Public Works Operations & Waste Management Division

Waste Collection Procurement Process for 2013-2020 (PW11030e)
Public Works Committee
February 6, 2012

Providing services that bring our City to life!

Overview

- Review
- Requested Information
- Recommendations
- Questions & Answers
Review

- January 16, 2012 Public Works Committee
  - Presentation on Report PW11030d
  - Questions for follow up
  - Referral of report to February 6, 2012 Public Works Committee
- January 23, 2012 Information Update OWM1201
  - Preliminary information on questions
- February 6, 2012 Public Works Committee
  - Report PW11030e with remaining information
  - Revised recommendations to facilitate discussion
  - Modify / replace based on today's discussions

Requested Information*

*Public Works Committee Minutes 12-003, p. 11 & 12

1. RFP process issues**
2. Is there any cost savings to have bi-weekly bulk collection for Project 3?**
3. How do other municipalities address or promote bi-weekly garbage collection, especially pet waste and diapers and what could work in Hamilton?
4. Further details on landfill capacity and the waste diversion for the various options
5. Information on the proposed weekly Leaf & Yard Waste collection service on where staff and resources are utilized during the times of year when these materials are not being generated**
6. Provide a further summary of the cost of the various options and clarification of potential savings

**Addressed in Information Update OWM1201

Operations & Waste Management Division
Requested Information*

*Public Works Committee Minutes 12-003, p. 11 & 12

7. Information on an acceptable reduction in the bi-weekly 6 bag limit as well as consider if this reduction would require a continuance of the Special Considerations policy. If the continuation of Special Considerations policy is to be considered staff are requested to provide information on making this system broader.

8. Consider a pilot Bulk Waste collection reuse event, with Dundas as a possible location.

9. Consideration of keeping the selected system for seven years.

10. Investigate the consequences of allowing pet waste and diapers in green carts, and provide details the additional financial costs and technical difficulties this would create**

11. Compare the cost of waiving tipping fees to that of a bag tag system.

Operations & Waste Management Division

Analysis of Preferred Collection System

Follow-up from Jan. 16th Public Works meeting

*Summarized in Information Update OWM1201*

<table>
<thead>
<tr>
<th>Issue</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi-Weekly Container limit options</td>
<td>Limit of 2 to 3 containers to encourage diversion and supplemented with 'relief valves', e.g. garbage tag system</td>
</tr>
<tr>
<td>Diapers &amp; pet waste</td>
<td>Collection through garbage stream to maintain compost quality for the organics program</td>
</tr>
<tr>
<td>Special Considerations</td>
<td>Continuation of special consideration policy with refinements to address households with diaper waste</td>
</tr>
<tr>
<td>Disposal options at CRCs</td>
<td>Voucher system provides flexibility; however, has an impact on revenue stream</td>
</tr>
<tr>
<td>Public Education</td>
<td>Marketing and education campaign required to notify the public of any system changes</td>
</tr>
</tbody>
</table>

Operations & Waste Management Division
3. How do other municipalities address or promote bi-weekly garbage collection, especially pet waste and diapers and what could work in Hamilton?

- Information provided on Halton, Durham, Nanaimo, Verdun and Vaudreuil (Information Update OWM1201, Question 3, p. 3 of 18)
- What could work in Hamilton?
  - Keeping the Special Considerations Policy, with some refinements
  - Tags for extra bags of garbage
  - Vouchers at the Community Recycling Centres
  - Public Education, via calendar, information booklet and advance notification, working with community groups to address barriers (p. 16 & 17 of PW11030e)

### Landfill Capacity and Waste Diversion

4. Further details on landfill capacity and the waste diversion for the various options

<table>
<thead>
<tr>
<th>Description</th>
<th>Project 1 Current System</th>
<th>Project 3 Current System + Enhancements</th>
<th>Project 5 Bi-Weekly + Enhancements</th>
<th>Project 5 Bi-Weekly + Enhancements Alternative 1</th>
<th>Project 5 Bi-Weekly + Enhancements Alternative 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Life (Approx. 28 years based on current diversion rate)</td>
<td>No Change</td>
<td>No Change</td>
<td>+ 3 years*</td>
<td>+ 5 years</td>
<td>+ 4 years</td>
</tr>
<tr>
<td>Diversion Rate Increase</td>
<td>0</td>
<td>0</td>
<td>5.7%</td>
<td>9%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

*Approx. 300,000 tonnes over 25 years with a value of $24 million based on $80/tonne
Provide a further summary of the cost of the various options and clarification of potential savings

- Cost depends on Project and Additional Work selected

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost Difference compared to Current Costs ($24.8 M in 2011 $)</th>
<th>Cost Difference between Project 3 &amp; 5 (2011 $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Price for Project (Savings)</td>
<td>($3.1 M)</td>
<td>($3.9 M)</td>
</tr>
<tr>
<td>PW1103d (Savings)</td>
<td>($2.4 M)</td>
<td>($3.6 M)</td>
</tr>
<tr>
<td>PW1103e (Savings)</td>
<td>$0.237 M to ($1.3 M)</td>
<td>($1.2 M) to ($2.7 M)</td>
</tr>
</tbody>
</table>

System Costs Components (2011’s)

<table>
<thead>
<tr>
<th>System Cost</th>
<th>Project 1 (Status Quo)</th>
<th>Project 3 (Status Quo + Enhancements)</th>
<th>Project 5 (Bi-Weekly + Enhancements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Base Price for Project incl. Operational Impacts at CCF (Garbage Limit)</td>
<td>$19.84 M to $21.10 M</td>
<td>$21.73 M (1 weekly)</td>
<td>$20.93 M (2 bi-weekly)</td>
</tr>
<tr>
<td>B.1 Additional Garbage Containers</td>
<td>$0.280 M (2 containers)</td>
<td>$0.308 M (2 containers)</td>
<td>$0.248 M (3 or more containers)</td>
</tr>
<tr>
<td>B.2 Recycling Container Alternatives (larger + lids)</td>
<td>$0</td>
<td>$0.343 M</td>
<td>$0</td>
</tr>
<tr>
<td>B.3 Supply Front End Bins</td>
<td>$0.018 M</td>
<td>$0.020 M</td>
<td>$0.018 M</td>
</tr>
<tr>
<td>B.4 Bulk Waste Events – All Wards incl. disposal operational impacts</td>
<td>$0.059 M</td>
<td>$0.064 M</td>
<td>$0.052 M</td>
</tr>
<tr>
<td>B.5 Garbage Tag System ($2 /Tag) Collection Costs</td>
<td>$0.058 M ($0.145 M)</td>
<td>$0.297 M ($0.145 M)</td>
<td>$0.057 M ($0.145 M)</td>
</tr>
<tr>
<td>Production, Revenues @ 80,000 tags TOTAL</td>
<td>($0.077 M)</td>
<td>$0.152 M</td>
<td>($0.088 M)</td>
</tr>
<tr>
<td>B.6 Vouchers – 6 Free Vouchers for CRCs (Production, revenue loss)</td>
<td>$0.915 M to $2.433 M</td>
<td>$0.915 M to $2.433 M</td>
<td>$0.915 M to $2.433 M</td>
</tr>
<tr>
<td>B.7 Smaller Green Carts</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL with selected Components</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>
7. Information on an acceptable reduction in the bi-weekly 6 bag limit as well as consider if this reduction would require a continuance of the Special Considerations policy. If the continuation of Special Considerations policy is to be considered staff are requested to provide information on making this system broader.

<table>
<thead>
<tr>
<th>System Refinement</th>
<th>Number of Garbage Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Considerations</td>
<td>6</td>
</tr>
<tr>
<td>Container Limit Amnesty Days</td>
<td>5</td>
</tr>
<tr>
<td>Voucher System (Disposal options at Community Recycling Centres)</td>
<td>4</td>
</tr>
<tr>
<td>Garbage tag system</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Potential option for implementation

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Collection System Refinements

Container Limit - Why Three?
Limit of up to three containers on bi-weekly schedule

Financial Factors
- Collection system cost from RFP (Additional Garbage Containers)

Environmental Factors
- Increased diversion potential of 7.7% through bi-weekly collection

Social Factors
- Three containers bi-weekly is similar to status quo system of one container per week plus the two containers allowed for the 15 amnesty weeks
- Additional bi-weekly container provides flexibility to households to deal with extra garbage reducing potential for illegal dumping
Collection System Refinements

Special Considerations
6 container limit bi-weekly for families with children, medical circumstances, home day care facilities and agricultural properties

Financial Factors
• No additional cost, included in RFP

Environmental Factors
• Limited number of households (~1,000), allowing overall diversion benefits of bi-weekly collection

Social Factors
• Maintains current program
• Eligibility broadened through lower age limit and number of children (2 children under 4 years of age) to accommodate extra garbage from diapers

Amnesty Days
Current program as of April 2012 has 15 collection weeks per year where up to 3 containers can be set out for collection

Financial Factors
• Collection system cost from RFP (Additional Garbage Containers)

Environmental Factors
• Increased number of containers may discourage diversion

Social Factors
• Additional containers provide flexibility to deal with extra garbage reducing potential for illegal dumping
• Set schedule may not meet needs
• Need to communicate the 15 of the 26 collection weeks where extra garbage is allowed

Operations & Waste Management Division
Collection System Refinements

Voucher System
Six free vouchers per household per year, for up to 30 kgs each, for use at the Community Recycling Centres to supplement curbside collection

Financial Factors
- Potential impact on CRC revenues ranging from $0.9 to $2.4 Million and operating impacts at CRCs
- Voucher system preferred over free trips, to limit abuse and financial exposure

Environmental Factors
- May generate additional traffic at CRCs

Social Factors
- Addresses potential concerns with odours and waste storage during warmer months
- Flexible to use when needed
- Potential to reduce illegal dumping

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Community Recycling Centre Revenues

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th># Trips</th>
<th>2011 Budget</th>
<th>2011 Actual</th>
<th>2012 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Fee ($8.50 &lt; 100Kg)</td>
<td>110,000</td>
<td>$865,000</td>
<td>$934,000</td>
<td>$743,000</td>
</tr>
<tr>
<td>Residential Fee (&gt; 100Kg)</td>
<td>93,450</td>
<td>$1,643,000</td>
<td>$1,740,000</td>
<td>$1,676,000</td>
</tr>
<tr>
<td>Totals</td>
<td>204,000</td>
<td>$2,508,000</td>
<td>$2,674,000</td>
<td>$2,418,000</td>
</tr>
</tbody>
</table>

- Approx. 25% (~51,000) of all minimum fee and residential trips in 2011 were single, one time visits
- The greater the number of vouchers the greater the risk to revenues
- Average weight of a Residential Fee vehicle was 181 kg
- The greater the weight value of the voucher the greater the risk to revenues (e.g. 6 vouchers x 30 kg = 180 kg)

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### Collection System Refinements

**Garbage tag system**
Tag system to supplement container limit

**Financial Factors**
- Collection system cost from RFP (Garbage Tag System)
- $2 per garbage tag could generate potential revenues of $0.16 Million

**Environmental Factors**
- May impact waste diversion

**Social Factors**
- Increased flexibility for households to purchase tags to set out additional garbage if and when required

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### Collection System Refinements

8. Consider a pilot Bulk Waste collection reuse event, with Dundas as a possible location

**Bulk Waste Reuse Event**
Pilot project in Dundas area

**Financial Factors**
- Cost of $3,000 for Dundas pilot, cost would be $52,200 (Project 5) per year to service all Wards considering collection and operational impacts

**Environmental Factors**
- Diverting bulk waste can reduce waste to landfill

**Social Factors**
- Social benefit by promoting bulk reuse
- Pilot will determine feasibility to expand this service to other areas of the City
7.2

Keeping the System for Seven Years

9. Consideration of keeping the selected system for seven years
   • Weekly garbage collection systems will make it difficult to improve curbside waste diversion during 2013-2020
   • Bi-weekly garbage collection is a best practice to encourage diversion
   • Voucher system at the Community Recycling Centres is independent of collection system and can be refined if required during the seven years

Tipping Fees and Bag Tags

11. Compare the cost of waiving tipping fees to that of a bag tag system.
   • Slides 15 & 17
   • Waiving tipping fees through a voucher system can impact on revenues ranging from $0.9 M to $2.4 M depending on the number provided and how many are redeemed
   • A bag tag system for garbage can be implemented at a relatively low cost

City of Hamilton
Public Works Department
Operations & Waste Management Division
Waste Collection System Considerations

- Public Needs
- Service Providers
- Processing System
- Waste Diversion Potential
- Waste Collection System
- Container Options
- Landfill Lifespan
- Garbage Limits
- Collection Programs

Waste Collection System Analysis - Overview

<table>
<thead>
<tr>
<th>Description</th>
<th>Project 1 (Current System)</th>
<th>Project 3 (Current System + Enhancements)</th>
<th>Project 5 (3-Wk. + Enhancements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Total System Costs</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Environmental Diversion potential</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Social Results in service level improvements, ease of use, addresses illegal dumping concerns, provides flexibility</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

- Project 5 represents the best balance of financial, social and environmental considerations, making it the preferred waste collection system.

City of Hamilton
Public Works Department
Operations & Waste Management Division
## Analysis of Collection System Alternatives (Report PW11030e)

<table>
<thead>
<tr>
<th>Project 5</th>
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<th>Project 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi-Weekly Enhancements</td>
<td>Bi-Weekly Enhancements</td>
<td>Bi-Weekly Enhancements</td>
</tr>
<tr>
<td>Alternative 1</td>
<td>Alternative 2</td>
<td>Recommended System</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td><strong>Services</strong></td>
<td><strong>Services</strong></td>
</tr>
<tr>
<td>• 6 garbage containers bi-weekly = 156 containers/year</td>
<td>• 2 garbage containers bi-weekly</td>
<td>• 3 garbage containers bi-weekly</td>
</tr>
<tr>
<td>• Bi-weekly bulk waste</td>
<td>• Garbage tag system for 30 free tags/year = 82 containers/year</td>
<td>• 6 vouchers/year for free drop-off at CRCs = 84 containers/year</td>
</tr>
<tr>
<td>• Weekly organics, yard waste, recycling</td>
<td>• Sale of garbage tags</td>
<td>• Sale of garbage tags</td>
</tr>
<tr>
<td>• Bin service</td>
<td>• 6 garbage containers bi-weekly for Special Considerations</td>
<td>• 6 garbage container bi-weekly for Special Considerations</td>
</tr>
<tr>
<td>• Larger recycling containers</td>
<td>• Bi-weekly bulk waste</td>
<td>• Bi-weekly bulk waste</td>
</tr>
<tr>
<td>• Weekly organics, yard waste, recycling</td>
<td>• Bin service</td>
<td>• Weekly organics, yard waste, recycling</td>
</tr>
<tr>
<td>• Larger recycling containers</td>
<td>• Larger recycling containers</td>
<td>• Bin service</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td><strong>Cost</strong></td>
<td><strong>Cost</strong></td>
</tr>
<tr>
<td>$21.19 Million</td>
<td>$22.05 to $23.56 Million</td>
<td>$22.07 to $23.59 Million</td>
</tr>
<tr>
<td><strong>Key Features</strong></td>
<td><strong>Key Features</strong></td>
<td><strong>Key Features</strong></td>
</tr>
<tr>
<td>• Special consideration policy &amp; amnesty weeks not required</td>
<td>• Increased flexibility</td>
<td>• Increased flexibility</td>
</tr>
<tr>
<td>• Diversion potential of 5.7%</td>
<td>• Diversion potential of 9%</td>
<td>• Addresses storage issue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diversion potential of 7.7%</td>
</tr>
</tbody>
</table>

### Budget Impacts

#### Comparison to current collection costs

<table>
<thead>
<tr>
<th>System</th>
<th>2011 Costs (2011 $s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Approved Budget (based on current contracts for collection operations)</td>
<td>$24.81 Million</td>
</tr>
<tr>
<td>Project 5 – Alternative 2 - Base work with recommended additional work and operational impacts (Estimated Annual Value in 2011$)</td>
<td>$22.07 to $23.59 Million</td>
</tr>
<tr>
<td>Annual savings from current Budget for Preferred Waste Collection System (Project 5 – Alternative 2)</td>
<td>$1.28 to $2.79 Million</td>
</tr>
</tbody>
</table>
Recommendations

a) Sets out service levels for the collection system for 2013-2020 (*Select Project 1, 3 or 5*)

b) System refinements to support the service levels in a) *(ALL ITEMS ARE OPTIONAL)*
   i. Container limit (*Select Limit*)
   ii. Alternative Recycling Containers
   iii. Supply of front-end bin containers for City facilities
   iv. Special Considerations Policy (*Keep or eliminate*)
   v. Bulk Reuse Pilot Program
   vi. Phase-in of smaller green carts

c) Voucher system for free drop off of extra garbage at Community Recycling Centres *(Optional, if adding, confirm number and 30kg weight per voucher)*

d) Tag system for extra garbage *(Optional, if adding, confirm tag value of $2)*

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Recommendations (Cont’d)

e) Revision to Special Consideration Policy to amend provisions for families with 2 children under 4 years from 3 children under 5 years *(if keeping Special Considerations Policy)*

f) Amendments to the Solid Waste Management By-Law to implement recommendations (a), (b), (c), (d) and (e)

g) Selection of the Successful Proponent *(based on the recommended Project selected in recommendation a)*

h) Confirmation of the contract period as being 7 years starting April 1, 2013 with potential 1 year extension

i) Authorization to finalize the agreement with the Successful Proponent

j) Authorization to execute the agreement with the successful Proponent
Recommendations (Cont’d)

k) Withdrawal of the capital project for purchase of recycling vehicles and yard expansion to service the A zones by public forces
l) Removal of the related items from the Public Works Committee Outstanding Business List
m) Removal of the related item from the General Issues Committee Outstanding Business List

Preferred Collection System

Next Steps

- February 8, 2012 Council Meeting for approval
- Feb. 2012 - Finalize Contract, Initiate procurement process for Public Sector vehicles
- April 2013 – New contract begins