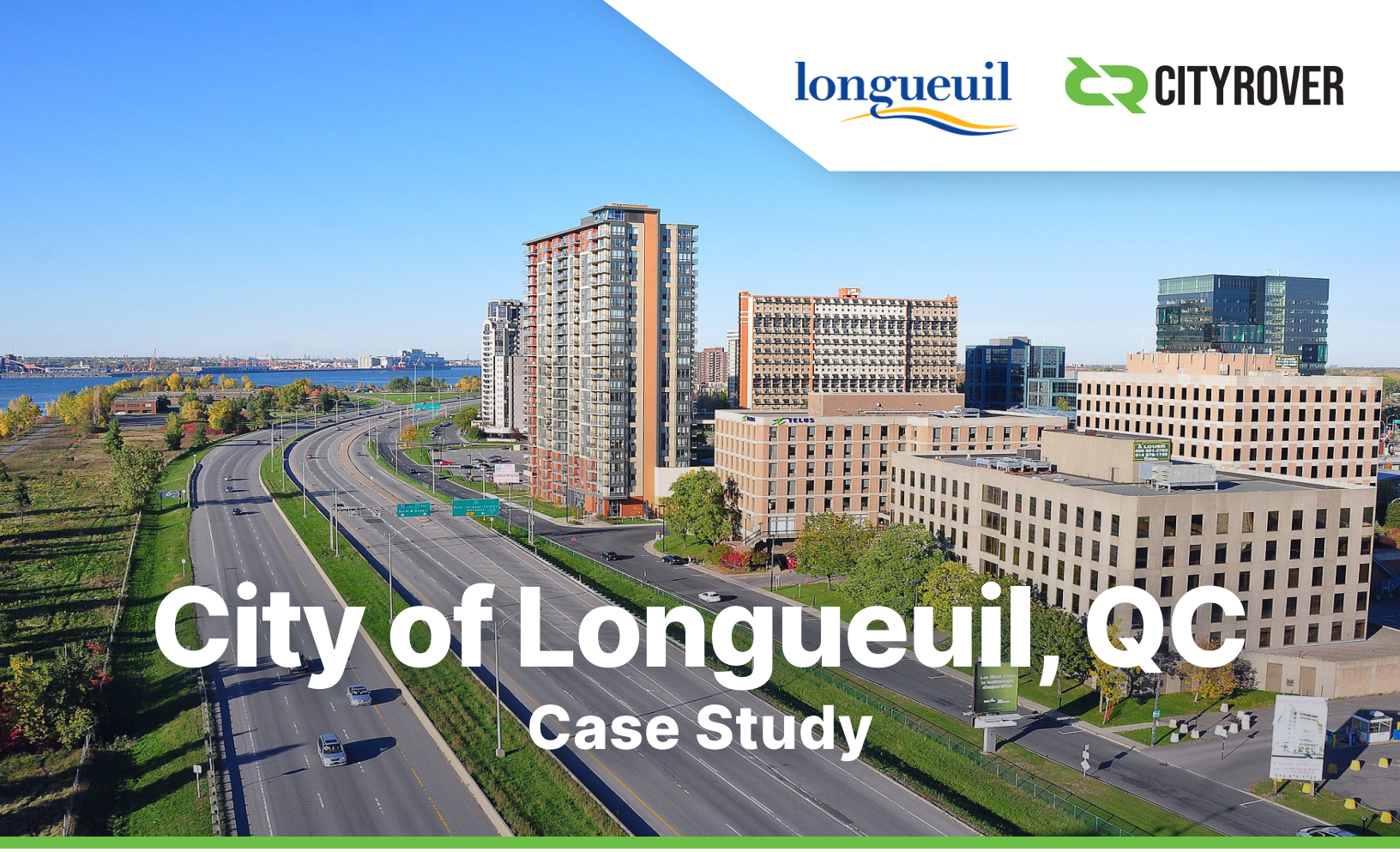


City of Longueuil, QC

Case Study

Overview

In 2023, the City of Longueuil implemented CITYROVER, an AI-powered system for automatic pothole detection and road condition management. This initiative modernized how the City monitors and repairs road infrastructure, earning Longueuil the "Excellence – Municipal Challenge" award at the annual RIMQ (Quebec Municipal Information Network) conference. The project reflects how AI and interdepartmental collaboration can transform public services and create smarter, data-driven cities.

RMTi Réseau Municipal en Technologies de l'Information

Quebec Municipal Information Network
Excellence – Municipal Challenge

Challenges

Maintaining 949 kilometers of road and handling over 40,000 potholes annually placed a heavy operational burden on the City. Traditional maintenance methods relied on manual inspections and citizen complaints, making it difficult to detect issues early and prioritize work effectively.

Key challenges included:

- Lack of real-time visibility into road conditions
- Difficulty prioritizing high-impact repairs
- Siloed communication between departments
- Over-reliance on reactive repair strategies

Problems

The City's manual approach to pothole management was inefficient and fragmented. Crews were often sent out based on delayed or incomplete reports, causing missed repairs and duplicated efforts. There was also no central system to track pothole history or monitor trends.

This resulted in:

- Slower response times to citizen complaints
- Inconsistent data on pothole size, severity, and location
- Poor allocation of repair resources
- Limited ability to forecast or plan for long-term infrastructure needs

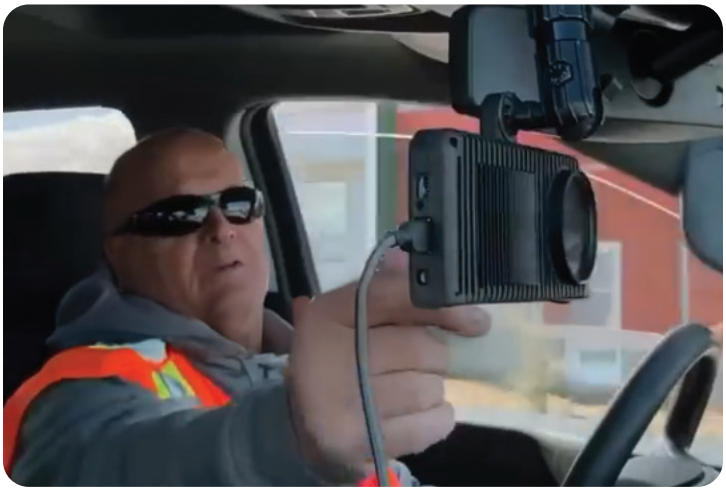
Solution

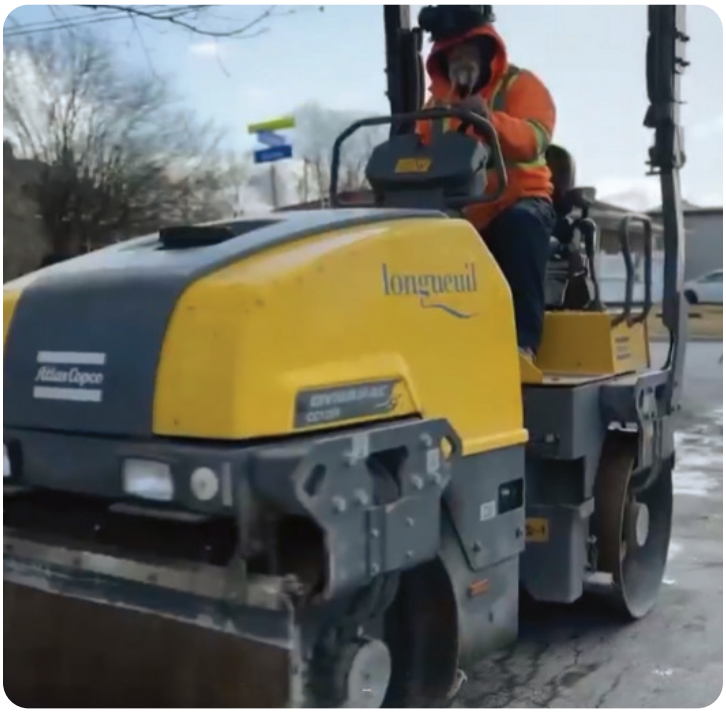
Longueuil introduced CITYROVER, a compact, AI-driven camera system mounted in city vehicles. As the vehicles move, CITYROVER camera detects potholes, geolocates them, assesses severity, and captures images. This data is automatically uploaded to a live, cloud-based map used by Public Works to manage and prioritize repairs.

CITYROVER features include:

- Real-time pothole detection and severity grading
- Photo documentation of road issues
- Interactive dashboard to track repairs and analyze trends
- Significant improvements in repair prioritization and response time.

The initiative was developed through close collaboration between **Public Works, Urban Planning, and Geomatics & Innovative Technologies**, ensuring successful implementation and alignment with city operations.





Implementation Results

The CITYROVER system has significantly improved Longueuil's efficiency and responsiveness in road maintenance.

- Faster identification and repair of road damage
- Smarter resource deployment and route planning
- Better tracking of completed repairs and performance metrics
- Increased public satisfaction due to quicker response times

Recognition

In addition to operational success, the project positioned Longueuil as a leader in smart municipal infrastructure. Winning the 2023 RIMQ Excellence Award validated the City's commitment to innovation, collaboration, and continuous improvement.

> **"CITYROVER doesn't just detect potholes. It also takes into account citizen requests and information available on WAZE. The great thing about CITYROVER is the integration of all this information."**

Étienne Dallaire,
Head of the Geomatics and Innovative Technologies Department, City of Longueuil

> **"But the most common method is a software program called CITYROVER, which scans city streets. (CITYROVER Software) Teams are therefore dedicated to the rounds, and then we detect potholes. Thanks to this tool, the team will be able to create work orders, which will also allow them to prioritize the work to be done on our streets."**

Catherine Fournier,
Mayor of City of Longueuil

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