



### April 26, 27 and 28, 2024

UQO (Alexandre-Taché building)





## Potholes

A pothole is a collapse in the roadway that forms when the asphalt crumbles and the fill material disperses.

This phenomenon occurs mainly in spring, when the ground freezes and thaws.



Example of an extreme pothole

## The team behind the reparation of approximately 60,000 potholes at the City of Gatineau



- Nearly 3,000 km of paved roads.
- 2-person team / 40 potholes per day (5 permanent teams).
- Support, contract to an external firm.
- Support from snow removal crews (during the summer).
- Every year, Gatineau repairs close to 60,000 potholes.

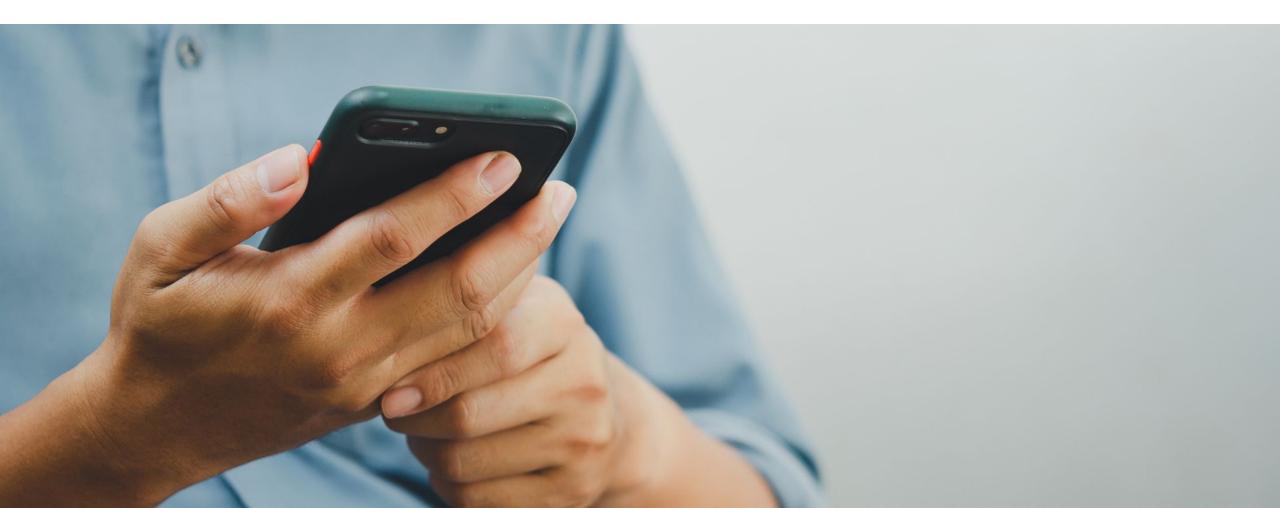


# The Report Process

There are **three ways** to report a pothole to the city.







### Reporting method **#2** Submit a 311 request online

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★ The fields marked by an asterisk must be filled out. This information is required in case we need to contact you or confirm your request number.

#### \* You are:

Citizen of Gatineau

- O Business or organization (e.g.: business, school establishment, organization, etc.)
- O Other (e.g.: non-resident, outside of Gatineau)

### Your information

#### ★ First name:

\* Last name:

#### \* Address:

Civic number

Street name

Apartment





### Fill out a form on Citizen Portal - City of Gatineau







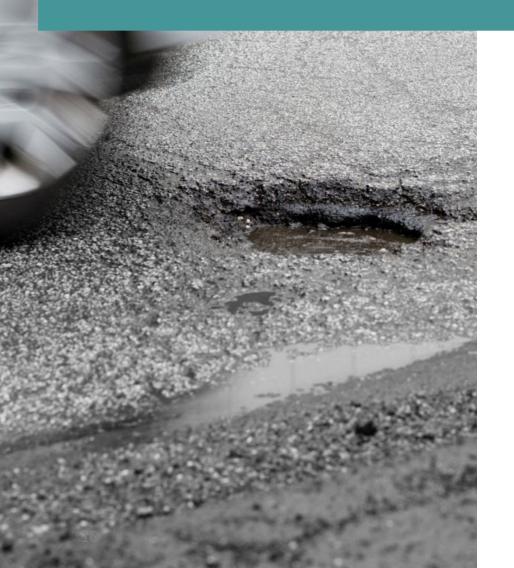


**Priority** for repairing reported potholes is given according to :

- The following order: **main arteries** and **collector streets**, followed by **local streets**.
- Size of reported potholes.
- Potholes deemed **unsafe** are repaired within **72 hours** of being reported.

A single pothole can take **10-15 minutes** to repair.

### The Key Issues



Current main challenges include:

- Ensuring greater ease in preventing and repairing potholes;
- Reduce repair costs;
- Intervene as soon as possible;
- Follow-up on reports and repairs;
- Identify optimal repair routes;
- Increase the number of pothole reports using technology.

### **Suggestions for Upcoming Functionalities**



Functionality	Components
Report Process	<ul> <li>Identification of the pothole: photos or videos, GPS coordinates, etc.</li> <li>Identify who is making the request: cars, motorists, drones, accelerometers, pedestrians, cyclists</li> <li>Grouping of identical reports</li> <li>Issuing a request</li> <li>Assess criticality of request: main arteries and collector streets, followed by local streets</li> </ul>
Planning of Operations	<ul> <li>Prevention interventions</li> <li>Repair interventions</li> <li>Intervention to monitor, follow-up or complement</li> <li>Route optimization.</li> </ul>

### **Suggestions for Upcoming Functionalities**



Functionality	Components
Management of repair teams	<ul> <li>La composition des équipes</li> <li>Le nombre d'équipe et leur disponibilité</li> <li>Les équipes saisonnières</li> <li>Les équipes externes</li> </ul>
Management of the material	<ul> <li>Stock status of the main materials used in repairs</li> <li>Alert</li> </ul>
The Repair	<ul> <li>Planning of repair order</li> <li>Assignment of repairs to a team, including lead times</li> </ul>
The Communications	<ul> <li>Notification to requestor of completion of repair and closure of request</li> </ul>

### Tools

- 1. Open Data
- 2. Google Maps
- 3. Artificial Intelligence
- 4. Drones
- 5. Dash Cams
- 6. Accelerometers
- 7. Predictions (using an <u>infrared thermometer</u> for asphalt, for example)
- 8. Other



### **A Few References**

Links to Consult

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- 1. <u>Open Data</u>
- 2. <u>Pothole Detection viso.ai</u>
- 3. <u>Data Quebec</u>
- 4. <u>Strategy for integrating artificial intelligence into public administration</u>
- 5. <u>The societal impact of artificial intelligence on democracy, the</u> environment and the arts and culture
- 6. <u>Guide on the use of generative AI</u>
- 7. <u>Artificial Intelligence and Data Act</u>
- 8. FOCUS (focus511.com)
- 9. Potholes City of Gatineau
- 10. <u>Richmond Hill Embraces Innovation to Modernize Government</u> Operations
- 11. <u>Strategic Plan City of Gatineau</u>
- 12. <u>Statistical and geomatic data (Infoterritoire) City of Gatineau</u>