

**CENSUS OF FATAL OCCUPATIONAL
INJURIES
MICHIGAN 2014**

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Technical Services Division
MIOSHA – Michigan Occupational Safety and Health Administration
Department of Licensing and Regulatory Affairs
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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 Licensing and Regulatory Affairs, 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 as 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 143 occupational fatalities reported to the Michigan CFOI Program during the year 2014. Various categories related to these fatalities are summarized below.

- Transportation incidents led all fatal events and accounted for 51 (36 percent) of the 143 fatal occupational injuries during 2014. This was followed by Violence and Other Injuries by Persons or Animals with 32 fatalities (22 percent). (Table 1)
- All age groups from 25 to 34 years and 65 years and over reported between 21 and 32 fatalities. The age group of 20-24 reported the least amount of fatalities with 11. (Table 2)
- Based on gender, 87 percent of Michigan's fatally injured workers were men. (Table 2)
- 82 percent of fatalities occurred to persons in the ethnicity category White, non-Hispanic. (Table 2)
- Occupations with the largest number of worker fatalities were reported in the category of Transportation and Material Moving occupations with 31, Management occupations with 22 and Construction and Extraction occupations reporting 19 fatalities. (Table 3)
- Industries reporting the largest number of Michigan fatal work injuries during 2014 were Agriculture, Forestry, Fishing and Hunting with 25, Construction with 23, and Transportation and warehousing reporting 19. (Table 4)
- Transportation Incidents were identified as the greatest source of fatal injury with 51 reported during 2014. This was followed by Violence and Other Injuries by Persons or Animals with 32 and Falls, Slips & Trips with 24. (Table 5)

**Table 1. Number and Percent Distribution of Fatal Occupational Injuries
by Event or Exposure, Michigan 2014**

Event or Exposure¹	Fatalities	
	Number	Percent
Total	143	100
Transportation incident	51	36
Aircraft Incidents	5	3
Pedestrian vehicular incident	10	7
Roadway incident involving motorized land vehicle	25	17
Non-roadway incident involving motorized land vehicle	5	3
Violence and other injuries by persons or animals	32	22
Intentional injury by person	27	19
Falls, slips, trips	24	17
Falls on same level	4	3
Fall to lower level	20	14
Contact with objects and equipment	22	15
Struck by object or equipment	15	10
Caught in or compressed by equipment or objects	4	3
Exposure to harmful substances or environments	11	8
Exposure to electricity	5	3
Exposure to temperature extremes	-	-
Fires and explosions	3	2
Explosions	3	2

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 2014 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 2014

Worker Characteristics	Number	<u>Fatalities</u>	Percent
Total	143		100
Employee Status			
Wage and salary workers	92		64
Self-employed	51		36
Sex			
Men	125		87
Women	18		13
Age			
Both sexes:			
Under 16 years	--		--
16 to 17 years	--		--
18 to 19 years	--		--
20 to 24 years	11		8
25 to 34 years	21		15
35 to 44 years	32		22
45 to 54 years	31		22
55 to 64 years	26		18
65 years and over	22		15
Race¹			
White (non-Hispanic)	117		82
Black or African American (non-Hispanic)	15		10
Hispanic or Latino	6		4
American Indian or Alaska Native (non-Hispanic)	--		--
Asian (non-Hispanic)	3		2
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 2014 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 2014

Occupation ¹	Number	<u>Fatalities</u>	Percent
Total	143		100
Transportation and material moving occupations	31		22
Air transportation workers	3		2
Motor vehicle operators	17		12
Water transport workers	2		1
Material moving workers	9		6
Management occupations	22		15
Top executives	--		--
Advertising, marketing, promotions, public relations, and sales managers	1		1
Operations specialties managers	1		1
Other management occupations	19		13
Community and social services occupations	3		2
Counselors, social workers, and other community and social service specialists	3		2
Arts, design, entertainment, sports, and media occupations	4		3
Entertainers and performers, sports and related workers	4		3
Healthcare practitioners and technical occupations	1		1
Health diagnosing and treating practitioners	1		1
Protective service occupations	3		2
Law enforcement workers	1		1
Other protective service workers	2		1
Food preparation and serving related occupations	3		2
Food and beverage serving workers	1		1
Building and grounds cleaning and maintenance occupations	6		4
Supervisors of building and grounds cleaning and maintenance workers	3		2
Building cleaning and pest control workers	2		1
Grounds maintenance workers	1		1
Personal care and service occupations	3		2
Supervisors of personal care and service workers	1		1
Animal care and service workers	1		1
Other personal care and service workers	1		1

Table 3. Number and Percent Distribution of Fatal Occupational Injuries by Occupation, Michigan 2014 (Continued)

Occupation ¹	Number	<u>Fatalities</u>	Percent
Sales and related occupations	9		6
Supervisors of sales workers	4		3
Retail sales workers	5		3
Office and administrative support occupations	5		3
Information and record clerks	2		1
Material recording, scheduling, dispatching, and distributing workers	2		1
Secretaries and administrative assistants	1		1
Farming, fishing, and forestry occupations	11		8
Agricultural workers	6		4
Forest, conservation, and logging workers	5		3
Construction and extraction occupations	19		13
Supervisors of construction and extraction workers	3		2
Construction trades workers	15		10
Other construction and related workers	1		1
Installation, maintenance, and repair occupations	12		8
Supervisors of installation, maintenance, and repair workers	2		1
Vehicle and mobile equipment mechanics, installers, and repairers	3		2
Other installation, maintenance, and repair occupations	7		5
Production occupations	8		6
Metal workers and plastic workers	2		1
Other production occupations	--		--

¹ CFOI has used several versions of the North American Industry Classification System (NAICS) since 2003 to define industry. For more information on the version of NAICS used in this year, see our definitions page at <http://www.bls.gov/iif/oshcfddef.htm>.

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 2014 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 2014

Industry ¹	Fatalities	
	Number	Percent
Total	143	100
Private Industry	83	58
Government Workers	9	6
Agriculture, forestry, fishing and hunting	25	17
Crop production	12	8
Animal production and aquaculture	6	4
Forestry and logging	5	3
Support activities for agriculture and forestry	2	1
Construction	24	17
Construction of buildings	8	6
Heavy and civil engineering construction	2	1
Specialty trade contractors	14	10
Manufacturing	11	8
Food manufacturing	--	--
Beverage and tobacco product manufacturing	1	1
Plastics and rubber products manufacturing	2	1
Fabricated metal product manufacturing	1	1
Transportation equipment manufacturing	4	3
Utilities	1	1
Wholesale trade	6	4
Merchant wholesalers, durable goods	4	3
Merchant wholesalers, nondurable goods	2	1
Retail trade	13	9
Motor vehicle and parts dealers	2	1
Electronics and appliance stores	1	1
Building material and garden equipment and supplies dealers	2	1
Food and beverage stores	3	2
Health and personal care stores	1	1
Gasoline stations	3	2
Miscellaneous store retailers	1	1
Information	1	1
Other information services	1	1
Finance and insurance	1	1
Credit intermediation and related activities	1	1

Table 4. Number and Percent Distribution of Fatal Occupational Injuries by Industry, Michigan 2014 (Continued)

Industry ¹	Fatalities	
	Number	Percent
Transportation and warehousing	20	14
Air transportation	3	2
Water transportation	2	1
Truck transportation	12	8
Transit and ground passenger transportation	1	1
Support activities for transportation	1	1
Warehousing and storage	1	1
Real estate and rental and leasing	4	3
Real estate	3	2
Rental and leasing services	1	1
Professional and business services	8	6
Administrative and waste services	7	5
Administrative and support services	5	3
Waste management and remediation services	--	--
Educational services	2	1
Health care and social assistance	6	4
Hospitals	1	1
Nursing and residential care facilities	1	1
Social assistance	--	--
Arts, entertainment, and recreation	3	2
Performing arts, spectator sports, and related industries	2	1
Amusement, gambling, and recreation industries	1	1
Accommodation and food services	6	4
Accommodation	2	1
Food services and drinking places	4	3

Table 4. Number and Percent Distribution of Fatal Occupational Injuries by Industry, Michigan 2014 (Continued)

Industry ¹	Fatalities	
	Number	Percent
Other services, except public administration	9	6
Repair and maintenance	4	3
Religious, grantmaking, civic, professional, and similar organizations	5	3
Public administration	3	2
Justice, public order, and safety activities	1	1
Administration of human resource programs	1	1

¹ CFOI has used several versions of the North American Industry Classification System (NAICS) since 2003 to define industry. For more information on the version of NAICS used in this year, see our definitions page at <http://www.bls.gov/iif/oshcfdef.htm>.

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 2014 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 2014**

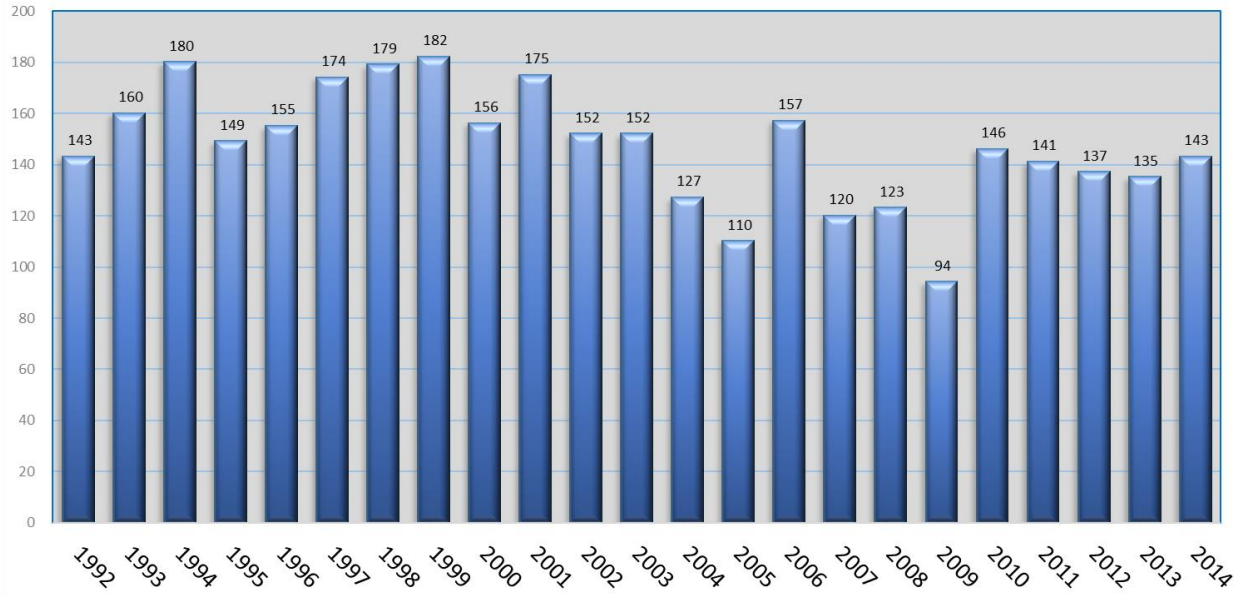
Source of Injury¹	Number	Percent
Total	143	100
Chemicals and chemical products	6	4
Machinery	10	7
Agriculture and garden machinery	1	1
Construction, logging, and mining machinery	3	2
Material and personnel handling machinery	2	1
Parts and materials	7	5
Machine, tool and electric parts	3	2
Persons, plants, animals and minerals	46	35
Person-other than injured or ill worker	18	13
Plants, trees, vegetation-not processed	8	6
Structures and surfaces	16	11
Structures other than buildings	3	2
Other structural elements	8	6
Tools, instruments and equipment	8	6
Ladders	8	6
Vehicles	55	38
Highway vehicles, motorized	41	29
Off-road or industrial vehicles, powered	6	4
Other sources	-	-
Source of injury categories that did not meet publication criteria	-	-

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 2014 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 2014



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.

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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.