



# DIRT

Damage Information  
Reporting Tool



**CGA**<sup>TM</sup>  
Common Ground Alliance

# Damage Information Reporting Tool (DIRT)

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# Overview

- CGA overview
- DIRT development and DIRT today
- Challenges and lessons learned
- DIRT Report



# Common Ground Study / CGA

Congress passed Transportation Equity Act for 21<sup>st</sup> Century in 1998. Legislation called for USDOT to conduct a study of best practices in place nationwide for enhancing worker safety, protecting vital underground infrastructure and ensuring public safety during excavation activities conducted in the vicinity of existing underground facilities.



# Establishment of CGA

- 160 Stakeholders participated in study.
- Completed in 1999: 132 Best Practices published with **consensus** support from all involved.
- Common Ground Alliance established in 2000 to support industry efforts to continue the implementation and development of the **Damage Prevention Best Practices**.



# 16 Stakeholder Groups Representing...

Excavators  
Road Builders

One Call Centers  
Locators

Emergency Services  
State Regulators



Gas Distribution  
Gas Transmission  
Electric  
Telecommunications  
Oil  
Public Works  
Railroad

Equipment  
Engineering/Design  
Insurance

## Member Driven Organization...



# CGA Today

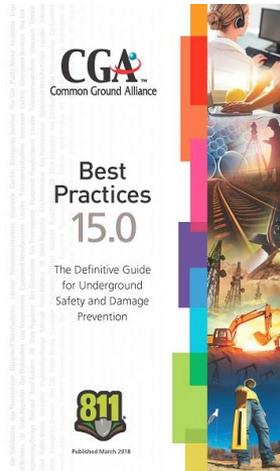
- Over 1,700 members
- Almost 240 member organizations/companies
- 70 sponsors (Bronze, Silver, Gold & Platinum)
- 16 damage prevention stakeholder groups
- 6 staff members
- 7 working committees
- 20 board members



# CGA Core Programs



Know what's below.  
Call before you dig.



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





# Best Practices Chapters

- Planning & Design
- One Call Center
- Locating & Marking
- Excavation
- Mapping
- Compliance
- Public Education
- Reporting & Evaluation

## Best Practices Icons



Project Owner



Excavator



Designer



Facility Owner



One Call Center



Locator

# Reporting & Evaluation Practices

*Associated with reporting damage and near miss data.*

- 9.1 – All stakeholders report information
- 9.2 – Standardized information is reported
- 9.3 – Identify the noncompliant stakeholder
- 9.4 – Person reporting provides detailed information
- 9.5 – Requested information may change
- 9.6 – A standardized form is adopted
- 9.7 – The form is simple



# Reporting & Evaluation Practices

*Associated with reporting damage and near miss data.*

- 9.8 – Training is provided
- 9.9 – Flexibility on completing form is provided
- 9.11 – Stakeholders complete the same form
- 9.12 – An organization is identified to receive the information (e.g. DIRT)
- 9.13 – The organization is able to interface with all stakeholders





# Data Reporting & Evaluation



# Data Reporting & Evaluation Committee

- Established in 2001: The Data Reporting & Evaluation Committee will look at currently available damage data, the gaps where additional data reporting and evaluation is needed, and how such data for various underground infrastructure components can best be gathered and published.



# Damage Information Reporting Tool

- 2001 – Data Reporting & Evaluation Committee holds first meeting.
- 2002 – Approved data collection field form based on Best Practices.
- 2002 – Utility Notification Center of Colorado finalized web-based tool for collecting data.
- 2003 – CGA kicks off development of national tool for data collection.



# DIRT Launched 2003

- Secure, web application used for collecting and reporting of underground damage information
- Collects data from all stakeholders
- Voluntary
- Approved registration process that includes company verification by CGA staff



# What data is collected?

- Who is submitting data
- Date and Location of the event
- Affected Facility Information
- Excavation Information
- Notification
- Locating and Marking
- Downtime
- Description of Damage
- Description of the Root Cause

# DIRT Today

- 391,146 records submitted into DIRT for 2016.
- Approximately 500 companies submit data into DIRT each year.
- Over 110 companies submitted more than 100 records for 2016.
- DIRT Report continues to grow as premier industry resource.





# Challenges and Lessons Learned



# Not all stakeholders collect the *same* data

- Standardized field form adopted
- Form is simple
- Flexibility in submitting information
  - Data not collected and unknown/other offered
  - Not all fields are required
  - Provided “root cause not listed” as option (comment required)

# Some stakeholders don't collect data and/or don't see value in sharing

- Encouraged all to collect data and submit data in order to have a voice in the report
- Documented successful case studies
- Removed barriers for potential submitters
  - Developed Virtual Private DIRT
  - Established multiple ways to submit data
- Worked with national associations to encourage participation



# Data not collected through a uniform system or process

- Agreed on a secure, web application
- Published user's guide intended to ensure common understanding of the data fields
- Provided education through webinars, documentation and one-on-one consultation

# Ensuring quality of data is difficult with voluntary submission across industries

- Approved registration process
  - Required accepting terms and conditions
  - Each company must provide an administrator who is responsible for all other company registrants
  - Phone verification initially required
- Duplicate data detection incorporated
- Agreed to monitor multiple reports on same event
- Developed DQI score for user reference



# User concerns about security of the data and confidentiality

- Published DIRT Security Whitepaper
- CGA attorney drafted DIRT Confidentiality Policy
- Key members and sponsors supported DIRT
- Sustained education through presentations and one-on-one consultation



# Limited confidence in how data would be used or reported

- Growing view of Common Ground Alliance as a trusted resource
- Hired an outside consultant to draft the report
- Task team of Data Reporting & Evaluation Committee involved in the process
- Consensus approval of the report

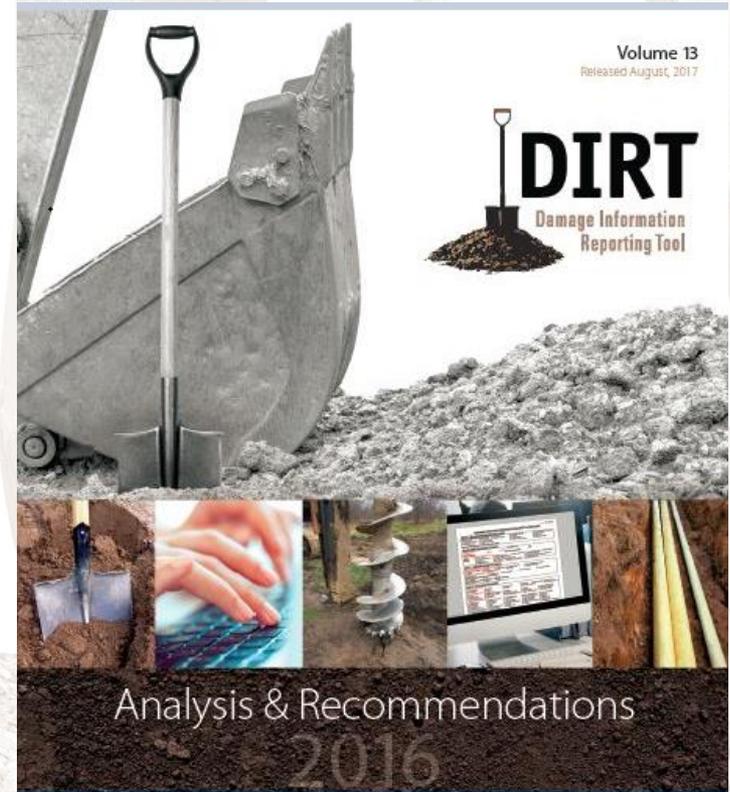


# Annual DIRT Report

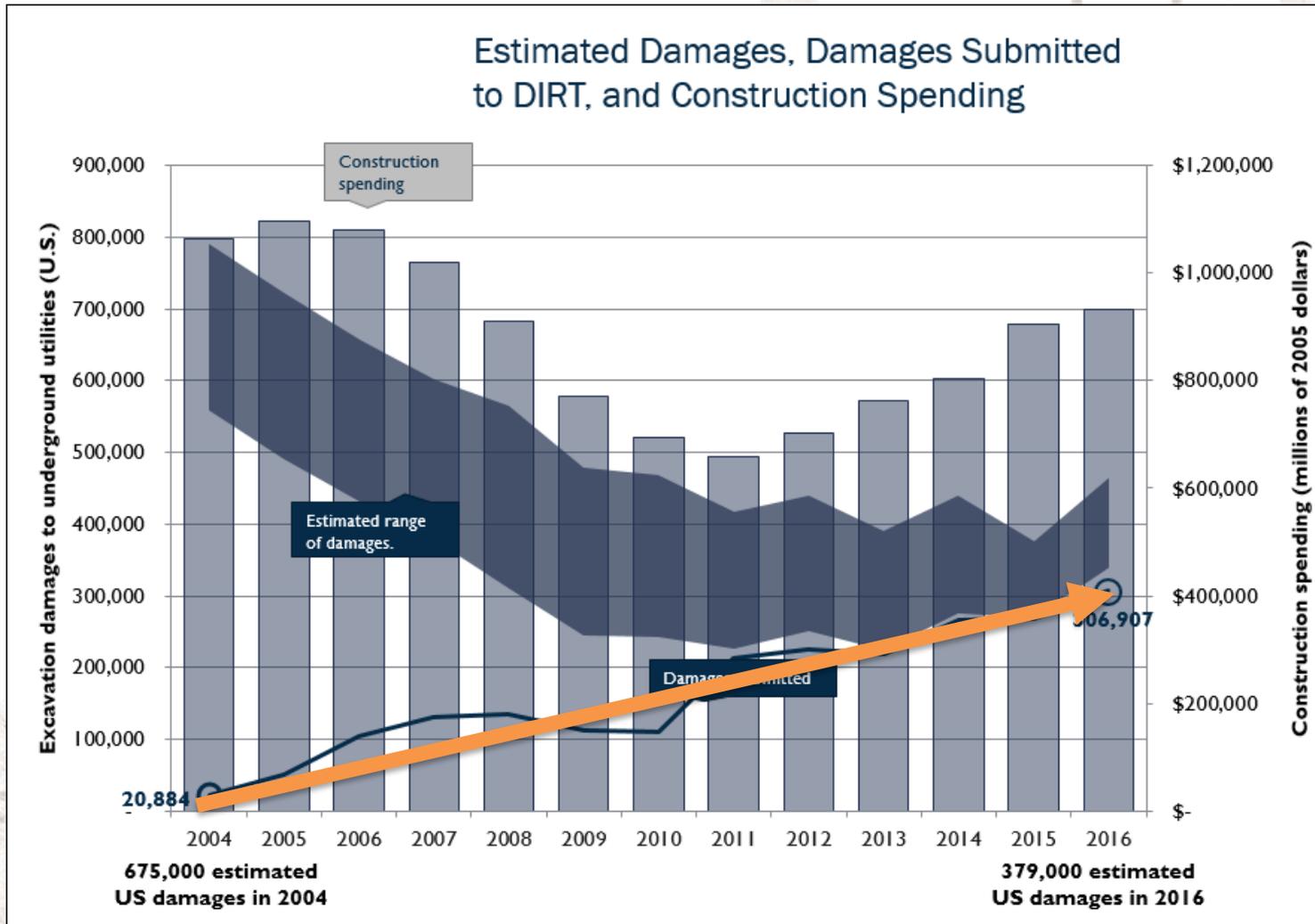


# Publication of DIRT Report

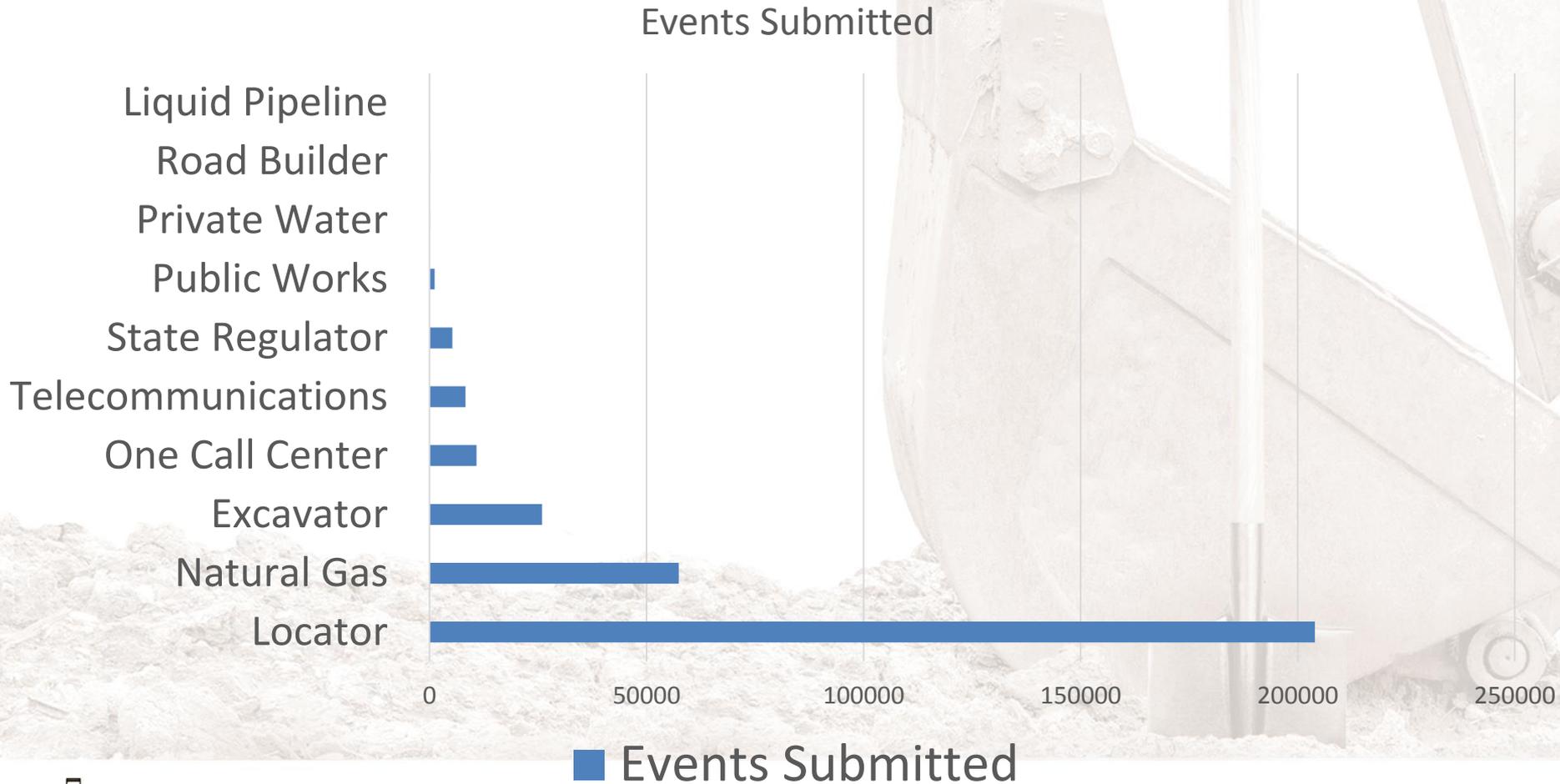
- 2004 – First *annual* DIRT Report published.
- 2015 – DIRT interactive dashboard published.
- 2016 – Over 390,000 damages submitted into DIRT for analysis.



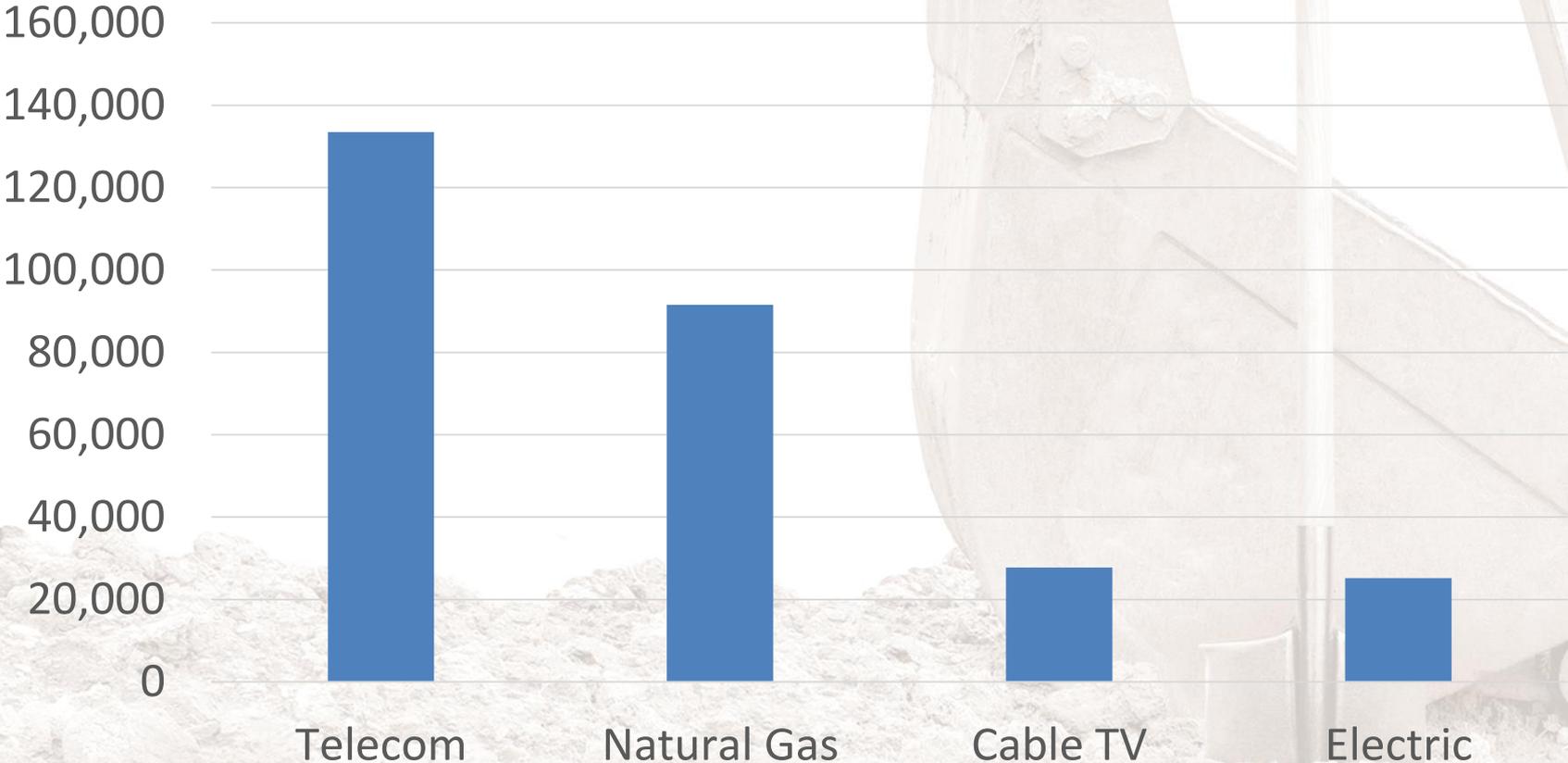
# Estimated U.S. Total Damages



# Reporting Stakeholders



# Facility Damaged

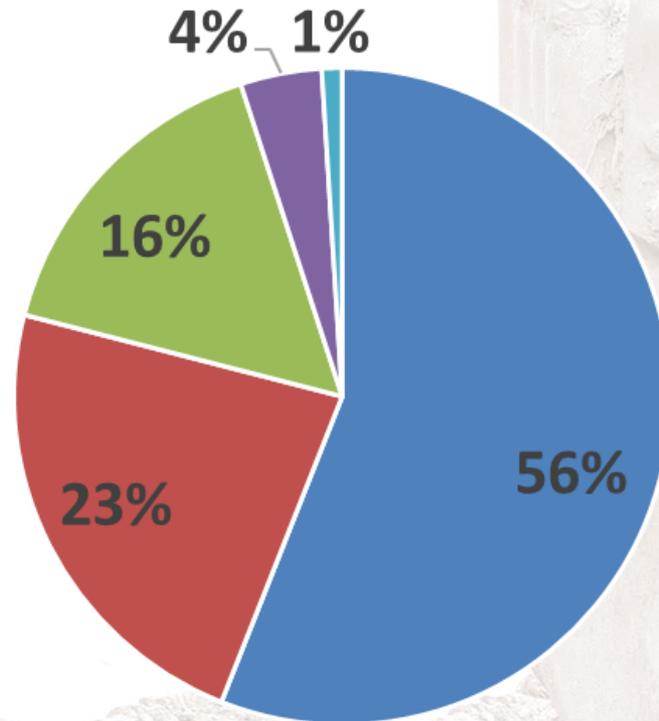


■ Facility Damaged



# Damage Cause Analysis – 2016

## Damage Root Cause Group



■ Excavation Practices Not Sufficient

■ Locating Practices Not Sufficient

■ Notification NOT Made

■ Miscellaneous Root Cause

■ Notification Practices Not Sufficient

# Interactive Dashboard

Analysis Overview | Damages by State | Damage per Transmission | Damage Cause | Work by Excavator | Work by Equipment | Reporting Stakeholder | CBYD Awareness | PHMSA Status

## 2016 DIRT Report Interactive Analysis

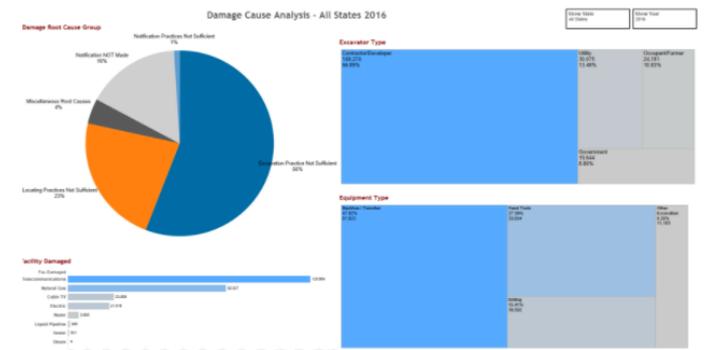


The Common Ground Alliance (CGA) is pleased to share this interactive analysis of the events submitted to DIRT for 2016. It provides industry stakeholders the opportunity to immerse themselves in the data, filter it down to more specific analyses that directly affect them, and develop more focused strategies to reduce underground excavation damages.

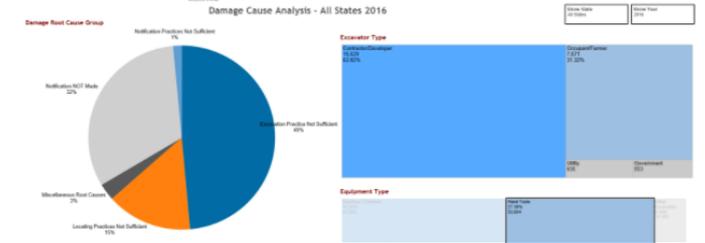
This analysis covers the 317,869 damages reported in the United States and Canada in 2016, unless otherwise noted. Near miss events have been excluded, as have damages where the record was input as "Unknown" or "Did Not Collect" in the field being analyzed. Therefore, cross examination of the data will not always equal 100%, and different dashboards will show different totals.

Each dashboard analyzes a specific topic or concept, which is labelled at the top. The figures within each dashboard are specific to that main topic or concept, and virtually all of the charts contained within a dashboard are interactive by clicking on one of the elements. For example, in the dashboard examples to the right, the top image is the "Damage Cause Analysis" dashboard without any individual element selected. The image on the bottom depicts the same dashboard with the equipment type "Hand Tools" selected, which filters the remaining charts to reflect only the data pertaining to hand tool damages. Similar results would occur if another element of the dashboard was selected. To return to the original, unfiltered dashboard click again on the highlighted section or use the 'reset' button below. The 'Show Year' and 'Show State' dropdown menus in the upper right corner set parameters that filter the data across multiple dashboards. The parameters selected are displayed in the title of each dashboard.

Unfiltered



Filtered



# Report Infographics

2016 DIRT Report



## Every 9 Minutes

a utility line is hit because someone didn't call 811.

The chances of hitting a buried utility are less than 1% if you call 811 a few days before digging.



2016 DIRT Report

## Damages to buried utilities cost the U.S.

# \$1.5 billion

## in 2016.



# Key takeaways

- Stemmed from CGA's consensus-based Best Practices
- Committee input and participation invaluable
- Anonymity and confidentiality were paramount
- Some flexibility in data submission
- Stakeholders saw value in the report
- Users trusted CGA and the process

