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British Columbia 2016 DIRT Data & Analysis

Contents

British Columbia DIRT

This report provides a high-level snapshot of damage statistics related to British Columbia's underground infrastructure. The goal of this report is to help improve worker and public safety and protect underground infrastructure in BC. A comprehensive picture of contributing issues is vital to foster a stronger culture of underground safety.

This report utilizes information collected using the USA Common Ground Alliance (CGA) Damage Information Reporting Tool (DIRT). The British Columbia Common Ground Alliance (BCCGA) encourages all interested parties to submit their damage reports to the BC Virtual Private DIRT by visiting www.cga-dirt.com. Once registered, users can submit damage information or generate reports on the existing data. This report presents the data collected from the Virtual Private DIRT website for years 2014, 2015 and 2016.

The following limitations should be noted with regards to the presentation of the 2016 data:

> While every effort has been made to ensure that the most up-to-date information is employed in this report, the voluntary nature of DIRT reporting means that this report does not include all the events that occurred in BC in 2016. Not all stakeholders in BC have chosen to report in this edition, while new stakeholders may not yet be using DIRT as effectively as possible: efforts by the new administration of DIRT for British Columbia to market its use to BC companies have yielded new members.
>
> The BC Virtual Private DIRT is still relatively new and it appears that some operators did not collect information in all DIRT fields. As such, in many cases, fields have not been completed. The BCCGA will continue to improve the quality of data by educating users on what information is most valuable to collect. A coordinating body managing the reporting of incidents may improve the overall data quality as not all submitters have access to full information about an event. For example, a utility provider may not have access to information about contractor down time or costs.

As a principle, the BCCGA is committed to improving the data collection process.

About the BCCGA

The BC Common Ground Alliance (BCCGA) is a unique consensus-driven organization with a direct conduit to regulatory innovation. It is open to any individual or organization with an interest in safety and underground infrastructure. The BCCGA considers that all involved with underground infrastructure or disturbance are responsible and accountable for the safety of their own procedures. It acknowledges, however, that it is in everyone's best interest to work together to develop safe and consistent practices.

The BCCGA works to offer practical tools and to foster an environment in which anyone living or doing business in British Columbia is aware of and compliant with best practices in regards to underground infrastructure to ensure the safest possible environment for the citizens and workers of the province.

BCCGA is coordinating working groups to develop and deliver:

- Best Practice Guidelines for Safe Excavation
- Safety Recognition – City of Excellence Award

- Education – Ground Disturbance Seminars and Contractor Breakfasts
- National level priorities
- Advocacy for use of the DIRT tool (statistical database of hits)
- Networking and collaborating
- Improving stakeholder engagement
- Responding to calls for input into regulatory amendments
- Circulation of relevant information regarding safety and industry practice.

In BC, quantifying damage to underground infrastructure has often lacked consistency. In some cases, statistics have not been maintained. As a result, stakeholders have not been able to effectively determine how many damage events occur each year, the causes of these events, nor the circumstances surrounding these events. The Damage Information Reporting Tool allows the BCCGA to generate a high-level picture of safety and damage prevention in relation to excavation practices and the protection of underground infrastructure. This, in turn, should help all involved improve worker and public safety and protect underground infrastructure in BC.

The primary purpose in collecting underground facility damage data is to analyze data, learn why events occur, and determine what actions by industry can prevent them in the future, thereby ensuring the safety and protection of people and infrastructure. The use of BC Virtual Private DIRT allows the BCCGA to identify root causes, perform trend analyses, and ultimately help educate all stakeholders so that damages can be reduced through more effective practices and procedures.

Data Analysis

The British Columbia 2016 DIRT Report presents a 3-year trend whenever possible, allowing a more sophisticated and in-depth analysis including several new tables and charts. It is also clear from the data that 2016 represents the most comprehensive data set to date. It is difficult to quantitatively assess increase in participation and reporting due to the anonymous nature of the reporting, however, members should be congratulated on the continued commitment and improvement to data reporting.

As the oil and gas sector is so prolific in the total number of reports submitted for BC, care should be taken when interpreting this and other years' results.

The information provided in this report is generally organized to match the structure of the Damage Information Reporting Field Form of the BC Virtual Private DIRT. More specifically, the analysis of the data is organized around the following section headings:

- Part A: Information Providers
- Part B: Date and Location of Events
- Part C: Affected Facilities
- Part D: Excavation Information
- Part E, F, G, and H: Notification, Locating and Marking, Excavator Downtime, and Cost of Damage
- Part I: Root Causes

Part A: Information Providers

In Table 1, columns labelled '2014', '2015', and '2016' give the total number of damage events reported by each stakeholder group in BC. The column '2016 %' shows the percentage of the total events for 2016 reported by each stakeholder group. '2015-2016%' and '2014-2016%' show the percentage growth for each stakeholder group from 2015 to 2016 and 2014 to 2016, respectively.

In total, the number of damage reports in 2016 (1270) increased by 12.4% over 2015 and decreased by 3.3% over 2014. BC has reported the most consistent result of the three provinces, with *Natural Gas* being the only main contributor of damage reports in the BCCGA (89.6% in 2016), followed at a significant distance by *Telecommunications* (6.8%) and *Liquid Pipeline* (3.5%). It should be noted that damage reports associated with *Liquid Pipeline* do not represent damages to the pipeline, but rather "unauthorized activities" (near misses).

Table 1. BC events by stakeholder group, 2014-2016

Stakeholder Group	2014	2015	2016	2016%	2015-2016%	2014-2016%
Electric	92	-	-	0.0	0.0	0.0
Liquid Pipeline	59	56	45	3.5	-19.6	-23.7
Natural Gas	1043	1075	1139	89.6	6.0	9.2
Public Works	1	-	-	0.0	0.0	-100.0
Telecommunications	87	-	86	6.8	0.0	-1.1
Unknown/Other	32	-	-	0.0	0.0	-100.0
Total	**1315**	**1131**	**1270**	**100.0**	**12.4**	**-3.3**

Part B: Date and Location of Events

In Table 2, columns labelled '2014', '2015', and '2016' give the total number of reported events per month in BC. The column '2016 %' shows the percentage of the total events for 2016 that occurred in each month. '2015-2016%' and '2014-2016%' show the percentage growth for each month from 2015 to 2016 and 2014 to 2016, respectively.

The total of 1270 damage event reports in 2016 translates to an average of 105.8 events/month, up from 94.25 events in 2015, though still somewhat lower than the average of 110 events/month in 2014.

Table 2: BC events per month, 2014-2016

Month	2014	2015	2016	2016%	2015-2016%	2014-2016%
January	70	49	49	3.9	0.0	-30.0
February	62	52	59	4.6	13.5	-4.8
March	76	80	80	6.3	0.0	5.3
April	134	101	119	9.4	17.8	-11.2
May	136	121	146	11.5	20.7	7.4
June	154	125	134	10.6	7.2	-13.0
July	150	145	132	10.4	-9.0	-12.0
August	146	109	156	12.3	43.1	6.8
September	130	137	152	12.0	10.9	16.9
October	118	97	103	8.1	6.2	-12.7
November	85	65	96	7.6	47.7	12.9
December	54	50	44	3.5	-12.0	-18.5
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**
Avg.	109.6	94.3	105.8	8.3	12.2	-4.4

Figure 1 below demonstrates how the extra 140 events in 2016 were distributed for each month. The 3-year trend reveals a noticeable consistency in relative distribution of events per month.

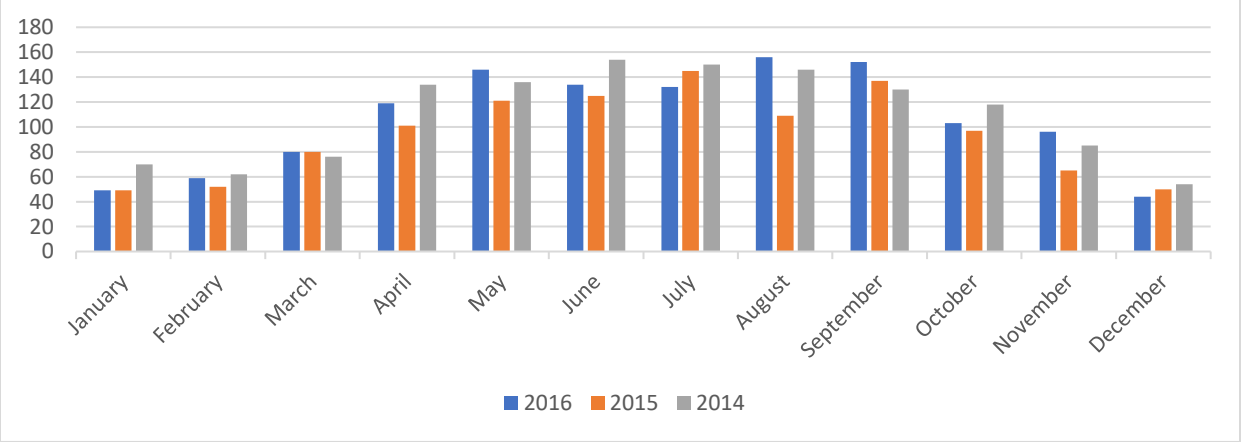

Figure 1. Events per month, 2014-2016

The above-average season for reported damage events (i.e. greater than the average of 105.8 events/month) extended from April through September, with a peak of 156 events in August (Table 2).

Table 3 details the geographic distribution of events among BC's major regions. At 339 events (26.7%), the region of *Greater Vancouver* was host to the most reported events, followed by *Interior*, *Fraser Valley and Coastal* BC, and Vancouver *Island*.

Table 3: Events by BC region, 2014-2016

Region	2014	2015	2016	2016%	2015-2016%	2014-2016%
Greater Vancouver	505	479	339	26.7	-29.2	-32.9
Fraser Valley and Coastal BC	167	120	294	23.1	145.0	76.0
Interior	357	341	303	23.9	-11.1	-15.1
Northern	116	54	82	6.5	51.9	-29.3
Vancouver Island	170	137	252	19.8	83.9	48.2
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

Figure 2 demonstrates visually how the accelerating decline of reported events in *Greater Vancouver* (-32.9% over 2014, and -29.5% over 2015) is offset by year-over-year increases in *Fraser Valley and Coastal BC* (+145%), *Vancouver Island* (+83.9%), and *Northern* BC (+51.9%), such that the total number of events declined by only 3.4%.

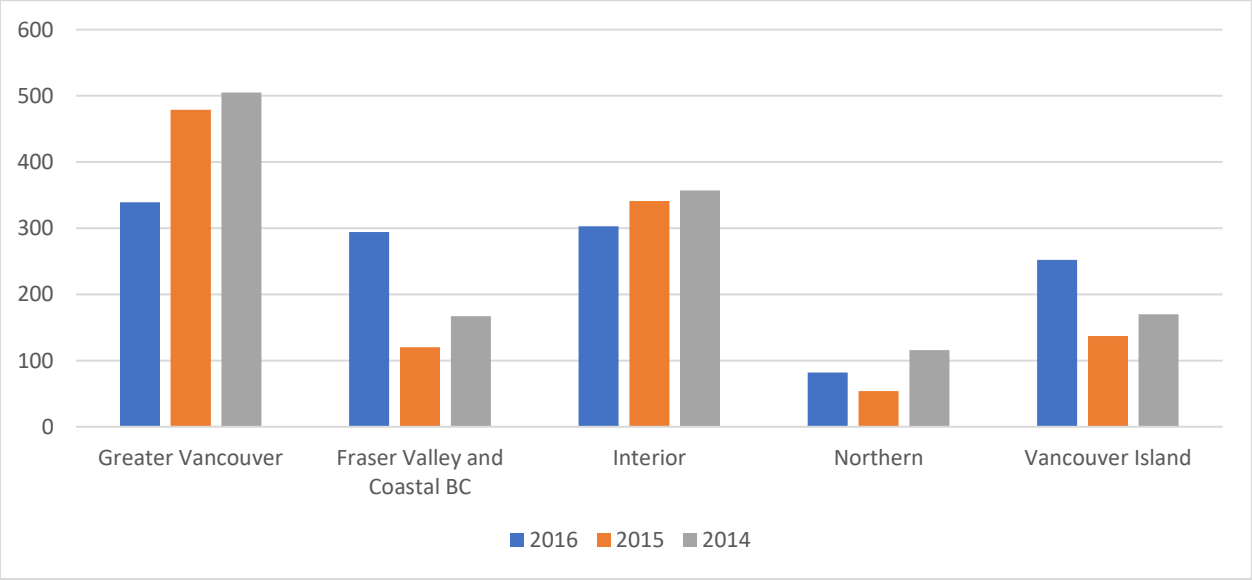

Figure 2. Events by BC region, 2014-2016

The distribution of reported events in 2016 (Table 4) saw an increase in *Private – Land Owner* (66.4%) which accounts for 72.6% (922 events) of all events that year. Events located on *Public – City Street* declined 10.2%, leaving it the second-largest land type with 22.2% of 2016, while a 97.6% year-over-year reduction in events on *Private – Business* land (6 events in 2016) rendered that a negligible category.

Table 4: BC events by land type (right of way), 2014-2016

Land Type	2014	2015	2016	2016%	2015-2016%	2014-2016%
Data Not Collected	158	2	0	0	-100.0	-100.0
Federal Land	0	0	2	0.2	0.0	0.0
Pipeline	45	2	31	2.4	1450.0	-31.1
Power/Transmission Line	1	0	3	0.2	0.0	0.0
Private - Business	42	246	6	0.5	-97.6	-85.7
Private - Land Owner	603	554	922	72.6	66.4	52.9
Private Easement	1	2	3	0.2	50.0	200.0
Public - City Street	328	314	282	22.2	-10.2	-14.0
Public - County Road	4	3	5	0.4	66.7	25.0
Public - Other	108	2	3	0.2	50.0	-97.2
Public - State Highway	11	4	2	0.2	-50.0	-81.8
Unknown/Other	14	2	11	0.9	450.0	-21.4
Total	**1,315**	**1,131**	**1270**	**100**	**12.3**	**-3.4**

Part C: Affected Facilities

Reflecting the distribution of stakeholder reports, *Natural Gas* remained the major category of facilities affected in 2016 as in previous years (Table 5).

Table 5: BC events by facility affected, 2014-2016

Facility Affected	2014	2015	2016	2016%	2015-2016%	2014-2016%
Electric	92	-	-	-	-	-
Natural Gas	1043	1,075	1139	89.7	6.0	9.2
Liquid Pipeline	59	56	45	3.5	-19.6	-23.7
Sewer	1	-	-	-	-	-
Telecommunications	87	-	51	4.0	-	-
Unknown/Other	34	-	35	2.8	-	-
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

The 139 extra damage reports in 2016 were divided between the *Natural Gas* (+64 events), *Telecommunications* (+51 events), and *Unknown/Other* (+35 events) categories (Figure 3).

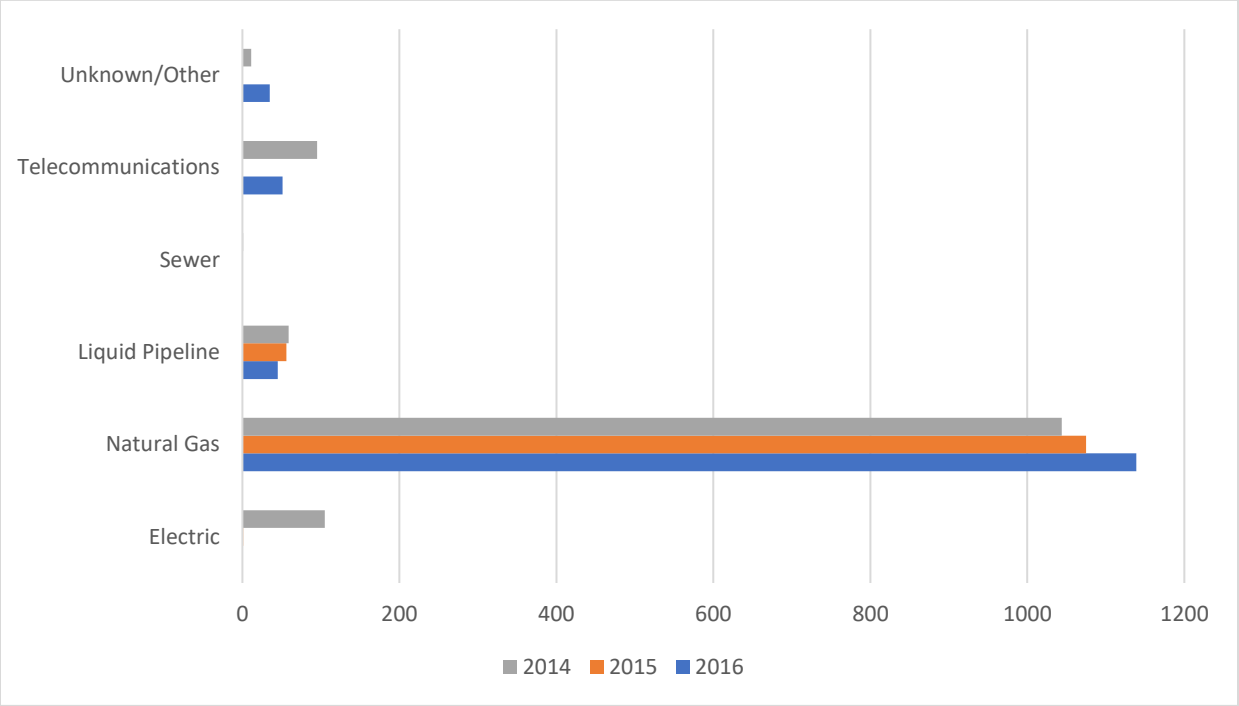

Figure 3. BC events by facility operation type, 2014-2016

Part D: Excavation Information

Table 6: BC events by excavator type, 2014-2016

Excavation Equipment	2014	2015	2016	2016%	2015-2016%	2014-2016%
Hoe/Trencher	794	722	526	41.4	-27.1	-33.8
Hand Tools	201	159	204	16.1	28.3	1.5
Drilling	26	18	29	2.3	61.1	11.5
Vacuum Equipment	5	2	1	0.1	-50.0	-80.0
Unknown/Other	149	230	147	11.6	-36.1	-1.3
Data not collected	140	-	363	28.6	-	159.3
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

Table 6 above breaks down damage reports by excavator equipment type. Despite declining 27.1% over the previous year and 33.8% over 2014, *Hoe/Trencher* remains the most commonly cited equipment type in BC damage reports (41.4% of 2016). *Hand tools*, *Unknown/Other*, and *Drilling* remained similar over the three-year timespan.

However, the biggest gain across categories is for *Data not collected*, as Figure 4 demonstrates. The significant reduction in *Hoe/Trencher* excavation equipment type events (-196) is more than offset by the increase in *Data not collected* (+363), indicating an overall loss of data quality in Part D of the reporting form.

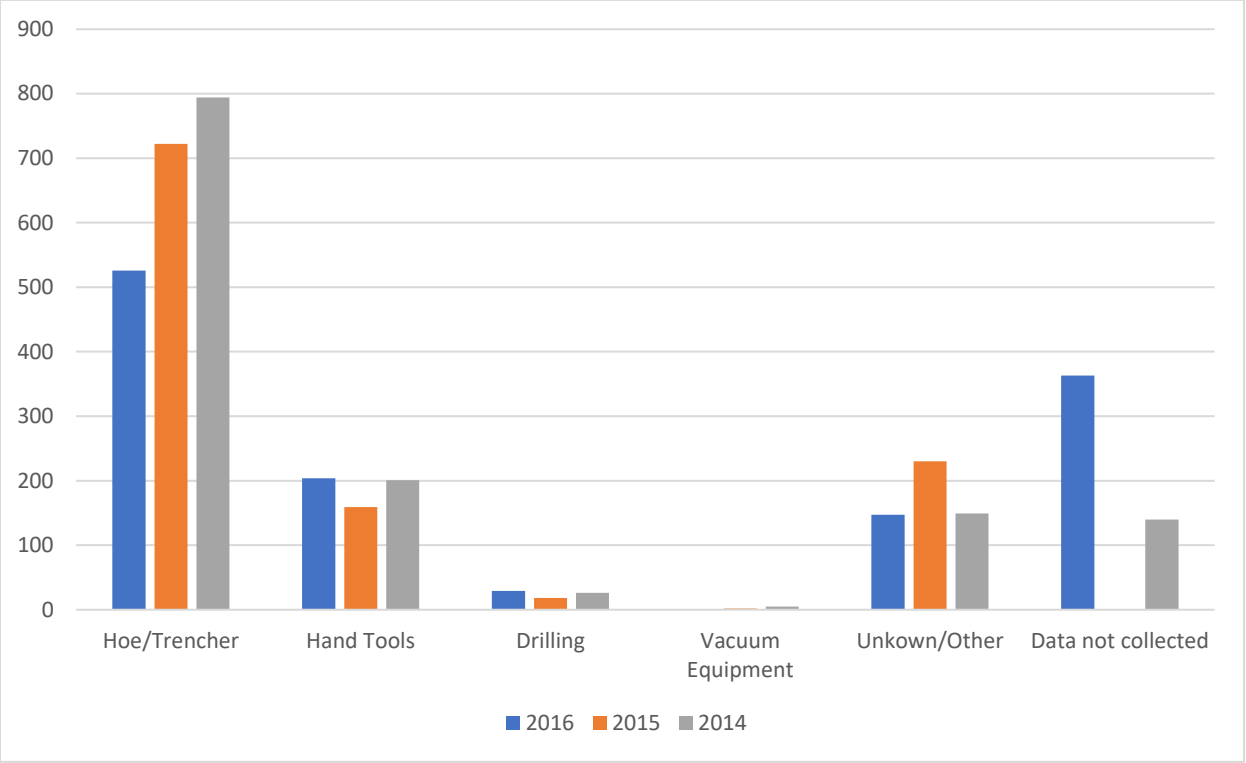

Figure 4. BC events by excavation equipment type, 2014-2016

Table 7 below breaks down the volume of events by type of excavator. A full 65.4% of all damage reports list *Contractor* as the excavator, while another 22.4% fall into the *Occupant* category and 5.4% into *Municipality*. Between 2015 and 2016, *Unknown/Other* grew from 6 to 42 events, *Occupant* grew from 233 to 284 events, and *Contractor* from 757 to 830 events. Year-over-year declines were seen in *Farmer* (from 32 to 17) and *Municipality* (from 75 to 68).

Table 7: BC events by excavator type, 2014-2016

Excavator Type	2014	2015	2016	2016%	2015-2016%	2014-2016%
Contractor	761	757	830	65.4	9.6	9.1
Data Not Collected	1	-	1	0.1	0.0	0.0
Developer	125	9	1	0.1	-88.9	-99.2
Farmer	22	32	17	1.3	-46.9	-22.7
Municipality	4	75	68	5.4	-9.3	1600.0
Occupant	76	233	284	22.4	21.9	273.7
Railroad	249	-	2	0.2	0.0	-99.2
Unknown/Other	61	6	42	3.3	600.0	-31.1
Utility	16	19	25	2.0	31.6	56.3
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

Figure 5 demonstrates how *Contractor* has accounted for over half of all annual reported events from 2014 to 2016, even as other categories such as *Municipality* and *Railroad* have lost significance.

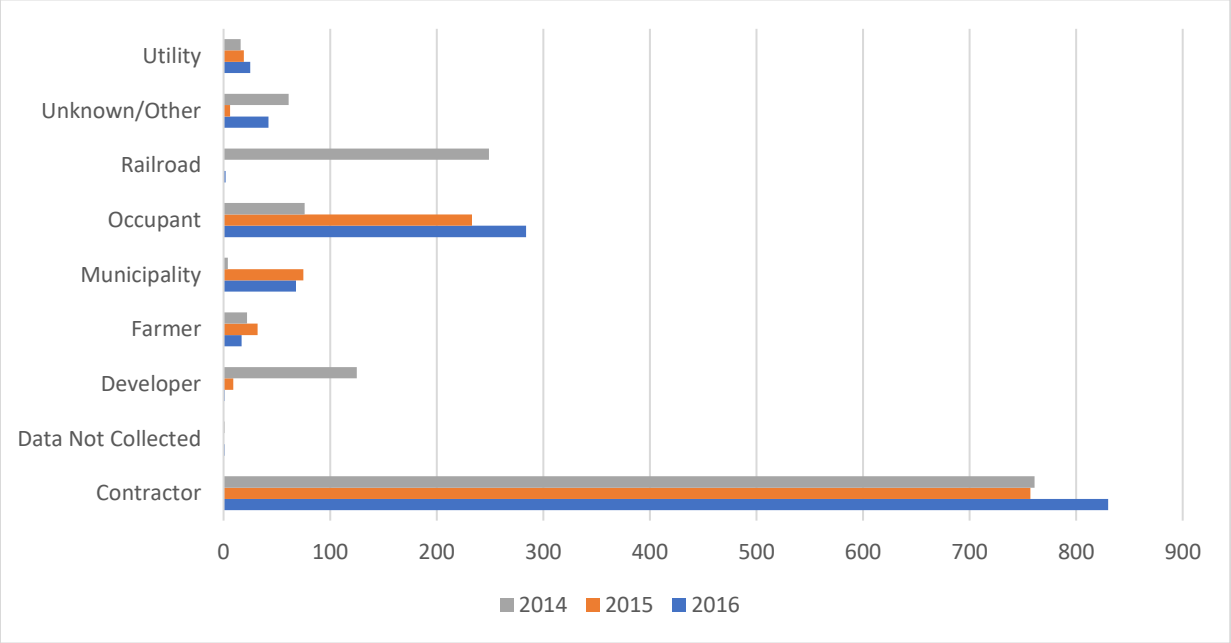

Figure 5: BC events by excavator, 2014-2016

Table 8: BC events by work performed, 2014-2016

Work Performed	2014	2015	2016	2016%	2015-2016%	2014-2016%
Agriculture	19	29	30	2.4	3.4	57.9
Construction/Development	412	516	206	16.2	-60.1	-50.0
Data not collected	169	45	291	22.9	546.7	72.2
Energy/Telecommunications	123	77	128	10.1	66.2	4.1
Landscaping/Fencing	81	126	109	8.6	-13.5	34.6
Street	112	82	123	9.7	50.0	9.8
Unknown/Other	87	16	61	4.8	281.3	-29.9
Water	312	240	322	25.4	34.2	3.2
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

Table 8 above and Figure 6 below display the volume of reported events for the type of work performed. A 546.7% year-over-year increase in *Data Not Collected* occurred in 2016 (from 45 to 291 events, or 22.9% of the 2016 distribution) even after a drop in the previous year. *Energy/Telecommunications*, *Street*, and *Water* all report slightly higher values for 2016. Meanwhile, *Construction/Development* decreased by 60.1% to 206 events in 2016, after rising significantly from 2014 to 2015. *Landscaping* declined modestly from 126 events in 2015 to 109 in 2016.

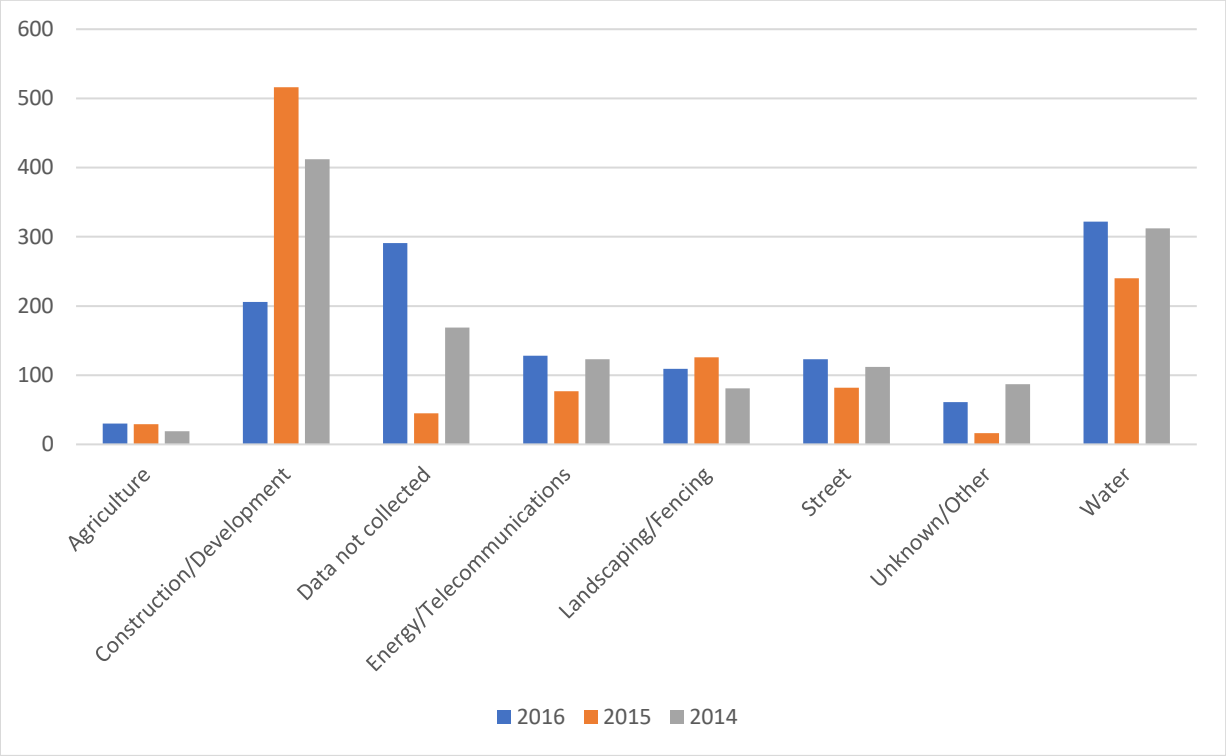

Figure 6. BC events by work performed. 2014-2016

Part E, F, G & H: Notification, Locating and Marking, and Excavator Downtime

As stated above, there were 1270 damage events reported in British Columbia in 2016, representing a 12.3% increase over 2015. Table 9 contains statistics on damage events, locates, notifications, and the calculated ratios of reported events to 1,000 locates and reported events to 1,000 notifications. In total, there were 180,285 locate requests to BC One-Call in 2016, a 9.8% increase since 2015 and a 21.7% increase since 2014. There were 757,197 notifications, a 1.5 % decrease over 2015, yielding a ratio of 4.2 notifications per locate request. The ratio of reported events per 1,000 locates was 1.4, and there was a ratio of 1.7 reported events per 1,000 notifications.

Table 9. BC One-Call notifications, locates, and damage ratios, 2014-2016

One-Call Notification	2014	2015	2016	2015-2016%	2014-2016%
Number of D. Events	1315	1131	1270	12.3	-3.4
Number of Locates	148,100	164,268	180,285	9.8	21.7
Damages/1000 Locates	8.9	6.9	7	1.4	-21.3
Ratio of Notifications:Locates	4.6	4.7	4.2	-10.6	-8.7
Number of Notifications	688,274	768,501	757,197	-1.5	10.0
Reported events:1000 Notif.	1.9	1.5	1.7	13.3	0.0

Table 10 below presents the incidence of service interruptions among reported events in BC in 2016, the first year that service interruptions are presented as part of the DIRT report. In BC, 86.5% of all reported events led to some sort of service interruption.

Table 10: BC events by service interruption occurrence, 2016

Service Interruption	2016	2016%
Yes	1099	86.5
No	95	7.5
Unknown	74	5.8
Data Not Collected	2	0.2
Total	1270	100.0

Part I: Root Causes

Table 11 provides the volume of damage event records by the general category of root cause. These categories each contain several root causes (Appendix A). As in 2015, most reported events in 2016 remain categorized as *One-Call Practices Not Sufficient* (63.5%) and *Excavation Practices Not Sufficient* (36.1%). Growth is evident in *Miscellaneous Root Cause* (6.1%, +76 events) and *Excavation Practices Not Sufficient* (+51 events). Overall, the growth in these root causes reflects the modest year-over-year growth without statistical anomalies.

Table 11. BC events by root cause, 2014-2016

Damage by Root Cause Category	2014	2015	2016	2016%	2015-2016%	2014-2016%
One-Call Practices Not Sufficient	694	718	723	56.9	0.7	4.2
Locating Practices Not Sufficient	19	3	10	0.8	233.3	-47.4
Excavation Practices Not Sufficient	421	408	459	36.1	12.5	9.0
Miscellaneous Root Cause	181	2	78	6.1	3800.0	-56.9
Total	**1315**	**1131**	**1270**	**100.0**	**12.3**	**-3.4**

Figure 7, the pie chart below, analyzes the top individual root causes, as opposed to the broader categories in Table 12.

Figure 8 reveals that *No notification made to one-call center* (56.1% of all events) and *Excavation practices not sufficient* (35.0%) are of paramount importance as causes of reported events.

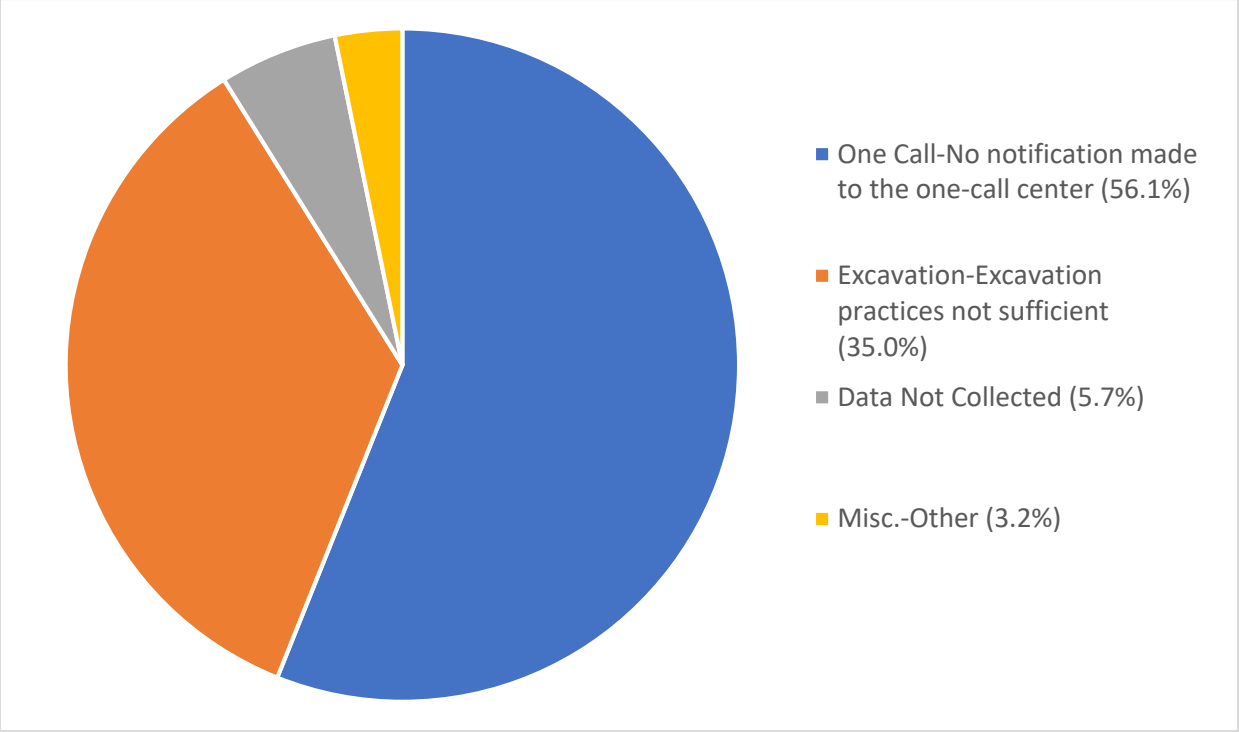

Figure 7: Reported events by root cause subcategory, 2014-2016

Data Quality

The Data Quality Index (DQI) consists of the evaluation of each of the 1270 damage records submitted in BC in 2016. It is divided into 8 categories (A, B, C, D, EF, G, H, and I) representing each portion of the DIRT reporting form. Each individual form has a percentile score for each category, as well as an overall score for the entire form. These scores can then be averaged across all forms for each category.

In previous years the DIRT report would organize the percentile DQI scores into quintiles and compare the relative number of each form that fell into each quintile, per form section. New in the 2016 report, average scores for each form section have been calculated for 2014, 2015 and 2016. We believe this approach offers greater clarity and insight.

Table 12: Average DQI per DIRT form section, 2014-2016

DQI Averages	2014	2015	2016	2015-2016%	2014-2016%
Part A	100.0	100.0	100.0	0.0	0.0
Part B	62.8	79.8	79.2	-0.7	26.2
Part C	90.3	98.4	93.7	-4.8	3.8
Part D	82.7	92.3	77.8	-15.7	-5.9
Part EF	76.6	78.3	77.5	-1.0	1.2
Part G	39.8	50.7	5.5	-89.1	-86.2
Part H	42.3	48.4	44.9	-7.2	6.3
Part I	86.6	99.9	93.9	-6.0	8.5
Overall Average	**74.1**	**83.7**	**76.2**	**-8.9**	**3.0**

Table 12 shows that the average DQI in 2016 decreased 8.9% over 2015 and increased 3.0% over 2014. The most significant decline was seen in Part G, which declined 89.1% over 2015, although Part G is generally not included in the Western Canada DIRT analysis report. Among reported-on categories, the 15.7% year-over-year decline in Part D is worrisome (Figure 9). Most other categories remained relatively steady.

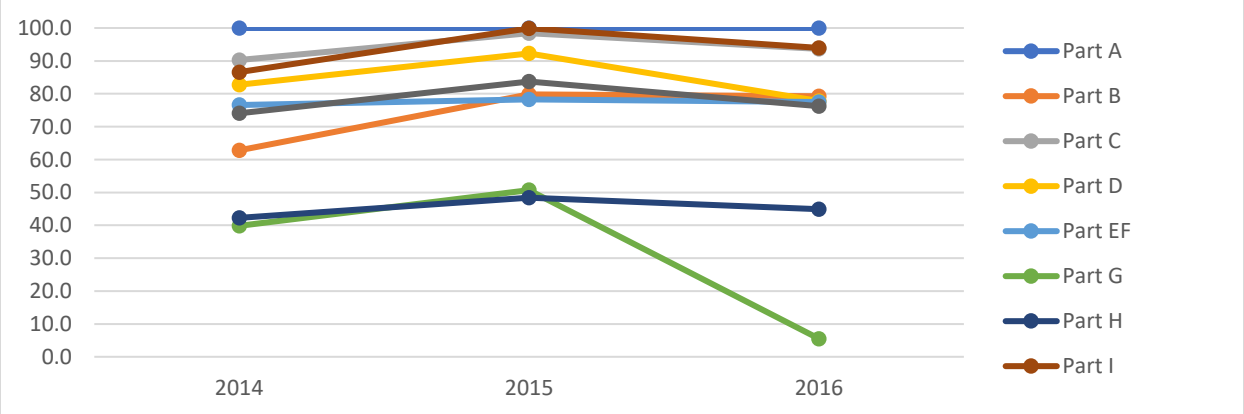

Figure 8: Average DQI per DIRT form section, 2014-2016

Recommendations

The following recommendations are intended to enhance industry efforts to reduce damage events and standardize the data collection process. Based on the analysis of the 2015 DIRT data, the recommendations are:

1. **Continue efforts to improve data quality**
    a. **Focus on increasing the DQI of Part D.** Part D covers the key area of excavation information. For each critical subsection on equipment type, excavator type, and work performed, more than 30% of the responses are "Data Not Collected." Ensuring that a higher proportion of damage reports collect the full suite of data in Part D will grant a much better understanding of what excavation practices are implicated in damage events.
    b. **Continue to encourage stakeholders to use DIRT.** By encouraging DIRT use among existing members, the entire reporting framework becomes more robust and useful to all.
    c. **Encourage stakeholders to re-visit reports.** To increase data quality and cut down on the number of "Data not collected" entries across several DIRT form sections, stakeholders should be encouraged to re-visit submitted reports if or when they have more information at a later date.
2. **Expand Stakeholders.** With nearly all reported events (89.6%) coming from the natural gas industry every year, the diversity and robustness of the dataset in BC would increase with a greater variety of stakeholders reporting.
3. **Location: address gains in *Vancouver Island*; *Fraser Valley and Coastal BC.*** Reported events in Greater Vancouver plunged in 2016, a positive sign. But while numbers for *Interior* and *Northern* regions have remained fairly steady from 2014-2016, *Vancouver Island* and *Fraser Valley and Coastal BC* have spiked. An emphasis on these locations is a necessary response.
4. **When considering *Natural Gas* infrastructure, focus on *Private Land* and *City Streets.*** The majority of events occurred on the *Private–Land Owner* and *Public–City Street* categories, a trend in all 3 years of data. In practically all reported events, *Natural Gas* facilities were affected, reflecting the membership of BC's One Call program. While still accounting for a plurality of reported events, the number of reported events related to *Hoe/Trencher* excavation work is in decline. Given that more data is missing on excavation equipment in this year's data, it is impossible to know what sort of equipment is involved in more accidents than last year.
5. **Focus on *Contractors* and *Occupants*.** 88% of all damage reports from BC in 2016 were related to these excavator types, both of which have increased in number each year as other types have declined.
6. **Improve notification practices by ensuring contact with One Call center.** 56% of all reported events in BC occurred because no notification of the One Call center occurred. Educating all stakeholders on best practices for informing their employees on use of the One Call service is a natural first step to address this issue.
7. **Consider developing and publicizing a damage-costing model.** Quebec's *Info-Excavation* worked with engineering researchers, stakeholders and first responders to tabulate the cost of damage events in the province. By their metric, and assuming a similar level of data quality to Quebec,

damage events across Western Canada would have cost $661 million, $134 million in BC alone. Creating benchmarks based on analysis of a representative set of real-life events in BC would aid in this regard.

Appendix: British Columbia Category Groupings

Geographic Area

Group	Administrative Region
Greater Vancouver	Greater Vancouver
Fraser Valley and Coastal BC	Central Kootenay, Fraser Valley, Powell River, Sunshine Coast
Interior	Cariboo, Central Okanagan, Columbia-Shuswap, East Kootenay, Kootenay Boundary, North Okanagan, Okanagan-Similkameen, Squamish-Lillooet, Thompson-Nicola
Northern	Fraser-Fort George, Northern Rockies, Peace River
Vancouver Island	Alberni-Clayquot, Capital, Comox-Strathcona, Cowichan Valley, Nanaimo

Excavator Grouping

Group	Type of Excavator
Contractor	Contractor
County	County
Data Not Collected	Data Not Collected
Developer	Developer
Farmer	Farmer
Municipality	Municipality
Occupant	Occupant
Unknown/Other	Unknown/Other
Utility	Utility

Excavation Equipment Grouping

Group	Type of Equipment
Hoe/Trencher	Backhoe, Trackhoe, Trencher
Hand Tools	Hand Tools, Probe
Drilling	Auger, Bore, Directional Drill, Drill
Vacuum Equipment	Vacuum Equipment
Other	Farm Implement, Grader, Scraper, Road Milling Equipment, Explosives

Work Performed

Group	Type of Work
Water	Sewer, Water
Energy/Telecommunications	Natural gas, Electric, Steam, Liquid Pipe, Telecom, Cable TV
Construction/Development	Construction, Site Development, Grading, Drainage, Driveway, Demolition, Engineering, Railroad, Waterway
Street	Roadwork, Curb/Sidewalk, Storm drainage, Milling, Pole, Traffic Signals/Signs, Streetlight, Public Transit
Landscaping/Fencing	Landscaping, Fencing
Agriculture	Agriculture, Irrigation

Root Cause

Group	Root Cause
Excavation Practices Not Sufficient	Failure to maintain clearance, Failure to support exposed facilities, Failure to use hand tools where required, Failure to test hole (pot-hole), Improper backfill practices, Failure to maintain marks
One-Call Practices Not Sufficient	No notification made to One-Call centre, Notification made but not sufficient, Wrong information provided
Locating Practices Not Sufficient	Incorrect facility records/maps, Marking or location not sufficient, Facility not located or marked, Facility could not be found or located
Misc. Root Cause	Abandoned, One-Call centre error, Deteriorated, Previous Damage