

Cigarettes and residential fires

As the data in this report will show, cigarette-caused fires are a serious issue. Nationally, there is a movement to pass state-by-state legislation requiring the manufacture and sale of self-extinguishing cigarettes. This would significantly reduce the likelihood of fire deaths, injuries and property loss from cigarette-caused fires.



Oregon data 2001-2005

Smoking materials caused:

- 8 percent of all residential fires
- 21 percent of residential fire fatalities*
- 13 percent of residential fire injuries**
- 1,485 residential fires
- 29 deaths
- 126 injuries
- an estimated \$27.7 million in property damage

Characteristics of smoking-caused fires:

- Almost 30 percent start in the bedroom, living room or family room.
- Bedding or upholstered furniture are the first items ignited in 44 percent of smoking-caused fires.
- Fire fatalities spike in the early morning hours when victims are asleep.
- Higher levels of property loss compared to other types of residential structure fires are typical.

* *The fatality rate for smoking-caused fires is two and one half times higher than the overall residential rate.*

** *There is a one and one half times greater likelihood for injuries from smoking-caused fires.*

National data 2002*

Smoking materials caused:

- 4 percent of all residential fires
- 19 percent of residential fire fatalities**
- 9 percent of residential fire injuries***

Characteristics of smoking-caused fires:

- Forty percent start in the bedroom, living room or family room.
- Bedding or upholstered furniture are the first items ignited in 35 percent of smoking-caused fires.
- Fire fatalities spike in the early morning hours when victims are asleep.

** *The fatality rate for smoking-caused fires is four times higher than the overall residential rate.*

*** *Injuries are more than twice as likely from a fire caused by smoking materials.*

**Residential Smoking Fires and Casualties, Topical Fire Research Series, Volume 5 - Issue 5, June 2005, FEMA/USFA/ National Fire Data Center (using data from the NFIRS national database).*

In Oregon from 2001 through 2005...

Figure 1

Loss rates for residential smoking fires - comparing Oregon to the nation

Loss rates	Oregon (2001-2005)		National (2002)	
	Residential smoking fires	All residential structure fires	Residential smoking fires	All residential structure fires
Civilian injuries per 1,000 fires	84.8	53.4	87.7	35.9
Fatalities per 1,000 fires	19.5	7.7	25.1	6.5
Average dollar loss per fire	\$18,624	\$17,110	\$14,478	\$11,832

As Figure 1 indicates the fire death rate for residential smoking fires was nearly two and a half times higher than the overall residential fire death rate.

In the last five years, fires resulting from smoking materials were responsible for 29 deaths and 126 injuries and remain one of the leading causes of deaths and injuries. Twenty-one percent of all residential fire deaths from 2001 through 2005 were from fires caused by smoking materials.

Likewise, residential smoking fires were about one and a half times as likely to result in injuries. Thirteen percent of all fire injuries were caused by smoking fires.

The higher death and injury rates of residential smoking fires are likely related to when and where smoking fires tend to occur, especially the bedroom when people are sleeping.

Figure 2 Residential fire death rate by fire cause		Figure 3 Residential fire injury rate by fire cause	
Smoking	22.7	Source of heat unattended	101.4
Incendiary/suspicious	17.0	Children with fire	97.6
Reckless act (not smoking)	10.0	Smoking	86.3
Heat source too close	9.2	Heat source too close	67.8
Electrical distribution	7.5	Reckless act (not smoking)	45
Children with fire	6.7	Incendiary/suspicious	42.4
Source of heat unattended	2.0	Electrical distribution	38.2

When compared to all top causes of deaths by fire, smoking fires generally result in the highest fatality rate for residential fires (Figure 2). Middle-aged and older adults account for most of the fatalities in residential smoking fires. Data indicate that 72 percent of smoking fire fatalities were persons aged forty or above. This same age group accounts for 62 percent of all residential fire fatalities. Children are less often victims of smoking fires—they comprise 18 percent of all residential fire fatalities and 10 percent of residential smoking fire fatalities.

When compared to all top causes of injuries by fire, smoking fires generally are surpassed only by source of heat unattended and children with fire (Figure 3).

Smoking fire-related injuries peaked at ages forty to forty-nine and accounted for 25 percent of all smoking fire-related injuries. However, of all residential fire-related injuries there were two age-range peaks at ages twenty to twenty-nine (19 percent) and forty to forty-nine (19 percent). Children represent 6.5 percent of smoking fire-related injuries.

Where a human factor was noted as contributing to fire ignition, the person responsible was reported to be asleep or ignited smoking materials were left unattended in the majority of cases.

When residential smoking fires occur

Figure 4a
Time of day ... fires causing deaths

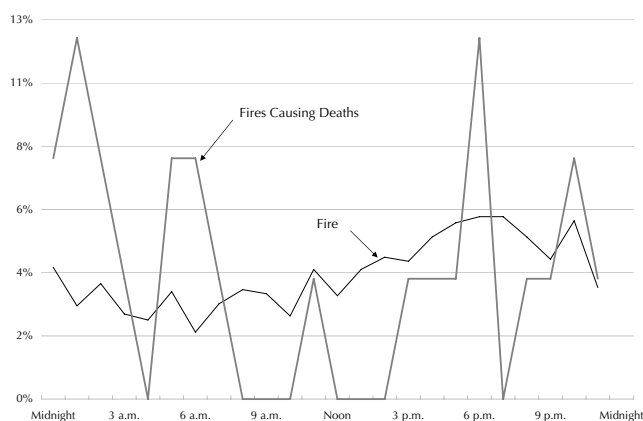
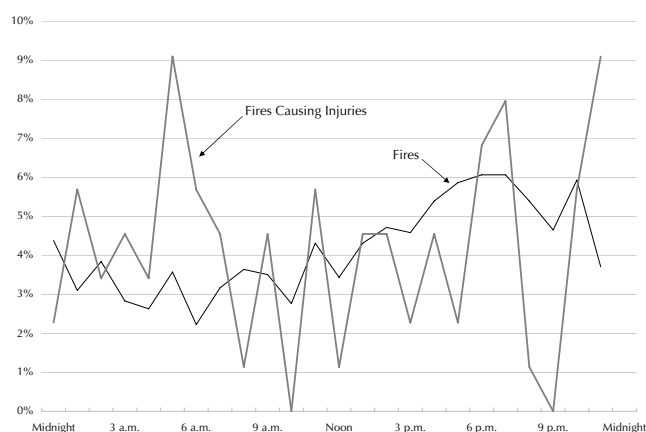


Figure 4b
Time of day ... fires causing injuries



Smoking fires were relatively evenly distributed across the twelve months of the year, with a slightly lower incidence in October and June. Since the use of smoking materials is not a seasonal activity, this distribution is not surprising.

The time of day of residential smoking fires, however, followed a distinct pattern. Smoking fire incidence was lowest in the early hours of the morning and highest in the early evening. Although residential smoking fire incidence dropped in early hours of the day, fires that resulted in fatalities were at the highest during the very early hours of the morning when the victims were asleep. Smoking fires that resulted in injuries were at their highest in the early morning hours and lowest in the mid-evening hours.

Other characteristics of smoking-caused fires

Property type and fire location

Both smoking fires and all residential structure fires occur predominantly in one- and two-family homes. One- and two-family homes, along with apartments, account for over 90 percent of both smoking fires and residential fires in general.

When all the known causes of residential smoking fires are considered together, 17 percent of those fires originated in a bedroom and 11 percent in the living/family room.

Items first ignited

Upholstered furniture and rubbish were the two items most often ignited in residential smoking fires. Taken together, they accounted for 18 percent of all residential smoking fires. The high incidence (44 percent) of smoking fires where the item first ignited was upholstered furniture or bedding corresponds with bedrooms and living/family rooms as the area of fire origin.

A safer approach to smoking

Unlike pipes and cigars, commercially mass-produced cigarettes continue to burn if not puffed on. For over a quarter-century, fire safety advocates have sought legislation at both the state and federal level requiring safer cigarettes.

In 1979, the Oregon State Senate passed a memorial asking the U.S. Congress to create and enforce safety standards for cigarettes, becoming the first state to consider this issue. In the mid-1980s, a nationally-recognized standard was developed (ASTM E2187-04). Efforts to pass fire-safe cigarette legislation in Oregon have been undertaken as recently as 2005, when a bill passed the Senate, but was not given a hearing in the House.

New York became the first state to adopt legislation requiring cigarettes to meet the ASTM standard, with that state's law taking effect in mid-2005. Since then, laws based on the standard have been passed in Vermont, California, Illinois, Massachusetts and New Hampshire. A national law in Canada incorporating the ASTM standard took effect in October 2005.

A coalition of diverse groups is working in Oregon toward passage of HB 2163. For information on the Oregon Fire Safety Coalition contact the Tari Glocar, Office of State Fire Marshal, 503-378-FIRE ext. 273.

Significant cigarette fires in Oregon

- January 5, 2005. An apartment fire in Portland severely burned a sixty-one-year-old woman who died two days later. Investigators reported the fire was caused by a cigarette.
- January 13, 2005. A two-alarm apartment fire in West Linn took the life of a forty-three-year-old woman and displaced three families. Investigators reported the fire was caused by a cigarette.
- February 27, 2005. In Medford, occupants of a single family dwelling discarded cigarettes into a wooden pot outside the front door. The fire caused losses of \$75,000 to the structure and \$10,000 to personal property.
- March 8, 2005. A triplex in Portland had a \$150,000 in damage to the structure and \$75,000 to personal property from a fire one bedroom caused by abandoned discarded cigarettes.
- May 30, 2005. A twenty-six-year-old Beaverton woman died eight days following burn injuries received from a lit cigarette that ignited her clothing.
- June 12, 2005. A woman in a single family residence in Portland fell asleep while smoking a cigarette and suffered life threatening injuries. Four other occupants ranging from eighty-six to five years were in the home at the time of the fire. Two others suffered moderate to minor injuries.
- July 14, 2005. A cigarette-caused fire in a Beaverton apartment critically injured a forty-four-year old woman. She was admitted to the Oregon Burn Center.
- July 31, 2005. A fifty-four-year-old Lakeside man was found dead in his bedroom after a cigarette started a fire in his two-story residence.
- November 30, 2005. A two-alarm apartment fire in Eugene critically burned a nineteen-year-old University of Oregon student and displaced the occupants of twelve apartments. The victim was flown to the Oregon Burn Center, where he spent two months before returning to his home state to recover further. The fire caused \$200,000 damage to the structure and \$10,000 to personal property.
- December 6, 2005. A nursing home patient in Portland died four days after suffering burns from a cigarette that ignited her clothing. The fifty-nine-year-old woman was smoking in an outside area designated for smoking.