



**REPORT TO:** Co-Chair and Members of the  
Planning and Public Works Committee

**SUBJECT:** **Waste Management Level of Service Implementation Strategy**

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## **RECOMMENDATION(S)**

That this Committee recommend to Council that:

1. The tender for waste collection services be issued with pricing for the following collection frequency options:
  - i) Every other week waste collection with a three container (bag/can) limit,
  - ii) Weekly waste collection with a one container (bag/can) limit,
  - iii) Alternating weekly Blue/Grey Box collection,
  - iv) Weekly Blue and Grey Box collection.
2. Based on the tender results received, staff will present a cost and waste diversion impact assessment of the collection frequency options for Council's consideration.
3. The weekly Green Bin collection program be extended Region-wide to include West Lincoln and Wainfleet as a base level of service.
4. The remaining program components in the Level of Service recommendations (public open space recycling, reuse centres, municipal hazardous waste depots and clear bag pilot) be approved for implementation, pending annual budget approval and tender/contract award.

## **EXECUTIVE SUMMARY**

The Level of Service Study recommends implementing three integrated steps to achieve the goal of 65% waste diversion:

- The expansion and enhancement of diversion services;
- Continuation and expansion of social marketing and outreach initiatives; and
- Mechanisms to increase behavior change – these incentives include changes to the waste collection program – to make diversion more convenient and waste collection less so.

The majority of the recommended Level of Service options are a standard part of a waste management system and will allow the Region to achieve 50% waste diversion. The waste collection service changes will allow the Region to achieve 55% to 65% diversion depending on the option(s) implemented. It is recommended that the collection frequency options be tendered before a decision is made regarding every other week waste collection service.

## **FINANCIAL IMPLICATIONS**

Council's affordability targets will be considered as the proposed Level of Service programs are implemented. Council approval will occur through the annual operating and capital budget process, tender award, etc. Specifically, the tender for waste collection services will request pricing for the following collection frequency options:

- i) Every other week waste collection with a three container (bag/can) limit,
- ii) Weekly waste collection with a one container (bag/can) limit,
- iii) Alternating weekly Blue/Grey Box collection,
- iv) Weekly Blue and Grey Box collection.

Once the tender results are received (Q1 2009), the costs associated with these collection frequency options will be provided to Council. Following an assessment of cost and diversion impact of the options, a recommendation for collection frequency changes will be made.

An affordability study on the Level of Service, with a specific focus on the Uniform Disposal Rate, is in the process of being completed with Corporate Services. The results will be brought back to WMPSC at a future meeting.

## **PURPOSE**

The purpose of this report is to provide staff's recommendations for the preferred Waste Management Level of Service options to be implemented over the next one to five years. These options are necessary to achieve Council's business objective of 65% waste diversion from disposal by 2012.

## **BACKGROUND**

The Level of Service and Rate Study was initiated in 2006 in order to identify options to maximize waste diversion and meet Council's 65% diversion target.

Niagara's diversion rate has been stagnant over the last four years at approximately 42%. The average waste set-out is 1.7 containers (cans/bags) per household per week. Two thirds of what is still in the curbside waste consists of recyclables and Green Bin organics. Even in the more rural areas of West Lincoln and Wainfleet, over half of the curbside waste could be diverted through the Blue/Grey Box and Green Bin programs.

## **REPORT**

A key objective of the study was to identify improvements to the current waste management programs and the level of services offered by the Region. The recommended improvements take into account costs, the Region's waste diversion goal of 65% by 2012, and the unique needs of Niagara. Further, there are triple bottom line benefits related to the long-term impacts of the proposed improvements and diversion goal.

### **Council's Diversion Goal**

Key triple bottom line benefits associated with the 65% diversion goal include:

#### **Economic Benefits**

- Potential collection cost reduction with every other weekly waste collection, to be verified through tender process;
- Increased funding from stewardship programs for increased diversion of Blue/Grey Box material, household hazardous waste, electronics and potentially other waste materials;
- Preservation of existing landfill capacity;
- True cost per tonne for disposal options (ranges from \$49.37 to \$142.72/tonne depending on the disposal alternative) higher than composting (\$19.66/tonne) and other 3Rs; and
- Long-term cost savings to society due to less environmental degradation and reduced impact to human health.

#### **Environmental Benefits**

- Conservation of non-renewable resources;

- Reduced use of energy and reduced pollution e.g. processing/manufacturing using raw material requires more energy and consumption of fossil fuels and involves emissions of air and water pollutants;
- Net reduction in Green House Gas (GHG) emissions through increased 3Rs and reduced frequency of waste collection; and
- Avoided pesticide and fertilizer production and use from composting.

#### Social Benefits

- Public health and ecological benefits from reducing emissions of pollutants;
- Environmentally responsible and sustainable behaviour by maximizing use of the recycling and organics services and other 3Rs programs.

### **Achieving 50% Diversion by 2012**

The bundle of Level of Service options, which will allow us to achieve 50% waste diversion, include:

#### Organics

- Relaunch Green Bin program, eliminate use of plastic bags in organics collection and include kitty litter and pet waste (complete)
- Expand Green Bin program municipality-wide in West Lincoln and Wainfleet

#### Reuse/Recycling

- Three reuse centres (predesign approved in 2008 budget process)
- Two additional municipal hazardous and special waste (MHSW) depots (predesign approved in 2008 budget process)
- Recycling programs in public spaces/buildings

#### Waste

- Education & enforcement with respect to mandatory recycling participation and waste collection/landfill disposal bans for recyclables, organics, MHSW, etc. (in progress)

#### System-Wide

- Communication & education to support new projects/programs (ongoing)

### **Achieving 55% - 65% by 2012**

Once diversion services are in place, incentives are still needed to increase participation in recycling, organics collection and other 3Rs initiatives. Behaviour change incentives in the form of reduced (or less convenient) waste collection have been shown to be a successful driver of 3Rs program participation. Appendix I includes a highlight of municipalities that have or are making waste collection service changes. A summary of anticipated diversion impacts associated with various waste collection changes is summarized below.

Table 1 – Diversion Impact of Various Waste Collection Options

<b>Waste Collection Options</b>	<b>Diversion Impact</b>	<b>Potential Implementation Date</b>
1. Weekly waste with one bag/can limit <b>OR</b>	<b>Max 55%</b>	New contract – May 1, 2010
2. Every other week waste with three waste bag/can limit	<b>Achieve 65%</b>	New contract – May 1, 2010
3. Clear Bag Pilot	<b>65+%</b>	2012-2014 (based on monitoring and evaluation of diversion rate impact of waste collection changes)

In order to reduce the service impact associated with reduced frequency of waste collection, two new diversion service increases are being considered:

- Weekly collection of both Blue and Grey Box material; and
- Addition of weekly brush collection to the existing weekly Green Bin and leaf/yard collection program (currently brush is collected six to eight times per year region-wide with the exception of Wainfleet).

Additional waste collection related options proposed in the Level of Service include:

- Operating four residential drop-off depots as landfill sites close;
- Special set-out service for residents (for those who cannot physically set out their materials at the curb for collection) as a base level across the region;
- Exemptions for households with three or more children under the age of three and/or with an individual with a medical condition, if waste container (bag/can) limits are reduced.

### **Experience in Other Jurisdictions**

Halton, York and Durham Regions, along with the City of Toronto, have every other week waste collection. Halton and Durham are most similar to Niagara in that they do not accept diapers in the Green Bin program. These municipalities have achieved 60% waste diversion and are on their way towards the 65% diversion target:

- Halton Region has already experienced a 60% diversion rate since every other week waste and weekly Green Bin collection began in April 2008, an increase of almost 20% compared to 2006. Participation rates for the Green Bin program are currently at 75% to 80%.
- Durham Region has reported a 61% diversion rate in Whitby for 2007, and a 56% diversion rate in other areas of the Region with every other week waste collection and weekly Green Bin.

Appendix I highlights municipal diversion rates from various programs across the province.

Based on every other week waste collection experience in other municipalities, the following mechanisms to deal with some of the potential concerns are being considered:

- i) Diapers - Durham and Halton Region require diapers to be set out every other week as waste. Durham has reported few complaints related to diapers. Durham does not charge residents for diapers brought to drop off depots, although few residents have taken advantage of this option. Halton staff are considering offering the same option to qualifying residents.

Niagara Region would provide to residents a list of diaper services and instructions on how to package diapers for disposal. Exceptions to the waste container limit are proposed for households with three or more children under four years of age and/or with an individual with a medical condition, if Council approves a reduced waste container (bag/can) limit.

- ii) Perception of Reduced Service – Diversion services are being expanded/enhanced in Niagara; of which the key program addition was the Green Bin collection service in 2004. While the 3Rs services are being enhanced and overall waste management system costs also increase (fuel, CPI, etc.), a corresponding change to waste collection is needed from an environmental and financial perspective.

In other municipalities, weekly Green Bin collection was launched as a new diversion service at the same time as every other week waste collection was introduced, which balanced the reduced frequency of waste collection. In Niagara, the Green Bin program was initiated in 2004 and has recently been relaunched. Potential additional services to offset the reduced frequency of waste collection could include weekly collection of both Blue and Grey Box material and weekly brush collection.

Target messaging to deal with concerns and questions from residents will occur as programs are implemented. A draft Social Marketing and Public Education Strategy for the Level of Service and Rate Study has been prepared by the Communications Specialist, Public Works and was provided to WMPSC at their May 27, 2008 meeting.

### **Results of Public Consultation**

The diversion goal of 65% by 2012 and many of the proposed Level of Service diversion options were strongly supported by the majority of stakeholder groups. Appendix II contains more detailed descriptions of the input received.

Based on Phase 1 public consultation with various stakeholder groups as of May 2008, there was general support or neutral response to the issue of every other week waste

collection with reduced waste limits. Phase 1 generally consisted of more face to face discussions and concerted engagement with the following stakeholder groups:

- Waste Management Advisory Committee (WMAC);
- Landfill Site Public/Citizens' Liaison Committees;
- Area Municipal Public Works Officials (PWO) & Treasurers;
- Area Municipal Councils;
- Environmental Groups;
- Focus Groups on Proposed Changes to Waste Collection Service.

The two main exceptions in terms of support were the Town of West Lincoln which was not in support of waste collection changes or rural Green Bin collection, and the City of Niagara Falls which was not in support of every other week waste collection, unless a public meeting was held and various costs saving measures are considered.

Phase 2 public consultation, which included a telephone survey and public open houses, resulted in a lower support for every other week waste collection. There was greater support for continued weekly waste collection with 1 container (bag/can) limit. The table below summarizes the results of the phase 2 consultation activities.

Table 2 - Telephone and Public Open House Survey Results

Survey/Feedback Form Question	% Support	
	Telephone Survey (800+ respondents)	Open House Survey (82 respondents)
<b>Support for 65% Diversion Goal</b>	94%	97%
<b>Diversion Options:</b>		
West Lincoln/Wainfleet Weekly Green Bin Program	84%	99%
Three New Reuse Centres	88%	96%
Two New Municipal Hazardous and Special Waste Depots	82%	94%
Recycling in Public Spaces	91%	91%
Increased Education for Diversion Programs	92%	89%
Collect Blue & Grey Recycling Box Weekly	70%	66%
<b>Waste Collection Changes:</b>		
Weekly Garbage Collection, 1 container	53%	58%

(bag/can) limit		
Every Other Week Collection, 3 container limit	30%	42%
Every Other Week, 2 container limit	23%	33%
Test Clear Bag System	52%	53%
Collection Exemptions (Diapers/Medical Conditions)	75%	78%

### Implementation Strategy

The results of the recent public consultation activities show strong public support for the 65% waste diversion goal (94% level of support) and for the continued expansion of waste diversion services (82% - 92% support). However, support for every other week waste collection is limited. Public support for weekly waste collection with a one container limit was higher, but based on research in the Level of Service Study, maintaining weekly waste collection would not allow the Region achieve the 65% diversion goal.

Given the critical role of every other week waste collection in achieving 65% waste diversion and in maintaining the affordability of the entire waste management system, staff propose the following:

1. Issue the tender for waste collection services and request pricing for the following collection frequency options:
  - i) Every other week waste collection with a three container limit,
  - ii) Weekly waste collection with a one container limit,
  - iii) Alternating weekly Blue/Grey Box collection,
  - iv) Weekly Blue and Grey Box collection.

Once the tender results are received (Q1 2009), staff will be able to confirm the cost assumptions associated with the different collection frequency options and provide Council with solid financial information to assist in this important service level decision. The diversion impact associated with Niagara's Green Bin Relaunch will also be known at that time and will be considered in the assessment.

2. Implement the remaining Level of Service recommendations necessary to achieve 65% diversion, pending annual budget approval and tender/contract award.

The remaining recommended program components (see list in 'Achieving 50% Diversion by 2012' section and Table 3 below) would be implemented as part of the new waste collection contract, based on capital program approval, tender awards, etc.

Table 3 – Implementation of Program Components

Level of Service Option	Implementation Process	Potential Implementation Date
<b>Achieving 50%</b>		
Expand Green Bin program municipality-wide in West Lincoln and Wainfleet	Include as part of base level of service in new collection contract	May 1, 2010
Recycling programs in public spaces/buildings	Include as an option in new collection contract, subject to completion of inventory with area municipalities	May 1, 2010
Reuse Centres and municipal hazardous and special waste (MHSW) depots	Design and construction to be identified in capital program and approved as part of tender award	2009-2012
Relaunch Green Bin program, eliminate use of plastic bags in organics collection and include kitty litter and pet waste	Complete	
Education & enforcement of waste collection/landfill disposal bans	Ongoing	
Communication & education to support new projects/programs	Ongoing	
<b>Achieving 55%-65%</b>		
Reduced Waste Collection Frequency and/or Reduced Container Limit	Include as part of new collection contract	May 1, 2010
Clear Bag Pilot	based on monitoring and evaluation of diversion rate impact of waste collection changes	2012-2014

**Phase 2 Level of Service Activities**

Another set of service options are recommended for implementation in the study following consideration of diversion impacts from Phase 1 and/or additional research and

evaluation. Key examples of options that will be evaluated over the next few months include:

- Recycling and organics collection to multi-residential and institutional, commercial and industrial (IC&I) sector
  - Currently requires approval by area municipalities as an enhanced level of service (based on certain criteria);
  - Potential to include multi-residential recycling service as a base level, pending costing from tender results and meeting affordability target.
- Expansion of materials collected in Blue Box program (e.g. empty aerosol cans and empty paint cans).

### **Collection Contract Impact**

The new collection contract will be developed based on the recommendations in this report and on the Collection Efficiencies and System Costs for Niagara Region study (PWP-21-2008). The Collection Efficiencies study was completed as part of the additional research that was carried out in response to WMPSC, Regional Council and City of Niagara Falls requests. Appendix III summarizes the results of the additional research and how it relates to the Level of Service recommendations and/or new collection contract.

The public open space inventory, which will be completed in conjunction with local municipal staff, and recommendations from the multi-residential recycling feasibility study will provide more clearly defined services as part of collection tender development.

Staff have developed a list of further options to increase collection efficiencies and reduce costs in the next collection contract. A complete list of options to be considered will be the subject of a separate report.

### **CONCLUSIONS**

Niagara's waste diversion rate has been relatively stagnant over the past 4 years at approximately 42%. This is not unlike the experience in other municipalities with the same types of programs in place. The proposed Level of Service options will yield a diversion rate between 55% to 65% depending on the waste collection change approved.

It is recommended that the collection tender include a range of collection frequency options. Based on the tender results received, staff will present a cost and waste diversion impact assessment of the collection frequency options for Council's consideration.

The remaining program components in the Level of Service recommendations would be approved for implementation, pending annual budget approval and tender/contract award.

Submitted by:

Approved by:

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Kenneth J. Brothers, P.Eng.  
Commissioner of Public Works

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Mike Trojan  
Chief Administrative Officer

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### **Appendices**

Appendix I - Level of Service – Diversion Rate Backgrounder; Municipal/Regional Diversion Rates & Services by Waste Collection Option

Appendix II - Stakeholder Consultation

Appendix III - Summary of Supporting Research

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