

Hamilton Manages Infrastructure with Complete Geospatial Integration



CITY USES INTERGRAPH SOLUTIONS FOR CROSS-DEPARTMENTAL APPROACH TO PLANNING PROJECTS

THE CHALLENGE:

The City of Hamilton, Ontario, is Canada's ninth largest city. It faces all the complexities of managing infrastructure associated with a city of more than 500,000 residents. When the city amalgamated seven municipalities into one, it needed an infrastructure management system to bring everything together. The city wanted an integrated solution that would provide a true enterprise geospatial system, helping identify and create capital spending infrastructure projects. Replacing major infrastructure assets for sewer, water, and roads was a priority. The system was also needed to analyze customer service requests. The city receives more than 100,000 customer service requests each year, generating more than 100,000 work orders. The large volume of data made it difficult to identify any patterns or trends. In addition, a mobile resource management system was needed to ensure data accuracy and report on vehicle locations and actions. The Hamilton Street Railway is responsible for tracking the entire transit fleet for rider and driver safety, vehicle maintenance, and governmental reporting. City officials also wanted to leverage data provided by the geospatial system for data maintenance, hydraulic modeling, asset management integration, and automated field data collection.

THE PROJECT OBJECTIVES:

- Provide a visual and networked approach for identifying and coordinating capital water, sewer, and roads projects
- Ensure data accuracy and enable historical reporting of vehicle locations and actions
- Identify patterns and trends with customer service requests

THE SOLUTION:

The city selected Intergraph® and its GeoMedia® technology to build a fully integrated, cross-departmental approach to infrastructure planning and hydraulic modeling.

PROFILE:

Name: City of Hamilton

WEB SITE:

<http://www.myhamilton.ca>

The City of Hamilton is located near the southwest corner of Lake Ontario and covers 1,117 square kilometers. In the heart of Canada's most populated province, Hamilton is a dynamic urban center. The city's diverse economy is driven by outstanding transportation infrastructure, internationally renowned educational institutions and hospitals, and a well-educated labor force with a strong work ethic. Hamilton's major industries include manufacturing, health care and life sciences, goods movement and agriculture-related companies.

KEY BENEFITS:

- Visual and networked approach for identifying capital works projects
- Simplified GIS/asset management environment for data analysis
- Ability to leverage data across multiple departments

Hamilton selected Intergraph based on the company's long history of cooperative system implementation, including strong asset management integration and an in-house mobile resource management solution. Hamilton first began using GeoMedia technology in 1995 and continues to use it today. The flexibility of the solution supports rapid decision making and the efficient deployment of resources. The centralized database enables multi-departmental interaction. Built on an Oracle database, the city uses GeoMedia technology to support total geospatial integration and infrastructure management of several projects. For data maintenance, Hamilton has implemented GeoMedia PublicWorks Manager as its maintenance tool. GeoMedia PublicWorks Manager is designed to help manage many of the aspects of complex water and wastewater projects – from initial data entry to network analysis and reporting. With hydraulic modeling, the city builds models of water availability, urban drainage, flow forecasting, future urbanization impact, reservoir spillway design, flood damage reduction, and floodplain regulation. With its asset management integration project, Hamilton manages asset inventory, customer service, and work order forms. A simplified geospatial infrastructure management system enables data analysis that is deployed to desktop users and laptops for use in the field.

For its integrated decision support system, Hamilton uses a custom GeoMedia toolset that provides a visual and networked approach for identifying and coordinating capital water, sewer, and roads projects. It addresses the city's capital planning infrastructure and management needs. The integrated approach ensures that potential capital projects, and their included assets, are reviewed and approved by all necessary stakeholders (roads, water, and sewer) before the projects are officially initiated. For customer service analysis, the city is able to visualize spatial patterns and put preventative measures in place.

Hamilton also uses a customized Intergraph solution for mobile resource management. The in-house automated vehicle location tracking system ensures data accuracy and enables historical

reporting of vehicle locations and actions. With automated field data collection, users can quickly configure a GPS-based data collection device for a broad range of assets for many municipal departments. Users can browse the database and pick the asset and attributes that need to be collected.

From day-to-day operational requirements to infrastructure planning and hydraulic modeling, Hamilton's fully integrated approach utilizes Intergraph technology to deliver the tools to its staff to get the job done. The simplified workflows make more information available to enable better decisions, while improving quality assurance and quality control. Intergraph technology has also resulted in the ability to perform rapid work order assignment and resolution.

"The City of Hamilton has been using Intergraph software since the mid-1980s and has since become a spatial data and technology rich environment," says Gerry Davis, City of Hamilton's senior director, capital planning and implementation, public works. "In partnership with Intergraph, Hamilton's public works department is often recognized as an industry leader for the innovative integration of geospatial technology, used throughout the operations and maintenance and capital planning infrastructure functions, with more recent initiatives in mobile workforce management."

THE FUTURE

Moving forward, Hamilton plans to increase deployment of the mobile resource management solution to more efficiently track its vehicles. The city will also continue to look for additional innovative ways to use Intergraph technology to improve its operations.

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I).

Intergraph PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit www.intergraph.com

