

# United States Department of Labor



## Bureau of Labor Statistics

Chicago, III. 60604

General Information: (312) 353-1880

Media Contact: Paul LaPorte

(312) 353-1138

Internet: <a href="http://www.bls.gov/ro5">http://www.bls.gov/ro5</a>

For Immediate Release: Tueday, October 30, 2007

### **MICHIGAN WORKPLACE FATALITIES, 2006**

Fatal work injuries in Michigan totaled 155 in 2006, an increase of 45 from the previous year, according to the U.S. Department of Labor's Bureau of Labor Statistics. Regional Commissioner Jay A. Mousa noted that Michigan's fatalities had declined to 110 in 2005, a series low for the State. (The fatality census has been conducted annually since 1992). This year's 41-percent rise was spread across several categories, including highway incidents which accounted for almost a quarter of the increase in fatalities. (See table A.) Some of the other events that showed notable increases included self-inflicted injuries, being struck by a vehicle, being struck by an object, and electrocutions.

The most frequent types of workplace fatalities in Michigan in 2006 were highway incidents (referred to here as highway crashes, but including non-collision incidents as well) (31), falls to a lower level (21), being struck by an object (19), and homicides (11). Taken together, these four events<sup>1</sup> accounted for over half of the workplace fatalities in the State.

The number of fatalities from highway crashes in the State rose by 11 from the 20 recorded in 2005. This was the largest number of work-related deaths due to highway crashes since 1999 when 37 were reported. Highway crashes accounted for 20 percent of Michigan's fatal work injuries in 2006. Nationally, highway crashes were also the most frequent event leading to workplace fatalities, accounting for 23 percent of workplace fatalities in 2006.

There were 21 fatal work injuries from falls to a lower level in the State in 2006, an increase of 4 from the previous year. This was the fourth time since the inception of the fatality census that on-the-job deaths from falls to a lower level exceeded 20 cases. Work-related deaths involving falls to a lower level accounted for 14 percent of workplace fatalities in Michigan and 13 percent nationally in 2006.

<sup>&</sup>lt;sup>1</sup> Fatal events are categorized into several major groupings including transportation incidents, assaults and violent acts, and falls. These major groups are further broken down into more detailed groups. For example, transportation incidents includes highway incidents and aircraft incidents; assaults and violent acts includes homicides and suicides; and falls includes falls to a lower level (as from a roof or ladder) and falls on the same level (as from grease on a floor or ice on a sidewalk).

Nineteen workers in Michigan were fatally injured from being struck by an object in 2006, up 6 cases over the year. This type of fatal work-related injury accounted for 12 percent of the State's and 10 percent of the nation's occupational fatalities in 2006.

On-the-job deaths from homicides declined by 3 cases in the State in 2006, after declining by 8 in 2005. A total of 11 workplace homicides occurred in 2006, a series low for this event. The highest number of workplace homicides, 39, occurred in 1994. (See table A.) In 2006, homicides accounted for 7 percent of the fatally injured in Michigan and 9 percent nationwide.

Other work-related fatalities in Michigan in 2006 included pedestrians being struck by a vehicle or mobile equipment (10); electrocutions (9); aircraft incidents and self-inflicted injuries (8 each); nonhighway accidents, except rail, air, water, and being caught in or compressed by equipment or objects (7, each); and exposure to caustic, noxious, or allergenic substances (6). (See table 1.)

Table A.	Fatal	l occupational i	niuries in	Michigan	by selected	event groups	. 1992-2006

Year	Total fatalities	Highway	crashes	Falls to lo	wer level	Struck b	y object	Homicides		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1992	143	20	14	14	10	9	6	26	18	
1993	160	33	21	8	5	18	11	25	16	
1994	180	34	19	10	6	24	13	39	22	
1995	149	39	26	12	8	16	11	23	15	
1996	155	39	25	20	13	14	9	29	19	
1997	174	21	12	21	12	13	7	26	15	
1998	179	30	17	16	9	14	8	22	12	
1999	182	37	20	22	12	11	6	20	11	
2000	156	24	15	17	11	25	16	13	8	
2001	175	28	16	21	12	15	9	24	14	
2002	152	26	17	18	12	17	11	22	14	
2003	152	27	18	13	9	19	13	14	9	
2004	127	19	15	12	9	10	8	22	17	
2005	110	20	18	17	15	13	12	14	13	
2006	155	31	20	21	14	19	12	11	7	

Nationwide, a total of 5,703 fatal work injuries were reported in 2006, down slightly from the revised total of 5,734 fatal work injuries recorded in 2005. The count for 2006 was the third lowest annual total recorded by the fatality census, which has been conducted yearly since 1992. (See table B.) The 1,329 fatal highway crashes in 2006 was the lowest annual count total since 1993. Highway crashes in 2006 accounted for nearly one out of every four fatal work injuries and continued to lead all other events in the frequency of on-the-job fatalities. Fatal work injuries involving falls to a lower level increased 10 percent in 2006 after a sharp decrease in 2005. The 2006 total of 728 fatal falls to a lower level was the second highest since the fatality census began. The number of workers who were fatally injured from being struck by objects was lower in 2006, after increasing for the last three years. The 583 fatalities resulting from being struck by objects in 2006 represented a 4 percent decline from the 2005 total.

Workplace homicides decreased 9 percent to 516 in 2006, the lowest annual total ever reported by the fatality census. Overall, workplace homicides have decreased more than 50 percent from the series high in 1994.

Table B. Fatal occupational injuries in the United States by selected event groups, 1992-2006

Year	Total fatalities	Highway	crashes	Falls to lo	ower level	Struck b	y object	Homicides		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1992	6,217	1,158	19	507	8	557	9	1,044	17	
1993	6,331	1,242	20	534	8	565	9	1,074	17	
1994	6,632	1,343	20	580	9	591	9	1,080	16	
1995	6,275	1,346	21	578	9	547	9	1,036	17	
1996	6,202	1,346	22	610	10	582	9	927	15	
1997	6,238	1,393	22	653	10	579	9	860	14	
1998	6,055	1,442	24	625	10	520	9	714	12	
1999	6,054	1,496	25	634	10	585	10	651	11	
2000	5,920	1,365	23	659	11	571	10	677	11	
$2001^{\scriptscriptstyle 1}$	5,915	1,409	24	700	12	553	9	643	11	
2002	5,534	1,373	25	638	12	505	9	609	11	
2003	5,575	1,353	24	604	11	531	10	632	11	
2004	5,764	1,398	24	738	13	602	10	559	10	
$2005^{2}$	5,734	1,437	25	664	12	607	11	567	10	
2006	5,703	1,329	23	728	13	583	10	516	9	

<sup>&</sup>lt;sup>1</sup>Totals for 2001 exclude fatalities due to the events of September 11, 2001 which claimed the lives of 2,886 persons in work status.

## Key characteristics of workplace fatalities in Michigan in 2006:

- Men accounted for 94 percent of the work-related fatalities in the State with 146 deaths. Transportation incidents, which include highway, nonhighway, pedestrian, air, water, and rail, were the most prevalent cause, accounting for 56 deaths. The second most frequent fatal event was contact with objects and equipment (30) followed by falls (21). Nine women were fatally injured on the job, with four of these deaths resulting from assaults and violent acts and four from transportation incidents. (See table 2.)
- Seventy-seven percent of those who died from a workplace injury were white non-Hispanics, 11 percent were black non-Hispanics, and 8 percent were Hispanic or Latino.
- Workers 25-54 years old—the prime working age group—accounted for 69 percent of the State's work-related fatalities in 2006; 22 percent were 55 years or older.
- Eighty-seven percent of workers killed on-the-job in Michigan worked for wages and salaries; the rest were self-employed.

<sup>&</sup>lt;sup>2</sup> The BLS news release issued August 10, 2006, reported a total of 5,702 fatal work injuries for calendar year 2005. Since then, an additional 32 job-related fatalities were identified, bringing the total job-related fatality count for 2005 to 5,734.

- The construction industry sector had the largest number of worker fatalities (31), followed by manufacturing (21), and transportation and warehousing (18). Falls accounted for the most fatalities in construction. In manufacturing, contact with objects and equipment, such as being struck by, trapped in or crushed by objects or machinery was the most frequent type of fatal event; in transportation and warehousing, it was transportation incidents. (See table 3.)
- Workers in transportation and material moving, and construction and extraction jobs led all other major occupational groups with 38 and 28 worker fatalities, respectively. Combined, these two groups accounted for over two-fifths of all fatal work injuries in Michigan. Within the transportation and material moving occupational group, transportation incidents (24) accounted for over 60 percent of all fatal injuries. Among construction and extraction workers, falls (11) was the most frequent fatal event accounting for about 40 percent of the deaths. (See table 4.)

### Additional data available

Additional Census of Fatal Occupational Injuries data are available from the BLS Web site at http://www.bls.gov/iif/oshcfoi1.htm. Data tables for 2006 are available for all 50 states, the District of Columbia, and selected metropolitan areas. Detailed data may be accessed through the online query system located at <a href="http://data.bls.gov/PDQ/outside.jsp?survey=fi">http://data.bls.gov/PDQ/outside.jsp?survey=fi</a>. For additional information or assistance, please contact the Midwest Information Office in Chicago at (312) 353-1880, menu option 0.

#### **TECHNICAL NOTE**

#### Background of the program

The Census of Fatal Occupational Injuries, part of the BLS occupational safety and health statistics program, compiles a count of all fatal work injuries occurring in the U.S. in each calendar year. The program uses diverse State and Federal data sources to identify, verify, and describe fatal work injuries. Information about each workplace fatality (industry, 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, news accounts, and reports to Federal and State agencies. This method assures counts are as complete and accurate as possible.

#### Definitions

For a fatality to be included in the census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job. Fatalities to volunteer and unpaid family workers who perform the same duties and functions as paid workers are also included in the counts. These criteria are generally broader than those used by Federal and State agencies administering specific laws and regulations. (Fatalities that occur during a person's normal commute to or from work are excluded from the census counts.)

Data presented in this release include deaths occurring in 2006 that resulted from traumatic occupational injuries. An injury is defined as any wound or damage to the body resulting from acute exposure to energy, such as heat, electricity, or impact from a crash or fall, or from the absence of such essentials as heat or oxygen caused by a specific event or incident within a single workday or shift. Included are open wounds, intracranial and internal injuries, heatstroke, hypothermia, asphyxiation, acute poisonings resulting from short-term exposures limited to the worker's shift, suicides and homicides, and work injuries listed as underlying or contributory causes of death.

Information on work-related fatal illnesses is not reported in the BLS census and is excluded from the attached tables because the latency period of many occupational illnesses and the difficulty of linking illnesses to work exposures make identification of a universe problematic.

#### Measurement techniques and limitations

Data for the Census of Fatal Occupational Injuries are compiled from various Federal, State, and local administrative sources—including death certificates, workers' compensation reports and claims, reports to various regulatory agencies, medical examiner reports, and police reports—as well as news and other non-governmental reports. Diverse sources are used because studies have shown that no single source captures all job-related fatalities. Source documents are matched so that each fatality is counted only once. To ensure that a fatality occurred while the decedent was at work, information is verified from two or more independent source documents or from a source document and a follow-up questionnaire. Approximately 30 data elements are collected, coded, and tabulated, including information about the worker, the fatal incident, and the machinery or equipment involved.

#### 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 nation's 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.

Fatalities occurring among several other groups of workers are generally not covered by any Federal or State agencies. These groups include self-employed and unpaid family workers, which accounted for about 18 percent of the fatalities; laborers on small farms, accounting for about 1 percent of the fatalities; and State and local government employees in States without OSHA-approved safety programs, which

accounted for about 4 percent. (Approximately one-half of the States have approved OSHA safety programs, which cover State and local government employees.)

#### **Acknowledgments**

BLS thanks the Michigan Department of Labor and Economic Growth 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 agencies 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 Department of Energy; State vital statistics registrars, coroners, and medical examiners; State departments of health, labor and industries, and workers' compensation agencies; State and local police departments; and State farm bureaus.

TABLE 1. Fatal occupational injuries by event or exposure and major private industry <sup>1</sup> sector, Michigan, 2006

			Goods p	roducing					Service	providing			
Event or exposure <sup>2</sup>	Total fatalities (number)	Total goods producing	Natural resources and mining <sup>3</sup>	Construc- tion	Manufac- turing	Total service providing	Trade, transpor- tation, and utilities	Informa- tion	Financial activities	Profes- sional and business services	Education and health services		Other services
Total	155	70	18	31	21	76	42	-	-	12	9	6	4
Contact with objects and equipment  Struck by object  Struck by falling object  Struck by rolling, sliding objects on floor	30 19 11	19 12 6	6 5 4	5  	8 5 	9 6 4	 	  	 	4 3 3	 	 	  
or ground level  Caught in or compressed by equipment or objects  Caught in or compressed by equipment or objects, n.e.c	4 7 3	3 4 	 	 	 3 	 		 	 	 		 	 
Caught in or crushed in collapsing materials  Excavation or trenching cave-in  Falls  Fall to lower level	4 3 21 21	3  15 15	  	3  10 10	  3 3	  6 6	  3 3	  	  	  	  	  	  
Fall from ladderFall from roofFall from roof edge	7 8 4 17	5 7 4	 	3 5 4	  	  	  	  	  	  	 	 	  
Exposure to harmful substances or environments  Contact with electric current  Contact with overhead power lines  Exposure to caustic, noxious, or allergenic	9	4	  	5  	  	10 5 4	 	  	 	 		 	  
substances Inhalation of substance Inhalation in open or nonconfined space Transportation accidents	6 5 5 60	   23	   7	   9	  7	   31	   22	  	  	  	   5	  	  
Highway accident  Collision between vehicles, mobile equipment  Moving in same direction  Moving in opposite directions, oncoming	31 21 3 10	8 3 	4  	4  	  	21 18 3 10	3	  	  	  	3  	 	  
Moving in intersectionVehicle struck stationary object, equipment on side of road	5	 	 	 	 	3		 	 			- -	
Noncollision accident	5 4 7 6	  5 5	  	  	  3 3	  	  	  	  	  	  	  	  
Overturned	3 10	3				 5	4						

TABLE 1. Fatal occupational injuries by event or exposure and major private industry 1 sector, Michigan, 2006 - continued

			Goods p	roducing					Service	providing			
Event or exposure <sup>2</sup>	Total fatalities (number)	Total goods producing	Natural resources and mining <sup>3</sup>	Construc- tion	Manufac- turing	Total service providing	Trade, transpor- tation, and utilities	Informa- tion	Financial activities	Profes- sional and business services	Education and health services	Leisure and hospitality	Other services
Pedestrian struck by vehicle, mobile	_												
equipment in roadway	5												
Pedestrian struck by vehicle, mobile													
equipment in parking lot or non-roadway area	4					3	3					l	
Railway accident	3												
Aircraft accident	8												
During takeoff or landing	5											l	
Fires and explosions													
Explosion	4												
Assaults and violent acts		3				17	9					3	
Assaults and violent acts by person(s)						10	/						
Hitting, kicking, beating	3					3	3						
Shooting						6	4					l	
Self-inflicted injury	8					/				I		l	
Suicide, attempted suicide	8		-			/							I

<sup>&</sup>lt;sup>1</sup> Classified according to the North American Industry Classification System, 2002.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. n.e.c. means "not elsewhere classified." Data for 2006 are preliminary.

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

<sup>&</sup>lt;sup>2</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

<sup>&</sup>lt;sup>3</sup> Includes fatalities at all establishments categorized as Mining (Sector 21) in the North American Industry Classification System, 2002, including establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction.

TABLE 2. Fatal occupational injuries by worker characteristics and event or exposure, Michigan, 2006

				Event or	exposure <sup>1</sup>		
Worker characteristics	Total fatalities (number)	Transportation incidents <sup>2</sup>	Assaults and violent acts <sup>3</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Total	155	60	21	30	21	17	4
Employee Status							
Wage and Salary Workers <sup>4</sup>		55 5	16 5	25 5	19 	14 3	4
Gender							
Men Women	146 9	56 4	17 4	30 	21 	17 	4
Age							
Under 16 years	  12 25 37 45 24	  4 10 19 17 6 3	   4 3 5 6	  5 7 5 8 3	    4 10 5	   3 3  4	   3 3
Race or Ethnic Origin <sup>6</sup>							
White, non-Hispanic	17 12  5	47 7 4  	12 3   4 	25  4  	18    	12 4   	3   

 $<sup>^{\</sup>rm 1}$  Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

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. Data for 2006 are preliminary.

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

<sup>&</sup>lt;sup>2</sup> Includes highway, nonhighway, air, water, rail fatalities, and fatalities resulting from being struck by a vehicle.

<sup>&</sup>lt;sup>3</sup> Includes violence by persons, self-inflicted injury, and attacks by animals.

<sup>&</sup>lt;sup>4</sup> May include volunteers and workers receiving other types of compensation.

<sup>&</sup>lt;sup>5</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>&</sup>lt;sup>6</sup> Persons identified as Hispanic or Latino may be of any race. The race

TABLE 3. Fatal occupational injuries by industry and event or exposure, Michigan, 2006

					Event or e	exposure <sup>2</sup>		
Industry <sup>1</sup>	NAICS code <sup>1</sup>	Total fatalities (number)	Transpor- tation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Total		155	60	21	30	21	17	4
Private Industry		146	54	20	28	21	17	4
Goods Producing		70	23	3	19	15	7	
Natural Resources and Mining		18	7		6			
Agriculture, Forestry, Fishing and Hunting	11	15	6		5			
Crop Production	111	9	4		3			
Other Crop Farming	. 1119	3						
Animal Production	112	5						
Cattle Ranching and Farming	. 1121	4						
Dairy Cattle and Milk Production	11212	3						
Mining <sup>5</sup>	21	3						
Mining (except Oil and Gas)	212	3						
Construction		31	9		5	10	5	
Construction	23	31	9		5	10	5	
Construction of buildings	236	14				6	3	
Residential Building Construction		9				6		
Residential Building Construction		9				6		
New Single-family Housing Construction (except								
operative builders	236115	4				4		
Residential Remodelers	236118	3						
Nonresidential Building Construction	2362	4						
Commercial and Institutional Building Construction	23622	4						
Heavy and Civil Engineering Construction	237	3	3					
Specialty Trade Contractors	238	14	4		3	4		
Foundation, Structure, and Building Exterior Contractors	2381	3						
Building Equipment Contractors	2382	5					_	
Plumbing, Heating, and Air-Conditioning Contractors	23822	4						
Building Finishing Contractors	2383	3						
Other Specialty Trade Contractors	2389	3						
Site Preparation Contractors	23891	3						
Manufacturing See footnotes at end of table.		21	7		8	3		

TABLE 3. Fatal occupational injuries by industry and event or exposure, Michigan, 2006 - continued

					Event or	exposure <sup>2</sup>		
Industry <sup>1</sup>	NAICS code <sup>1</sup>	Total fatalities (number)	Transpor- tation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Manufacturing	31-33	21	7		8	3		
Primary Metal Manufacturing	331	3						
Foundries	3315	3						
Ferrous Metal Foundries	33151	3						
Machinery Manufacturing	333	3			3			
Transportation Equipment Manufacturing	336	6						
Motor Vehicle Parts Manufacturing	3363	3						
Service providing		76	31	17	9	6	10	
Trade, Transportation, and Utilities		42	22	9		3	5	
Wholesale Trade	42	9	5					
Merchant Wholesalers, Durable Goods	423	7	3					
Retail Trade	44-45	13		6				
Motor Vehicle and Parts Dealers	441	3						
Food and Beverage Stores	445	4		4				
Grocery Stores	4451	3		3				
Convenience Stores		3		3				
Transportation and Warehousing	48-49	18	14					
Truck Transportation	484	11	8					
General Freight Trucking		7	5					
General Freight Trucking, Long-Distance		6	5					
General Freight Trucking, Long-Distance, Truckload		5	4					
Specialized Freight Trucking		4	3					
Specialized Freight (except Used Goods) Trucking, Long-Distance		3	3					
Professional and Business Services.		12			4		3	
Administrative and Support and Waste Management and								
Remediation Services	56	10			4		-	
Administrative and Support Services	561	8			4		_	
Services to Buildings and Dwellings	5617	8			4			
Landscaping Services	56173	7			4			
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TABLE 3. Fatal occupational injuries by industry and event or exposure, Michigan, 2006 - continued

					Event or	exposure <sup>2</sup>		
Industry <sup>1</sup>	NAICS code <sup>1</sup>	Total fatalities (number)	Transpor- tation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Education and Health Services		9	5					
Educational Services	. 61	3	3					
Educational Services	611	3	3					
Health Care and Social Assistance	. 62	6						
Leisure and Hospitality		6		3				
Accommodation and Food Services	. 72	4		3				
Food Services and Drinking Places	722	3		3				
Full-Service Restaurants		3 3		3 3				
Other Services		4						
Other Services, except Public Administration	. 81	4						
Government <sup>5</sup>		9	6					
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TABLE 3. Fatal occupational injuries by industry and event or exposure, Michigan, 2006 - continued

			Event or exposure <sup>2</sup>								
Industry <sup>1</sup>	NAICS code <sup>1</sup>	Total fatalities (number)	Transpor- tation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions			
Local Government		7	5								
Service providing		6	4								
Public Administration		4									
Public Administration	92	4									
Justice, Public Order, and Safety Activities	922 9221	4 4			 			 			

<sup>&</sup>lt;sup>1</sup> Classified according to the North American Industry Classification System, 2002.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. Data for 2006 are preliminary.

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

<sup>&</sup>lt;sup>2</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

<sup>&</sup>lt;sup>3</sup> Includes highway, nonhighway, air, water, rail fatalities, and fatalities resulting from being struck by a vehicle.

<sup>&</sup>lt;sup>4</sup> Includes violence by persons, self-inflicted injury, and attacks by animals.

<sup>&</sup>lt;sup>5</sup> Includes fatalities at all establishments categorized as Mining (Sector 21) in the North American Industry Classification System, 2002, including establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in Oil and Gas Extraction.

<sup>&</sup>lt;sup>6</sup> Includes fatalities to workers employed by governmental organizations regardless of industry.

TABLE 4. Fatal occupational injuries by occupation and event or exposure, Michigan, 2006

				Event or e	exposure <sup>2</sup>		
Occupation <sup>1</sup>	Total fatalities (number)	Transportation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Total	155	60	21	30	21	17	4
Management occupations	14	6	3	4			
Other management occupations	13	5	3	4			
Agricultural managers	7	3		3			
Farmers and ranchers	5			3			
Food service managers			3				
Food service managers			3				
Healthcare practitioners and technical occupations	3						
Protective service occupations							
Building and grounds cleaning and maintenance occupations				6		3	
Building cleaning and pest control workers							
Building cleaning workers							
Janitors and cleaners, except maids and housekeeping cleaners							
Grounds maintenance workers				6			
Grounds maintenance workers				6			
Landscaping and groundskeeping workers							
Tree trimmers and pruners				5			
Sales and related occupations		7	4				
Sales representatives, wholesale and manufacturing		5					
Sales representatives, wholesale and manufacturing		5					
Sales representatives, wholesale and manufacturing,							
technical and scientific products							_
Sales representatives, wholesale and manufacturing, except							
technical and scientific products	2	2					
Farming, fishing, and forestry occupations		3					-
Agricultural workers							-
Miscellaneous agricultural workers							_
Farmworkers, farm and ranch animals							_
Construction and extraction occupations					11		-
Construction trades workers				3	10	3	
		1		4	10	4	
Carpenters  Carpenters		<u></u>		]		<u></u> ]	
·				2		<u></u> ]	
Construction laborers  Construction laborers	-		]	3	ა ი	[	-
	_			3	3	<u> </u>	-
Construction equipment operators  Operating engineers and other construction equipment operators		<u> </u>	]	]		[	-
, , , ,		1		2		<b>-</b>	-
Installation, maintenance, and repair occupations				3	4	<b>-</b> ]	-
Other installation, maintenance, and repair occupations		1		[	4	<b>-</b> ]	-
Industrial machinery installation, repair, and maintenance workers							

TABLE 4. Fatal occupational injuries by occupation and event or exposure, Michigan, 2006 - Continued

		Event or exposure <sup>2</sup>									
Occupation <sup>1</sup>	Total fatalities (number)	Transportation incidents <sup>3</sup>	Assaults and violent acts <sup>4</sup>	Contact with objects and equipment	Falls	Exposure to harmful sub- stances or environments	Fires and explosions				
Production occupations	13	3		4							
Metal workers and plastic workers	3										
Other production occupations	8			3							
Miscellaneous production workers	7			3							
Production workers, all other	7			3							
Transportation and material moving occupations	38	24	3	6							
Motor vehicle operators	24	17		3							
Driver/sales workers and truck drivers	21	15		3							
Truck drivers, heavy and tractor-trailer	19	14		3							
Material moving workers	9	3		3							
Laborers and material movers, hand	3										
Laborers and freight, stock, and material movers, hand	3										

<sup>&</sup>lt;sup>1</sup> Based on the 2000 Standard Occupational Classification System.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. Data for 2006 are preliminary.

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

<sup>&</sup>lt;sup>2</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

<sup>&</sup>lt;sup>3</sup> Includes highway, nonhighway, air, water, rail fatalities, and fatalities resulting from being struck by a vehicle.

<sup>&</sup>lt;sup>4</sup> Includes violence by persons, self-inflicted injury, and attacks by animals.