



PROFILE:

Name: Region of Waterloo

Web site: www.region.waterloo.on.ca/

Waterloo Region is a vital, prosperous area located in Southern Ontario in the center of the triangle formed by three Great Lakes: Ontario, Erie, and Huron. Three urban municipalities and four rural townships make up Waterloo Region. With a combined population of more than 450,000, the region is one of the fastest growing areas in Ontario.

KEY BENEFITS:

- Correlation of data for improved capital budgeting for road planning
- Identification of areas with repeat deficiencies that could indicate larger road problems
- Significant time and costs savings with improved reports on roads and easier data input

PRODUCTS USED:

- GeoMedia® product suite

WATERLOO REGION USES INTERGRAPH® SOLUTIONS FOR IMMEDIATE ENTRY OF ROADWAY INFORMATION

Personnel Can Report on Road Conditions and Actions Needed While in the Field

THE CHALLENGE:

The ability to develop and maintain an efficient transportation system is vital to the growth of any major region. The Region of Waterloo is one of the fastest growing areas in Ontario, Canada, with a population of more than 450,000. The region's proximity to North American markets and transportation networks is a major factor in Waterloo's economic growth, and roadway maintenance is of critical importance. Waterloo's Transportation and Environmental Services Department needed an information system that would reduce the time required for field personnel to bring road reports back to the office and manually enter data. This would enable managers to better allocate resources and obtain more reports on road conditions and actions required. The department also wanted to automate many of its manual work processes to improve the accuracy of road data and increase accountability in the management of 1,684 kilometers of roadway.

THE PROJECT OBJECTIVES:

- Support ability to cross-reference historical data
- Reduce time required to report on individual roadways
- Develop system for digital medium that would offer online access

THE SOLUTION:

The development of the Region of Waterloo's roadway maintenance management system was driven by an Ontario government regulation that calls for "minimum maintenance standards for roadways." The provincial government requires municipalities to inspect roadway segments based on certain timelines, as well as the class of roads the region incorporates. The classifications range from class 1, which is a highway, to class 6, which is a local road. The maintenance standards document tells the regions and municipalities in the province how often roads must be inspected, as well as the checkpoints each inspection must cover. The types of inspections change based on weather and time of year. The department selected Intergraph® and its GeoMedia® product suite to develop a system to enhance roadway reports. The geospatially powered solution saves field personnel precious time as they can enter roadway information while on-site.

The first stage of the process was to develop a “now” system – something mobile road reporters could use on laptops and via global positioning systems to feed into a central information repository. Officers can now report conditions while actually looking at the roadway. Users can enter factors about the environment and road conditions, automatically generate deficiency fields for reports, mark a timeline for repairs and enhancements, and note needed improvements. The department has laptops in several trucks for the immediate entry of roadway information.

The second stage of the system was to import historical data gathered manually, so reports on a section of road could be cross-referenced with past deficiencies and repairs. This was especially important for capital budget planning efforts. The department could specifically mention areas of road that had repeated failures and point to the need for more major improvements. For legal purposes, the region can mitigate liability in accident litigation if it can prove a certain section of road was properly maintained during a period of time.

One of the most powerful features of the system is the reporting component, which can cross-reference current data with historical entries to give the department a 360-degree view of a certain area of roadway at any point in time. Reports can include what problems have been found in the past compared to those found within the last year, what actions have been taken, how long repairs took, what department was responsible for the repairs, and more.

THE FUTURE:

The department plans to continue to add new trucks as roadways expand. As the system is based on maintenance standards specific to Ontario, Intergraph in Canada plans to host a Webcast with potential government clients in other provinces to see if the solution could be redeveloped and applied in other municipalities. The Region of Waterloo recognizes the value of leveraging its Intergraph solutions and has plans to develop and implement a new transportation capital management system.

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.ca.

