

How Calgary is transforming how they measure the impact of travel time and road improvements



The Problem

The City of Calgary took a big leap forward in how they estimate travel time and measure the impact of road projects with the deployment of INRIX Roadway Analytics.

Prior to INRIX, the city collected traffic data by Bluetooth™ readers stationed alongside routes that would detect Bluetooth-enabled devices in vehicles, as well as “GPS runs” where staff would physically drive key corridors with GPS-enabled devices to establish travel times.

Unfortunately, this labor-intensive, piecemeal approach was not only expensive to manage in terms of staff time and maintenance, it was deemed highly cost prohibitive to scale up to accommodate Calgary’s rapidly expanding geographical footprint. However, by replacing these adhoc solutions with a precise, road performance analytics via the cloud, Calgary estimated it could cut associated maintenance and labor costs by up to 50%. Moreover, INRIX could identify areas that would benefit most from road improvements, and more accurately measure and report the impact of transportation investments.

“As Alberta’s largest city, Calgary has a unique road network that’s effected by a wide range of variables, including population growth, geographic location and extreme climate conditions,”

Sameer Patil, Traffic Leader at the City of Calgary

The Solution

After a thorough RFP review that included three competing traffic analytic technologies, the city awarded INRIX with a five-year contract based on its strong capabilities and competitive cost structure. What attracted Calgary most was how INRIX Roadway Analytics would allow its Traffic Operations Center to compare data before and after a specific improvement was made, such as after adding a traffic signal to a congested area.

INRIX Roadway Analytics portfolio of tools includes:



Performance Charts that produces line and bar graphs, enabling before and after studies and/or comparisons of roadways with visualizations to communicate findings.



Congestion Scan that uses heat maps to identify problem areas along a road, helping Calgary pinpoint the location of congestion to better target improvement efforts



Trend Maps is a visual communication tool that illustrates the impact of roadway conditions throughout the day.



Bottleneck Ranking identifies hotspots or congested corridors during a specific analysis period within an area, and provides a ranking by determining the number of occurrences, length and duration of each bottleneck.



Data Downloader enables users to directly query INRIX XD Traffic speed archive data (from 24 hours prior) for any road segment and/or time period.

Moreover, the Traffic Operation Center is using INRIX data to power Dynamic Message Signs (DMS) to give drivers estimated travel times as well as advance warning of roadwork, construction and detours. Currently, INRIX data is powering several DMS signs around Calgary, posting real-time travel estimates on the commuter boards based on actual commuters. Currently, eight DMS boards are slated to use INRIX with another ten signs to be included over the next year.

The Traffic Operation Center plans to enhance its own mapping software with the INRIX Traffic app, creating traffic layers that users can switch on (www.Calgary.ca) so commuters to plan their routes. Instead of relying on a third party mapping solutions, Calgary wants to retain control of its digital maps while augmenting them with INRIX's real-time traffic monitoring and alerts.



Calgary's Traffic Operations Center's first implementation and test for INRIX took place along a busy construction zone on April 2016. The city decided to forego their Bluetooth detectors and rely solely on INRIX Road Analytics for their traffic data.

"Implementation was much quicker and easier and the traffic times were right on," said Sameer Patel. "Since it was our first implementation, we wanted to verify INRIX with actual GPS runs to make sure the data was correct—and it was quite accurate."

Today, INRIX Roadway Analytics plays an important role helping the city manage its road network with access to on-demand data to analyze, visualize and understand performance without the need for additional technology investments. It is also quickly lowering maintenance costs while freeing staff from those time-consuming GPS runs.

Both the Traffic Operations Center and the Engineering Group utilize the analytics package to perform before and after studies to quantify and communicate the impact of road projects; monitor and identify performance trends on roadways; produce and report Key Performance Indicators (KPIs) on travel times and congestion reduction; and monitor, compare and adjust construction zones to minimize the impact on traffic flow.

Once INRIX Roadway Analytics has established itself to be a reliable source, Sameer Patel believes other departments, including Transit Calgary, Access Calgary, and the Roads Business Unit will adopt INRIX's technology, establishing a single, trusted source of traffic and transportation data for the entire city.

"Urban population growth in cities like Calgary is driving increased traffic congestion in and around city centers around the world. By identifying consistent and problematic traffic patterns, city officials can pinpoint the source of congestion and prioritize mobility investments that directly reduce gridlock."

Scott Sedlik, vice president and general manager – public sector at INRIX.



Contact INRIX for more information
inrix.com/products/roadway-analytics