

Safety Management in the Construction Industry 2023



Premier Partner

CPWR 
THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING



Research Partners



Introduction

Since 2012, Dodge Construction Network and CPWR have partnered to conduct research on safety management in construction. Many things have changed since that time, and for this report, we took a fresh look at the most relevant topics and challenges in the industry today, and created new benchmarks for studying trends in the future. These topics include:

- **Planning for Safety:** Consideration of safety even during the planning process before construction begins is clearly shown as beneficial in the data, and multiple viewpoints add additional value to this process. In addition, there is sufficient use of pre-task planning for there to be widespread understanding of it, but also an opportunity to increase its frequency throughout the industry.
- **PPE for Everybody:** Only 63% of construction companies that have less than 20 employees provide personal protective equipment (PPE) designed for women or others who are smaller or larger than the average American male. Even though this is a common practice at large companies, this leaves many workers exposed to hazards due to poor-fitting PPE.
- **Heat Exposure:** With heat records continuing to be toppled every summer, it is not surprising that nearly 1 in 5 contractors had a heat-related illness or injury at their company in the last three years. The data also shows that around half of contractors have addressed this issue in some way in the last three years, and it benchmarks the use of various strategies to manage it.
- **Mentoring and Training:** Mentoring can be a critical way to pass knowledge to less experienced workers, a high priority in construction given the average age of the workforce and the looming likelihood of retirement for many workers. The study shows that safety procedures are the most common focus of mentor programs, but only 51% of all contractors, and 43% of specialty trade contractors, currently offer a mentor program, and more training for those participating in these programs is needed.

- **Mental Health:** Over half of contractors would like to have more training and information on managing worker mental health and the risks of suicide and opioid use. Currently 59% offer a program to tackle substance use or mental health, but strategies like having a peer network are still relatively uncommon. This is clearly an emerging area, and it will be important to track industry engagement with it over time.
- **Technology Use:** New technologies on the jobsite have the promise of providing more accurate information for pre-task planning, better data on jobsite conditions, reduced exposure to hazards, and better ways to manage and monitor worker health and well-being. This study reveals the use of technology onsite and how it has changed since 2021. It also shows that contractors still struggle with utilizing the data they gather to improve safety.

All of these topics reveal opportunities for improving safety on construction sites by allowing companies to measure their performance in these areas against industry benchmarks and offering potential solutions for them to consider adopting; by providing institutions that fund training and information materials with insights on the needs of the industry; and by providing a basis for tracking how these areas change over time.

Dodge Construction Network thanks CPWR for its partnership in this effort and NIOSH for recognizing the value of this repeated series to inform the industry about safety management practices in use.



Donna Laquidara-Carr, PhD, LEED AP
Industry Insights
Research Director,
Dodge Construction Network

Donna Laquidara-Carr currently provides editorial direction, analysis and content to Dodge Construction Network's *SmartMarket Reports*. Prior to this position, she worked for nearly 20 years with DCN's Dodge division, where she gained detailed insight into the construction industry.



Steve Jones
Senior Director, Industry
Insights Research,
Dodge Construction Network

Steve Jones leads Dodge Construction Network's Industry Insights Research division. He is active in numerous industry organizations and frequently speaks at industry events around the world. Before DCN, Jones was vice president with Primavera Systems (now part of Oracle), a global leader in project management software. Prior to that, he was principal and a Board of Directors member with Burt Hill, a major A/E firm (now merged with Stantec).

Executive Summary

Planning for Safety Produces Better Outcomes

Contractors can start addressing safety before construction begins by creating a health and safety plan for the project. Only 36% of those creating these plans have their safety and health director involved. Even given that a share of the contractors' companies may not be large enough to have a safety and health director role, there is still clearly an opportunity for many more to have them be part of the planning process. Those that do so more frequently experience increased worker engagement with safety, reduced recordable injury rates, improved productivity and more predictable costs than those that do not.

As the chart at upper right shows, pre-task planning is also frequently utilized by many companies, but there is still room for growth, especially among smaller organizations. The study examines the use of 13 pre-task planning activities by contractors (see page 13), and the chart at lower right shows that the majority of those who use seven or more of these activities experience many of the same benefits as do those who create a health and safety plan before construction begins, including reduced recordable injury rates and improved productivity. These benefits clearly demonstrate the value of active planning for safety, and continual reinforcement at the task level.

Right-Sized PPE Is Not Universally Offered

Over one third of small contractors do not provide PPE designed for people other than the average American male. Right-sized PPE is essential to protect worker safety.

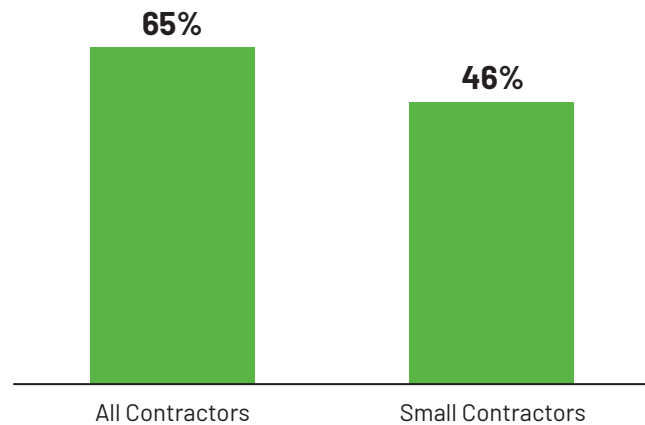
Contractors Are Increasingly Addressing Heat Exposure as an Important Safety Practice

According to the US Environmental Protection Agency, temperatures in the contiguous 48 states in the US have been rising at a more rapid pace since 1970 than they had previously, with nine of the warmest years on record occurring in the last 25 years. With many construction sites occurring in open air and the boom of construction projects in warm states like Arizona, Florida and Texas, heat exposure is an increasing hazard.

As the chart on the following page at upper right makes clear, many contractors are taking this threat seriously. With nearly 1 in 5 companies reporting that they have had staff suffer heat-related illnesses or injuries in the last three years, this is clearly an area of wide concern. In fact, over half of the contractors state that their company has made changes in the last three years to help prevent these incidents.

Utilize Pre-Task Planning Frequently or Always

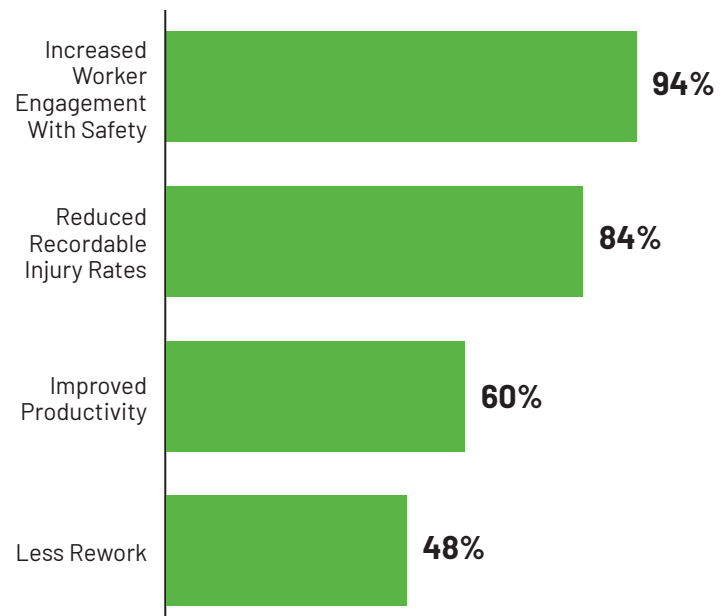
Dodge Data & Analytics, 2023



Top Benefits Experienced From Pre-Task Planning

(According to Those Using Seven or More PTP Activities)

Dodge Data & Analytics, 2023



Executive Summary

Clearly, though, there is more that contractors can do. One third (34%) still do not have a written heat safety program. Also, while the use of water, rest and shade to manage heat exposure is nearly ubiquitous, most of the other nine methods included in the study are used by less than half of contractors. These include administrative controls, such as scheduling work for cooler times of day, using PPE designed to keep workers cooler or having an emergency response plan. Only 10% conduct physiological monitoring, which could reveal workers in distress.

Safety Is Often Prioritized in Contractors' Mentoring Programs

As the chart at lower right reveals, about half of contractors have a mentor program at their companies. A positive sign is that when they do, it commonly focuses on safety procedures. However, as promising as these findings are, over 60% of contractors do not offer safety mentoring, and many companies do not train their mentors for that role. These findings suggest that increasing mentoring, and preparing those put in that role, could help contractors improve the safety culture at their companies.

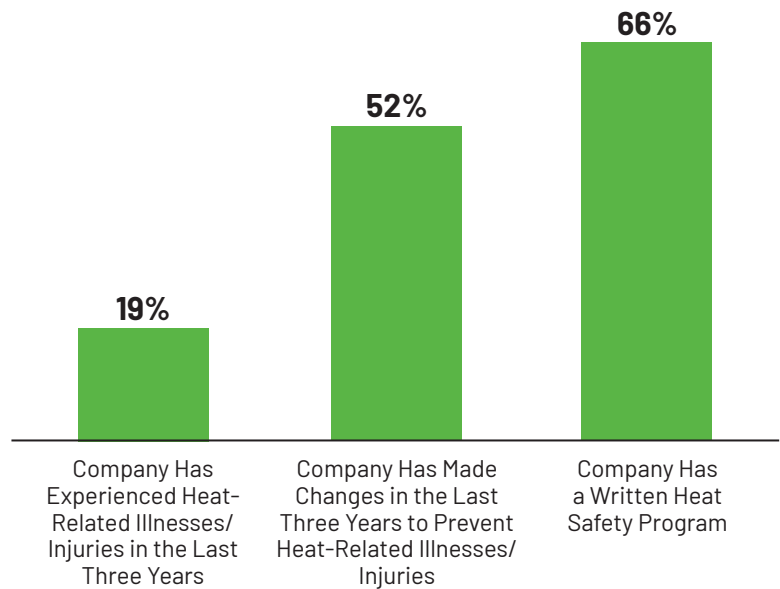
Growth Expected in Use of Training Assets

The study measured the use of two training assets: online safety training and the Foundations for Safety Leadership Training.

- Nearly two thirds (64%) currently use online training, and over one quarter of them expect to increase their use of this tool. However, non-users are less interested in this tool, with only a tiny share who expect to start using it in the next two years.
- The Foundations for Safety Leadership Training is currently used at the companies of 49% of the respondents. This is a growth of 9 points since the use was first measured by DCN in 2017. Notably, there is also an increase in the share who don't know whether their companies utilize it or not, from 11% in 2019 to 25% in 2023. This may suggest that the industry currently needs more exposure to it, now that six years have elapsed since its launch.

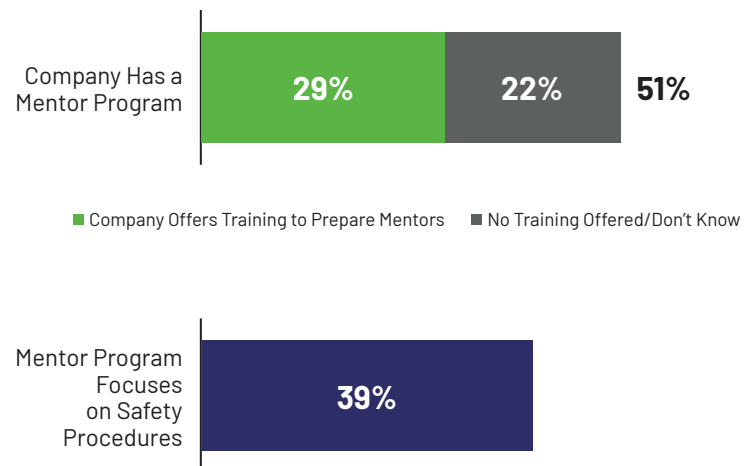
Heat Exposure Impacts and Responses

Dodge Data & Analytics, 2023



Mentoring Programs at Contractor Companies

Dodge Data & Analytics, 2023



Executive Summary

Contractors Seeking More Information and Training on Mental Health Issues

As the chart at upper right makes clear, contractors have a keen interest in learning more about mental health, suicide and opioid overdoses. This finding supports a general engagement with the larger issue of worker well-being by contractors, one that includes frequent offering of anti-harassment training, as the chart below demonstrates.

However, programs that offer help on these issues are not yet commonplace in the industry. Certainly, there is an opportunity for the industry at large to provide more support as well, especially for smaller companies. Even more important, information about existing resources that contractors can utilize also needs to be more widely disseminated.

Contractors Are Engaging Technology, But Still Not Fully Utilizing Data to Improve Safety

The majority of the contractors in the study utilize at least one type of digital or emerging technology on their jobsites. Some of the most common include building information modeling, drones and laser scanning, which are all utilized by over one third. Many other technologies, such as remotely controlled equipment and predictive analytics, are used by less than 20%.

Promisingly, the top reason contractors cite for using technology is to improve safety, even over increased productivity.

However, the ability to utilize data to improve safety is still emerging in the industry. Nearly half (47%) either don't gather any safety data or do not use most of the data they do collect to improve their safety program. This will be an interesting area to watch as better tools emerge that help contractors analyze safety data and place it into the context of broader industry practices.

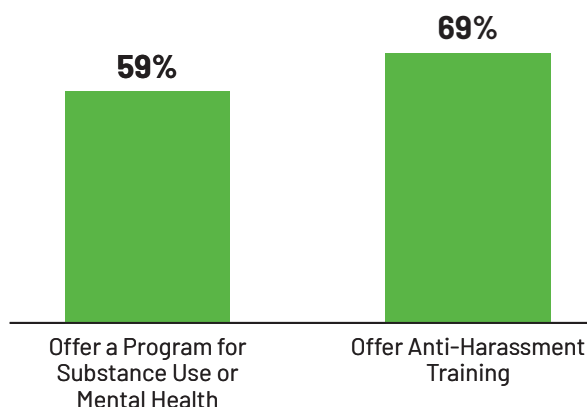
Top Three Topics Contractors Would Like to Have More Information/Training About

Dodge Data & Analytics, 2023



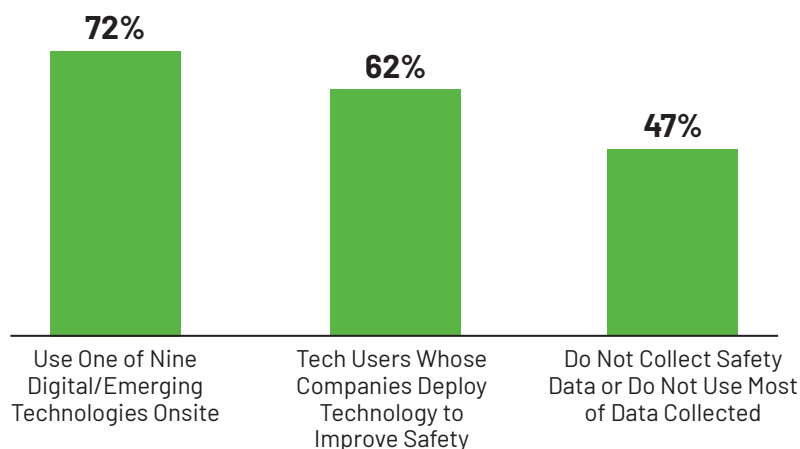
Share of Contractors Offering Programs/Training for Mental Health/Substance Use/Anti-Harassment

Dodge Data & Analytics, 2023



Use of Technology and Safety

Dodge Data & Analytics, 2023



CASE STUDY

Building a Toolbox for Worker Well-Being

SAFETY MANAGEMENT IN THE CONSTRUCTION INDUSTRY 2023

Ask a roomful of construction workers if they've ever had a mental health challenge, and you know nobody will raise their hand. But ask who's ever had a crazy girlfriend, a pregnant wife? Who's thought that that person has maybe lost their mind? And the hands go up. Who thought they'd never get through it? The hands stay up. "That would qualify, folks," says Terri Olson, vice president and CFO of OE Construction, a Colorado-based, 50-employee, excavation and underground utility company. "So who are you going to reach out to: family, friends, your employer? Because you need to get a support system in place."

Olson is describing a key piece of OE Construction's approach to integrating mental health into the company's safety culture. "We tend to call it worker well-being now," she says. "That seems to be easier for folks to get engaged with." The aim is to preempt emergencies by normalizing life's challenges and putting systems in place to deal with them. "Like fall protection," Olson says, "it's just what you do."

Focusing on Culture at a Small Company

Even with fewer resources than larger companies typically have, building a worker-focused culture has been an OE priority since Olson's younger son founded the family-run company 17 years ago, and all the more so since her older son, an engineering student who had worked summers at OE, died by suicide 12 years ago. As a result of the impact of that loss on the family and on his coworkers at the firm, "it became even more important that we focus on the whole person," says Olson.

Similar to many companies with fewer than 100 employees, OE doesn't have the resources to support a full-blown HR department or a full-time safety person. Olson wears an HR hat in addition to



her CFO hat, with support from another employee with an HR background. Safety is delegated to certain key people in the company, with ongoing support from a safety consultant on contract. But even with the limited means of a smaller company, OE has built a toolbox of tried and tested resources for supporting worker wellness.

Role of Leadership

Regardless of company size, the foundation for the success of a mental health initiative is leadership. "You have got to get engagement all the way through the entire organization," says Olson. "It has got to go all the way to the top." Olson herself has been known to call a doctor's office to advocate on behalf of an employee reaching out for help. "You can't just pass them off to this link, or that hotline, and maybe you'll get an appointment, maybe you won't," she says. "If someone's willing to step up and be real, to let you know that they're suffering a crisis in their life or just a tough time, you better believe."

Her message to employers who think a crisis in their employee's personal life isn't their problem: "Yes it is," says Olson. "Yes, it is. That guy's a wreck. He's a safety incident waiting to happen."

Tackling the Challenge

In the early days of prioritizing mental well-being, OE's approach focused on integrating key messages into safety training, particularly those aimed at normalizing mental health conversations, and promoting resources that were available through the company's Employee Assistance Plan (EAP). As with many EAPs, however, mental health support was limited, and appointments were often hard to get. (Getting an appointment in Spanish was next to impossible.)

A turning point came in 2021, when AGC of Colorado convened a mental health task force to investigate tools for addressing mental illness and suicide in the industry. The initiative included a pilot program in which a representative sampling of member

Image Courtesy of OE Construction

Building a Toolbox for Worker Well-Being

companies, including OE Construction, engaged with Youturn Health, a virtual treatment program for behavioral health, substance use and suicidal ideation. Trained peer coaches (including Spanish speakers) work one-on-one to evaluate an employee's resiliency, mental health, substance use and suicide risk, and then to offer customized resources in response. In addition to a large online library of engaging videos addressing a range of life's challenges, "the most important part, and the reason I got involved," says Olson, is that Youturn provides ongoing, individual support for up to six months, where the responsibility for engagement is on the coach, not the employee. The program is also available to family members at no extra cost.

Because the use of Youturn is confidential, the first clue Olson had about uptake within OE was an invoice for five employees' engagement that month. "Then I'm like, 'OK, this is working,'" she says. When AGC Colorado's pilot ended, OE signed up with Youturn directly "for a very reasonable fee and at no charge to our employees," says Olson. She calls it the "warmline," and says it's reassuring just knowing it's there.

One day an employee in OE's accounting department called to say she couldn't come in to work. When Olson asked if she was okay—"we had to teach people to ask, 'Are you okay,'" she says—the employee said that she wasn't, that her husband was suicidal. (Olson shares this story with the permission of her employee.) Olson reminded her of the Youturn program they had just launched, and the employee called. Within an hour, the employee and her husband each had a peer counselor who connected them with mental health resources. The husband's counselor made the

calls to get him an appointment with a professional. "And they didn't stop," says Olson. "They said, 'Do you want us to call you, text you, email you? What's our method of communication?' They were touching that family daily for quite some time." The employee came back to work. She said, "You saved our life."

This is what you should be telling people, says Olson: "Life happens at a moment's notice. There's nothing wrong with having challenges. So recognize that. Recognize how it impacts you and the people around you."

Building the Toolbox

For companies wanting to build a toolbox of mental wellness resources, Olson says the first step is to figure

out what you currently have, identify what's missing, and then—most important—talk to people: "I'd go to the jobsite and say, 'We're working on this. What's important to you?' They might not know, so try things. Get key people to beta test a resource and spread the word if they think it's helpful. Talk to other firms, too, and find out what they're doing that works. Additional tools may include bringing in speakers on such topics as techniques for self management, and promoting resources available from the Construction Industry Alliance for Suicide Prevention. "You can be a small company and introduce these concepts and programs, and it's not going to sink your company," says Olson. "We are living proof of that."

