



UNIVERSITY OF TEXAS  ARLINGTON

# The Surprises in AGC's New Fatality Study

September 13, 2018

# Why was the study initiated...

- The construction industry began to experience an increase in worker fatalities.
  - 2014 = 899
  - 2013 = 828
  - 2012 = 806
- Identify any new trends related to reported fatalities in the construction industry.
- An effort to provide a resource for contractors to identify opportunities for improvement in their safety and health performance.



# Construction Industry Fatalities, 2010 - 2016

Years	2010	2011	2012	2013	2014	2015	2016
Total Fatalities All Construction	<b>774</b>	<b>738</b>	<b>806</b>	<b>828</b>	<b>899</b>	<b>937</b>	<b>991</b>
Fatality Rates All Construction	<b>9.8</b>	<b>9.1</b>	<b>9.9</b>	<b>9.7</b>	<b>9.8</b>	<b>10.1</b>	<b>10.1</b>



# Where did the data come from...

- U.S. Bureau of Labor and Statistics (BLS) Injuries, Illnesses, and Fatalities (IIF) program.
- Data is collected through the Survey of Occupational Injuries and Illnesses (SOII) and the Census of Fatal Occupational Injuries and Illnesses (CFOI).
- The programs provide annual information on the rate and number of work-related injuries, illnesses, and fatalities.
  - The data varies by incident, industry, geography, occupation, and other variables.



# What the report is...

- A detailed analysis of the confidential fatality reports from 2010 - 2012.
- An effort to identify new trends and causes of worker fatalities in the construction industry.
- An effort to develop employer-employee strategies to reduce the risk of injuries/fatalities.
- A resource for contractors to benchmark their experiences against the report data.



# What the report is not...

- A representation of every contractor's safety and health performance.
- A single solution to every contractor's efforts to improve.
- An effort to assign fault to any particular industry sector for the reported number of fatalities.



# Construction System

1. context

3. means & methods

5. workers

2. project

4. management/firm



# **Findings Consistent with Existing Literature**



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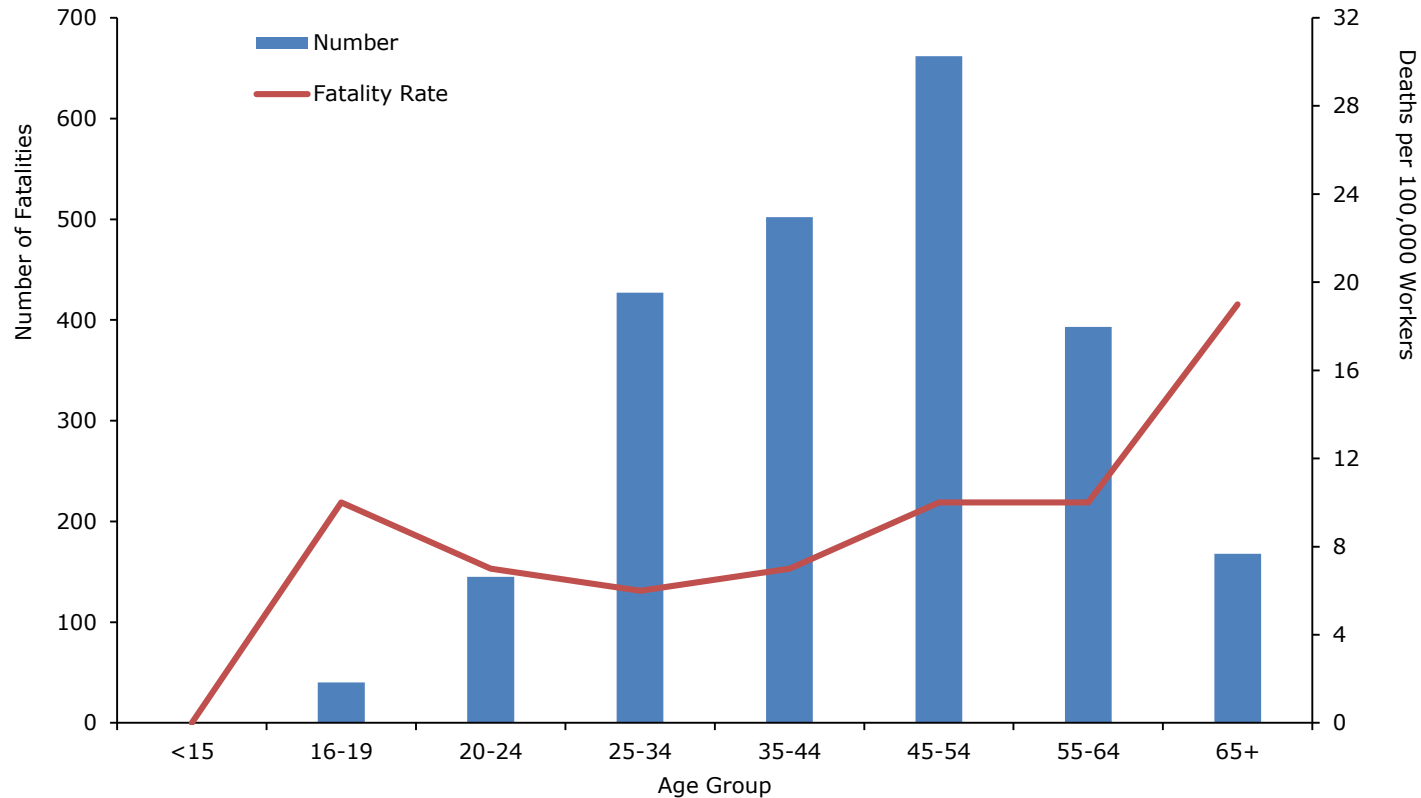


# Findings Consistent with Existing Literature

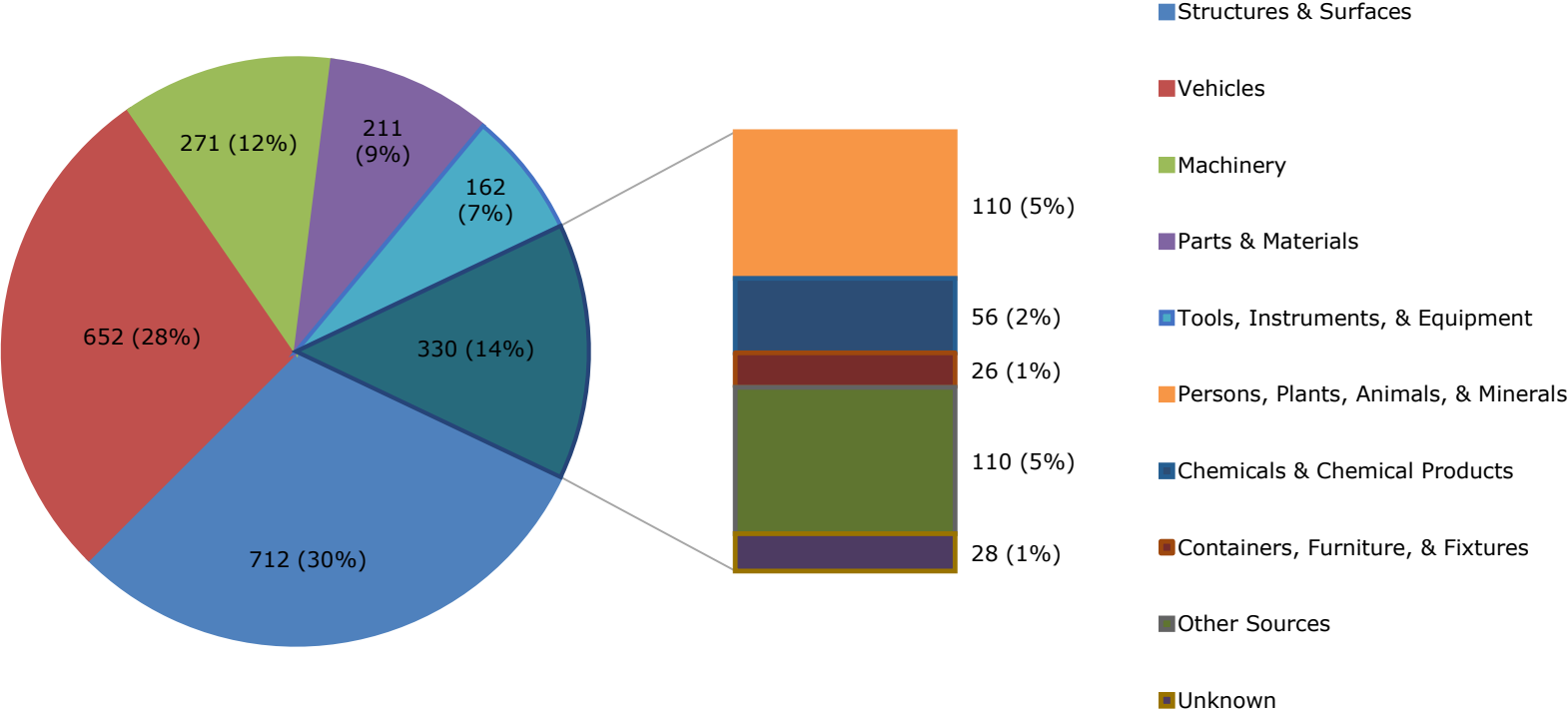
- Falls remain the leading cause (33%) of deaths in construction, accounting for one-third of all fatalities.
  - Falls were commonly from buildings, other structural elements, and ladders.
- Specialty Trades had significantly more fatalities than any other sector, accounting for 56% of deaths.
- Heavy & Civil sector had the highest annual fatality rate with 24 fatalities per 100,000 workers.
- Transportation incidents accounted for 29% of fatalities.
  - Transportation fatalities typically involved trucks (36%) and multi-purpose highway vehicles (31%), for example, pickups.
- Workers 35-54 years of age accounted for 50% of fatalities. Ratios suggest a steady increase in the fatality rate from age 35, with the peak among workers age 65 or more (19 deaths per 100,000 workers per year).



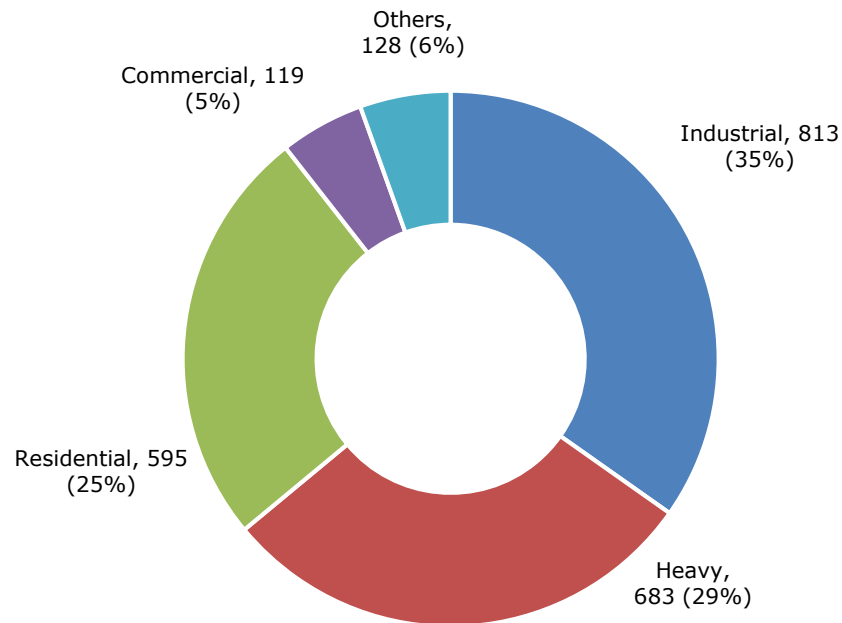
# Number of Fatalities and Annual Fatality Rate by Age Group, 2010-2012



# Number and Percentage of Fatalities by Source, 2010-2012



# Number and Percentage of Fatalities by Project Location, 2010-2012



**Residential:** homes, apartments, residential institution, etc.

**Heavy:** street, highway, freeway, interstate, road, mines and quarries, etc.

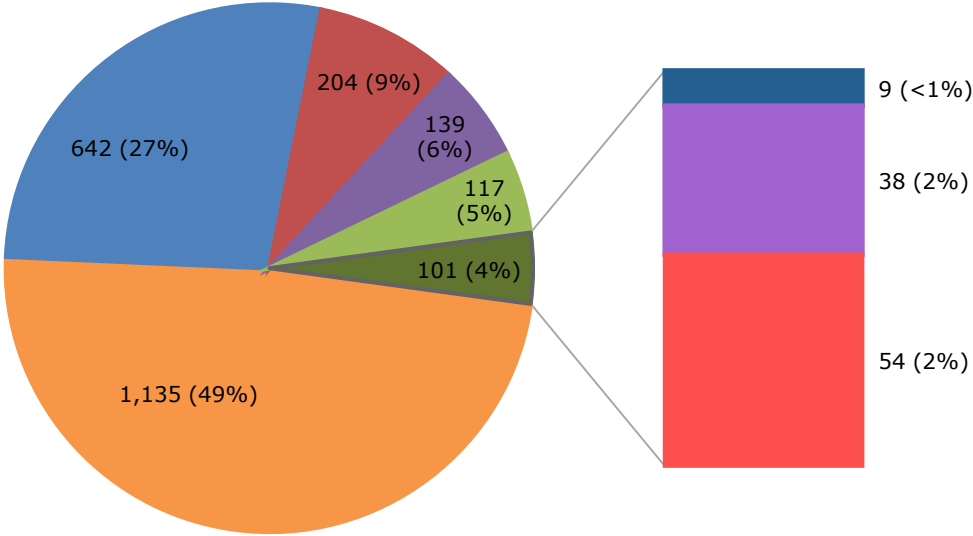
**Industrial:** industrial places and premises, dockyard, loading platform, factory, warehouse, railway yard, etc.

**Commercial:** recreation, sport, recreation, bank, office, restaurant, café, school, hotel, store, etc.



# Number and Percentage of Fatalities by Worker Activity, 2010-2012

■ Constructing    ■ Vehicle    ■ Machinery    ■ Physical  
■ Materials    ■ Protection    ■ Others    ■ Unknown



**Constructing:** Building, repairing, cleaning, assembling, installing, repairing, painting, removing, etc.

**Vehicle:** Vehicular and transportation operations (driving, riding, boarding, etc.)

**Machinery:** Using or operating tools, machinery (operating crane, cutting, using tools, reading gauge, valves, welding, trimming, etc.)

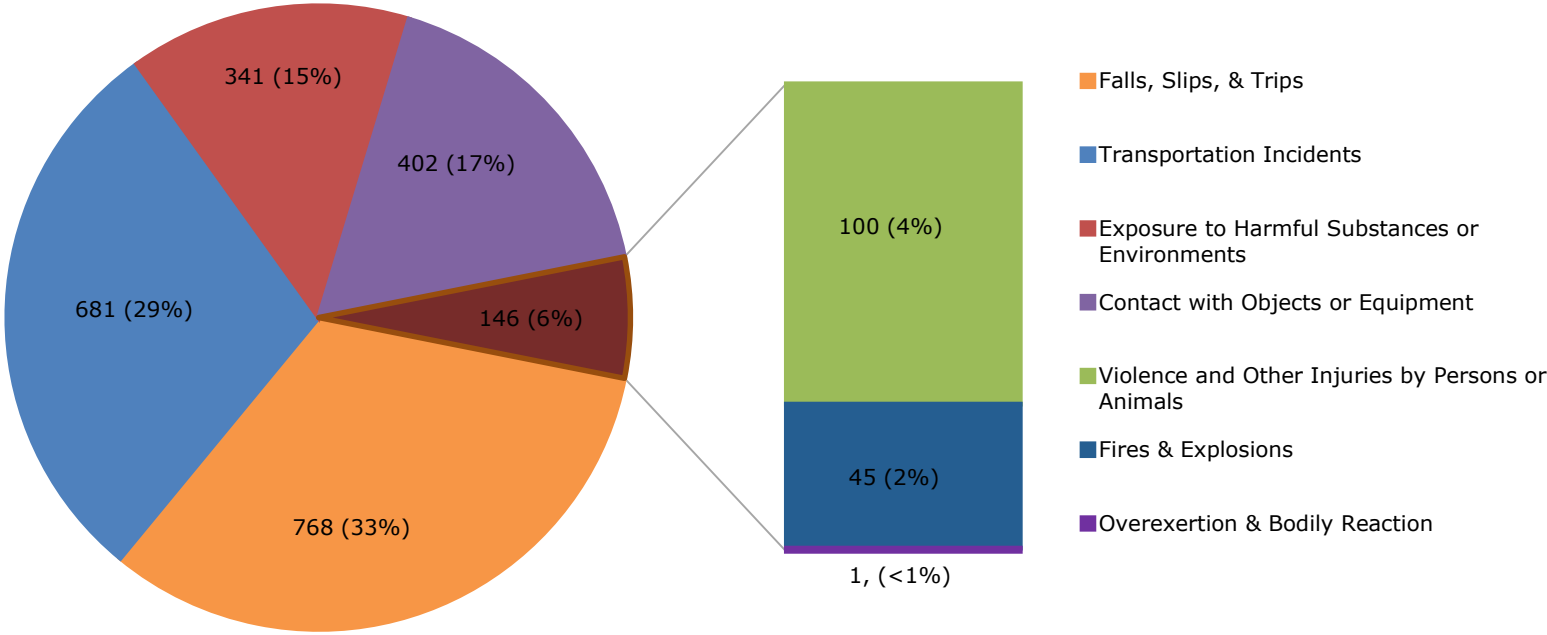
**Physical:** Physical activities (climbing, entering, exiting, sitting, standing, walking, jumping, etc.)

**Materials:** Materials handling operations (lifting, carrying, holding, loading, packing, etc.)

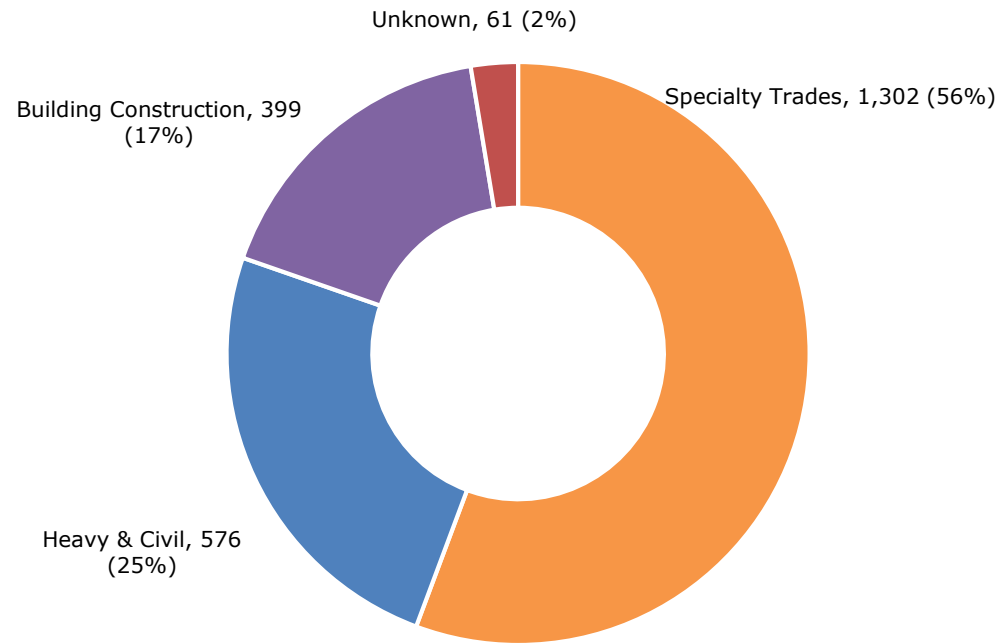
**Protection:** Protective service activities (fighting a fire, teaching, training, rescuing, etc.)



# Number and Percentage of Fatalities by Event or Exposure, 2010-2012



# Number and Percentage of Fatalities by Sector, 2010-2012



# New Findings



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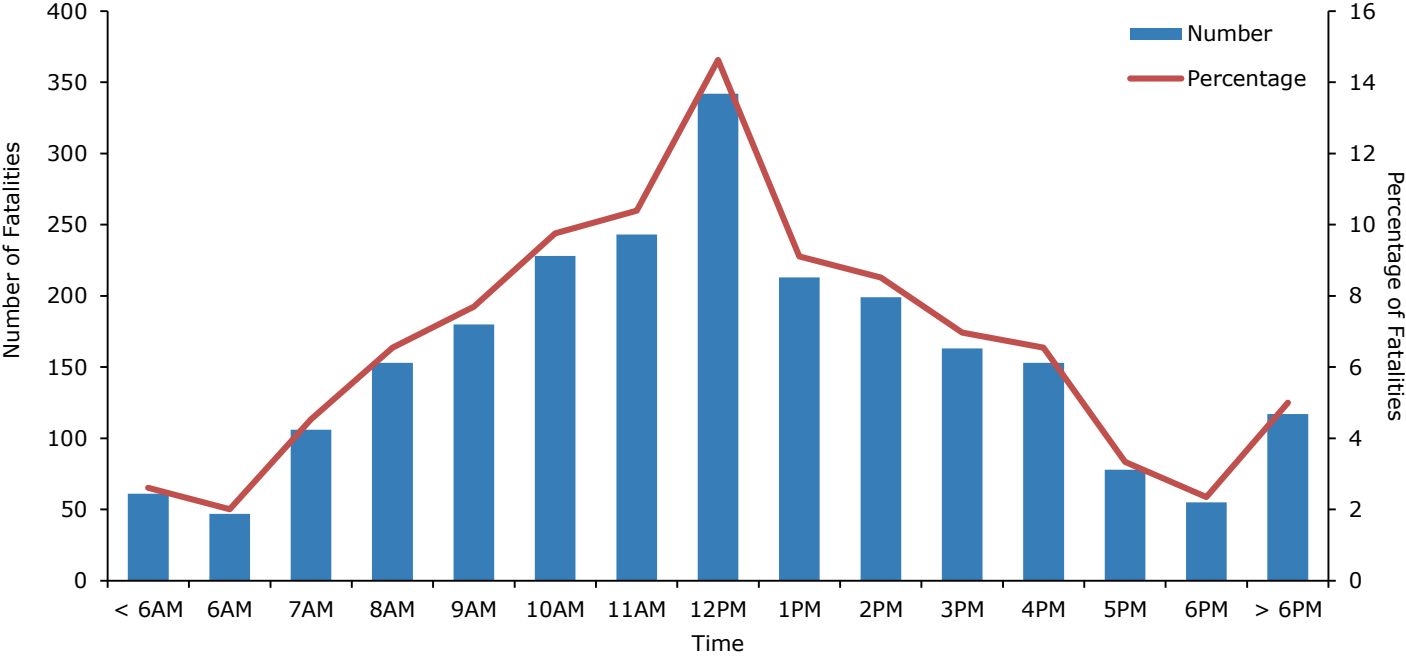


# New Findings

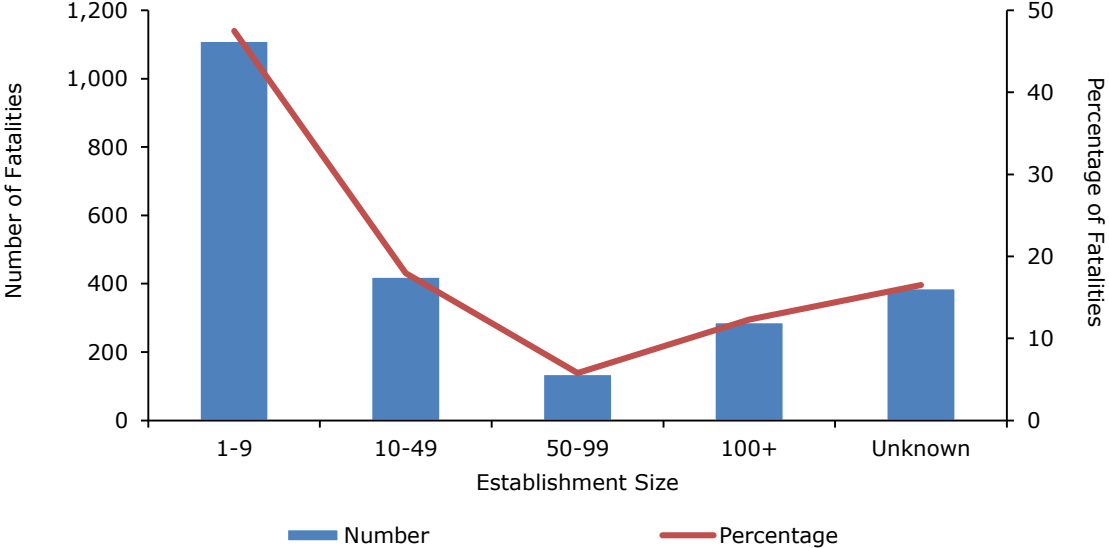
- Most fatalities occurred between 10 a.m. and 3 p.m., with a peak at noon. Previous studies found that occurrence of fatalities was most dominant between the hours of 9 a.m. and 1 p.m., and bottomed around noon.
- Small construction establishments with 1-9 employees accounted for 47% of fatalities and the highest fatality rate at 26 fatalities per 100,000 workers annually.
- Hispanic workers made up 24% of the workforce and accounted for 20% of highway and road work zone fatalities in 2010-2012.



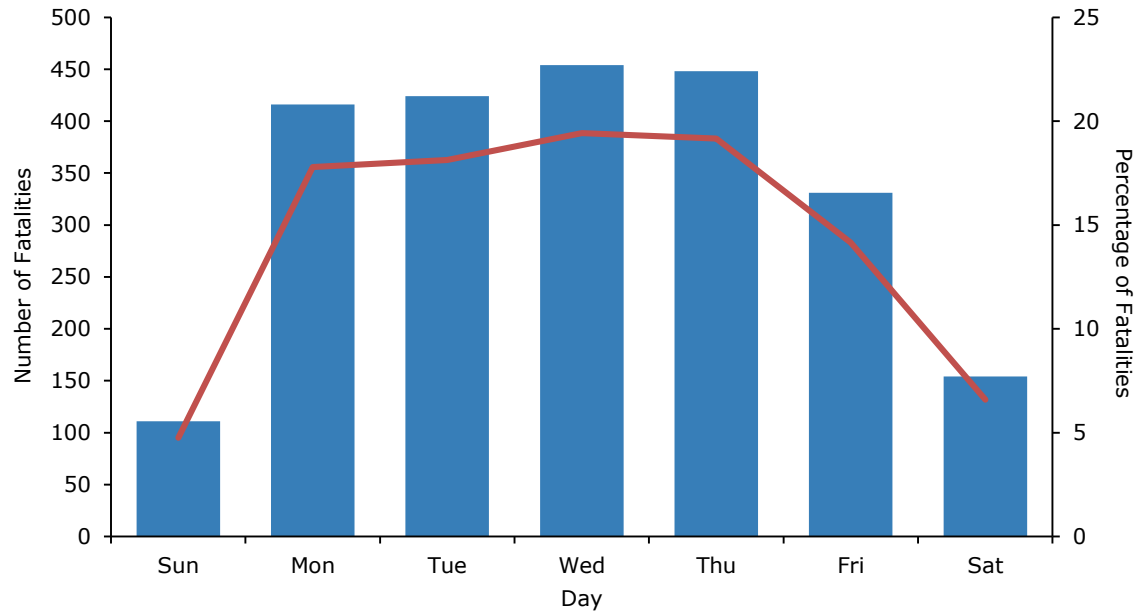
# Number and Percentage of Fatalities by Time of Day, 2010-2012

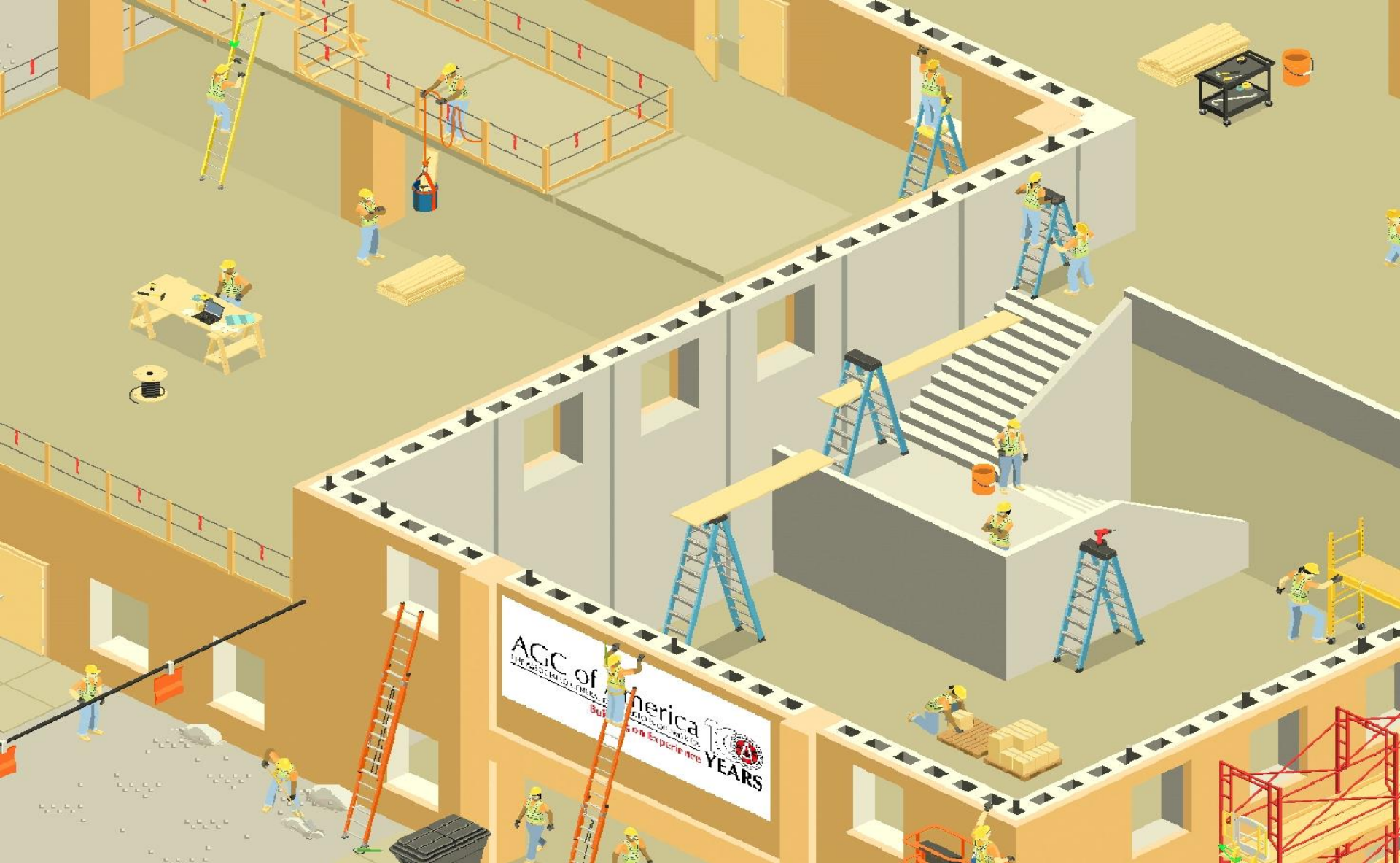


# Number and Percentage of Fatalities by Establishment Size, 2010-2012



# Number and Percentage of Fatalities by Day of the Week, 2010-2012





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# Questions?



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<https://www.agc.org/industry-priorities/safety-health/construction-fatalities-study-0>



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