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# Fatal Work Injuries in Michigan — 2017

Fatal work injuries totaled 153 in 2017 for Michigan, the U.S. Bureau of Labor Statistics reported today. Assistant Commissioner for Regional Operations Charlene Peiffer noted that the number of work-related fatalities in Michigan was down from the previous year. Fatal occupational injuries in the state have ranged from a high of 182 in 1999 to a low of 94 in 2009. (See chart 1.)

Nationwide, a total of 5,147 fatal work injuries were recorded in 2017, down slightly from the 5,190 fatal injuries reported in 2016, according to the results from the Census of Fatal Occupational Injuries (CFOI) program.

■Wage and salary ■ Self-employed

Chart 1. Total fatal occupational injuries, Michigan, 2008–2017

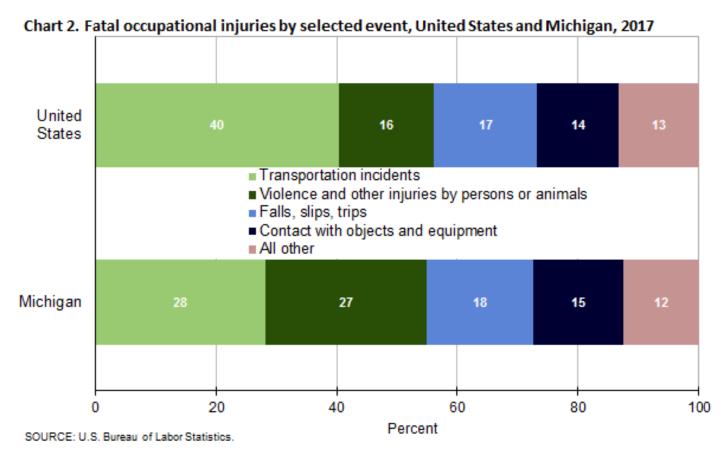
SOURCE: U.S. Bureau of Labor Statistics.

## Type of incident

In Michigan, transportation incidents resulted in 43 fatal work injuries and violence and other injuries by persons or animals accounted for 41 fatalities. These two major categories accounted for 55 percent of all workplace fatalities in the state. (See table 1.) Worker deaths from transportation incidents were down from 50 over the year and worker fatalities due to violence or other injuries by persons or animals were up from 37.

Falls, slips, or trips was the third-most frequent fatal work event with 27 fatalities, down from 31 in the prior year. Contact with objects or equipment resulted in 23 work-related deaths compared to 19 in 2016.

Nationally, transportation incidents were the most frequent fatal workplace event in 2017, accounting for 40 percent of fatal work injuries. (See chart 2.) Falls, slips, or trips was the second-most frequent type of event (17 percent), followed by violence and other injuries by persons or animals (16 percent) and contact with objects and equipment (14 percent).



## **Industry**

The private construction industry had the highest number of fatalities in Michigan with 31, down from 40 in the previous year. (See table 2.) Falls, slips, or trips resulted in 12 of the 31 fatalities in the industry. The specialty trade contractors sector accounted for 22 of the 31 workplace fatalities in the construction industry.

The private agriculture, forestry, fishing, and hunting industry had 22 workplace fatalities, up from 19 in the previous year. The crop production sector accounted for 16, or 73 percent, of the fatal injuries in this industry.

### **Occupation**

The construction and extraction occupational group had the highest number of workplace fatalities with 34. (See table 3.) Construction trades workers accounted for 27 of the 34 fatalities among construction and extraction workers. The transportation and material moving occupational group had the second highest number of workplace fatalities with 23, followed by management occupations with 22. Heavy and tractor-trailer truck drivers suffered nine of the work-related deaths within the transportation and material moving group. Farmers, ranchers, and other agricultural managers accounted for 15 of the 22 management occupational fatalities.

## **Additional highlights**

- Men accounted for 91 percent of the work-related fatalities in Michigan, compared to the 93-percent national share. (See table 4.) Transportation incidents made up 26 percent of the fatalities for men in Michigan and violence and other injuries by persons or animals accounted for 25 percent.
- White non-Hispanics accounted for 76 percent of those who died from a workplace injury. Nationwide, this group accounted for 67 percent of work-related deaths.
- Workers 25-54 years old accounted for 52 percent of the state's work-related fatalities in 2017, compared to 55 percent of on-the-job fatalities nationally.
- Of the 153 fatally-injured workers in Michigan, 67 percent worked for wages and salaries; the remainder were self-employed. The most frequent fatal event for wage and salary workers was transportation incidents; violence and other injuries by persons or animals was the most frequent fatal event for self-employed workers.

### **Technical Note**

**Background of the program.** The Census of Fatal Occupational Injuries (CFOI), part of the BLS Occupational Safety and Health Statistics (OSHS) program, compiles a count of all fatal work injuries occurring in the U.S. during the calendar year. The CFOI program uses diverse state, federal, and independent data sources to identify, verify, and describe fatal work injuries. This ensures counts are as complete and accurate as possible. For the 2017 national data, over 23,400 unique source documents were reviewed as part of the data collection process. For technical information and definitions for CFOI, please go to the BLS Handbook of Methods on the BLS website at www.bls.gov/opub/hom/cfoi/home.htm.

**Federal/State agency coverage.** The CFOI includes data for all fatal work injuries, even those that may be outside the scope of other agencies or regulatory coverage. Thus, any comparison between the BLS fatality census counts and those released by other agencies should take into account the different coverage requirements and definitions being used by each agency. More on the scope of CFOI can be found at www.bls.gov/iif/cfoiscope.htm and https://www.bls.gov/opub/hom/cfoi/concepts.htm.

Acknowledgments. BLS thanks the Michigan Department of Licensing and Regulatory Affairs for their efforts in collecting accurate, comprehensive, and useful data on fatal work injuries. BLS also appreciates the efforts of all federal, state, local, and private sector entities that provided source documents used to identify fatal work injuries. Among these agencies are the Occupational Safety and Health Administration; the National Transportation Safety Board; the U.S. Coast Guard; the Mine Safety and Health Administration; the Office of Workers' Compensation Programs (Federal Employees' Compensation and Longshore and Harbor Workers' Compensation divisions); the Federal Railroad Administration; the National Highway Traffic Safety Administration; state vital statistics registrars, coroners, and medical examiners; state departments of health, labor, and industrial relations and workers' compensation agencies; state and local police departments; and state farm bureaus.

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Table 1. Fatal occupational injuries by event or exposure, Michigan, 2016–17

| Event or exposure (1)   | 2016   | 20°            | 17      |
|---|--------|----------------|---------|
| Event of exposure (**)  | Number | Number         | Percent |
| otal  | 162    | 153            | 100     |
| Violence and other injuries by persons or animals   | 37     | 41             | 27      |
| Intentional injury by person  | 35     | 40             | 26      |
| Homicides (Intentional injury by other person)  | 22     | 25             | 16      |
| Shooting by other personintentional   | 21     | 22             | 14      |
| Stabbing, cutting, slashing, piercing   |        | 1              | 1       |
| Suicides (Self-inflicted injuryintentional)   | 13     | 15             | 10      |
| Shootingintentional self-harm   | 7      | 5              | 3       |
| Hanging, strangulation, asphyxiationintentional self-harm   | 5      | 9              | 6       |
| Cutting, stabbingintentional self-harm  |        | 1              | 1       |
| Transportation incidents  | 50     | 43             | 28      |
| Pedestrian vehicular incident   | 4      | 6              | 4       |
| Pedestrian struck by vehicle in work zone   | 1      | 1              | 1       |
| Pedestrian struck by forward-moving vehicle in work zone  |        | 1              | 1       |
| Pedestrian struck by vehicle on side of road  |        | 1              | 1       |
| Pedestrian struck by forward-moving vehicle on side of road   |        | 1              | 1       |
| Pedestrian struck by vehicle in nonroadway area   | 1      | 2              | 1       |
| Pedestrian struck by forward-moving vehicle in nonroadway area  | 1      | 2              | 1       |
| Water vehicle incidents   |        |                |         |
| Water vehicle collisions  |        | 1              | 1       |
| Collision between water vehicles  |        | 1              | 1       |
| Roadway incidents involving motorized land vehicle  | 28     | 27             | 18      |
| Roadway collision with other vehicle  | 16     | 17             | 11      |
| Roadway collisionmoving in same direction   | 5      | 2              |         |
| Roadway collisionmoving in opposite directions, oncoming  | 3      | 5              | 3       |
| Roadway collisionmoving perpendicularly   | 4      | 7              | 5       |
| Roadway collisionmoving and standing vehicle in roadway   | 4      | 3              | 2       |
| Roadway collision with object other than vehicle  | 9      | 8              | 5       |
| Vehicle struck object or animal on side of roadway  | 9      | 8              | 5       |
|   | 3      | 2              | 1       |
| Roadway noncollision incident   | 3      | 2              | 1       |
| Jack-knifed or overturned, roadway  | - 1    | - 1            |         |
| Nonroadway incident involving motorized land vehicles   | 14     | 8              | 5       |
| Nonroadway collision with object other than vehicle  Part of occupant's body caught between vehicle and other object in nonroadway transport incident | 4      | <br>1          | 1       |
| Nonroadway noncollision incident  | 8      | 6              | 4       |
| Jack-knifed or overturned, nonroadway   |        | 3              | 2       |
| Fall or jump from and struck by same vehicle in normal operation, nonroadway  | 3      | 2              | 1       |
| Fires and explosions  | 2      | 7              | 5       |
| Fires   | 2      | 1              | 1       |
| Ignition of clothing from controlled heat source  |        | ' <sub>1</sub> | . 1     |
| Explosions  |        | 6              | 1       |
| Explosion of pressure vessel, piping, or tire   |        | 6              | 4       |
|   | 31     |                | 10      |
| Falls, slips, trips   | -      | 27             | 18      |
| Falls on same level   | 5      | 3              | 2       |
| Falls to lower level  | 26     | 20             | 13      |
| Fall from collapsing structure or equipment   | 5      | 3              | 2       |
| Fall from collapsing structure or equipment 11 to 15 feet   |        | 1              | 1       |
| Fall from collapsing structure or equipment 16 to 20 feet   |        | 1              | 1       |
| Fall from collapsing structure or equipment 26 to 30 feet   | 2      | 1              | 1       |
| Fall through surface or existing opening  | 5      | 2              | 1       |
| Fall through surface or existing opening 16 to 20 feet  |        | 1              | 1       |
| Fall through surface or existing opening more than 30 feet  | 1      | 1              | 1       |
| Other fall to lower level   | 16     | 15             | 10      |
| Other fall to lower level less than 6 feet  |        | 3              | 2       |
| Other fall to lower level 11 to 15 feet   | 5      | 3              | 2       |

Table 1. Fatal occupational injuries by event or exposure, Michigan, 2016-17 - Continued

| Front or our server (1)  | 2016   | 2017   |         |
|--|--------|--------|---------|
| Event or exposure (1)  | Number | Number | Percent |
| Other fall to lower level 16 to 20 feet                                    | 3      | 4      | 3       |
| Other fall to lower level more than 30 feet                                | 6      | 2      | 1       |
| Exposure to harmful substances or environments                             | 23     | 11     | 7       |
| Exposure to electricity  | 5      | 5      | 3       |
| Direct exposure to electricity   | 4      | 4      | 3       |
| Direct exposure to electricity, greater than 220 volts                     | 3      | 2      | 1       |
| Indirect exposure to electricity   | 1      | 1      | 1       |
| Indirect exposure to electricity, greater than 220 volts                   | 1      | 1      | 1       |
| Exposure to other harmful substances                                       | 10     | 4      | 3       |
| Nonmedical use of drugs or alcoholunintentional overdose                   | 5      | 4      | 3       |
| Exposure to oxygen deficiency, n.e.c.                                      | 6      | 2      | 1       |
| Drowning, submersion, n.e.c.   | 5      | 2      | 1       |
| Contact with objects and equipment   | 19     | 23     | 15      |
| Struck by object or equipment  | 13     | 17     | 11      |
| Struck by powered vehiclenontransport                                      | 7      | 8      | 5       |
| Struck by other falling powered vehicle                                    |        | 4      | 3       |
| Struck by falling object or equipmentother than powered vehicle            | 5      | 6      | 4       |
| Struck by object falling from vehicle or machineryother than vehicle part  |        | 2      | 1       |
| Struck by discharged or flying object                                      |        | 1      | 1       |
| Struck by dislodged flying object, particle                                |        | 1      | 1       |
| Injured by handheld object or equipment                                    |        |        |         |
| Injured by slipping or swinging object held by injured worker              |        | 1      | 1       |
| Caught in or compressed by equipment or objects                            | 5      | 3      | 2       |
| Caught in running equipment or machinery                                   | 5      | 2      | 1       |
| Caught in running equipment or machinery during maintenance, cleaning      | 2      | 1      | 1       |
| Caught in running equipment or machinery during regular operation          | 2      | 1      | 1       |
| Struck, caught, or crushed in collapsing structure, equipment, or material | 1      | 3      | 2       |
| Excavation or trenching cave-in  |        | 1      | 1       |
| Engulfment in other collapsing material                                    |        | 1      | 1       |
| Overexertion and bodily reaction   |        | 1      | 1       |
| Overexertion involving outside sources                                     |        | 1      | 1       |
| Overexertion in lifting, lowering  |        | 1      | 1       |

#### Footnotes:

<sup>(1)</sup> Based on the BLS Occupational Injury and Illness Classification System (OIICS) 2.01 implemented for 2011 data forward.

Table 2. Fatal occupational injuries by industry, Michigan, 2016–17

| Industry (1)   | 2016   | 20     |         |
|--|--------|--------|---------|
| inducty **   | Number | Number | Percent |
| al   | 162    | 153    | 10      |
| Private industry   | 152    | 141    | 9       |
| Natural resources and mining                             | 20     | 22     | 1       |
| Agriculture, forestry, fishing and hunting               | 19     | 22     | 1       |
| Crop production  | 12     | 16     | 1       |
| Oilseed and grain farming                                | 6      | 4      |         |
| Corn farming   | 5      | 4      |         |
| Fruit and tree nut farming                               | 1      | 3      |         |
| Noncitrus fruit and tree nut farming                     | 1      | 3      |         |
| Apple orchards   |        | 1      |         |
| Greenhouse, nursery, and floriculture production         | 1      | 2      |         |
| Food crops grown under cover                             |        | 2      |         |
| Other crop farming                                       |        | 1      |         |
| Hay farming  |        | 1      |         |
| Animal production and aquaculture                        | 3      | 5      |         |
| Cattle ranching and farming                              | 3      | 4      |         |
| Dairy cattle and milk production                         | 2      | 2      |         |
| Poultry and egg production                               |        | 1      |         |
| Chicken egg production                                   |        | 1      |         |
| Support activities for agriculture and forestry          |        | 1      |         |
| Support activities for animal production                 |        | 1      |         |
| Construction   | 40     | 31     |         |
| Construction   | 40     | 31     |         |
| Construction of buildings                                | 6      | 7      |         |
|  | 5      | 7      |         |
| Residential building construction                        | 5      | 7      |         |
| Residential building construction                        |        |        |         |
| Residential remodelers                                   | 4      | 6      |         |
| Heavy and civil engineering construction                 | 2      | 1      |         |
| Utility system construction                              | 1      | 1      |         |
| Water and sewer line and related structures construction | 1      | 1      |         |
| Specialty trade contractors                              | 31     | 22     |         |
| Foundation, structure, and building exterior contractors | 17     | 8      |         |
| Poured concrete foundation and structure contractors     | 2      | 1      |         |
| Roofing contractors                                      | 10     | 5      |         |
| Building equipment contractors                           | 5      | 6      |         |
| Electrical contractors                                   | 1      | 5      |         |
| Nonresidential electrical contractors                    |        | 3      |         |
| Building finishing contractors                           | 5      | 4      |         |
| Drywall and insulation contractors                       |        | 1      |         |
| Flooring contractors                                     |        | 2      |         |
| Finish carpentry contractors                             |        | 1      |         |
| Other specialty trade contractors                        | 4      | 4      |         |
| Site preparation contractors                             | 3      | 3      |         |
| All other specialty trade contractors                    | 1      | 1      |         |
| Manufacturing  | 15     | 12     |         |
| Manufacturing  | 15     | 12     |         |
| Wood product manufacturing                               |        | 1      |         |
| Other wood product manufacturing                         |        | 1      |         |
| Wood container and pallet manufacturing                  |        | ,<br>1 |         |
| Plastics and rubber products manufacturing               |        | 1      |         |
| •  |        |        |         |
| Plastics product manufacturing                           | 1      | 1      |         |
| Other plastics product manufacturing                     | 1 1    | 1      |         |
| Nonmetallic mineral product manufacturing                | 1      | 1      |         |
| Glass and glass product manufacturing                    |        | 1      |         |
| Glass and glass product manufacturing                    |        | 1      |         |
| Flat glass manufacturing                                 |        | 1      |         |

Table 2. Fatal occupational injuries by industry, Michigan, 2016–17 - Continued

| In directors (1)  | 2016   | 201     | 17      |
|---|--------|---------|---------|
| Industry (1)  | Number | Number  | Percent |
| Fabricated metal product manufacturing  | 1      | 4       | 3       |
| Architectural and structural metals manufacturing                               |        | 2       | 1       |
| Plate work and fabricated structural product manufacturing                      |        | 1       | 1       |
| Fabricated structural metal manufacturing                                       |        | 1       | 1       |
| Ornamental and architectural metal products manufacturing                       |        | 1       | 1       |
| Sheet metal work manufacturing  |        | 1       | 1       |
| Spring and wire product manufacturing   |        | 1       | 1       |
| Spring and wire product manufacturing   |        | 1       | 1       |
| Spring manufacturing  |        | 1       | 1       |
| Coating, engraving, heat treating, and allied activities                        | 1      | 1       | 1       |
| Coating, engraving, heat treating, and allied activities                        | 1      | 1       | 1       |
| Metal heat treating   |        | 1       | 1       |
| Transportation equipment manufacturing  | 3      | 3       | 2       |
| Motor vehicle parts manufacturing   | 1 1    | 2       | 1       |
| Motor vehicle metal stamping  | 1 1    | 2       | 1       |
| Furniture and related product manufacturing                                     | 1      | 1       | 1       |
| Household and institutional furniture and kitchen cabinet manufacturing         | 1      | 1       | 1       |
| Household and institutional furniture manufacturing                             |        | 1       | 1       |
| Nonupholstered wood household furniture manufacturing                           |        | 1       | 1       |
| Trade, transportation, and utilities  | 34     | 28      | 18      |
| Wholesale trade   | 1 1    | 6       | 4       |
| Merchant wholesalers, durable goods   | 1      |         |         |
| Motor vehicle and motor vehicle parts and supplies merchant wholesalers         |        |         |         |
| Tire and tube merchant wholesalers  |        | 1       | 1       |
| Merchant wholesalers, nondurable goods  | 1 1    | 4       | 3       |
| Grocery and related product wholesalers   | 1 1    | 3       | 2       |
| Packaged frozen food merchant wholesalers                                       | 1 1    | 1       | 1       |
| Confectionery merchant wholesalers  | I I    | 2       | 1       |
| Farm product raw material merchant wholesalers                                  | I I    | 1       | 1       |
|   | 1 1    | 12      | 1       |
| Retail trade  | 11 4   | 12<br>3 | 8       |
| Motor vehicle and parts dealers  Automotive parts, accessories, and tire stores | 1 1    | 3       | 2       |
| Automotive parts and accessories stores.  | 1 1    | 3       | 2       |
| Building material and garden equipment and supplies dealers                     | 1 1    | 1       | 1       |
| Building material and supplies dealers  | I I    | ;<br>1  | 1       |
| Food and beverage stores  | I I    |         | ·<br>   |
| Specialty food stores   | 1 1    | 1       | 1       |
| Fruit and vegetable markets   | 1 1    | 1       | 1       |
| Health and personal care stores   |        | 1       | 1       |
| Health and personal care stores   |        | 1       | 1       |
| Other health and personal care stores   |        | 1       | 1       |
| Food (health) supplement stores   |        | 1       | 1       |
| Gasoline stations   |        | 2       | 1       |
| Gasoline stations   |        | 2       | 1       |
| Gasoline stations with convenience stores                                       |        | 2       | 1       |
| Clothing and clothing accessories stores  |        | 1       | 1       |
| Clothing stores   |        | 1       | 1       |
| Family clothing stores  |        | 1       | 1       |
| Miscellaneous store retailers   | 3      | 1       | 1       |
| Other miscellaneous store retailers   | 1      | 1       | 1       |
| All other miscellaneous store retailers   |        | 1       | 1       |
| Nonstore retailers  |        | 1       | 1       |
| Electronic shopping and mail-order houses                                       |        | 1       | 1       |
| Electronic shopping and mail-order houses                                       |        | 1       | 1       |
| Electronic shopping   |        | 1       | 1       |

Table 2. Fatal occupational injuries by industry, Michigan, 2016–17 - Continued

| 1.1.4.41   | 2016   | 20             | 17      |
|--|--------|----------------|---------|
| Industry (1)   | Number | Number         | Percent |
| Transportation and warehousing   | 15     | 10             | 7       |
| Air transportation   |        | 1              | 1       |
| Scheduled air transportation   |        | 1              | 1       |
| Scheduled air transportation   |        | 1              | 1       |
| Scheduled passenger air transportation   |        | 1              | 1       |
| Truck transportation   | 8      | 5              | 3       |
| General freight trucking   | 6      | 4              | 3       |
| General freight trucking, local  |        | 3              | 2       |
| General freight trucking, long-distance  | 5      | 1              | 1       |
| General freight trucking, long-distance, truckload   | 3      | 1              | 1       |
| Transit and ground passenger transportation  | 2      | 1              | 1       |
| Taxi and limousine service   | 2      | 1              | 1       |
| Limousine service  |        | 1              | 1       |
| Support activities for transportation  | 3      | 2              | 1       |
| Support activities for road transportation   | 2      | 2              | 1       |
| Motor vehicle towing   | 2      | 2              | 1       |
| Couriers and messengers  |        | 1              | 1       |
| Couriers   |        | 1              | 1       |
| Information  |        |                |         |
| Information  |        |                |         |
| Telecommunications   |        | 1              | 1       |
| Wired telecommunications carriers  |        | 1              | 1       |
| Financial activities   | 5      | 1              | 1       |
| Finance and insurance  |        | 1              | 1       |
| Insurance carriers and related activities  |        | ·              | 1       |
| Agencies, brokerages, and other insurance related activities   |        | ·              | 1       |
| Other insurance related activities   |        | ·              | 1       |
| Claims adjusting   |        | ' <sub>1</sub> | 1       |
| Professional and business services   | 13     | 12             | ο       |
| Professional and technical services  | 13     | 2              | 1       |
| Professional, scientific, and technical services   | '      | 2              | 1       |
|  | 1      | 2              | 1       |
| Management, scientific, and technical consulting services  |        |                | 1       |
| Environmental consulting services  |        |                | 1       |
| Advertising and related services   |        |                | 1       |
| Media representatives  |        | 1              | 1       |
| Administrative and waste services  | 12     | 10             | ,       |
| Administrative and support services  | 12     | <u>/</u>       | 5       |
| Services to buildings and dwellings  | 11     | /              | 5       |
| Landscaping services   | 10     | 6              | 4       |
| Waste management and remediation services  |        | 3              | 2       |
| Remediation and other waste management services  |        | 1              | 1       |
| Materials recovery facilities  |        | 1              | 1       |
| Educational and health services  | 5      | 5              | 3       |
| Health care and social assistance  | 4      | 5              | 3       |
| Ambulatory health care services  | 3      | 2              | 1       |
| Offices of physicians  |        | 1              | 1       |
| Offices of physicians  |        | 1              | 1       |
| Offices of physicians (except mental health specialists)   |        | 1              | 1       |
| Home health care services  | 2      | 1              | 1       |
| Nursing and residential care facilities  | 1      | 3              | 2       |
| Residential intellectual and developmental disability, mental health, and substance abuse facilities | 1      | 1              | 1       |
| Residential mental health and substance abuse facilities   | 1      | 1              | 1       |
| Continuing care retirement communities and assisted living facilities for the elderly                |        | 2              | 1       |
| Continuing care retirement communities and assisted living facilities for the elderly                |        | 2              | 1       |
| Continuing care retirement communities   |        | 1              | 1       |

Table 2. Fatal occupational injuries by industry, Michigan, 2016-17 - Continued

| Indiada. (1)   | 2016   | 20     | 17      |
|--|--------|--------|---------|
| Industry (1)   | Number | Number | Percent |
| Assisted living facilities for the elderly                             |        | 1      | 1       |
| Leisure and hospitality  | 10     | 18     | 12      |
| Arts, entertainment, and recreation                                    | 4      | 11     | 7       |
| Performing arts, spectator sports, and related industries              | 3      | 5      | 3       |
| Spectator sports   | 2      | 2      | 1       |
| Spectator sports   | 2      | 2      | 1       |
| Independent artists, writers, and performers                           |        | 3      | 2       |
| Museums, historical sites, and similar institutions                    |        | 1      | 1       |
| Museums, historical sites, and similar institutions                    |        | 1      | 1       |
| Museums  |        | 1      | 1       |
| Amusement, gambling, and recreation industries                         | 1      | 5      | 3       |
| Amusement parks and arcades  |        | 1      | 1       |
| Amusement arcades  |        | 1      | 1       |
| Other amusement and recreation industries                              | 1      | 4      | 3       |
| Golf courses and country clubs   |        | 1      | 1       |
| Marinas  |        | 1      | 1       |
| Accommodation and food services  | 6      | 7      | 5       |
| Accommodation  | 1      | 1      | 1       |
| RV (recreational vehicle) parks and recreational camps                 | 1      | 1      | 1       |
| RV (recreational vehicle) parks and recreational camps                 | 1      | 1      | 1       |
| Recreational and vacation camps (except campgrounds)                   |        | 1      | 1       |
| Food services and drinking places                                      | 5      | 6      | 4       |
| Drinking places (alcoholic beverages)                                  | 1      | 2      | 1       |
| Restaurants and other eating places                                    | 3      | 4      | 3       |
| Restaurants and other eating places                                    | 3      | 4      | 3       |
| Full-service restaurants   | 3      | 2      | 1       |
| Limited-service restaurants  |        | 2      | 1       |
| Other services, except public administration                           | 9      | 10     | 7       |
| Other services, except public administration                           | 9      | 10     | 7       |
| Repair and maintenance   | 5      | 9      | 6       |
| Automotive repair and maintenance                                      | 5      | 6      | 4       |
| Automotive mechanical and electrical repair and maintenance            | 3      | 6      | 4       |
| General automotive repair  | 3      | 5      | 3       |
| Commercial machinery repair and maintenance                            |        | 1      | 1       |
| Religious, grantmaking, civic, professional, and similar organizations | 3      | 1      | 1       |
| Religious organizations  |        | 1      | 1       |
| Government (2)   | 10     | 12     | 8       |
| Federal government   |        | 1      | 1       |
| State government   | 2      | 4      | 3       |
| Local government   | 8      | 7      | 5       |
| •  |        |        |         |

#### Footnotes

<sup>(1)</sup> Industry data are based on the North American Industry Classification System, 2012.

<sup>(2)</sup> Includes fatal injuries to workers employed by governmental organizations regardless of industry.

Table 3. Fatal occupational injuries by occupation, Michigan, 2016–17

| Occuration (1)   | 2016   | 20     | 17      |
|--|--------|--------|---------|
| Occupation (1)   | Number | Number | Percent |
| Total  | 162    | 153    | 100     |
| Management occupations   | 15     | 22     | 14      |
| Top executives   | 1      | 2      | 1       |
| Chief executives   |        | 2      | 1       |
| Chief executives   |        | 2      | 1       |
| Advertising, marketing, promotions, public relations, and sales managers       |        | 1      | 1       |
| Marketing and sales managers   |        | 1      | 1       |
| Sales managers   |        | 1      | 1       |
| Other management occupations   | 13     | 18     | 12      |
| Farmers, ranchers, and other agricultural managers                             | 10     | 15     | 10      |
| Farmers, ranchers, and other agricultural managers                             | 10     | 15     | 10      |
| Construction managers  | 1      | 1      | 1       |
| Construction managers  |        | 1      | 1       |
| Miscellaneous managers   | 1 .1   | 2      | 1       |
| Community and social service occupations                                       |        |        |         |
| Counselors, social workers, and other community and social service specialists |        | 1      | 1       |
| Miscellaneous community and social service specialists                         | 1      | 1      | 1       |
| Probation officers and correctional treatment specialists                      | 1      | 1      | 1       |
| Arts, design, entertainment, sports, and media occupations                     | 1      | 5      | 3       |
| Art and design workers   | 1      | 1      | 1       |
| Artists and related workers  | 1      | 1      | 1       |
| Fine artists, including painters, sculptors, and illustrators                  | 1      | 1      | . 1     |
| Entertainers and performers, sports and related workers                        | 1      | 4      | 3       |
| Athletes, coaches, umpires, and related workers                                | 1      | 2      | 1       |
| Athletes and sports competitors  |        | 2      | 1       |
| Musicians, singers, and related workers  |        | 2      | 1       |
| Musicians and singers  |        | 2      | 1       |
| Healthcare practitioners and technical occupations                             |        | 1      | 1       |
| Health diagnosing and treating practitioners                                   |        | '      | 1       |
|  |        | '      | 1       |
| Physicians and surgeons  |        | 2      | 1       |
| Healthcare support occupations   | 1      | 2      | 1       |
| Nursing, psychiatric, and home health aides                                    | 1      |        | 1       |
| Nursing, psychiatric, and home health aides                                    |        | 2      | 1       |
| Home health aides  | 1      | 1      | 1       |
| Nursing assistants   | 1      | 1      | 1       |
| Protective service occupations   | 1      | (      | 5       |
| Supervisors of protective service workers                                      |        | 1      | 1       |
| First-line supervisors of fire fighting and prevention workers                 | 1      | 1      | 1       |
| First-line supervisors of fire fighting and prevention workers                 | 1 1    | 1      | 1       |
| Law enforcement workers  | 1      | 4      | 3       |
| Police officers  |        | 4      | 3       |
| Police and sheriff's patrol officers   | 1      | 4      | 3       |
| Other protective service workers   | 1      |        |         |
| Security guards and gaming surveillance officers                               | 1      | 1      | 1       |
| Security guards  |        | 1      | 1       |
| Food preparation and serving related occupations                               | 4      | 4      | 3       |
| Supervisors of food preparation and serving workers                            | 1      | 1      | 1       |
| Supervisors of food preparation and serving workers                            | 2      | 1      | 1       |
| First-line supervisors of food preparation and serving workers                 | 2      | 1      | 1       |
| Food and beverage serving workers  |        | 2      | 1       |
| Fast food and counter workers  |        | 1      | 1       |
| Combined food preparation and serving workers, including fast food             |        | 1      | 1       |
| Waiters and waitresses   |        | 1      | 1       |
| Waiters and waitresses   |        | 1      | 1       |
| Other food preparation and serving related workers                             | 1      | 1      | 1       |
| Miscellaneous food preparation and serving related workers                     | 1      | 1      | 1       |

Table 3. Fatal occupational injuries by occupation, Michigan, 2016–17 - Continued

| Table of Fatal Goodpational Injurious by Goodpation, Informatin, 2010 17        | 2016   | 201    | 17      |
|---|--------|--------|---------|
| Occupation (1)  | Number | Number | Percent |
| Building and grounds cleaning and maintenance occupations                       | 12     | 8      | 5       |
| Supervisors of building and grounds cleaning and maintenance workers            | 3      | 4      | 3       |
| First-line supervisors of building and grounds cleaning and maintenance workers | 3      | 4      | 3       |
| First-line supervisors of housekeeping and janitorial workers                   |        | 1      | 1       |
| First-line supervisors of landscaping, lawn service, and groundskeeping workers | 3      | 3      | 2       |
| Grounds maintenance workers   | 8      | 4      | 3       |
| Grounds maintenance workers   | 8      | 4      | 3       |
| Landscaping and groundskeeping workers  |        | 3      | 2       |
| Tree trimmers and pruners   | 6      | 1      | 1       |
| Personal care and service occupations   | 2      | 3      | 2       |
| Other personal care and service workers   |        | 1      | 1       |
| Personal care aides   |        | 1      | 1       |
| Personal care aides   |        | 1      | 1       |
| Sales and related occupations   | 13     | 9      | 6       |
| Supervisors of sales workers  | 3      | 3      | 2       |
| First-line supervisors of sales workers   | 3      | 3      | 2       |
| First-line supervisors of retail sales workers                                  | 2      | 3      | 2       |
| Retail sales workers  | 4      | 5      | 3       |
| Cashiers  | 1      | 2      | 1       |
| Cashiers  | 1      | 2      | 1       |
| Retail salespersons   |        | 2      | 1       |
| Retail salespersons   |        | 2      | 1       |
| Other sales and related workers   |        | 1      | 1       |
| Miscellaneous sales and related workers   |        | 1      | 1       |
| Office and administrative support occupations                                   |        | 2      | 1       |
| Material recording, scheduling, dispatching, and distributing workers           |        | 2      | 1       |
| Cargo and freight agents  |        | 1      | 1       |
| Cargo and freight agents  |        | 1      | 1       |
| Postal service workers  |        | 1      | 1       |
| Postal service mail carriers  |        | 1      | 1       |
| Farming, fishing, and forestry occupations                                      | 9      | 6      | 4       |
| Agricultural workers  | 4      | 6      | 4       |
| Miscellaneous agricultural workers  | 4      | 6      | 4       |
| Agricultural equipment operators  |        | 1      | 1       |
| Farmworkers and laborers, crop, nursery, and greenhouse                         |        | 2      | 1       |
| Farmworkers, farm, ranch, and aquacultural animals                              | 1      | 3      | 2       |
| Construction and extraction occupations   | 38     | 34     | 22      |
| Supervisors of construction and extraction workers                              | 10     | 5      | 3       |
| First-line supervisors of construction trades and extraction workers            | 10     | 5      | 3       |
| First-line supervisors of construction trades and extraction workers            | 10     | 5      | 3       |
| Construction trades workers   | 28     | 27     | 18      |
| Carpenters  | 5      | 2      | 1       |
| Carpenters  | 5      | 2      | 1       |
| Construction laborers   | 6      | 12     | 8       |
| Construction laborers   | 6      | 12     | 8       |
| Construction equipment operators  | 1      | 2      | 1       |
| Operating engineers and other construction equipment operators                  |        | 2      | . 1     |
| Electricians  |        | 5      | 3       |
| Electricians  |        | 5      | 3       |
| Roofers   |        | 3      | 3       |
|   | '-     | 4      | 3       |
| RoofersStructural iron and steel workers  |        | 4      | 3       |
| Structural iron and steel workers   |        |        | 1       |
| Other construction and related workers  | '      |        | 1       |
|   |        | 2      | 1       |
| Highway maintenance workers   |        | 2      | 1       |
| Highway maintenance workers   |        | 2      | 1       |

Table 3. Fatal occupational injuries by occupation, Michigan, 2016-17 - Continued

| Occupation (1)  | 2016   | 201      | 7        |
|---|--------|----------|----------|
| Occupation (1)  | Number | Number   | Percent  |
| Installation, maintenance, and repair occupations   | 11     | 17       | 11       |
| Electrical and electronic equipment mechanics, installers, and repairers                    |        | 1        | 1        |
| Miscellaneous electrical and electronic equipment mechanics, installers, and repairers      |        | 1        | 1        |
| Electric motor, power tool, and related repairers   |        | 1        | 1        |
| Vehicle and mobile equipment mechanics, installers, and repairers                           | 6      | 10       | 7        |
| Automotive technicians and repairers  | 5      | 6        | 4        |
| Automotive service technicians and mechanics  | 4      | 6        | 4        |
| Heavy vehicle and mobile equipment service technicians and mechanics                        | 1      | 2        | 1        |
| Farm equipment mechanics and service technicians  | 1      | 1        | 1        |
| Mobile heavy equipment mechanics, except engines  |        |          | 1        |
| Small engine mechanics  |        |          | 1        |
| Other installation, maintenance, and repair occupations                                     | 5      | 6        | 4        |
| Industrial machinery installation, repair, and maintenance workers                          |        | 1        | 1        |
| Maintenance workers, machinery  |        | 1        | 1        |
| Line installers and repairers   |        | 2        | . 1      |
| Electrical power-line installers and repairers  |        | 1        | 1        |
| Telecommunications line installers and repairers  |        | 1        | 1        |
| Maintenance and repair workers, general   | 1      | 3        | 2        |
| Maintenance and repair workers, general   | 1      | 3        | 2        |
| Production occupations  | 5      | 6        | 4        |
| Metal workers and plastic workers   | 1      | 5        | 3        |
| Machine tool cutting setters, operators, and tenders, metal and plastic                     |        | 3        | 2        |
| Cutting, punching, and press machine setters, operators, and tenders, metal and plastic     |        | 2        | 1        |
| Molders and molding machine setters, operators, and tenders, metal and plastic              |        | 1        | 1        |
| Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic |        | 1        | 1        |
| Welding, soldering, and brazing workers   |        | 1        | 1        |
| Welders, cutters, solderers, and brazers  |        | 1        | 1        |
| Other production occupations  | 2      | 1        | 1        |
| Furnace, kiln, oven, drier, and kettle operators and tenders                                |        | 1        | 1        |
| Furnace, kiln, oven, drier, and kettle operators and tenders                                |        | 1        | 1        |
| Transportation and material moving occupations  | 34     | 23       | 15       |
| Motor vehicle operators   | 19     | 16       | 10       |
| Driver/sales workers and truck drivers  | 17     | 15       | 10       |
| Driver/sales workers  | 1      | 1        | 1        |
| Heavy and tractor-trailer truck drivers   | 14     | 9        | 6        |
| Light truck or delivery services drivers  |        | 5        | 3        |
| Taxi drivers and chauffeurs   | 2      | 1        | 1        |
| Taxi drivers and chauffeurs   | 2      | 1        | 1        |
| Material moving workers   | 10     | /        | 5        |
| Conveyor operators and tenders  |        |          | 1        |
| Conveyor operators and tendersLaborers and material movers, hand                            | 4      | <u>'</u> | 3        |
| Laborers and freight, stock, and material movers, hand                                      | 2      | 3        | 2        |
| Packers and packagers, hand   |        | 3        | 1        |
| , donote and pastagets, nation  |        | '        | <u>'</u> |

### Footnotes:

<sup>(1)</sup> Occupation data are based on the Standard Occupational Classification system, 2010.

Table 4. Fatal occupational injuries by selected demographic characteristics, Michigan, 2016–17

| Maday shaya taristica                    | 2016   | 2016 2017 |         |
|--|--------|-----------|---------|
| Worker characteristics                   | Number | Number    | Percent |
| Total                                    | 162    | 153       | 100     |
| Employee status                          |        |           |         |
| Wage and salary workers (1)              | 116    | 102       | 67      |
| Self-employed (2)                        | 46     | 51        | 33      |
| Gender                                   |        |           |         |
| Men                                      | 153    | 139       | 91      |
| Women                                    | 9      | 14        | 9       |
| Age (3)                                  |        |           |         |
| 18 to 19 years                           | 3      | 4         | 3       |
| 20 to 24 years                           | 6      | 9         | 6       |
| 25 to 34 years                           | 23     | 26        | 17      |
| 35 to 44 years                           | 32     | 22        | 14      |
| 45 to 54 years                           | 45     | 32        | 21      |
| 55 to 64 years                           | 34     | 30        | 20      |
| 65 years and over                        | 18     | 28        | 18      |
| Race or ethnic origin (4)                |        |           |         |
| White (non-Hispanic)                     | 127    | 116       | 76      |
| Black or African-American (non-Hispanic) | 22     | 25        | 16      |
| Hispanic or Latino                       | 7      | 10        | 7       |

#### Footnotes:

<sup>(1)</sup> May include volunteers and workers receiving other types of compensation.

<sup>(2)</sup> Includes self-employed workers, owners of unincorporated businesses and farms, paid and unpaid family workers, and may include some owners of incorporated businesses or members of partnerships.

<sup>(3)</sup> Information may not be available for all age groups.

<sup>(4)</sup> Persons identified as Hispanic or Latino may be of any race. The race categories shown exclude Hispanic and Latino workers.