



City of Ottawa's Waste Management Context

Presentation to Council

March 23, 2006



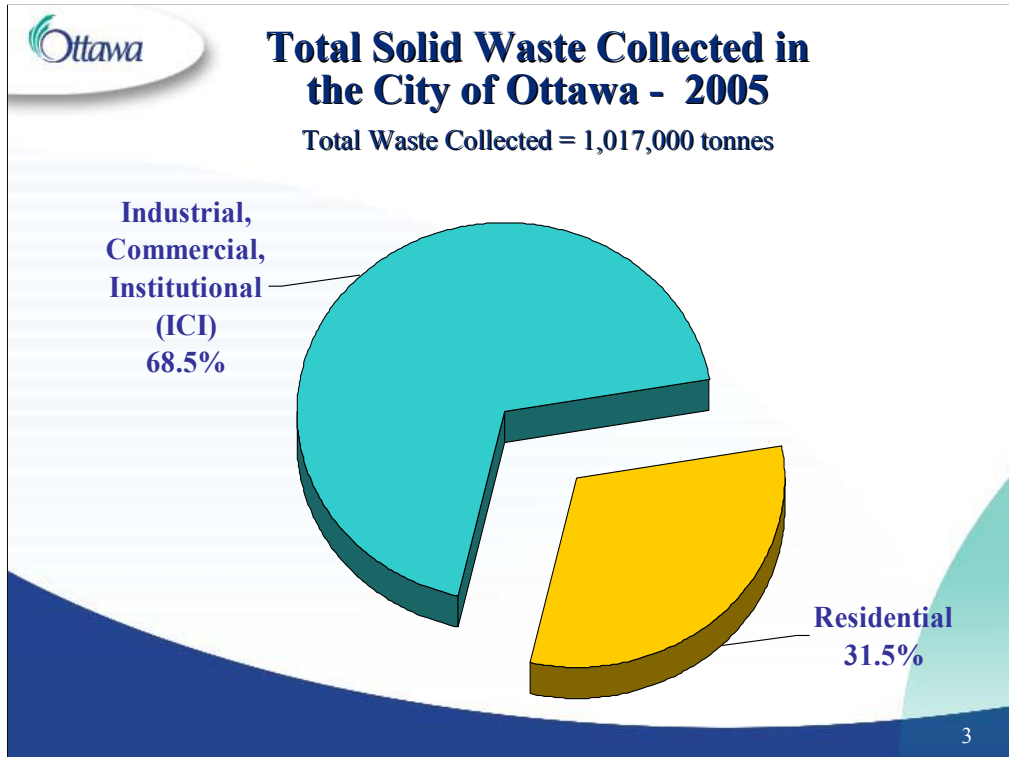
The North American Perspective

Waste management continues to be a major challenge for municipalities throughout North America. Municipalities are running out of land deemed suitable for landfill. New technologies are evolving but usually pose higher costs than landfill. Approvals and commissioning take time, and economics will dictate whether alternative technologies are viable or affordable. The potential of electricity generation is helping to increase the economic desirability of alternatives.

The Provincial Perspective

Many cities in Ontario require waste management solutions. The province has set a 60% waste diversion target for all waste – residential, industrial, commercial and institutional. Provincial action to date has focused on the residential / municipal sector, whereas there has been no concrete action in the ICI sector, which you will see would have a more significant impact on waste management solutions.

Currently, there are eleven landfill expansion Environmental Assessments submitted to the Ministry of Environment that are awaiting approval.



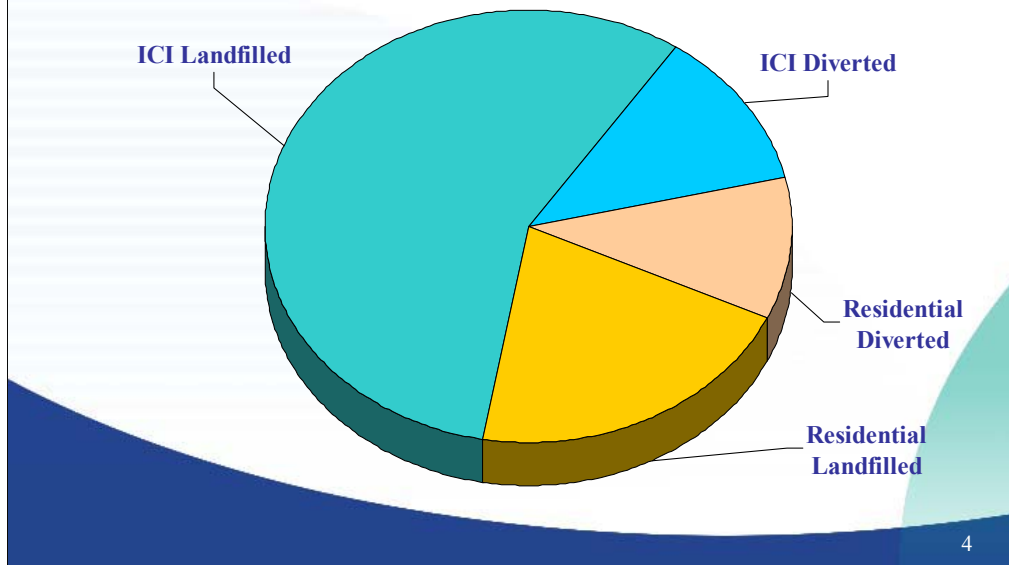
It is important to consider this issue from a community service perspective. What is collected within the community, from residents and businesses, all need to be considered in developing solutions. As a community, this is a collective concern and requires a collective solution.

It's important to realize that the City's legislated mandate is to provide solid waste collection, and diversion for the residential sector only. In 1995, Council expanded the residential collection and diversion programs to include all multi-residential dwellings. The Province maintains responsibility for overall waste management including waste diversion for the ICI sector.

In 2005, the total solid waste collected was over a million tonnes, of which 31.5% or approximately 320,000 tonnes was collected from the residential sector by City contractors and in-house staff. More significantly, 68.5% or almost 700,000 tonnes was generated by the ICI sector, based on the tonnage reported to the City by the various private sector contractors.

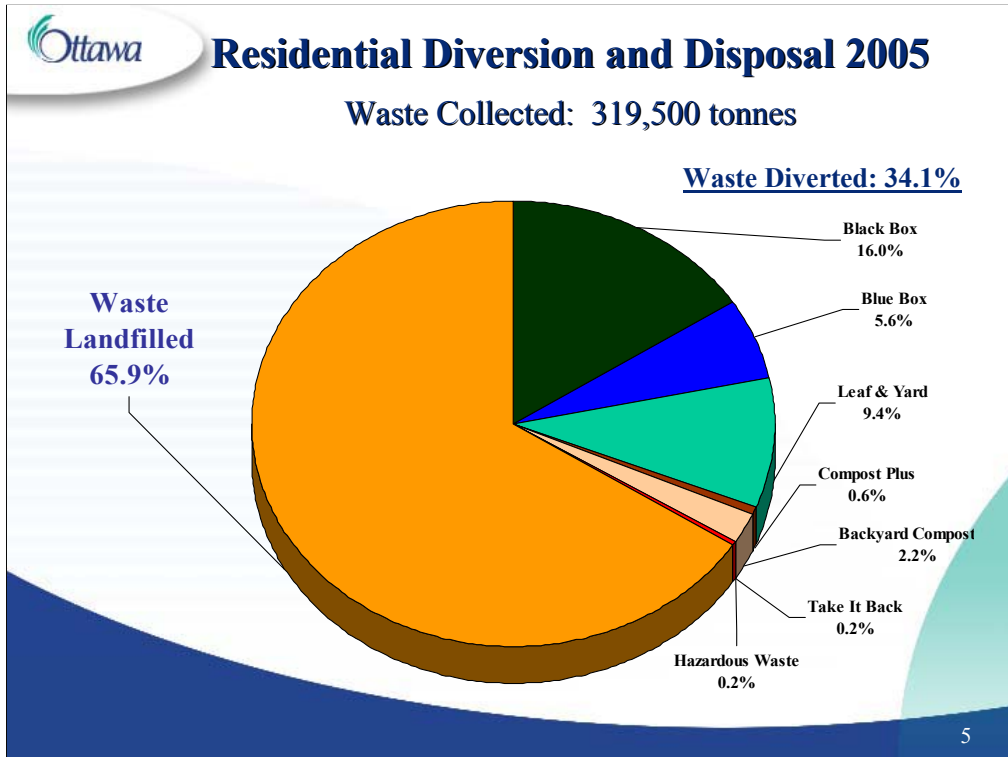
Total Solid Waste Collected in the City of Ottawa - 2005

Total Waste Collected = 1,017,000 tonnes



This slide presents the breakdown between landfilling and diversion for both the residential and ICI sectors. We divert roughly a third of residential waste. However, only 17.5% of ICI waste is currently diverted.

Of all the total waste collected in Ottawa, approximately one quarter was diverted from disposal in landfills through residential and ICI recycling programs. That leaves approximately 780,000 tonnes solid waste that needs to be disposed of in local landfills.



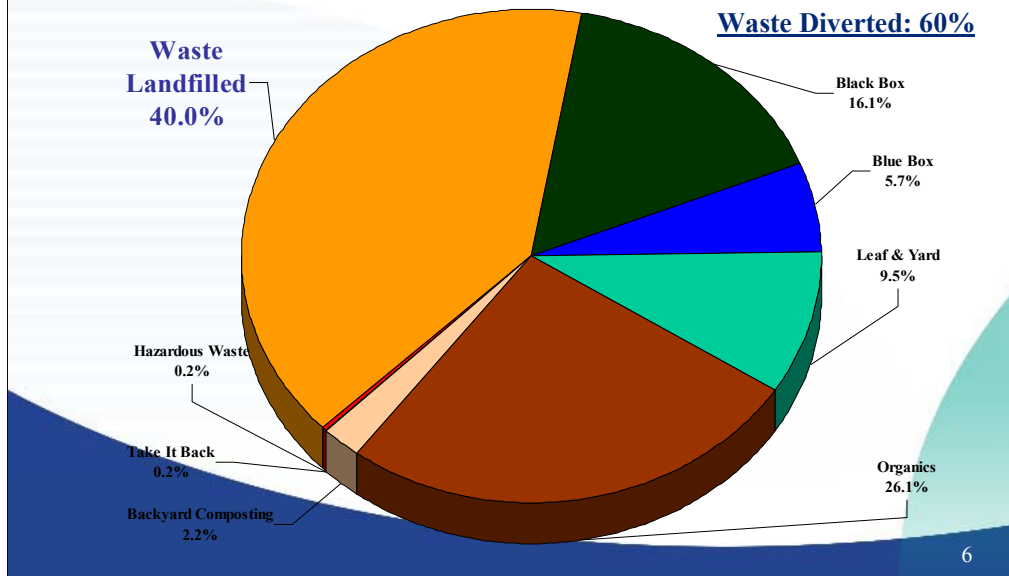
As part of the waste management strategy since 1983, local municipal Councils have delivered to residents a number of diversion programs. These include:

- Blue box program for containers
- Black box program for paper and cardboard
- Leaf and yard waste program
- Compost Plus pilot program, collecting organics from nine neighbourhoods
- Backyard composting program, including distribution of 100,000 composters
- “Take it Back” partnership program
- Household Hazardous Waste program

Collectively, these programs have diverted 34% of residential waste from landfill.

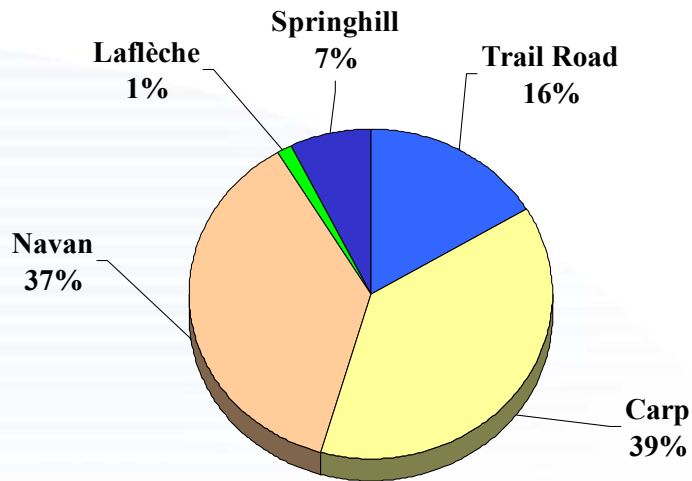
Projected Residential Diversion and Disposal with Organics

Based on Waste Collected: 319,500 tonnes



Council has approved new solid waste collection contracts, which include a provision for Source Separated Organics collection, anticipated to be added in 2008. Using 2005 figures, this will have the impact of increasing waste diversion to 60%, and decrease the portion requiring disposal to 40%. This will reduce the landfilling of residential solid waste by more than 80,000 tonnes a year.

Total Waste Landfilled by Location



Over two thirds of landfilled waste is not currently managed by the City (ICI)

However, even with all of these diversion programs, it is still necessary for the community generated waste to be disposed of in landfills. When one looks across the region, this is the distribution of solid waste landfilling. Of this, the City-controlled waste quantities, as represented by the blue sections of the chart, is significantly less than the private sector.

Integrated Waste Management Master Plan: Strategy for residential waste

- **Education**
- **Diversion**
- **Alternative technologies**
- **Preservation of City-owned landfill capacity for residential disposal**

Council approved the Integrated Waste Management Master Plan strategy in 2003, which consisted of four essential elements:

- Diversion
- Education
- Alternative technologies
- Preservation of City-owned landfill capacity for residential disposal

As each of these elements contain a number of components, let me take you through each element in more detail.

Education and Diversion

- **Education campaign**
- **Yellow-bag program**
- **Organics – option to commence in 2008**

In 2003, Council directed staff to work to increase diversion to 40% by the end of 2006, and to increase the diversion rate up to 70% within the next term of the collection contract.

In order to reach the 40% target, starting in Spring 2006, we are about to commence the next phase of our diversion campaign, which includes a strong education component, targeting residents to increase diversion. The campaign is in the planning stage, and will be brought to Councillors attention prior to the launch.

The yellow-bag program, in partnership with the business community, will allow for the provision of recycling and waste collection services to eligible small, non-residential establishments. The report on the Yellow Bag Program will be brought to Committee and Council in Spring.

And once again, implementation of the Organics Program will allow the City to meet the residential sector diversion targets set by the Province. However, collection of organics is only one part of the program. Later in 2006, we will have received requests for proposals from qualified proponents for source separated organics processing capacity. A full report, including recommendations and costs, will be brought to Council in early 2007. This lead time is required in order to have the facility up and running by 2008.

Alternative technologies

- **Council-directed Plasco evaluation project**
- **Alternative technology review initiated in 2006**
- **Potential to extend life of all landfills**

As part of the alternative technologies, the Plasco project is well under way. Agreements are being negotiated and construction is projected to begin in May. It's important to appreciate that, in its pilot size, it will process approximately 7 truck loads of residential waste a day out of a total of 80 truck loads.

Staff are in the process of requesting expressions of interest for suppliers of alternative technologies in 2006. Among the alternatives expected are pyrolysis, incineration, plasma gasification and depolymerization.

The potential of alternative technology is to decrease the dependency on landfill for disposal. However, the current economic reality is that landfills remain the least costly alternative.

Implementation of any alternative technologies would require a multi-year environmental assessment and development process. None of these alternatives provide short term solutions.

Preservation of residential landfill capacity

- **Expanding waste diversion programs**
- **1/3 residential waste to Carp**
 - **Preserves 90% available capacity for Ottawa waste**
- **Preserving Trail Road capacity for residential waste**
- **Consider residential waste export where economics warrant**

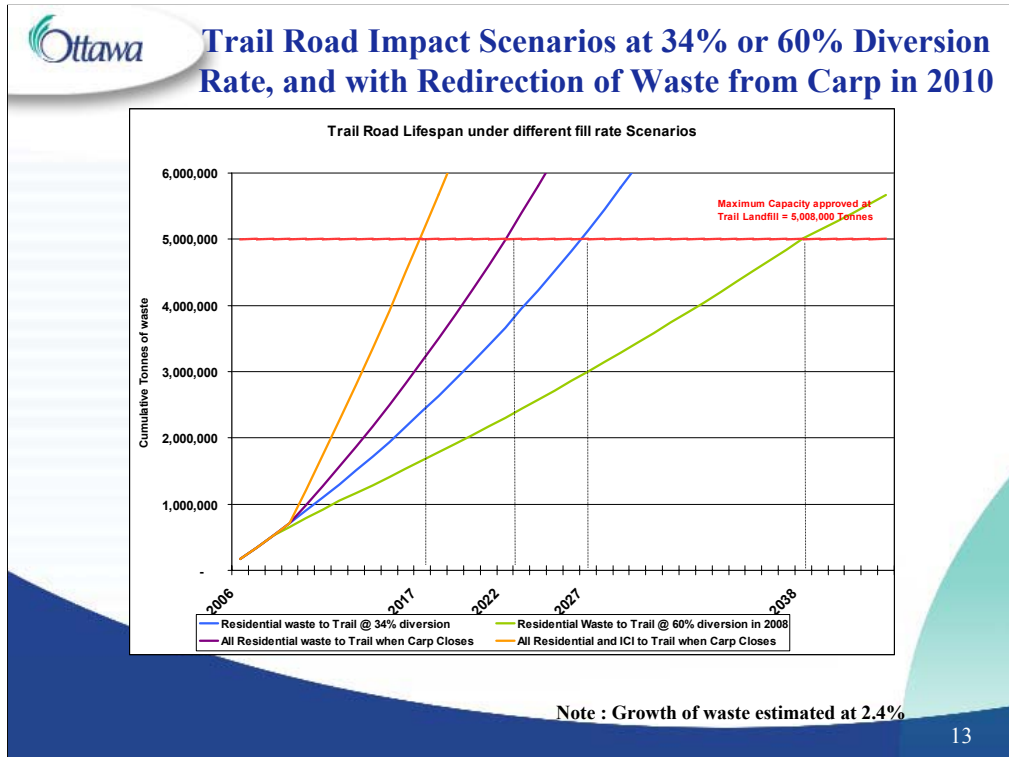
The reality is that it is still necessary to have landfill capacity. The Integrated Waste Management Master Plan identifies that the private landfill sector remains an integral part of Ottawa's waste management picture. Some of the items included in this are:

- As noted previously, an expanded residential waste diversion program, complemented by diversion initiatives by the private landfill operators, such as diversion of appliances, tires, metals, etc.
- The preservation of available capacity for the Ottawa community through the direction of one third of residential waste collected in Ottawa to the Carp Road landfill site. By doing so, the City is limiting the amount of waste that can be imported from beyond the City boundaries.
- The preservation of capacity at Trail Road by setting the tipping fee above current market rates
- Lastly, the City will continue to consider alternative sites for residential waste disposal, should economics dictate.

Preservation of Landfill Capacity

Residential Waste	Volume Reserved for Ottawa Waste
0 to 10 %	75 % (Navan)
10 to 20 %	80 %
20 to 30 %	85 %
30 % +	90 % (Carp)

In 2001, due to changes in provincial legislation, Council delegated staff to negotiate a settlement agreement. One of the most important principles was to reserve landfill disposal capacity for waste generated within Ottawa. This currently reserves 90% of the capacity at Carp, as we dispose of over 30% of the residential waste. And given that Navan is not licensed to receive Municipal solid waste, 75% of its capacity is reserved for Ottawa solid waste.



I want to frame for you now the significance of our current context.

This chart is to paint the impact of the organics program and the potential closure of the Carp Road landfill. The blue line shows the current situation, assuming that the waste stream to Trail Road does not change.

The green line shows the impact of greater diversion, including city-wide organics. This would expand the life of the landfill to 2038.

If for some reason, such as economics or capacity is no longer available, Council decides to direct all residential waste to Trail Road, this shortens the life of the landfill to 2022, as shown by the purple line.

And finally, the orange line shows the impact on the life of Trail Road if we assume that all of the solid waste generated within Ottawa that is currently disposed of at Carp Road is redirected to Trail Road.

In summary, this shows that the life of Trail Road could be as short as 2017 or as long as 2038.

Current Landfill Capacity Situation

- **Eight years of disposal capacity exists for Ottawa waste, but:**
 - **Trail Road EA capacity expansion took five years**
 - **Organics implementation two years**
 - **Alternative technology implementation – full EA required**

Based on our knowledge, current available existing capacity at all five disposal sites is approximately eight years.

It's important to remember that the approval of the Trail Road EA for expansion took five years, and we anticipate a two year time period before we can start collecting source separated organics.

Finally, an alternative technology EA would be anticipated to take an absolute minimum of five years and potentially seven to nine years

Summary

- **Continued progress on IWMMP**
 - **Education**
 - **Increase residential diversion to 60%**
 - **Alternative technologies**
 - **Approval and commissioning of alternatives are still years away**
 - **Continued preservation of local landfill capacity**
- **Provincial direction and support required to meet diversion targets of 60% for ICI**
- **Community needs additional landfill capacity**

In summary, solid waste is an issue that matters to the entire community. The City has developed an integrated waste management master plan that addresses the residential waste stream for which the City is responsible. This plan establishes a number of key targets and milestones that will require Council's continued support in order to achieve. These include:

- Strong focused waste diversion education campaign
- Increasing diversion through the implementation of city-wide organics collection and processing
- Ongoing review of alternative waste disposal technologies
- And continued preservation of local landfill capacity

The provincial target of 60% diversion is achievable, but only with increased and focused provincially driven action on waste diversion and recycling efforts within the ICI sector. This is a provincial responsibility and requires provincial leadership.

Landfills have a role to play. The community will continue to need landfill capacity. Council has addressed this issue a number of times and given its support to the Integrated Waste Management Master Plan. Staff are working diligently to deliver all the components of this plan.