High-tech system tracks residents' waste and recycling

Regional County Municipality of Thérèse-De Blainville

Green Municipal Fund Case Study

Residents' waste collection containers were equipped with radio frequency identifiers. The final step of the project will be to install weighing technology in each bin (Photo: Gedden).

Diversion and tracking of household waste matter (GMEF 7181)

Date project completed: May 2009
Total project value: $693,032
GMF grant: $346,516

→ The Regional County Municipality of Thérèse-De Blainville was creating a regional waste management program.

→ It developed innovative tracking technology to measure the amount of household waste being generated in its seven member municipalities.

→ The data allows municipalities to track waste and measure their recycling performance.

→ The system will allow for "polluter pays" incentives that reward citizens who divert waste.

OVERVIEW The Regional County Municipality of Thérèse-De Blainville developed the MET-R-I-S project to measure and track the amount of household waste being generated by its seven member municipalities. The region wants to modernize the way it collects household waste and increase the number of collection streams. With the MET-R-I-S project, it introduced an electronic tracking platform and created a central database that will allow municipalities to analyze trends and compare data. Despite significant technological challenges, the regional county municipality managed to implement an innovative project that has exceeded expectations. With this measurement system, municipalities will be able to introduce financial incentives based on the "polluter pays" principle, thus reducing waste going to landfills. The MET-R-I-S system could also be used in commercial, institutional and industrial waste management.

PROJECT TEAM
Regional County Municipality of Thérèse-De Blainville and its seven member municipalities
Gedden

CONTEXT The Regional County Municipality of Thérèse-De Blainville sits between Montreal and the Laurentians region to the north. In 2006, it had 143,370 residents in seven member municipalities: Blainville, Bois-des-Filion, Boisbriand, Lorraine, Rosemère, Ste-Anne-des-Plaines and Ste-Thérèse. This population has grown by 80 per cent over the past 20 years.

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With an average age of 37.5 years, Thérèse-De Blainville has a young population. Its residents are well educated and have relatively high incomes.

The regional county municipality is governed by a council that includes the mayors of each of the seven municipalities. A warden is elected by his or her peers for a two-year term and serves as council chair.

The Regional County Municipality of Thérèse-De Blainville was developing a regional waste management program. In 2005, its member municipalities instituted collection programs to divert domestic waste from landfills. They also set diversion targets.

APPROACH The MET-R-I-S project had a major technology component. Residents' waste collection containers were each equipped with a radio frequency identifier. These electronic tags transmitted information — like date and time, address and type of container — via readers on collection trucks. The data went to a central database, to which all stakeholders had access. The MET-R-I-S system allows municipal managers to track every resident's garbage disposal, recycling and composting behaviour. Waste was weighed as trucks dropped it off at transfer stations.

Initially, the MET-R-I-S project was supposed to take place over 18 months. In the end, it ran for 43 months and included five main stages:

• The regional county municipality committed to participating in the project.

• The project architecture was designed, developed and implemented.

• The regional county municipality engaged subcontractors, technology partners and equipment suppliers.

• A "proof of concept" was developed in the laboratory.

• Field tests were carried out.

RESULTS Each participating municipality now has an online account where it can keep details about its collection contracts, link these contracts to its main subcontractors, add information about materials, and access information about collection containers. The municipalities can now monitor their recycling performance and compare it with the other municipalities in the region. Finally, a module enables the regional county municipality to generate reports by type of collection (i.e., household garbage, recycling, special collections like large items, and waste that is brought directly to the municipality by residents).

Although it is too early to measure the impact of the MET-R-I-S solution against waste diversion targets, the data obtained will allow the regional county municipality to monitor and track its solid waste and analyze trends.

NEXT STEPS Ninety per cent of the planned project development was in place (i.e., the creation of the online portal, the installation of electronic tags and the host system). The regional county municipality was working on the remaining 10 per cent — integrating weighing technology into residents' bins, allowing for the weighing of individual containers.

When each resident's waste is individually measured, municipalities will be able to introduce economic tools based on the "polluter pays" principle. Such financial incentives (e.g., tax breaks or adjustment of property taxes) encourage behavioural changes.

LESSONS LEARNED The project encountered resistance from elected officials, as well as business partners who were afraid of losing their commercial advantage. This resistance had not been anticipated, and demonstrations in the field had to be organized to show stakeholders that they would all benefit from the project.

The MET-R-I-S system can be used to track any kind of waste collection — even snow clearing, for example. It could also be used to manage complaints.

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