

IBM declares Cambridge the first smarter city in Canada

Cambridge is using smarter city technology, such as sensors in robots that crawl through sewers and a bike equipped with GIS to monitor sidewalks, as part of a new asset management system that tracks over 250,000 infrastructure assets

By: Jennifer Kavur

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[IBM Corp.](#) has recognized the [City of Cambridge](#), Ont. as the first smarter city in Canada.

Cambridge gained IBM's recognition as the result of deploying a new knowledge-based technology system for asset management, which allows the city to track its over 250,000 infrastructure assets worth \$1.2 billion. The new system makes use of sensors and analytics to manage municipal infrastructure, facilities and equipment in real time.

The assets include 25 parking lots, 62 storm ponds, 100 walkways, all roads and sidewalks, 24 bridges, 61 culverts, 2 dams, 480 km of sewer systems, 320 km of draining systems and 490 km of water systems.

IBM technologies involved in the Cambridge project include Maximo asset management technology, which was implemented by IBM business partner The Createch Group, a Bell Canada company.

Smarter cities are those that take advantage of the increasing amount of instrumentation that is around the world, said Chris Mallon, senior brand executive at IBM Canada, at Cambridge City Hall on Wednesday.

The proliferation of sensors, for example, provide cities with the opportunity to create and capture information that can be communicated to city maintenance and management systems, he said. These maintenance and management systems can then "dynamically deploy resources from the city in order to respond to the associated infrastructure challenges that they've got," said Mallon.

Cambridge's new Sidewalk Inspection Process, for example, has one bicycle equipped with GIS technology, which will travel across the city's 640 km of sidewalks each year. The bike records data such as date, time and conditions, which is then processed by analytics software to create work orders organized by type and geography.

Two trucks are involved in a new Road Inspection Process, which works similarly to the sidewalk inspections but also records traffic flow information. Cambridge's new Pipeline Condition Assessment Process records data using digital closed circuit television (DCCT) robots that crawl through water and sewer systems.

Municipal inspectors will also have tablets installed in their vehicles that will tell them exactly which roads need to be inspected and when the inspections need to take place, explained Mike Hausser, director of asset management and support services at the City of Cambridge, who founded both the asset management division and the smarter city project.

Asset management and support services is [a division within the city's transportation and public works department](#).

Cambridge first decided to address its aging infrastructure issue in 2003, said Hauser during a presentation at the Cambridge City Hall event. The city established the asset management division in 2005 and the first technology that was implemented was GIS Technology from [ESRI Canada Ltd.](#), he said.

In 2006, the city began assessing the conditions of its roads, sewers, sidewalks and storm infrastructure, he said, and decided to implement [Orion Technology's](#) Onpoint GIS Portal for internal staff. The next year saw ongoing pipeline condition assessments.

IBM's [Maximo Work/Asset Management System](#) was implemented in 2008.

Cambridge began its lifecycle analysis and long-term Financial Sustainability Plan for Capital Renewals in 2009, which fully integrated asset inventory with financial PSAB reporting, he said. And based on the integrated Needs Assessments and Financial Sustainability Plan, the city refined its 10-year Capital Forecast in 2010, he said.

Cambridge is receiving a large part of its funding for the project from the Canadian federal government's [Gas Tax Fund](#) (GTF), which has invested \$12.6 million in Cambridge over the last five years. Approximately \$978,700 of the GTF funding was directed to the asset management project.

IBM launched its [smarter planet initiative](#) in Q1 of 2008.

Coming up: Video from the event at Cambridge City Hall, including a look at the GIS bicycle and DCCT robot.

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