



# 2020 CII Safety Summary Report

Construction Industry Institute (CII)

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## 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. Starting in 2018, the CII and CURT jointly collect safety data through the CII/CURT Safety Portal. **While the new CII/CURT Safety Portal combines data from CII members and non-members, this report summarizes safety rates reported by CII members only.**

### Survey Instrument

The CII/CURT 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
- Days Away (DA) 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](#).

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### 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 the NAICS and the 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.

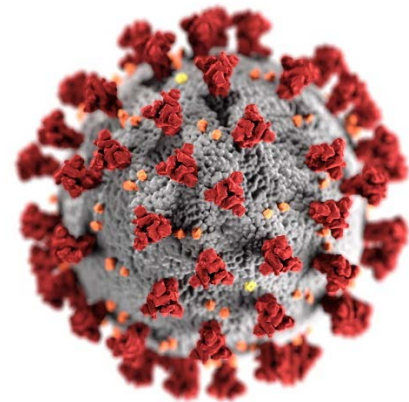
CII collects safety data related (only) to capital projects, excluding operations and maintenance (this is particularly important for owners reporting their safety data).

## 2. COVID-19 and OSHA Guidance on Preparing Workplaces for Pandemic

A major health issue in 2020 is Coronavirus Disease 2019 (COVID-19), which, according to the [Centers for Disease Control and Prevention \(CDC\)](#), is a respiratory disease caused by the SARS-CoV-2 virus. As Coronaviruses are from a large family of viruses and cause illness in animals or humans, they range from the common cold to more severe diseases such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), and COVID-19. The COVID-19 was identified in Wuhan, China in December 2019 and it primarily transmits from person-to-person through respiratory droplets.

A wide range of symptoms for COVID-19 have been reported. These include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Headache
- Nasal congestion or runny nose
- Muscle or body aches
- Sore throat
- New loss of smell or taste
- Nausea or vomiting
- Diarrhea



The estimated incubation period is between 2 and 14 days with a median of 5 days. It is important to note that some people become infected and do not develop any symptoms or feel unwell.

OSHA published its [Guidance on Preparing Workplaces for COVID-19](#) which contains recommendations as well as descriptions of mandatory safety and health standards for workplace preparation under the impact of COVID-19. A number of frequently asked questions relative to COVID-19 ([COVID-19 Frequently Asked Questions](#)) are also listed by OSHA for quick reference.

Impacts of COVID-19 will be seen in next year’s report (2020 data) but this information is included here due to the current nature of the risk.

### 3. 2019 Safety Data Summary

From CII’s member companies, 58 organizations submitted their corporate safety statistics for the 2019 calendar year. These data represents a total of 2.73 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.

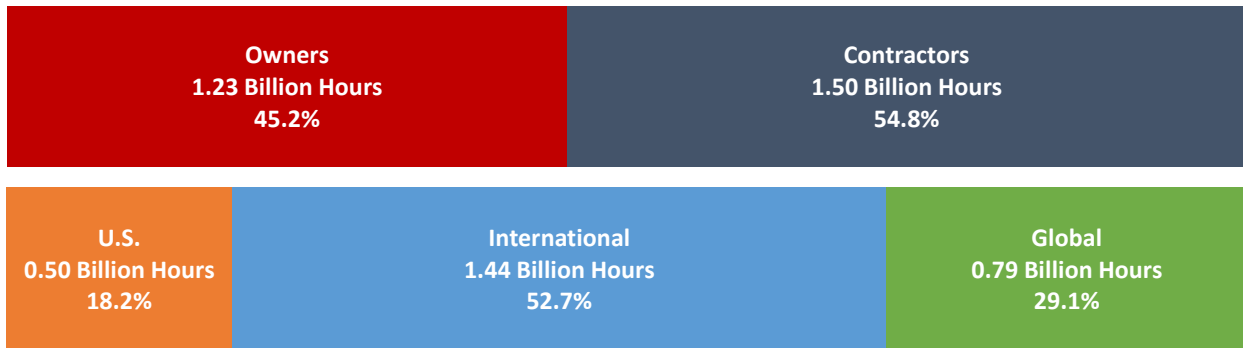


Figure 1. Summary of Work Hours by Organization Type and Project Location

The table below 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	Grand Total
TRIR	Cases	1,273	1,785	3,058
	Work Hours	1,232,908,337	1,495,324,533	2,728,232,870
DART	Cases	474	717	1,191
	Work Hours	1,177,645,337	1,495,324,533	2,672,969,870
Fatality	Cases	7	12	19
	Work Hours	1,232,908,337	1,495,324,533	2,728,232,870

### 4. Historical TRIR and DART Rates

Table 2 highlights the TRIR and DART Rate of CII member organizations from 2017 to 2019.

Table 2. CII Members TRIR and DART 2016-2019

	2017	2018	2019
TRIR	<b>0.22</b>	<b>0.24</b>	<b>0.22</b>
DART Rate	<b>0.09</b>	<b>0.10</b>	<b>0.09</b>

Figures 2 and 3 below display the trends of TRIR and DART rates and work hours for survey respondents as well as for the U.S. construction industry as reported by OSHA. Both CII rates are very low and they are steady since 2016.

OSHA changed its record-keeping rules on January 1, 2002, and altered some of the criteria that determine which injuries and illnesses are recorded. As a result, OSHA suggests that readers should use reasonable caution when comparing data prior to and after this change, which is indicated by the vertical green line.

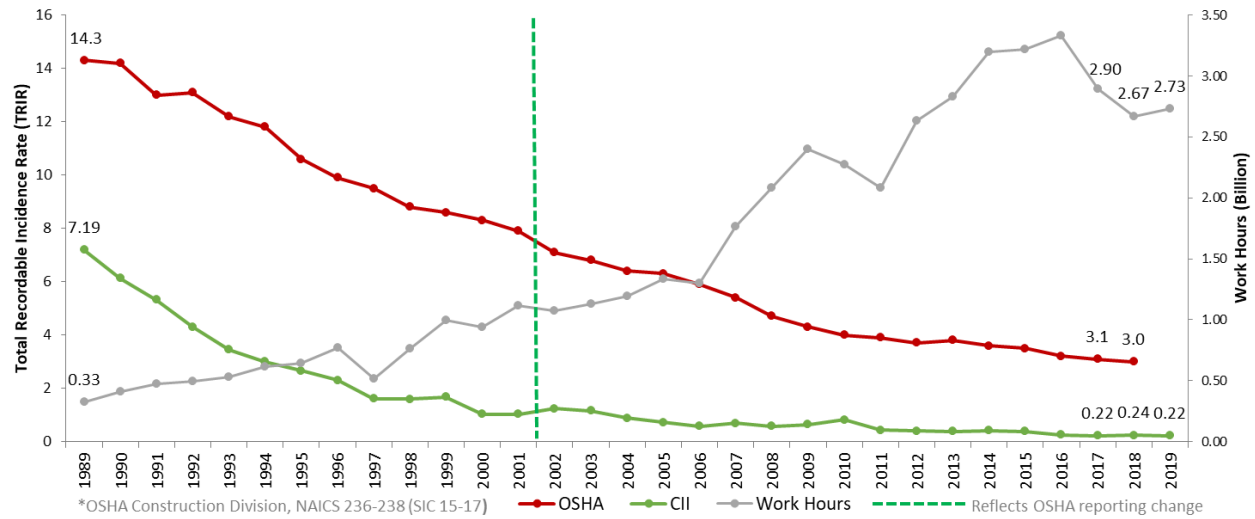


Figure 2. CII Members Reported TRIR (RIR) Rate, 1989-2019

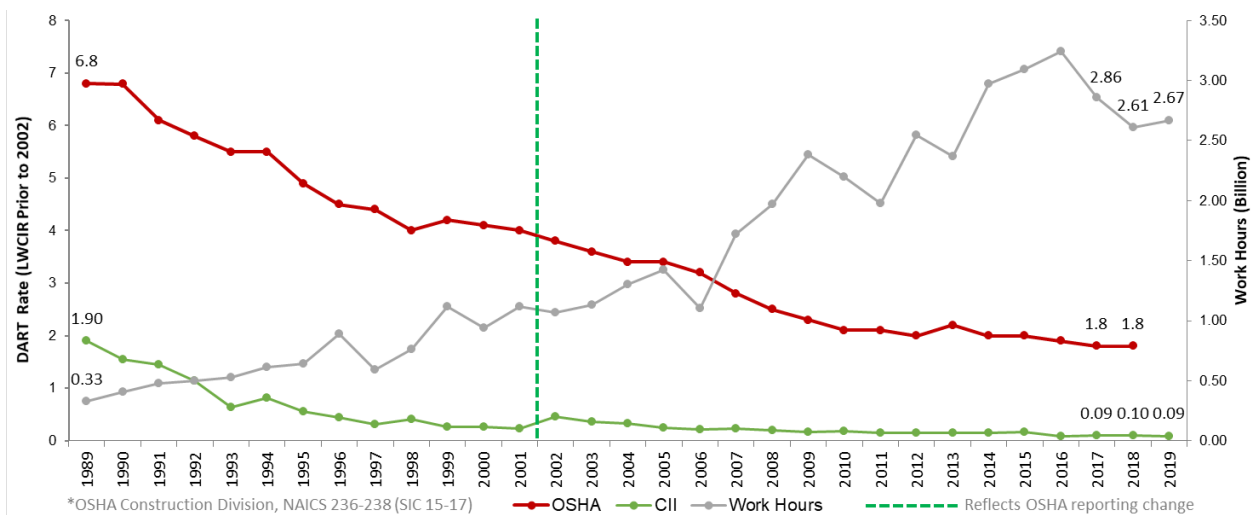


Figure 3. CII Members Reported DART (LWCIR) Rate, 1989-2019

## 5. Comparison of 2018-2019 Safety Performance

The table below shows the change in safety rates from last year's survey.

*Table 3. Comparison of 2018-2019 Performance*

	Rates	2018	2019	Change
All	TRIR	<b>0.24</b>	<b>0.22</b>	<b>8% ↓</b>
	DART Rate	<b>0.10</b>	<b>0.09</b>	<b>10% ↓</b>
	DA Rate	<b>0.06</b>	<b>0.05</b>	<b>17% ↓</b>
	Fatality Rate	<b>1.80</b>	<b>1.39</b>	<b>23% ↓</b>
Owners	TRIR	<b>0.17</b>	<b>0.21</b>	<b>24% ↑</b>
	DART Rate	<b>0.06</b>	<b>0.08</b>	<b>33% ↑</b>
	DA Rate	<b>0.04</b>	<b>0.05</b>	<b>25% ↑</b>
	Fatality Rate	<b>1.73</b>	<b>1.14</b>	<b>34% ↓</b>
Contractors	TRIR	<b>0.28</b>	<b>0.24</b>	<b>14% ↓</b>
	DART Rate	<b>0.12</b>	<b>0.10</b>	<b>17% ↓</b>
	DA Rate	<b>0.07</b>	<b>0.05</b>	<b>29% ↓</b>
	Fatality Rate	<b>1.85</b>	<b>1.61</b>	<b>13% ↓</b>

## 6. 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.

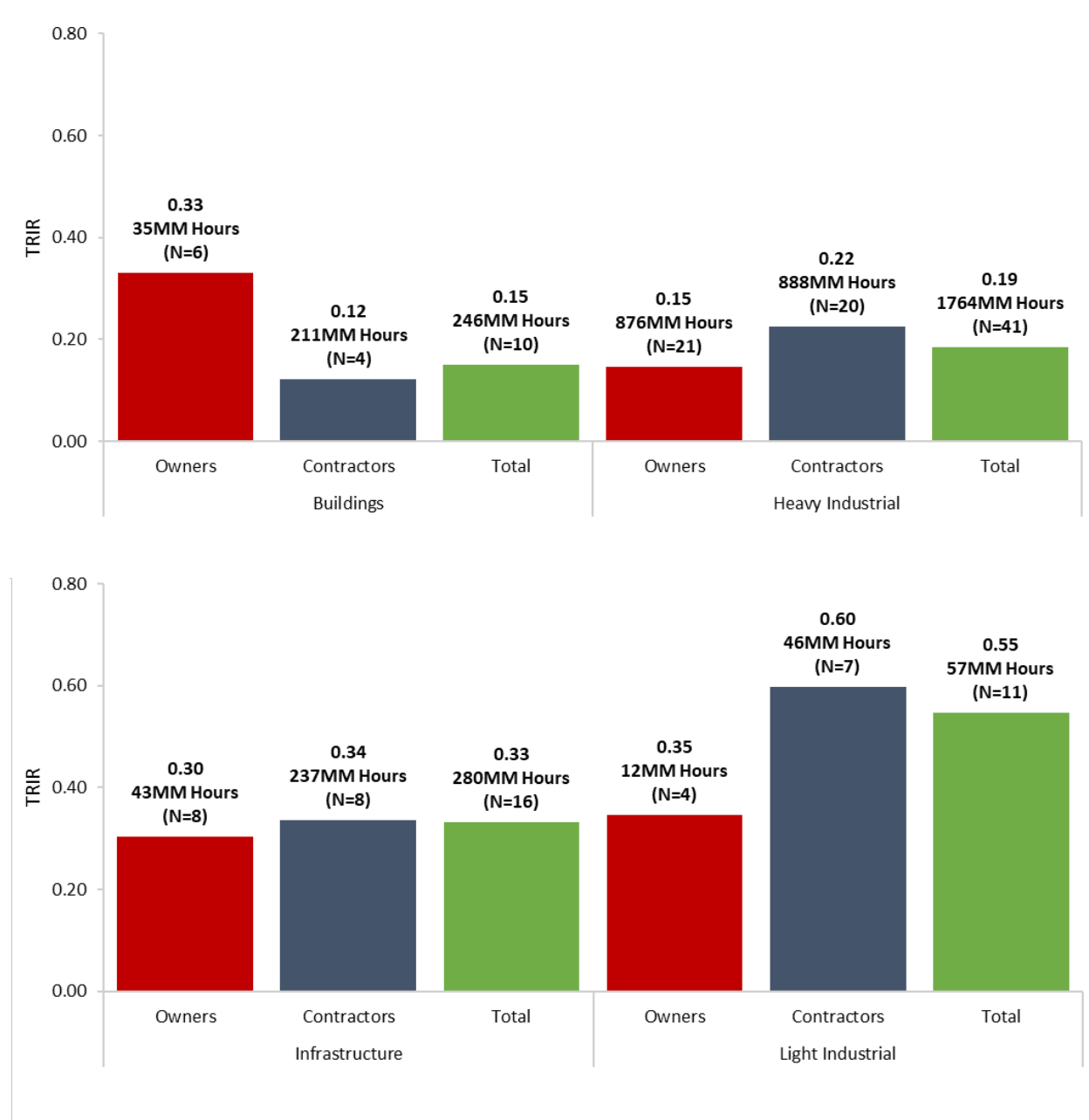


Figure 4. 2019 TRIR by Industry Group



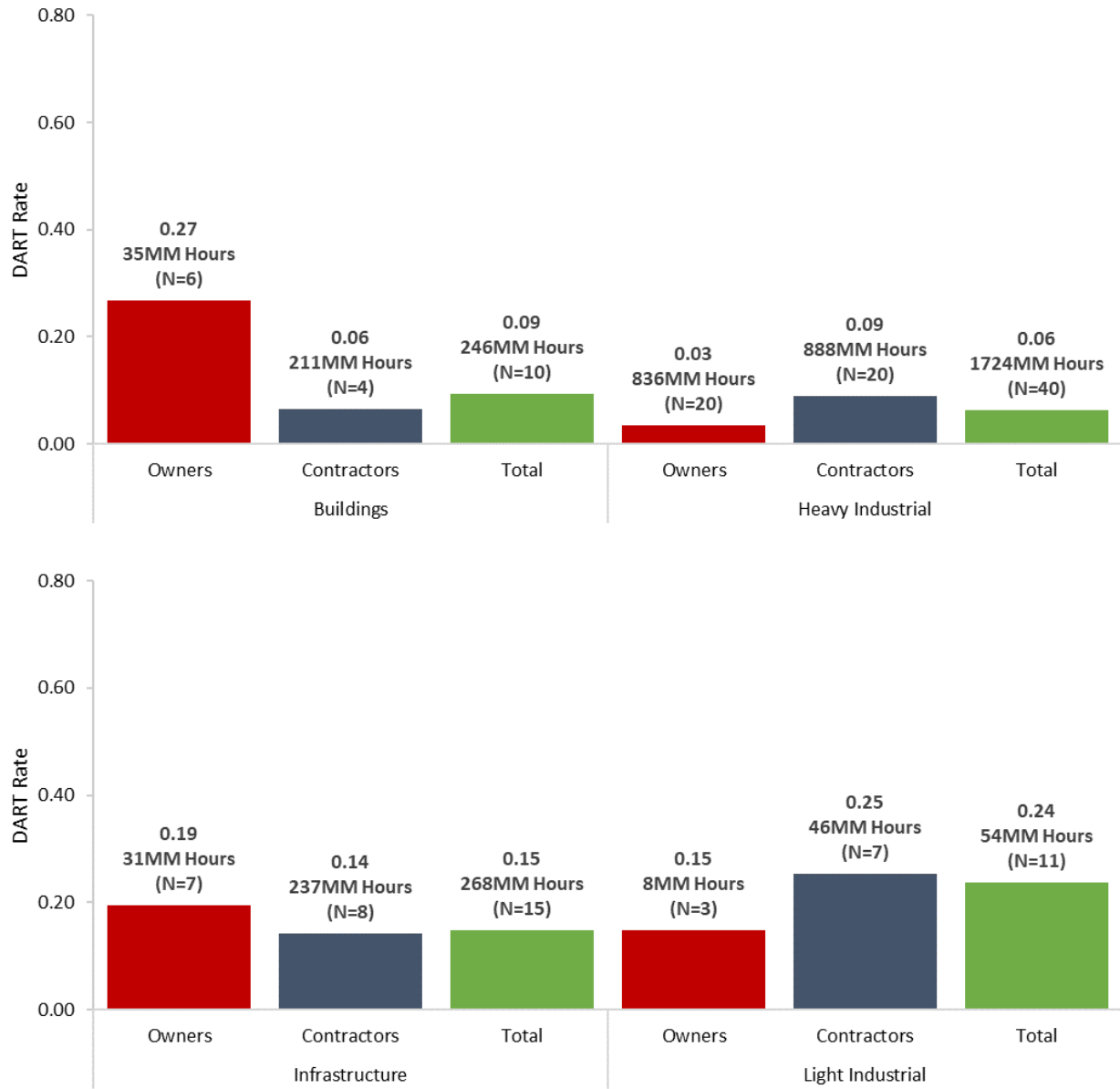


Figure 5. 2019 DART Rates by Industry Group

## 7. 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. The N values indicate the number of companies that submitted data, and the “Total” (green) bars represent all of the data.

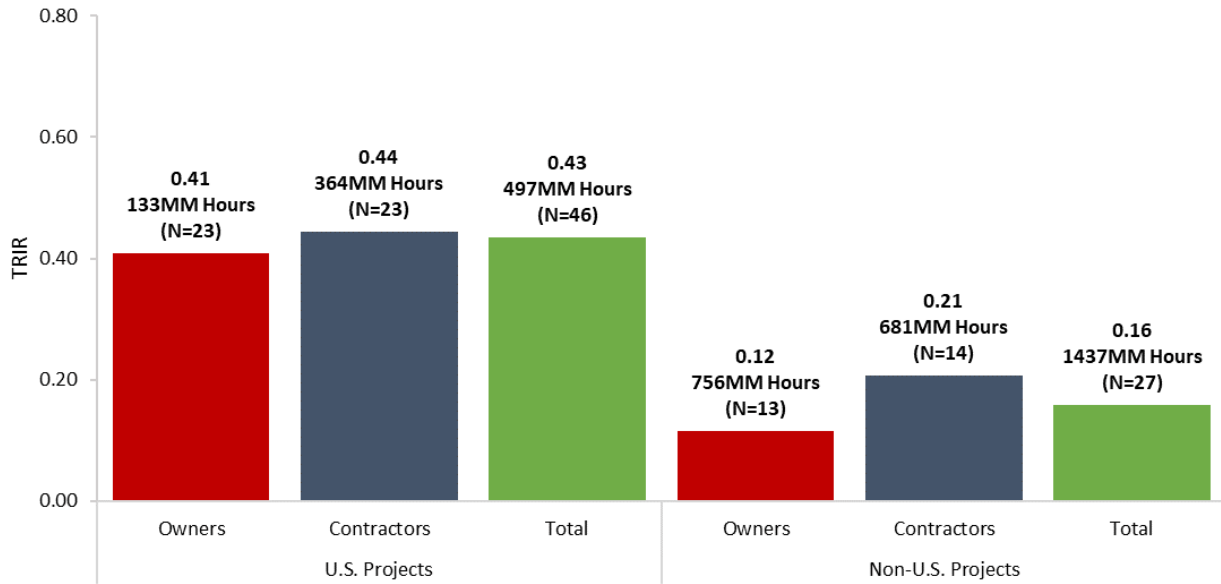


Figure 6. 2019 TRIR by Project Location

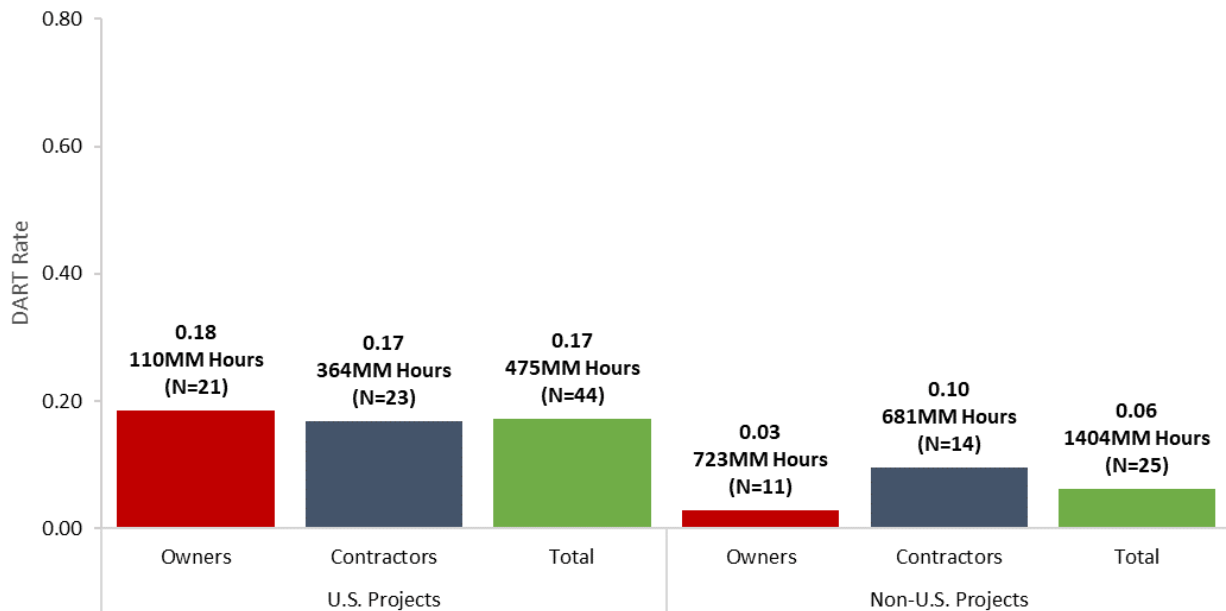


Figure 7. 2019 DART Rates by Project Location

## 8. Fatalities

As shown in Figure 8, the overall fatality rate of CII members dropped in 2019 to 1.39 from 1.80 reported in 2018. The 3-year moving average for 2017-2019 is 1.48.

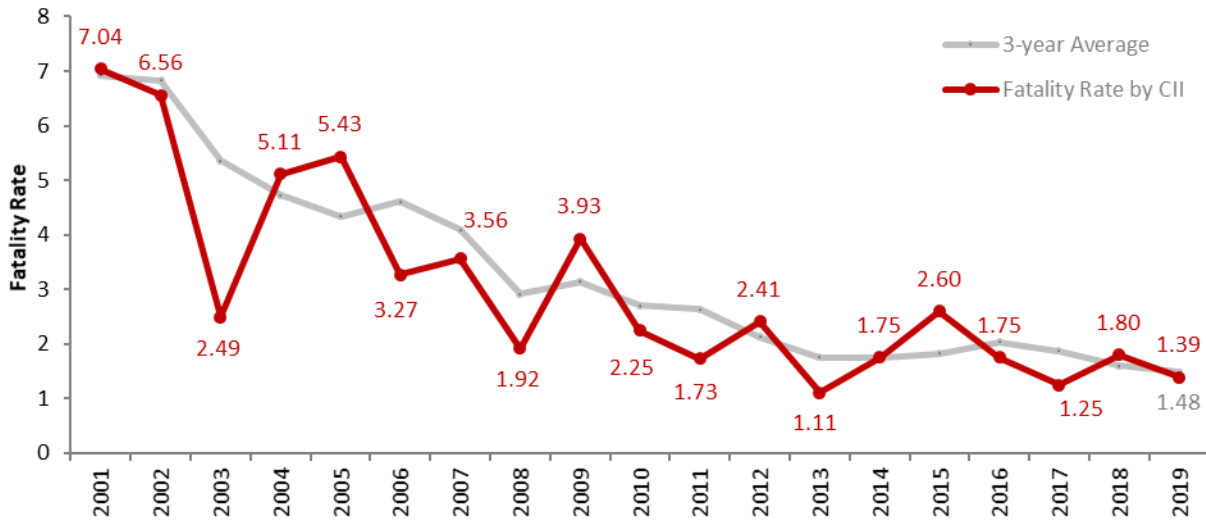


Figure 8. Yearly and 3-year Average Fatality Rates (2001 – 2019)

In 2019, 19 fatalities were reported by CII members. Figure 9 shows that the lead cause was the Contact with Objects and Equipment. No fatalities were reported in the categories of “Fires and Explosion” and “Assault and Violent Acts”.

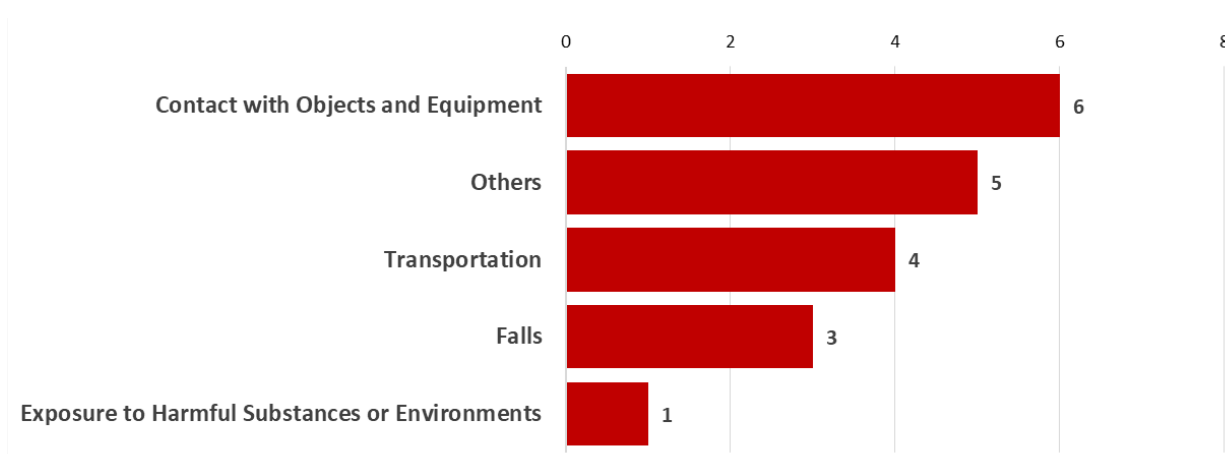


Figure 9. Fatality Causes in 2019

## 9. Safety Data and Rates by CII Industry Sector Committee

CII also reports safety performance to its industry sector committees, as shown below. Note that many companies belong to more than one sector committee, so some data are reported more than once. This is why the sum of the fatalities in each sector is greater than the true numbers in the “CII” rows.

*Table 4. CII Sector Committee Safety Statistics 2017-2019*

Year & Sector	Companies Reporting	Possible Reporting	Response Rate	Work Hours (Billion)	TRIR	DART Rate	Number of Fatalities	Fatality Rate
<b>2019 CII</b>	<b>58</b>	<b>101</b>	<b>57%</b>	<b>2.73</b>	<b>0.22</b>	<b>0.09</b>	<b>19</b>	<b>1.39</b>
DCC	26	38	68%	1.88	0.22	0.09	10	1.06
FHC	5	17	29%	0.06	0.55	0.92	0	0.00
MLS	6	19	32%	0.04	0.14	0.04	0	0.00
PUIC	19	29	66%	0.82	0.29	0.10	2	0.49
UMM	18	29	62%	1.53	0.19	0.08	8	1.04
<b>2018 CII</b>	<b>55</b>	<b>112</b>	<b>49%</b>	<b>2.67</b>	<b>0.24</b>	<b>0.10</b>	<b>24</b>	<b>1.80</b>
DCC	22	43	51%	1.64	0.21	0.08	15	1.83
FHC	3	17	18%	0.05	0.50	0.29	0	0.00
MLS	9	20	45%	0.21	0.38	0.21	1	0.93
PUIC	20	30	67%	0.95	0.38	0.15	9	1.89
UMM	24	38	63%	1.70	0.22	0.09	17	2.00
<b>2017 CII</b>	<b>71</b>	<b>147</b>	<b>47%</b>	<b>2.90</b>	<b>0.22</b>	<b>0.09</b>	<b>18</b>	<b>1.25</b>
DCC	24	44	55%	0.92	0.19	0.09	4	0.87
FHC	4	19	21%	0.05	0.66	0.43	0	0.00
MLS	9	23	39%	0.05	0.49	0.20	0	0.00
PUIC	21	33	64%	0.87	0.32	0.12	6	1.40
UMM	23	35	66%	0.90	0.18	0.08	2	0.45

## Appendix: Glossary of Terms

**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).

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

**DCC** CII Downstream and Chemicals Industry Sector Committee

**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).

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

**FHC** CII Facilities and Healthcare Industry Sector Committee

**LWCIR** Lost Workday Case Incident Rate (replaced by DART in 2002)

**MLS** CII Manufacturing and Life Sciences Industry Sector Committee

**PUIC** CII Power, Utilities, and Infrastructure Industry Sector Committee

**RIR** Recordable Incident Rate (replaced by TRIR in 2002)

**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).

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

**UMM** CII Upstream, Midstream, and Mining Industry Sector Committee

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