

Next Practices for a New Generation of Damage Prevention Solutions

**28th Underground Construction Technology
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Orlando, FL**

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Today's Discussion Topics

About CGA

811

Best Practices

DIRT 2021 Report

White Paper Series – Natural Gas: Leading the Damage Prevention Industry

Next Practices Initiative

Damage Prevention Institute



Education - 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



Best Practices

- Version 18.0 published June 2021
- More than 160 practices developed through consensus
- Available online at bestpractices.commongroundalliance.com

Filter by Industry Icons ⓘ

 One Call Center  Facility Owner  Excavator  Locator  Project Owner  Designer



Published in summer of 2021, Best Practices 18.0 includes all new practices and is now available to download and in hard copy.



To download or order booklets visit:
BestPractices.CommonGroundAlliance.com

BP 2-19:
Underground Electronic Utility Markers

BP 6-19:
As-Built Mapping of Underground Electronic Utility Markers

Appendix B Addition:
Guidelines for Underground Electronic Utility Marker Technology

To review the complete new practices, visit:
BestPractices.CommonGroundAlliance.com

DIRT Report for 2021



- DIRT accepts data on excavation damages and near-misses from all affected parties
- Includes analysis of data submitted into DIRT for a given year
- 18th annual report
- Written report supplemented by online interactive dashboard

DIRT Report for 2021 – Roadmap for Future



- Documents most pressing *and* consistent issues in damage prevention
- Outlines recommendations and priorities based on key findings
- Opportunity for self-evaluation

Establishes Sense of Urgency

- Points to overall plateau or slight increase in damages since 2019.
- Increased construction spending has consistently proven to correlate with an increase in damages. Infrastructure funding will stress system.
- Locate requests to one call centers increased by 8% over the previous year, with 811 centers seeing a significant shift in locate request methodology toward electronic rather than voice.

Clear Damage and Root Cause Trends

- ***No notification made to 811 center* remains the top root cause** with over a quarter of all damages still attributed to *no notification*.



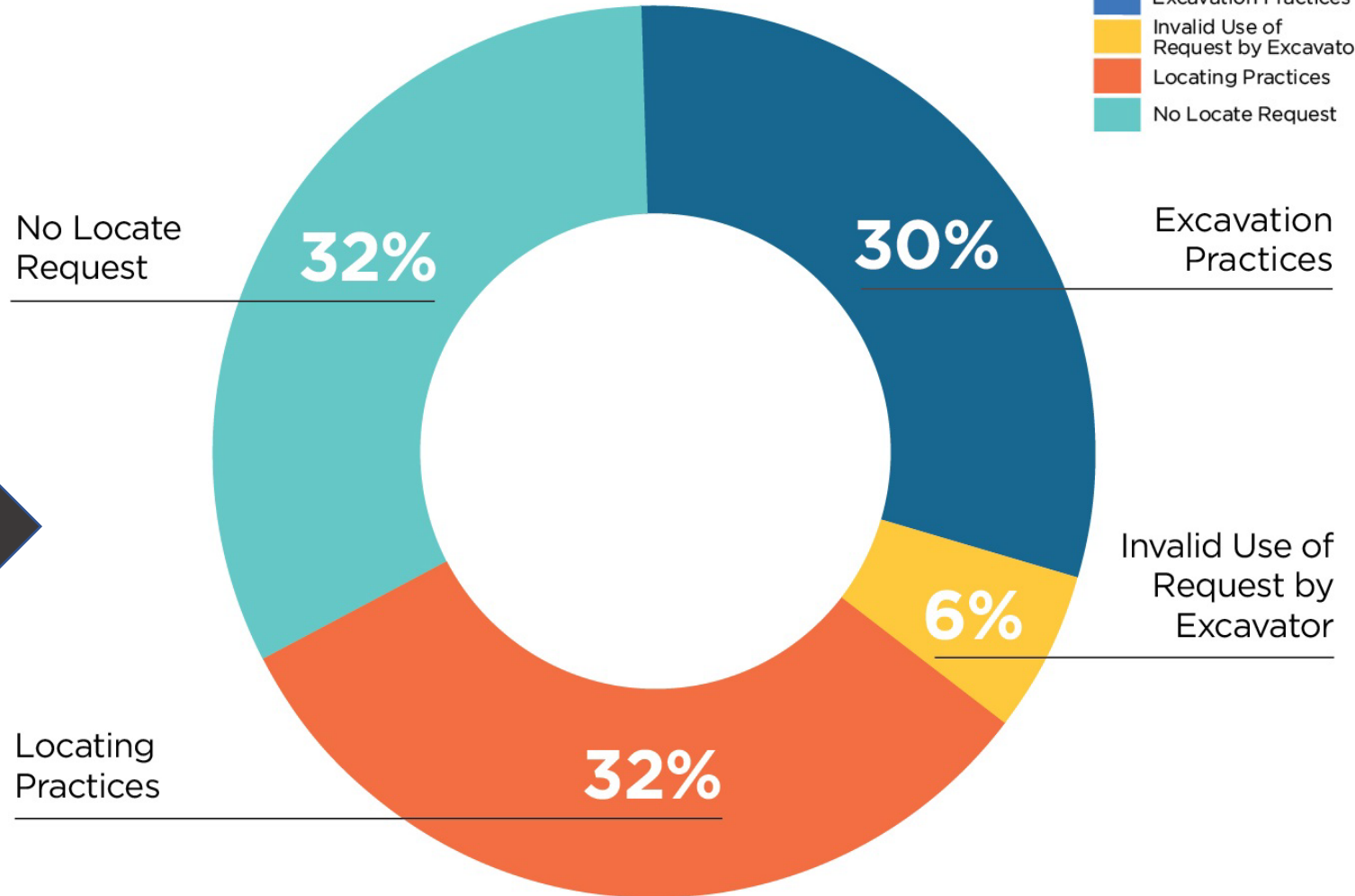
Know what's below.
811 before you dig.

- Professional excavator awareness of 811 is very high, yet **60% of all damages due to *no notification* can be attributed to professional excavators.**
- **36% of those professional excavators failing to contact 811 were likely working on projects associated with utilities** (natural gas, electric, telecommunications) and/or municipalities (water, sewer, road, sidewalks, etc.).

2020 DIRT Report - Damages by Root Cause

Legend

- Excavation Practices
- Invalid Use of Request by Excavator
- Locating Practices
- No Locate Request



All Facilities
385,381 Unique Damages

Clear Damage and Root Cause Trends

The vast majority of damages are caused by a limited number of issues:

1. Digging without notification to 811
2. Excavators failing to pothole and failing to maintain sufficient clearance
3. Facilities not being marked or being marked inaccurately due to locator error and/or incorrect facility records/maps.

Recommendations



- Prioritize Damage Prevention Efforts Based on Immediate Needs and Greatest Impact
- Increase Opportunities for Analysis by Improving Data Effectiveness
- Identify Opportunities for Additional Analysis and Document Effective Strategies
- Examine your Organization and Stakeholder Group's Impact, Role in the Damage Prevention Process and Potential Opportunities for Improvement.

Prioritize Damage Prevention Efforts Based on Immediate Needs and Greatest Impact

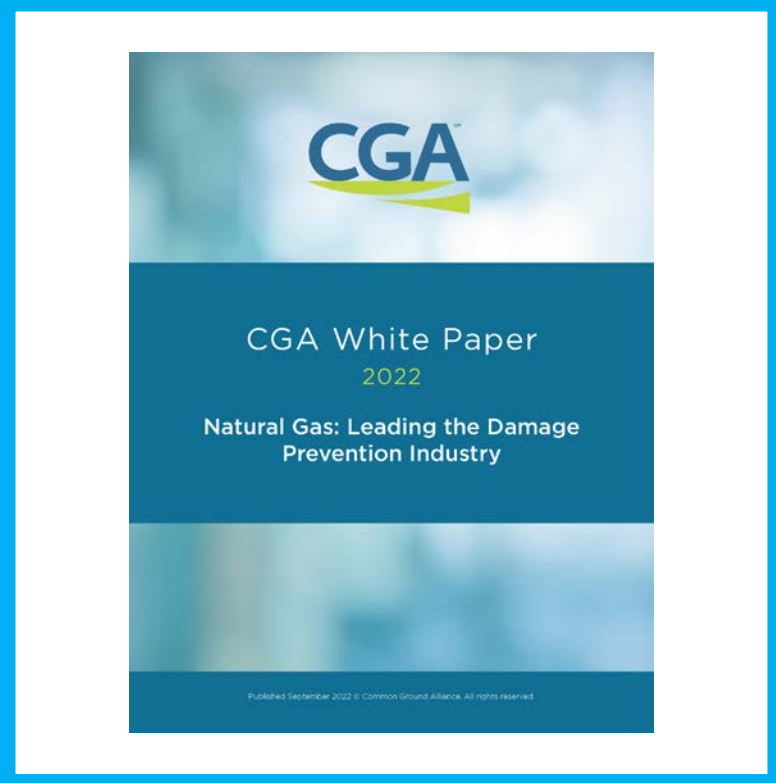
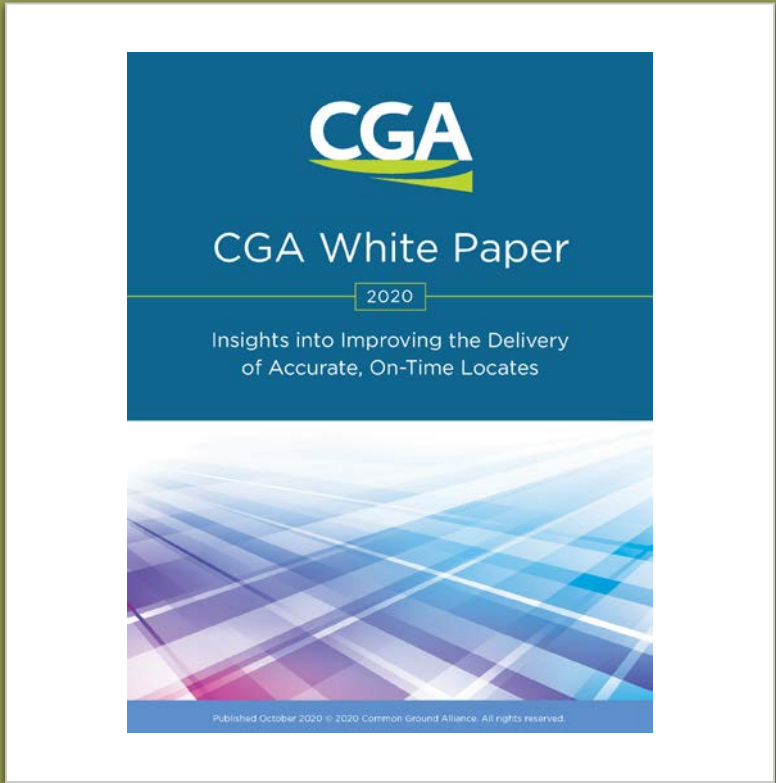
- Increase damage prevention outreach and stakeholder communication as rollout of the Infrastructure Investment and Jobs Act increases construction activity across the U.S.
- Strengthen engagement with **public works stakeholders**.
- Educate professional excavators on areas with the greatest potential impact on damage prevention – **consistent and efficient use of 811 for *all* projects, and safe excavation within the tolerance zone.**
- Tailor damage prevention efforts and investments to address the **leading individual root causes.**

Examine Your Organization and Stakeholder Group's Impact, Role in the Damage Prevention Process and Potential Opportunities for Improvement

- Are you collecting and submitting the highest quality DIRT data available to your company/industry? How are you utilizing this data to improve your damage prevention practices within your own company?
- Are you taking steps to minimize “noise” in the 811 system?
 - Excavators: Does your number of locate requests accurately reflect your current workload?
 - Facility Owner/Operators: How many “renotification” requests are you submitting throughout the life of your facility maintenance and new construction projects?

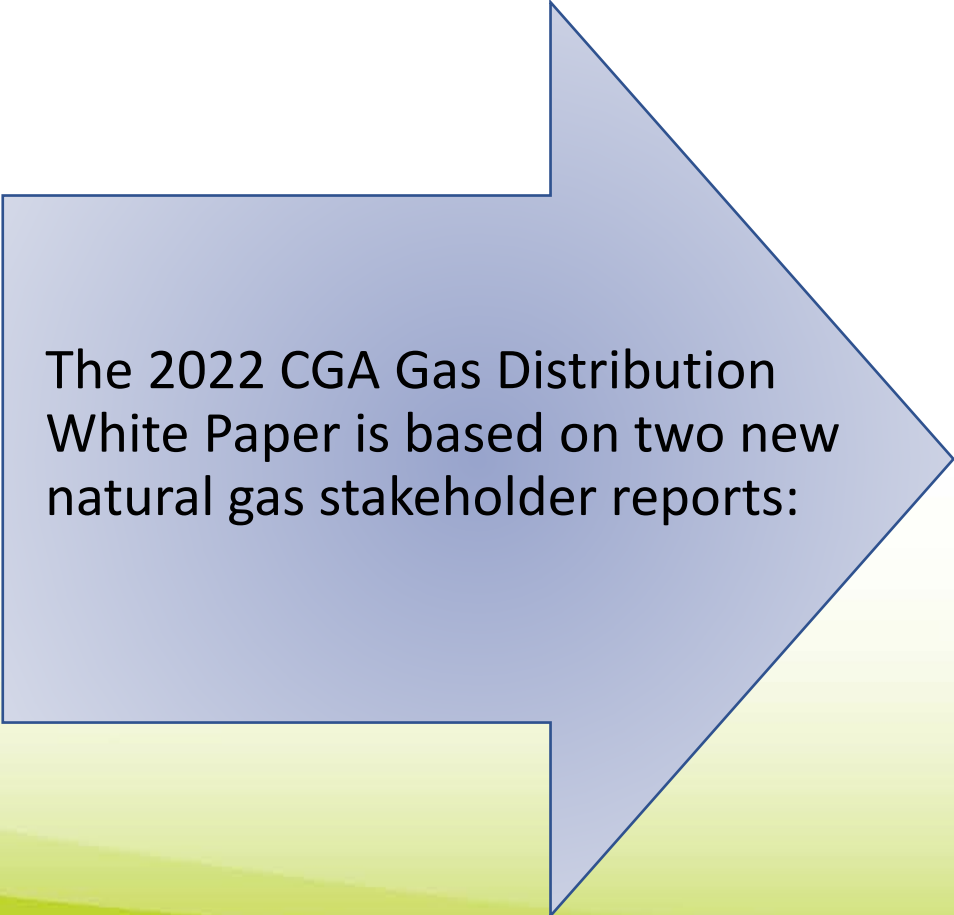
Examine Your Organization and Stakeholder Group's Impact, Role in the Damage Prevention Process and Potential Opportunities for Improvement

- Are you requiring everyone that works for you or on your behalf to follow the most effective and proven safe digging practices to reduce the likelihood of the top root causes of damage?
 - Facility Owner/Operators or Project Owners: Do you insist on potholing by your contractors and ensure this is built into their project costs? If you are a utility company that uses vendors for locating or subcontracts excavation work, do you use contracts that incentivize following safety and damage prevention processes?
 - Excavators: Do your employees know they will not be penalized for any project delays caused by adhering to the 811 process? Do you require specific training for excavation within the tolerance zone?



White Paper Series

Background: Data and Insights



The 2022 CGA Gas Distribution White Paper is based on two new natural gas stakeholder reports:

SURVEY: Natural Gas Industry

Quantitative survey with 178 U.S. - based employees in the natural gas industry

INTERVIEW REPORT: Gas Distribution Industry Exploratory Study:

In-depth one-on-one interviews with 15 decision-makers from natural gas distribution companies

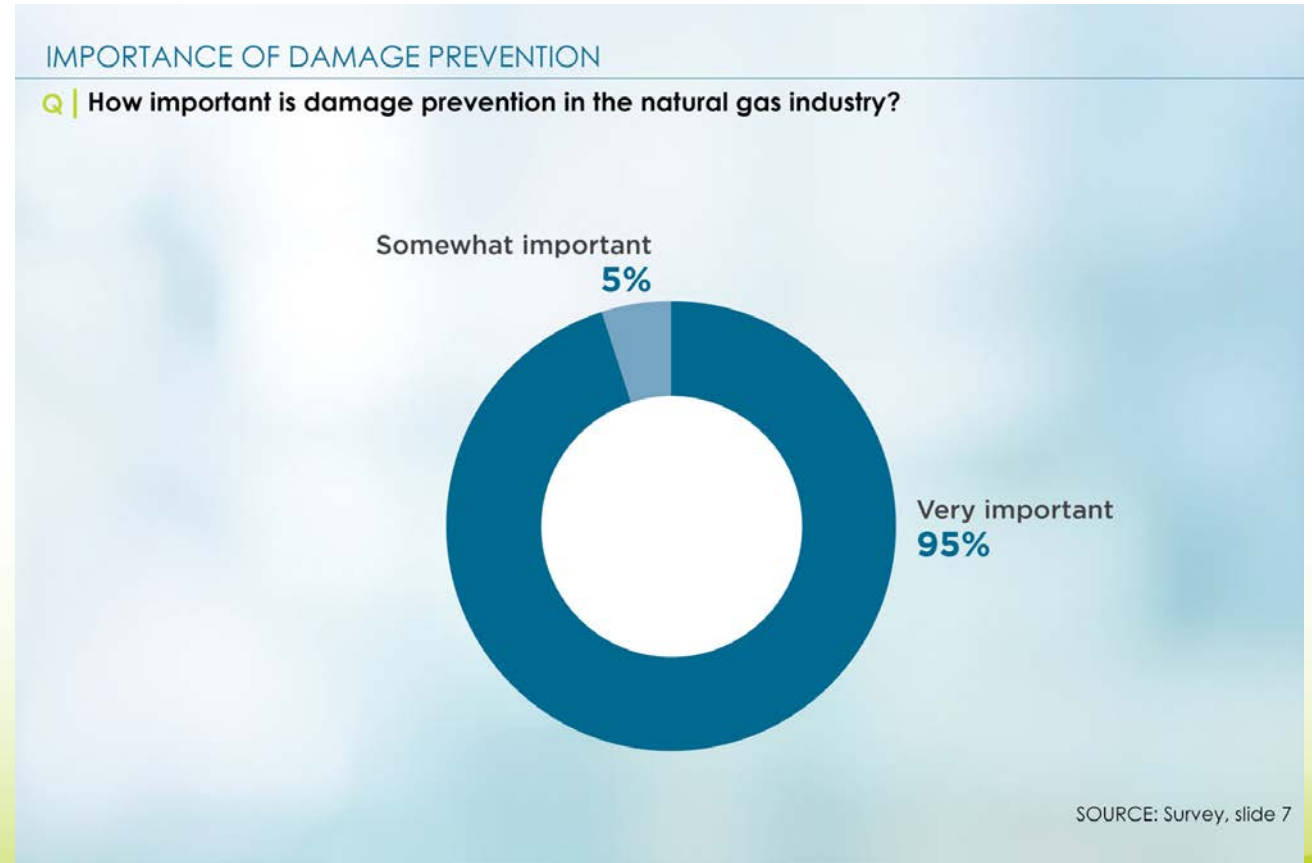
Key Takeaways

1. Natural gas distribution stakeholders are deeply engaged in damage prevention and can **expand what they perceive as their central role in the industry.**
2. Shifting the focus to **internal processes and programs** is more likely to drive immediate industry-wide improvements.
3. Improving locating through **greater emphasis on mapping and fair contracts** could help improve U.S. damage prevention as a whole.
4. Seizing opportunities to **increase investments in technology** will be critical to reducing damages to natural gas facilities.

1. Expanding natural gas' key role in the industry

Natural gas distribution stakeholders place high priority on safety and view themselves as a group primarily responsible for damage prevention.

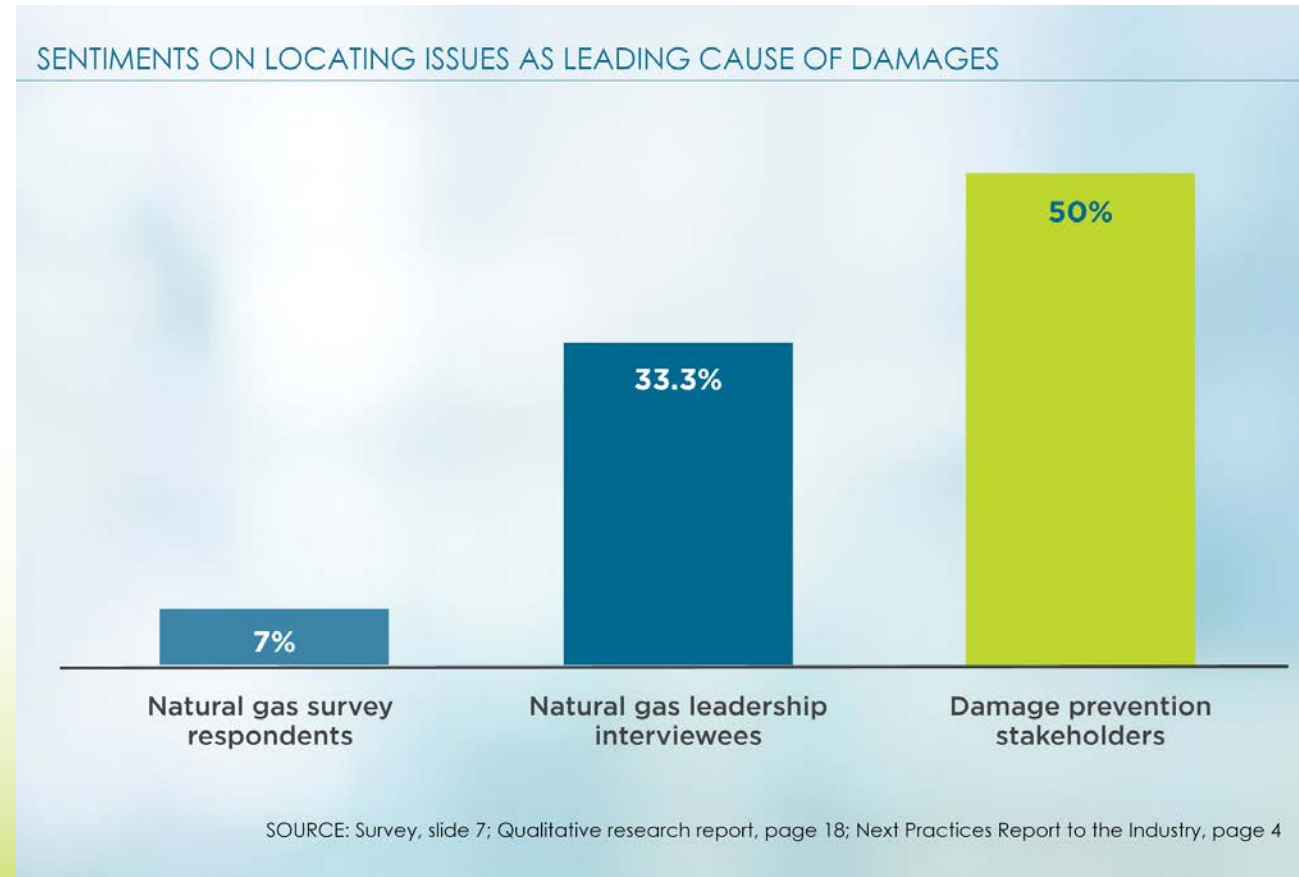
- Significant incentives to invest in safety gives these stakeholders a unique opportunity to share their expertise with other groups.
- The culture of safety within natural gas distribution organizations is created through strong leadership and by weaving damage prevention into the fabric of organizational life.
- Natural gas distribution organizations reach other stakeholders by investing in excavator training and awareness initiatives to address excavation issues.



3. Improved mapping and contracts

Natural gas distribution stakeholders can better reduce damages by focusing on improved facility mapping and fair contracts that prioritize damage prevention.

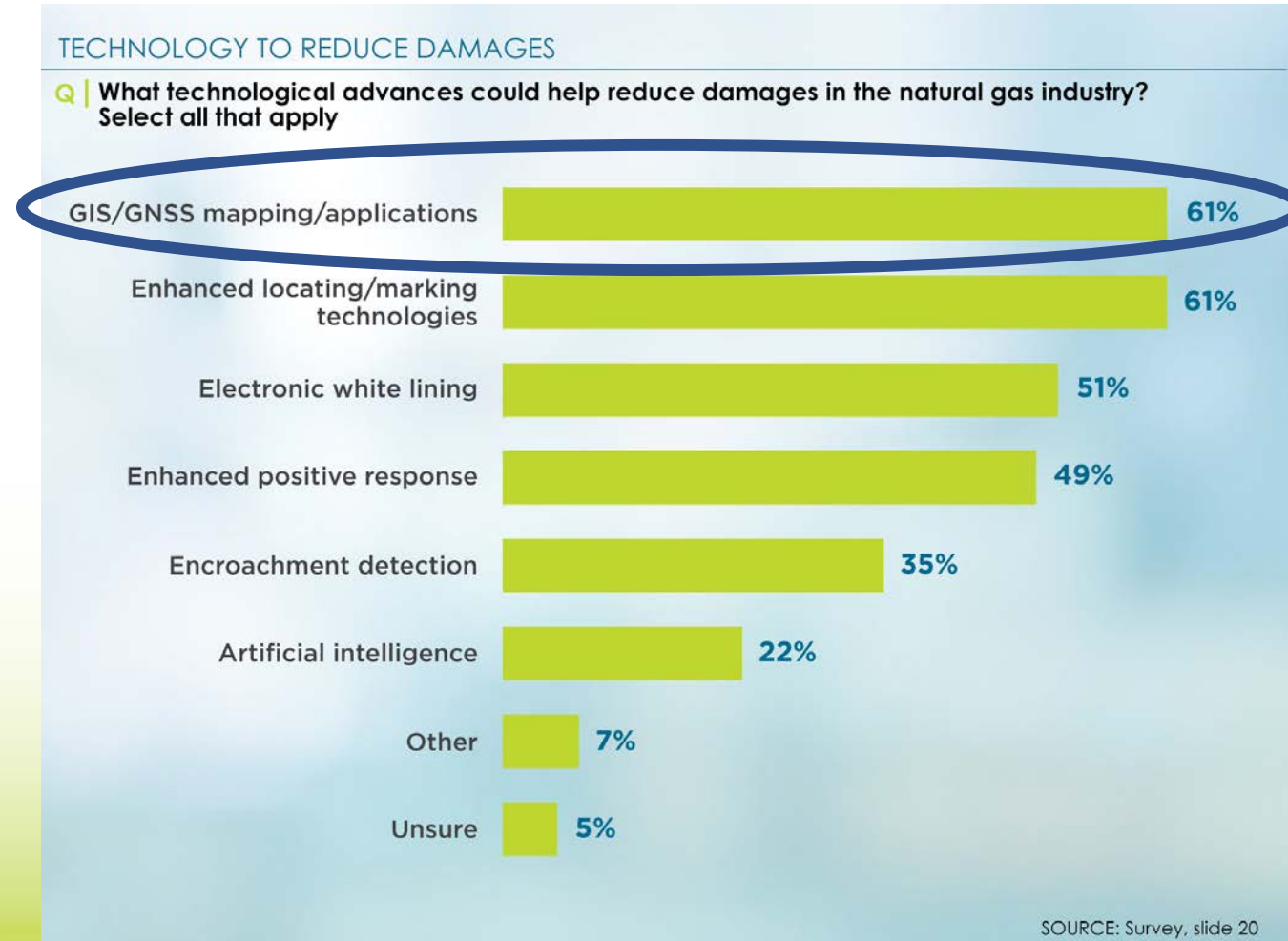
- Updated facility maps were a nearly unanimous request from locators surveyed for CGA's Locator White Paper.
- A case study from Southwest Gas found that utilizing best value contracts reduced damages by 20% in just over two years.
- Focusing on facility mapping and fair contracts can contribute to restoring excavator trust in the system and better excavator notification practices.



4. Innovation and technological advancements

Technology and innovation are critical to damage prevention and reducing future damages.

- More than half of natural gas stakeholders reported that GIS/GNSS mapping, enhanced locating/marking and electronic white-lining (EWL) technologies could help reduce damages to their facilities.
- Environmental and safety concerns from the general public and greater ESG prioritization within organizations may drive greater investment in technologies.
- Consistent with findings in CGA's Locator White Paper.



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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.

Next Practices Initiative: Specific Problems, Systemic Solutions



- Societal cost of damages to buried utilities is **\$30 billion annually**.
- Addressing individual challenges is creating inefficiencies and resulting in poorer, more costly safety outcomes.
- We must consider the true, global cost of underinvesting in safety and overpaying for damages: increasing initial safety investments is likely to drive down damage costs and yield a net reduction in costs.

Report to the Industry

- Goal: Clearly identify and focus the industry on the **advancement of effective solutions to address the most critical damage prevention challenges.**
- Three Critical Issues
- Identified Consistent Inefficiencies
- Industry Call to Action
Opportunities for Systemic Improvement



**Critical Challenge 1:
Facilities not marked
accurately and on time**

**Critical Challenge 2:
Excavator Errors in the field**

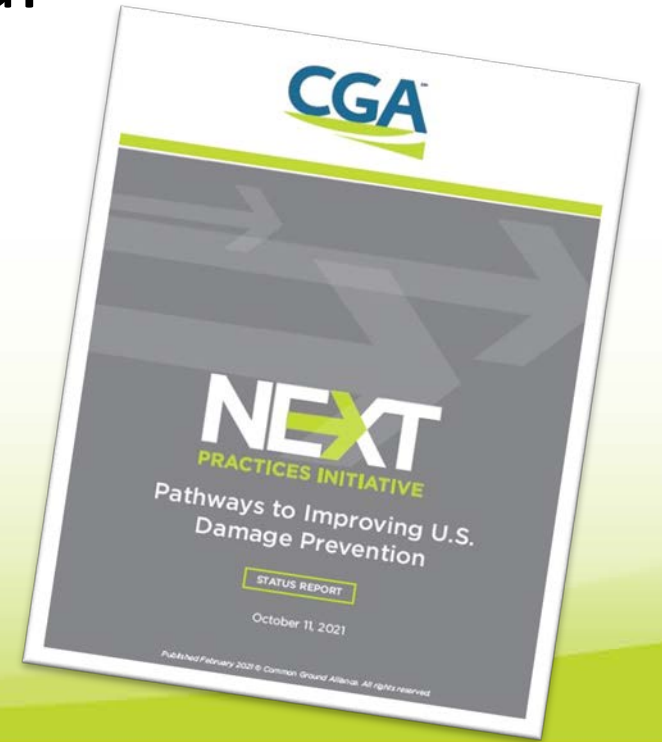
**Critical Challenge 3:
Effective and consistent use of
811**

SYSTEMIC OPPORTUNITIES

- Increase implementation of effective 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.**

Pathways to Improving US Damage Prevention – Status Report

- Analysis of barriers and incentives for each systemic improvement identified in the initial *Report to the Industry*.
- Documents practices or pilot programs that are already in place across the country and are focused on damage reduction goals.
- Identifies pathways for exploring and documenting additional improvements.



Systemic Opportunity: Pursue an Accurate, Accessible GIS Based Mapping System/Database

- Impacts of Inaccurate, Inaccessible Facility Maps
 - Planning and design revisions
 - Inefficient locating
 - Over-notification to facility owners
 - Failing to arm excavators with additional safety information
- Barriers to Creating and/or Sharing GIS Facility Maps
 - Lack of political will to share information
 - Upfront costs
 - Technology development
 - Lack of centralized body or stakeholder to own/operate a national GIS database
- Incentives for Creating and/or Sharing GIS Facility Maps
 - Increased efficiency (locating, planning and design, construction)
 - Excavator safety
 - Cost savings over time

Case Study - Pursue Accurate, Accessible GIS Mapping

- UtiliSource is pursuing accurate, accessible GIS mapping at the city level.
- It estimated that it achieved approximately 15% better time efficiency on projects where they can begin the planning and design stages with an accurate understanding of the location of buried infrastructure and cut time spent potholing to verify facilities by 50%.



Case Study – Summary and Objective

- In 2021, UtiliSource's client Gateway Fiber installed 374,000 linear feet of fiber optic cable in the city of Warrenton, MO. As it completed the fiber install, UtiliSource is potholing and GIS mapping the city's complete underground utility infrastructure: electric, gas, water, sewer, cable TV and fiber.
- This ambitious mapping endeavor by UtiliSource is part of the company's vision for completing its wide range of engineering, planning and design, utility service and construction projects more efficiently with highly accurate GIS maps of buried facilities.

Contractually Incentivize Adherence to Best Practices and Address Incidents Via Effective Enforcement Mechanisms



SOUTHWEST GAS

- Southwest Gas began implementing “best value” contracts two and a half years ago as tools to enforce better damage prevention practices among their contractors.
- Since implementing best value contracts with its line locating and pipeline vendors as part of its comprehensive damage prevention efforts, Southwest Gas has seen a 21.6% reduction in its total damages per thousand tickets ratio.

Next Practices Case Study



Leadership Driven, Data-Informed Interventions Reduce Damages And Costs While Improving Network Reliability And Customer Satisfaction

• **Key Drivers of Success**

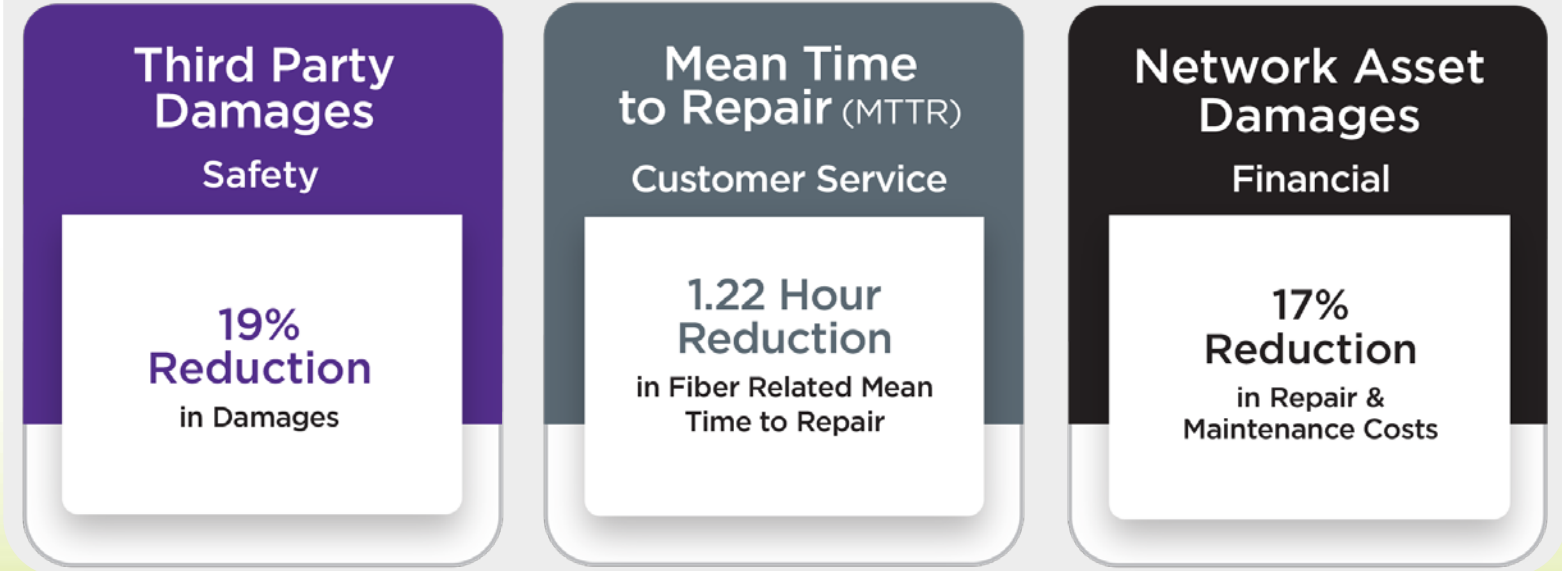
- **Strategic engagements** with CGA, its contract locating firm, and the most frequent third-party offenders.
- **Improvements in internal processes and tools**, including an enhanced Incident Reporting Module, establishment of an Underground Utility Avoidance Standard to which it holds all of its employees and partners accountable nationally, and the requirement to generate a subsurface engineering (SUE) risk score
- **Focused tactical defenses** such as establishing communication channels between field forces and its Boots on the Ground program to ensure there is a liaison at high-risk excavation sites.

The Results



“ Crown Castle’s southern region has been able to reduce third-party and network asset damages by 19% and reduce repair and maintenance expenses by 17% in under a year.”

Year Over Year Results





MISSION

To address systemic inefficiencies in the damage prevention process through the development of a comprehensive participant accreditation and elevated metrics, creating the foundation for a consolidated benchmarking and true peer review process.



Core Principles

- **Participants demonstrate commitment to their damage prevention responsibilities** through accreditation, maintaining active status, and participating in peer reviews.
- The DPI is **participant-driven** and **operates transparently** and **in service to all stakeholders**.
- Participation is **voluntary**.



Key Components of Participation

- **CGA membership** (no additional cost to participate in DPI)
- **Accreditation**
 - Accreditation requirements will vary by stakeholder group
- Maintaining **Active Status**
- Participation in **peer reviews**



Desired Outcomes

- Incentivize **all** stakeholders to increase engagement and embrace their critical roles in the damage prevention process.
- Comprehensive metrics that focus on shared responsibility.
- Analytical products that provide insights into not only individual company performance, but also systemic issues.
- Peer reviews that facilitate assessment and improvement of the damage prevention process for all stakeholders.



Thank You!



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THE CGA™ CONFERENCE & EXPO 2023

811

On the Road to
ZERO
Eliminating damages in 2023

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