, collect up to 10 items with a $5.00 per item charge for all customers ▪ Eliminate the inner city “no charge” zone	▪ Uniform level of service across the city ▪ Discourages abandoned waste ▪ Increases diversion (reuse and recycling) ▪ Offers more convenient and reasonable collection of single items that won’t fit in a garbage cart (e.g., mattress, couch)	

Service – Single Family Homes	Benefits to Residents, the Community and the Environment	Public Feedback
Recycling Collection **Current Status** ▪ Manual curbside collection of blue boxes **Recommendation** ▪ Implement automated cart collection, replacing blue box collection ▪ Deliver one 240-litre cart to each home (equal to 4 standard size blue boxes) ▪ Offer larger size carts or extra carts to residents at cost ▪ Offer replacement carts at cost	▪ A safer and more efficient system for collectors ▪ Reduces litter and keeps the material dry which improves its value when sold ▪ Economical in the long term since higher revenue from more recyclable material will cover the cost of buying the carts ▪ Has the potential to recycle up to 30,000 additional tones per year ▪ Reduces greenhouse gas emissions and saves landfill capacity ▪ Carts are extremely durable	▪ 63% of survey respondents support automated recycling cart collection
Leaf and Yard Waste Collection Program **Current Status** ▪ 2 curbside collection dates in May and 2 in October only for residents in the northwest area serviced by automated garbage cart collection ▪ 10 seasonal depots throughout the city **Recommendation** ▪ Biweekly manual curbside collection every 2 weeks from April to November ▪ Residents would be required to package their yard waste in approved compostable bags or hard walled containers (e.g., old garbage cans) ▪ The material would be composted in a special area at the Brady Road Landfill	▪ Has the potential to keep an additional 21,000 tonnes of residential waste out of the landfill each year ▪ Once the quality and quantity has been proven, the finished compost could be marketed ▪ Reduces greenhouse gas emissions and saves landfill capacity	▪ 73% of survey respondents support biweekly collection of yard waste

Service – Single Family Homes	Benefits to Residents, the Community and the Environment	Public Feedback
Biweekly Kitchen Organic Waste Collection Trial ▪ One green cart holding kitchen organic waste (e.g., fruit and vegetable scraps, coffee grounds) would be delivered to each home in the trial area	▪ A city-wide program has the potential to keep an additional 41,000 tonnes of residential waste out of the landfill each year ▪ Reduces leachate ▪ Improves landfill stability ▪ Reduces greenhouse gas emissions and saves landfill capacity ▪ Once the quality and quantity has been proven, the finished compost could be marketed ▪	▪ 63% of survey respondents support collection of kitchen waste organics

Community Resource Recovery Centres ▪ Establish up to 4 centres where residents could drop off material that could be processed and reused, resold or recycled (e.g., construction and demolition material, household items) ▪ There would be a $5.00 fee per site visit to support operating cost ▪ Initially, one site would be set up at Brady Road Landfill along with another site in the north part of the city ▪ Eventually a centre would be set up in the east area and the west area	▪ Each centre has the potential to keep 5,000 - 10,000 tonnes of material out of the landfill each year ▪ The Centre at Brady Road Landfill will allow the residential tipping face to close, with a resulting reduction in operating costs, leachate, litter and odour ▪ Residents in the north area of the city would have a convenient location to drop off their reusable items	▪ 91% of survey respondents support establishing Community Resource Recovery Centres

Appendix B
Comprehensive Integrated Waste Management Plan Executive Summary- Stantec May 2011



ES Final August 29