



# Damage to Underground Infrastructure

## British Columbia, Ontario and Quebec

### 2011 and 2012 Highlights

#### Data collection

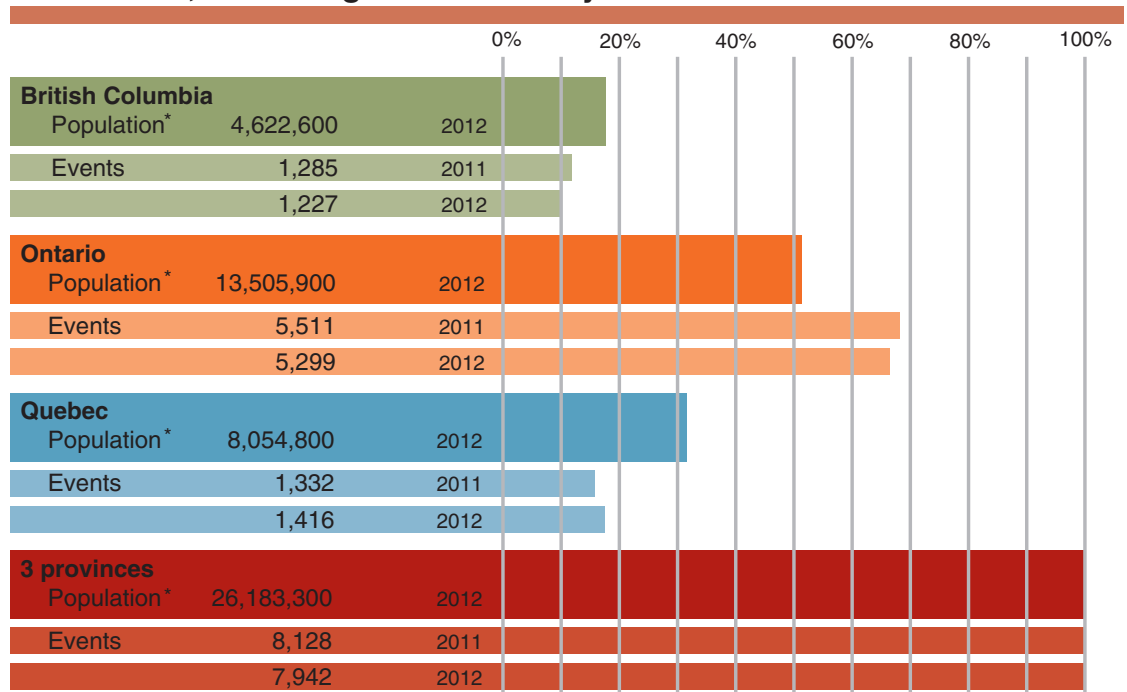
The *Common Ground Alliance (CGA)* created the Damage Information Reporting Tool (DIRT) in 2003. DIRT is an online database used to document damage to underground infrastructure throughout North America.

Stakeholders in Ontario, Quebec and, more recently, British Columbia are entering data into DIRT which is analyzed to determine and address root cause and trend effectiveness moving forward. Ontario, Quebec and British Columbia publish their findings in an analytical report each year; and for the first time, those findings are documented in this compendium report.

#### Interpreting the Data

- Reporting in DIRT is voluntary. As such, this report does not consider all damages that occurred in the three provinces.
- Users of DIRT gather necessary information to complete the field form. However, there are a number of questions that remain unanswered or are marked “data not collected”.
- Data is presented as a percentage calculated from the total known data

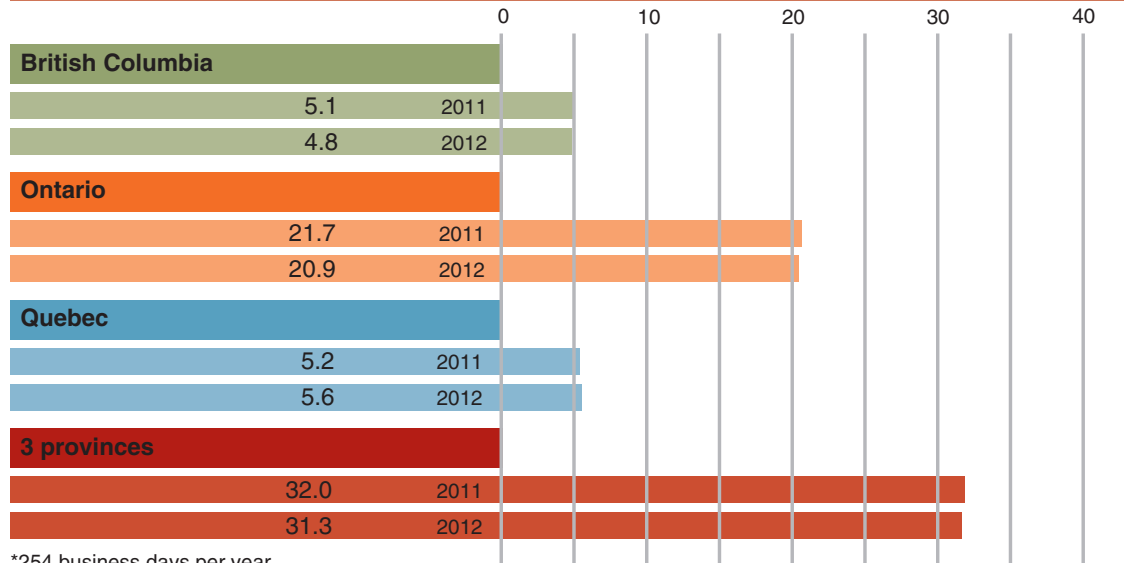
#### More than 8,000 damages occur each year.



\* Source: Statistics Canada



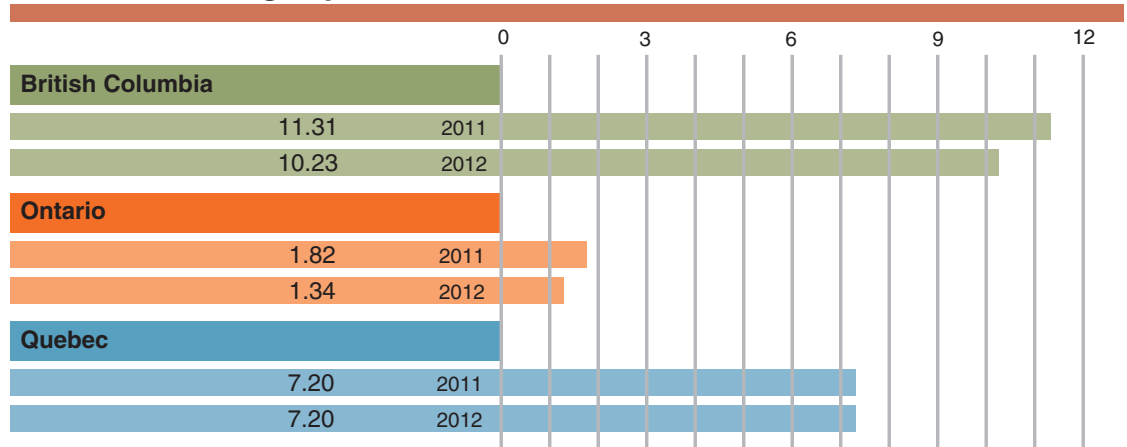
### More than 31 damages per business day.\*



\*254 business days per year

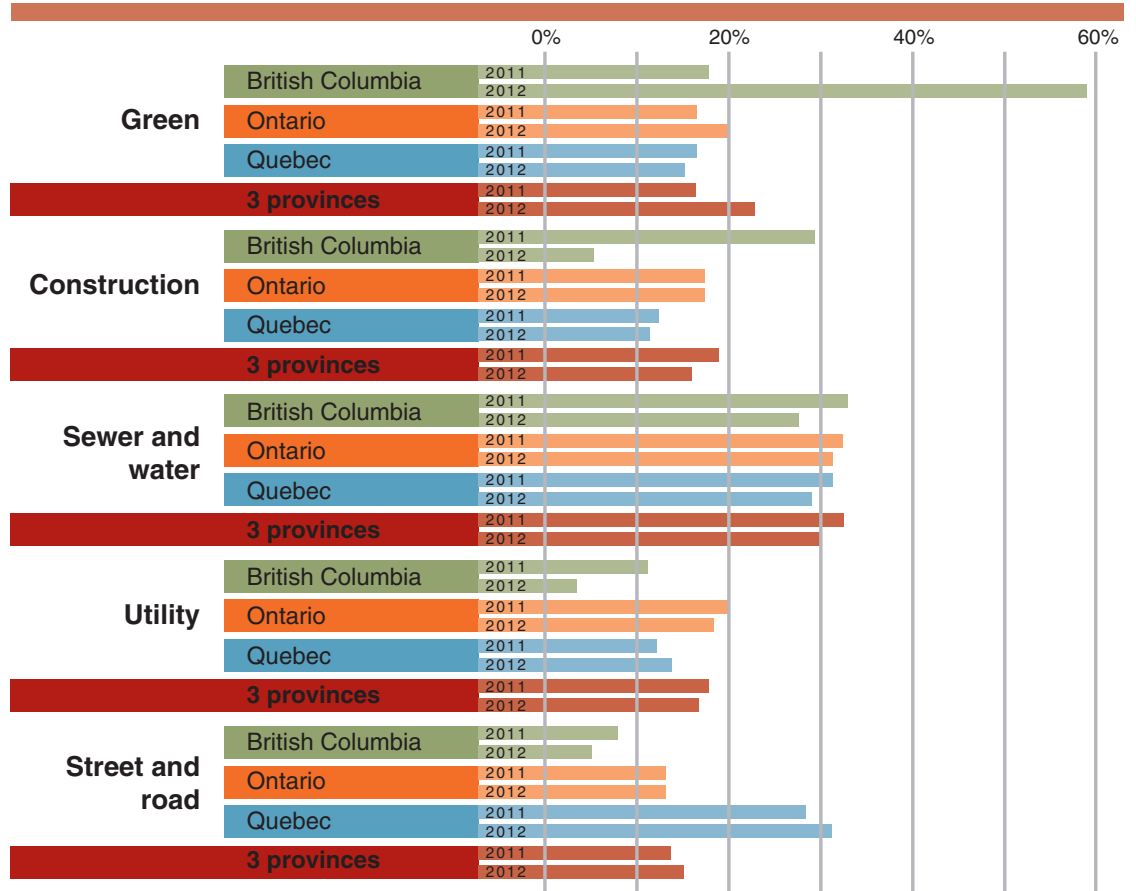
Damages occur mainly in Ontario, the most populated province. The breakdown of events may be affected by factors such as level of economic activity.

### Number of damages per 1,000 notifications.



Even though fewer damages are reported in Quebec and British Columbia than in Ontario, the data illustrates that notification to a One Call centre prior to excavation is less frequent in those provinces.

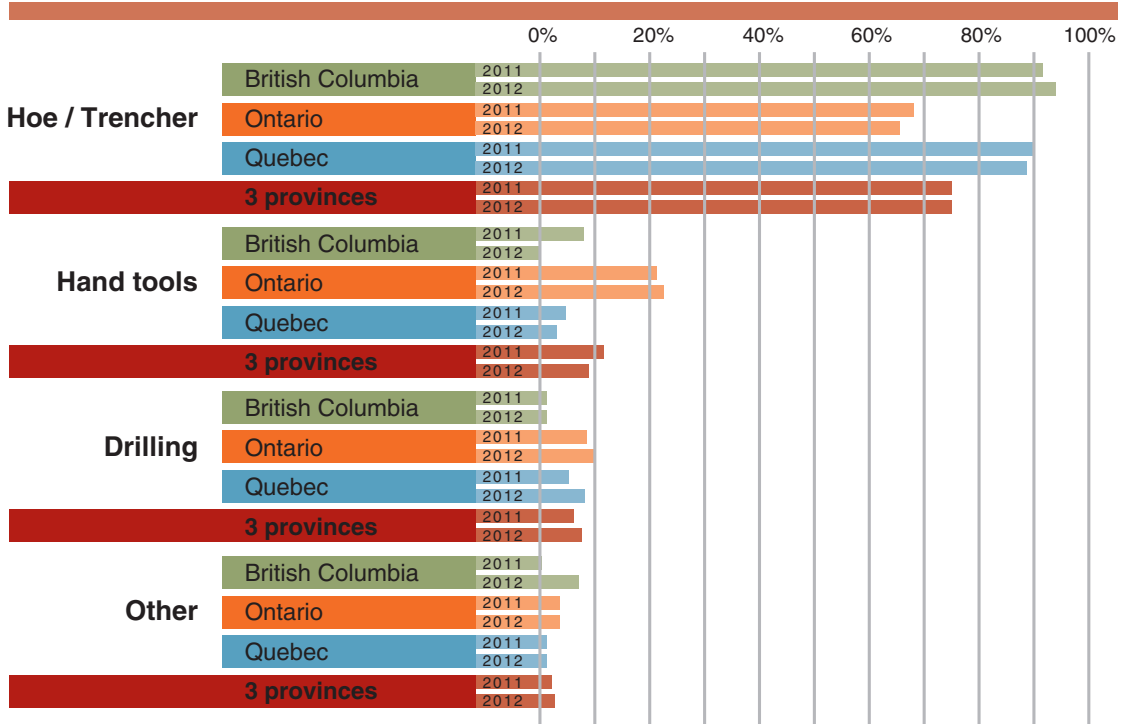
**30% of damages occur during work on sewer and water systems.**



In British Columbia, damages are reported most often (59%) during “green” work (fencing, landscaping and irrigation), while in Quebec, damages attributed to roadwork is on par with the damages attributed to work on sewer and water systems.



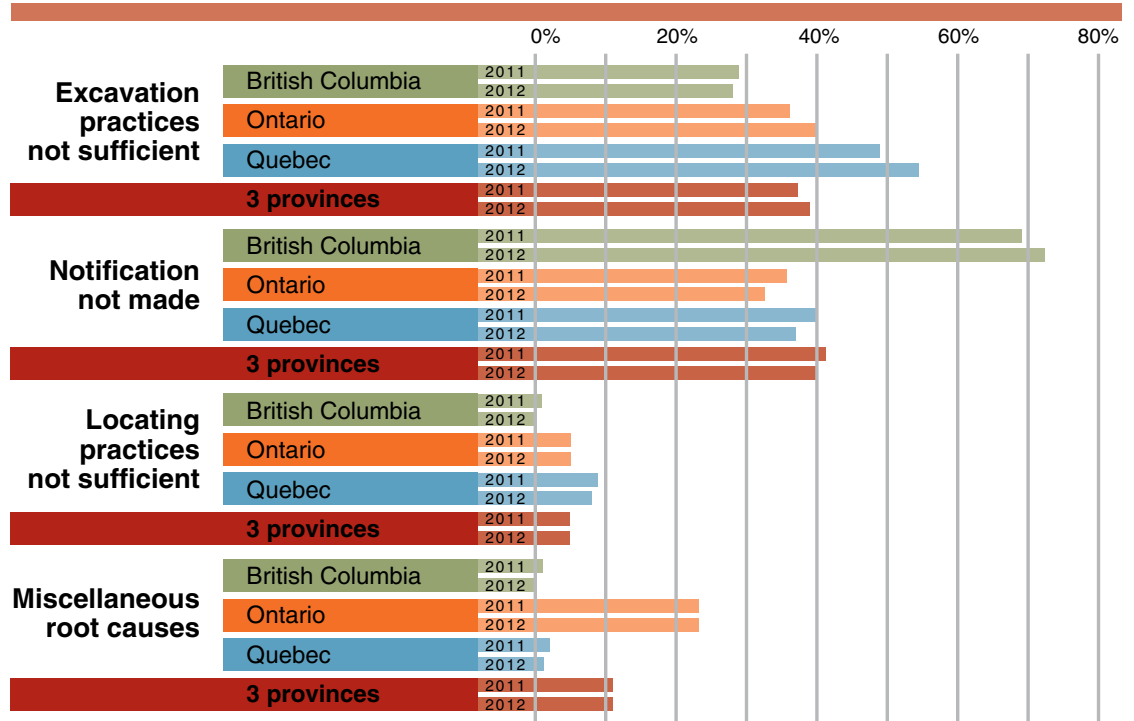
**In 75% of all damages, the equipment used is a backhoe.**



In each province, the type of excavation equipment most often used when damage occurs is a backhoe. It should be noted, however, that hand tools are responsible for 22% of all damages reported in Ontario. In the other provinces, the percentage of damage caused by equipment other than a backhoe is too low to register within the data presented.



**40% of damages are due to a “failure to notify”  
and 39% are due to “insufficient excavation practices”.**



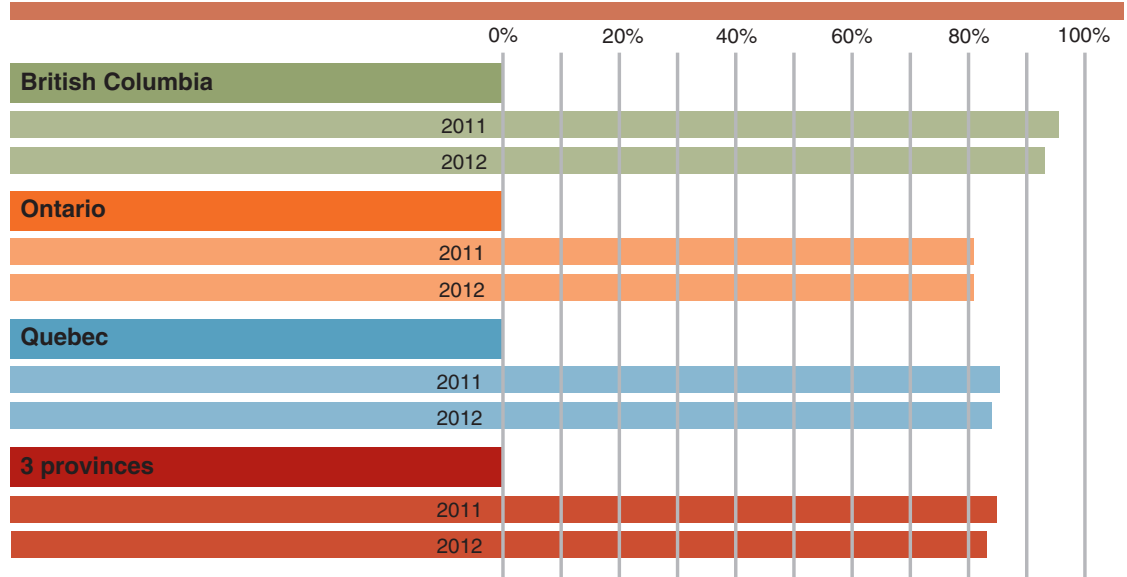
In British Columbia, 72% of all reported damages are caused by a failure to notify the call centre. In Quebec and Ontario, the most frequent cause is insufficient excavation practices - 54% and 40% respectively. Failure to notify is also a leading cause of damage in Quebec (37%) and Ontario (32%).

Given this data, the most effective damage prevention messaging in Quebec and Ontario could be to “Dig Safe”, while in British Columbia the most appropriate damage prevention message would be “Call or Click before You Dig”.

In the category “miscellaneous root causes,” Ontario’s most frequent cause is “notification to one-call centre made, but not sufficient,” meaning the party requesting the locate needs to provide better information to the one-call centre.

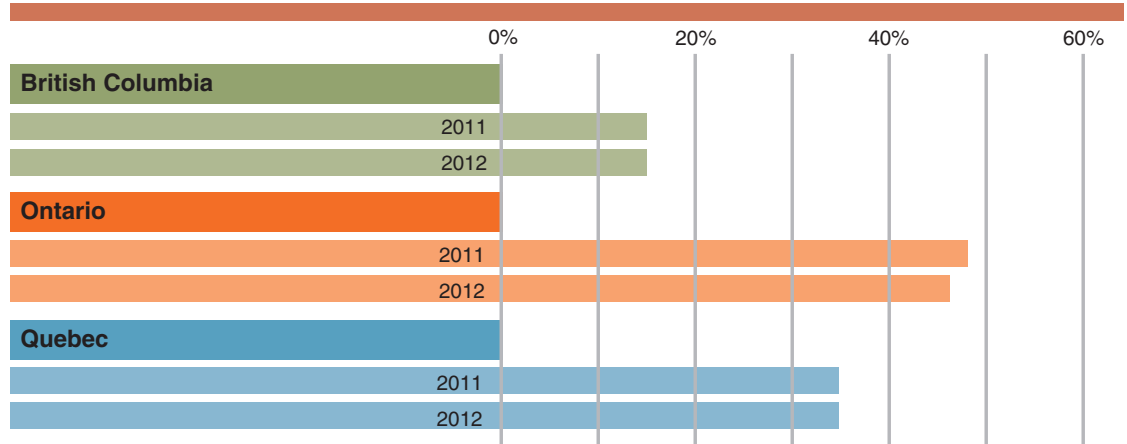


## 84% of damages cause a service interruption.



Percentages are high for all three provinces, however, in British Columbia, 92% of all damages caused an interruption in services. Interruptions in services cause a significant economic impact due to indirect costs.

## Damages requiring emergency response.



In Quebec and Ontario, Emergency Services (Fire and Police) respond to 95% of damages to natural gas utilities. In contrast, Emergency Services in British Columbia only respond to 15% of emergencies involving natural gas.

## Register with DIRT and Be Part of the Damage Prevention Solution

The Canadian Common Ground Alliance (CCGA) invites you to register with DIRT and complete the online field form to report damages to Canada's buried infrastructure. Doing so will allow more thorough analysis and enable damage prevention and safety solutions that will benefit all Canadians.  
[www.damagereporting.org](http://www.damagereporting.org)



## Lists of Categories

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### 1. Work Performed

Green	Landscaping, fencing, irrigation
Construction	Construction, site development, grading, driveway, demolition, engineering, railway, waterway
Sewer and Water	Sewer, water, drainage
Utility	Natural gas, electric, steam, liquid pipe, telecom, cable TV
Street and Road	Roadwork, curb/sidewalk, storm drainage, milling, pole, traffic signals, traffic signs, streetlight, public transit

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### 2. Excavation Equipment

Hoe / Trencher	Backhoe, trackhoe, trencher
Hand tools	Hand tools, probing device
Drilling	Auger, bore, directional drill, drill
Other	Grader, scraper, road milling equipment, explosives, vacuum equipment, farm implement

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### 3. Root Cause

Excavation practices not sufficient	<ul style="list-style-type: none"> <li>Failure to maintain clearance</li> <li>Failure to maintain marks</li> <li>Failure to support exposed facilities</li> <li>Failure to use hand tools where required</li> <li>Failure to test-hole (pot-hole)</li> <li>Improper backfilling practices</li> <li>Other insufficient excavation practices</li> </ul>
Notification not made	No notification made to the one-call centre
Locating practices not sufficient	<ul style="list-style-type: none"> <li>Facility marking or location not sufficient</li> <li>Facility was not located or marked</li> <li>Incorrect facility records/maps</li> <li>Facility could not be found or located</li> </ul>
Miscellaneous root causes	<ul style="list-style-type: none"> <li>Notification to one-call centre made, but not sufficient</li> <li>Wrong information provided to one-call centre</li> <li>Abandoned facility</li> <li>Deteriorated facility</li> <li>Previous damage</li> <li>One-call centre error</li> <li>Other</li> </ul>

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