

**CENSUS OF FATAL OCCUPATIONAL
INJURIES
MICHIGAN 2018**

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Technical Services Division
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PREFACE - CENSUS OF FATAL OCCUPATIONAL INJURIES PROGRAM

The Census of Fatal Occupational Injuries (CFOI) program, part of the U. S. Department of Labor, Bureau of Labor Statistics (BLS) safety and health statistics program, provides the most complete count of fatal work injuries available. The program uses diverse state and federal data sources to identify, verify and profile fatal work injuries. Information about each workplace fatality, including occupation and other worker characteristics, equipment being used, and circumstances of the event, is obtained by cross-referencing source documents, such as death certificates, workers' compensation records, and reports to federal and state agencies. This method assures counts are as complete and accurate as possible.

The Michigan portion of the Census of Fatal Occupational Injuries is conducted by the Michigan Department of Labor and Economic Opportunity, MIOSHA, Technical Services Division, Management Information Systems Section in cooperation with the BLS of the U.S. Department of Labor.

INTRODUCTION

The Census of Fatal Occupational Injuries (CFOI), administered by the BLS in conjunction with participating State agencies, compiles detailed information on all work-related fatalities that occur in the 50 states and the District of Columbia. The program is based upon the 1987 recommendations of the National Academy of Sciences and the Keystone Dialogue Group that emphasized the need for a reliable measure of occupational fatalities. In response to these recommendations, the CFOI program was developed to produce accurate, comprehensive, descriptive, timely, and accessible counts of fatal workplace injuries that occur during a given year.

In an effort to compile counts that are complete as possible, the fatality census uses diverse sources to identify, verify, and profile fatal work injuries. Source documents such as death certificates, workers' compensation reports, and Federal and State agency administrative records are cross-referenced to gather key information about each workplace fatality, such as the particular occupation in which the fatality occurred, worker demographics, equipment or machinery involved, and circumstances of the event. Two or more independent source documents are used to verify the work relationship of each fatal work injury.

The Occupational Injury and Illness Classification (OIIC) manual provides a classification system for use in coding the case characteristics of injuries, illnesses, and fatalities in the CFOI program. The manual contains the rules of selection, code descriptions, code titles, and indices, for the following code structures: Nature of Injury or Illness, Part of Body Affected, Source of Injury or Illness, Event or Exposure, and Secondary Source of Injury or Illness.

The 2010 Standard Occupational Classification (SOC) system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 461 broad occupations, 97 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties, and in some cases skills, education, and/or training, are grouped together.

Data compiled by the CFOI program are issued annually for the previous calendar year. This data is used by safety and health professionals, policy analysts, and researchers to prevent fatal work injuries in the following six ways:

- Inform workers of life-threatening hazards associated with various jobs.
- Promote safer work practices through enhanced job safety training.
- Develop new safety equipment.
- Assess and improve workplace safety standards.
- Identify new areas for safety research.
- Provide data for policy formation.

OBSERVATION SUMMARY

There were 155 occupational fatalities reported to the Michigan CFOI Program during the year 2018. Various categories related to these fatalities are summarized below.

- Transportation incidents led all fatal events and accounted for 50 (32 percent) of the 155 fatal occupational injuries during 2018. This was followed by Violence and Other Injuries by Persons or Animals with 37 fatalities (24 percent).
- All age groups from 20 to 24 years and 65 years and over reported between 11 and 41 fatalities. The age group of 20-24 reported the least amount of fatalities with 11.
- Based on gender, 91 percent of Michigan's fatally injured workers were men.
- 83 percent of fatalities occurred to persons in the ethnicity category White, non-Hispanic.
- Occupations with the largest number of worker fatalities were reported in the category of Transportation and material moving occupations with 32, Construction and extraction occupations with 24 and Production occupations reporting 12 fatalities.
- Industries reporting the largest number of Michigan fatal work injuries during 2018 were Agriculture, forestry, fishing and hunting with 24, Agriculture, forestry, fishing and hunting with 22, and Construction with 23 fatalities, followed by in each.
- Vehicles were identified as the greatest source of injury with 58 reported during 2018. This was followed by Persons, Plants, Animals & Minerals with 44 and Structures & Surfaces with 17.

**Table 1. Number and Percent Distribution of Fatal Occupational Injuries
by Event or Exposure, Michigan 2018**

Event or Exposure¹	Fatalities	
	Number	Percent
Total	155	100
Transportation incident	50	32
Aircraft incidents	3	2
Pedestrian vehicle incident	17	11
Roadway incidents involving motorized land vehicle	23	15
Non-roadway incident involving motorized land vehicle	7	5
Violence and other injuries by persons or animals	37	24
Intentional injury by person	36	23
Contact with objects and equipment	27	17
Struck by object or equipment	22	14
Falls, slips, trips	20	13
Falls on same level	7	5
Fall to lower level	13	8
Exposure to harmful substances or environments	17	11
Exposure to electricity	5	3
Fires and explosions	4	3
Event categories that did not meet publication criteria	--	--

¹Based on the BLS Occupational Injury/Illness Classification System (OIICS) 2.01.

NOTE: Totals for major categories may include subcategories not shown separately. Due to confidentiality concerns, minimum publication criteria have been established. For this reason, data that does not meet publication criteria are excluded. Data for 2018 are preliminary.

SOURCE: U.S. Dept. of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries.

Table 2. Number and Percent Distribution of Fatal Occupational Injuries by Selected Characteristics, Michigan 2018

Worker Characteristics	Fatalities	
	Number	Percent
Total	155	100
Employee Status		
Wage and salary workers	110	71
Self-employed	45	29
Sex		
Men	139	90
Women	14	9
Age		
Both sexes:		
Under 16 years	--	--
16 to 17 years	--	--
18 to 19 years	--	--
20 to 24 years	11	7
25 to 34 years	22	14
35 to 44 years	32	21
45 to 54 years	26	17
55 to 64 years	41	26
65 years and over	23	15
Race¹		
White (non-Hispanic)	128	83
Black or African American (non-Hispanic)	17	11
Hispanic or Latino	8	5
American Indian or Alaska Native (non-Hispanic)	--	--
Asian (non-Hispanic)	--	--
Native Hawaiian or Pacific Islander (non-Hispanic)	--	--

¹Persons identified as Hispanic or Latino may be of any race. The race categories shown exclude data for Hispanics and Latinos.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. Due to confidentiality concerns, minimum publication criteria have been established. For this reason, data that does not meet publication criteria are excluded. Data for 2018 are preliminary.

SOURCE: U.S. Dept. of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries.

Table 3. Number and Percent Distribution of Fatal Occupational Injuries by Occupation, Michigan 2018

Occupation ¹	Number	<u>Fatalities</u>	Percent
Total	155		100
Management Occupations	22		14
Top executives	4		3
Operations specialties managers	1		1
Other management occupations	17		11
Business and financial operations occupations	--		--
Financial specialists	1		1
Arts, design, entertainment, sports, and media occupations	3		2
Entertainers and performers, sports and related workers	2		1
Media and communication equipment workers	1		1
Healthcare practitioners and technical occupations	1		1
Health diagnosing and treating practitioners	1		1
Healthcare support occupations	1		1
Occupational therapy and physical therapist assistants and aides	1		1
Protective service occupations	7		5
Fire fighting and prevention workers	1		1
Law enforcement workers	4		3
Other protective service workers	2		1
Food preparation and serving related occupations	4		3
Cooks and food preparation workers	1		1
Building and grounds cleaning and maintenance occupations	5		3
Supervisors of building and grounds cleaning and maintenance workers	3		2
Building cleaning and pest control workers	2		1
Personal care and service occupations	--		--
Personal appearance workers	1		1
Sales and related occupations	11		7
Supervisors of sales workers	3		2
Retail sales workers	6		4

Table 3. Number and Percent Distribution of Fatal Occupational Injuries by Occupation, Michigan 2018 (Continued)

Occupation ¹	Number	<u>Fatalities</u>	Percent
Office and administrative support occupations	5		3
Supervisors of office and administrative support workers	2		1
Financial clerks	1		1
Material recording, scheduling, dispatching, and distributing	2		1
Farming, fishing, and forestry occupations	9		6
Agricultural workers	7		5
Construction and extraction occupations	24		15
Supervisors of construction and extraction workers	7		5
Construction trades workers	13		8
Other construction and related workers	3		2
Extraction workers	1		1
Installation, maintenance, and repair occupations	15		10
Vehicle and mobile equipment mechanics, installers, and repairers	6		4
Other installation, maintenance, and repair occupations	9		6
Production occupations	12		8
Assemblers and fabricators	1		1
Metal workers and plastic workers	6		4
Other production occupations	3		2
Transportation and material moving occupations	32		21
Air transportation workers	2		1
Motor vehicle operators	22		14
Material moving workers	5		3

¹Occupation data are based on the Standard Occupational Classification System, 2010.

NOTE: Totals for major categories may include subcategories not shown separately. Due to confidentiality concerns, minimum publication criteria have been established. For this reason, data that does not meet publication criteria are excluded. Data for 2018 are preliminary.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal Agencies, Census of Fatal Occupational Injuries.

Table 4. Number and Percent Distribution of Fatal Occupational Injuries by Industry, Michigan 2018

Industry¹	Fatalities	
	Number	Percent
Total	155	100
Private Industry	101	65
Government Workers	9	6
Self-employed Workers	45	29
Agriculture, forestry, fishing and hunting	24	15
Crop production	15	10
Animal production and aquaculture	6	4
Support activities for agriculture and forestry	1	1
Mining	2	1
Mining (except oil and gas)	2	1
Construction	23	15
Construction of buildings	6	4
Heavy and civil engineering construction	5	3
Specialty trade contractors	12	8
Manufacturing	19	12
Wood product manufacturing	1	1
Chemical manufacturing	2	1
Fabricated metal product manufacturing	3	2
Machinery manufacturing	5	3
Transportation equipment manufacturing	6	4
Utilities	3	2
Electric power generation, transmission and distribution	3	2
Wholesale trade	5	3
Merchant wholesalers, durable goods	3	2
Merchant wholesalers, nondurable goods	2	1
Retail trade	14	9
Motor vehicle and parts dealers	5	3
Sporting goods, hobby, book, and music stores	1	1
General merchandise stores	2	1
Transportation and warehousing	17	11
Air transportation	1	1
Truck transportation	9	6
Transit and ground passenger transportation	2	1
Support activities for transportation	3	2
Postal service	1	1

Table 4. Number and Percent Distribution of Fatal Occupational Injuries by Industry, Michigan 2018 (Continued)

Industry ¹	Fatalities	
	Number	Percent
Financial activities	4	3
Real estate and rental and leasing	4	3
Real estate	4	3
Professional and technical services	3	2
Accounting, tax preparation, bookkeeping, and payroll services	1	1
Advertising and related services	1	1
Other professional, scientific, and technical services	1	1
Administrative and waste services	10	6
Business support services	1	1
Investigation and security services	2	1
Services to buildings and dwellings	5	3
Educational and health services	3	2
Health care and social assistance	1	1
Ambulatory health care services	1	1
Arts, entertainment, and recreation	4	3
Performing arts, spectator sports, and related industries	3	2
Museums, historical sites, and similar institutions	1	1
Accommodation and food services	8	5
Accommodation	3	2
Food services and drinking places	5	3
Administrative and waste services	10	6
Repair and maintenance	6	4
Personal and laundry services	1	1
Religious, grantmaking, civic, professional, and similar organizations	3	2
Public administration	6	4
Ambulatory health care services	5	3

¹Industry data based on the North American Industry Classification System, 2007

NOTE: Totals for major categories may include subcategories not shown separately. Due to confidentiality concerns, minimum publication criteria have been established. For this reason, data that does not meet publication criteria are excluded. Data for 2018 are preliminary.

SOURCE: U. S. Dept. of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries.

**Table 5. Number and Percent Distribution of Fatal Occupational Injuries
by Source of Injury, Michigan 2018**

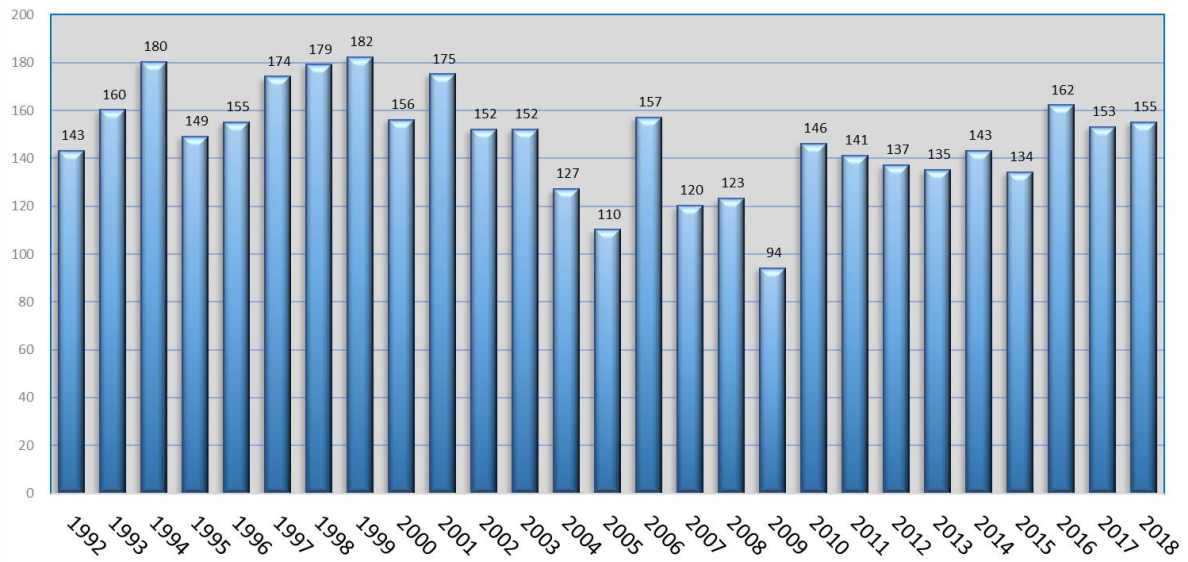
Source of Injury¹	Fatalities	
	Number	Percent
Total	155	100
Chemicals and chemical products	10	6
Machinery	14	9
Construction, logging, and mining machinery	10	6
Parts and materials	6	4
Persons, plants, animals, and minerals	44	28
Person-other than injured or ill worker	22	14
Plants, trees, vegetation--not processed	6	4
Structures and surfaces	17	11
Other structural elements	2	1
Tools, instruments, and equipment	5	3
Vehicles	58	37
Highway vehicles, motorized	48	31
Off-road and industrial vehicles--powered	7	5
Other sources	--	--

¹The primary source of a fatal occupational injury is the object, substance, person, bodily motion, or exposure which most directly led to, produced, or inflicted the injury or illness.

NOTE: Totals for major categories may include subcategories not shown separately. Due to confidentiality concerns, minimum publication criteria have been established. For this reason, data that does not meet publication criteria are excluded. Data for 2018 are preliminary.

SOURCE: U. S. Department of Labor, Bureau of Labor Statistics, in cooperation with the State and Federal Agencies, Census of Fatal Occupational Injuries

Michigan Historical CFOI Data 1992 through 2018



SOURCE: Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries.

TECHNICAL NOTES ON THE CFOI PROGRAM

Identification and verification of work-related fatalities

Federal/State agency coverage

The Census of Fatal Occupational Injuries includes data for all fatal work injuries, whether the decedent was working in a job covered by the Occupational Safety and Health Administration (OSHA) or other federal or state agencies or was outside the scope of 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. Several federal and state agencies have jurisdiction over workplace safety and health. OSHA and affiliated agencies in states with approved safety programs cover the largest portion of the nations' workers. However, injuries and illnesses occurring in certain industries or activities, such as coal, metal, and nonmetal mining, and highway, water, rail, and air transportation, are excluded from OSHA coverage because they are covered by other federal agencies, such as the Mine Safety and Health Administration and various agencies within the Department of Transportation.

Acknowledgements

Michigan and BLS appreciates the efforts of all federal, state, local, and private sector entities that submitted 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 Employment Standards Administration (Federal Employees' Compensation and Longshore and Harbor Workers' divisions); the Federal Railroad Administration; the Department of Energy; state vital statistics registrars, coroners, and medical examiners; state departments of health, labor and industries, workers' compensation agencies, state and local police reports; and state farm bureaus.