

ITS Essentials

ROVER

The Latest Road Maintenance Technology at the City of Moncton

At the beginning of 2020, technology provider Visual Defence launched a software solution that aimed to support municipalities in their road maintenance operations by leveraging the latest developments in artificial intelligence. The software application, ROVER, automated and digitized the capture of road deficiencies allowing cities to increase rates of detections and support repairs planning while reducing costs, eliminating task duplication and replacing paper-based processes. The City of Moncton Public Works Department immediately saw the potential for use in the field and seized the opportunity to introduce ROVER into their work processes.

Previously, road maintenance has largely been a paper-based system heavily relying on patroller and citizen input. The introduction of new technology to Moncton's Public Works Department has provided an opportunity to pursue a more proactive and structured approach to the city's road maintenance program.

Mike Giffard, Process Improvement Analyst at the City of Moncton, was responsible for implementation

and evaluation of the ROVER technology. The city had previously invested in specialized equipment to produce hot asphalt for potholes and water main breaks during the winter to ensure their teams made quality repairs the first time around to avoid having to revisit the issues throughout the season.

"As the equipment takes time to prepare and deploy into the field, having data including graphics of the size and depth of problem potholes ahead of time makes the most of the crew's limited time and supply of material," said Giffard. "ROVER has become the team's primary source when preparing work-plans."

By adding AI capabilities to the city's municipal vehicles, road deficiencies are automatically detected by the ROVER device and made accessible on a web interface where city staff can assess and manage the data. Having access to comprehensive data of the road conditions allows the city to resolve incidents faster, maintain appropriate records and improve service levels.



Typically, the ROVER device is assigned to one of the city's patrol vehicles tasked with inspecting and assessing resident requests. "The idea that this technology passively collects pothole information, while Staff's regular duties are underway, adds tremendous value to the exercise. When time and conditions warrant, the city can switch to a dedicated pass through under-surveyed areas to ensure they can be aware of issues in subdivisions and secondary roads," Giffard added. "Previously, Public Works relied primarily on city staff or residents to call in and report a pothole, and having implemented ROVER gives us an opportunity to get ahead of potential hazards."

The technology was also effective year round, including during winter operations. Having experienced record snowfalls this 2022, The City of Moncton's crews are busy with snow and ice control. The fact that ROVER can report back without dedicating staff to specifically patrol for potholes allows for the efficient deployment of city work crews to go after potholes in between storms.

Giffard mentioned the city is always looking for ways to improve its services "leveraging new technologies to work more efficiently and make our roads safer is what we do".

