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2021 MIDWEST★ DAMAGE PREVENTION ★ TRAINING CONFERENCE

Common Ground Alliance: Insights into Improving the Delivery of Accurate, On-Time Locates

Thursday, November 11, 2021 French Lick, Indiana



- Quotes from locate research or NP research
- Critical challenge top issue identified in NP report survey – on time locates
- Locates fixed solution
- Cycle...too many locates (unpredictable fluctuations or external events)...stressed system...reduction in confidence. Results in "fewer people using system" or "gaming system" – increased calls to center for potential work sites
- Excavator and Locator both want same thing...get work done efficiently and safely
- TODAY we are going to take a look at what data can tell us about this challenge...starting with the incident reports (DIRT published today)...

CGA Today

- Brings together all damage prevention stakeholder groups.
- Addresses the entire damage prevention process.
- Includes over 1,800 individual members and almost 250 member organizations/companies.







One Call

Gas Transmission
Gas Distribution
Oil

Telecommunications
Electric
Public Works

Locators Engineering **Excavators Road Builders**

State Regulators

Equipment

Insurance

Emergency Services

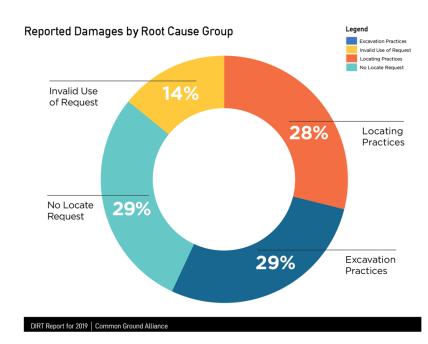
Railroad





DIRT Report - 2019

Estimated
U.S. damages are
trending upward for a
fifth consecutive year,
despite construction
spending remaining flat.





Need to Reverse the Trend – Focused Effort

- 1. Importance of data and information
- Double down on <u>effective practices and</u> <u>programs</u>
- 3. Encourage and incentivize <u>innovation and</u> <u>new practices</u>



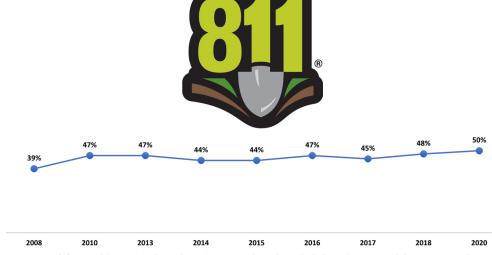
<u>Importance of Data & Information</u>

DIRT Damage Information Reporting Tool

TOP 3 CHALLENGES

facing locate technicians:

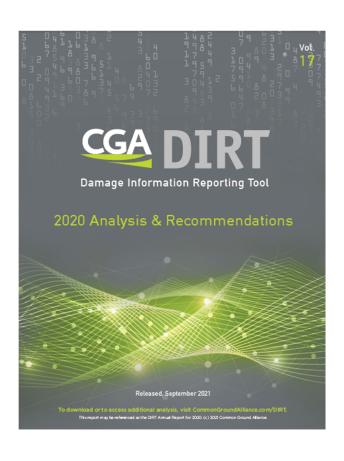
- Area to be marked is not clearly defined - 51%
- Incorrect information provided by excavator - 37%
- 3. Heavy workload 33%



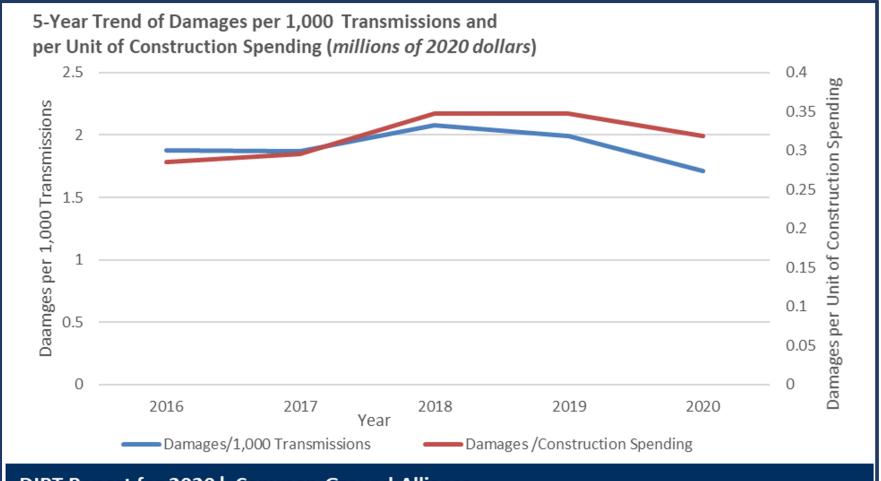
Q: Are you aware of a free national phone number and service that people can contact to have underground utility lines on their property marked prior to starting any digging project? NOTE: Question wording updated in 2020 to include service. Base=Total sample (n=1809)



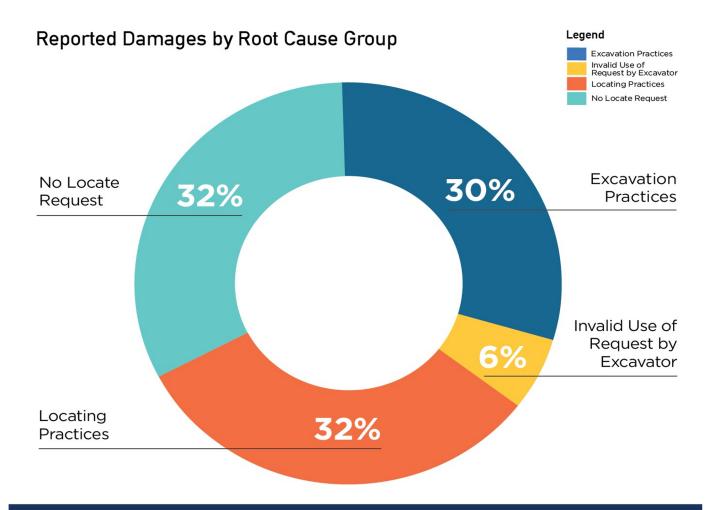
2020 DIRT Report



- DIRT accepts data on excavation damages and near-misses from all affected parties
- Includes analysis of data submitted into DIRT for 2020
- Over 475,000 submissions for 2020
- 2020 is the 17th annual report published
- Written report supplemented by online interactive dashboard



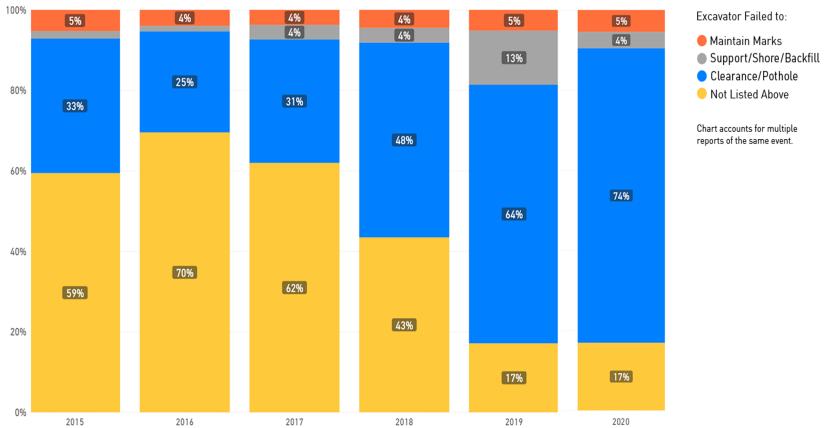






Excavating Practices Root Causes

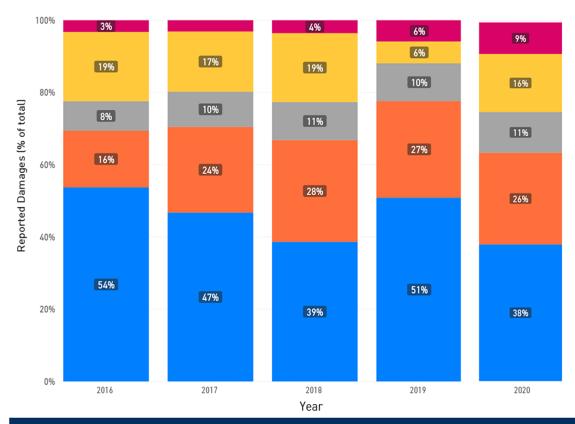






Locating Practices Root Causes

% of Total 2020



Legend

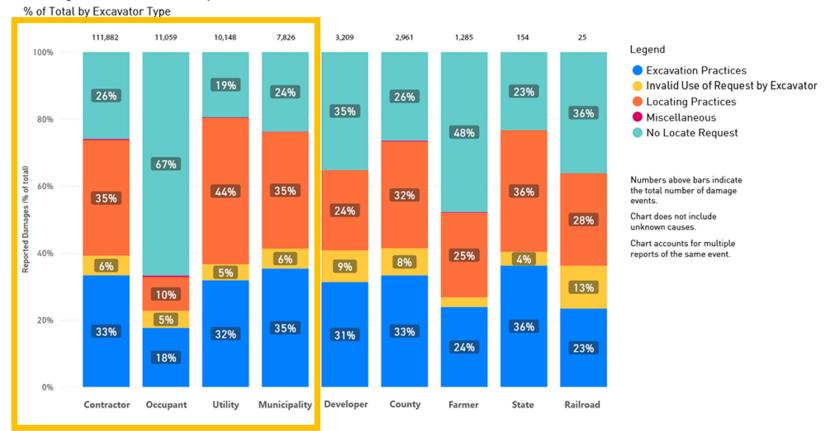
- Locator Error
- Abandoned Facilities
- Maps/Records Incorrect
- Not Marked / Incomplete Marks
- Unlocatable / Tracer Wire Issue

Chart accounts for multiple reports of the same event.

Chart does not include improper backfilling as it is negligible.

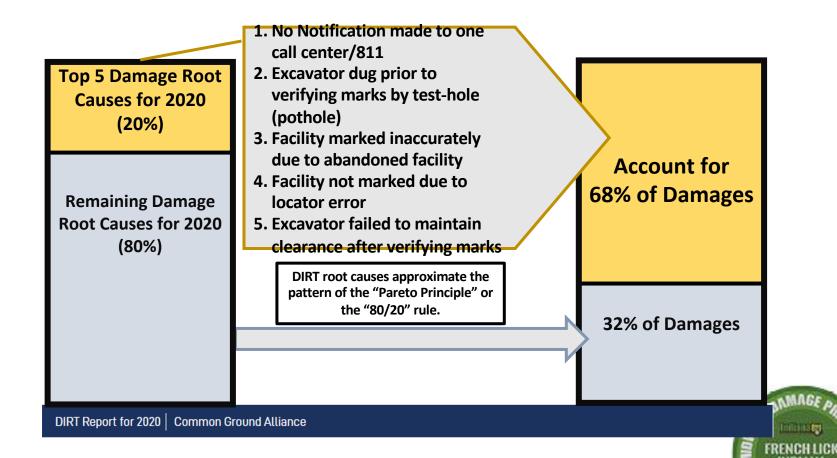


Damage Root Cause Group





Addressing "Vital Few" Produces Greatest Results



Data and Research What DIRT data doesn't tell us?











811/Educational Programs: Deliverables and Approach

 Market research including survey of homeowners, excavators and other stakeholders to assess 811

811 Awareness Study

National and State Trends and Takeaways

OBJECTIVE

The objective of this study was to measure:

- General awareness of call-before-you-dig (CBYD) services
- Unaided and aided awareness of 811
- Awareness of 811 advertising
- Prior use and future intent to use call-before-you-dig services

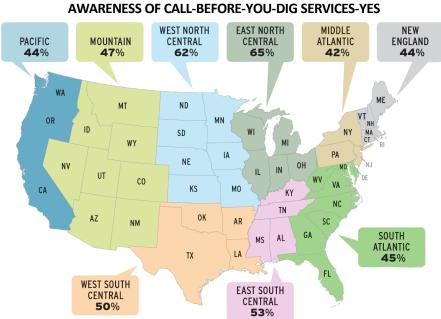






A CLOSER LOOK AT REGION: AWARENESS OF CBYD SERVICES

- As in previous years, respondents in the East North Central and West North Central regions are significantly more likely to be aware of call-before-you-dig than respondents who live elsewhere in the country.
- Respondents in the Middle Atlantic region are significantly less likely to be aware of CBYD services compared to the national average.



NATIONAL AVERAGE 50%

Q: Are you aware of a free national phone number and service that people can contact to have underground utility lines on their property marked prior to starting any digging

project? NOTE: Question wording updated in 2020 to include service. Base=Total sample (n=1809)

KEY TAKEAWAY #1:

Identify active diggers and where they turn to for information.

YouTube and Google are top digital sources for homeowner information on DIY projects. CGA members can consider utilizing "pre-roll" ads to reach homeowners and professionals on YouTube and search engine marketing (SEM) to reach these audiences based on their search intent.

Top Information Sources for Home Improvement Projects





KEY TAKEAWAY #2:

Consider advertising awareness when deciding how to best target audiences.

While TV continues to be the most common source cited for where people saw or heard 811 advertisements, CGA's research indicates high engagement with utility companies, confirming how critical those relationships are in promoting the 811 message.



52% - Television

26% - Utility bill inserts

24% - Radio

19% - Social media

18% - Utility company (including website)

17% - Billboards

16% - YouTube

14% - Newspaper

14% - Utility company online bill pay

13% - Online banner ads



KEY TAKEAWAY #3:

Develop messaging to address the reasons people don't use 811.

While there is no definitive answer on why people don't contact 811 before they dig, continuing to educate the public on the particular circumstances when contacting 811 is important.

Reasons For Not Contacting 811

Among those who have recently completed a project, these are the top five reasons for not contacting 811:

- Not digging deep enough to warrant marking/digging was shallow
- Utility lines run overhead/they're not buried
- Not aware marking was necessary/didn't think to call ahead
- 4 Hired a contractor
- 5 Did not know how to contact 811





CGA White Papers

No Locate Request Invalid Use of Request

Locating Practices Excavation Practices

29%

14%

28%

29%

2019 DIRT Report

Damage Root Cause Groups

No Locate Request Invalid Use of Request

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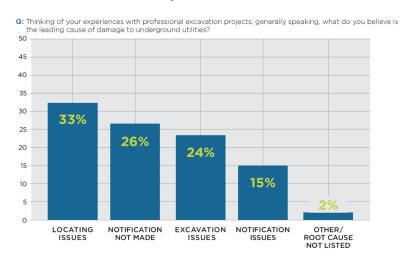


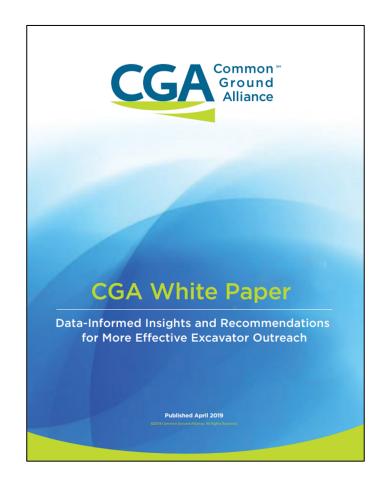




Excavator White Paper

- Key takeaways for effective excavator stakeholder outreach
- Includes data-supported recommendations based on analysis of focus groups and survey data, DIRT data and additional reports







Reasons for Not Contacting 811 or Call-Before-You-Dig 25 30

The project was not in an area that needed marking

Already aware of where the utility lines were located

Not digging deep enough to warrant marking/digging was shallow

Utility lines run overhead/they're not buried

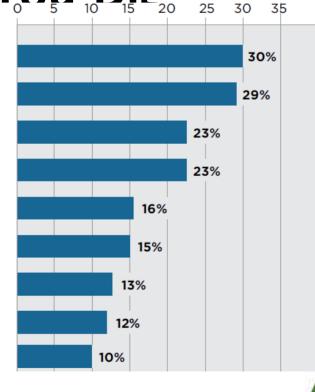
Dug in this area previously without problems

Replacing a similar project in the same location

The project location was far from other buildings

The project timeline does not allow

Not aware marking was necessary



White Paper 2020: Insights into Improving the Delivery of Accurate, On-Time Locates



2019 DIRT Report

Damage Root Cause Groups





Background: Locators' Perspectives

Locate technicians and those tasked with managing locators are a critical stakeholder group in the damage prevention industry and marking the location of buried utilities is a cornerstone of the damage prevention process.

According to the 2019 DIRT Report:

- Damages to buried utilities are on the rise across the U.S. for the fifth consecutive year.
- Locating issues made up 28% of total damages in 2019.

This stakeholder group is **committed to improving the safety of worksites through accurate and on-time locates**, and there are ways that all stakeholders can better share the responsibility to improve the process and safety outcomes.



Background: Data & Insights

The 2020 CGA White Paper is based on **two new locator research reports**:

- SURVEY: Utility Locators Online Study*
- INTERVIEW REPORT: Utility Locator Management Qualitative Research*

Additional CGA data reports referenced in the White Paper:

- 2019 Damage Information Reporting Tool (DIRT) Report
- CGA White Paper: Data-Informed Insights and Recommendations for More Effective Excavator Outreach





^{*}Report is exclusively available to CGA members.

Key Takeaways

The White Paper analyzes CGA's qualitative survey of 402 U.S.-based locate technicians and in-depth interviews with 20 locating industry decision-makers to provide four key takeaways from this research:

- 1. The volume and variability of tickets are huge challenges for the locating industry.
- 2. White-lining and updated facility maps may be the damage prevention industry's most effective paths to timelier and more accurate locates.
- **3. Retaining an experienced workforce** is likely to produce better safety outcomes.
- **4. Reimagining relationships between key stakeholders** can dramatically move the industry forward.

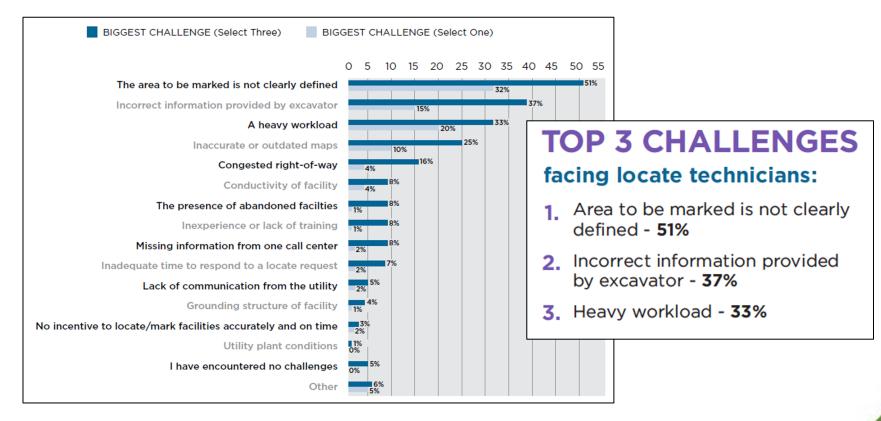
1. Ticket Volume & Variability

The sheer volume of notifications is putting increasing pressure on locators.

- A heavy workload and focus on productivity may not always result in accuracy.
- Locator supervisors said variability and inefficiency of ticketing processes pose challenges to managing volume against staffing.
- Technicians point to measures that would narrow the scope of their locates and improve efficiency, including white-lining and updated facility maps.



Figure: Biggest Challenges Facing Locate Technicians



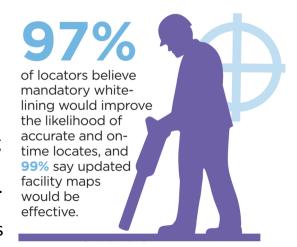
- Q: What are the biggest challenges for you and other locate technicians in locating and marking utility lines accurately and on-time? (Please select up to three)
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2. White Lining & Updated Facility Maps

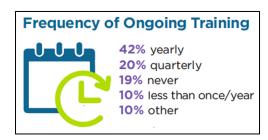
There is overwhelming agreement among all locating stakeholders that white-lining and updated facility maps will improve the accuracy and timeliness of locates.

- According to locate technicians, lack of mandatory white-lining is the top challenge facing the industry, and inaccurate and outdated maps is seen as the fourth most significant challenge.
- 19 of 20 locating industry decision-makers believe that whitelining effectively solves ticket issues by narrowing ticket scopes or sizes.





3. Retaining an Experienced Workforce





Workforce issues, including retention and training, emerged as significant barriers within the locating industry.

- Decision-makers identified heavy workloads, low wages, and overall lack of awareness of and appreciation for the locating profession as barriers to technician retention.
- Younger, less experienced and less "bought-in" technicians may focus on workload pressures over safety.
- High turnover and lack of training were in technicians' top five challenges facing the industry.



4. Reimagining Relationships Between Key Stakeholders

Providing a path to easier communication between locate technicians and excavators could solve problems both near- and long-term.

- 97% of locate technicians identify increased communication between themselves and excavators as an effective way to improve accurate, on-time locates.
- Decision-makers additionally are eager for high-level discussions with damage prevention stakeholders to address systemic issues.
- Rethinking the notification processes could improve inefficiencies, including:
 - o The quick turnaround times for locates that most states mandate.
 - o State requirements that subcontractors obtain their own locate request tickets.
 - o Requirements that tickets are renewed or projects re-marked every 12-15 days.
 - o Early locate requests that cause delays for more imminent projects.



Recap – Key Takeaways

- 1. The volume and variability of tickets are huge challenges for the locating industry.
- 2. White-lining and updated facility maps may be the damage prevention industry's most effective paths to timelier and more accurate locates.
- **3. Retaining an experienced workforce** is likely to produce better safety outcomes.
- **4. Reimagining relationships between key stakeholders** can dramatically move the industry forward.

Future of Damage Prevention

U.S. damages are trending upward for a fifth consecutive year, despite construction spending remaining flat.

Additionally, each dollar of construction spending is resulting in more locate requests and one call center transmissions than before.

No Locate Request

29%

Invalid Use of Request

14%

Locating Practices

28%

Excavation Practices

29%



Reversing trend will require innovation in all areas of damage prevention.

The <u>Next Practices Initiative</u> will:

- Encourage innovation and new practices to address the most critical damage prevention challenges.
- Document and share case studies and data supporting new and effective practices; and
- <u>Incentivize</u> damage prevention stakeholders to develop and support **innovative** solutions.

2021 White Paper & Research

- Continued outreach surrounding Locate White Paper
- Research focus on facility owners
- Additional state-level active digger and excavator research

Looking Ahead

- Excavator training and education
- Next Practices Future of damage prevention
- DIRT Focus on targeted analysis and growing data submission from excavator community



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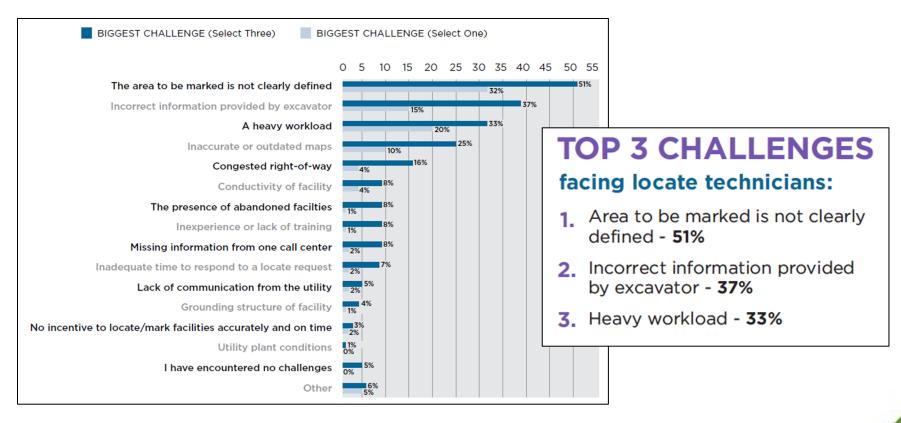
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Double Down on Effective Practices and Programs





■ 811 Campaign Case Studies





Best Practices

- Version 18.0 published July 2021
- More than 165 practices developed through consensus
- Available online at bestpractices.commongroundalliance.com















Best Practices Process

- Approximately 164 practices developed through <u>consensus</u>
- Task teams review potential new Best Practices or modifications



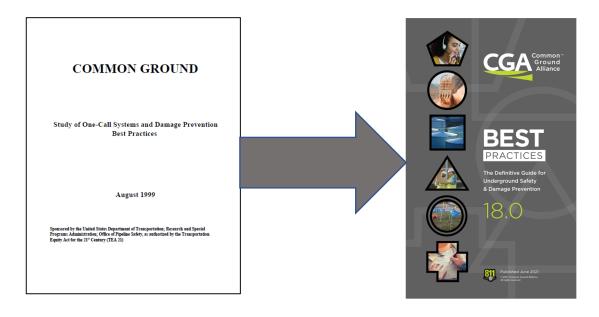


* INDIANA *

DIRT Report

Reexamining Best Practices

• The biggest categories of damage root causes correspond to Best Practices that lack specificity, likely reflecting the difficulty of achieving consensus among all 16 CGA stakeholder groups, which is required by the Best Practices process.





DIRT Report

Reexamining Best Practices

DIRT Root Cause	Best Practice(s)	Opportunity	Status
No Locate Request	5-1	 Update to reflect 811 Collect data on reason why excavator did not call 	 One Call team reviewing Considering addition to tool/additional surveys Executing "active digger survey"
Excavator Dug Prior to Verifying Marks by Test Hole (Pothole) and Excavator Failed to Maintain Clearance After Verifying Marks	5-14 Facility Avoidance 5-19 Excavation Tolerance Zone 5-20 Excavation Within Tolerance Zone	 Review use of terms potholing, test holes, daylighting and hand digging. More practical guidance on expectations within tolerance zone. Role of observer to prevent equipment operator from encroaching on tolerance zone. 	Review of Potholing Working Group established

DIRT Report

Reexamining Best Practices

DIRT Root Cause	Best Practice(s)	Opportunity	Status
Forecasting Locating Workload	4-17	 Consider updated information related to advancements in technology/practices 	 Review 4-17 Forecasting Workload Fluctuations working group established
Excavator Dug Before Valid Start Date/Time (Wait/Confirm)	5-8 Positive Response 5-9 Facility Owner/Operator Failure to Respond 5-10 Locate Verification	 Consider the following: Reframe 5-8 to describe action of the excavator. Consider addressing actions by one call center and/or facility owner/operator/locating vendor when an excavator reports a failure to respond. 	Excavator Role in Positive Response working group established

Best Practices Working Groups and Task Teams

- Abandoned Facilities Working Group
- Disaster Preparation and Response Working Group
- Excavator Role in Positive Response Working Group
- Review 4-17, Forecasting Workload Fluctuations Working Group
- Review of Potholing in Best Practices Working Group
- TR 2021-01, Review of Practice 5-2 White Lining
- TR 2021-02, Review of Chapter 3 One Call Center



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





811 / Safe Digging Tools and Resources



TOOLKIT

MEMBER-SHARED

■ National Hardware Retailers Partnership



TOOLKIT

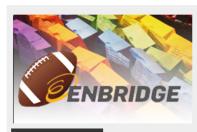
811 Videos, PSAs and Supporting Tools



TOOLKIT

MEMBER-SHARED

△ 811 Campaign Case Studies



MEMBER-SHARED

Enbridge's High-School Football Popcorn Bags



MEMBER-SHARED

CenterPoint Energy Spring Employee Contest



MEMBER-SHARED

Kentucky 811 Unique Sponsorship Local Weather Reporting



Addressing Inefficiency through Education

- Education on impact of one call misuse
- Research review task team
- Best Practices in excavator education



Encourage and Incentivize Innovation and New Practices







Technology Report - 2021

- Gaps in Damage Prevention
- What Future Might Look Like
- Technology to Achieve Systemic Improvement

Case Studies

- Gopher State One Call / One Call Concepts: White Lining of Excavation Areas by Digital Methods
- Sawback Technologies: Lightweight, Mountable Ground Penetrating Radar
- Unearth Technologies: Applying OnePlace, a Map-Based Work Management Platform, to Legacy Cross Bore Detection and Mitigation
- Pelican Corp: Leveraging Smart Technology to Overcome Rising Locate Volumes









Report to the Industry

Published February 2021



Future of Damage Prevention

No Locate Request Invalid Use of Request

Locating Practices Excavation Practices

29%

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Reversing trend will require innovation in all areas of damage prevention.

The <u>Next Practices Initiative</u> will:

- Encourage **innovation and new practices** to address the most critical damage prevention challenges.
- Document and share case studies and data supporting new and effective practices; and
- Incentivize damage prevention stakeholders to develop and support innovative solutions.

Report to the Industry

 Clearly identifies and focuses the industry on the advancement of effective solutions to address the most critical damage prevention challenges.

- Three Critical Issues
 - Research Summary
 - Factors Impacting the Challenge
 - Inefficiencies
- Industry Call to Action
 - Opportunities for Systemic Improvement
 - Roadmap to Realizing Systemic Improvements



CGA

Report to the Industry

Shared Responsibility = Systemic Assessment

- Recognize that all stakeholders are part of the damage prevention industry.
- Acknowledge that one stakeholder's actions and investments -- or lack thereof -- impact the entire process.
- Commit to a comprehensive analysis of shared risks, costs and benefits.
- Encourage system-wide innovations in order to make the system work efficiently for individual stakeholders.



Facilities not marked accurately and on time

Address process inefficiencie

S

Excavator errors in the field

Address process inefficiencie

S

Effective and consistent use of 811

Address process inefficiencie

S

Damage Prevention Process

No Locate Request

Invalid Use of Request

14%

Locating Practices

28%

Excavation Practices

29%

Increase efficiency

Reduce Damages





CRITICAL
CHALLENGE #1

Facilities not marked accurately and on time

CRITICAL
CHALLENGE #2

Excavator errors in the field

CRITICAL
CHALLENGE #3

Effective and consistent use of 811

SYSTEMIC OPPORTUNITIES

- Increase effective implementation of electronic white lining.
- Pursue an accurate, accessible GIS-based mapping system/database.
- Utilize technology/software to account for variability in demand.
- Contractually incentivize adherence to Best Practices and address incidents via effective enforcement mechanisms.



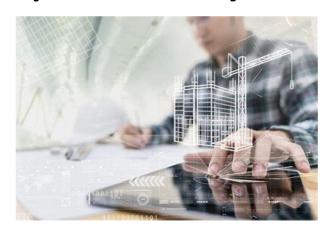
Systemic Opportunities Working Groups

- Spotlight new practices and innovative solutions (across industries)
- Highlight areas where additional information/data is needed
- Identify barriers and opportunities



Tell Us Your Organization's Story!

 Is your company taking an innovative approach to systemic opportunities for improving the damage prevention system?



- Case studies
- Pilot program
- Data supporting a new approach
- Survey or other relevant industry data
- Legislative approaches









Roadmap

WHAT'S NEXT: Gather data, case studies and additional information to develop a concrete roadmap to realize proposed systemic improvements.

GOAL: Present Pathways to Improving U.S. Damage Prevention report **at the CGA Conference & Expo, October 12-15, 2021 in Orlando**:

- Review of CGA Best Practices and applicable common practices.
- Document case studies and implementation examples to provide information on feasibility.
- Gather and/or source additional data to inform industry implementation.
- Utilize CGA committee expertise to document barriers and identify opportunities.











Estimated Damages Down in 2020 - Top Root Causes Remain

	2017	2018	2019	202	0						
Total Estimated Damages (U.S.)	439,000	509,000	532,000	468,0	00						
Total Estimated Transmissions	234.9 M	244.3 M	267.6 M	273.9	M						
Estimated damages per 1,000 transmissions	1.87	2.08	1.99	1.7	1						
Estimated damages per 0.296 0.348 0.347				0.319							
construction (2020 dollar Coded by Root Cause Group											
	Root Cause					2019 % of Total					
No Notificat	No Notification made to one call center / 811				31.81%	29.10%	Legend				
Excavator d	Excavator dug prior to verifying marks by test-hole (pothole)				15.53%	1.94%	Excavation Practices Invalid Use of				
	Facility marked inaccurately due to abandoned facility				7.71% 6.57%	7.29%	Request by Excavator				
	Facility not marked due to locator error					3.56%	Locating Practices Miscellaneous				
	Excavator failed to maintain clearance after verifying marks				6.42% 5.68%	16.70%	No Locate Request				
Facility mark	Facility marked inaccurately due to locator error					10.57%	110 20 0010 110 0001				



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