

Sustainability Solution



*Getting to 50% and Beyond:*  
**Waste Diversion  
Success Stories  
from Canadian  
Municipalities**



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*Getting to 50% and Beyond: Waste Diversion Success Stories from Canadian Municipalities* (includes customizable PowerPoint presentation and additional resources on CD)

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Ce document est aussi disponible sous le titre *Objectif 50 % et plus : Les expériences réussies de municipalités canadiennes en matière de valorisation des matières résiduelles*.



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# Waste diversion at a glance

## WHAT IS WASTE DIVERSION?

**Waste diversion** directs garbage away from landfills or incinerators through reuse, recycling, composting or gas production through anaerobic digestion. Waste diversion is a key component of effective and sustainable waste management.

**Waste management** is the process of collecting, processing and disposing of waste.

## WHY DIVERT WASTE FROM LANDFILLS?

### Economic benefits

- » Fewer landfill sites are needed, saving the cost of creating new landfills or transporting waste to more distant landfills.
- » Diversion creates jobs: recycling 14,000 tonnes of waste creates nine jobs and composting it creates seven jobs, but landfilling it creates just one job.
- » Revenue can be generated from selling compost to the community.

### Environmental benefits

- » Recycling uses less energy than disposal in a landfill and manufacturing with recycled materials is more energy-efficient than with virgin materials.
- » The greenhouse gases and toxins generated by landfills and incineration are reduced.
- » More land is available for agricultural and other uses.
- » Reuse and recycling conserve resources.

### Social benefits

- » Reduced landfill usage improves quality of life in adjacent communities and reduces the need for new landfill sites.
- » Less reliance on landfills and incinerators reduces pollutants and improves health.
- » Waste diversion encourages environmentally sustainable behaviour.

## PARTNERSHIPS and COLLABORATION

- ➔ Ensure buy-in to diversion programs through multi-stakeholder collaboration.
- ➔ Adopt a regional waste management program that serves multiple small, rural or remote communities.
- ➔ Establish partnerships with the private sector.
- ➔ Take advantage of supportive provincial/territorial legislation to drive change.

## CONVENIENT OPTIONS

- ➔ Provide convenient curbside recycling collection.
- ➔ Offer easy options to divert leaf and yard waste.
- ➔ Provide a household organics collection program.
- ➔ Offer collection services to multi-family buildings.
- ➔ Offer collection services to the institutional, commercial and industrial sectors.
- ➔ Build facilities that process recyclables, organics or multiple streams of waste.



## POLICY and LEGISLATION

- ➔ Limit the amount of waste that can be set out per week.
- ➔ Reduce garbage collection to biweekly.
- ➔ Adopt policies such as landfill bans on recyclable and compostable materials.
- ➔ Enforce all policies related to waste diversion.
- ➔ Adopt a Zero Waste policy.
- ➔ Create economic incentives to encourage diversion rather than disposal.
- ➔ Adopt a Pay-As-You-Throw program.

## EDUCATION and PROMOTION

- ➔ Build political will to bring about a change in waste management practices.
- ➔ Develop significant and ongoing public education and promotion programs and launch them at the early stages of the waste diversion program.
- ➔ Encourage backyard composting.
- ➔ Provide constant feedback to residents to ensure that they understand the diversion services and options available and the impacts of their choices.
- ➔ Report back on diversion achievements.

# Introducing waste diversion

## TYPES OF WASTE

**Residential waste** is generated by both single-family households and multi-family buildings (which usually receive different collection services). It typically consists of about 40% recyclable materials, 40% organic materials, 10% bulky goods and 10% other materials.

**IC&I waste** is generated by the institutional, commercial and industrial sectors.

**C&D waste** is generated by construction and demolition activity and is also referred to as CRD (construction, renovation and demolition) waste. It includes wood, scrap metal, drywall, concrete, brick and various packaging materials and can make up as much as 25% of the solid waste going to landfill.

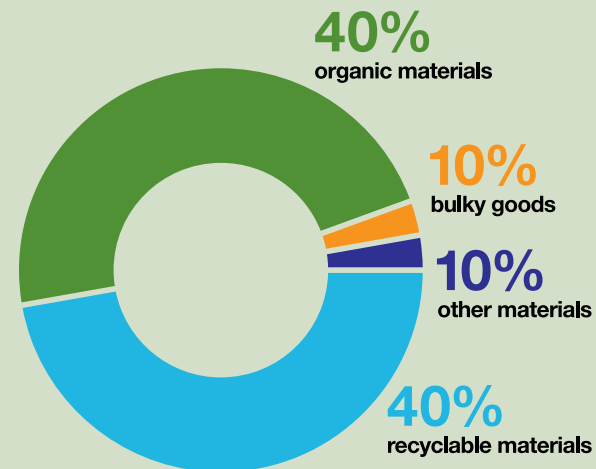
**Leaf and yard waste** is generated through gardening and landscaping activity. This material is readily processed through open windrow composting (a cost-effective composting method involving piling compostable matter in rows). Leaf and yard waste makes up as much as 10% or more of the residential waste stream.

**Household organic waste** includes food waste and various compostable materials generated by a household. **Source-separated household organic waste** is separated by residents from other household waste prior to disposal. When leaf and yard waste is included, organic waste makes up as much as 40% of the residential waste stream.

**Recyclable materials** are those such as paper, cardboard, metal, glass and some plastics, for which secondary markets are well developed.

**Household hazardous waste** is residential waste that may be harmful to the environment or human health. Examples of household hazardous waste include paints, solvents, automobile fluids, pesticides and herbicides.

## TYPICAL CONTENT OF RESIDENTIAL WASTE IN CANADA



## WASTE DIVERSION IN CANADA

In 2006, Canadians produced over 35 million tonnes of waste, or 1,000 kg per person — up eight per cent from 2004. Of the total, 22 million tonnes came from non-residential sources and 13 million tonnes came from residential sources. Twenty-seven million tonnes of waste (about 77 per cent) was sent to landfills or incinerators, while 7.7 million tonnes (about 22 per cent) was diverted from disposal. One-third of the waste disposed in landfills was from residential sources, while the rest was industrial, commercial and institutional waste.

Backed by provincial legislation setting diversion targets, Nova Scotia and Prince Edward Island have reached the highest provincial diversion rates at 41 per cent and 38 per cent respectively. New Brunswick follows closely at 36 per cent. British Columbia and Québec also exceeded the national diversion rate, achieving 32 per cent and 27 per cent, respectively. Newfoundland and Labrador had the lowest diversion rate at 6.9 per cent, followed by Saskatchewan at 11.4 per cent.

*A waste diversion rate is the percentage of waste diverted out of the total amount of waste generated. Jurisdictions use different rules to define what activities can be counted as diversion.*

## A BENCHMARK FOR SUCCESS: 50% DIVERSION

As municipalities set more ambitious goals for waste diversion, a 50 per cent waste diversion rate can be a useful benchmark. Leading Canadian municipalities are reaching waste diversion rates well beyond the national average of 22 per cent, with several nearing and even exceeding 50 per cent. Those just starting out can learn from their strategies. At the same time, as municipalities work toward 50 per cent waste diversion and beyond, it is important to keep in mind that any increase in waste diversion is an important step along the way.



City of Halifax

## CHALLENGES AND DRIVERS OF CHANGE

Lingering barriers to waste diversion include the higher costs of diversion compared with landfill in some parts of Canada, the availability of substantial landfill capacity in some communities, and the lack of knowledge or drive to adopt waste diversion policies that are perceived to be unpopular. But many communities are becoming aware of the need for change as they confront issues such as an impending landfill closure, citizen resistance to new landfills, a substantial increase in disposal costs, or provincial waste management mandates and targets.

### TONNES OF WASTE GENERATED IN CANADA FROM RESIDENTIAL AND NON-RESIDENTIAL SOURCES (2006)



Waste diversion programs may require an investment to cover capital and operating costs for programs, equipment and facilities. Specific costs may be determined through a waste management study that looks at the strategy being proposed. Some municipalities have been able to develop “full-cost recovery” financing systems for their waste diversion programs.

### AMOUNT OF CANADIAN WASTE DIVERTED FROM DISPOSAL COMPARED TO AMOUNT SENT TO LANDFILL OR INCINERATORS (2006)



# Reaching 50% waste diversion and beyond

## FOUR KEYS TO SUCCESS

Communities across Canada have achieved high waste diversion rates through a comprehensive approach that includes four important keys to success:

- 1. PARTNERSHIPS and COLLABORATION** can be generated with local citizens, organizations, educational institutions, the private sector and the provincial or territorial government. Working together as broadly as possible ensures greater buy-in and participation in diversion programs and can help in creating effective solutions.
- 2. CONVENIENT OPTIONS** are the nuts and bolts of any waste diversion program. Options for reuse, recycling and composting can include curbside collection or drop-off centres. Programs can be run by the municipality, the private sector, a public-private partnership or even the province. The more widely these options are available (to residents in single-family households and multi-family buildings and to the institutional, commercial and industrial sectors) the easier it is to reach a high diversion rate.
- 3. POLICY and LEGISLATION** that support waste diversion efforts are essential. Municipal bylaws limiting waste disposal, charging for garbage collection or banning divertible materials from landfills can help enforce waste diversion practices. Broader policies, such as formal provincial or municipal waste diversion targets, can also motivate change.
- 4. EDUCATION and PROMOTION** is a key element in any waste diversion strategy. The public needs to be informed about waste diversion programs and how to participate effectively. Programs can range from visits to residences to educate people about a recycling program, to targeted promotional strategies that encourage and reward waste diversion activities (such as backyard composting).

## LEADING-EDGE TRENDS

As municipalities become comfortable with the basic elements of waste diversion, they are innovating and expanding on their strategies to reach higher diversion rates. A number of trends are emerging across Canada:

- » **Zero Waste communities:** A Zero Waste community has made a long-term commitment to reducing waste through measures such as extended producer responsibility programs, economic instruments to encourage waste reduction, green procurement and product design that includes end-of-life management.
- » **Economic instruments:** Pay-As-You-Throw (PAYT) programs require residents to pay on a volume basis for the disposal of their waste. The program may employ a tag or bag system or a cart system. Other economic instruments include tipping fee surcharges and fines on contaminated loads (waste that has not been source-separated).
- » **Green procurement and consumer education:** Municipalities are beginning to use bylaws to encourage businesses and residents to reuse more and purchase goods with less packaging. For example, some communities have introduced bans or levies on packaging. This approach requires strong education and enforcement to ensure a level playing field for businesses and change consumer behaviour. Some municipalities are also implementing green procurement policies for their own corporate purchasing.

- » **Household organics collection:** With recycling programs well established, municipalities are now turning their attention to curbside household organics collection. Communities with food waste and yard waste composting programs tend to divert an additional 25–30 per cent of the residential waste stream.
- » **Single-stream recycling:** Many municipalities, particularly smaller ones, have successfully adopted two-stream (fibres and containers) or multi-stream collection systems. However, single-stream recycling (collecting all materials in one cart) is a growing trend among larger urban municipalities. The benefits include lower collection costs, higher participation rates, compatibility with automated collection services and the ability to co-collect curbside organics or other material. The drawbacks include higher processing residue rates, more contamination, fewer clean materials for end markets and a more expensive processing facility.

## LESSONS LEARNED: ADVICE FROM SUCCESSFUL MUNICIPALITIES

- ✓ Provincial government participation in recycling programs can help municipalities offset the costs and weather unpredictable markets for recycled material.
- ✓ Involving the public in the decision-making process can increase community buy-in.
- ✓ The private sector may offer solutions through business models that can adapt to changes in the economy and in the types of materials being generated.
- ✓ A regional waste management program is the key to effective and efficient waste reduction for rural communities.
- ✓ A solid waste management master plan is a fundamental ingredient in a successful waste diversion program.
- ✓ Sufficient time should be allowed for the waste management planning process, including program design, development and implementation.
- ✓ Bylaws can strengthen the effectiveness of public education and ensure participation in waste diversion programs.
- ✓ A pilot program is a good way to test and promote a new initiative such as curbside organics collection. A typical pilot program lasts about 12 months.
- ✓ Clear-bag requirements allow for proper enforcement of mandatory recycling and composting programs.
- ✓ Residents may be motivated by issues such as preserving the natural heritage or conserving groundwater.
- ✓ Residents should be given plenty of warning when they are in contravention of bylaws.
- ✓ Municipalities should invest in social marketing strategies and build on small successes to gain public support.



City of Charlottetown

# Waste diversion success stories

The following case studies tell the stories of some of the many municipalities across Canada with high waste diversion rates. Each municipality or region uses a unique combination of elements from each of the four keys to success — partnerships and collaboration, convenient options, policy and legislation, and education and promotion — to achieve its goals. The case studies show that high waste diversion rates are best achieved through a comprehensive approach tailored to the specific needs of the individual municipality.\*

\* The diversion rates quoted on the following pages are based on the most current available data as of August 2009.



Left: City of Halifax / Right: City of Victoriaville

# REGIONAL DISTRICT OF NANAIMO (RDN), BRITISH COLUMBIA

Population: 146,000  
Diversion rate: 64%

## HIGHLIGHTS AND RESULTS

- » Over 4,170 tonnes of organic waste diverted to the ICC composting facility in 2006
- » More than 11,000 tonnes of commercial food waste diverted from landfill since 2005
- » Successful landfill ban and enforcement
- » Fewer violation notices issued
- » Positive working relationships and collaboration with industry and community stakeholders

## PARTNERSHIPS and COLLABORATION

- » **Commercial food waste diversion program:** RDN entered into an agreement with a private composting company to construct an enclosed composting facility. In turn, the region placed a ban on commercial food waste at the landfill. All banned organics are redirected to the composting facility. The region works closely with waste haulers and food establishments to ensure that all organic waste is properly diverted.
- » **Provincial support:** The British Columbia provincial government has given regional district governments licensing authority to help them properly manage waste management facilities established by the private sector.

## CONVENIENT OPTIONS

- » **Curbside recycling collection:** RDN provides biweekly three-stream recycling service to all residents. The program features a blue box for containers, a yellow bag for household paper and a blue bag for newspapers and magazines. Cardboard and textiles are bundled separately.
- » **Household organics collection:** With funding from FCM's Green Municipal Fund, the region implemented a 12-month pilot program to field test a program to collect residential food waste in rural and suburban neighbourhoods. The success of the pilot resulted in the program's continuation until the region rolls out a curbside organics collection program in 2010.

## POLICY and LEGISLATION

- » **Disposal bans on recyclables:** A bylaw prohibits the disposal of designated recyclable materials at RDN disposal facilities. Material bans are enforced through a collaborative approach between RDN, the hauler and the generator.
- » **Commercial food waste disposal ban:** A bylaw imposes a landfill ban on all food and organic waste from commercial and institutional sources.
- » **Limits on waste disposal:** Residents may place one can of garbage at the curb for weekly collection. Each additional can or bag requires a \$2 tag. Residents are limited to a maximum of two extra containers of garbage per week.
- » **Waste Stream Management Licensing Bylaw:** RDN regulates all waste management facilities through the Waste Stream Management Licensing Bylaw. This regulatory framework is designed to create a level playing field, ensure that all waste management facilities operate to a high environmental standard and encourage private investment in waste management infrastructure.
- » **Zero Waste community:** The region established itself as a Zero Waste community in 2002, with a goal of diverting 75 per cent of the region's waste from the landfill by 2010.

## EDUCATION and PROMOTION

- » **Promotion of yard waste reduction:** The region promotes grasscycling (leaving grass clippings on lawns) and xeriscaping (landscaping that reduces the need for irrigation) to reduce water use. It also promotes backyard composting. Residents may also bring yard waste to a yard waste depot.
- » **Education programs:** The region contracts with a non-profit organization to help fund a compost education program, a school education program and a Zero Waste promotion and education program. RDN will create a database of multi-family properties in the region and send out information on recycling. The region also keeps a database on businesses and institutions that have a kitchen and sends out information packages on organics collection.

[www.rdn.bc.ca](http://www.rdn.bc.ca)  
Search on "Solid Waste"

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# TOWN OF OLDS, ALBERTA

Population: 7,300  
Diversion rate: 43%

## HIGHLIGHTS AND RESULTS

- » High waste diversion results without a curbside recycling program
- » Successful partnerships with the education sector and other local communities
- » A supportive population engaged at the grassroots level
- » A Strategic Sustainability Plan created through an intensive public engagement process

## PARTNERSHIPS and COLLABORATION

- » **Partnership with the education sector:** The town partnered with Olds College to divert its organic waste stream to the college's Composting Technology Centre (CTC), which uses open windrow composting to process the material. Residents can pick up the finished compost for free.
- » **Partnerships and collaboration with other communities:** The town has partnered with other local communities in the Mountain View Region as part of the Mountain View Regional Waste Management Commission, which manages waste disposal and provides efficient, cost-effective waste collection services. Olds is also one of five urban municipalities working with the Alberta Urban Municipalities Association (AUMA) on a municipal sustainability pilot project.
- » **Multi-stakeholder community collaboration:** The town's Strategic Sustainability Plan was created through an intensive public engagement process. Over 200 community members worked in a bottom-up participative process to create a set of directions to guide the town council in making decisions.

## CONVENIENT OPTIONS

- » **Curbside organics collection:** The town collects organics from residential properties in a 240-litre green cart on a biweekly basis during the summer and on a monthly basis in the winter. With support from FCM's Green Municipal Fund, the town did an inventory of its organic waste and studied its characteristics, as a first step toward determining the feasibility of a biogas plant.

- » **Recycling depots:** The town operates three recycling depots that divert 12 materials including plastic milk jugs, milk cartons, cardboard, boxboard, newspaper, mixed paper, clear glass, food cans, motor oil, oil filters, batteries and used electronics. The town also offers cardboard and mixed paper recycling bins to businesses for a monthly fee and encourages all local businesses to use the recycling depots.
- » **Garden, grass and leaf waste depots:** The town operates 52 three-cubic-yard dumpsters throughout the community from May to October for residents to deposit garden, grass and leaf waste.

## POLICY and LEGISLATION

- » **Reduced garbage collection:** The town collects garbage on a biweekly basis. Each household receives a 240-litre black cart that holds the equivalent of three bags of garbage. The town has an informal bag limit policy since it does not permit curbside collection of additional garbage. Additional waste may be hauled to the town's eco-centre.
- » **Waste management fees:** Residents pay \$18.87 on their monthly utilities bill and can rent a second black garbage bin for \$18.87 per month or a second green organics bin for \$6 per month.
- » **Rejection of mixed-waste garbage:** The town's waste management bylaw enables collection crews to reject garbage that contains recyclable and organic material.
- » **Controlled disposal of waste:** The town's waste management bylaw prohibits any burning of waste and permits an enforcement officer to issue tickets of \$100 for a first offence and \$200 for subsequent offences.

## EDUCATION and PROMOTION

- » **Education of residents:** The town encourages residents to participate in its waste diversion programs by leaving behind excess garbage or highly contaminated organics bins along with a tag explaining the problem.
- » **Promotion of reuse:** The town promotes use of reusable bags and grasscycling through brochures and newspaper advertisements.
- » **C&D waste:** The town promotes waste diversion in the C&D and real estate sectors by raising awareness about the advantages of "green" construction.
- » **Environmentally Sustainable Yards (ESY) Project:** The ESY project, a partnership between the town and Olds College, provides a demonstration site showcasing environmentally sustainable yards and landscaping made from recycled materials including construction waste and recycled tires.

**Awards:** Canadian Home Builders Association (Central Alberta) 2008 Grand SAM "Green Vision" award for the town's partnership with Olds College in the Environmentally Sustainable Yards (ESY) Project.

[www.olds.ca/pubworks.html](http://www.olds.ca/pubworks.html)

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# REGIONAL AUTHORITY OF CARLTON TRAIL (REACT) WASTE MANAGEMENT DISTRICT, SASKATCHEWAN

Population: 25,047  
Diversion rate: 55%

## HIGHLIGHTS AND RESULTS

- » A successful waste management partnership involving 48 municipalities covering 11,400 square kilometres
- » Used as a model for regional waste management throughout Saskatchewan
- » Closure of 30 landfills, saving thousands of dollars in maintenance and improvement
- » Reduced disposal rates in residences and commercial and agricultural enterprises: the average household puts out one bag of garbage for weekly collection

## PARTNERSHIPS and COLLABORATION

- » **Regional waste management partnership:** REACT allows 48 municipalities to work together in a cost-effective and efficient approach to waste management that offers waste diversion options to a wide variety of rural and municipal communities across 11,400 square kilometres.

## CONVENIENT OPTIONS

- » **Municipal and rural garbage collection options:** REACT provides curbside garbage collection to residents located in villages, hamlets and towns. Rural residential properties (such as farms) can subscribe to REACT's dumpster collection service or haul their waste to a transfer station or landfill.
- » **Commercial and agricultural bin collection program:** Commercial and agricultural establishments can rent dumpsters and choose to have them collected weekly, biweekly or monthly.
- » **Recycling centres:** REACT has established 28 recycling centres in key locations throughout the region. Trucks collect material from the centres and deposit it at a small processing facility where it is sorted before resale. REACT uses the revenue to help fund the program, which is run free of charge.
- » **Leaf and yard waste depots:** REACT operates leaf and yard waste depots at all 17 transfer stations and two landfills. Residents can bring kitchen, leaf and yard waste to the depot, where the material is composted on-site in small windrow piles.
- » **C&D waste drop-off areas:** REACT transfer stations include areas for metals, clean wood and shingles.

## POLICY and LEGISLATION

- » **Membership fees:** REACT members pay a fee of \$18 per capita annually. New members pay a higher annual levy of \$29 for the first four years to help pay for capital expenses associated with membership.
- » **Pay-As-You-Throw (PAYT) programs:** All residential properties receiving curbside collection services must place a purchased tag on every bag of garbage set out at the curb for collection as part of REACT's tag-a-bag program. Each tag can be purchased for \$1.25. Through a bin collection program, commercial and agricultural establishments pay according to the amount of waste collected and the frequency of collection. Along with the sale of recycled materials, the PAYT program enables full-cost recovery for the region's waste management system.

## EDUCATION and PROMOTION

- » **Backyard composting:** REACT promotes backyard composting and some communities subsidize the cost of backyard composters.
- » **School and community promotion and education programs:** REACT goes into schools and community clubs to promote recycling and backyard composting and offers a household hazardous waste day once a year, funded by the provincial government.

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City of Owen Sound

# CITY OF HAMILTON, ONTARIO

Population: 518,200  
Diversion rate: 44%

## HIGHLIGHTS AND RESULTS

- » Large increase (16–44%) in single- and multi-family residential sector diversion rates from 2001 to 2008
- » Active outreach, promotion and education program
- » Extended landfill lifespan, saving millions of dollars to create a new landfill site
- » Seven per cent rise in the amount of recyclables collected through the Blue Box program
- » Reduced GHG landfill emissions by diverting organic waste
- » Reduced truck emissions by collecting organics along with garbage

## PARTNERSHIPS and COLLABORATION

- » **Community-led waste management and diversion strategy:** Hamilton established a 32-member public advisory committee to develop recommendations for a long-term Solid Waste Management Master Plan (SWMMP).

## CONVENIENT OPTIONS

- » **Curbside recycling:** Residents receive weekly two-stream curbside recycling services with over 30 materials accepted.
- » **Household organics collection:** Hamilton's household organics collection project began as a pilot project funded in part by a grant from FCM's Green Municipal Fund. Its success led to the development of the city-wide Green Cart Organics Program. All single-family households now receive curbside collection services for household organics.
- » **Leaf and yard waste collection:** The city collects leaf and yard waste on a seasonal basis in the spring and fall. The use of plastic bags has been banned since 2001 and residents must use reusable containers or paper yard waste bags.
- » **Service to the multi-family residential sector:** The city currently provides waste collection services for garbage and recycling to 90 per cent of multi-family facilities including condominiums, townhouses and apartments. The city has provided green cart service to about 900 multi-residential buildings with approximately 30,000 of the city's 53,000 multi-residential units now receiving full waste collection services.

## POLICY and LEGISLATION

- » **Limits on waste disposal:** Hamilton has moved toward a one-container limit for household garbage. The phase-in started with a voluntary program to a maximum of three containers in 2008. In 2009 the limit was reduced to two containers with the second container being a clear bag. Any additional garbage containers are tagged and left behind. Residences that continually exceed the container limit are referred to the bylaw and enforcement department for follow up. The city will move to a one-container limit in 2010.
- » **Mandatory recycling:** All residences must participate in the city's recycling program. If the owner of a multi-family building does not provide a recycling program to tenants then the city will send a letter citing the city's recycling bylaw and identifying a date on which garbage services will be suspended until the building owner implements a recycling program.
- » **Solid Waste Management Master Plan:** With the support of the community and city council, the Master Plan has driven waste diversion in the city.

## EDUCATION and PROMOTION

- » **Feedback and education for residents:** Collection crews are encouraged to take note of residences with more than one garbage container at the curb so that city staff can follow up with additional education in the form of a letter or a visit from customer service staff.
- » **Social marketing strategies:** Hamilton has been a strong supporter of social marketing strategies to promote waste diversion. Programs have included a student "Green Team" outreach initiative for the household organics collection program and the Gold Box Reward and Recognition Program, which recognizes households that reach and exceed the goal of 65 per cent waste diversion. The city picks winners

by drawing resident names from submitted ballots and auditing their household waste, recyclables and source-separated organics.

- » **Outreach to residents of multi-family buildings:** The city provides blue tote bags to all apartment owners and tenants for storage of recyclables in their apartment units and holds open houses to educate tenants.

Awards: FCM-CH2M HILL Sustainable Community Award (2005): Solid Waste Management Master Plan  
FCM-CH2M HILL Sustainable Community Award (2007): Green Cart Program

[www.myhamilton.ca](http://www.myhamilton.ca)  
Search on "Waste Management Division"

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City of Hamilton

# CITY OF OWEN SOUND, ONTARIO

Population: 21,800  
Diversion rate: 51%

## HIGHLIGHTS AND RESULTS

- » High diversion rates without a curbside organics diversion program
- » Drop of 21% in the waste disposal rate within the first two years of the city's Pay-As-You-Throw program
- » First community in Ontario requiring all IC&I establishments to complete waste audits and reduction plans and implement recycling programs
- » Significant increase in waste diversion prompted move to bi weekly garbage collection in July 2009
- » Increase of 55% in recycling tonnage between 2000 and 2005, with 20% diversion of recyclable materials and 94% of residents participating in the program

## PARTNERSHIPS and COLLABORATION

- » **Community consultation:** The city created its comprehensive waste management strategy with community consultation and input.

## CONVENIENT OPTIONS

- » **Curbside recycling:** Owen Sound has one of the most comprehensive recycling programs in Canada. Over 30 items are recycled at the curb, including Tupperware, metal pots and pans, cutlery and kitchen utensils and a wide range of plastic containers. The city runs a biweekly recycling program, with corrugated cardboard collected weekly in the downtown core and monthly throughout the rest of the city.
- » **Leaf and yard waste composting:** Leaf and yard waste can be brought to the city-operated outdoor windrow compost site loose or in paper bags.
- » **Additional recycling options:** The city's local transfer station has facilities for garbage and recyclables including blue box and other curbside collected materials, polystyrene, electronic waste, large appliances, tires and scrap metal. A charge of \$10 per monitor applies to commercial establishments that drop off waste electronics; all other electronic equipment or hardware is accepted free of charge.
- » **Recycling service for multi-family buildings and the IC&I sector:** The city provides free weekly recycling services for all multi-family buildings, institutions and commercial establishments.

## POLICY and LEGISLATION

- » **Pay-As-You-Throw program:** The city requires residents to attach \$2 tags to all bags of garbage set out at the curb.
- » **Limited waste disposal:** Households can set out a maximum of four bags of garbage at any one time. Beginning in July 2009, the city switched from weekly to biweekly garbage collection.
- » **Mandatory recycling:** The city has a mandatory recycling bylaw. Garbage bags containing recyclables are left at the curb with tags attached that notify the resident about the bylaw.
- » **Landfill bans:** A bylaw prohibits the landfill disposal of a wide range of materials, including blue box recyclable materials, used electronic waste, household hazardous waste, and leaf and yard waste.
- » **IC&I requirements:** The city mandates that all IC&I organizations and all businesses must submit waste audit reports and waste reduction plans. A bylaw requires all IC&I and restaurant premises to implement recycling programs and divert designated materials. The city distributes recycling carts to the companies and provides support materials on its website.

## EDUCATION and PROMOTION

- » **Organic waste reduction:** The city promotes a variety of waste reduction and diversion programs to compensate for its lack of organic collection services, including subsidized backyard composters and kitchen containers.
- » **Consumer awareness:** The city runs consumer awareness programs to encourage residents to reduce their generation of waste by using reusable bags and containers, purchasing goods in bulk and buying goods with less packaging.

- » **Goods exchange programs:** The city runs two "goods exchange days" per year. Residents are encouraged to set out their reusable items at the curb on these days for other residents to pick up. A third "goods exchange day" will be added in 2010.

[www.owensound.ca](http://www.owensound.ca)  
Search on "Waste Management Program"

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City of Owen Sound

# CITY OF VICTORIANVILLE, QUÉBEC

Population: 41,316  
Diversion rate: 64%

## HIGHLIGHTS AND RESULTS

- » Three-stream collection and processing system
- » Residential waste diversion of 64% in 2008
- » In 2008, the annual household hazardous waste collection day (Journée Normand Maurice) diverted 23,519 kg of waste and saved \$1,535 in landfill costs
- » Successful public-private waste management partnership involving 17 municipalities and a private-sector company

## PARTNERSHIPS and COLLABORATION

- » **Public-private partnership:** Victoriaville is part of a partnership involving 17 municipalities and a private-sector waste management company. The 17 municipalities own 51 per cent of a waste management company called Gesterra, while the private-sector firm owns 49 per cent. The partnership was initiated to reduce waste management costs and gain greater control over waste management and disposal activities. Victoriaville's three-stream waste management system is run through Gesterra.
- » **Household hazardous waste event:** The Groupe Solidarité Jeunesse (a youth training organization) has partnered with Victoriaville to organize Journée Normand Maurice (Normand Maurice Day), an annual environmental awareness and household hazardous waste collection day.

## CONVENIENT OPTIONS

- » **Three-stream waste management:** Victoriaville offers a three-stream waste management system for all residential households (including multi-family buildings) and IC&I establishments. Participants receive a black 360-litre cart for garbage, a green 360-litre cart for recyclables, and a brown 360-litre cart and a seven-litre countertop container for organics. All carts are collected using automated collection vehicles. Food and yard waste is processed at an outdoor windrow facility.
- » **Leaf and yard waste collection:** The city collects leaf and yard waste on a seasonal basis in paper and plastic bags.

- » **Materials recycling facility:** Recyclable materials are processed at a materials recycling facility (MRF) built in Victoriaville in 1995. It is considered the first mechanized MRF in Québec. It receives over 50,000 tonnes of recyclable material annually from various regions throughout the provinces of Québec and Ontario, as well as the United States.
- » **Eco-centre depot:** The private-sector company involved in the public-private partnership mentioned above operates an eco-centre for electronics, organics, metal, and recyclable construction and demolition material.

## EDUCATION and PROMOTION

- » **Household hazardous waste collection day:** The annual household hazardous waste collection day, run in partnership with a youth training organization, educates youth and the public about environmental issues and develops a sense of community responsibility with respect to the environment.

## POLICY and LEGISLATION

- » **Reduced garbage collection:** Garbage is collected biweekly.
- » **Optional household organics collection:** The city's food waste collection and composting service is optional for residents because some residents indicated that they did not have storage space for a third bin. There is a participation rate of 80 per cent.

Awards: FCM-CH2M HILL Sustainable Community Award (2009): Journée Normand Maurice

[www.mrc-arthabaska.qc.ca/gesterra.aspx](http://www.mrc-arthabaska.qc.ca/gesterra.aspx)

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City of Victoriaville

# CITY OF SHERBROOKE, QUÉBEC

Population: 150,000  
Diversion rate: 54%

## HIGHLIGHTS AND RESULTS

- » Diversion rate of 54% of residential waste as a result of a three-stream automated collection system
- » Seasonal wood waste curbside collection program
- » Municipal recycling collection service for small institutions, retailers and industries diverts an estimated 100 tonnes of recyclable material annually, with about 230 organizations participating

## PARTNERSHIPS and COLLABORATION and EDUCATION and PROMOTION

- » **Sustainable business directory:** Sherbrooke has developed a directory of local businesses that offer organic, environmental or fair trade products and services, including businesses that take back used products and packaging for recycling.

## CONVENIENT OPTIONS

- » **Three-stream waste management:** Sherbrooke has adopted a three-stream waste management system for all residential households. The system is operated by a private-sector recycling company. All households of four units or less receive a black 360-litre cart for garbage, a green 360-litre cart for recyclables and a brown 360-litre cart for organics. All carts are collected using automated collection vehicles. The collection schedule varies depending on the waste stream. The organics waste collection service was developed with support from GMF, which funded a feasibility study on compost waste collection.
- » **Service to multi-family buildings:** For apartment blocks with five units or more, distribution of the organic bin is provided upon request.
- » **Service to small institutions, retailers and industries:** The city offers recycling services to institutions, retailers and industries that do not generate enough recyclable materials to attract private recycling companies. The city charges between \$100 and \$300 per year for different collection services.
- » **Leaf and yard waste collection:** The city provides seasonal leaf and yard waste collection and processing. Leaves are collected for four weeks in the fall in paper bags and processed at a private open windrow composting facility.

- » **Curbside wood waste collection:** The city runs a curbside wood waste collection program in May, July and October. All wood waste collected through the program is recycled. The program accepts wood that has been painted or treated, wood pallets, furniture made entirely from wood or melamine, and branches tied in bundles.
- » **Recycling and hazardous waste depots:** The city has two eco-centres. Each eco-centre has a depot for household hazardous waste. There is also a regional recycling depot for items such as wood waste, metal waste, used textiles and clothing, yard waste, tires, concrete, brick, asphalt, renovation and construction materials and electronic waste.

## POLICY AND LEGISLATION

- » **Reduced garbage collection:** Sherbrooke provides garbage collection biweekly.
- » **Fee for garbage collection supplies:** All residents are required to pay \$100 for the maintenance and replacement costs of the 360-litre garbage cart. Recycling and organics carts are provided free of charge.

[www.ville.sherbrooke.qc.ca/en](http://www.ville.sherbrooke.qc.ca/en)  
Search on "Environment"

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City of Sherbrooke

# HALIFAX REGIONAL MUNICIPALITY (HRM), NOVA SCOTIA

Population: 382,000  
Diversion rate: 59%

## HIGHLIGHTS AND RESULTS

- » Diversion rate of 59% includes all residential (single-family and multi-family), commercial and institutional solid waste
- » An estimated 65,000 tonnes of C&D material diverted from disposal annually through reuse and recycling programs
- » About 125 new jobs created through waste diversion
- » High public involvement through consensus-based waste management and decision making
- » A \$500,000 annual investment in education and promotion

## PARTNERSHIPS AND COLLABORATION

- » **Multi-stakeholder waste management planning:** HRM worked openly with the public to identify a new landfill and waste management strategy. Stakeholder groups took pride in their involvement and encouraged the buy-in of other citizens.
- » **Consensus-based public decision-making:** Based on a planning process led by a citizen stakeholder committee in 1996, HRM Regional Council adopted an implementation plan with a goal of 60 per cent diversion. The consultation process resulted in the establishment of the state-of-the-art Otter Lake stabilized landfill. One of the unique features of the Halifax community approach was that municipal council agreed to the principles of the citizen-developed strategy. These principles formed the basis of a new integrated solid waste and resource management system in 1999.

## CONVENIENT OPTIONS

- » **Mixed-waste processing facility:** The HRM mixed-waste processing facility has resulted in enough additional diversion for the city to reach its 59 per cent waste diversion rate. The facility uses mechanical-biological treatment processing to pull out hazardous waste and recyclable materials. The remaining material is sent to an enclosed facility to be composted and stabilized. Once the stabilization process is complete, the finished material is placed in the landfill. With funding from FCM's Green Municipal Fund, HRM has studied the feasibility of diverting waxed cardboard, non-recyclable paper and animal manure to a large-scale vermicomposting (worm composting) facility.

- » **Two-stream curbside recycling program:** HRM collects source-separated recyclable containers and fibres biweekly for single-family homes, condominiums and multi-family buildings with six units or less.
- » **Curbside green bin organic program:** Single-family homes receive 240-litre containers that are collected biweekly for most of the year, with the exception of weekly collection during the summer months (July and August). Leaf and yard waste is collected on a biweekly basis. The material is composted and the finished compost is sold to landscaping companies and sod farms. With funding from FCM's Green Municipal Fund, HRM has studied the possibility of marketing compost to control common pest problems in turf grass.

## POLICY AND LEGISLATION

- » **Mandatory source separation:** An HRM bylaw requires all residents, businesses and institutional properties (including multi-family buildings and the IC&I sector) to separate garbage into two-stream recyclables (containers and fibres) and organics. If multi-family buildings do not implement recycling and organics collection, city staff will first talk with the owner. This is followed by a minimum fine of \$337 if action is not taken. HRM also inspects loads that arrive at its mixed-waste processing facility.
- » **Bylaws specific to the C&D industry:** HRM's C&D licensing bylaw establishes minimum diversion targets for C&D materials. HRM requires that all C&D waste be directed to C&D processing facilities and one approved landfill, and that 75 per cent of all incoming C&D material be recycled or otherwise diverted from disposal.
- » **Reduced garbage collection:** Garbage is collected biweekly, with a six-bag limit per household.

## EDUCATION AND PROMOTION

- » **Education and outreach program:** Dedicated education staff hold meetings with property firms, building superintendents, tenants and waste collection contractors to ensure that they understand their responsibilities regarding waste diversion and to facilitate the process.
- » **Source reduction programs:** HRM source reduction programs include backyard composting, grasscycling and an innovative pre-cycling campaign that urges the public to think before they buy.

Awards: FCM-CH2M Hill Sustainable Community Award (2000): Community-Based Waste Resource Management Strategy

[www.halifax.ca/wrms](http://www.halifax.ca/wrms)

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# CITY OF CHARLOTTETOWN, PRINCE EDWARD ISLAND

Population: 32,200  
Diversion rate: 60%

## HIGHLIGHTS AND RESULTS

- » Waste diversion rate of 60% includes single- and multi-family residential properties and most IC&I properties
- » Uniform collection of garbage, recyclables and organics throughout the province through the provincial Waste Watch program
- » Amount of material recycled doubled in P.E.I. (from 7,161 tonnes in 2001 to 14,410 tonnes 2006) as a result of mandatory source-separation legislation and a clear-bag policy

## PARTNERSHIPS AND COLLABORATION

- » **Provincial waste management system:** All communities in Prince Edward Island are part of the provincial Waste Watch program, which is managed by Island Waste Management Corporation (IWMC).

## CONVENIENT OPTIONS

- » **Three-stream waste collection for all residents:** IWMC collects source-separated waste in three streams for all residents (including those in multi-family buildings). Residents receive a 240-litre black cart for garbage and a 240-litre green cart for household food waste. These are collected on a biweekly basis. Recycling is collected on a monthly basis in two streams — containers and fibres — in blue bags purchased by the residents. Residents may also drop off their recyclables free of charge on Saturday mornings at a Waste Watch Drop-off Center (WWDC).
- » **Spring and fall clean-ups for residents:** The city runs spring and fall clean-ups for leaf and yard waste, waste items and scrap metals (including items such as bicycles, barbeques and lawn chairs).
- » **Household hazardous waste drop-off:** Residents may drop off household hazardous waste and bulk waste items (sofas, mattresses, etc.) free of charge at a WWDC.

## POLICY AND LEGISLATION

- » **Mandatory recycling and organics diversion:** Participation in the provincial Waste Watch program is mandatory for all residents and businesses. Non-participation is penalized through curbside rejections or surcharges at the disposal facilities. For single- and multi-family buildings and IC&I establishments, the collection crew will check bins for contamination and will tag and leave behind those bins considered highly contaminated. Alternatively, the loads will be shipped to the energy-from-waste facility and additional surcharges will be applied.
- » **Business and IC&I requirements:** The IC&I sector is required to source separate and make arrangements with a contractor to collect their wastes or self haul to a WWDC. Businesses are required to arrange for collection with a contractor or self-haul to a WWDC.
- » **Limited waste collection and clear-bag requirement:** Waste is collected on a biweekly basis. Residents are required to set out extra garbage in rigid containers, with a two-bag limit on extra waste. Rigid containers or paper bags are used for extra organics.
- » **Fees for waste management services:** All services are funded through a Waste Watch fee of \$195 per year for full-time residents. The IC&I sector pays disposal fees.
- » **Provincial ban on hazardous waste:** IWMC has placed a landfill ban on several materials including lead-acid batteries, alkaline and rechargeable batteries, cell phones, laser and inkjet cartridges, used tires, hazardous waste (including pharmaceuticals) and fluorescent light bulbs.
- » **Tipping fee program for businesses:** IWMC charges \$99 per tonne to businesses for disposal of source-separated waste, with a minimum fee of \$5. There is a mixed-waste surcharge of \$215 per tonne for waste that is not source-separated, with a minimum charge of \$40.

## EDUCATION AND PROMOTION

- » **Feedback to residents:** If there is a problem with a set-out, then the collection crew leave a “for your information” tag to educate residents on proper sorting of an item or explain why the garbage, organics or recyclables were left behind.
- » **Multi-family buildings:** IWMC staff help owners of multi-family buildings identify and set up the most effective waste diversion program.
- » **Promotion of reduction and reuse:** IWMC promotes backyard composting and grasscycling, and promotes reuse at Waste Watch centres.

[www.iwmc.pe.ca](http://www.iwmc.pe.ca)

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# Additional Resources

## ***Solid Waste as a Resource: Guide for Sustainable Communities***

FCM Green Municipal Fund™  
[www.sustainablecommunities.ca/Capacity\\_Building/Waste/Solid\\_Waste\\_as\\_a\\_Resource.asp](http://www.sustainablecommunities.ca/Capacity_Building/Waste/Solid_Waste_as_a_Resource.asp)

This resource provides a detailed snapshot of integrated solid waste management information, policies and technologies, including a workbook to guide decision-makers in designing a local system.

## ***Municipal Solid Waste (MSW) Options: Integrating Organics Management and Residual Treatment/Disposal***

Municipal Waste Integration Network and Recycling Council of Alberta  
[www.mwin.org/pdf/FinalMunicipalSolidWasteReport-March2006.pdf](http://www.mwin.org/pdf/FinalMunicipalSolidWasteReport-March2006.pdf)

This 2006 report compares the costs and benefits of processing residual mixed waste after source separation. It compares municipalities of three different sizes (20,000; 80,000 and 200,000) and looks at landfill, bioreactor landfill, composting, anaerobic digestion and thermal treatment technologies.

## ***Seattle Solid Waste Recycling, Waste Reduction, and Facilities Opportunities: Volume 2***

City of Seattle  
[www.seattle.gov/UTIL/stellent/groups/public/@spu/@usm/documents/webcontent/spu01\\_002547.pdf](http://www.seattle.gov/UTIL/stellent/groups/public/@spu/@usm/documents/webcontent/spu01_002547.pdf)

Part of a larger study on improving the city's waste management and diversion facilities, this document presents a broad range of economic, regulatory and infrastructural opportunities for targeting the residential, business, institutional, and construction and demolition sectors.

## ***Stewardship Ontario's Effectiveness and Efficiency Fund (E&E) projects, 2004 to 2008***

[www.stewardshipontario.ca/bluebox/eefund/projects.htm](http://www.stewardshipontario.ca/bluebox/eefund/projects.htm)

Established in July 2004, the Effectiveness and Efficiency Fund helps municipalities optimize their recycling operations. Projects are wide-ranging and include highly technical projects, innovative financing projects, and policy- and education-based initiatives.

## ***Waste Plan Regina Report***

City of Regina  
[www.regina.ca/AssetFactory.aspx?did=3119](http://www.regina.ca/AssetFactory.aspx?did=3119)

This report identifies over 120 opportunities based on a comprehensive scan of waste reduction, reuse and diversion activities implemented by other communities in North America among their residential, business and institutional sectors.

## ***California Integrated Waste Management Board (CIWMB)***

[www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)

The CIWMB website offers information on hundreds of topics and case studies related to waste reduction, reuse and diversion, with a focus on achieving a Zero Waste community.



