



Oregon
Fatality Assessment
& Control Evaluation
(FACE)

Annual Report
2004

Occupational Fatalities

Acronyms

BLS	Bureau of Labor Statistics, U.S. Department of Labor
CFOI	U.S. Census of Fatal Occupational Injuries
DCBS	Oregon Department of Consumer and Business Services
OR-OSHA	Oregon Occupational Safety and Health Division
SAIF Corp	State Accident Insurance Fund (Workers' Compensation)

Oregon Fatality Assessment and Control Evaluation (OR-FACE) is funded by the National Institute for Occupational Safety and Health (NIOSH), through the Oregon Department of Human Services (DHS). The program is administered by the Center for Research on Occupational and Environmental Toxicology (CROET) at Oregon Health and Science University (OHSU).

Oregon

Fatality Assessment & Control Evaluation

Annual Report 2004

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This report is dedicated to the men and women in Oregon who have lost their lives as the result of traumatic workplace injuries, in the hope that better understanding of these fatal incidents may help to save the lives of other workers in similar situations.

OR-FACE Program

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FACE Definitions

The Oregon Fatality Assessment and Control Evaluation program investigates work-related fatalities that are caused by a traumatic injury when the injury occurs within Oregon.

A location *within Oregon* means the incident, or some portion of the incident, occurs within the geographical boundaries of the state of Oregon, including the coastal waters, airspace, and subterranean portions of the state.

A *work relationship* exists if an incident occurs (a) on the employer's premises and the person was there to work, or (b) off the employer's premises and the person was there to work, or the event or exposure was related to the person's work or status as an employee.

Work is defined as duties, activities, or tasks that produce a product or result, are done in exchange for money, goods, services, profit, or benefit, and are legal activities.

In Scope

- Self-employed, family or volunteer workers who are exposed to the same work hazards and perform the same duties or functions as paid employees and that meet the work-relationship criteria
- Suicides and homicides that meet the work-relationship criteria
- Fatal events or exposures that occur when a person is in travel status, if the travel is for work purposes or is a condition of employment (excluding commute)

Out of Scope

- Institutionalized persons, including inmates of penal and mental institutions, sanitariums, and homes for the aged, infirm and needy, unless they are employed off the premises of their institutions
- Fatal heart attacks and strokes, unless causally related to a traumatic injury or exposure
- Fatal events or exposures that occur during a person's recreational activities that are not required by the employer
- Fatal events or exposures that occur during a person's commute to or from work

Adapted from Bureau of Labor Statistics (2001), *Census of Fatal Occupational Injuries: Definitions*. U.S. Department of Labor. Available online (March 11, 2004): <http://stats.bls.gov/iif/oshcdef.htm>



Summary

OR-FACE recorded 60 fatal occupational incidents in 2004, with 61 worker deaths. Each incident is investigated sufficiently to produce an abstract of the event. Investigation reports are produced according to a list of priority areas, specified partly by NIOSH, in combination with areas of local concern to Oregon.

Priority Areas

- Machine-related
- Logging and forestry
- Construction
- Street and highway work zones
- Agriculture
- Minority workers
- Youth (under age 18)

Other areas may also produce compelling incidents. Electrocution appears among the 2004 investigation reports published to date, as well as an incident of exposure to carbon monoxide.

A traumatic injury is a specific incident within a single work day that produces an unintentional or intentional wound or damage to the body. Six basic types of event are recognized.

- Transportation
- Contact with objects or equipment
- Exposure to harmful substances/environment
- Falls
- Violence
- Fire and explosions

A few changes appear in coding transportation incidents in 2004. To draw out underlying variety, occupation and event charts now show transportation in four divisions: motor vehicles, mobile machinery, air, and water transportation.

Introduction

Oregon Fatality Assessment & Control Evaluation began recording traumatic occupational fatalities in Oregon in 2003, becoming one of 15 states in the nation to participate in a fatality surveillance and assessment program sponsored by the National Institute for Occupational Safety and Health.

In 2004, OR-FACE recorded 60 fatal occupational incidents, and 61 worker deaths. These numbers are lower than the 63 incidents and 76 deaths recorded in Oregon in 2003.

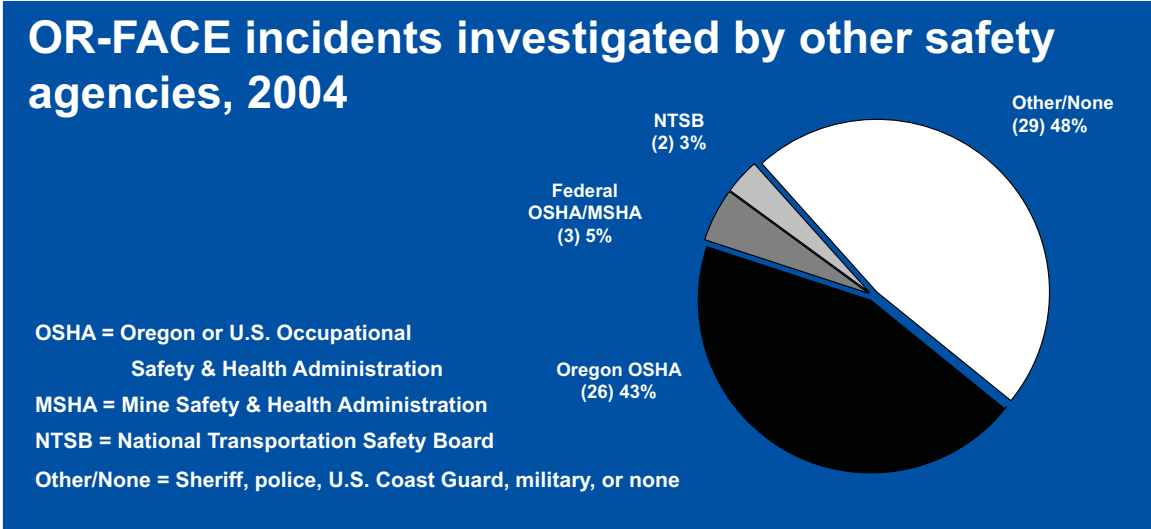
In 2004, the occupational fatality rate in Oregon was 3.5 per 100,000 employed workers in the civilian labor force, compared to 4.5 per 100,000 in 2003. The lower rate in 2004 is due mostly to fewer incidents with multiple fatalities. Nationally, the occupational fatality rate increased in 2004, rising from 4.0 to 4.1 per 100,000 workers (CFOI 2004).

Many of the characteristics of fatal incidents in Oregon in 2004 are similar to 2003. Hazard alerts this year draw attention again to logging, mobile machinery, and transportation (see p. 12-13).

An additional area of concern in 2004 involves the large number of fatalities among older workers. Fatality rates were elevated for workers aged 55-64, and were exceptionally high for workers aged 65 and over. Senior workers comprise about 3% of the labor force in Oregon, but comprised 20% of all occupational fatalities in 2004 (12 of 61). Nationally, senior workers comprised 10% of total occupational fatalities in 2004, or half the rate indicated in Oregon.

OR-FACE Network

<p>Federal Agencies</p> <ul style="list-style-type: none"> National Institute for Occupational Safety and Health Occupational Safety and Health Administration National Transportation Safety Board Bureau of Land Management U.S. Coast Guard Federal Aviation Administration U.S. Forest Service Mine Safety and Health Administration <p>Associations and Firms</p> <ul style="list-style-type: none"> Associated Oregon Loggers Oregon Farm Bureau SAIF Corporation (Workers' Comp) Liberty Northwest (Workers' Comp) Oregon Trucking Association American Society of Safety Engineers Association of General Contractors American Industrial Hygiene Association American Association of Occupational Health Nurses American College of Occupational and Environmental Medicine Oregon Labor Safety & Health Education Program Oregon AFLCIO 	<p>State Agencies</p> <ul style="list-style-type: none"> Department of Consumer & Business Services <ul style="list-style-type: none"> – Census of Fatal Occupational Injuries – Oregon Occupational Safety and Health Administration – Information Management Division – Workers' Compensation Division Department of Human Services <ul style="list-style-type: none"> – Center for Health Statistics – Public Health Services Employment Department Bureau of Labor & Industries <ul style="list-style-type: none"> – Wage & Hour Division: Child Labor State Police <ul style="list-style-type: none"> – Medical Examiner's Office – State Fire Marshal Department of Transportation <ul style="list-style-type: none"> – Department of Motor Vehicles Department of Forestry FACE programs in other states <p>Local Agencies</p> <ul style="list-style-type: none"> Medical examiners, county sheriff offices Portland Police Bureau <ul style="list-style-type: none"> – Traffic Investigation Unit Portland Fire Bureau County health departments Local fire departments
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Surveillance

Comprehensive OR-FACE surveillance of traumatic occupational fatalities expands upon other surveillance systems in the state. OR-FACE fatality assessment increases relevance to local working conditions by including all incidents that occur within Oregon, whether or not the worker is an Oregon resident.

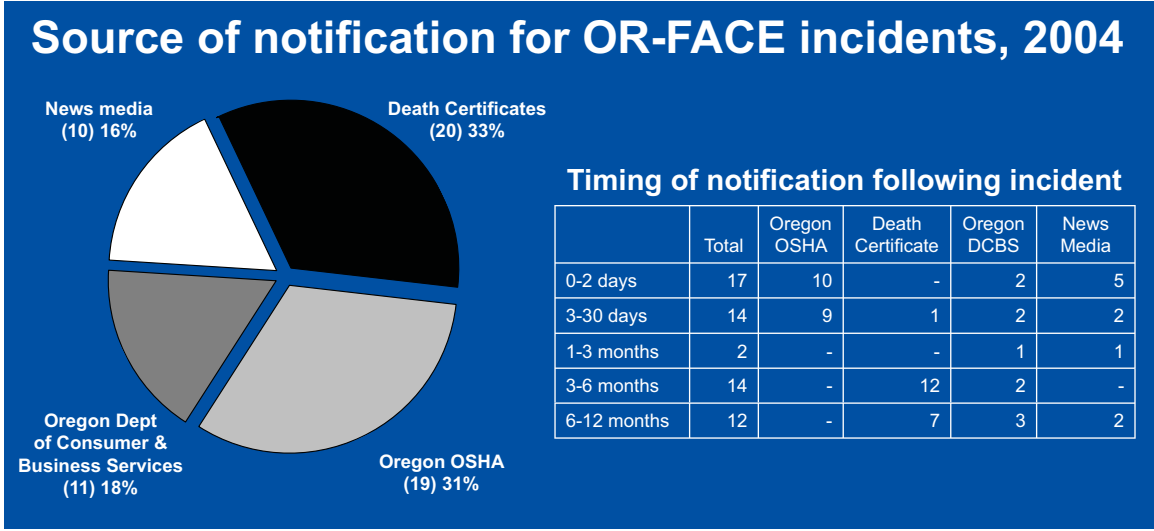
OR-FACE information sources include death certificates, law enforcement and medical examiner reports, news reports, and OR-OSHA and other investigation reports when available. Nearly half of all 2004 occupational fatalities recorded by OR-FACE were not recorded by OR-OSHA or national safety agencies. Most of the additional incidents captured by OR-FACE involve transportation incidents, or self-employed or family farm workers.

Data regarding OR-FACE incidents are collected in a customized Access database, including basic information about incident, employer, and victim. Incidents are coded in the database according to NAICS industry code (North American Industry Classification System), SOC occupation code

(BLS Standard Occupational Classification), and event code (BLS Occupational Injury and Illness Classification). Standardized coding facilitates national comparisons, and assists in analysis and presentation of data (see charts p. 14-18). Additional information is composed in abstracts for each incident, with details that identify types of equipment, behavior, and environmental factors.

First notification for OR-FACE incidents was supplied by (a) state agencies, (b) death certificates, and (c) news media. In 2004, OR-FACE was notified within 2 days of a fatal incident in nearly one-third of the cases, mostly by OR-OSHA. All first notification received from OR-OSHA occurred within 30 days.

Later notification was mostly supplied by death certificates, identified as work-related by Oregon DHS Center for Health Statistics. News media and Oregon DCBS (including Workers' Compensation and Oregon Census of Fatal Occupational Injuries) supplied regular notification for incidents for up to 12 months following an incident.



OR-FACE Publications 2004

Fatality Investigation Reports

2004 Incidents

- Fabricator killed by ruptured hydraulic press fitting
- Janitor using propane buffer killed by carbon monoxide
- Machine operator electrocuted while shoveling pellets
- Parked forklift crushes operator against semi-trailer
- Forklift crushes operator working underneath on starter
- Nursery laborer killed in skid-steer loader
- Sawmill worker crushed during debarker maintenance

2003 Incidents

- Worker killed in wood-dust fire sparked by faulty fuse
- Operator killed when bulldozer slides off logging road
- Logger killed by falling sheave when yarder tower collapses
- Farm driver overturns truck in irrigation ditch and drowns
- Logger killed as skyline cable whips free of slash pile
- Effort to clear rock jam in operating rock crusher fatal

Hazard Alert

- Parked vehicles kill

Other

- Annual Report 2003

Find published reports and other information at the OR-FACE website (www.ohsu.edu/croet/face). New reports are published regularly.

Oregon Fatality Assessment and Control Evaluation reports are for information, research, or occupational injury control only. OR-FACE is a research program, and has no legal authority to enforce state or federal occupational safety and health standards. The identity of the decedent, employer, and witnesses are not included in reports or alerts.

FACE data are protected from disclosure under Oregon law. Data collected by the Oregon Department of Human Services in connection with special morbidity or mortality studies are confidential and may be used solely for the purpose of the study (ORS 432.060).

Investigation

OR-FACE investigates incidents according to priority areas defined by the National Institute for Occupational Safety and Health, in combination with additional priorities important to Oregon.

Priority Areas

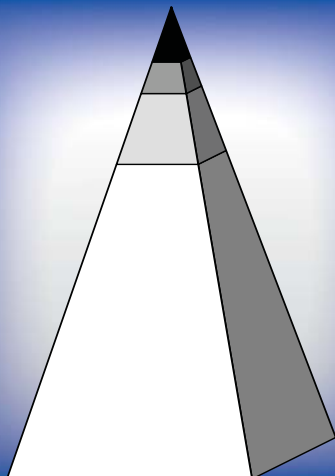
- Machine-related
- Logging and forestry
- Construction
- Street and highway work zones
- Agriculture
- Minority workers
- Youth (under age 18)

A full OR-FACE investigation includes an onsite visit, interviews with employers, employees, and witnesses, and consultation with other investigators and investigative reports.

Full investigations typically resulted in a published report. Partial investigations provided background information in files for producing abstracts and hazard alerts. Actual or pending legal action in an incident sometimes prevented access to information.

Most investigations during 2004 were conducted by a full-time OR-FACE investigator. By the end of 2004, OR-FACE developed a new system, using an independent consultant to provide expert advice for logging incidents. The new contract arrangement facilitated the completion of investigations and reports related to three 2003 logging incidents.

Later, an independent investigator was contracted for other industrial sectors. The use of independent contractors has worked well, and is now standard practice for all investigations.



Incident Report Status 2004

- 7 Reports published**
- 4 Draft in review**
- 9 Active**
(potential interest)
- 40 Abstract only**
(no investigation)

An abstract is produced for each incident (see p. 19-30).

Outreach

Publication and circulation of safety materials to relevant audiences raises awareness of hazards, contributes to the normative environment for occupational safety, and may produce tangible results in policy and behavior.

OR-FACE investigation reports and other publications are available on the OR-FACE website, and are also distributed in targeted electronic mailings to public agencies, safety professionals, and relevant employers and associations. Interested persons may add their names to the mailing list online. OR-FACE investigation reports are also linked to specific industry topics on the CROET online occupational safety and health resource directory (www.CROETweb.com).

OR-FACE collaborates with NIOSH and other state-based FACE programs by submitting a monthly report of Oregon fatality surveillance and outreach activities. All investigation reports are submitted to the national FACE online library (www.cdc.gov/niosh/face).

One indication of OR-FACE publications reaching the intended audience was observed in the use of an investigation report from the OR-FACE website. A 2004 report on a sawmill fatality (OR 2004-03) was found online and distributed by the Alberta Forest Products Association to its members as a hazard alert.

In September 2004, OR-FACE data for 2003 was finalized and prepared for publication in the OR-FACE 2003 Annual Report. Data charts were also published in the CROET quarterly newsletter (circ. 15,000), and in a safety newsletter of Hewlett-Packard, Corvallis, which was distributed to all employees.

OR-FACE fatality assessment results were also presented at several safety and health conferences in 2004. Four exposure events in 2003-04, for example, were compiled for a conference presentation, "Their Last Breath," which discussed different mechanisms of fatal exposure.

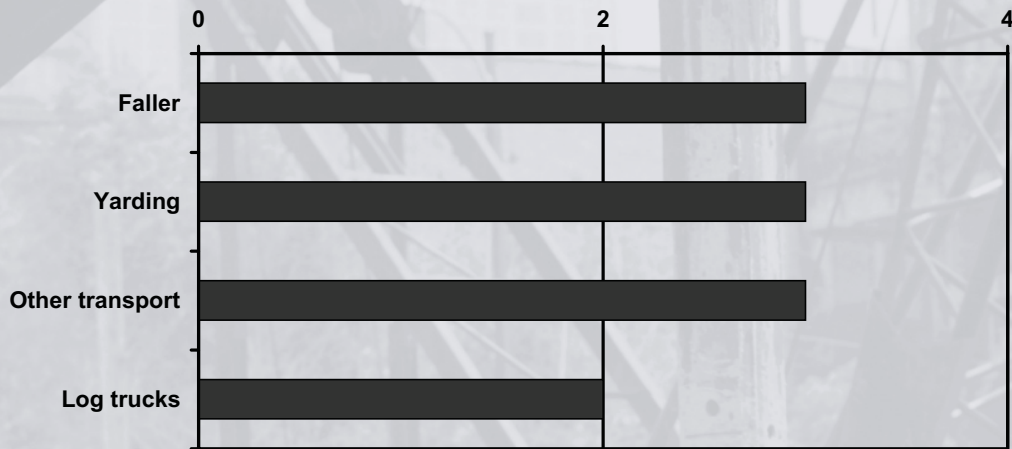
OR-FACE website: www.ohsu.edu/croet/face



Hazard Alerts

Logging

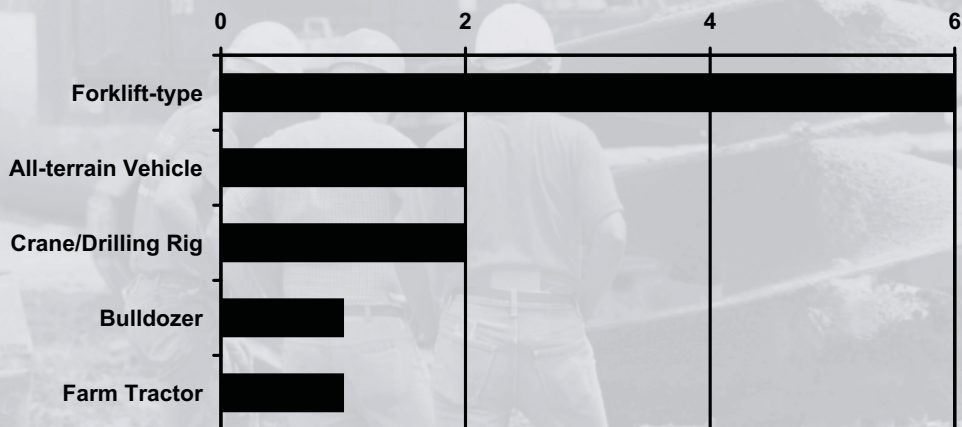
Worker Fatalities by Setting, 2004



The logging industry in Oregon remains the most hazardous working environment in the state. Including log truck drivers and all self-employed workers, about 9,219 workers in Oregon were employed in direct logging occupations. With 11 fatal incidents in logging in Oregon in 2004, the rate of occupational fatalities was 119 per 100,000 workers, about the same as in 2003. Fallers are most at risk, with a rate of 221 per 100,000 workers. Several of the fallers involved in fatal incidents were very experienced. Yarding incidents involved a range of occupations, including a helicopter pilot, a bulldozer operator, and a chaser.

Mobile Machinery

Worker Fatalities by Vehicle, 2004



Mobile machinery remains a prominent area of concern in 2004, mostly involving forklift-type vehicles. Half of the six forklift incidents occurred during normal operation of the vehicle. The remaining three incidents occurred while the forklift was parked, emphasizing hazards for the operator or others outside or under the machine. The bulldozer incident also involved a parked machine that was not completely stabilized before exiting the cab. Two ATV incidents appeared in 2004, one involving a 16-year-old dog trainer riding without protective gear.

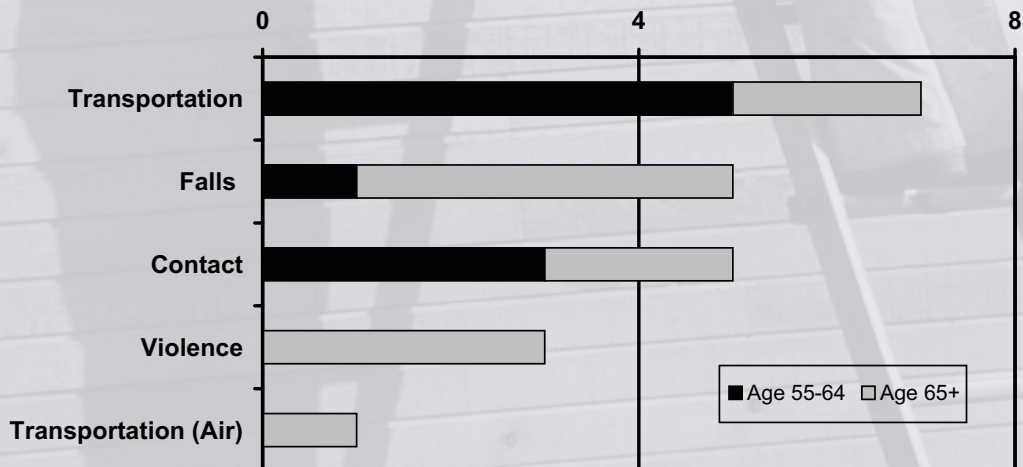
Hazard Alerts

Transportation Worker Fatalities by Vehicle and Setting, 2004



Transportation incidents represented 43% of all occupational fatalities in 2004, nearly the same as in 2003. The percentage involving trucks increased; water incidents with fishermen decreased. There were fewer events with multiple victims than in 2003. Of particular concern, 5 of 19 motor vehicle incidents involved the operator or a pedestrian outside the vehicle.

Older Workers Fatalities by Event for Older Workers, 2004

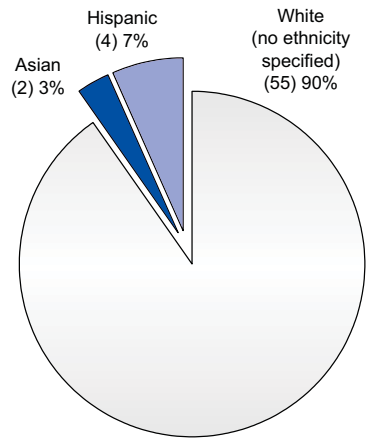


The age distribution of fatal incidents in 2004 showed a marked increase among older workers, particularly for those aged 65 and over. Compared to all younger workers, a fatal incident was somewhat more likely for workers aged 55-64, but 8 times more likely for workers aged 65 and over (see age chart, p. 14). Falls were the most common event. The incidence of suicide reflects a concern in Oregon for elevated rates of suicide among the elderly in the general population.

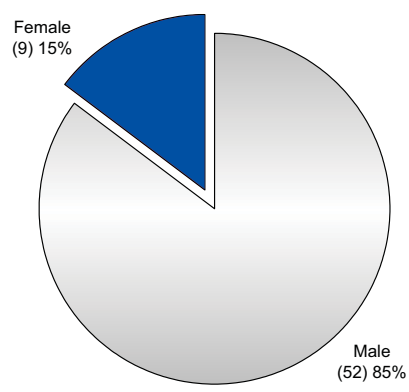
Charts

The following charts present aggregate data on occupational fatalities in Oregon in 2004. A notable rise occurred in 2004 in the proportion of female workers involved in fatal incidents. The percentage of female fatalities was 15% in 2004, and only 4% in 2003. The national average of female fatalities is 7%. Combining years, the average number of female fatalities in Oregon fits a normal range – occurring at a rate much lower than for males. Hazardous occupations are clearly sorted by gender.

Worker Fatalities by Race/Ethnicity, 2004

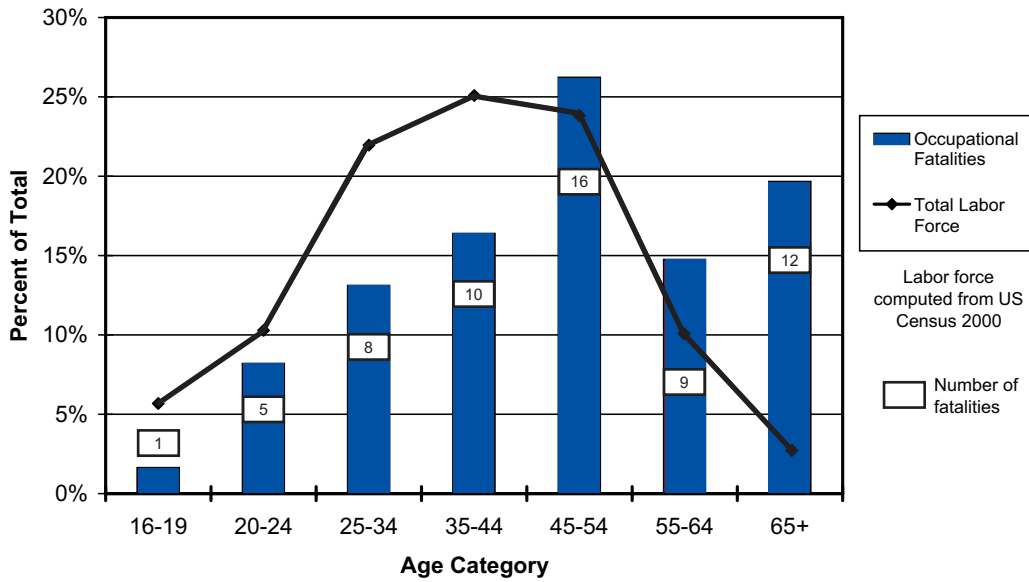


Worker Fatalities by Gender, 2004



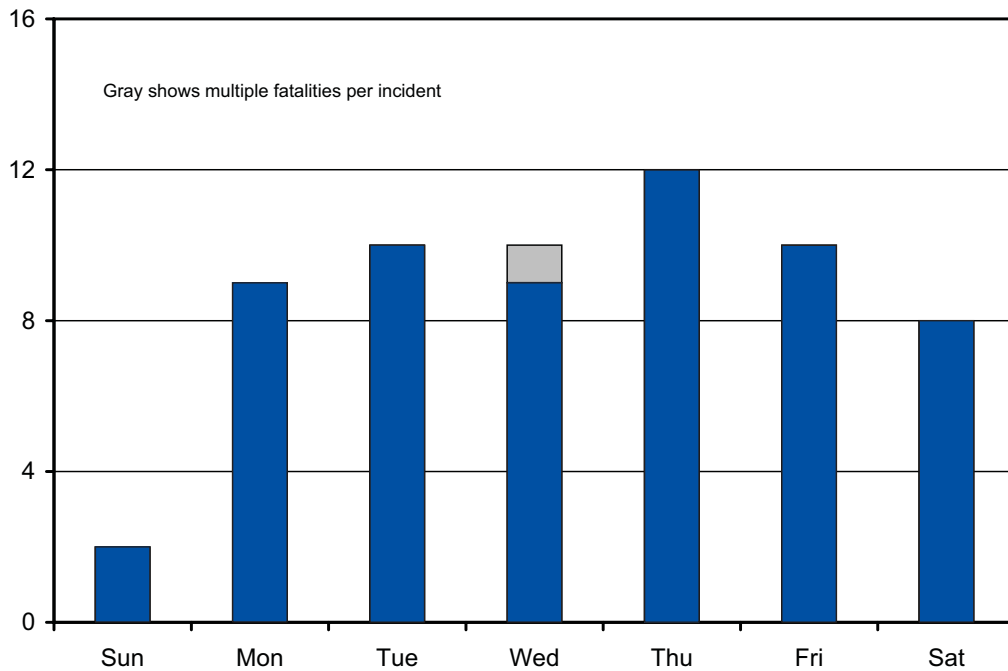
Distinguishing worker fatalities by race/ethnicity generally reflects the composition of the Oregon population. The 7% of incidents that involved Hispanic workers nearly reaches the 8% proportion of the population. The 3% of incidents that involved Asian workers also reflects the proportion in the general population. In 2004, no incidents occurred involving Native American workers, and in the past 2 years no incidents have occurred involving African American workers.

Occupational Fatalities in Oregon by Age, Compared to Age Distribution of Civilian Labor Force in Oregon, 2004

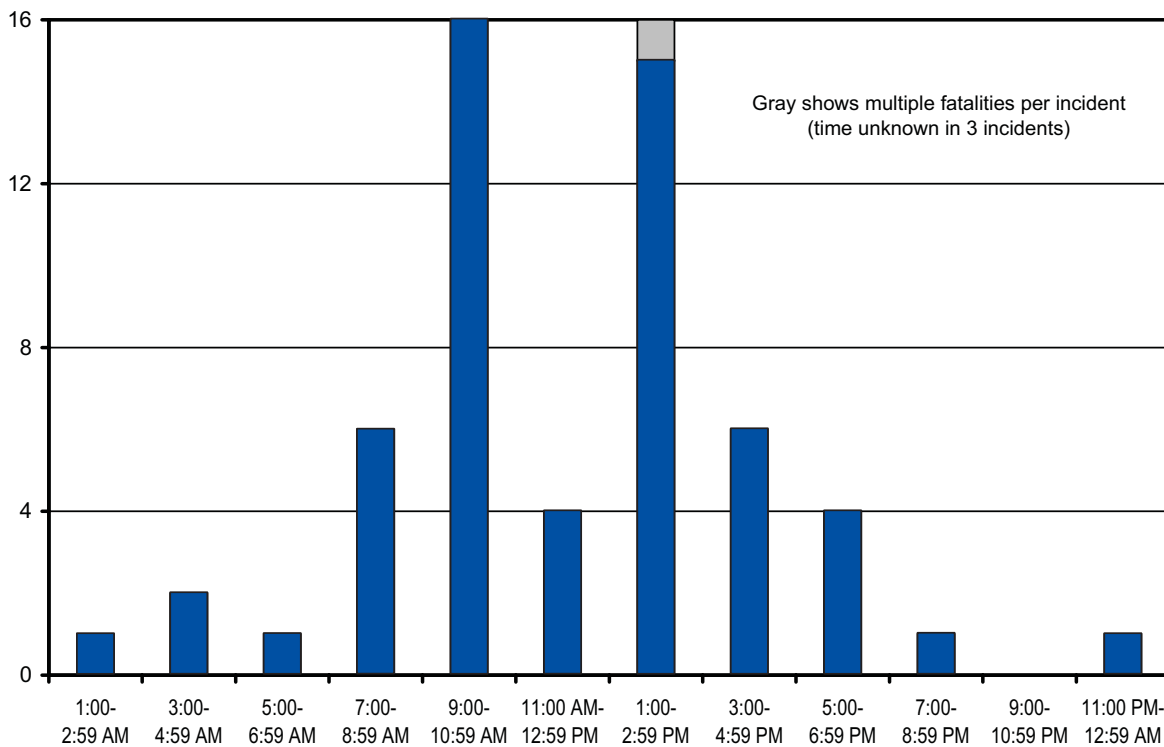


Charts

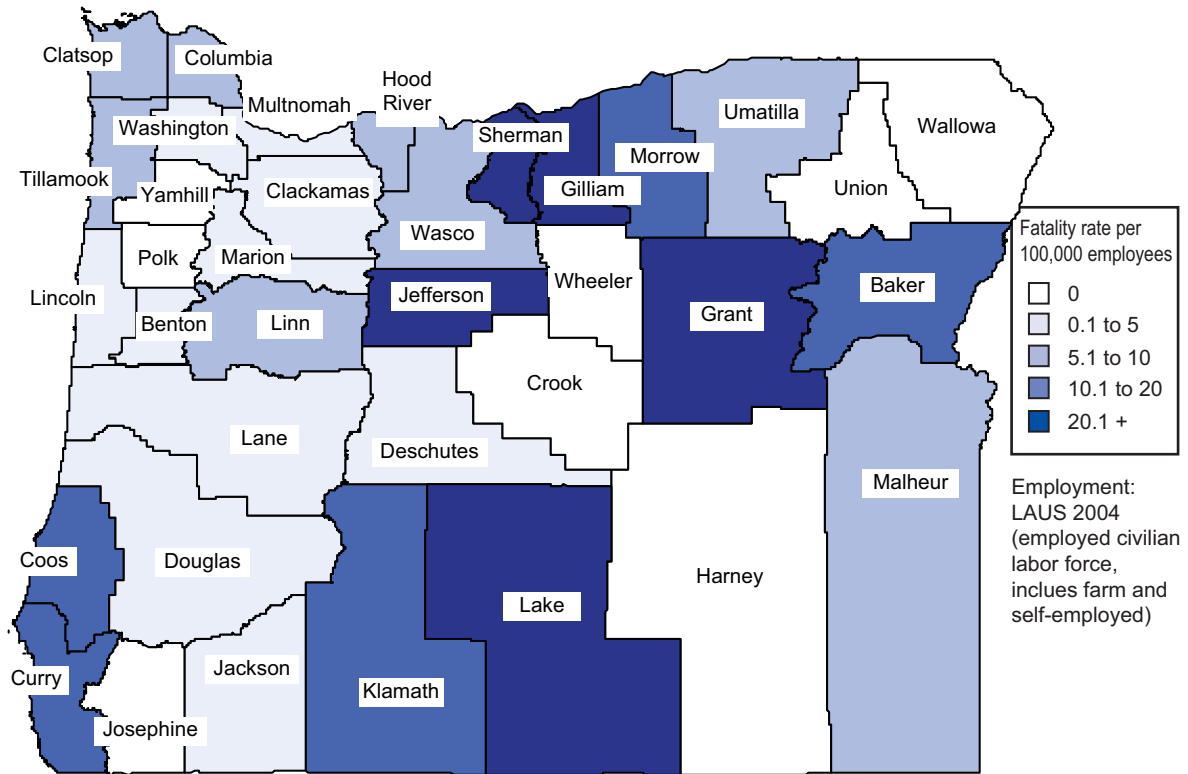
Worker Fatal Incidents and Total Fatalities by Day, 2004



Worker Fatal Incidents and Total Fatalities by Time of Incident, 2004



Occupational Fatality Rates in Oregon by County, 2004



Oregon Population, Employed Labor Force, and Fatalities by County, 2004

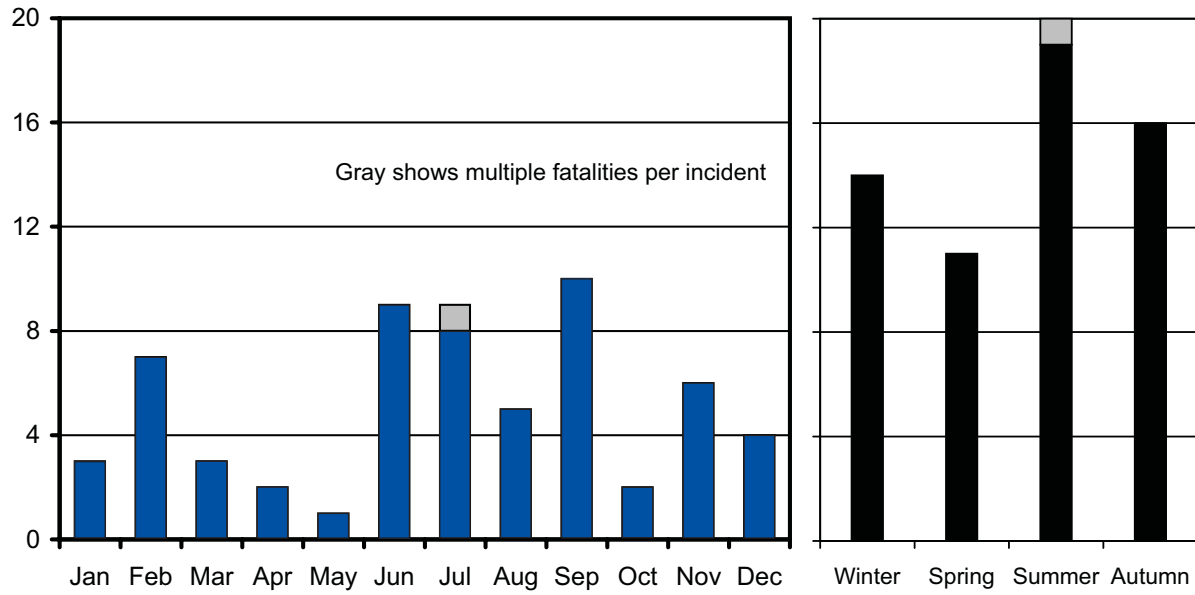
County	Total population	Employed labor force	Worker fatalities
OREGON TOTAL	3,582,600	1,718,507	61
BAKER	16,550	6,637	1
BENTON	81,750	40,075	1
CLACKAMAS	356,250	176,707	2
CLATSOP	36,400	17,474	1
COLUMBIA	45,650	20,981	2
COOS	62,700	25,857	3
CROOK	20,650	8,336	
CURRY	21,150	8,653	1
DESCHUTES	135,450	66,293	3
DOUGLAS	102,350	43,381	2
GILLIAM	1,900	997	2
GRANT	7,750	3,467	1
HARNEY	7,650	3,122	
HOOD RIVER	21,050	11,569	1
JACKSON	191,200	91,815	3
JEFFERSON	20,250	8,356	3
JOSEPHINE	78,600	31,547	
KLAMATH	64,800	27,119	3

County	Total population	Employed labor force	Worker fatalities
LAKE	7,500	3,264	1
LANE	333,350	160,363	3
LINCOLN	44,400	20,048	1
LINN	106,350	47,204	3
MALHEUR	31,850	11,929	1
MARION	298,450	138,577	2
MORROW	11,750	5,279	1
MULTNOMAH	685,950	345,614	9
POLK	64,950	32,461	
SHERMAN	1,900	810	1
TILLAMOOK	24,950	11,356	1
UMATILLA	72,250	34,155	2
UNION	24,850	11,261	
WALLOWA	7,150	3,266	
WASCO	23,900	11,794	1
WASHINGTON	480,200	247,482	6
WHEELER	1,550	609	
YAMHILL	89,200	40,649	

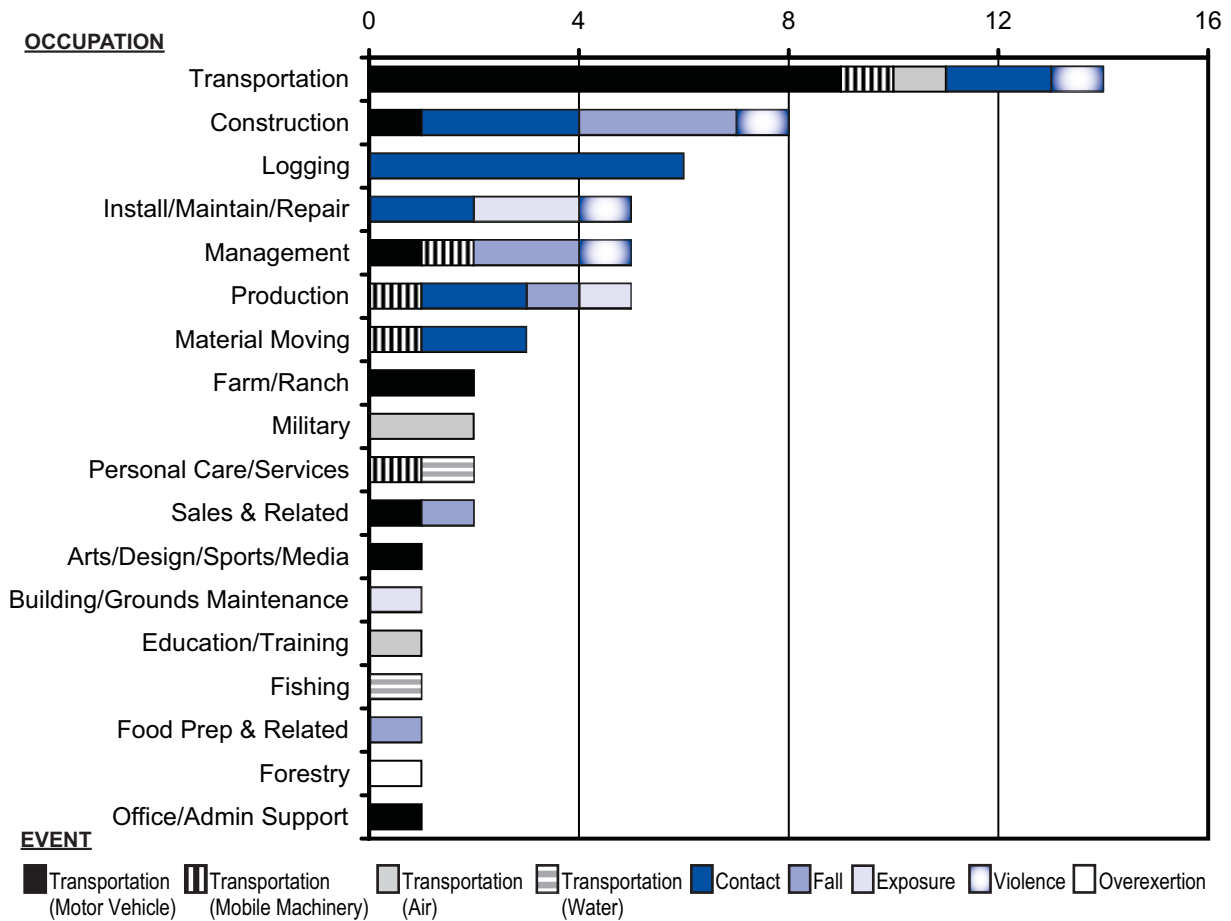
Population sources: Portland State University Population Research Center, LAUS 2004

Charts

Worker Fatal Incidents and Total Fatalities by Month and Season, 2004

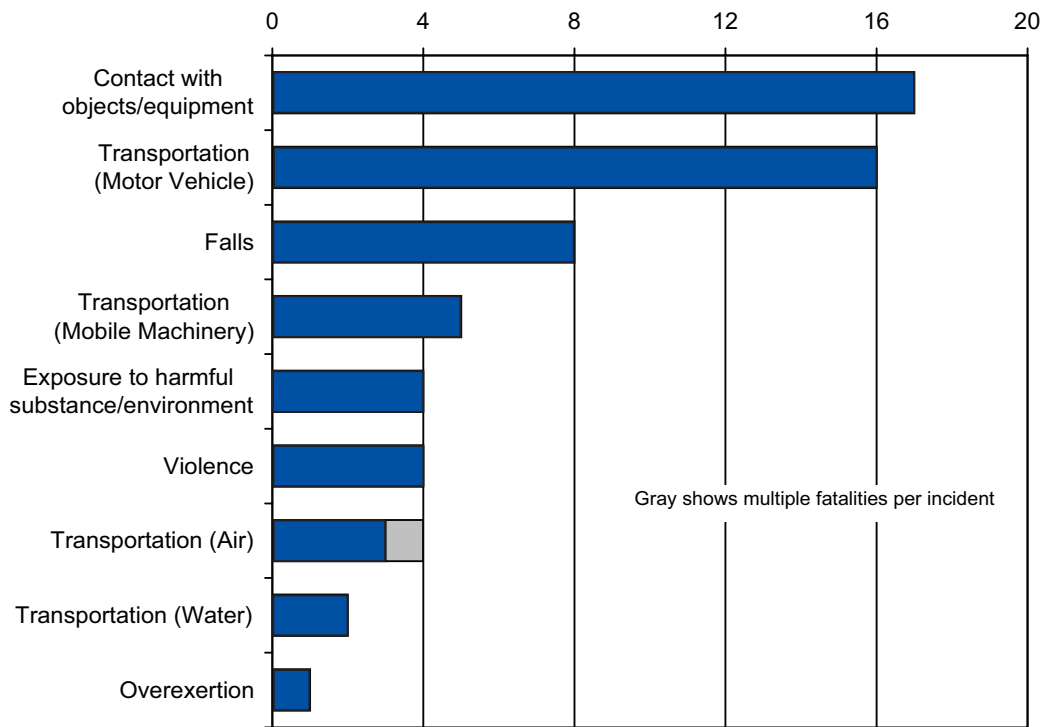


Worker Fatalities in Oregon by Occupation and Event, 2004

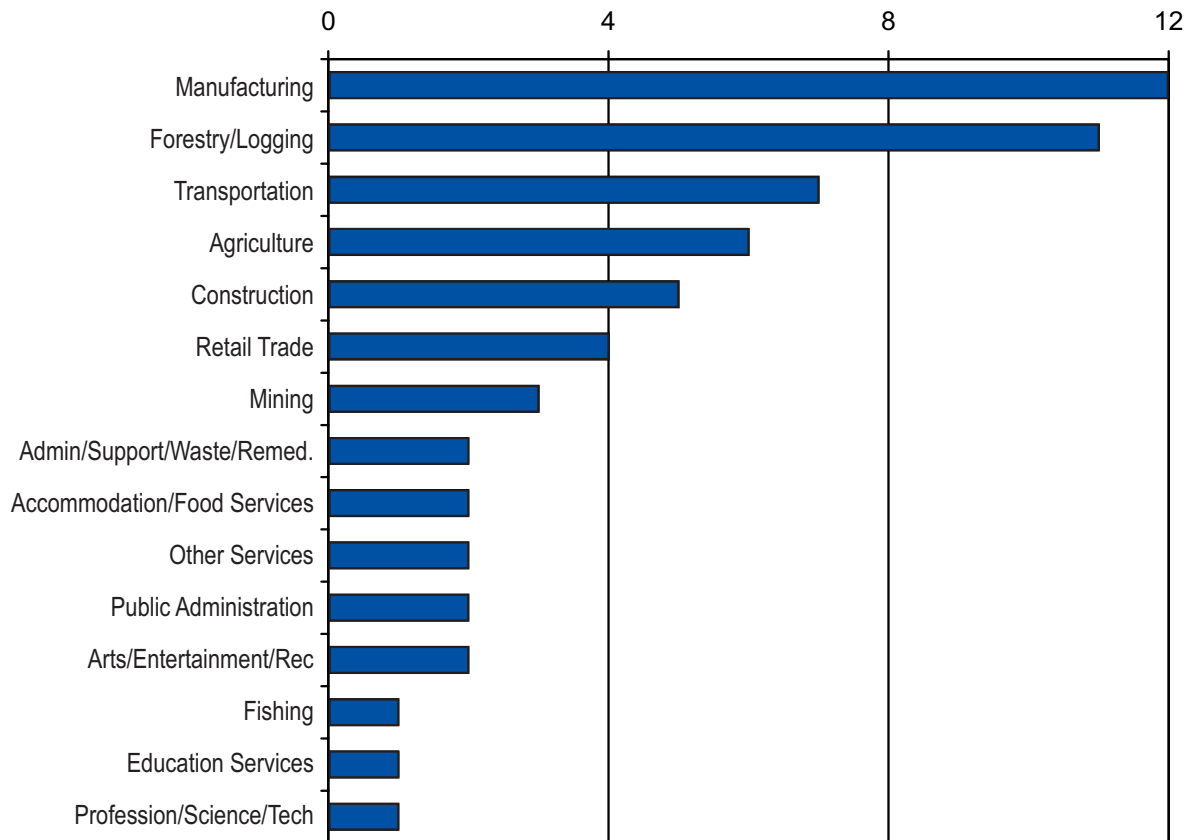


Charts

Worker Fatal Incidents and Total Fatalities by Type of Event, 2004



Worker Fatalities in Oregon by Industry, 2004



Worker Fatalities

INFORMATION KEY

Description

Industry
Occupation

Date of Incident
County of Incident
OR-FACE Number

Abstracts

of fatal occupational incidents in Oregon by type of event

2004

**Transportation – Contact – Exposure – Falls
Violence – Overexertion**

Transportation (Motor Vehicle)

Broken leg A 48-year-old assistant manager for an agriculture supply firm died on April 19, 2004, a little over 3 years after he was run over by a customer's 1-ton flatbed truck while staking out an irrigation plot (Feb 26, 2001). The assistant manager was walking through the customer's field when the truck backed over him. He sustained severe leg injuries. Cause of death was identified as "post phlebotic syndrome and pulmonary embolism."

Agriculture
Management

February 26, 2001
Umatilla
OR 2004-54-1

Wet road head-on A 34-year-old Hispanic female nursery worker was killed on the highway while traveling between farms. Conditions were wet and foggy. She drifted into the opposite lane on a curve, and collided head-on with a delivery van. She was declared dead at the scene. The van driver survived and was transported to a hospital.

Agriculture
Office/Admin Support

February 9
Washington
OR 2004-41-1

Wet pavement A 23-year-old sales representative for a family advertising business was killed when he lost control of his SUV on the highway. On wet pavement, the sales rep abruptly switched lanes toward an exit, lost control and struck a highway sign. The sales rep was apparently not using the seatbelt. Emergency responders confirmed the victim dead at the scene.

Profession/Science/
Technology
Sales & Related

February 16
Multnomah
OR 2004-53-1

Taxidermy delivery A 37-year-old taxidermist making a delivery of dry ice to a local hospital died at the scene after his vehicle left the highway and rolled over about 4 a.m. Roads were icy and the tires worn. The taxidermist was not wearing a seatbelt and was thrown from the vehicle.

Arts/Entertainment/Rec
Arts/Design/Sports

March 27
Deschutes
OR 2004-29-1

Worker Fatalities – Transportation

<p><i>Courier collision</i></p> <p>Transportation Transportation</p> <p>June 3 Multnomah OR 2004-30-1</p>	<p>A 56-year-old courier was killed while driving a full-sized delivery van on the freeway. The courier evidently did not notice quickly enough that traffic ahead was slowing down. The van struck the rear of a flatbed tow truck, with the sharp edge of the truck bed about level with the bottom of the van's windshield. The van console was crushed and the airbag inflated. The driver's seat was broken by the impact. The victim was declared dead at the scene. The victim was wearing lap and shoulder restraints.</p>
<p><i>Steep gravel road</i></p> <p>Construction Transportation</p> <p>July 2 Jackson OR 2004-14-1</p>	<p>A 67-year-old truck driver was killed while driving a 12 yd dump truck loaded with crushed rock on a steep gravel road. At a left turn, the truck continued to travel straight, leaving the roadway over the bank. The cab of the truck struck a large tree. The victim was assisted by other drivers out of the cab, but died at the scene due to internal injuries. No major mechanical problems were discovered on later inspection of the vehicle, but loss of brakes or overheating, due to the steep terrain, may have contributed to the incident.</p>
<p><i>Water truck rollover</i></p> <p>Forestry/Logging Transportation</p> <p>July 9 Jefferson OR 2004-44-1</p>	<p>A 53-year-old female truck driver owner/operator was killed when her log truck, hauling an empty water tank and pump, left a logging road and rolled over. Going downhill on a curve with a steep edge, the truck may have lost control due to soft dirt on the edge of the road. The driver was ejected. No seat belts were installed in the vehicle.</p>
<p><i>Wheat truck</i></p> <p>Agriculture Farm/Ranch</p> <p>July 26 Sherman OR 2004-46-1</p>	<p>A 63-year-old farmer was killed when his fully loaded wheat truck ran off the road. The farmer failed to negotiate a corner, and ran into a rock embankment. The truck had several mechanical problems, including the brakes, which had recently been fixed. The truck also tended to periodically pop out of gear. The farmer was not wearing a seat belt and was ejected from the vehicle. Speed was apparently not a factor in the event, but the inertia of the heavy load, up to 46,000 lb, probably accounted for the extensive damage to the cab of the truck.</p>
<p><i>Mining road</i></p> <p>Mining Construction</p> <p>July 27 Baker OR 2004-47-1</p>	<p>A 70-year-old miner was killed while moving dirt from his mining claim in an old pickup truck. A partner was on foot ahead of the pickup, removing rocks from the steep and rugged road. The miner evidently lost control of the vehicle and went over the edge. His partner saw him open the door in an unsuccessful attempt to escape. The pickup rolled several times down a 300-400 ft hillside. The miner was ejected part-way down and was found dead at the scene.</p>
<p><i>Cement truck rollover</i></p> <p>Manufacturing Transportation</p> <p>August 24 Lane OR 2004-49-1</p>	<p>A 44-year-old truck driver was killed when the cement truck he was driving tipped over on its passenger side on a left-hand turn with a slight grade. The road was asphalt and in good repair, but wet. The truck slid off the road into an embankment, crushing the cab. The driver was not wearing a seat belt and was found dead on the passenger side of the cab.</p>

Worker Fatalities – Transportation

<i>Loose passenger door</i>	A 40-year-old female worker with a moving company was killed when she fell from the passenger side of the moving truck while traveling on the highway. The passenger door on the truck had previous damage and did not shut properly. Resistance may have made it appear to be shut. The worker was not wearing a seat belt. The victim was declared dead at the scene.
Transportation Transportation	
September 20 Lane OR 2004-50-1	
<i>Loaded log equipment</i>	A 42-year-old truck driver was killed when the surface of a logging road gave way under his heavily loaded semi-truck and trailer. The driver was hauling a yarder to a new location and took an alternate route to avoid a weight-restricted bridge. A second truck was attached by a tow rope, helping the rig climb a steep incline. The narrow road gave way under the right rear tire of the trailer, and the rig was pulled over the edge. The cab was raised high in the air and the tow rope disengaged. The truck rolled once before coming to rest 30-50 ft down the embankment in an upright position. The victim was ejected and pinned beneath the wheels.
Forestry/Logging Transportation	
September 22 Lane OR 2004-33-1	
<i>Dairy truck</i>	A 30-year-old dairy truck driver was killed when his semi-truck and trailer crossed over the center line of the highway, struck the guardrail on the opposite side, and traveled along the guardrail before crashing into an embankment. There were no adverse road conditions at the time of the incident. The driver was not wearing a seat belt.
Transportation Transportation	
October 23 Jefferson OR 2004-60-1	
<i>Delivery driver</i>	A 57-year-old route manager for a home delivery service was killed in a subdivision while making a delivery. The manager was hit by a pickup truck after he got out of his delivery truck and was standing next to the driver's side door of his vehicle. The route manager was parked on the opposite side of the street from the direction of travel of the pickup. The victim died at the scene.
Transportation Transportation	
October 28 Washington OR 2004-25-1	
<i>Log truck on road</i>	A 48-year-old log truck driver was killed when he lost control of his loaded truck on a highway curve and crashed over a steep embankment. The truck and trailer rolled over, crushing the cab. The victim was not wearing a seat belt and was found dead on the passenger side of the cab.
Forestry/Logging Transportation	
November 1 Grant OR 2004-58-1	
<i>Railroad crossing</i>	A 56-year-old male ranch hand was killed while driving a pickup truck into town to obtain a part needed for work. He failed to stop at an unguarded railroad crossing and was struck by an oncoming train. The crossing had a stop sign, but no lights. The train conductor sounded the horn, but the ranch hand apparently failed to hear it.
Agriculture Farm/Ranch	
December 24 Klamath OR 2004-63-1	

Worker Fatalities – Transportation

Transportation (Mobile Machinery)

<i>Crushed foot</i>	A 58-year-old supervisor at a recycling facility injured his lower leg while riding a four-wheeled all-terrain vehicle at work, and died 4 months later (Feb 27, 2004). The supervisor ran over his own left foot while turning to avoid an oncoming tractor. He was treated at the hospital, released, and seen routinely for wound care. There was concern for vascular supply to the lower extremity, due to a history of heart disease. On the day of death, the supervisor experienced shortness of breath during a scheduled check-up and was transferred to the emergency department, where he eventually expired.
Admin/Support/ Waste/Remediation Management	
October 31, 2003 Multnomah OR 2004-28-1	
<i>Nursery forklift</i>	A 24-year-old Hispanic nursery laborer was killed while operating a skid-steer loader. The operator was moving metal carts containing plants from an outside location into a greenhouse. The operator was discovered in a seated position in the operator's cage of the skid steer with a severe head injury. His left arm was behind him as if to support himself while leaning forward. It was raining, and the operator had placed his coat across his lap to prevent his pants from getting wet. A pocket of the coat was caught on the skid-steer's operational hand controls. The controls were probably activated as the victim leaned forward, causing the skid steer to move suddenly. The jolt apparently caused his head to strike the left-front roll bar. The victim was pronounced dead at the scene.
Agriculture Material Moving	
March 25 Marion OR 2004-07-1	
<i>ATV rider</i>	A 16-year-old dog trainer was thrown from an all-terrain vehicle, and died 4 days later. The trainer was riding the ATV with a passenger downhill into a pasture, and did not see a ditch grown over with vegetation. The front wheels hit the ditch and the ATV rolled end over end. The trainer was found unconscious next to the vehicle. He was not wearing a helmet or other protective gear. The injured passenger took the ATV back to the employer to get help. The victim was taken to a hospital, but he was not able to recover from severe chest and internal injuries.
Other Services Personal Care/Services	
August 12 Columbia OR 2004-16-1	
<i>Mill unloading</i>	A 50-year-old log truck driver was killed in a mill yard when he was crushed against his load of logs by a front-end loader. According to standard procedure, the loader moved forward to secure the load of logs to allow the driver to safely remove the last two wrappers. A second loader operator working in the yard at the time saw a hard hat on the ground near the truck, and radioed to the first operator to back away. The victim was found dead at the scene, crushed between the loader and the load of logs.
Forestry/Logging Transportation	
September 23 Klamath OR 2004-21-1	
<i>Forklift traffic lane</i>	A 29-year-old female production worker was killed when she was struck by a forklift carrying a load. The worker was stationed at a grading machine adjacent to a bay door and traffic area. She stopped to clear wood-block debris from the forklift traffic lanes. Clearing the lanes was a common practice. A loaded forklift entered through the bay door and struck the worker while she was bent over and not visible to the operator. The forklift stopped abruptly, and the 1,300 lb load of wood tumbled forward and crushed the victim.
Manufacturing Production	
November 30 Jefferson OR 2004-39-1	

Worker Fatalities – Transportation

Transportation (Air)

<i>Helicopter logging</i>	A 41-year-old helicopter pilot was killed during a logging operation in a steeply sloped, tree-covered terrain. The helicopter was in a hover, attempting to snag a log using a 200 ft line, when it drifted sideways and the rear rotor struck a treetop. The helicopter then rolled and descended to the ground. The pilot, a resident of Australia, had extensive experience as a helicopter pilot. The steep terrain evidently reduced the safety margin for the length of the line over the treetops.
Forestry/Logging Transportation	
May 12 Douglas OR 2004-09-1	
<i>Training flight</i>	A 70-year-old flight instructor was killed on a training flight in a student's recently purchased 1961 Piper Apache twin-engine airplane. The plane appeared to have engine trouble before crashing into an onion field. This was the student pilot's third instructional flight in the plane. The instructor and student were both killed in the crash.
Education Services Education/Training	
July 15 Malheur OR 2004-55-1	
<i>Jet fighter</i>	A 36-year-old U.S. Marine Corps pilot of an F/A-18 jet, and a 36-year-old aircraft maintenance officer riding in the back seat, were killed in a mid-air collision with another naval jet over the Columbia River. The jets were heading from Portland International Airport to the Boardman Bombing Range. During the flight, the mission was rescheduled and the two planes were in the process of turning back to Portland when the rear jet collided with the lead jet. The pilot of the lead jet managed to parachute to safety.
Public Administration Military	
July 21 Gilliam OR 2004-45-2	

Transportation (Water)

<i>Commercial crabbing</i>	A 51-year-old commercial fisherman drowned after his 22 ft dory capsized in the ocean. He was an experienced fisherman and skipper of the vessel. The engine of the boat stalled as it was returning to harbor from a crabbing trip. The U.S. Coast Guard responded to the craft and was present at the scene. A crew member jumped off the stalled boat and was picked up by a rescue boat. The skipper went down into the cabin to get his survival suit before entering the water, and the vessel capsized while he was below. The body was recovered, tangled in gear.
Fishing Fishing	
June 9 Lincoln OR 2004-32-1	
<i>River excursion</i>	A 51-year-old fishing guide was drowned when his drift boat wedged sideways between two rock walls and capsized in a narrow section of the Rogue River with churning rapids. The guide was not wearing a life preserver. Two passengers on board, both wearing life preservers, emerged unharmed. The guide was responsible for rowing, which can be uncomfortable while wearing a life preserver. The guide had conducted fishing excursions on the river for over 25 years. The victim's body was found 6 days later.
Arts/Entertainment/Rec Personal Care/Services	
September 30 Curry OR 2004-56-1	

Worker Fatalities – Contact

Contact with objects/equipment

<i>Tree falls wrong way</i>	A 76-year-old self-employed logger, working as a faller, was killed by the branches of a juniper that apparently fell in the opposite direction from the way it had been cut to fall. The faller's partner discovered him at lunch time with no apparent signs of life. The victim's chainsaw was lying near the stump of the fallen tree. The fallers were in a remote location with a poor road, and the victim's partner drove the victim back to his residence before calling for help. The medical examiner concluded the victim was already dead at the scene.
Forestry/Logging Logging	
January 26 Lake OR 2004-27-1	
<i>Debarker</i>	A 24-year-old sawmill employee, working as a millwright, was killed in a routine maintenance operation, grinding the teeth of the feed rolls inside a log debarking machine. The millwright shut down electrical power to the debarker before entering the intake area, but did not block the holddown press roll with pins available on the frame of the machine. The press roll was held up by compressed air. While he was inside the debarker, another employee shut off the compressed-air system in a separate maintenance operation, which allowed air pressure to drop throughout the plant. As line pressure dropped, the press roll over the intake area of the debarker descended and crushed the millwright.
Manufacturing Production	
February 7 Washington OR 2004-03-1	
<i>Parked forklift</i>	A 42-year-old Hispanic forklift operator was crushed between the forklift he had been operating and a semi-trailer he was helping to load. Assisting the driver to tie down the load, the operator backed the forklift to the side of the trailer, put the automatic transmission into neutral, engaged the parking brake, and jumped out to take the strap thrown across the load by the truck driver. The forklift's engine was left running. While the operator was facing the trailer, the forklift engaged in reverse and backed into him, crushing him against the trailer.
Manufacturing Material Moving	
February 10 Hood River OR 2004-04-1	
<i>Tractor augur</i>	A 33-year-old self-employed contractor was killed while operating a post-hole augur attached to a tractor to install fence posts. The contractor was hired by a friend to do some work on their land. The augur bit was suspended from the ground and had not yet made a hole when the contractor's clothing apparently got caught on the rotating bit and pulled him into it. There were no witnesses to the event. The victim was found dead at the scene.
Construction Construction	
February 22 Deschutes OR 2004-26-1	
<i>Drilling rig</i>	A 47-year-old construction foreman was killed when he walked behind a drilling rig at a large construction project. Construction was located on a steep hillside, and several project subcontractors were in close proximity as they worked. The foreman had 27 yrs of construction experience. The drilling rig operator could not see the foreman from where he sat, and was given no warning that a person was in the vicinity of the rig. As the drilling operator rotated the drilling head, the rear of the platform crushed the victims' head against a concrete retaining wall. The injury was immediately fatal.
Construction Construction	
March 11 Multnomah OR 2004-06-1	

Worker Fatalities – Contact

<p><i>Crane collapse</i></p> <p>Manufacturing Install/Maintain/Repair</p> <p>April 27 Morrow OR 2004-08-1</p>	<p>A 47-year-old technician, born in Yugoslavia and living in Canada, was killed when a newly assembled 60-ton crane at a Columbia River port collapsed during testing. The technician was in the crane's operator cabin about 60 ft off the ground. Investigation by the U.S. Occupational Safety and Health Administration concluded the cause of the incident was due to structural defects in the crane.</p>
<p><i>Gradall starter</i></p> <p>Manufacturing Construction</p> <p>June 4 Linn OR 2004-10-1</p>	<p>A 47-year-old co-owner of a wood-products firm, working as a general contractor, was run over and killed by a Gradall rough-terrain forklift at a construction site. The contractor was operating the forklift and momentarily stopped work. He left the machine in gear and it was protected from starting again by a safety lock. The contractor was apparently unaware of this feature. He crawled underneath and reached up into the engine compartment with a screwdriver, made contact between the two terminals on the starter, and jump-started the engine. The parking brake was not set and the Gradall rolled forward over him.</p>
<p><i>Super sacks</i></p> <p>Manufacturing Transportation</p> <p>June 29 Clackamas OR 2004-13-1</p>	<p>A 39-year-old forklift operator of Hispanic origin was killed by a 2,200 lb super sack of expandable polymer beads that tipped over on top of him. The super sacks were stacked two high. The operator accidentally punctured the lower super sack with the fork of his forklift. He moved the forklift out of the way and was busy patching the hole with tape to prevent the sandlike beads from spilling out when the super sack above fell over on top of him. The victim was declared dead at the scene.</p>
<p><i>Hydraulic press</i></p> <p>Manufacturing Production</p> <p>July 14 Linn OR 2004-15-1</p>	<p>A 20-year-old machinist was killed while setting up a hydraulic press to punch holes in metal tubing. While changing the punch on the press, the machinist drew back the cylinder all the way, which exerted maximum pressure. The pressure gauge on the press was not operational. The machinist was sitting on a small rolling cart directly in front of the 5,000 lb press, when a fitting to the hydraulic hose burst, broke free from the hose, and struck him in the chest. The victim was found dead at the scene.</p>
<p><i>Fixing brakes</i></p> <p>Transportation Transportation</p> <p>August 17 Marion OR 2004-57-1</p>	<p>A 63-year-old truck driver was killed while working on his front brakes at a truck stop. The driver asked another driver to get in and start the engine, while he was still underneath the vehicle. The transmission was engaged, and turning the starter caused the truck to lurch forward. The front tire ran over the driver.</p>
<p><i>Runaway pickup</i></p> <p>Forestry/Logging Logging</p> <p>September 7 Clatsop OR 2004-18-1</p>	<p>A 28-year-old hooktender was killed on an active logging site by a pickup truck. The incident was not witnessed. The pickup was discovered on a slight incline, with the hooktender pinned underneath it. The transmission was in neutral. Apparently the engine stalled, and the hooktender may have been underneath working on the starter, or had attempted to push the vehicle. An hour before the incident, the starter failed and the pickup had to be push started. The victim was reportedly aware that the parking brake on the pickup was not functioning properly.</p>

Worker Fatalities – Contact

<p><i>Forklift floor jack</i></p> <p>Retail Trade Install/Maintain/Repair</p> <p>September 9 Umatilla OR 2004-19-1</p>	<p>A 27-year-old mechanic was killed underneath a forklift when it slipped off the jack holding it up during maintenance. The mechanic was performing warranty maintenance work on the forklift, which involved changing the starter. He placed a floor jack under the rear axle at the center of the counterweight, and raised it to the maximum extension. While the mechanic was underneath, loosening the nuts on the starter, the jack slipped out and allowed the forklift to drop.</p>
<p><i>Hung tree</i></p> <p>Forestry/Logging Logging</p> <p>September 28 Tillamook OR 2004-22-1</p>	<p>A 58-year-old timber faller was killed by a small fir tree hung up in a larger tree he was falling. Cutting a strip with his partner, the pair were working their way uphill. Days earlier, a 6 in. diameter fir, about 45 ft tall, fell uphill and caught between two trees. The small tree was not marked with a danger ribbon. On the day of the incident, the faller cut a tree uphill from the “hung” tree, and as the tree fell, the small fir tree also fell, striking the faller. The victim was transported to paramedics and declared dead.</p>
<p><i>Bulldozer choker</i></p> <p>Agriculture Logging</p> <p>September 30 Coos OR 2004-23-1</p>	<p>A 52-year-old ranch hand was killed during a logging operation while operating a D4E Caterpillar to haul logs to a landing. The ranch hand was an experienced logger. With the engine left running, gear in reverse/neutral, parking brake set, and front blade raised about 1 ft off the ground, the ranch hand was setting chokers to logs behind the bulldozer. The bulldozer was on a slight incline and the tracks were on branches. As the ranch hand leaned down, the bulldozer dislodged and slid backward. The victim was killed immediately.</p>
<p><i>Yarder turn</i></p> <p>Forestry/Logging Logging</p> <p>November 1 Douglas OR 2004-52-1</p>	<p>A 47-year-old logger, working as a choker setter, was hit by a treetop in a cable logging operation, and died 7 days later. Working with a partner, the choker setter may have been “crowding the rigging” – standing too close to the cable path as the yarder began to pull the load of logs uphill. A small tree within the load was being held down by another tree, and immediately as the load moved, the treetop broke loose and hit the choker setter in the stomach. He was admitted to the hospital with serious internal injuries.</p>
<p><i>Moving bus</i></p> <p>Transportation Transportation</p> <p>November 2 Washington OR 2004-34-1</p>	<p>A 56-year-old female bus driver was run over by the city bus she had been driving. The driver stopped at a transit center to let off passengers, and exited the bus to take a scheduled break. She left the engine running and walked to the driver’s side to reach in the window, probably to close the door. The bus began to move forward and the driver ran to the front with outstretched arms, apparently trying to stop the 15-ton vehicle. The bus ran over her. How the bus could have moved forward on flat ground remains uncertain. The parking brake was apparently set.</p>
<p><i>Faller snag</i></p> <p>Forestry/Logging Logging</p> <p>November 5 Jackson OR 2004-35-1</p>	<p>A 65-year-old independent logger, working as a faller, was killed when a snag tree swung back and struck him. The faller was working with a spotter. He cut an 80 ft pine tree, and the branches caught another tree as it was falling. The snag bent in the direction of the fall, then swung back and broke. The spotter ran and avoided the tree. He found the faller on the ground near the tree, seriously injured. By the time emergency responders arrived, the victim was dead at the scene. Reportedly, the initial cut of the fallen tree was performed correctly to avoid the snag.</p>

Worker Fatalities – Exposure

Exposure to harmful substance/environment

Shovel shock A 34-year-old machine operator was electrocuted while cleaning up wood pellets from beneath a pellet bag sealing machine and its conveyor system. The operator was using a long-handled scoop shovel to push spilled wood pellets into a central pile. He grasped a metal guard on the bagging machine with his left hand and leaned forward with the shovel in his right hand. His right wrist came into contact with exposed electrical controls on the wall near the bagging machine. The victim collapsed, and was later discovered by a coworker, deceased.

Manufacturing
Production

January 28
Linn
OR 2004-05-1

Tanker confined space A 23-year-old tank mechanic died when he entered a permit-required confined space. The mechanic was assigned to prepare for an inspection of a shipping container used to transport silicon tetrachloride. The tank had been purged with an inert nitrogen atmosphere. While waiting for the inspector, the mechanic entered the tank without testing the atmosphere, passed out, and died of asphyxiation. Upon discovering the victim about 45 min. later, a coworker jumped into the tank, also without testing the atmosphere, and lifted the victim up to others standing on top of the tank. Testing showed the atmosphere at the bottom of the tank to be about 12% oxygen, below the minimum safe level of about 20% oxygen.

Manufacturing
Install/Maintain/Repair

February 4
Multnomah
OR 2004-02-1

Gravel hopper A 33-year-old maintenance worker was killed when he was engulfed by sand and gravel that had plugged a 30-ton transfer hopper. The maintenance worker and two coworkers succeeded in unplugging the discharge point for the hopper, but a bridge of pit material had built up and blocked the upper section. The maintenance worker entered the hopper from the top and was standing on the material when it broke free and engulfed him. He was not wearing a safety harness. The victim was pronounced dead at the scene, due to traumatic asphyxiation.

Mining
Install/Maintain/Repair

June 19
Columbia
OR 2004-12-1

Propane buffer A 50-year-old janitor died by carbon-monoxide poisoning, due to exhaust from a propane buffer he was using in an enclosed space. The janitor was found on the floor, unresponsive, 6 ft from the propane-powered buffer, which was propped up in idle mode, still running. The odor of exhaust in the office building was overwhelming when the janitor's employer entered to locate him several hours after he should have been done with the job. The air filter on the buffer was clogged, and the exhaust contained very high concentrations of carbon monoxide, immediately harmful to life and health.

Admin/Support/
Waste/Remediation
Building/Grounds
Maintenance

November 13
Deschutes
OR 2004-37-1

Worker Fatalities – Falls

Falls

<i>Fall from ladder</i>	A 68-year-old female retail clerk fell from the sixth step of a step ladder in a company storeroom, and died 5 days later. She sustained a fracture to the left knee and femur. The clerk was admitted to a local hospital, where she developed sepsis, and died on the way to another hospital for advanced care. Cause of death remains uncertain. The only unusual result found by the medical examiner was an “extensive infarcted colon,” which did not appear to be associated with the fracture.
Retail Trade Food Prep & Related	
January 1 Multnomah OR 2004-01-1	
<i>Hole in roof</i>	A 45-year-old journeyman roofer died after falling through a covered hole during a reroofing project on a warehouse and office space. The roofer was working with another journeyman roofer and an apprentice to lay insulation. The workers removed an exhaust fan, and covered the hole with a square of insulation, left unsecured and unmarked. The roofer, wearing sunglasses against the glare from the insulation, walked across the roof, kicked loose the insulation over the hole, and fell about 20 ft to the concrete floor below. He was transported to the hospital, where he died a half-hour later.
Construction Construction	
June 17 Multnomah OR 2004-11-1	
<i>Crash off ladder</i>	A 54-year-old Asian female cafe owner was critically injured after falling 9-10 ft off a ladder onto her head, while attempting to repair a light fixture. She died 2 days later in the hospital. The event was unwitnessed. No mark was evident, but the victim’s balance may have been upset by an electric shock.
Accommodation/Food Services Management	
June 26 Washington OR 2004-43-1	
<i>Conveyor belt</i>	A 63-year-old miner fell 12 ft onto a concrete floor from a crossbeam of an elevated conveyor at a sand and gravel operation, and died the next day. The miner and two coworkers were installing a new conveyor belt. The miner was standing on a crossbeam, pulling on a rope tied to the new belt. The rope unexpectedly came loose, causing him to fall.
Mining Construction	
August 21 Clackamas OR 2004-17-1	

Worker Fatalities – Falls

<i>Torch-cut supports</i>	A 67-year-old salvage worker fell from a steel structure he was cutting with a torch, and died nearly 3 weeks later. The worker was cutting steel supports to salvage a log in-feed conveyor system, and stepped onto a support that had already been cut, thinking it would hold him. The support gave way and the worker fell nearly 6 ft and struck his head on the concrete floor.
Construction Construction	
August 30 Benton OR 2004-36-1	

<i>Loading-hole gate</i>	A 39-year-old Hispanic female fish processor was killed after falling through a loading hole from a second-story storage area. The processor and other employees were boxing frozen fish, and went to get more boxes upstairs. The processor remained upstairs to prepare more boxes. The boxes brought down were the wrong kind and needed to be returned to storage, and the processor leaned through the loading hole to retrieve them from coworkers. The opening was designed for use by a forklift to set items upstairs for storage; three sides were closed by fixed guardrails, and the fourth had a removable gate, consisting of two 2x4 rails that sat in cradles. The rails were not pinned or blocked. As the processor leaned over the bottom rail of the gate to catch boxes being thrown up to her, the rail dislodged and she fell 12 ft to the floor below.
Manufacturing Production	
September 15 Coos OR 2004-20-1	

<i>Trip fracture</i>	An 88-year-old pawnbroker tripped over a bag on the floor of his shop and fractured his hip, and died in the hospital 4 days later. Surgery was performed for the hip fracture, and the victim died from post-surgery complications. There was concern about atrial fibrillation, which the pawnbroker had experienced previously following surgery.
Retail Trade Management	
September 22 Washington OR 2004-51-1	

<i>Fall from ladder</i>	A 67-year-old sales person at a retail store fell 3-4 ft off a stepladder onto his head, and died the next day. The worker was arranging a top shelf, and fell backwards while pulling products forward.
Retail Trade Sales & Related	
December 3 Coos OR 2004-38-1	

Worker Fatalities – Violence

Violence

Suicide drowning A 67-year-old operator of an auto repair shop was discovered in a 50-gallon tub of water, held under by a weighted object.

Other Services
Install/Maintain/Repair

June 4
Jackson
OR 2004-31-1

Overpass A 45-year-old female motel owner of Asian origin suffered a fractured back in a fall from a highway overpass, and died of hyperthermia due to environmental exposure. The body was discovered 2 days after the motel owner was reported missing under suspicious circumstances. It remains uncertain whether the victim jumped, fell, or was thrown from the bridge. The location of the overpass was 1¼ miles from the motel.

Accommodation/Food
Services
Management

July 9
Multnomah
OR 2004-61-1

Woodworker suicide A 72-year-old cabinetmaker was found in his shop after committing suicide by hanging at an unknown earlier date.

Manufacturing
Construction

December 24
Multnomah
OR 2004-62-1

Tow truck murder A 67-year-old gas-station owner and tow-truck driver was murdered by a client, whose car he went to pull from a snowy ditch late at night. The victim was shot several times in the chest.

Transportation
Transportation

December 26
Klamath
OR 2004-40-1

Worker Fatalities – Overexertion

Overexertion

<i>Physical fitness exam</i>	A 51-year-old forester died during a physical work capacity test, presumably from heart failure. The forester managed field forestry programs, including fire control activities that were highly stressful. He had worked with the Department of Forestry over 28 years. The physical test, called a “pack test,” required a 3-mile walk carrying a 40 lb pack within a set time.
Forestry/Logging Forestry	
June 5 Wasco OR 2004-64-1	

Contact Information

The Center for Research on Occupational and Environmental Toxicology (CROET) at Oregon Health & Science University performs OR-FACE investigations through a cooperative agreement with the National Institute for Occupational Safety and Health, Division of Safety Research. Dedicated to preventing workplace injuries, OR-FACE investigations evaluate the working environment, the worker, the activity, the tools, the energy exchange, and the role of management in fatal occupational incidents.

Oregon Fatality Assessment and Control Evaluation

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Population Data Sources

U.S. CENSUS

<http://www.census.gov> (American Factfinder, Data Sets, Summary File 3)

BUREAU OF LABOR STATISTICS

<http://stats.bls.gov/ces/>

LAUS – LOCAL AREA UNEMPLOYMENT STATISTICS

<http://www.bls.gov/lau/>

OLMIS – OREGON LABOR MARKET INFORMATION SYSTEM

http://olmis.emp.state.or.us/olmisj/CES?x=1&y=1&p_action=

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