

**THE TOTAL COST OF FIRE
IN THE UNITED STATES**

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Abstract

The total cost of fire in the United States, as it is defined, is a combination of the losses caused by fire and the money spent on fire prevention, protection and mitigation to prevent worse losses, by preventing them, containing them, detecting them quickly, and suppressing them effectively. For 2008, that total cost is estimated at \$362 billion, or roughly 2.5% of U.S. gross domestic product. Economic loss (property damage) – reported or unreported, direct or indirect – represents only \$20.1 billion of this total. The net costs of insurance coverage (\$15.2 billion), the cost of career fire departments (\$39.7 billion), new building costs for fire protection (\$62.7 billion), other economic costs (\$44.0 billion), the monetary value of donated time from volunteer firefighters (\$138 billion), and the estimated monetary equivalent for the civilian and firefighter deaths and injuries due to fire (\$42.4 billion), all are larger components than property loss.

Keywords: fire statistics, cost, loss estimates, fire losses, economic loss

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Executive Summary

In 2008 the total cost of fire is estimated at \$362 billion, or roughly 2.5% of U.S. gross domestic product. The components were as follows:

Core Costs	Billions of Dollars
Economic loss	\$20.1
Career fire departments	\$39.7
Net insurance (premiums minus NFPA estimate of covered losses)	\$15.2
New building costs for fire protection	\$62.7
Total core costs	\$137.7
Other Costs	
Economic costs not re-estimated each year	\$44.0
Cost of statistical deaths and injuries, civilian and firefighter	\$42.4
Cost of coverage by career firefighters of areas now protected by volunteer firefighters	\$138.2
Total	\$362.2

It should be clear that most of the analysis supporting these estimates is soft and has wide bands of uncertainty. Nevertheless, the conclusion that fire has a tremendous impact on the way the U.S. uses its resources is indisputable.

It also is clear that we have a dual interest in reducing U.S. fire losses – which include human losses that are among the highest per capita in the industrial world – and in seeking ways to achieve equivalent fire safety at lower costs, since the growth in total cost of fire has been led not by the fire losses but by the other cost components. This provides a clear indication of need for product innovations or other programs (e.g., residential sprinklers, educational programs) that can improve fire safety at the same or lower costs. It also shows the need for improved methods (e.g., models) for calculating fire performance and costs, so the implications of different choices can be considered and judged more comprehensively.

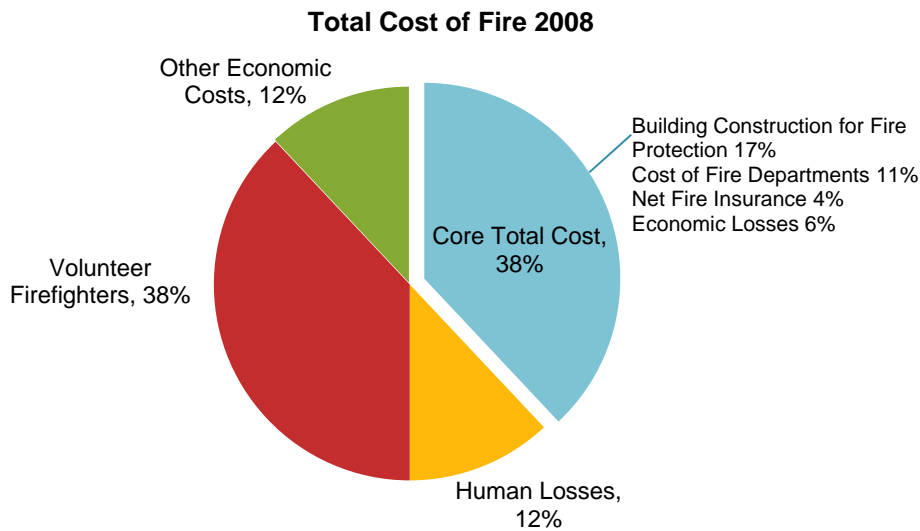
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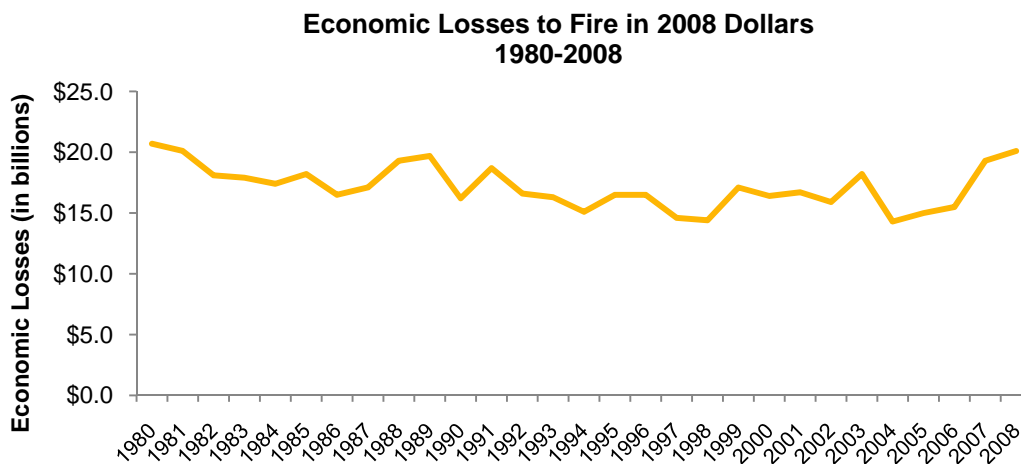


The Total Cost of Fire in 2008

In 2008, the total cost of fire was an estimated \$362 billion, or 2.5 percent of U.S. gross domestic product (GDP). The total cost of fire includes the losses that fire causes, such as human losses (e.g., lives lost, medical treatment of injuries, pain and suffering) and economic losses (e.g., property damage, business interruption); and the cost of provisions to prevent or mitigate the cost of fire, such as fire departments, insurance, and fire protection equipment and construction.



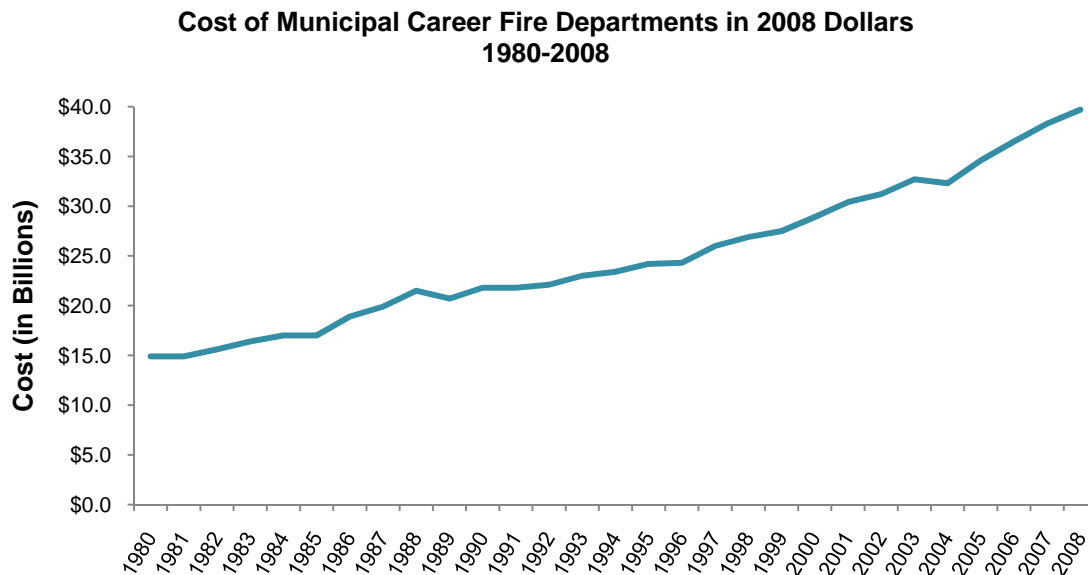
In 2008, economic losses to fire (direct and indirect, reported and unreported) totaled an estimated **\$20.1 billion**.



FACT: Fires in 2008 caused \$17.6 billion in reported or unreported direct property damage which was 88% of economic loss that year. The other 12% was indirect loss, such as business interruption.

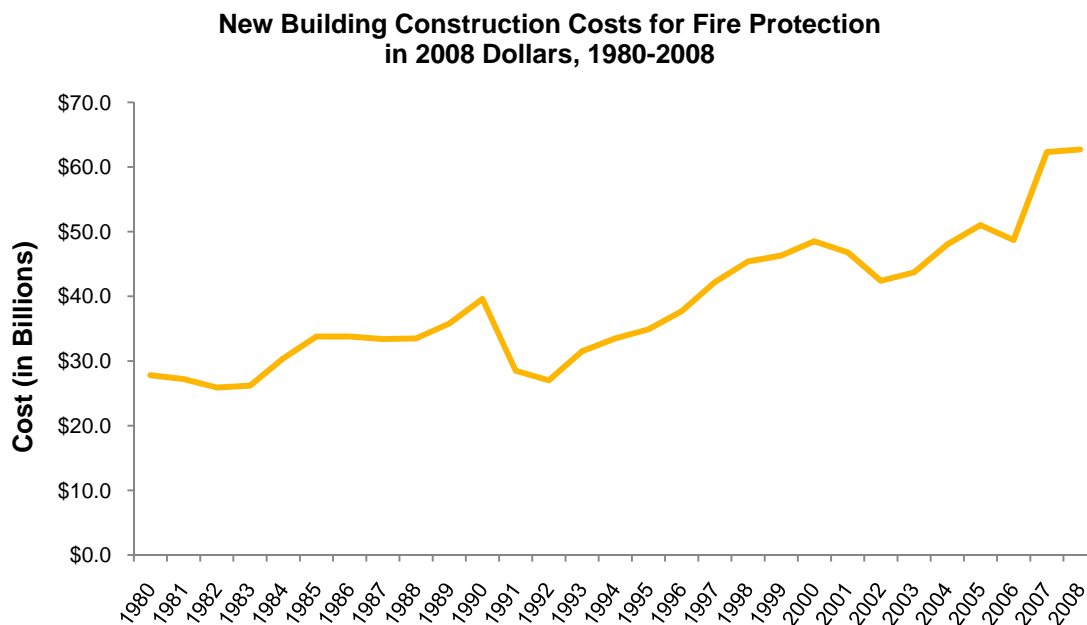
The year 2001 excludes the events of September 11.

Career fire departments¹ cost **\$39.7 billion** in 2008.



FACT: Part of increase in fire department cost is due to shift from volunteer to career fire departments.

New building construction for fire protection cost an estimated **\$62.7 billion** in 2008.



FACT: New building construction costs include passive protection, such as compartmentation, and active protection, such as detection and

¹A fire department is a public or private organization that provides fire prevention, fire suppression, and associate emergency and non-emergency services to a jurisdiction such as a county, municipality, or organized fire district.