

DIRT

CCGA



Energy
Nexus

Annual Technical
Conference

Fuelling the Future

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An excavator bucket filled with brown soil, positioned in the top left corner of the slide.

Common Ground Alliance

Established in 2000, the Common Ground Alliance (CGA), based in Virginia, is committed to saving lives and preventing damage to North American underground infrastructure by promoting effective damage prevention practices of today and tomorrow.



The Common Ground Alliance expanded into Canada in 2003, following the Bloor Street incident in Toronto, with the first chapter established in Ontario in 2003. Through the next few years provincial chapters were launched across Canada. The provincial chapters or “Regional Partners”, in addition to representatives from associations of National interest make up the Board of Directors for the CCGA. This makes the CCGA “an Association of Associations”.



CCGA Regional Partners



British Columbia
BCCGA
Common Ground Alliance

Dr Dave Baspaly - Executive Director
www.commongroundbc.ca

**UTILITY
SAFETY**
PARTNERS

Mike Sullivan - President
www.utilitysafety.ca

SCGA
Saskatchewan Common Ground Alliance

Jonathan Sherman – Executive Director
www.scga.ca

MCGA
Manitoba Common Ground Alliance

Robert Morrison – Co-Chair
www.manitobacga.com

Ontario Regional
ORCGA
Common Ground Alliance

Doug Lapp – President & CEO
www.orgca.com

**info
excavation**

Natalie Moreau – Directrice Generale
www.info-ex.com

ATLCGA
Atlantic Canada Common Ground Alliance

Scott Boudreau – Chair
www.atlanticdigsafe.ca

A yellow excavator bucket filled with brown soil, positioned in the top left corner of the slide.

Common Ground Alliance Stakeholders

Each of the Regional Partners across Canada includes members from utility owners and stakeholders within the excavation community...

- Electrical Distribution
- Electrical Transmission
- Engineering
- Equipment Suppliers & Manufacturers
- Excavator
- Homebuilder
- Insurance
- Land Surveying
- Landscape/Fencing
- Locator
- Municipal & Public Works
- Oil & Gas Distribution
- One-Call
- Railway
- Regulator
- Road Builders
- Safety Organization
- Telecommunications
- Transmission Pipeline

A yellow excavator bucket is shown in the top left corner, filled with brown soil. The background of the slide is a gradient of blue and red.

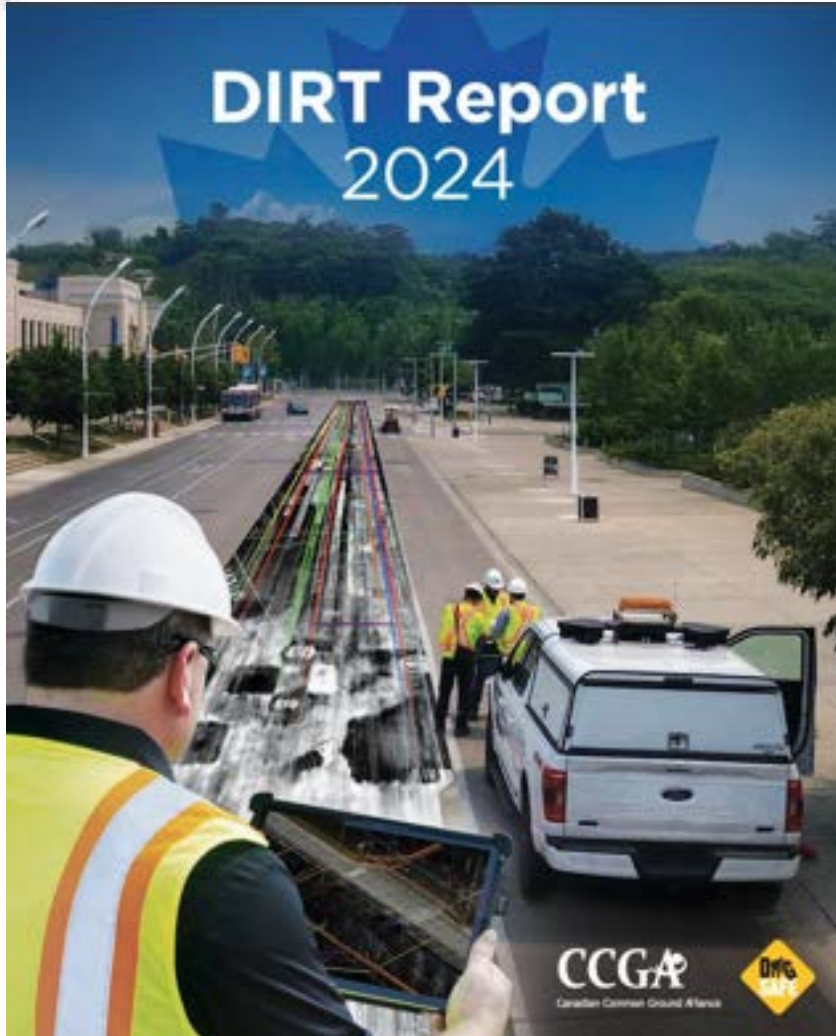
What is DIRT??



The Damage Information Reporting Tool (DIRT) was developed by the Common Ground Alliance (CGA) and adopted by the Canadian Common Ground Alliance (CCGA). It was designed to record damages made to underground infrastructure during excavation work. It provides a summary and an analysis of damages reported throughout Canada. The DIRT systems allows us to document, understand, and determine root causes to mitigate damages to infrastructure.

Important Note about the DIRT Data

- DIRT is confidential database
- Submissions to DIRT are made on a voluntary basis
- DIRT does not reflect the total number of damages that occur in a given year



NEW!
2024 CCGA DIRT
New tables, graphs
& enhancements

The following enhancements can be found throughout the report:

- CCGA Best Practices
- Table breakdown the Type of Equipment in each Equipment Group
- Table break down the Type of Work in each Work Group.
- Web locate percentage 2020 - 2024
- **New** - Data Quality Index (DQI)
- **New** - CCGA DIRT Continuous Improvement Survey

The CCGA values your feedback as we continually work to enhance this report. By completing this anonymous continuous improvement survey each time you review the DIRT report over the coming year, you will help guide future updates and strengthen sequent editions.



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2024 DIRT: National Overview

Table 1 - Canadian Province/Region

Province/Region	2024 Population	% of Population	% of Damages per capita
British Columbia	5,719,594	14%	11%
Alberta	4,931,604	12%	24%
Saskatchewan	1,246,691	3%	6%
Manitoba	1,499,981	4%	2%
Ontario	16,171,802	39%	48%
Quebec	9,100,249	22%	9%
Atlantic	2,662,238	6%	0%
Canada (incl. Territories)	41,465,298	100%	100%

Note that a small percentage of areas in Canada do not contribute to reporting



2024 DIRT: National Overview

Table 2 - Damages, Requests, Notifications by Province/Region, 2024

Province/Region	Damages	Damages per Work Day	Damages per 1,000 Requests*	Damages per 1,000 Notifications**
British Columbia	895	3.6	3.8	1.17
Alberta	2,035	8.1	4.78	1.28
Saskatchewan	522	2.1	3.59	1.23
Manitoba	155	0.6	1.95	0.72
Ontario	3,976	15.8	3.73	0.66
Quebec	724	2.9	2.23	1.44
Atlantic	28	0.1	0.38	0.36
Canada	8,335	33.2	3.54	0.87

2024 DIRT: National Statistics

Table 22 is a summary of the Provincial and Regional information.

Table 22 - Summary by Province/Region, 2024

Province/Region	% of Population ‡	Damages	% of Damages	Damages per Work Day	Locate Requests	Damages per 1,000 Requests*	Locate Notifications	Damages per 1,000 Notifications**
British Columbia	14%	895	11%	3.6	235,835	3.8	763,292	1.17
Alberta	12%	2,035	24%	8.1	426,112	4.78	1,592,989	1.28
Saskatchewan	3%	522	6%	2.1	145,250	3.59	423,699	1.23
Manitoba	4%	155	2%	0.6	79,544	1.95	216,711	0.72
Ontario***	39%	3,976	48%	15.8	1,066,867	3.73	6,003,764	0.66
Quebec	22%	724	9%	2.9	324,073	2.23	502,334	1.44
Atlantic	6%	28	0%	0.1	74,442	0.38	78,405	0.36
Canada	100%	8,335	100%	33.2	2,352,123	3.54	9,581,194	0.87

2024 DIRT: National Overview

Table 3 - Damages by Year by Province/Region, 2020 - 2024

Province/ Region	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
	Number of Damages					Percentage of Damages				
British Columbia	1,228	1,280	1,101	1,066	895	11%	11%	10%	11%	11%
Alberta	3,789	3,711	3,050	3,159	2,035	32%	32%	29%	32%	24%
Saskatchewan	687	720	600	615	522	6%	6%	6%	6%	6%
Manitoba	220	197	264	202	155	2%	2%	2%	2%	2%
Ontario	4,782	4,542	4,800	4,232	3,976	41%	40%	45%	42%	48%
Quebec	954	924	844	715	724	8%	8%	8%	7%	9%
Atlantic	15	47	15	18	28	0.1%	0.4%	0.1%	0.2%	0.3%
National Totals	11,675	11,421	10,674	10,007	8,335	100%	100%	100%	100%	100%



2024 DIRT: National Statistics

Table 23 - Contractor Requests, 2024

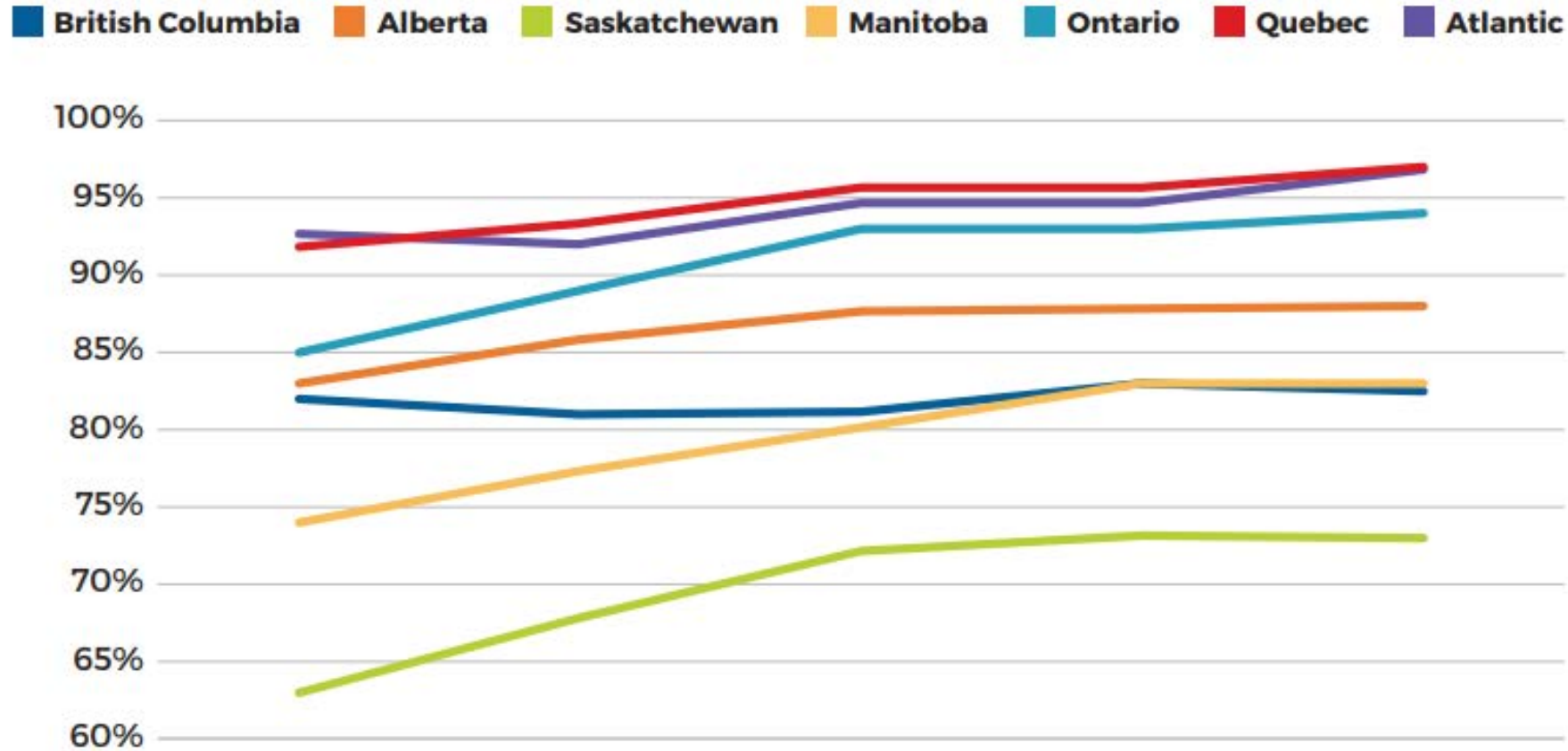
Province/Region	Total Requests	Contractor Requests	% of Contractor Requests
British Columbia	235,835	160,969	68%
Alberta	426,112	311,647	73%
Saskatchewan	145,250	102,200	70%
Manitoba	79,544	53,904	68%
Ontario	1,066,867	804,192	75%
Quebec	324,073	309,903	96%
Atlantic	72,881	70,835	97%



2024 DIRT: National Statistics

Table 20 - Registered Members at One Call Centres and Percentage of Phone versus Web Locate Requests, 2024

One Call Centres	Registered Members	Phone Locate Requests (%)	Web Locate Requests (%)
British Columbia	374	18%	83%
Alberta	868	12%	88%
Saskatchewan	131	27%	73%
Manitoba	75	17%	83%
Ontario	849	6%	94%
Quebec	305	3%	97%
Atlantic	31	3%	97%

Figure 18 - Web Locate Request Percentage, 2020 -2024

**Table 7 -Percentage of Damages by Facility Affected by Province/Region, 2024**

Province/Region	Natural Gas	Telecom-munications	Electric	Water/Sewer	Liquid Pipeline	Unknown/Other
British Columbia	93%	2%	5%	0%	1%	0%
Alberta	29%	52%	10%	2%	0%	6%
Saskatchewan	34%	28%	36%	0%	1%	0%
Manitoba	52%	0%	48%	0%	0%	0%
Ontario	48%	36%	6%	8%	1%	0%
Quebec	38%	48%	4%	0%	1%	9%
Atlantic	25%	0%	7%	64%	0%	4%
National Totals	47%	36%	10%	5%	1%	2%

**2024 DIRT:
Facilities
Affected
by Province**


Table 14 - Damages by Work Group by Region, 2024

Work Group	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Atlantic
Sewer & Water	234	465	102	34	1,019	216	7
Utility	185	467	48	10	756	114	9
Construction	223	320	101	17	642	82	1
Landscaping	65	363	145	40	504	37	3
Unknown/Other	45	350	41	35	443	168	1
Street & Road	143	70	85	19	612	107	7
National Totals	895	2,035	522	155	3,976	724	28

**2024 DIRT:
Work Type
by Province**



2024 DIRT: Excavators

Figure 7 - Percentage of Damage Reports by Excavator Equipment Group, 2024

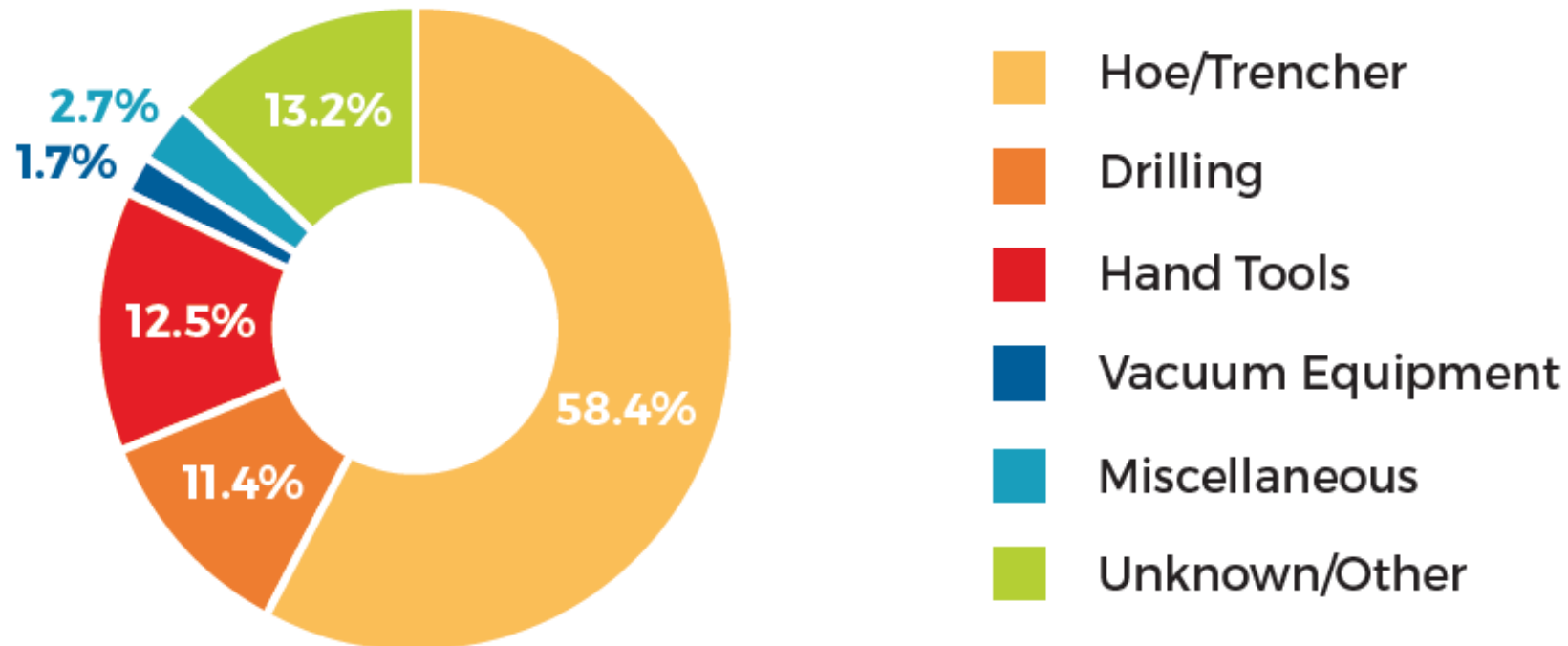
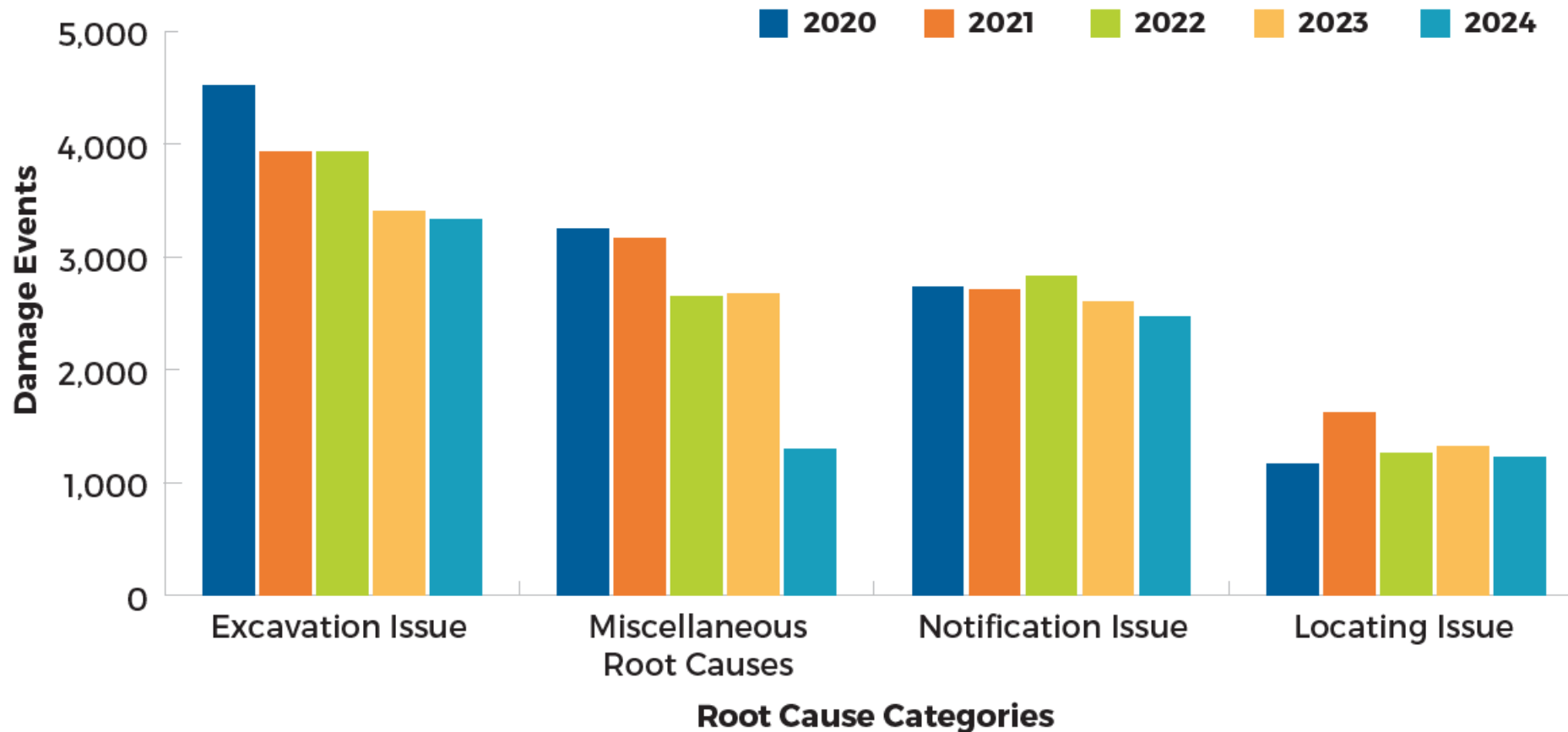




Figure 11 - Damages by Known Root Cause, 2020 - 2024



**2024 DIRT:
Root Causes**



Table 17 - No Locate Damages and Percentage of Damages with Hazardous Utilities, 2024

Province/Region	No Locate Request Damages	No Locate Request Electric	No Locate Request Natural Gas	Percent of Total No Locate Electric & Natural Gas
British Columbia	505	10	487	98%
Alberta	346	21	218	69%
Saskatchewan	149	42	52	63%
Manitoba	30	12	18	100%
Ontario	1,264	65	791	68%
Quebec	165	0	75	45%
Atlantic	2	2	0	100%
National Totals	2,461	152	1,641	73%

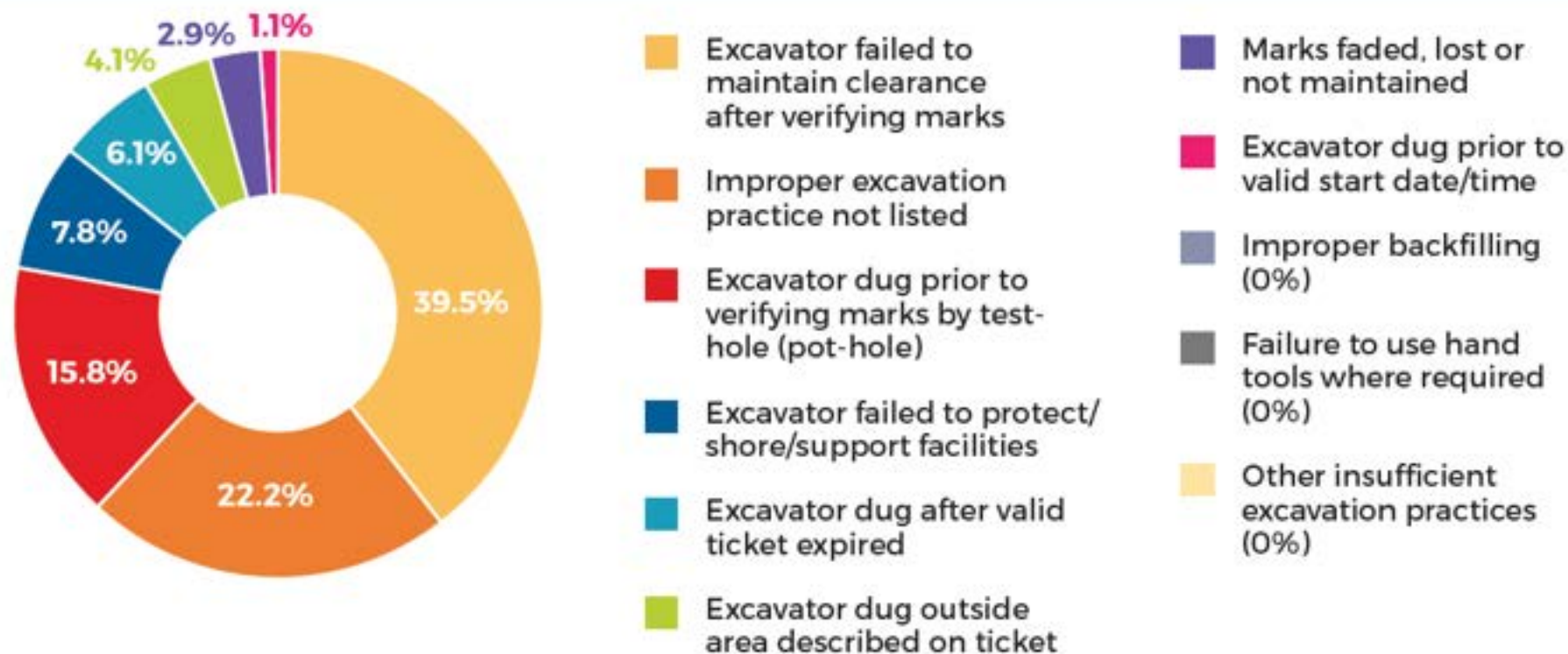
CCGA Best Practice 2-27:

Recommends that excavators contact the Notification Service before excavating.

By following this practice, we can significantly reduce the number of no locate damages and improve safety, efficiency, and cost-effectiveness for everyone involved.



Figure 14 - Percentage of Known Root Cause by Excavation Issue, 2024



CCGA Best Practice 4-1 (Excavation within Tolerance Zone) describes the methods to consider when exposing any underground facility.



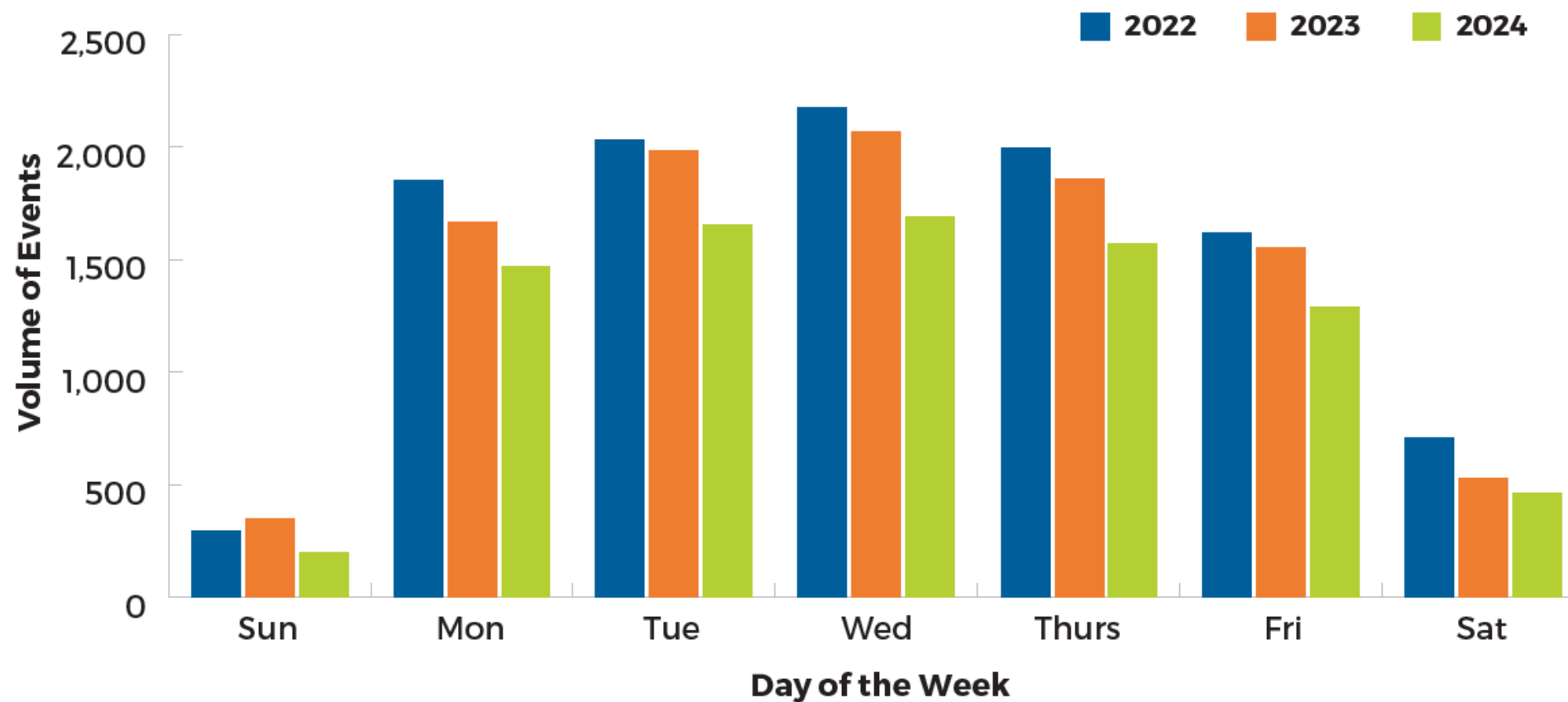
Figure 16 - Percentage of Known Root Cause by Locating Issue, 2024



CCGA Best Practice Manual Section 3, provides a wealth of best practices specifically designed to assist in Locating and Marking.



Figure 20 - National Facility Events by Day of the Week, 2022 - 2024



CCGA's 2024 DIRT Report - Data Quality Index

Table 26 - Data Quality Index

DIRT Parts	Relative Weight	2020 DQI	2021 DQI	2022 DQI	2023 DQI	2024 DQI
A: Who is submitting this information?	5%	100.00	99.99	100.00	100.00	100.00
B: Date and Location of the event	10%	84.54	85.17	82.63	81.76	85.92
C: Affected Facility Information	20%	74.20	78.38	78.11	75.27	82.32
D: Excavation Information	20%	86.39	85.69	87.68	88.10	89.46
E&F: Notification, Locating, Marking	5%	80.32	76.62	77.62	74.82	77.25
G: Excavator Downtime	5%	28.87	42.38	35.60	42.08	40.88
H: Description of Damage	5%	51.91	52.39	49.26	49.41	48.25
I: Description of the Root Cause	30%	71.93	72.41	75.07	73.25	85.26
Total Weighted DQI	100%	75.30	76.66	77.10	76.19	81.86



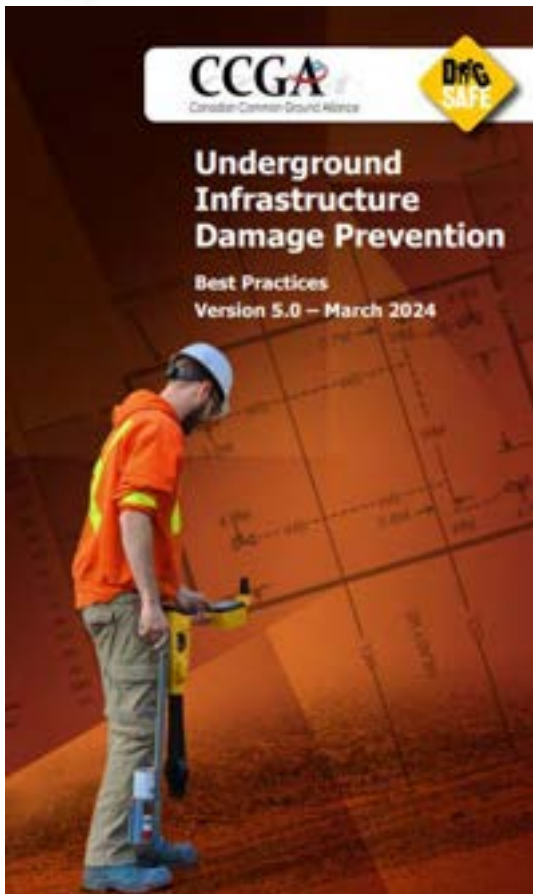
CCGA Best Practices Ver 5.0 - 2024

The **CCGA Best Practices** have been developed through the commitment and consensus of a significant number of stakeholders to serve as an educational guide to promote damage prevention in Canada.

The CCGA Best Practices manual is an educational guide and a general purpose tool which is not meant to replace existing standards, policies, or provincial/federal regulations or laws.

The practice statements and descriptions outlined in each chapter of the guide represent activities that are currently followed by industry to promote damage prevention to underground infrastructure. Not all stakeholders are in a position to adopt these best practices but it is hoped that they will become universal over time.

The **CCGA Best Practices** is referenced throughout this presentation as a reminder of the resources and measures that are available to prevent underground infrastructure damages.





Societal Costs

20%
Direct Costs

80%
Indirect Costs



The Cost of damage to underground infrastructures is estimated to be over \$1 billion per year.

Societal cost study was last conducted by CIRANO in 2015; Revised study using current data is currently underway, expected in 2025

Sample Indirect Costs:

- Service disruptions
- Intervention of emergency services
- Evacuation of residents and businesses
- Risk for the workers' health and safety
- Loss of product
- Environmental impacts
- Economic impacts on businesses and firms
- Work delays
- Administrative and legal costs
- Tarnished reputation of infrastructure owners
- Soil disturbances to surrounding infrastructure
- Traffic disturbances



2024 CCGA DIRT Report Highlights

- More than 33.2 damages occurred per workday which is a 16.6% reduction from 2023.
- The total number of reported damages Canada-wide in 2024 totaled 8,335, which is a decrease of 16.7%. We have seen an overall decrease in damages of 28.6% from 2020 to 2024.
- Natural gas (47%) and telecommunication (36%) facilities were affected in 83% of damages.
- Work performed on water and sewer systems accounted for the most damages (25%).
- Damages caused by Contractor/Developer Excavator Group which has been the largest contributor of damages has decreased by 20% from 2023.
- Damages caused by Hoe/Trencher Excavation Equipment Group has decreased by 22.6% since 2020.
- Geographical regions show a difference in day of the week and month when most damages occur. (see **Regional Partner Profiles, Page 29-44**).
- 73% of damages due to No Locate Request being made involved a natural gas or electric facility, posing a much higher risk to public safety and environment.
- Unknown/Other category has decreased by 51.4% since 2020 suggesting an overall improvement in the quality of data in the report.
- Damages caused by Notification locating issues has remained somewhat consistent over the last 4 years while root causes associated with excavation issues and miscellaneous root causes have decreased by 26% and 60% respectively.

Damages Per Work Day



▼ **16.6%**
since 2023

Damages Per 1000 Requests



▼ **15.7%**
since 2023

Damages Per 1000 Notifications



▼ **13.9%**
since 2023



Thank You



Niá:wen
謝謝
màhsì'
Merci
Obrigado
masi chok
Miigwech
T'ooyaksiy nisim
Graciās
Se:kenh:
ありがとうございました



Questions?



QUESTIONS ???

CCGA Dirt Reports are available @ www.canadiancga.com

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