

The DIRT Behind Damage Prevention: Using Data to Reduce Damages

Presented By:

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Overview



About CGA



CGA Best Practices & Core Programs



Damage Information Reporting Tool



Excavator Stakeholder Engagement



Next Steps

About CGA

History

Stakeholder Participation

Programs & Initiatives

History of CGA

- 1998: Transportation Equity Act for the 21st Century directed USDOT to conduct a **nationwide study of best practices** in place to enhance worker safety, protect vital underground infrastructure and ensure public safety during excavation activities.
- 1999: Completed study published with consensus support from all **160 stakeholders** that participated in the study, and included 132 Best Practices.
- 2000: **Common Ground Alliance established** to support industry efforts to continue the implementation and development of the Damage Prevention Best Practices.

CGA Today

- Over 1,700 members
- Almost 240 member organizations/companies
- 70 sponsors (Bronze, Silver, Gold & Platinum)
- 16 damage prevention stakeholder groups
- 6 staff members
- 6 working committees
- 20 Board members

Damage Prevention Stakeholders



One Call

Gas Transmission
Gas Distribution
Oil

Telecommunication
s
Electric
Public Works

Locators

Excavators
Road Builders

State Regulators

Engineering

Equipment

Insurance

Emergency Services

Railroad

Information & Analysis

Develop information and analysis designed to enhance our members' ability to implement effective damage prevention processes and programs.

Education

Increase education of the industry, public and policymakers about the importance of the damage prevention process.

CGA

Mission

The Common Ground Alliance is dedicated to preventing damage to underground utility infrastructure and protecting those who live and work near these important assets through the shared responsibility of our stakeholders.

Stakeholder
Engagement

Stakeholder Engagement

Provide a collaborative forum for stakeholders to identify and highlight effective damage prevention practices and programs.

Information
& Analysis

Education



CGA Best Practices & Core Programs

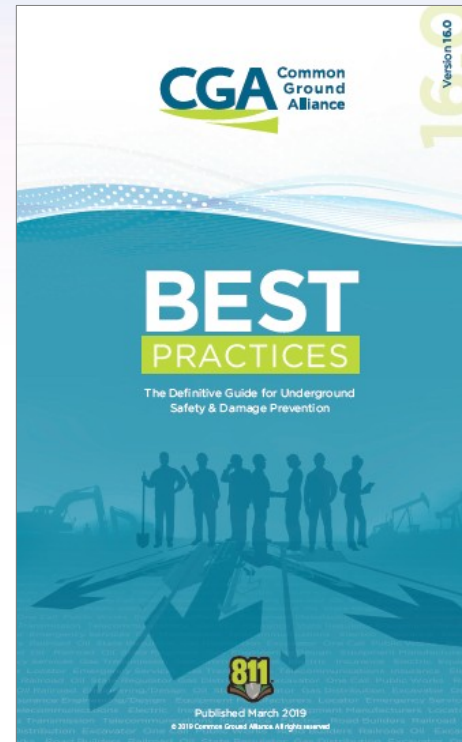
Best Practices

811 and Safe Digging Process

Data Reporting & Evaluation

CGA Core Programs

- Best Practices
- 811 / Damage Prevention Awareness
- Data Reporting and Evaluation (DIRT)

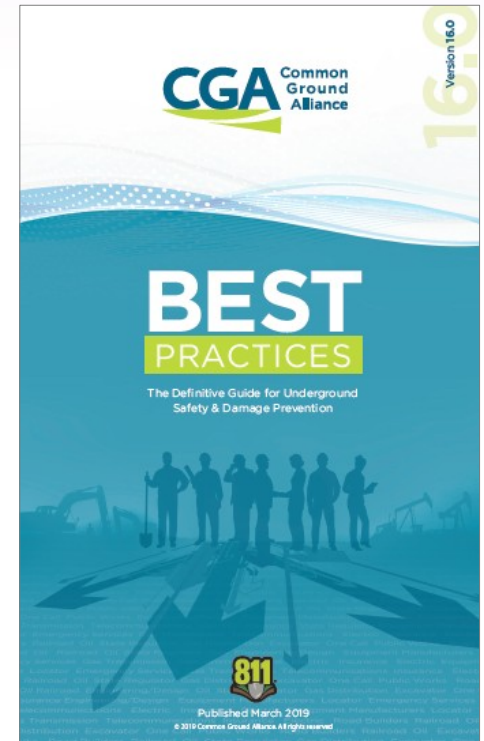


Know what's **below**.
Call before you dig.



Best Practices

- Version 16.0 published March 2019
- Approximately 170 practices developed through consensus
- Many have become law
- Currently 5 task teams reviewing potential new Best Practices
- Distribute of 12,000 field manuals annually
- Available online with over 50,000 pageviews annually



Current BP Transaction Records

- Identifying newly installed or under construction facilities (TR 2013-01)
- Cross bore determination and mitigation (TR 2014-02)
- Abandoned lines (TR 2014-04)
- Modification to 4-5, locator training (TR 2017-01)
- One Call Center informs callers that privately-owned facilities may exist (TR 2018-01)

Task Teams

- Review of Marking Guidelines Appendix B
- Electronic RFID markers working group

SUBMIT NEW BEST
PRACTICE

Best Practices Recognition

CGA Best Practices Now Included in OSHA Instruction!

Following a sustained effort by our Education Committee's Insurance Stakeholder Group, we are proud to announce that the Common Ground Alliance Best Practices are included in the new directive for the Occupational Safety and Health Administration's (OSHA) Instruction on the National Emphasis Program (NEP) on Trenching and Excavation.



811 / Safe Digging Process

- Increase awareness of 811
- Drive homeowners/ excavators to notify the one call center prior to digging
- Educate industry and the public about the importance of the damage prevention process



Focus Stakeholder Outreach & Communications

811 Communications Plan



CGA released its latest Communications Plan to guide stakeholders in their efforts to promote the 811 message and other damage prevention practices. The plan features a calendar with daily, weekly and monthly tasks, as well as artwork files, template news releases, contributed articles, social media posts and email blasts.

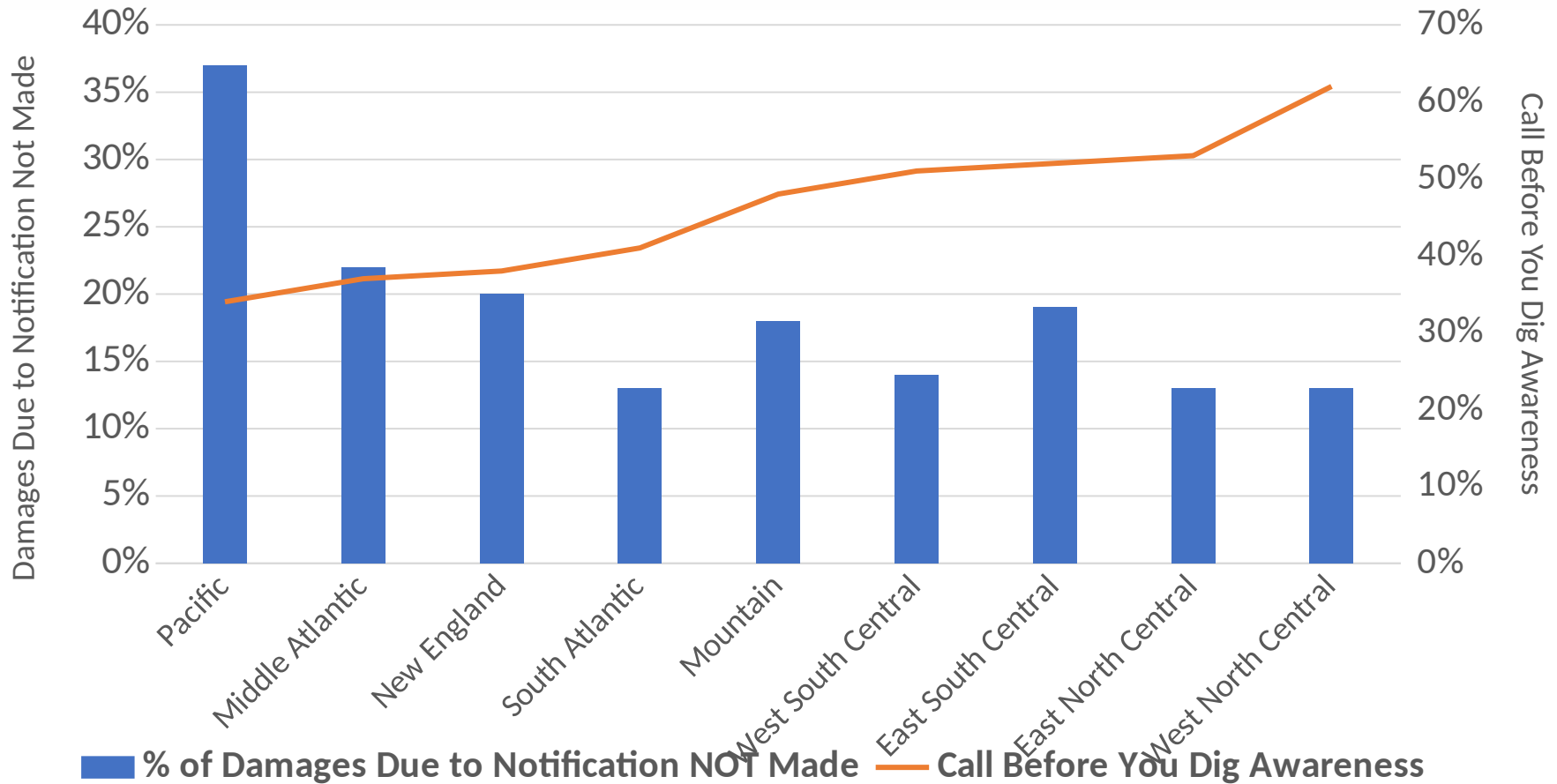
2019 Communications Plan & Calendar

The 2019 811 Communications Plan is available for download as well as a stand-alone calendar to help plan your education and awareness efforts.

 [2019 Communications Calendar](#)

 [2019 811 Communications Plan \(Full\)](#)

Awareness vs Damages Due to Notification NOT Made



National Safety Council Green Cross for Safety Advocate Award

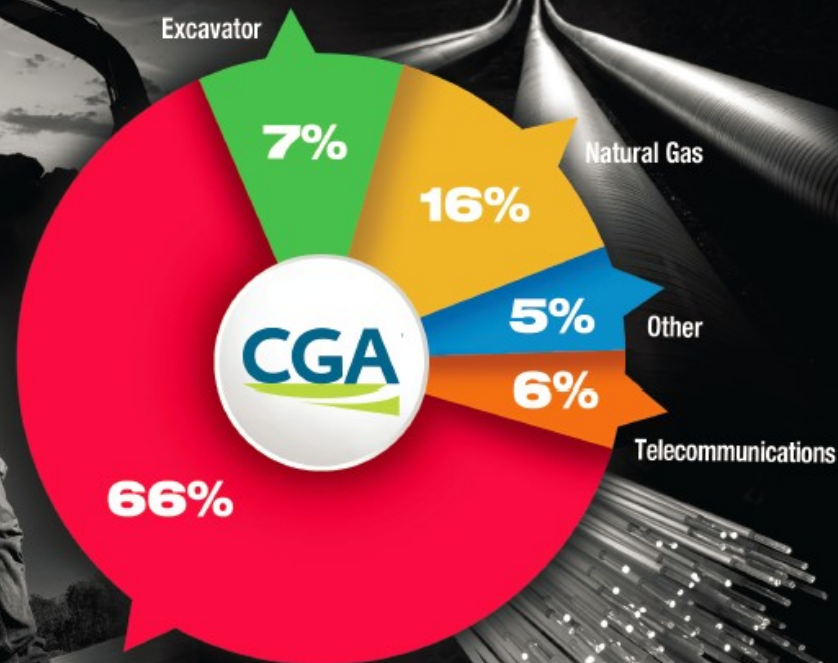




IMPORTANT
SAFETY MATERIALS INSIDE



Your industry, your safety, your story, your data...we need it!



Percentage of reported damages submitted by stakeholder group.

CGA's annual DIRT Report provides the only national estimate of damages to buried infrastructure in the U.S., but we rely on data submitted by our stakeholders — and we need to hear your side of the story.



DIRT Report

Information collected

Goal of report

Latest data

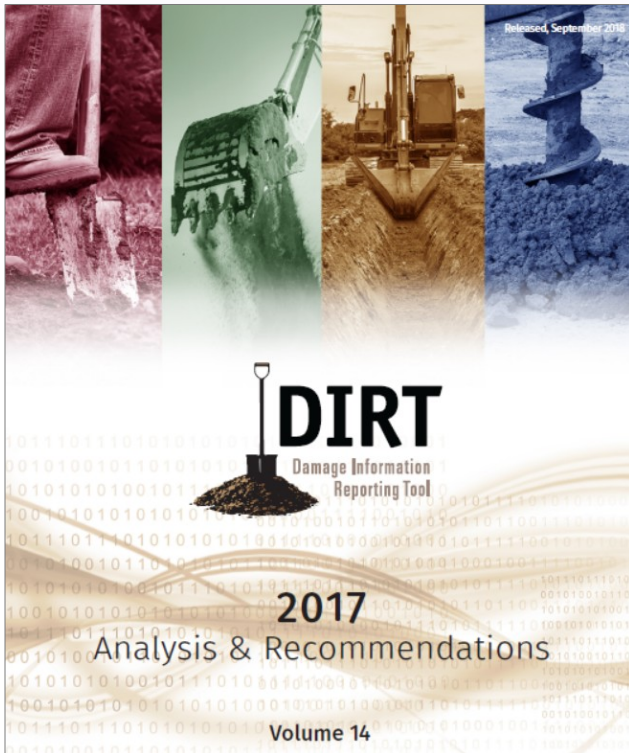
Damage Information Reporting Tool (DIRT)

- Collects damage and near miss data
- Voluntary
- Statistically valid
 - Professional Analysis
 - Report Writer
- Managed by a proven committee process



2017 DIRT Report

- DIRT accepts data on excavation damages and near-misses from all affected parties
- Includes analysis of data submitted into DIRT for 2017
- Highest event submissions and most complete data to date
- 2017 was the 14th annual report published
- Written report supplemented by online interactive dashboard
- Deadline to submit data to be included in annual report – March 31



DIRT Field Form

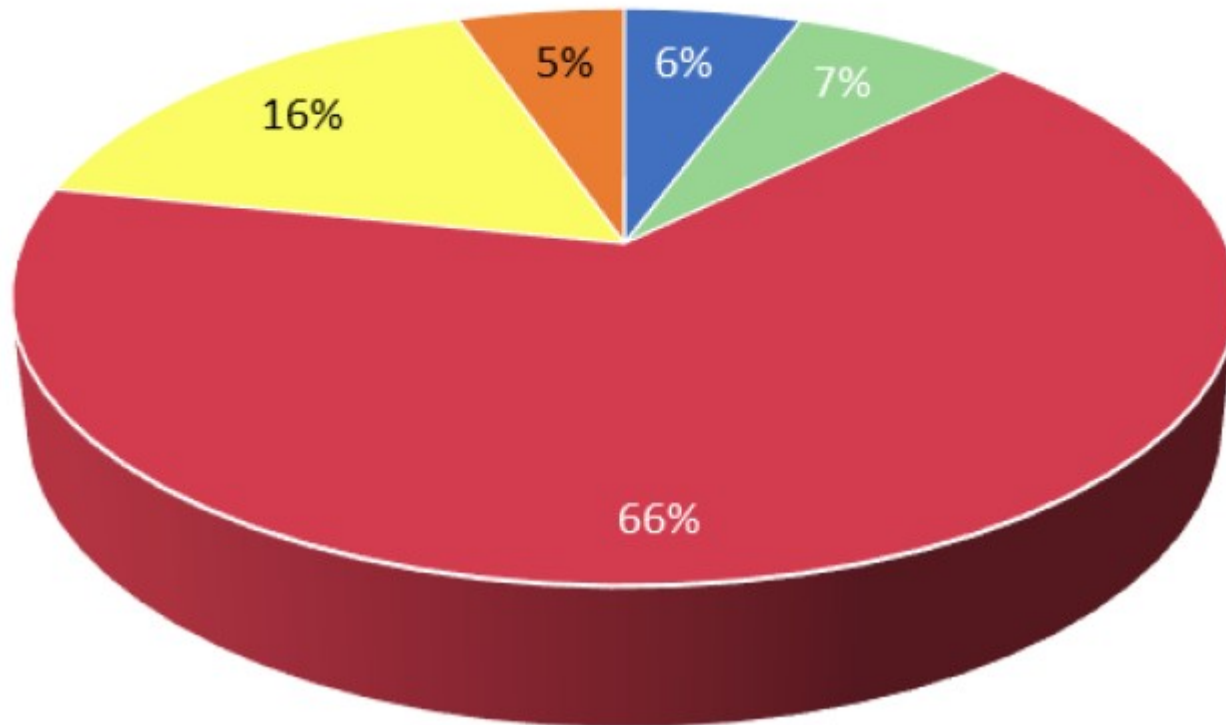
- **Part A) Original Source of Event Information**
 - Who is providing the information?
- **Part B) Type, Date and Location of Event**
- **Part C) Affected Facility Information**
 - What type of facility operation was affected?
 - What type of facility was affected?
- **Part D) Excavation Information**
 - Type of excavator (contractor, developer, farmer, etc.)
 - Type of equipment
 - Type of work performed

DIRT Field Form

- **Part E) Notification and locating**
 - Was the one call center notified?
- **Part G) Excavator downtime**
 - Did excavator incur downtime?
- **Part H) Interruption and Restoration**
 - Did the damage cause an interruption in service?
- **Part I) Root Cause (Select only one)**
 - Examples: Abandoned facility, Excavator dug outside area described on ticket, Excavator failed to maintain clearance after verifying marks.

Reporting Stakeholders

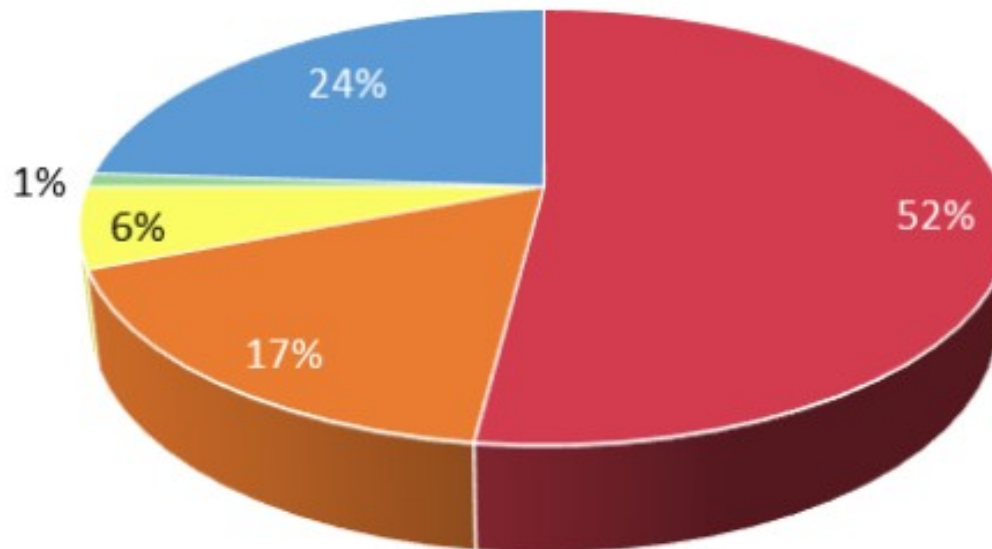
■ Other ■ Excavator ■ Locator ■ Natural Gas ■ Telecommunications



Damage Cause Analysis

Damage Root Cause Group

- Excavation Practices Not Sufficient
- Locating Practices Not Sufficient
- Miscellaneous
- Notification Practices Not Sufficient
- Notification Not Made



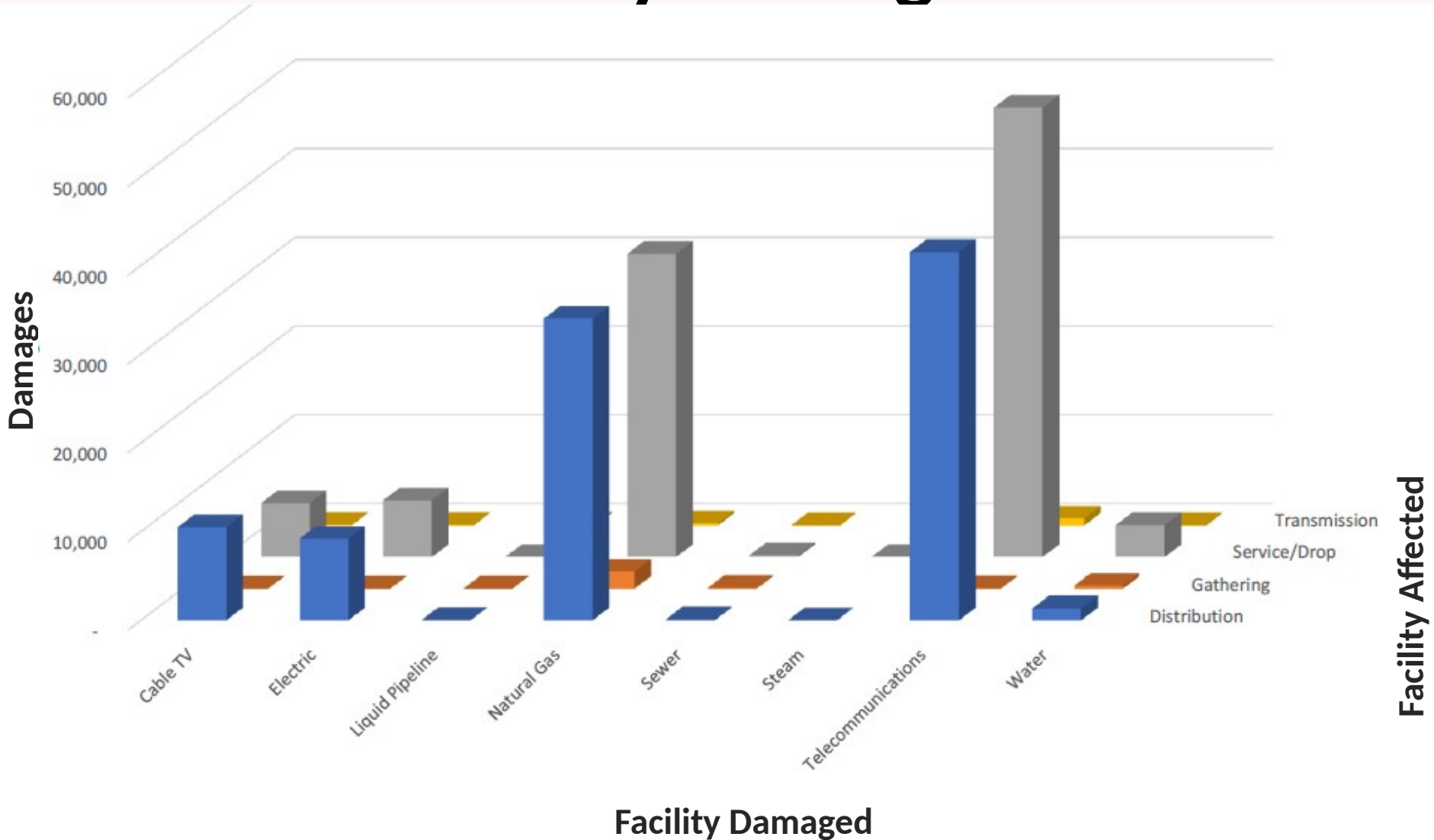
DIRT Report Root Cause Grouping

Group	Root Cause
Excavation practices not sufficient	<ul style="list-style-type: none"> • 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 • Excavation practices not sufficient (other)
Notification NOT made	<ul style="list-style-type: none"> • No notification made to one call center
Locating practices not sufficient	<ul style="list-style-type: none"> • Incorrect facility records/maps • Facility marking or location not sufficient • Facility was not located or marked • Facility could not be found or located
Notification practices not sufficient	<ul style="list-style-type: none"> • Notification of one call center made but not sufficient • Wrong information provided to one call center
Miscellaneous root cause	<ul style="list-style-type: none"> • Abandoned • One call center error • Deteriorated facility • Previous damage

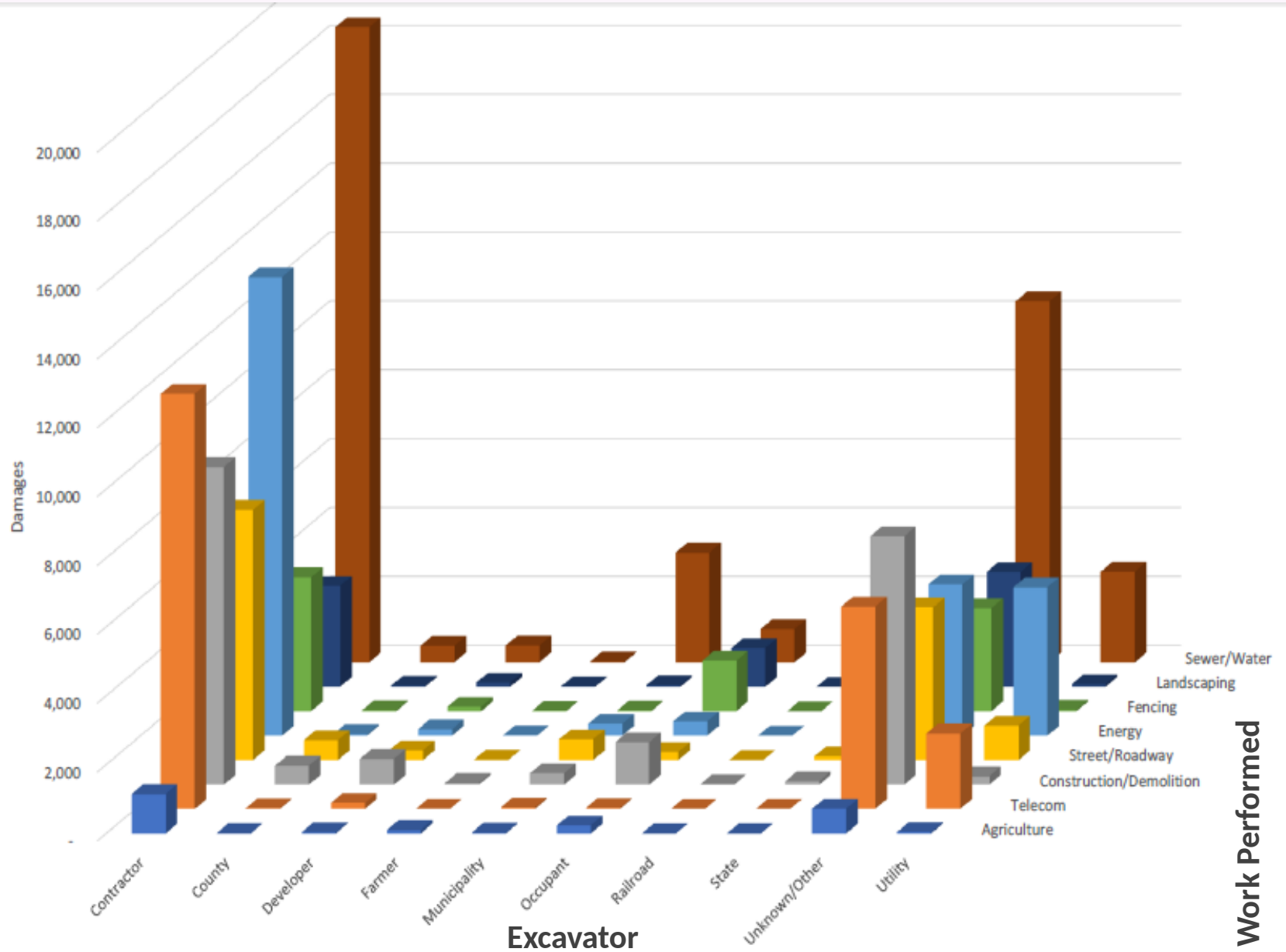
Estimated Total Damages (U.S.)

	2015	2016	2017
Total Estimated Damages (U.S.)	378,000	416,000	439,000
Total Estimated Transmissions	199.9 M	221.9 M	234.9 M
Total Estimated Damages per 1,000 Transmissions	1.89	1.88	1.87
Damages per million dollars of construction spending	0.354	0.351	0.359

Facility Damaged

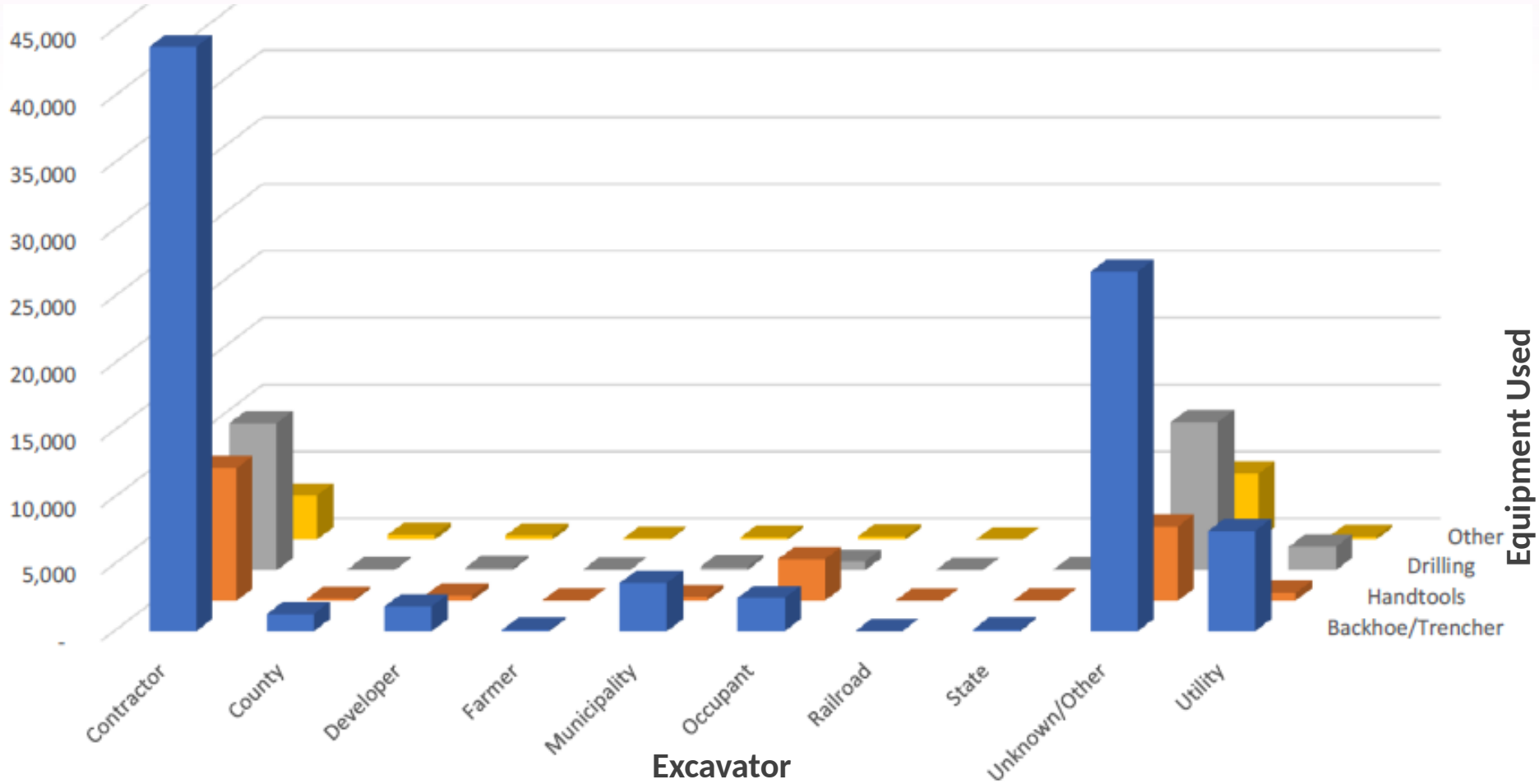


Type of Work by Type of Excavator



Work Performed

Type of Equipment by Type of Excavator



DIRT Infographics



2017 DIRT Report

Hand Tools Can Damage Unmarked Gas Lines

More than 80 percent of “no call” damages involving hand tools damaged natural gas facilities.

CommonGroundAlliance.com/DIRT



DIRT Report Excavator Input

Information collected

Goal of report

Latest data

Reports from Excavators (2017)

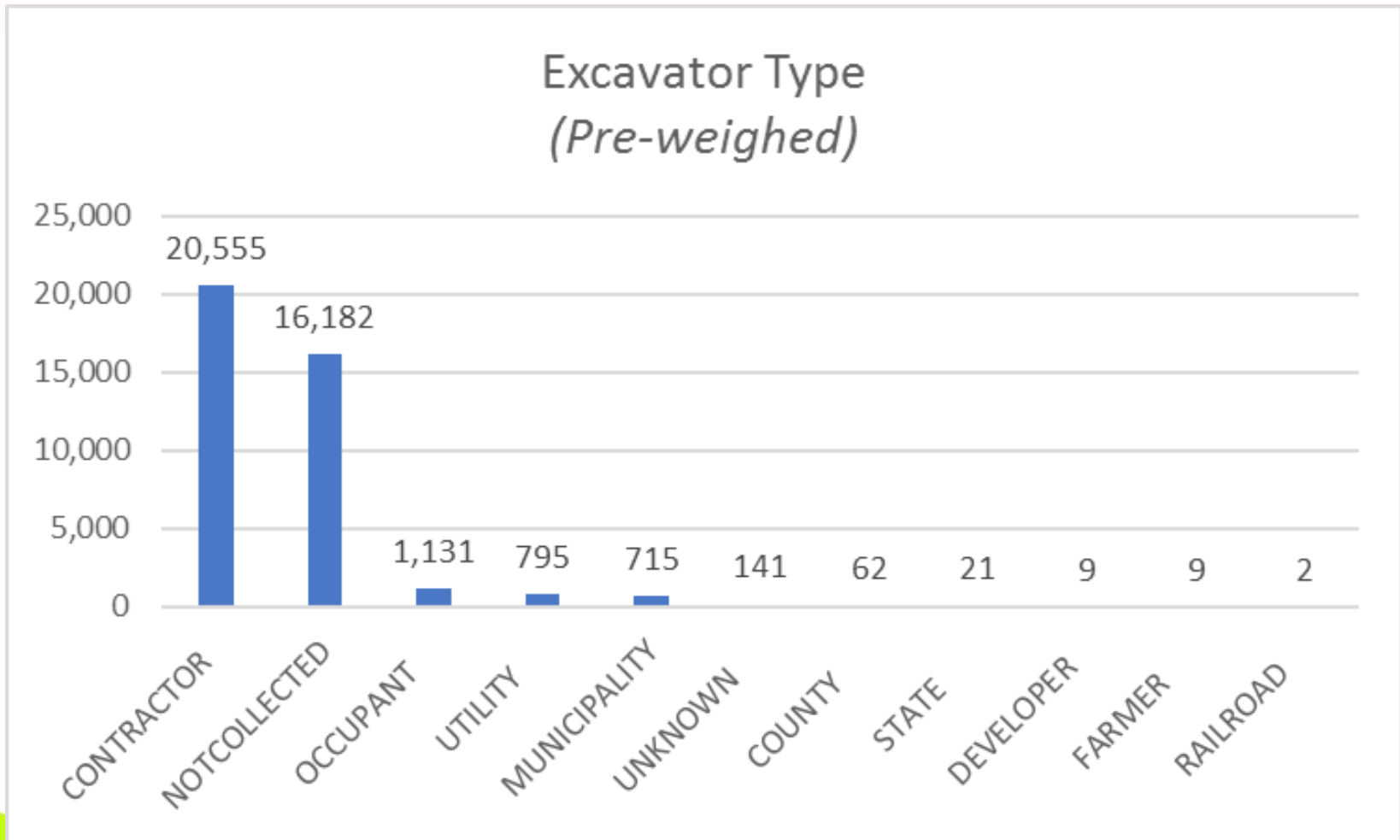
- Data entered by 69 excavators from 35 states/provinces
- 39,622 of 411,867 (9.6%) pre-weighted
Actual reports entered in DIRT before running program to identify multiple reports of same event.
- 23,074 of 318,030 (7.3%) post-weighted
After running program to identify and weight multiple reports of same event.

	Pre-Weighted	Weighted
Damages	38,598	22,280
Near Misses	1,024	793
Total	39,622	23,074

Weighted has left-over fractions, resulting in rounding error.

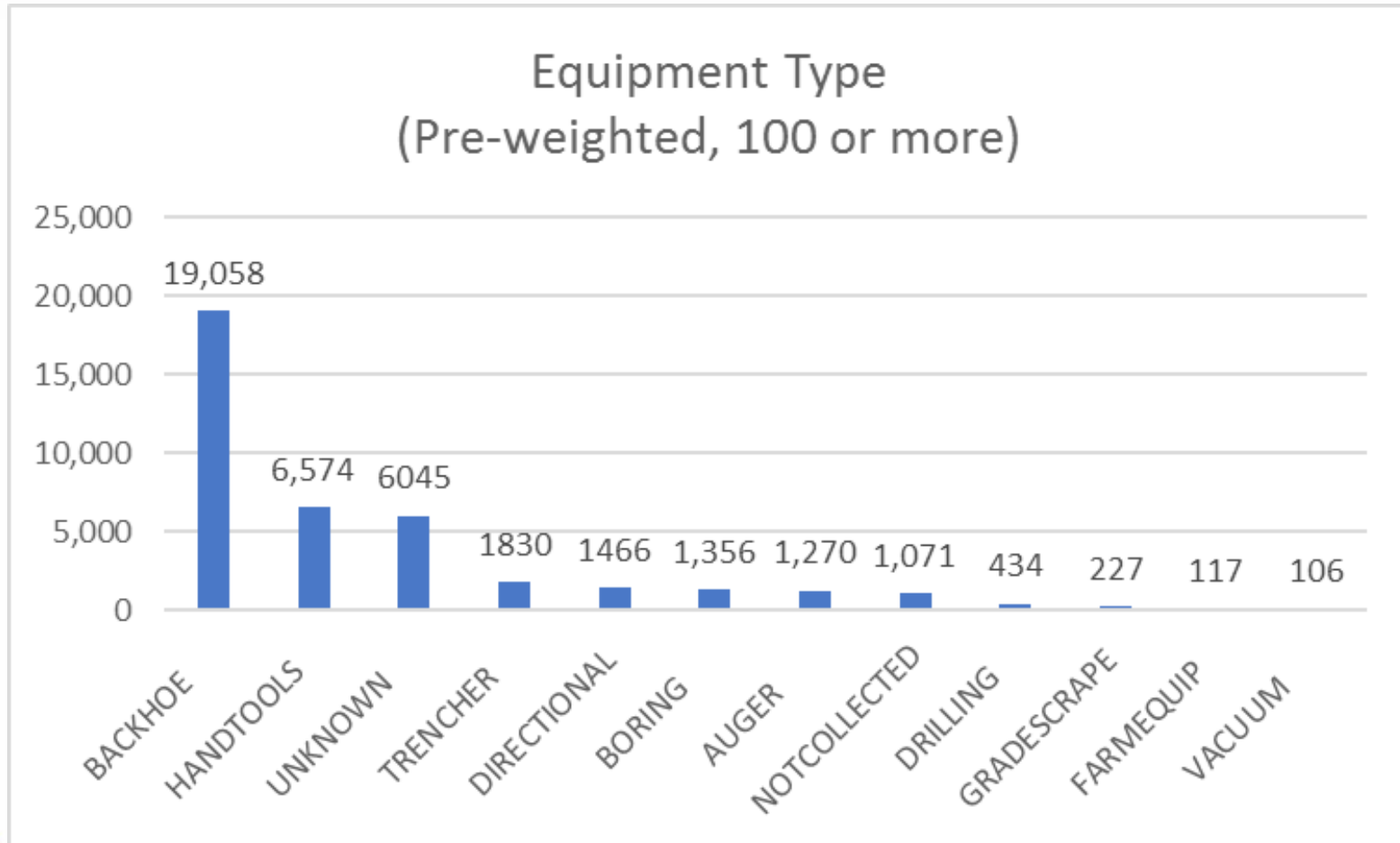
Type of Excavator

Based on 39,622 reports from excavators



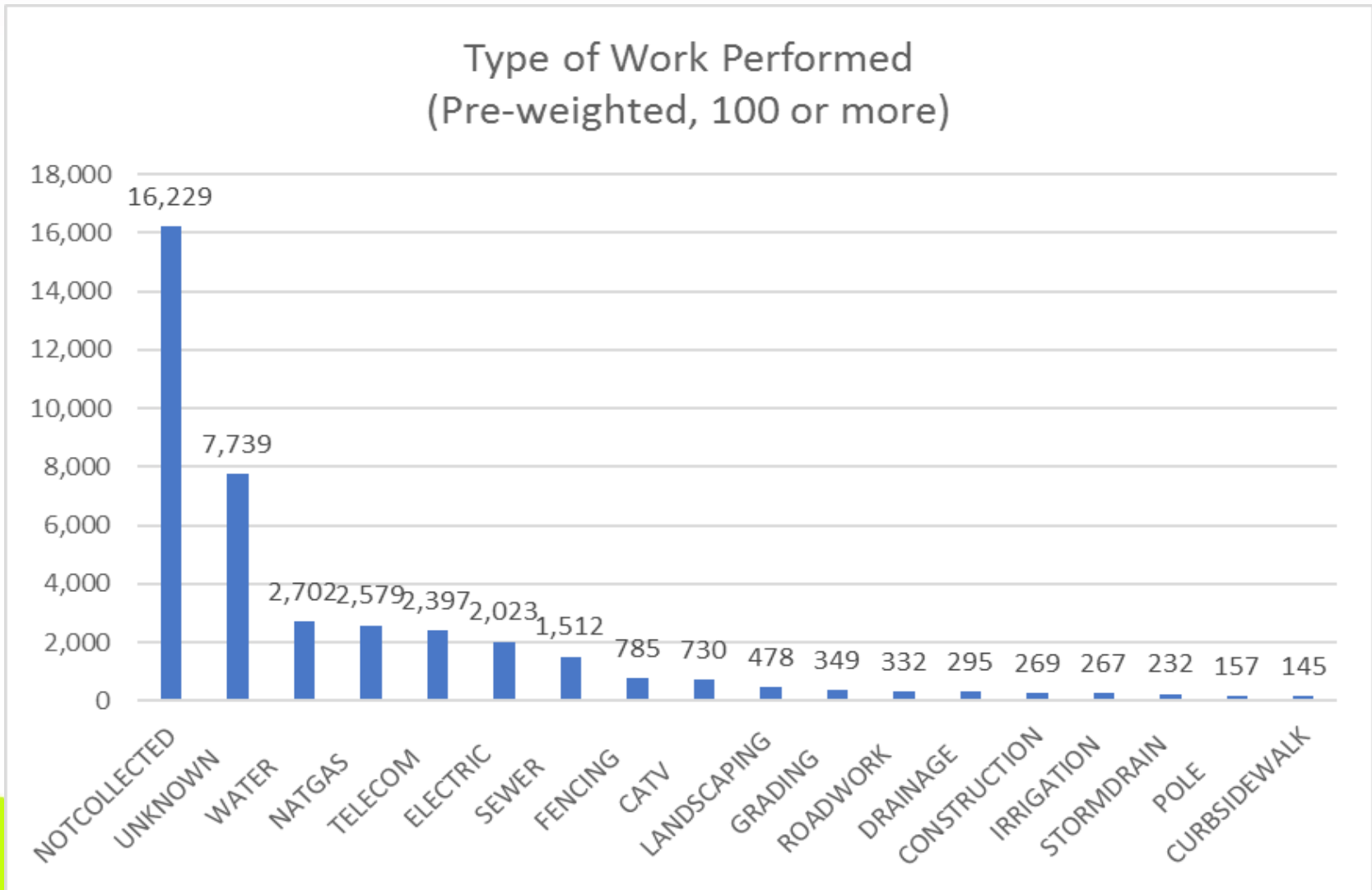
Type of Equipment

Based on 39,622 reports from excavators



Type of Work Performed

Based on 39,622 reports from excavators




Excavator Downtime Reports

Yes	11,368
No	4,958
Blank	23,296
Total	39,622

Downtime Cost (\$)	Number of Reports
1 to 500	468
501 to 1000	277
1001 to 2500	369
2501 to 5000	215
5001 to 25,000	91
> 25,000	10

Non-blank
and
non-zero
reports

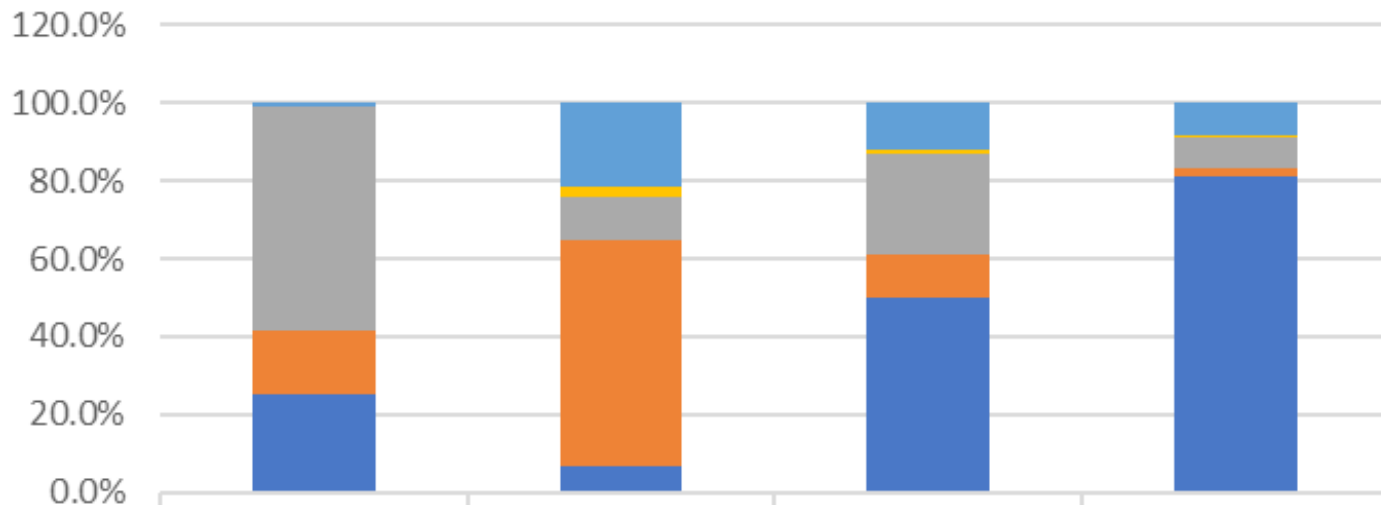


Downtime Hours	Number of Reports
1	457
2	614
3	999
4	4
5	2
6	5
7	2
8	1
15	1
20	1
24	1
25	1
37	1

Near-Miss Reports Only

2015-2017 (19,967 reports)

Root Cause Group by Reporting Stakeholder



	LOCA	EXCV	NATGAS	LIQPIPE
■ Unknown	0.9%	21.6%	11.8%	8.2%
■ Miscellaneous	0.1%	2.4%	1.1%	0.5%
■ Excavating	57.7%	11.0%	25.9%	8.1%
■ Locating	16.0%	58.1%	11.2%	2.0%
■ Notification	25.4%	6.9%	50.0%	81.2%

■ Notification ■ Locating ■ Excavating ■ Miscellaneous ■ Unknown

Excavator and Locator Reports on the Same Event - 2015-2017

- 37,079 reports were submitted for the same event where at least one report is from an excavator.
- In 82% (30,517) of these reports, the locator was the “other” submitter.
- Major root cause comparisons
 - 57.55% - Locator points to the excavator, but excavator’s report is inconclusive
 - 16.55% - Locator points to itself, but excavator’s report is inconclusive
 - 10.47% - Each party points to the other
 - 8.5% - Parties agree
 - 3% - Excavators point to themselves
 - 24% - Locators point to themselves

Key Takeaways: Excavator and Locator Reports on the Same Event

- In nearly 58% of the reports, the locator points to the excavator, but the excavator does not provide its side of the story.
- Locators provide a known root cause at a much higher rate than excavators.
- When a known root cause is provided, excavators and locators point to each other slightly more often than they agree.
- Excavators point to themselves very infrequently.
- Locators point to themselves more frequently than excavators do, but also point to excavators much more frequently.
- Locators typically submit about seven times as many reports as excavators into DIRT.
- Increased and higher quality reporting from excavators is needed in order for DIRT to reflect the excavator point of view.

Excavator Stakeholder Engagement

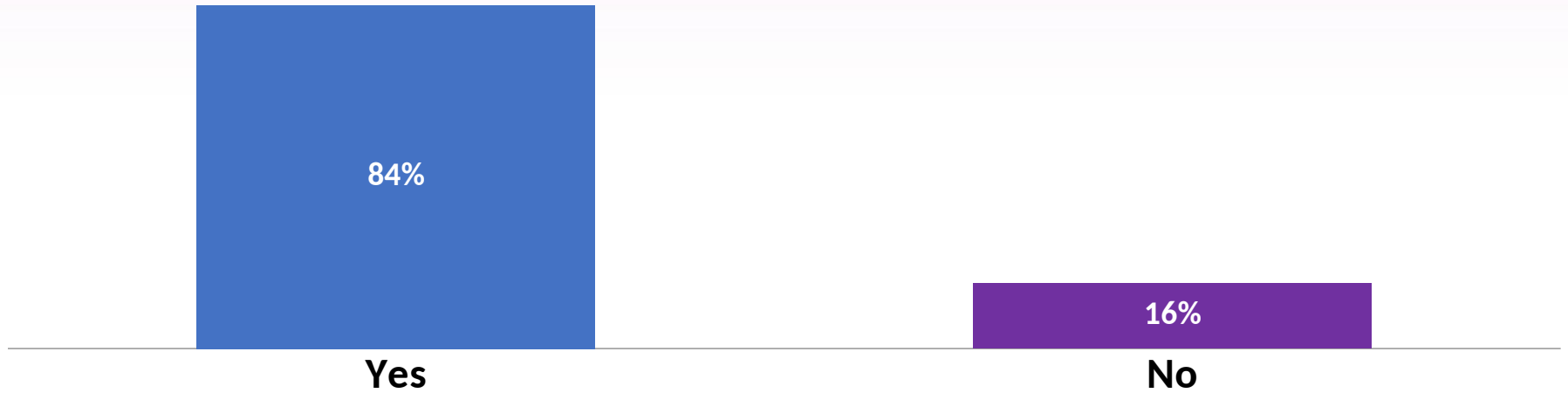
Research Process and goals

What we learned

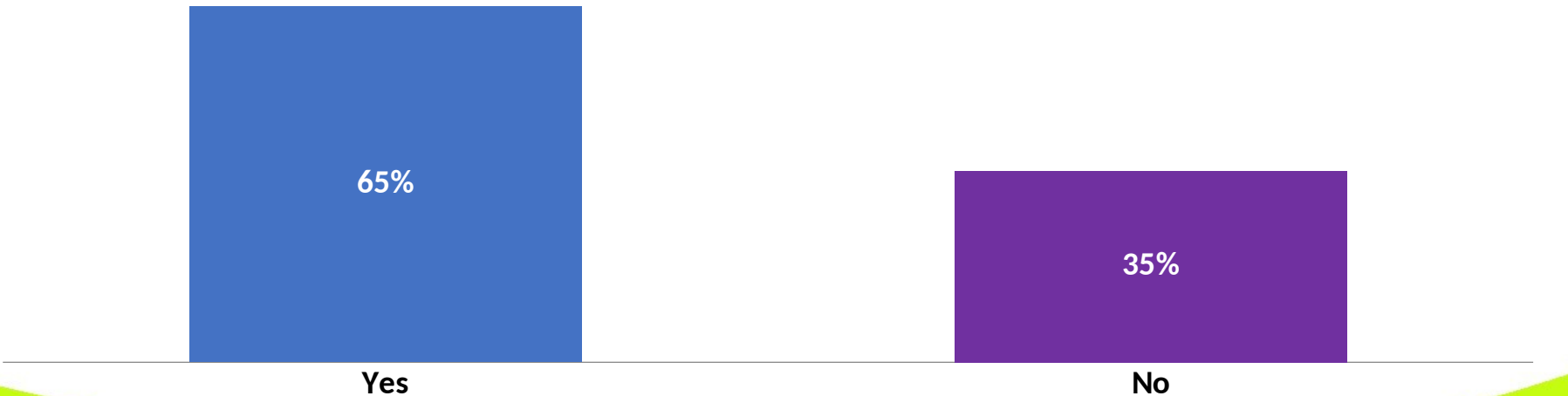
Recommendations

AWARENESS OF CALL-BEFORE-YOU-DIG SERVICES

AWARENESS

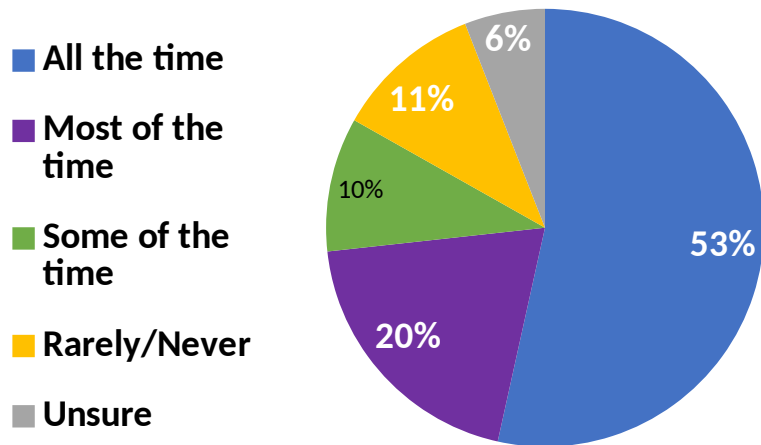


USAGE



NOTIFICATION OF 811 OR CALL-BEFORE-YOU-DIG

NOTIFY YOUR LOCAL ONE CALL CENTER BEFORE WORK BEGINS



Q: For each of the following actions, please indicate if you or someone at your company, does this all of the time, most of the time, some of the time, rarely, or never when completing a digging project? -Notify your local one call center by calling 811 or making an online request 2-3 days before work begins.

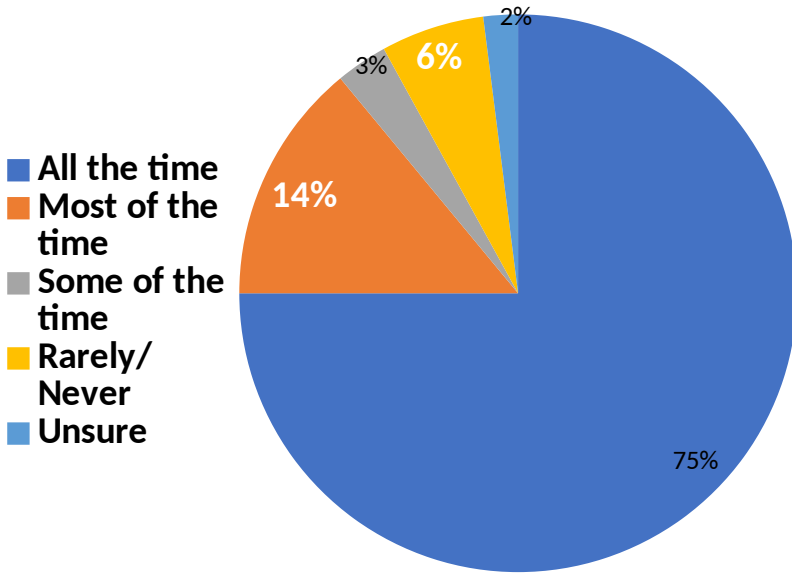
WHY DO YOU NOT NOTIFY ALL OF THE TIME?

25%	Already know where they are/Already marked
19%	Do Call/Call Local Utilities
13%	Don't need to/Not necessary for the project (non-specific)
9%	Timing
8%	Someone else takes care of it
7%	If not digging deep/Depends on how deep we are digging
4%	Not aware of 811/CBYD
3%	Depends on the job
4%	Other
12%	None/Don't know/Refused

Q: Being as specific as you can, why do you not notify 811 or call-before-you-dig all of the time? This question was asked of the n=102 respondents who said they do not notify 811 all of the time.

DIG CAREFULLY AROUND MARKS

DIG CAREFULLY AROUND THE MARKS



Q: For each of the following actions, please indicate if you or someone at your company, does this all of the time, most of the time, some of the time, rarely, or never when completing a digging project? - Dig carefully around the marks provided by locator following safe digging practices.

WHY DO YOU NOT DIG CAREFULLY ALL OF THE TIME?

22%	Do dig carefully all of the time
19%	Knowledge of the area/Lines
16%	Timing
12%	Not needed at the time
5%	Depends on the job/Depends on the operator
3%	Don't dig carefully all of the time (non-specific)
3%	Someone else does the digging
3%	Other
15%	None/Refused

Q: Being as specific as you can, why do you not dig carefully all of the time? This question was asked of the n=58 respondents who said they do not dig carefully all of the time.

CGA White Paper: Data-Informed Insights and Recommendations for More Effective Excavator Outreach

- Continue increasing awareness of 811 through strategic marketing and education campaigns.
- Acknowledge the realities of the jobsite when communicating best practices to excavators.
- Develop an integrated communications plan to reach all types of excavators.
- Make damage prevention training more easily accessible, relevant and actionable.

Next Steps

Submit data

Promote 811 and safe digging practices

DIRT - Data Reporting

- March 31 - submission deadline
- Questions? dirt@commongroundalliance.com



National Safe Digging Month



<http://commongroundalliance.com/toolkits/NSDM>



Zero Damages.
Reaching the Goal Together.

March 26-28



Tampa, FL

CGA's Social Networks

- Call 811 on Facebook:
www.facebook.com/Call811
- CGA Connect on Facebook:
www.facebook.com/CGAConnect
- CGA Connect on Twitter:
www.twitter.com/CGAConnect



Thank You

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Learn More about CGA

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