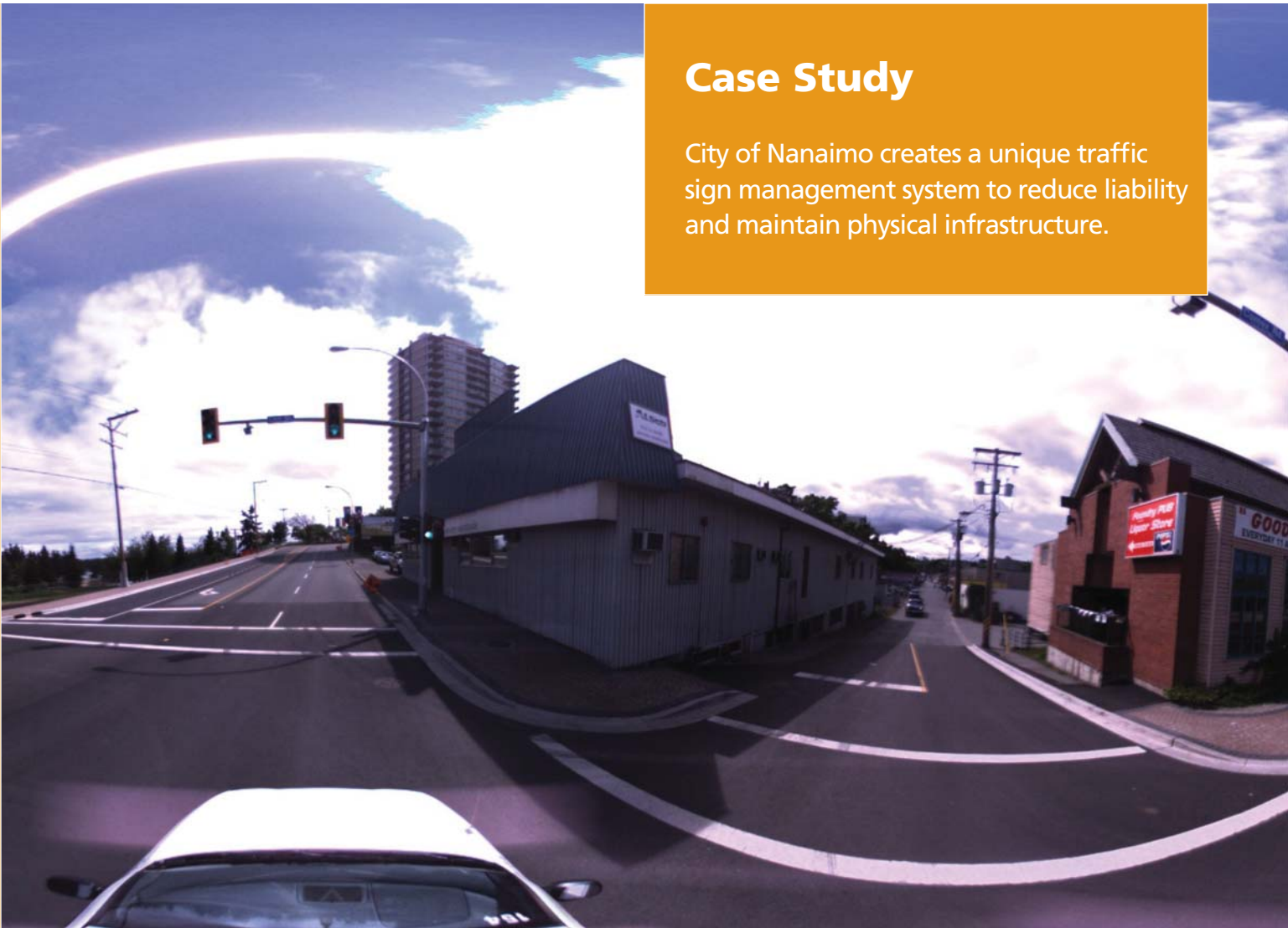




ESRI Canada

Case Study

City of Nanaimo creates a unique traffic sign management system to reduce liability and maintain physical infrastructure.



The City of Nanaimo Sees the Signs of an Effective Asset Management System

Nanaimo is centrally located on the east coast of Vancouver Island with a population of almost 80 thousand residents. To meet the growing demands of their community, Nanaimo's Engineering and Public Works departments revolutionized the way they manage their street signs by creating a spatially enabled traffic sign management system.

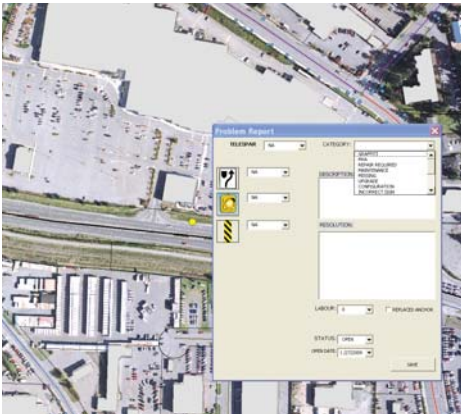


Challenge

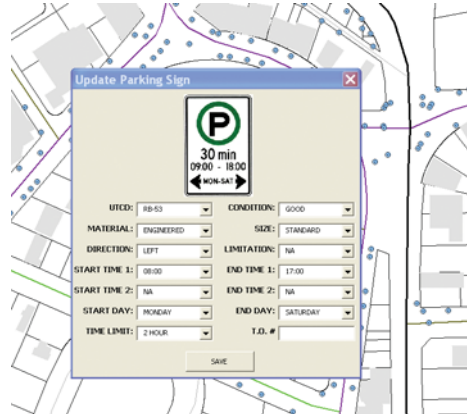
Nanaimo's numerous attempts to maintain a comprehensive understanding of street sign assets had historically failed. Previous methods for collecting and maintaining data were dependent on a paper-based record keeping system that used a Microsoft Access Database. This method of record keeping was not spatially referenced to individual street signs and introduced significant inefficiencies and costs.

As misplaced, missing or outdated traffic signs can create safety hazards and serious liability issues, the city was in need of more sophisticated data management and data synchronization capabilities. Their goal was to increase data accuracy and streamline workflows both in the field and back in the office.

To accomplish this, the city's Engineering GIS Section would first have to create a digital street level 360-degree view of the city. This digital street level view would form the basis of a street sign management system that would include a citywide street sign inventory and an analytic framework for measuring the extent and condition of individual street signs.



Reporting on the current condition or problem with a particular sign.



A view of current location and operational conditions for signage within a geographic area.

“I saved over forty field trips during the first three months of operation. Having access to a centralized database represents a huge leap forward that has provided many tangible benefits to the city.”

Bert Tanner

Traffic Signage Management Foreman
City of Nanaimo, British Columbia

Solution

Nanaimo began defining a project scope in July 2007. Preliminary investigations involved conducting signage surveys and creating a number of pilot databases to prove the concept. Once the concept was proven, the city's Engineering GIS Section implemented a series of steps to establish a baseline for a street sign asset management system.

- They created a digital street level 360-degree view of the city that let them view assets on top of a map interface;
- They conducted a citywide street sign asset inventory;
- They shifted to a mobile method of data collection where field personnel capture asset information through mobile devices and send it directly to a desktop system.

The system was then handed over to the Engineering Traffic Technologist and Public Works department who populated a spatial database integrated with Google Earth. The city now has the ability to view assets in a geospatial context, so they can dynamically visualize spatial relationships among managed assets and the roads, buildings and other mapped features around them.

Benefits

Nanaimo's street sign management system serves as a model to other city departments, who are now able to make informed decisions related to asset management, road safety, parking, traffic flow and the use of space.

It also provides the public with a visual reference of proposed changes to help them understand the reasoning behind decisions with regards to the existing sign configuration.

Signage Management and Traffic Operations personnel can leverage the system to track current conditions, plan future operations and create legal documentation for the installation and management of signs. This has significantly mitigated risk to the public and reduced the potential for liability resulting from outdated, inappropriately placed or missing signs.

The RCMP can also leverage the asset data in conjunction with crash and condition data from the Insurance Bureau of British Columbia (ICBC) to effectively enforce regulations.

Moving Forward

The city's Engineering GIS department plans to add more assets to the system and provide information both corporately and publicly through a Web mapping application. They also hope to integrate the asset management system with their call center operations to improve communications between the Public Works department and the public.



ESRI Canada

esricanada.com

ESRI Canada Limited

12 Concorde Place
Suite 900
Toronto, ON M3C 3R8
T: 416-441-6035
F: 416-441-6838

Customer Service

1-800-447-9778
info@esricanada.com

Technical Support

1-877-441-0337
support@esricanada.com

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British Columbia

Vancouver: 604-682-4652
Victoria: 250-383-8330
Kelowna: 250-861-3774

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Calgary: 403-262-3774
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Montréal: 514-875-8568
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