2024 Safety Report

Changing How the World Builds

February 2025

CII Member Companies

Owners

- Air Products
- Albemarle Corporation
- Anheuser-Busch InBev
- Aramco Services Company
- Archer Daniels Midland Company
- Braskem S.A.
- Bruce Power
- Cargill, Inc.
- Chevron
- Covestro LLC
- CSL Behring
- Drax Biomass Inc.
- DTE Energy
- Eastman Chemical Company
- ExxonMobil Corporation
- Google
- Intel Corporation
- Irving Oil Limited
- Koch Industries, Inc.
- Los Alamos National Laboratory
- LyondellBasell
- Ma'aden-Saudi Arabia Mining Co.
- Marathon Petroleum Corporation
- Naval Facilities Engineering Command
- New York Power Authority
- NOVA Chemicals Corporation
- Novalith Technologies
- Nuclear Decommissioning Authority
- Nutrien
- Occidental Petroleum Corporation
- Ontario Power Generation
- PEMEX Deer Park
- Petroleo Brasileiro S/A - Petrobras
- Petronas
- Public Service Electric & Gas Company
- RTX Corporation
- SABIC - Saudi Basic Industries Corporation
- Sempra Infrastructure Partners, LP
- Shell
- Sila Nanotechnologies Inc.
- Smithsonian Institution
- Southern Company
- TC Energy
- Teck Resources Limited
- Tennessee Valley Authority
- The Dow Chemical Company
- The Procter & Gamble Company
- U.S. Army Corps of Engineers
- U.S. Department of Commerce/NIST
- U.S. Department of Defense/Tricare Management Activity
- U.S. Department of Energy
- U.S. Department of State
- U.S. General Services Administration
- Vale S.A.
- Zachry Corporation

Contractors

- Baker Construction Enterprises
- Barton Malow Company
- Bechtel Group, Inc.
- Black & Veatch
- Burns & McDonnell
- Chemex Global
- Chiyoda Corporation
- Day & Zimmermann
- Fluor Corporation
- Hargrove Engineers + Constructors
- Hatch
- HRI-High Temperature Repair & Installation
- JGC Corporation
- KBR
- Kiewit Corporation
- MasTec Power Corporation
- Matrix Service Company
- McCarthy Building Companies, Inc.
- McDermott International, Inc.
- MODEC Inc.
- PCL Constructors, Inc.
- POWER Engineers, Inc.
- S & B Engineers and Constructors, Ltd.
- Samsung E&A
- Techint Engineering & Construction
- Technip Energies
- thyssenkrupp Industrial Solutions (USA), Inc.
- Toyo Engineering Corporation
- United Engineers & Constructors, Inc.
- Victaulic
- Wood
- Worley

Service Providers

- Accenture
- Access Sciences
- Alvarez & Marsal
- Asset Performance Networks
- Aurigo Software Technologies, Inc.
- Autodesk, Inc.
- AVEVA Solutions Ltd.
- AWP University
- CAXperts GmbH
- Construct-X, LLC
- Dassault Systèmes SE
- Deloitte
- DyCat Solutions
- FTI Consulting, Inc.
- GATE Energy
- Global Site Solutions
- Hilti Corporation
- Insight-AWP Inc.
- Kahua, Inc.
- Kairos Power, LLC
- McDonough Bolyard Peck, Inc.
- O3 Solutions
- Oracle USA, Inc.
- Pathfinder, LLC
- Progesys
- PTAG, Inc.
- The Nuclear Company
- Valency Inc.
- Verum Partners
- Zurich

2024 CII Safety Summary Report

Construction Industry Institute

Deployment Committee

DPC2024-2

February 2025

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Contents

Chapter 1

Introduction

CII has collected annual corporate safety performance data from its member organizations since 1990 as part of its long-term commitment to improving safety in the construction industry. This 2024 report summarizes safety rates of 2023 calendar year **reported by CII members and affiliates only**.

Survey Instrument

The CII safety survey gathers data by industry sector, location, and employee type. The main data entry fields include:

- Total Work Hours
- Total Recordable Incident Cases
- Days Away and Restricted or Transferred (DART) Cases
- Total Number of Days Associated with Days Away (DA) Cases
- Total Number of Days Associated with Job Restriction or Transfer (RT) Cases
- Number of Fatalities

In addition, the survey includes questions regarding near misses, first aid cases, and fatalities. All the rates presented in this report follow OSHA's definitions, which are available in the OSHA 300 form.

Survey Scope and Potential Limitations

Respondents (both owners and contractors) were asked to provide safety data for both their direct-hire employees and their contractors' employees. However, because contractors were not uniquely identified in the owner responses, some double reporting of contractor data is possible. This overlap often presents itself in two ways:

- Owners reporting on their contractors' employees
- Contractors reporting on their direct-hire employees.

Readers should use caution when comparing results across different industry sectors, since **some sectors have relatively small sample sizes**. (This is reflected in the number of companies and work hours associated with each sector reported in the charts.)

CII uses definitions for its industry groups that are different from both the system OSHA currently uses, the 2002 North American Industrial Classification System (NAICS); and the Standard Industrial Classification (SIC) system that OSHA used prior to 2003. The construction industry divisions of NAICS and SIC system consist of three major groups:

1. General Building (NAICS 236 and SIC 15)
2. Heavy Construction except for Buildings (NAICS 237 and SIC 16)
3. Special Trade Contractors (NAICS 238 and SIC 17)

CII data do not include residential construction, which is included in OSHA's "General Building" category.

CII collects safety data related (only) to capital projects, excluding operations and maintenance (this is particularly important for owners reporting their safety data).

Chapter 2

2023 Safety Data Summary

For the 2023 calendar year, 48 organizations submitted their corporate safety statistics. These data represent a total of 0.81 billion work hours. Figure 1 summarizes the reported work hours by organization type and project location. The Global responses are those that did not break down the data into U.S. (domestic) and international hours.

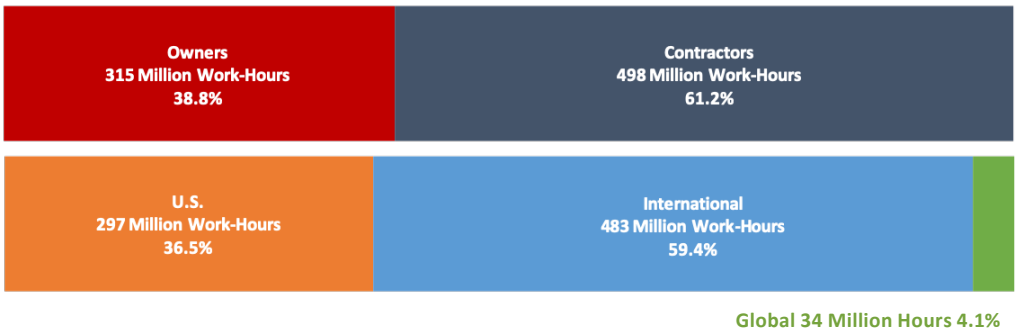

Figure 1. Summary of Work Hours by Organization Type and Project Location

Table 1 summarizes the data by the severity of incidents. Some respondents did not provide all of the requested data or provide details for all categories. For instance, an organization may report the total recordable incidents but not report the DART cases, in which case the aggregated amount of work hours for DART cases will be smaller. For this reason, the total overall work hours reported differs from many of the categories presented in Table 1. In particular, some owners had difficulty reporting information related to job restriction or transfer (RT) cases due to the short durations of the work tasks involved.

Table 1. Summary of Incident Cases and Work Hours by Organization Type

		Owner	Contractor	Total
TRIR	*Cases*	375	728	**1,103**
	Work Hours	315,217,873	497,988,079	**813,205,952**
DART	*Cases*	154	232	**386**
	Work Hours	277,876,789	467,294,030	**745,170,818**
Fatality	*Cases*	3	8	**11**
	Work Hours	359,217,873	478,326,815	**837,544,688**

Chapter 3

Historical TRIR and DART Rates

The trends show that CII TRIR has stayed between 0.22 and 0.28 and DART has stayed between 0.09 and 0.12 since 2016.

Per Bureau of Labor Statistics, the overall industry TRIR and DART were 2.3 and 1.5 in 2023 (BLS Website). The CII rates for TRIR and DART were 0.27 and 0.10 in 2023.

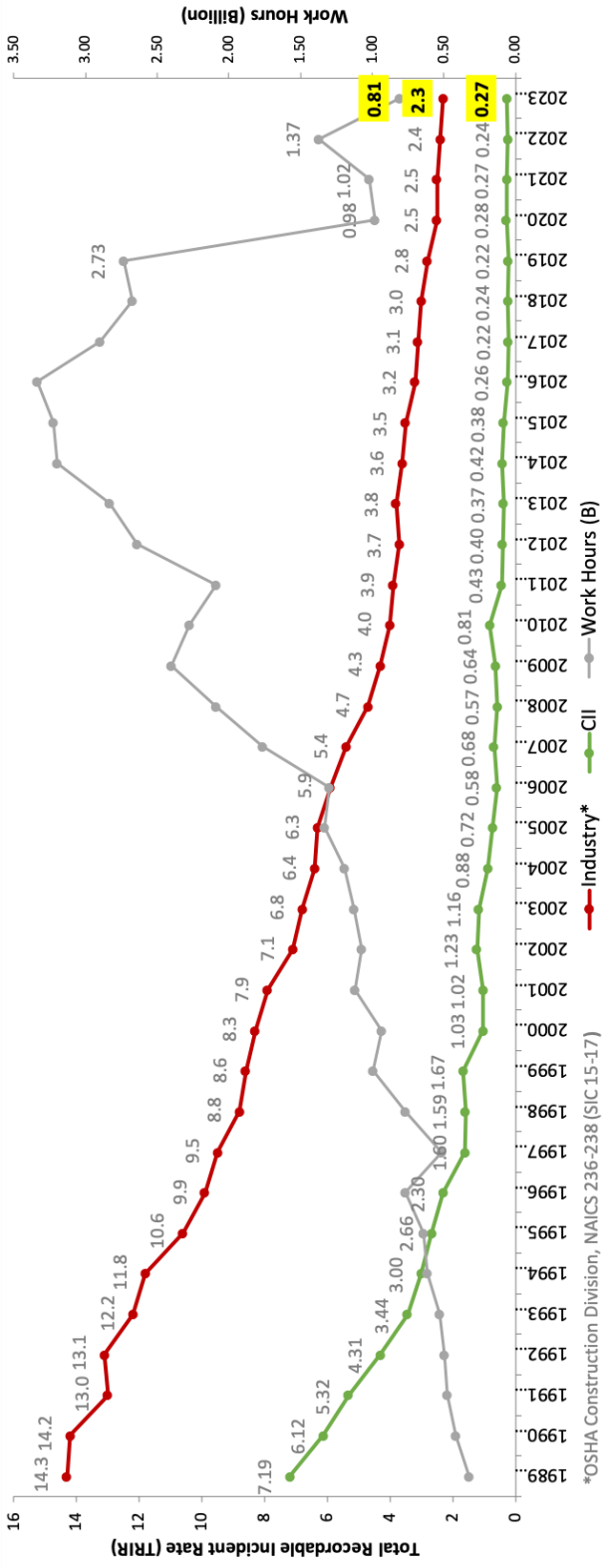

Figure 2. CII Members Reported TRIR Rate, 1989-2023

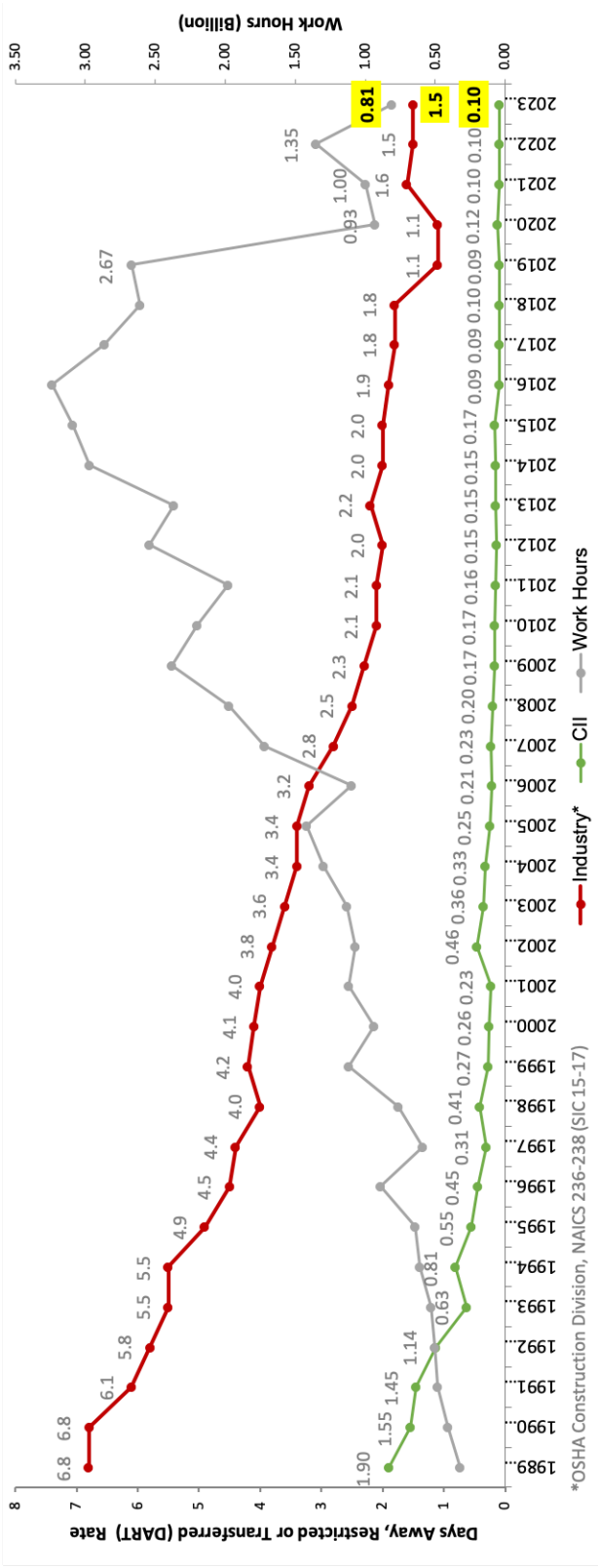

Figure 3. CII Members Reported DART Rate, 1989-2023

Chapter 4

Safety Data and Rates by Industry Group

The safety survey collects data from four industry groups: Heavy Industrial, Light Industrial, Buildings and Infrastructure. The figures below summarize the TRIR (Figure 4) and DART rates (Figure 5) for each group, and by respondent type. The N values indicate the number of companies that submitted data, and the "Total" (green) bars represent the combined data including both owners and contractors.

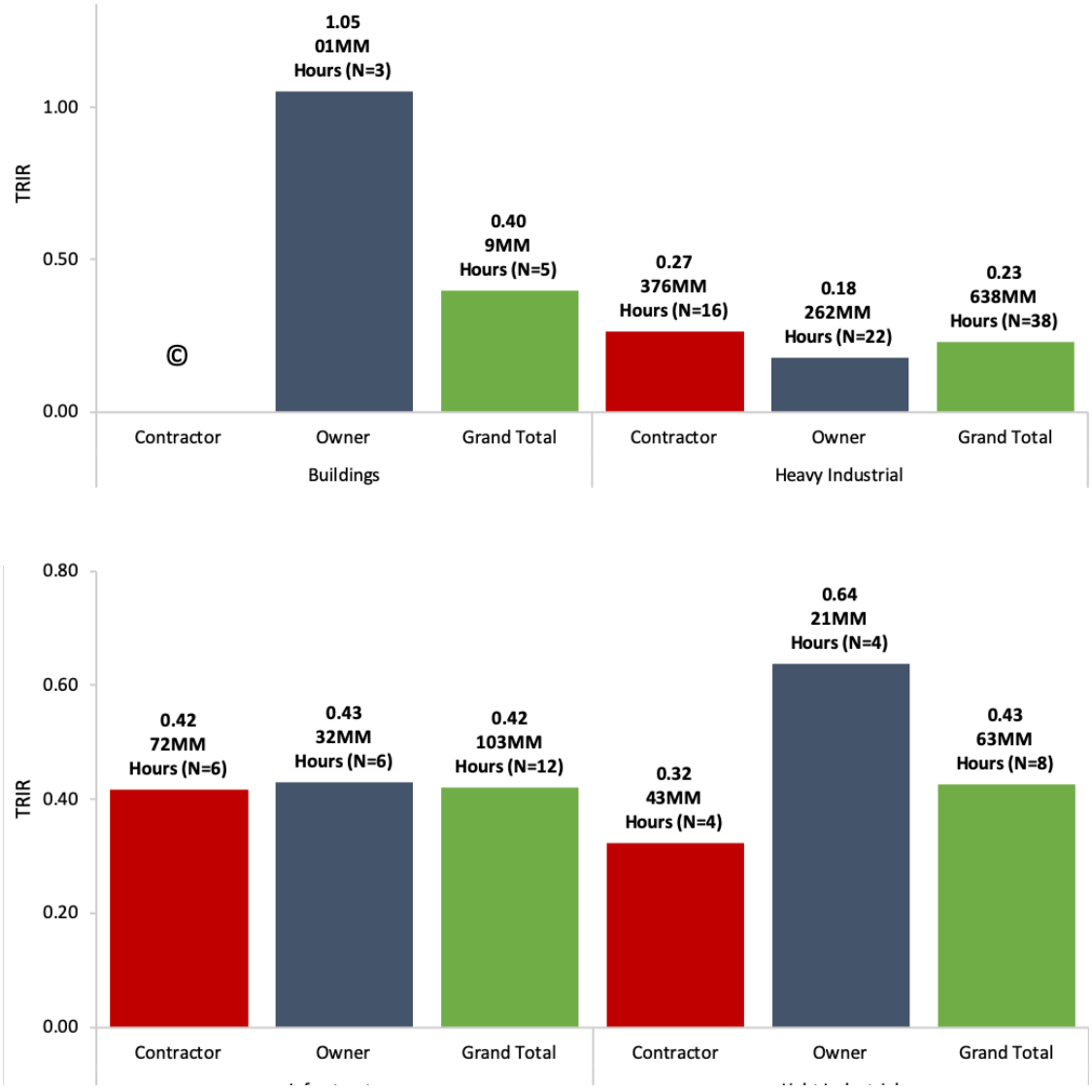

Figure 4. 2023 TRIR by Industry Group

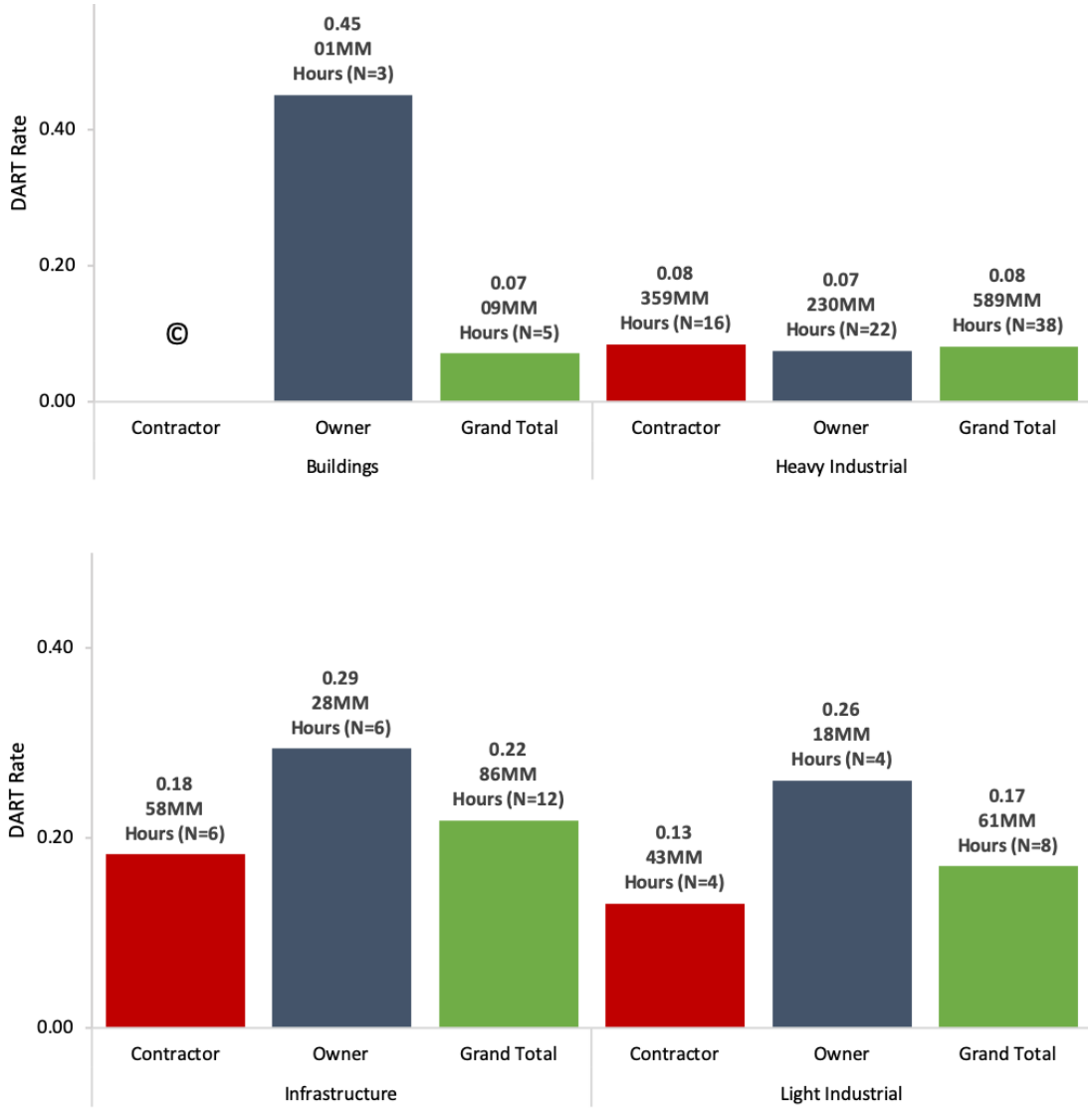

Figure 5. 2023 DART Rates by Industry Group

In this report, the symbol © indicates that the data were suppressed because of an insufficient sample size (i.e., fewer than three companies reporting safety data for the category).

Chapter 5

Safety Data and Rates by Project Location

Survey respondents are involved in capital projects around the world. This chapter compares data from U.S. and non-U.S. projects. Note that, ideally, the non-U.S. number should be further broken down by geographic region. But the availability of data is limited to most regions and, therefore, this document aggregated all non-U.S. data into one group. As shown in Figures 6 and 7, the N values indicate the number of companies that submitted data, and the “Total” (green) bars represent all of the data.

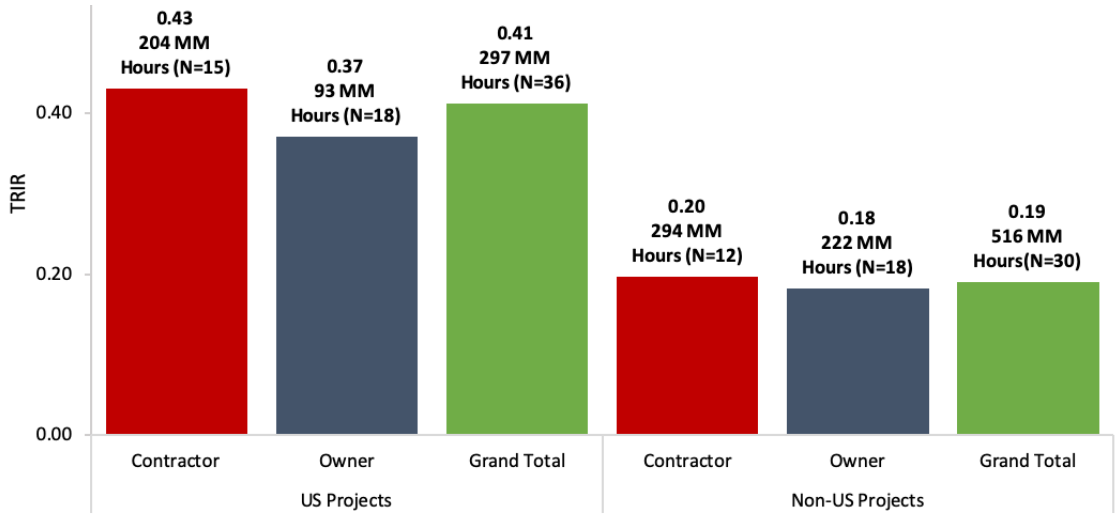

Figure 6. 2023 TRIR by Project Location

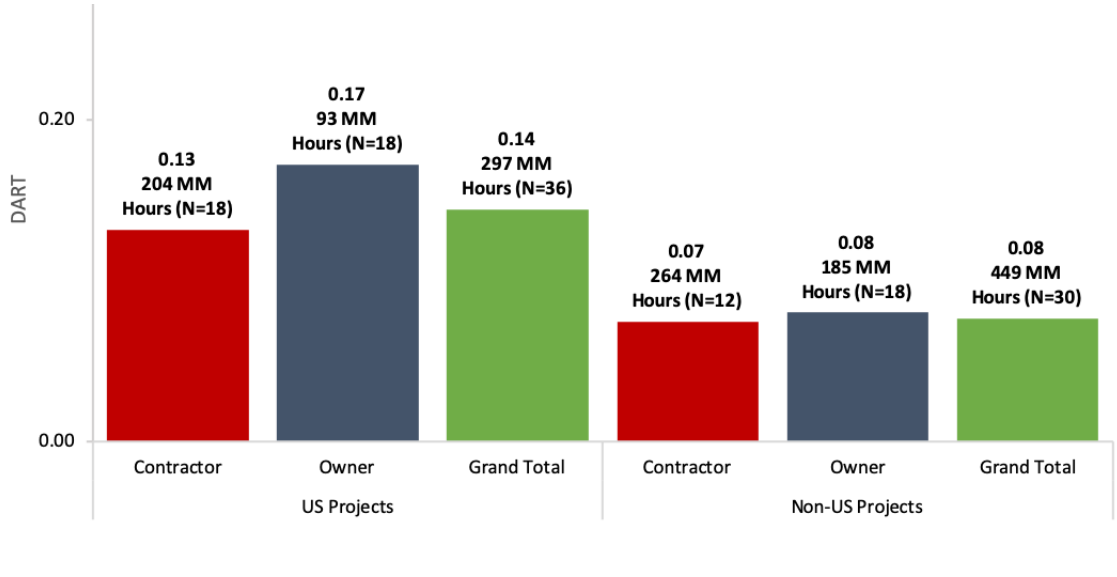

Figure 7. 2023 DART Rates by Project Location

Chapter 6

Fatalities

As shown in Figure 8, the overall fatality rate of CII members went up in 2023 to 2.63 from 1.6 reported in 2022. The 3-year moving average for 2021-2023 is 1.74. Per Bureau of Labor Statistics, the overall industry fatality rate was 9.6 in 2023 (BLS Website).

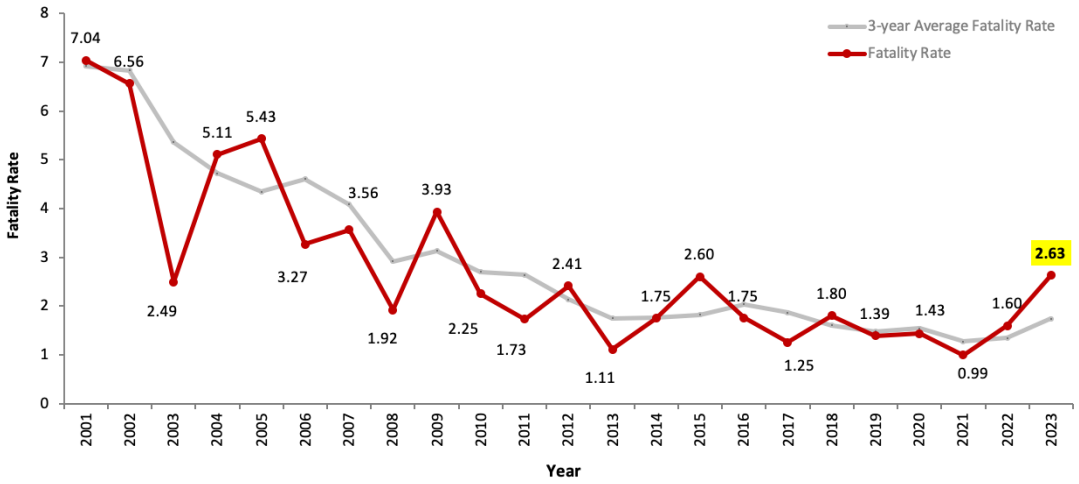

Figure 8. Yearly and 3-year Average Fatality Rates (2001–2023)

In 2023, 11 fatalities were reported by CII members. Figure 9 shows that the lead causes were the Contact with Objects and Equipment and Falls.

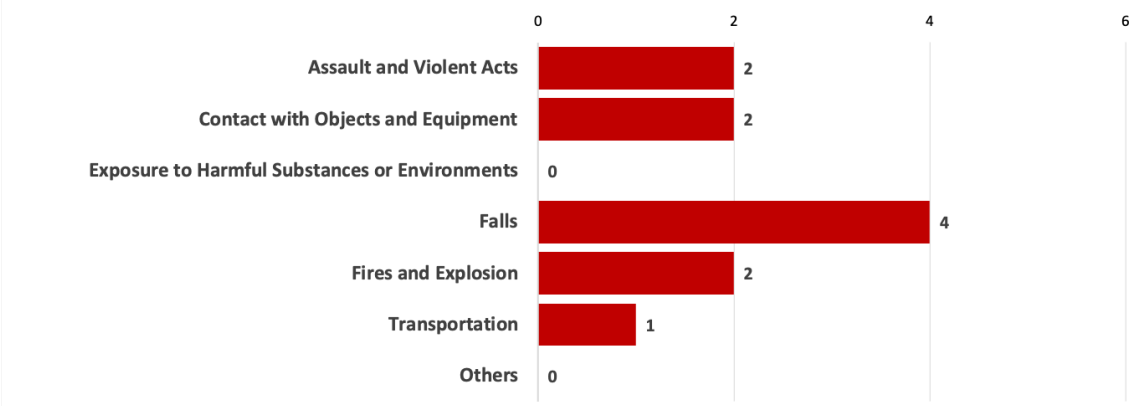

Figure 9. Fatality Causes in 2023

Chapter 7

Corporate Safety Benchmarks

The information presented in this section allows organizations to determine more precisely where they stand relative to other organizations. Organizations can benchmark their corporate safety performance against other organizations using Table 2 and the figures below.

Presented in Table 2 are the corporate-level descriptive statistics including percentile, mean, standard deviation (S.D.), and sample size based on TRIR, DART, DA (Days Away), and Fatality Rate of individual companies. For instance, if an organization had a TRIR of 0.45 in 2023, its safety performance fell in the third quartile, between 0.26 and 0.58. This means that the organization's TRIR is worse than at least 50% of the responding organizations but better than at least 25% of them.

Table 2. 2023 Corporate Safety Statistics for Benchmarking

	All				Contractors				Owners			
Percentile	TRIR	DART	DA	Fatality Rate	TRIR	DART	DA	Fatality Rate	TRIR	DART	DA	Fatality Rate
100th	3.09	0.76	0.47	0.36	1.41	0.76	0.38	0.36	3.09	0.75	0.47	0.26
75th	0.58	0.25	0.12	0.00	0.55	0.18	0.08	0.03	0.57	0.25	0.15	0.00
50th	0.26	0.12	0.04	0.00	0.30	0.12	0.04	0.00	0.25	0.14	0.05	0.00
25th	0.17	0.03	0.00	0.00	0.18	0.04	0.00	0.00	0.17	0.03	0.00	0.00
0th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.44	0.17	0.09	0.03	0.41	0.16	0.07	0.05	0.47	0.19	0.11	0.01
S.D.	0.51	0.19	0.12	0.08	0.37	0.19	0.09	0.11	0.60	0.20	0.14	0.05
n	47	36	36	42	19	18	18	19	28	24	24	29

Figures 10 through 12 (on the next page) show percentile charts for organizations' TRIR, DART rate, and DA rate. For example, if a contractor had an overall corporate TRIR rate of 0.50, Figure 10 indicates that nearly 70% of contractors participating in the survey achieved a better TRIR.

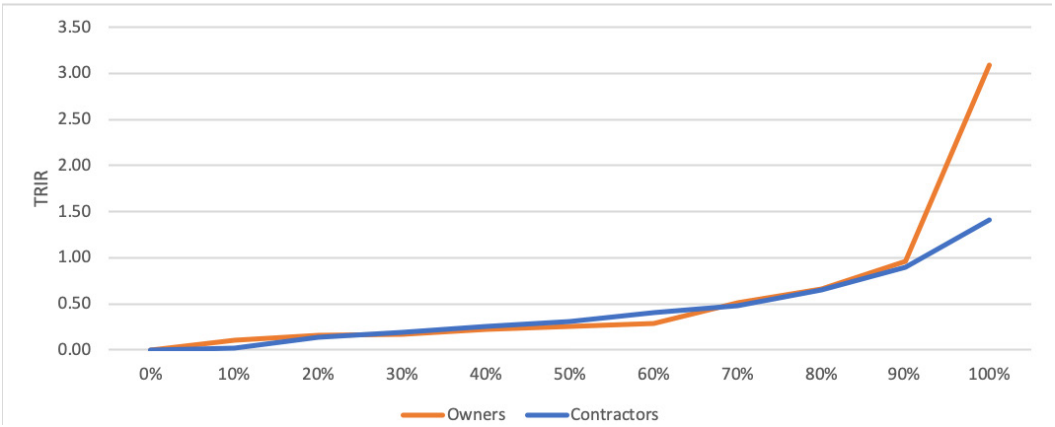

Figure 10. Corporate Safety Statistics - TRIR

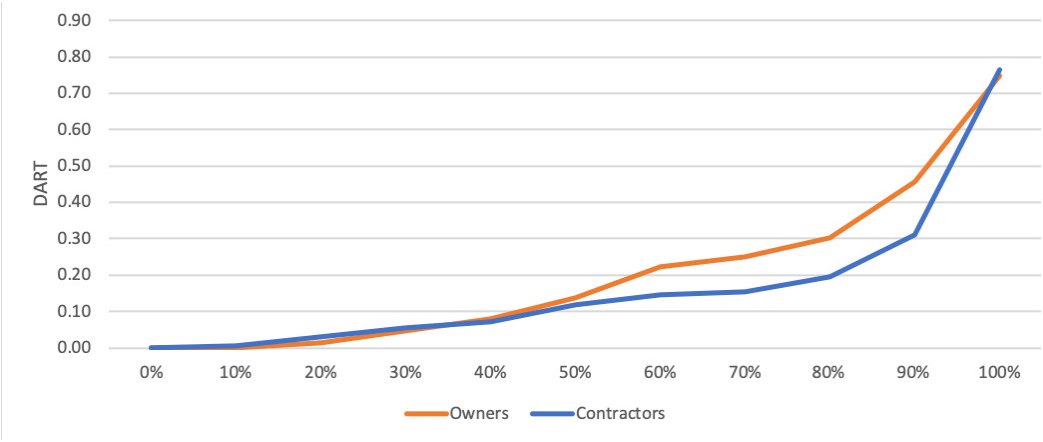

Figure 11. Corporate Safety Statistics - DART Rate

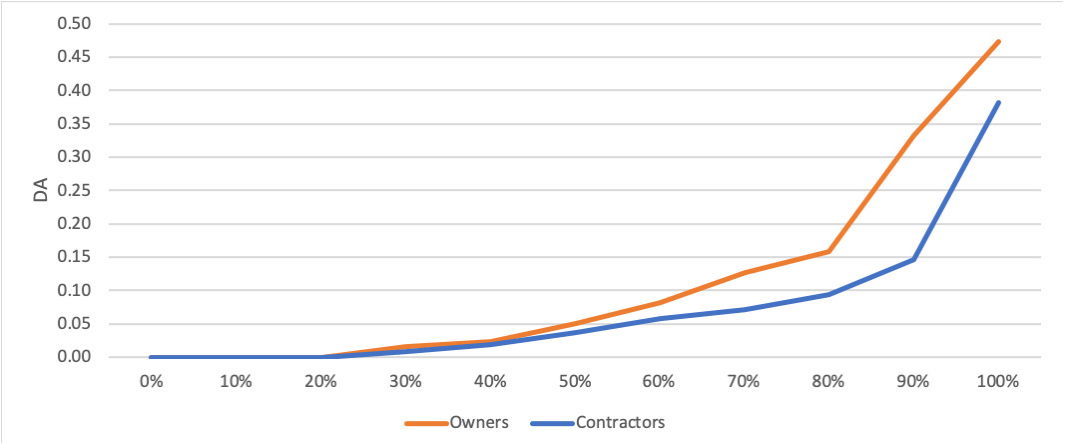

Figure 12. Corporate Safety Statistics - DA Rate

Appendix

Glossary of Terms

DA The Days Away rate is the number of DA cases occurring annually among 100 full-time workers (i.e., 2,000 hours per worker per year).

$$\text{DA Rate} = \frac{(\text{\# of DA Cases}) \times 200{,}000}{(\text{Total Work Hours by All Employees})}$$

DART Days Away, Restricted or Transferred (replaced LWCIR in 2002). The DART rate is the number of DART cases occurring annually among 100 full-time workers (i.e., 2,000 hours per worker per year).

$$\text{DART Rate} = \frac{(\text{\# of DART Cases}) \times 200{,}000}{(\text{Total Work Hours by All Employees})}$$

FR Fatality Rate. The number of fatal work injuries occurring annually among 100,000 full-time workers (i.e., each worker works 40 hours per week for 50 weeks per year, or 200,000,000 hours per year).

$$\text{Fatality Rate} = \frac{(\text{\# of Fatalities}) \times 200{,}000{,}000}{(\text{Total Work Hours by All Employees})}$$

TRIR Total Recordable Incident Rate (replaced RIR in 2002). The number of recordable injuries occurring annually among 100 full-time workers (i.e., 2,000 hours per worker per year).

$$\text{TRIR} = \frac{(\text{\# of Recordable Cases}) \times 200{,}000}{(\text{Total Work Hours by All Employees})}$$

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