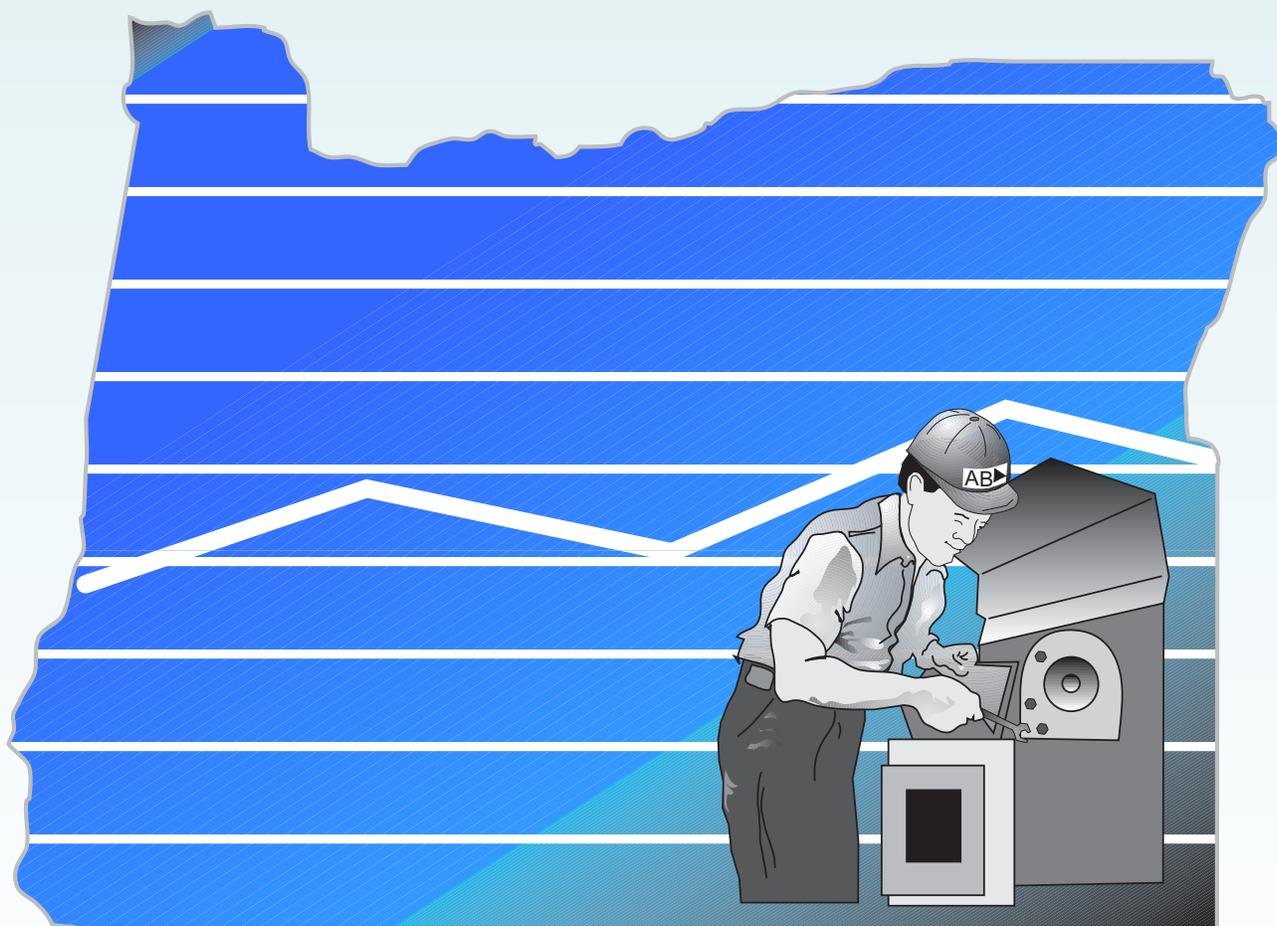


Oregon Industrial Fatality Report On 1997 Compensable Fatalities



***Research & Analysis Section
Oregon Department of Consumer
& Business Services***



August 1998

Oregon Industrial Fatality Report on 1997 Compensable Fatalities

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August 1998

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Introduction

This report presents data about Oregon's work-related industrial fatalities. It includes data for the fatalities which have been accepted as compensable deaths during the 1997 calendar year, without regard to the date of injury or death. The claims included in this report are those for which the Department of Consumer & Business Services received notification of acceptance by January 31, 1998.

The information presented here may be useful in preventing many work-related fatalities. The Occupational Safety and Health Division of the Department of Consumer & Business Services is taking an active role in preventing fatal accidents. They administer a consultative services program which aids employers in the identification and modification of worksite hazards. They also provide information about personal protective equipment, industrial hygiene and ergonomic worksite design, train employers and employees, and enforce the Oregon Occupational Safety and Health rules and standards.

A glossary of terminology used in this report is found in Appendix A, and further explanation of the scope of the report and the methodology is found in Appendix B. Information on disabling claims can be found in *Oregon Workers' Compensation Claims Characteristics*. More detailed information may be obtained from the Research & Analysis Section of the department's Information Management Division.

The Department of Consumer & Business Services, Information Management Division, also gathers data on work-related fatalities for a federal/state cooperative program. The Census of Fatal Occupational Injuries (CFOI) program is a cooperative program between the U.S. Bureau of Labor Statistics (BLS) and participating states. The fatalities included in the CFOI count are those for which the death or incident occurred in the reference state, during the reference year, and are determined to be work-related according to the CFOI criteria.

As a national program, CFOI provides a uniform definition for work-related fatalities. The program also covers a larger population base than covered by workers' compensation; it includes nearly all workers who are engaged in legal work activities regardless of industry or regulatory coverage of an establishment. A yearly publication, *Oregon Census of Fatal Occupational Injuries*, can be obtained from the Research & Analysis Section of the department's Information Management Division.

Findings in Brief

- ◆ The Worker's Compensation Division received notification of 43 accepted claims for fatality benefits during the 1997 calendar year. This is 11 less than the 54 fatalities in 1996. The 43 fatalities are the lowest number of fatalities ever recorded since the Occupational Safety and Health Division began collecting data in 1943. For comparison, there were an average of 52.8 compensable fatalities per year for the five-year period 1993-1997.
- ◆ There were 11 compensable fatalities in the construction industry in 1997, compared to five in 1996. During the five years 1993-1997, the construction industry averaged 10 fatalities per year.
- ◆ The logging industry claimed one compensable fatality in 1997, compared to eight in 1996.
- ◆ Five of the 43 fatalities (11.6 percent) were in the transportation and public utilities industry, compared to 11 (20.4 percent) in 1996.
- ◆ Four of the 43 fatalities (9.3 percent) were in the state government industry. Three of the four fatalities were police occupations.
- ◆ Three fatalities resulted from workplace violence in 1997. All three fatalities occurred in the retail trade industry. No workers died from workplace violence in 1996.
- ◆ In 1997, highway motor vehicle accidents were the leading event, claiming 12 lives. During the five years 1993-1997, highway motor vehicle accidents averaged 14.2 fatalities per year.
- ◆ Three of the 19 motor vehicle fatalities (15.8 percent) were fatalities caused by aircraft accidents, compared to 10 in 1996.
- ◆ Twenty-two of the compensable fatalities were considered to be program-related. Program-related fatalities are those in-state fatalities which might have been prevented by following specific safety regulations, general duty clauses, or good safety and health practices.
- ◆ Ten transportation operators and seven construction trade occupations were among the 43 compensable fatalities.
- ◆ The median age of the 43 workers at the time of their injuries was 38. The youngest worker killed was a 16-year-old farm worker who fell approximately 200 feet off a cliff. The oldest worker was a 77-year-old truck driver who died from a motor vehicle accident.
- ◆ Of the 43 people who died in work-related accidents, 40 were men and three were women, compared to 52 men and two women in 1996.
- ◆ Five compensable fatalities occurred in Multnomah county, and three occurred in Clackamas, Klamath, and Washington counties. Three fatalities also occurred outside Oregon.
- ◆ In 1997, June had the most fatalities with six followed by January and May with five. November had the least fatalities with only one, compared to seven in 1996.

Analysis of Industrial Fatalities

During the 1997 calendar year, the Workers' Compensation Division of the Department of Consumer & Business Services recorded the acceptance of 43 claims for fatality benefits. This is 11 less than the 54 fatalities in 1996. The 43 fatalities are the lowest number of fatalities ever recorded in Oregon since the Occupational Safety and Health Division began collecting data in 1943 (see Figure 1 and Table 9). For comparison, there were an average of 52.8 compensable fatalities per year for the five-year period 1993-1997.

Twenty-two of the 1997 fatalities were program-related. Program-related fatalities are those which might have been prevented by following specific safety regulations, general duty clauses, or good safety and health practices.

Out-of-state fatal accidents are not considered program-related because they are not within Oregon's jurisdiction. Of the 1997 work-related fatalities, 51 percent were program-related, compared to 56 percent in 1996.

The fatality rates in Figure 2 are the numbers of fatalities per 100,000 subject employees. The employment figures are estimated workers' compensation covered employment based on data supplied by the State of Oregon Employment Department. Employment has grown from approximately 1,009,000 subject workers in 1978 to 1,549,600 in 1997.

Figure 1. Work-related fatalities, Oregon, Calendar year, 1978-1997

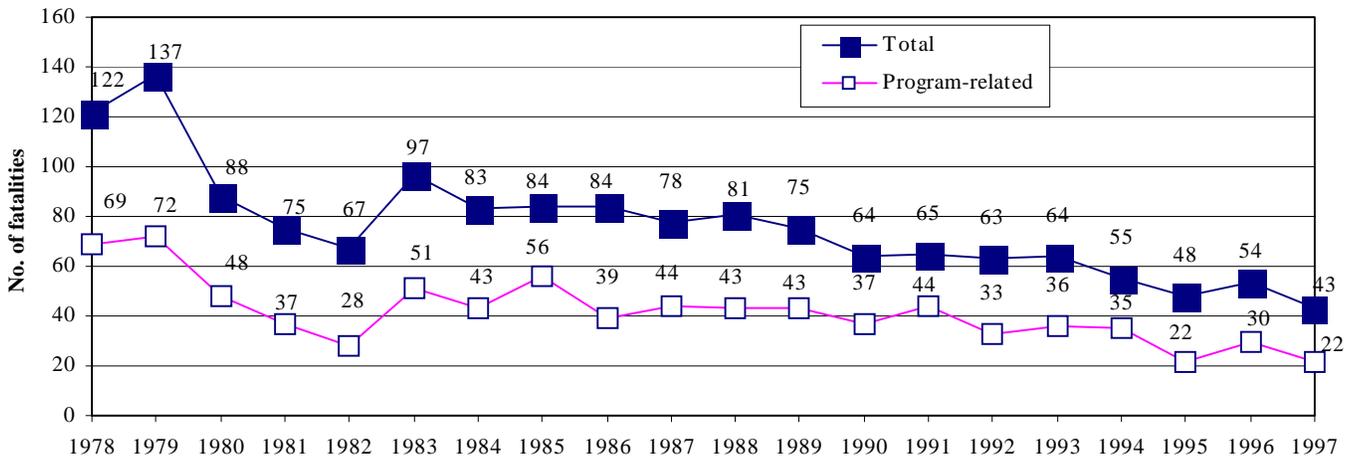
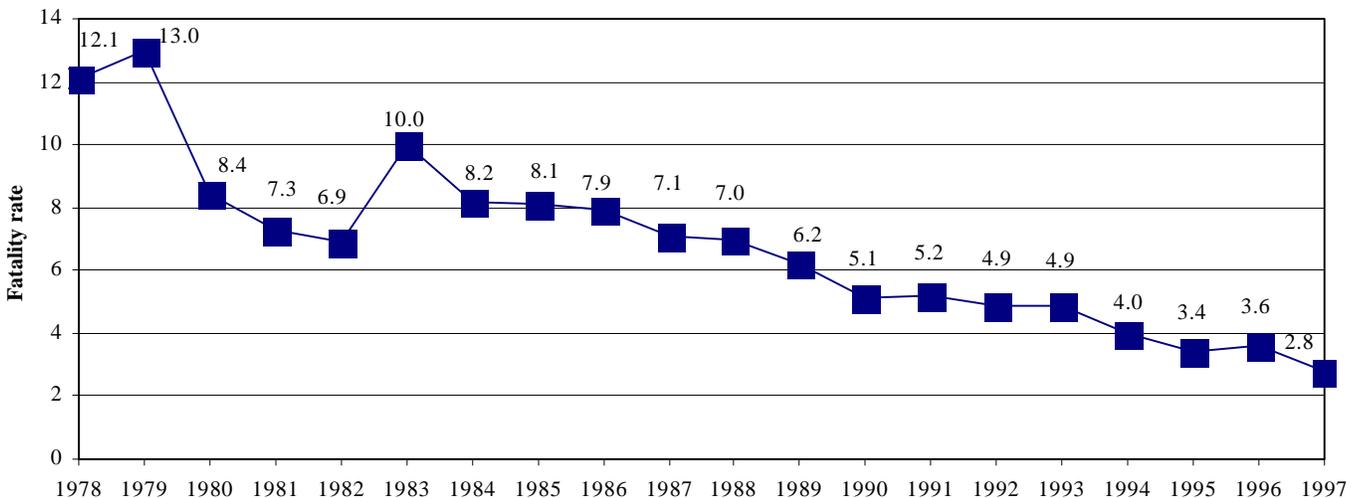


Figure 2. Fatality rates (per 100,000 workers), Oregon, Calendar year, 1978-1997



Accident event

Highway motor vehicle accidents were the leading type of accident in job-related deaths, claiming 12 lives in 1997. Five fatalities in this category were the result of collisions with another vehicle. Four fatalities were accidents in which the worker's vehicle overturned, one fatality occurred when a truck struck a large rock, one fatality occurred in an unspecified noncollision highway accident, and one fatality occurred when a loose log dislodged from a passing log truck and struck the worker's truck. Only three of these fatalities were program-related. Transportation accidents are generally not program-related because there are too many variables for safety regulations to control.

Falls were the second most common event of compensable fatalities, accounting for six fatalities in 1997. Three fatalities in this category occurred in one accident when a parking structure collapsed, causing three workers to fall 70 feet. Also, one worker fell off a cliff, one worker fell through a hole in the roof, and one worker fell from a steel erection.

Four workers were struck by or against objects. Two workers were struck by falling objects, one worker was killed by an accidental discharge of a gun, and one worker died from striking against a building.

There were three fatalities where the worker died from an aircraft accident. Two fatalities were airplane accidents, and one fatality was a helicopter accident.

In 1997, there were three homicides (see Text Table 2). All three workers were killed during separate robbery attempts. More information about this workplace hazard can be found in another department publication, *Violence in the Workplace*.

The 1997 fatal accidents are summarized in Table 8 and Appendix C.

Text table 1. Work-related fatalities by accident event, Oregon, 1997

Accident event	Work-related	
	1993-1997 Average	1997
Struck by object	7.2	4
Caught in/under/between	5.0	3
Fall	6.8	6
Contact with electric current	1.0	2
Toxic/caustic substances	2.0	3
Drowning	0.6	0
Highway motor vehicle accident	14.2	12
Industrial vehicle accident	2.4	2
Pedestrian accident	4.2	2
Aircraft accident	4.2	3
Fires & explosions	1.4	1
Assaults & violent acts	2.6	3
Other	1.2	2
Total	52.8	43

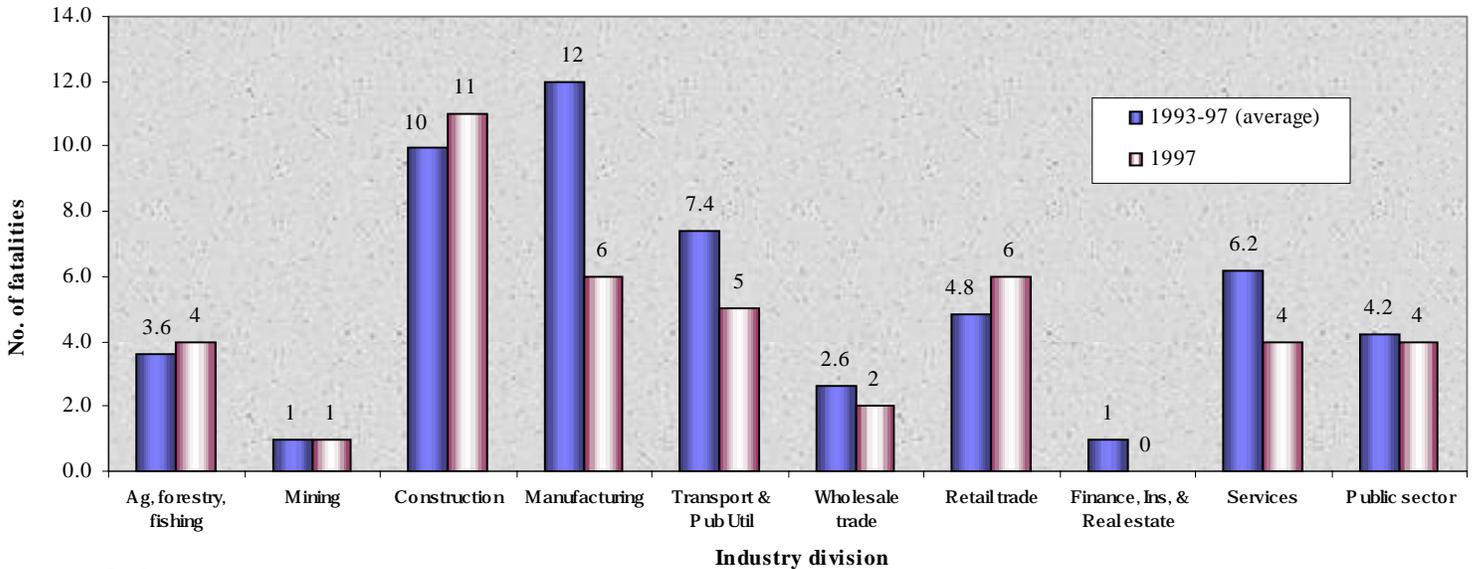
Text table 2. Work-related fatalities due to homicide, Oregon, 1990-1997

Year of acceptance	No. of fatal claims	Claims due to homicide	Homicides as % of total
1990	64	2	3.1%
1991	65	3	4.6%
1992	63	8	12.7%
1993	64	1	1.6%
1994	55	6	10.9%
1995	48	3	6.3%
1996	54	0	0.0%
1997	43	3	7.0%

Text table 3. Work-related fatalities by accident event within industrial classification, Oregon, 1997

Industry	Total	Struck by or against	Caught in/under or between	Fall	Contact w/elec current	Toxic/caustic subst	Hwy motor veh acc	Ind'l veh acc	Pedestrian	Aircraft acc	Fire & Explosions	Assaults & violent acts	Other
Ag, forestry & fishing	4			1	1			1		1			
Mining	1												1
Construction	11	1		4	1	1	2	1	1				
Manufacturing (6)													
Logging	1		1										
Sawmills	1	1											
Other manufacturing	4	1		1		1							1
Trans. & public util.	5						4			1			
Wholesale trade	2		1				1						
Retail trade	6						3					3	
Services	4	1				1			1	1			
Government	4		1				2				1		
Total	43	4	3	6	2	3	12	2	2	3	1	3	2

Figure 3. Work-related fatalities by industry division, Oregon, 1997



Industry

Eleven of the 43 compensable fatalities occurred in the construction industry in 1997 (see Figure 3). This is a 120 percent increase over the five workers killed in 1996. Four workers died from falls; three workers were killed in the same falling accident, two were killed in motor vehicle accidents, one worker was in an industrial vehicle accident, one worker was run over by a vehicle, one worker was struck by a falling object, one worker died from inhalation of asbestos, and one worker came into contact with electric current.

Six of the 43 compensable fatalities occurred in the retail trade industry in 1997 (see Figure 3). This is a 100 percent increase over the three workers killed in 1996. Three of the six fatalities were motor vehicle accidents, and the other three fatalities were caused by assaults and violent acts.

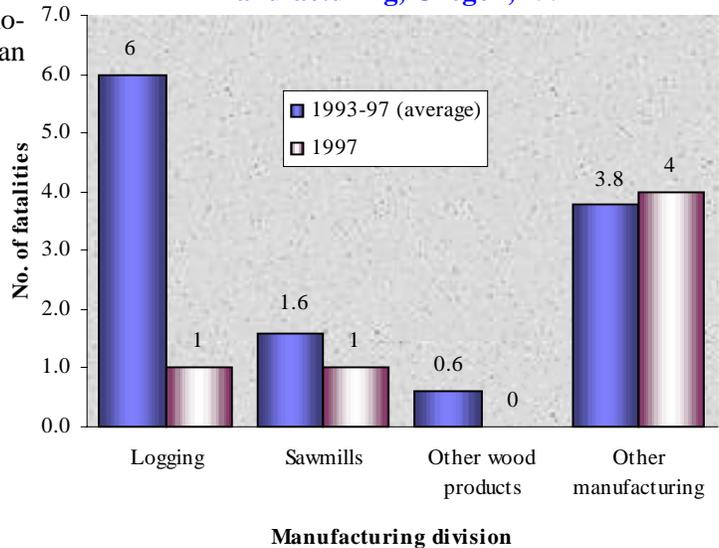
Five workers in the transportation and public utilities industry died in 1997. This is a 54.5 percent decrease from the 11 fatalities in 1996. Four were killed in motor vehicle accidents, and one worker was killed in an aircraft accident.

State government accounted for four fatalities in 1997. Two workers were killed in the same motor vehicle accident, one worker was crushed between two objects, and one worker died in an explosion.

Four fatalities occurred in the service industry. One worker struck against a building, one worker died from a reaction to latex gloves, one worker was run over by a vehicle, and one worker was killed in an aircraft accident.

As mentioned earlier, 51 percent of the 1997 fatalities were program-related. Table 2 shows construction with 90.9 percent, manufacturing with 83.3 percent, and the public sector with 75 percent, had the highest percentages of program-related fatalities.

Figure 4. Work-related fatalities within manufacturing, Oregon, 1997



Occupation

Ten transportation operators were among the 43 fatalities in 1997 (see Text table 4 and Table 3). Nine of the ten were killed in highway motor vehicle accidents, and one worker was killed in an industrial vehicle accident.

Seven construction trade workers were killed in 1997, compared to four in 1996. Four of the six were killed in falls; three were killed in the same accident. Also, one died from inhalation of asbestos, one worker came into contact with electric current, and one worker was struck by a falling trench support.

One logger was killed in 1997, compared to ten loggers and foresters killed in 1996. The worker was fatally shot by a rifle that accidentally discharged.

Employer

Of the three size classes, employers with 11-99 employees had the highest number of fatalities (see Text Table 5).

Text table 5. Work-related fatalities by employer size class, Oregon, 1997

Number of employees	Program-related	
	Total	
10 or less	4	9
11-99	10	19
100 or more	8	15
Total	22	43

Text table 4. Work-related fatalities by accident event within occupational classification, Oregon, 1997

Occupation	Total	Struck by or against	Caught in/under or between	Fall	Contact w/elec current	Toxic/caustic subst	Hwy motor veh acc	Ind'l veh acc	Pedestrian	Aircraft acc	Fires & Explosions	Assaults & violent acts	Other
Professional & managerial	4		1			1			1	1			
Technical, admin support	3		1							2			
Sales occupations	2						1					1	
Service occupations	5	1					2				1	1	
Farm laborers & managers	3			1	1			1					
Loggers, foresters, fishers	1	1											
Mechanics & repairers	3	1				1							1
Construction trades	7	1		4	1	1							
Operators, exc transport	2		1	1									
Precision product, mining	0												
Transport operators	10						9	1					
Laborers, except farm	3								1			1	1
Total	43	4	3	6	2	3	12	2	2	3	1	3	2

Tenure

An employee's tenure is the length of time the employee had worked for the employer at the time of the injury or the diagnosis of the illness which led to the fatality.

Twenty of the workers (46.5percent) were with their employer for a year or less at the time of their injury. While this does not indicate whether or not these workers had similar jobs prior to their employment

with their last employer, it does indicate the need for training and supervision of new employees.

Text table 6 shows the distribution of tenure and age at the time of injury. The deaths of experienced workers point out the need for programs to reinforce safety and to combat worker complacency.

Text table 6. Work-related fatalities by tenure and age group, Oregon, 1997

Tenure	Age at the time of injury										Total
	20 & Under	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61 & over	
A month or less	1				1		1		1	1	5
2nd - 3rd months		1	1		1	1		1			5
4th - 6th months		1	2	1		1					5
7th - 12th months	1		2	1	1						5
2nd year			1						1	1	3
3rd year		1	2		1						4
4th - 5th years		1		1	1		1		1	1	6
6th - 10th years				1		1					2
11th - 25th years					1	3	1	1	1		7
26th and more									1		1
Total	2	4	8	4	6	6	3	2	5	3	43

Age and gender

During the past five years, 1993-1997, the 26-30 and the 41-45 age groups have been the groups with the most work-related fatalities (see Text table 7). In 1997, the 26-30 age group had the most fatalities with eight.

The median age of the 1997 compensable fatalities was 38 while the median age for 1993-1997 fatalities was 39. In 1997, the youngest worker was a 16-year-old farm worker who died after falling off a cliff. Five of the six fatalities to workers 25 and under were program-related. The oldest worker was a 77-year-old truck driver who died from a motor vehicle accident.

Of the 43 compensable fatalities, 40 were men and three were women. This compares to two women killed in 1996. One woman was killed when she struck against a building, one woman died from an allergic reaction to latex gloves, and another woman was run over by a vehicle.

Month of injury

On the average, for the last five years, the most work-related fatalities have occurred in October (see Figure 5). In 1997, November had the least number of fatalities with one fatal, and March and April had the second least number of fatalities with two each. June had the most with six, followed by January and May with five each. Three truck drivers, a farm worker, a welder, and a registered nurse were killed in June.

County of occurrence

Twelve percent of the 1997 compensable fatalities (five) occurred in Multnomah County. Multnomah is the state's most populous county, followed by Washington and Lane counties. In the past, Multnomah, Lane, and Douglas counties have had the most fatalities (see Table 6.)

The five fatalities in Multnomah county consisted of three falls in the same accident, one worker struck by a falling object, and one worker shot during a robbery.

Three of the 43 fatalities occurred outside of Oregon. In Washington, a truck driver was killed in a motor vehicle accident and a pilot was killed in a helicopter crash. A lawyer piloting an airplane was killed in an aircraft accident in Idaho.

Text table 7. Work-related fatalities by age group, Oregon, 1997

Age group	1993-1997		1997 Program-related
	Average	1997	
17 and under	0.4	1	1
18-20	0.6	1	0
21-25	5.2	4	4
26-30	7.8	8	2
31-35	7.4	4	3
36-40	6.4	6	4
41-45	7.6	6	2
46-50	6.4	3	2
51-55	5.8	2	1
56-60	2.8	5	1
61 and over	2.4	3	2
Total	52.8	43	22
Median age	39	38	37

Text table 8. Work-related fatalities by gender, Oregon, 1997

Gender	1993-1997 average	1997
Male	48.2	40
Female	4.6	3
Total	52.8	43

Figure 5. Work-related fatalities by month of injury, Oregon, 1997

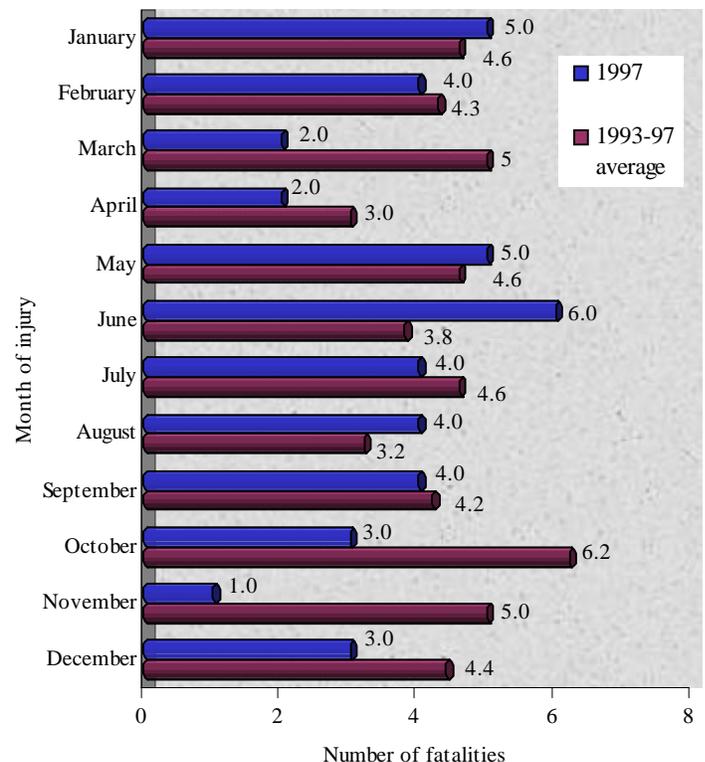
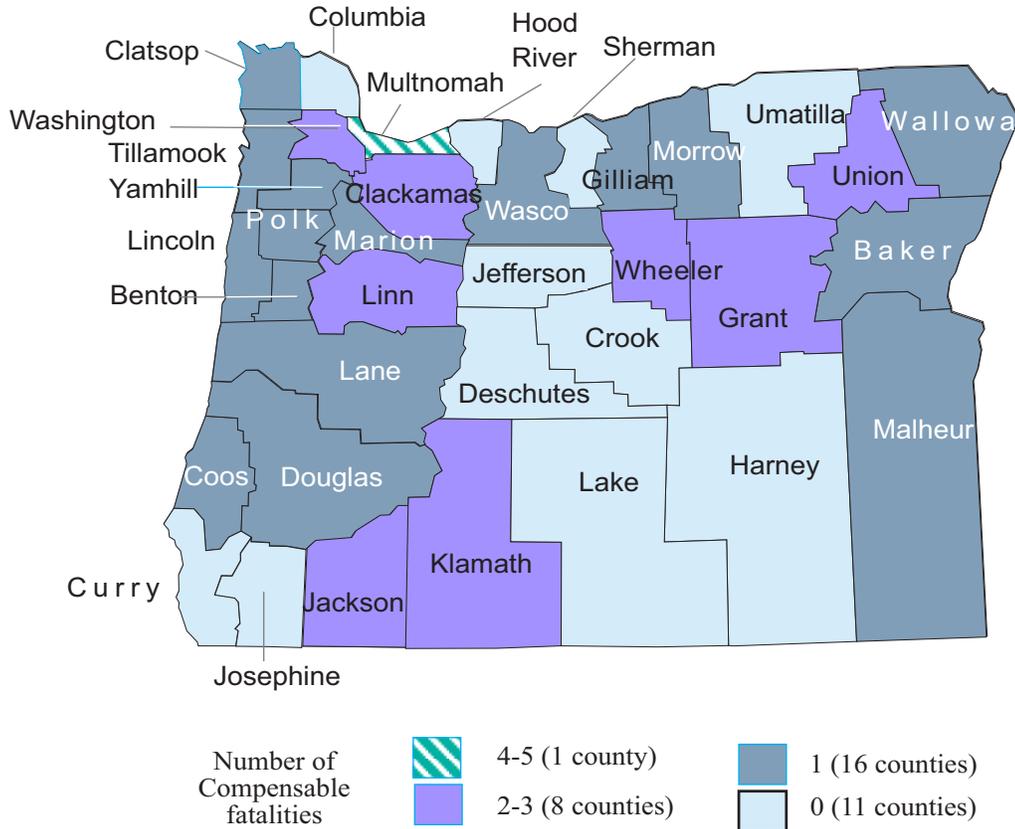


Figure 6. Distribution of work-related fatalities by county of occurrence, Oregon, 1997



Note: Three fatalities occurred outside Oregon.

Tables

Table 1..... Accident event, Oregon, 1988-1997

Table 2..... Industry, Oregon, 1988–1997

Table 3..... Occupation, Oregon, 1988-1997

Table 4..... Age group, Oregon, 1988–1997

Table 5..... Gender, Oregon, 1988-1997

Table 6..... County of occurrence, Oregon, 1988–1997

Table 7..... Month of injury, Oregon, 1988–1997

Table 8..... Listing of fatalities by industry, Oregon, 1997

Table 9..... Historical record of work-related fatalities, 1944-1997

Table 1. Accident event

Table 1a. Work-related fatalities by accident event, Oregon, 1988-1997

Accident event	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Struck by or against	20	25	13	11	7	8	10	5	9	4	112
Caught in/under/between	7	7	9	5	7	8	6	3	5	3	60
Fall	3	2	1	6	5	10	7	6	5	6	51
Bodily reaction	4	3	0	3	1	3	1	0	0	0	15
Contact with electric current	2	3	6	8	1	2	1	0	0	2	25
Toxic/caustic substances	2	2	1	7	5	1	2	2	2	3	27
Drowning	2	1	0	0	0	0	0	3	0	0	6
Highway motor vehicle accident	21	22	21	14	22	18	13	13	15	12	171
Industrial vehicle accident	3	1	2	1	2	2	2	4	2	2	21
Pedestrian accident	9	2	2	4	1	5	5	4	5	2	39
Aircraft accident	2	3	4	2	1	3	0	5	10	3	33
Fires & explosions	2	0	1	1	2	3	2	0	1	1	13
Assaults & violent acts	2	2	2	3	8	1	6	3	0	3	30
Other	2	2	2	0	1	0	0	0	0	2	9
Total	81	75	64	65	63	64	55	48	54	43	612

Table 1b. Program-related fatalities by accident event, Oregon, 1988-1997

Accident event	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Struck by or against	17	24	12	11	6	7	10	4	9	2	102
Caught in/under/between	7	7	8	5	6	8	6	3	5	3	58
Fall	3	2	1	5	5	9	5	5	4	6	45
Bodily reaction	0	0	0	1	0	1	1	0	0	0	3
Contact with electric current	2	3	6	8	1	2	1	0	0	1	24
Toxic/caustic substances	1	2	1	7	4	1	2	2	2	3	25
Drowning	0	1	0	0	0	0	0	0	0	0	1
Highway motor vehicle accident	0	1	2	3	6	1	2	2	4	3	24
Industrial vehicle accident	3	1	2	1	2	2	2	3	1	2	19
Pedestrian accident	6	1	2	2	1	2	4	3	4	1	26
Fires & explosions	2	0	1	1	1	3	2	0	1	0	11
Other	2	1	2	0	1	0	0	0	0	1	7
Total	43	43	37	44	33	36	35	22	30	22	345

Table 2. Industry

Table 2a. Work-related fatalities by industry, Oregon, 1988-1997

Industry	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
PRIVATE SECTOR											
Agriculture, forestry & fishing	8	3	3	5	10	6	4	3	1	4	47
Mining	0	0	0	0	0	1	0	1	2	1	5
Construction	9	10	8	11	6	11	9	14	5	11	94
Manufacturing subtotal	33	33	36	28	11	20	14	5	15	6	201
Logging	22	22	19	13	3	11	7	3	8	1	109
Sawmills	3	1	5	4	3	2	3	0	2	1	24
Other wood products	5	4	3	2	3	1	1	0	1	0	20
Other manufacturing	3	6	9	9	2	6	3	2	4	4	48
Transportation & public utilities	10	8	7	4	9	9	4	8	11	5	75
Wholesale trade	2	2	2	2	5	2	3	2	4	2	26
Retail trade	3	5	3	1	5	4	7	4	3	6	41
Finance, insurance & real estate	0	1	1	0	1	0	2	2	1	0	8
Services	6	10	4	11	8	4	8	8	7	4	70
Private sector subtotal	71	72	64	62	55	57	51	47	49	39	567
PUBLIC SECTOR											
State government											
Construction	1	0	0	0	1	0	0	0	1	0	3
Services	0	0	0	0	1	0	1	0	0	0	2
Government	2	2	0	0	1	3	3	1	0	4	16
Subtotal	3	2	0	0	3	3	4	1	1	4	21
Local government											
Construction	1	0	0	0	0	1	0	0	1	0	3
Transportation & public utilities	0	0	0	0	0	1	0	0	0	0	1
Services	1	0	0	1	1	0	0	0	1	0	4
Government	5	1	0	2	4	2	0	0	2	0	16
Subtotal	7	1	0	3	5	4	0	0	4	0	24
Public sector subtotal	10	3	0	3	8	7	4	1	5	4	45
Total	81	75	64	65	63	64	55	48	54	43	612

Note: Fatalities are classified according to the 1987 Edition of the *Standard Industrial Classification Manual*.

Table 2. Industry (continued)

Table 2b. Program-related fatalities by industry, Oregon, 1988-1997

Industry	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
PRIVATE SECTOR											
Agriculture, forestry & fishing	4	2	0	5	7	4	3	2	1	2	30
Mining	0	0	0	0	0	1	0	1	2	0	4
Construction	5	4	7	10	6	9	7	11	3	10	72
Manufacturing subtotal	26	29	24	23	10	13	13	3	14	5	159
Logging	17	21	13	11	3	6	6	1	8	1	87
Sawmills	3	1	5	3	3	2	3	0	2	0	22
Other wood products	4	3	3	2	3	0	1	0	1	0	17
Other manufacturing	2	4	3	7	1	5	3	2	2	4	33
Transportation & public utilities	0	2	3	0	1	2	0	1	3	0	12
Wholesale trade	1	0	1	1	3	1	3	0	0	1	11
Retail trade	1	2	1	0	0	2	0	2	2	0	10
Finance, insurance & real estate	0	0	0	0	1	0	1	0	0	0	2
Services	1	3	1	3	2	2	4	2	3	1	22
Private sector subtotal	38	42	37	42	30	34	31	22	27	19	322
PUBLIC SECTOR											
State government											
Construction	1	0	0	0	1	0	0	0	1	0	3
Services	0	0	0	0	0	0	1	0	0	0	1
Government	1	0	0	0	0	1	3	0	0	3	8
Subtotal	2	0	0	0	1	1	4	0	1	3	12
Local government											
Construction	1	0	0	0	0	1	0	0	1	0	3
Government	2	1	0	2	2	0	0	0	1	0	8
Subtotal	3	1	0	2	2	1	0	0	2	0	11
Public sector subtotal	5	1	0	2	3	2	4	0	3	3	23
Total	43	43	37	44	33	36	35	22	30	22	345

Note: Fatalities are classified according to the 1987 edition of the *Standard Industrial Classification Manual*.

Table 3. Occupation

Table 3a. Work-related fatalities by occupation, Oregon, 1988-1997

Occupation	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Professional and managerial	8	7	5	4	9	2	3	5	11	4	58
Technical, administrative support	2	4	4	3	4	5	2	7	4	3	38
Sales occupations	2	3	3	0	4	2	3	2	2	2	23
Service occupations	7	2	0	3	5	4	5	3	2	5	36
Farm laborers and managers	6	2	2	4	4	5	3	2	2	3	33
Loggers, foresters, fishers	28	22	17	14	11	12	9	5	10	1	129
Mechanics and repairers	2	4	3	9	2	7	6	2	3	3	41
Construction trades	6	9	4	5	4	8	6	6	4	7	59
Operators, except transport	3	8	6	5	1	3	2	1	0	2	31
Precision products, mining	2	2	0	2	1	2	1	0	1	0	11
Transportation operators	12	10	14	6	13	9	9	10	9	10	102
Laborers, except farm	3	2	6	10	5	5	6	5	6	3	51
Total	81	75	64	65	63	64	55	48	54	43	612

Table 3b. Program-related fatalities by occupation, Oregon, 1988-1997

Occupation	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Professional and managerial	2	2	1	1	3	0	1	0	2	2	15
Technical, administrative support	1	0	1	0	0	2	1	1	0	1	7
Sales occupations	0	0	1	0	0	0	0	0	1	0	2
Service occupations	3	1	0	0	1	1	3	0	1	2	12
Farm laborers and managers	4	2	0	4	3	4	3	1	2	2	25
Loggers, foresters, fishers	16	21	10	12	9	5	8	4	10	0	95
Mechanics and repairers	2	2	1	8	1	5	6	1	2	2	30
Construction trades	5	5	4	5	4	8	6	5	4	7	53
Operators, except transport	3	6	5	5	1	2	2	1	0	2	27
Precision products, mining	1	1	0	2	1	1	0	0	1	0	7
Transportation operators	4	1	8	1	6	3	1	5	3	2	33
Laborers, except farm	2	2	6	6	4	5	4	4	4	2	39
Total	43	43	37	44	33	36	35	22	30	22	345

Note: Occupations are classified according to the 1990 Census of Population Alphabetical Index of Industries and Occupations.

Table 4. Age group

Table 4a. Work-related fatalities by age group, Oregon, 1988-1997

Age group	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
17 and under	0	1	1	1	1	0	1	0	0	1	6
18 - 20	3	3	2	3	3	0	2	0	0	1	17
21 - 25	10	3	15	8	4	6	6	3	7	4	66
26 - 30	9	10	8	5	3	10	7	8	6	8	74
31 - 35	11	10	6	8	11	9	6	10	8	4	83
36 - 40	9	17	5	4	8	7	7	9	3	6	75
41 - 45	8	10	4	3	11	11	8	4	9	6	74
46 - 50	9	5	5	7	4	6	5	8	10	3	62
51 - 55	11	8	7	11	5	13	9	1	4	2	71
56 - 60	6	5	4	9	5	1	2	2	4	5	43
61 and over	5	3	7	6	8	1	2	3	3	3	41
Total	81	75	64	65	63	64	55	48	54	43	612

Table 4b. Program-related fatalities by age group, Oregon, 1988-1997

Age group	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
17 and under	0	0	0	0	0	0	1	0	0	1	2
18 - 20	3	3	2	3	2	0	2	0	0	0	15
21 - 25	8	3	9	7	4	5	3	3	4	4	50
26 - 30	6	7	4	3	2	5	5	2	5	2	41
31 - 35	4	5	3	7	3	5	4	5	4	3	43
36 - 40	5	10	1	3	3	3	5	5	1	4	40
41 - 45	5	7	3	1	6	5	6	2	5	2	42
46 - 50	1	1	4	4	4	2	2	2	4	2	26
51 - 55	5	3	4	7	1	10	4	1	3	1	39
56 - 60	3	3	4	5	4	0	1	0	2	1	23
61 and over	3	1	3	4	4	1	2	2	2	2	24
Total	43	43	37	44	33	36	35	22	30	22	345

Table 5. Gender

Table 5a. Work-related fatalities by gender, Oregon, 1988-1997

Gender	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Women	3	8	3	4	7	4	10	4	2	3	48
Men	78	67	61	61	56	60	45	44	52	40	564
Total	81	75	64	65	63	64	55	48	54	43	612

Table 5b. Program-related fatalities by gender, Oregon, 1988-1997

Gender	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Women	1	3	2	1	3	1	3	1	0	1	16
Men	42	40	35	43	30	35	32	21	30	21	329
Total	43	43	37	44	33	36	35	22	30	22	345

Table 6. County of occurrence

Table 6a. Work-related fatalities by county of occurrence, Oregon, 1988-1997

County	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Baker	0	2	1	0	0	0	1	0	0	1	5
Benton	1	1	1	0	1	2	0	1	1	1	9
Clackamas	3	2	4	4	3	5	3	3	3	3	33
Clatsop	2	1	0	3	0	0	0	1	2	1	10
Columbia	1	1	1	0	1	0	2	0	1	0	7
Coos	8	1	1	5	4	2	0	2	2	1	26
Crook	1	0	1	1	1	1	1	0	2	0	8
Curry	0	3	1	0	0	1	1	0	0	0	6
Deschutes	1	1	2	2	3	3	2	2	0	0	16
Douglas	7	12	6	3	6	5	2	3	1	1	46
Gilliam	0	0	0	0	0	0	0	0	1	1	2
Grant	2	0	2	1	3	0	0	1	1	2	12
Harney	1	0	1	0	1	0	1	0	0	0	4
Hood River	1	2	0	0	0	0	0	0	1	0	4
Jackson	4	2	1	3	3	4	3	2	3	2	27
Jefferson	0	0	3	0	1	1	0	0	0	0	5
Josephine	1	2	0	2	0	0	0	0	0	0	5
Klamath	3	4	2	1	3	2	0	0	1	3	19
Lake	1	1	0	0	0	0	0	0	0	0	2
Lane	10	10	9	9	1	9	5	2	5	1	61
Lincoln	1	2	2	0	2	3	3	0	3	1	17
Linn	7	5	1	2	1	1	3	2	1	2	25
Malheur	2	0	1	0	1	0	1	0	0	1	6
Marion	4	3	2	3	3	1	2	1	4	1	24
Morrow	1	0	1	0	0	0	0	0	1	1	4
Multnomah	4	7	6	11	8	12	8	5	6	5	72
Polk	0	2	1	0	1	0	1	3	2	1	11
Sherman	0	0	0	0	0	0	0	0	0	0	0
Tillamook	0	1	2	0	0	3	0	0	1	1	8
Umatilla	0	0	0	3	1	0	2	1	2	0	9
Union	2	0	0	0	0	0	2	0	0	2	6
Wallowa	1	0	0	1	0	0	2	0	0	1	5
Wasco	1	0	0	1	1	0	2	0	1	1	7
Washington	2	2	5	3	4	4	2	8	0	3	33
Wheeler	0	0	1	0	1	0	0	0	0	2	4
Yamhill	2	1	1	1	3	0	1	0	1	1	11
Out-of-state	7	7	4	6	6	5	5	11	7	3	61
Unknown	0	0	0	0	0	0	0	0	1	0	1
Overseas	0	0	1	0	0	0	0	0	0	0	1
Total	81	75	64	65	63	64	55	48	54	43	612

Table 6. County of occurrence (con't.)

Table 6b. Program-related fatalities by county of occurrence, Oregon, 1988-1997

County	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Baker	0	1	0	0	0	0	0	0	0	0	1
Benton	1	1	1	0	1	2	0	1	1	0	8
Clackamas	1	1	3	4	2	5	2	3	1	3	25
Clatsop	1	1	0	2	0	0	0	0	1	1	6
Columbia	1	1	1	0	1	0	1	0	1	0	6
Coos	4	0	1	4	1	2	0	0	2	0	14
Crook	0	0	1	1	1	1	1	0	1	0	6
Curry	0	0	1	0	0	1	1	0	0	0	3
Deschutes	0	0	1	1	1	0	1	1	0	0	5
Douglas	5	10	6	2	4	3	2	2	1	0	35
Gilliam	0	0	0	0	0	0	0	0	0	1	1
Grant	2	0	1	1	2	0	0	1	1	1	9
Harney	1	0	0	0	0	0	0	0	0	0	1
Hood River	1	1	0	0	0	0	0	0	0	0	2
Jackson	1	2	0	2	2	2	3	1	3	1	17
Jefferson	0	0	2	0	0	0	0	0	0	0	2
Josephine	1	2	0	2	0	0	0	0	0	0	5
Klamath	1	4	0	1	1	1	0	0	1	2	11
Lake	0	1	0	0	0	0	0	0	0	0	1
Lane	8	5	3	7	1	4	3	1	5	1	38
Lincoln	1	2	1	0	1	3	1	0	2	0	11
Linn	6	0	0	2	1	1	3	0	1	2	16
Malheur	1	0	0	0	0	0	1	0	0	1	3
Marion	2	2	2	2	1	0	1	0	1	0	11
Morrow	0	0	1	0	0	0	0	0	0	1	2
Multnomah	1	4	5	6	6	6	4	4	3	4	43
Polk	0	2	1	0	1	0	1	2	1	0	8
Sherman	0	0	0	0	0	0	0	0	0	0	0
Tillamook	0	1	1	0	0	2	0	0	0	0	4
Umatilla	0	0	0	1	1	0	2	1	1	0	6
Union	1	0	0	0	0	0	2	0	0	1	4
Wallowa	0	0	0	1	0	0	2	0	0	0	3
Wasco	0	0	0	1	0	0	2	0	1	0	4
Washington	1	2	4	3	2	3	1	5	0	3	24
Wheeler	0	0	1	0	1	0	0	0	0	0	2
Yamhill	2	0	0	1	2	0	1	0	1	0	7
Unknown	0	0	0	0	0	0	0	0	1	0	1
Total	43	43	37	44	33	36	35	22	30	22	345

Table 7. Month of injury

Table 7a. Work-related fatalities by month of injury, Oregon, 1988-1997

Month of injury	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
January	4	7	8	8	4	4	9	2	3	5	54
February	9	3	4	5	5	8	3	2	4	4	47
March	7	4	9	1	3	10	4	5	4	2	49
April	11	8	5	10	8	1	3	3	6	2	57
May	6	7	5	4	3	4	4	5	5	5	48
June	6	10	1	5	4	2	3	7	1	6	45
July	8	4	8	5	3	4	8	3	4	4	51
August	8	11	6	11	12	4	2	3	3	4	64
September	8	6	6	2	9	4	5	5	3	4	52
October	3	4	5	7	5	10	5	5	8	3	55
November	5	8	4	5	5	10	5	2	7	1	52
December	6	3	3	2	2	3	4	6	6	3	38
Total	81	75	64	65	63	64	55	48	54	43	612

Table 7b. Program-related fatalities by month of injury, Oregon, 1988-1997

Month of injury	Calendar year										Total
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
January	2	4	6	6	1	2	4	0	1	2	28
February	4	2	1	4	5	6	2	0	2	3	29
March	3	1	3	1	2	7	3	2	1	0	23
April	6	4	3	8	6	0	0	1	5	0	33
May	3	5	4	2	3	1	3	3	3	1	28
June	4	6	0	3	1	1	2	4	1	4	26
July	5	4	5	5	0	1	6	1	3	3	33
August	5	5	5	7	6	3	2	2	3	2	40
September	5	3	4	1	6	0	1	3	3	3	29
October	1	2	3	4	1	7	5	4	3	1	31
November	2	6	1	2	1	7	3	1	3	0	26
December	3	1	2	1	1	1	4	1	2	3	19
Total	43	43	37	44	33	36	35	22	30	22	345

Note: These data reflect the month of injury for those claims accepted in the calendar year specified. Some workers died in a prior year or were injured in one month and died in another.

Table 8. Listing of fatalities

Table 8. Listing of fatalities by industry, Oregon, 1997

Event of injury	Program-related	Injury description	Age	Sex	Tenure	Injury mo/yr	County	Occupation	SIC
Agriculture, forestry & fishing									
Fall	+	Fell 200 feet off a cliff	16	M	1	06/97	Gilliam	Farm worker	0212
Contact w/electric current		Struck by lightning	59	M	240	05/97	Wheeler	Farmer, exc horticult	0191
Industrial vehicle acc	+	Fell out of and run over by bus	23	M	3	05/97	Clackamas	Nursery worker	0181
Aircraft accident		Airplane crash	27	M	3	05/97	Wheeler	Airplane pilot	0721
Mining									
Water vehicle accident		Fell from boat and drowned	56	M	347	05/97	Yamhill	Specif mechanic, nec	1429
Construction									
Struck by	+	Struck by falling trench support	28	M	23	09/97	Multnomah	Construction trade, nec	1623
Fall	+	Fell through hole in roof 35 feet	40	M	41	08/97	Lane	Metal duct installer	1711
Fall	+	Fell 70 feet from parking structure	24	M	6	07/97	Multnomah	Struct metal worker	1542
Fall	+	Fell 70 feet from parking structure	33	M	10	07/97	Multnomah	Struct metal worker	1542
Fall	+	Fell 70 feet from parking structure	54	M	3	07/97	Multnomah	Struct metal worker	1542
Contact w/elec. current	+	Contact with 277 volts of electricity	22	M	26	10/96	Washington	Electrician	1731
Contact with	+	Inhalation of asbestos	61	M	1	12/75	Linn	Plumber	1711
HMV accident	+	Truck rolled down a 100-foot cliff	77	M	41	06/97	Grant	Truck driver	1611
HMV accident		Truck was struck by drunk driver	26	M	4	08/97	Klamath	Truck driver	1629
Industrial vehicle acc	+	Dump truck overturned	37	M	9	02/97	Washington	Truck driver	1794
Pedestrian	+	Run over by a trencher	33	M	4	01/97	Union	Construction laborer	1521
Logging									
Caught in	+	Caught in a debarker machine	58	M	13	08/97	Morrow	Misc wood mach oper	2411
Sawmill									
Struck by		Rifle accidentally discharged	56	M	43	01/97	Grant	Forester, exc logging	2421
Other manufacturing									
Struck by	+	Struck by falling air compressor	48	M	1	02/97	Clackamas	Millwright	3312
Fall	+	Fell 45 feet from a steel erection	37	M	1	06/97	Washington	Welder	3441
Oxygen deficiency	+	Suffocated from nitrogen gas in tanker	38	M	27	12/96	Linn	Millwright	3339
Railway accident	+	Fell from and struck by railcar	26	M	27	01/97	Malheur	Material handler, nec	2063
Transportation & public utilities									
HMV accident		Noncollision highway accident, unsp.	50	M	48	04/97	Out-of-state	Truck driver	4213
HMV accident		Truck overturned	26	M	4	06/97	Tillamook	Truck driver	4212
HMV accident		Truck collided with large rock	29	M	7	11/97	Coos	Truck driver	4213
HMV accident		Struck by loose log from passing truck	59	M	1	06/97	Lincoln	Truck driver	4212
Aircraft accident		Helicopter crash	35	M	51	09/97	Out-of-state	Airplane pilot	4512
Wholesale trade									
Caught in	+	Crushed by bed of dump truck	32	M	81	12/96	Jackson	Manager, operations	5093
HMV accident		Car collided with semi-truck	37	M	2	01/97	Douglas	Sales, other	5013
Retail trade									
HMV accident		Car was struck by chip truck	18	M	7	03/97	Benton	Driver-sales worker	5812
HMV accident		Car overturned	66	M	14	05/97	Wasco	Motor trans occ, nec	5511
HMV accident		Dump truck overturned	45	M	2	07/97	Union	Truck driver	5211
Assault/violent act		Homicide - shot during robbery	43	M	194	10/97	Polk	Service station occ	5541
Assault/violent act		Homicide - shot during robbery	27	M	7	03/97	Multnomah	Cashier	5411
Assault/violent act		Homicide - stabbed during robbery	30	M	36	04/97	Marion	Bartender	5813
Services									
Struck against		Struck against building	43	F	67	02/97	Wallowa	Nursing aide	8322
Contact with	+	Allergic reaction to latex gloves	42	F	4	06/96	Clatsop	Registered nurse	8062
Pedestrian		Run over by pickup truck	45	F	175	08/97	Jackson	Manager, medicine	8011
Aircraft accident		Airplane crash	38	M	160	01/97	Out-of-state	Lawyer	8111

Table 8. Listing of fatalities (cont.)

Table 8. Listing of fatalities by industry, Oregon, 1997

Event of injury	Program-related	Injury description	Age	Sex	Tenure	Injury mo/yr	County	Occupation	SIC
Government									
Caught in	+	Pinned by truck against fence	45	M	224	02/97	Clackamas	Engineer tech, nec	9621
HMV accident	+	Automobile struck by truck	23	M	43	09/97	Klamath	Police	9221
HMV accident	+	Automobile struck by truck	46	M	298	09/97	Klamath	Supervisor, police	9221
Explosion		Disposing of explosives	53	M	222	10/97	Baker	Supervisor, police	9221

Notes: + indicates the fatality was program-related.

Tenure is given in months.

* indicates the tenure is not known.

Table 9. Historical record of work-related fatalities

Work-related fatalities by industry, Oregon, 1997-1986

Industry	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986
Ag, forestry & fishing ¹	4	1	3	4	6	10	5	3	3	8	2	6
Mining	1	2	1	0	1	0	0	0	0	0	1	0
Construction	11	5	14	9	11	6	11	8	10	9	9	7
Manufacturing subtotal	6	16	5	14	20	11	28	36	33	33	25	32
Logging ²	1	8	3	7	11	3	13	19	22	22	15	25
Sawmills	1	2	0	3	2	3	4	5	1	3	0	2
Other wood products	0	1	0	1	1	3	2	3	4	5	4	2
Other manufacturing	4	4	2	3	6	2	9	9	6	3	6	3
Transp & public utilities	5	11	8	4	9	9	4	7	8	10	15	20
Wholesale trade ³	2	4	2	3	2	5	2	2	2	2	5	1
Retail trade ³	6	3	4	7	4	5	1	3	5	3	8	4
Finance, ins & real estate ³	0	1	2	2	0	1	0	1	1	0	1	2
Services ³	4	7	8	8	4	8	11	4	10	6	10	9
Government	4	5	1	4	7	8	3	0	3	10	2	3
Total	43	54	48	55	64	63	65	64	75	81	78	84

Work-related fatalities by industry, Oregon, 1985-1976

Industry	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976
Ag, forestry & fishing ¹	3	10	7	5	10	4	22	2	6	5
Mining	1	1	0	0	0	3	3	1	2	0
Construction	11	10	11	7	10	13	11	22	11	10
Manufacturing subtotal	39	30	40	21	24	33	52	47	61	51
Logging ²	27	18	24	14	10	18	26	29	37	28
Sawmills	3	2	6	1	3	1	12	5	7	8
Other wood products	4	3	2	2	4	5	5	7	8	4
Other manufacturing	5	7	8	4	7	9	9	6	9	11
Transp & public utilities	9	10	12	10	12	7	21	15	9	7
Wholesale trade ³	4	2	4	7	6	7	14	16	16	13
Retail trade ³	2	4	8	5	2	5				
Finance, ins & real estate ³	1	4	3	0	1	4	2	0	1	1
Services ³	5	4	7	3	6	4	7	7	6	7
Government	9	8	5	9	4	8	5	12	12	10
Total	84	83	97	67	75	88	137	122	124	104

¹Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

²Logging includes log hauling from 1945-71.

³Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75.

Retail trade was included with wholesale trade from 1976-79.

Note: Fatalities are classified according to the 1987 edition of the *Standard Industrial Classification Manual*.

Table 9. Historical record of work-related fatalities (con't)

Work-related fatalities by industry, Oregon, 1975-1966

Industry	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966
Ag, forestry & fishing ¹	9	6	8	6	7	12	17	11	8	5
Mining	0	3	3	1	1	3	2	5	1	1
Construction	15	17	14	24	15	15	19	16	21	21
Manufacturing subtotal	52	48	65	46	59	61	46	51	50	70
Logging ²	25	26	37	26	42	37	28	40	32	45
Sawmills	8	6	14	4	4	4	8	5	6	5
Other wood products	5	2	4	6	4	6	3	2	1	7
Other manufacturing	14	14	10	10	9	14	7	4	11	13
Transp & public utilities	19	26	17	15	14	12	2	10	15	12
Wholesale trade ³	25	13	26	30	21	25	29	17	30	12
Retail trade ³										
Finance, ins & real estate ³										
Services ³										
Government	12	10	11	11	15	9	16	8	11	5
Total	132	123	144	133	132	137	131	118	136	126

Work-related fatalities by industry, Oregon, 1965-1956

Industry	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956
Ag, forestry & fishing ¹	2	2	4	4	5	7	9	2	6	10
Mining	3	5	2	3	2	5	2	0	3	0
Construction	27	11	15	29	20	18	15	28	25	22
Manufacturing subtotal	35	48	52	46	59	65	77	61	70	81
Logging ²	20	34	35	32	37	40	59	42	50	64
Sawmills	2	3	5	3	7	3	9	7	11	5
Other wood products	1	3	3	6	4	8	4	3	7	5
Other manufacturing	12	8	9	5	11	14	5	9	2	7
Transp & public utilities	13	6	6	7	6	6	6	9	5	8
Wholesale trade ³	9	14	18	17	12	16	9	13	10	7
Retail trade ³										
Finance, ins & real estate ³										
Services ³										
Government	10	10	9	9	9	9	10	7	8	12
Total	99	96	106	115	113	126	128	120	127	140

¹Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

²Logging includes log hauling from 1945-71.

³Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75. Retail trade was included with wholesale trade from 1976-79.

Table 9. Historical record of work-related fatalities (con't)

Work-related fatalities by industry, Oregon 1955-1945

Industry	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945
Ag, Forestry & Fishing ¹	6	6	4	9	4	4	7	7	9	7	13
Mining	3	2	1	0	6	0	3	2	1	0	2
Construction	12	20	15	19	33	18	21	18	19	19	12
Manufacturing Subtotal	97	80	81	102	86	111	65	89	89	74	72
Logging ²	70	48	58	67	68	90	50	65	50	33	32
Sawmills	14	20	13	26	14	13	8	15	27	27	17
Other Wood Products	5	2	7	2	0	1	2	1	1	1	0
Other Manufacturing	8	10	3	7	4	7	5	8	11	13	23
Transp & Public Utilities	5	6	8	8	8	3	10	6	9	13	5
Wholesale Trade ³	13	22	8	8	8	9	12	8	7	7	9
Retail Trade ³											
Finance, Ins & Real Estate ³											
Services ³											
Government	5	7	8	10	5	10	11	8	7	3	4
Total	141	143	125	156	150	155	129	138	141	123	117

¹Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

²Logging includes log hauling from 1945-71.

³Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75. Retail trade was included with wholesale trade from 1976-79.

Work-related fatalities by industry, Oregon 1943-1944

Industry	1944	1943
Logging & log hauling	42	53
Sawmills & allied	9	14
Shipbuilding	24	34
Other industries	47	61
Total	122	162

Note: The data were derived from SIAC *Statistical Analysis of Claims* for 1943-1965, APD annual fatality reports for 1966-1971, WCB annual fatality summaries for 1972-1975 (except mining), *Oregon Work Injuries and Illnesses* for 1976-87, and *Oregon Industrial Fatality Report* since 1988.

Data from 1980 forward were coded using the 1987 edition of the *Standard Industrial Classification Manual*. The earlier data remain coded according to the classification originally used.

Not all of the recorded fatalities from 1966-76 were accepted as compensable claims.

Appendices

Appendix A Glossary of terminology

Appendix B Technical notes: scope and methodology

Appendix C Descriptions of 1997 fatal cases by industry

Appendix A

Glossary of terminology

Accepted fatality claims:

Claims accepted by insurers and received by the Workers' Compensation Division for fatal benefits. Also called work-related or compensable fatalities.

Occupation:

Identification of the nature of work of the employee. The occupation is classified in accordance with the 1990 Census of Population Alphabetical Index of Industries and Occupations.

Program-related fatality:

A compensable fatality that might have been prevented by following a specific safety regulation, general duty clause, or good safety and health practices. (For specific criteria, see Appendix B.)

Standard industrial classification (SIC):

A classification system developed by the Office of Statistical Standards, Executive Office of the President/Office of Management and Budget, for use in classifying firms by the type of activity in which they are engaged. Each establishment of

a firm is assigned an industry code for its major activity, which is determined by the product or group of products produced or services rendered. The 1987 Edition of the SIC manual was utilized for coding all fatalities.

Tenure:

The length of time, in months, that an employee had been working for the employer at the time of the fatal injury or the diagnosis of the fatal illness.

The department:

Oregon Department of Consumer & Business Services.

Accident event or exposure:

Identification of the event or exposure situation which directly resulted in the injury or illness.

Appendix B

Scope

The data presented in this report are based on accepted disabling work injury and illness claim documents received by the Workers' Compensation Division of the Department of Consumer & Business Services during the 1997 calendar year for employees covered under the Oregon Workers' Compensation Law. The law covers every employer who employs one or more subject workers in Oregon. Excluded from mandatory coverage are the following nonsubject workers: household employees; casual labor; employees subject to federal laws (Railroad Retirement Act, Federal Longshoremen's and Harbor Workers' Compensation Act, Jones Act, and Federal Employees' Compensation Act); City of Portland police and firefighters; workers engaged in the transportation in interstate commerce of goods, persons, or property by rail, water, aircraft, or motor vehicle and whose employer has no fixed place of business in Oregon, sole proprietors; partners and officers of corporations; amateur athletes; newspaper carriers; employees of religious, charitable, or relief organizations who work primarily for board and lodging or who receive only nominal reimbursements; owners of boating equipment engaged in the transportation of the public for recreational down-river boating activities pursuant to a federal

Technical notes

permit; and owners and leaseholders of motor vehicles used as taxicabs or to transport logs, poles, pilings, rocks, gravel, sand, dirt, or asphalt concrete (see ORS 656.027). Any employer who has nonsubject workers may elect coverage by purchasing workers' compensation insurance to cover compensation liability.

Due to an increased demand by users for a more detailed coding structure, Bureau of Labor and Statistics (BLS) recognized that a new, comprehensive, detailed coding scheme would be needed.

Starting in 1992, the new classification structure known as the Occupational Injury and Illness Classification System was implemented by the BLS. In 1996, Oregon converted the old coding structure to the new redesigned coding. As a result of this change, "Type of Accident" is now "Accident event." Historical data were also converted to the new coding structure. As a result, data may differ from previous years' publications.

Appendix B (continued)

The BLS Occupational Injury and Illness Classification System will enable safety and health professionals and other data users to better monitor work injuries and illnesses, educate workers about hazards associated with various jobs, promote

safer work practices through enhanced job safety training, develop new safety equipment, assess and improve workplace safety standards, and target research.

Methodology

Fatal claims are reported to the Workers' Compensation Division on Form 801, Worker's and Employer's Report of Occupational Injury or Disease. The Workers' Compensation claims file is matched with the employer file to obtain the SIC. The victim's age, sex, tenure, and the county of occurrence are obtained directly from the claim document. Data are subject to change due to new, updated information and may differ slightly from previous years' publications.

The nature of business of the employer is classified according to the Standard Industrial Classification Manual, 1987 Edition. The industrial code (SIC) is assigned to the employer registration account. The industrial groupings used in this report are defined as follows:

Industry	2-digit SIC
Agriculture, forestry, & fishing	01-09
Mining	10-14
Construction	15-17
Manufacturing	20-39
Logging (241)	
Sawmills (242)	
Other wood (243-249)	
Other manufacturing (20-23, 25-39)	
Transportation & public utilities	40-49
Wholesale trade	50-51
Retail trade	52-59
Finance, insurance & real estate	60-67
Services	70-89
Government	91-97

Note that government claims include all claims against publicly owned employers, regardless of the SIC assigned.

Claims for workers employed by leasing companies are counted in the industry in which they were employed at the time of injury, i.e. the SIC of the client employer.

Fatalities for the years 1980-88 were reclassified from the 1972/1977 Edition SICs to 1987 Edition SICs. This conversion resulted in a recount of 1988 fatalities.

The occupation of the worker is classified in accordance with the 1990 Census of Population Alphabetical Index of Industries and Occupations. The occupational groupings used in this report are:

Occupation	Codes
Professional and managerial	003 - 199
Technical, administrative support	203 - 235 and 303 - 389
Sales occupations	243 - 280
Service occupations	400 - 469
Farm laborers and managers	470 - 489
Loggers, foresters, fishers	494 - 499 and 890 - 901
Mechanics and repairers	503 - 549
Construction trades	550 - 599
Precision products, mining	613 - 699
Operators, except transport	704 - 799
Transport equipment operators	803 - 859
Laborers, except farm	863 - 899

A fatal case is recorded as program-related if it occurred at a workplace over which the Oregon Occupational Safety and Health Division had the primary jurisdiction, and if OR-OSHA plans to conduct an investigation of the incident based on the assumption that the fatal injury or illness resulted from the violation of a specific Oregon Safe Employment Act rule or the general duty clause or from the violation of a good safety or health practice that would be the subject of a safety or expanded enforcement letter. The plans to investigate an incident are indicated on the OR-OSHA 36(S) form.

If there is not an OR-OSHA 36(S) form, the case is recorded as program-related if the narrative description of the case indicates that there is a high probability that the injury or illness resulted from a violation of a specific Oregon Safe Employment Act rule, general duty clause, or good safety and health practice.

Fatalities that occur out-of-state are not considered to be under this jurisdiction. Transportation accidents are rarely considered to be program-related since there are too many variables for safety regulations to attempt to control. Homicides are not regarded as program-related.

Appendix C

Descriptions of 1997 Fatal Work-related Injuries and Illnesses by Industry

Agriculture, forestry & fishing - 4 fatalities SIC 01-09

- ◆ A farm worker was on a work break. As he was rolling rocks off a cliff, he slipped and fell approximately 200 feet over a series of cliffs (program-related, youngest worker, age 16).
- ◆ A ranch hand was caught in a thunder storm while gathering up cattle. Both the worker and his horse were struck by lightning and killed.
- ◆ A nursery laborer was leaning against the back door of a bus and fell out as the driver was backing up to drive out of the field (program-related).
- ◆ A pilot was killed when his plane stalled and crashed while making a turn.

Mining - 1 fatality SIC 10-14

- ◆ A mechanic fell from his boat while installing new pumps and waterlines at a lake, and drowned.

Construction - 11 fatalities SIC 15-17

- ◆ A construction laborer was standing alongside a "coffin" box between the trench and the box. The coffin box tipped over and struck the worker. (program-related).
- ◆ A metal duct installer was moving materials across the roof. He fell through a floor opening, landing on packed rock 30-35 feet below (program-related).
- ◆ Three structural metal workers fell approximately 70 feet to the ground after a portion of an airport's parking structure, currently under construction, collapsed (program-related).
- ◆ An electrician received two shocks while working on a step ladder, installing 277 volt overhead lighting. (program-related).
- ◆ A truck driver was struck by a drunk driver causing him to lose his steering and hit a rock piece, which caused the logs from his truck to come over the cab, killing the driver.
- ◆ A truck driver suddenly lost control of his truck and trailer, went off the road and down a 100-foot cliff (program-related, oldest worker, age 77).
- ◆ A truck driver was operating a dump truck that went off the road at the crush site and overturned into a pond (program-related).
- ◆ A construction laborer was working with a trencher operator. The worker was told by the operator to stay and wait for him while he tried to find an access road wide enough for the trencher. The operator returned to find that the victim had been run over by the trencher (program-related).
- ◆ A plumber was exposed to airborne asbestos fibers from 1975 to 1976 and died in 1995.

Manufacturing - 6 fatalities
SIC 20-39

- ◆ A millwright removed a wood block from beneath an air compressor. After the block was removed, the air compressor tipped over and fell on top of the worker (program-related).
- ◆ A welder was working on a steel erection and fell approximately 45 feet. He was not wearing any fall protection nor was he tied off (program-related).
- ◆ A millwright entered a railroad car to retrieve a dropped gasket. The railroad car was filled with nitrogen gas and the worker was overcome by the fumes (program-related).
- ◆ A material handler was on a railcar platform giving the go ahead for the conductor to move the train. The conductor looked back and saw the worker fall under the wheels of a coal car that was being hauled (program-related).
- ◆ A chipper operator was caught in the gears of a bark stripper machine while trying to repair the machine (program-related).
- ◆ A forester was removing a rifle from his truck; the rifle accidentally discharged and killed him.

Transportation and public utilities - 5 fatalities
SIC 40-49

- ◆ A truck driver was in a single vehicle accident. Cause of the accident was unknown (out-of-state - Washington).
- ◆ A truck driver lost control of his truck and overturned.
- ◆ A truck driver was traveling in a rock slide area. The truck collided with a large rock, hit the embankment, and rolled-over. The area was in a high dense fog bank, and due to the speed of the truck, the driver did not have enough time to see the large rock.
- ◆ A truck driver was struck by a loose log that fell from a passing log truck.
- ◆ A pilot was in a helicopter crash (out-of-state - Washington).

Wholesale trade - 2 fatalities
SIC 50-51

- ◆ A manager was welding on a scrap box dump bed. While lying across the controls, the worker accidentally released the dump bed and it came down on him (program-related).
- ◆ A sales worker was traveling through a construction zone and was flagged through. At the other end, a semi-truck was coming and was flagged to stop. Unfortunately, the truck driver did not have enough time to stop, went past the flagger, and ran head-on into the worker.

Retail trade - 6 fatalities
SIC 52-59

- ◆ A delivery driver of a small car was hit on the driver's side by a large semi-truck.
- ◆ A motor vehicle operator lost control of his car causing the car to do several flips.
- ◆ A truck driver was traveling down a steep grade with a loaded dump truck. The truck went off the road, hit a ditch, and turned over.
- ◆ A service station attendant was shot to death during an attempted robbery.
- ◆ A cashier was shot and killed during a robbery.
- ◆ A bartender was stabbed to death during a robbery.

Services - 4 fatalities
SIC 70-89

- ◆ A mental health specialist was sledding with her clients while on a field trip. She flew off the inner tube, striking the porch of a lodge.
- ◆ A registered nurse was exposed to latex gloves which exacerbated her asthma condition causing her to have a severe asthma attack (program-related).
- ◆ An office manager was walking across the street while delivering x-rays and was struck by a truck.
- ◆ An attorney was killed in an airplane crash (out-of-state - Idaho).

Public sector - 4 fatalities

- ◆ An engineer specialist had backed his flat bed truck up to a fence. While he was behind the truck attempting to remove a lock on the fence, the parking brake failed on the truck allowing the truck to roll backwards, pinning the worker against a steel pole on the fence (program-related).
- ◆ Two police officers were traveling back to their office when their patrol car was struck by a chip truck (program-related).
- ◆ A police officer (an explosive expert) was carrying explosives when the dynamite blasting caps accidentally exploded.



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