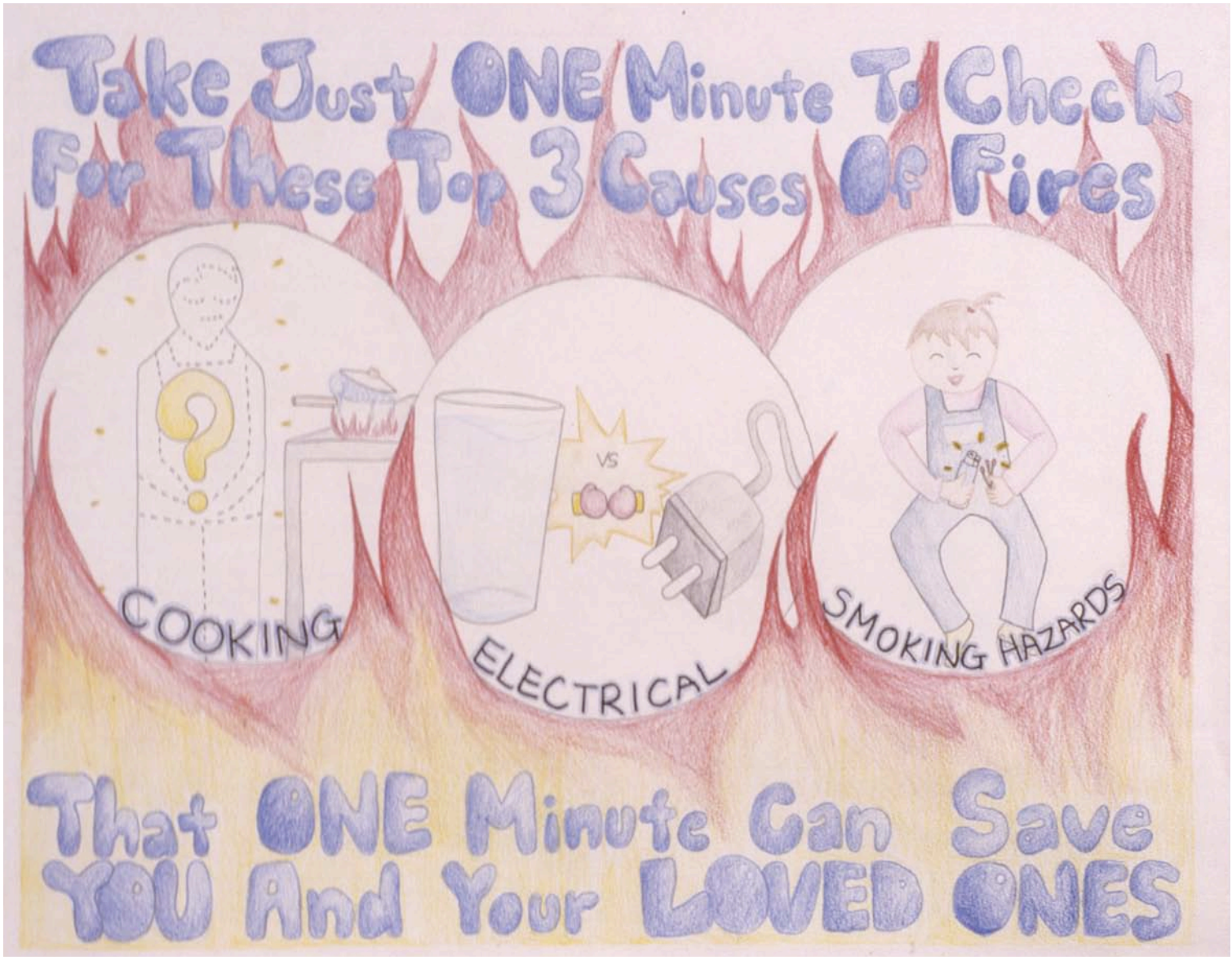
The Massachusetts Fire Problem



Annual Report of the
Massachusetts Fire Incident Reporting System

2006

Deval L. Patrick
Governor

Kevin M. Burke
Secretary of Public Safety & Security

Stephen D. Coan
State Fire Marshal

Thomas P. Leonard
Deputy State Fire Marshal

ABOUT THE COVERS

The original drawings shown on the front and back covers are the year 2007 First and Second Place winning entries of the 25th Annual Statewide Arson Watch Reward Program Poster Contest, sponsored by the Massachusetts Property Insurance Underwriting Association (FAIR Plan), on behalf of all property and casualty insurance companies of Massachusetts. This year's poster theme was **"Try to be safe from the top 3 causes of fires: electrical, cooking & smoking hazards."**

A countywide contest was held for all students in grade 6-8. Coordinators from each county held individual countywide contests where they chose First and Second Place winners. All First Place County Winners had their posters submitted to Massachusetts Property Insurance Underwriting Association for entry into the Massachusetts Statewide contest. First, Second and Third Place State winners were announced at an Award Ceremony held at the Sheraton Framingham Hotel on May 31, 2007.

The front cover shows a drawing submitted by Bomsol Lee, a student at the Chenery Middle School, Belmont, Massachusetts. Bomsol's poster was chosen as First Place Winner in the Middlesex County Poster Contest, and as a result, was automatically entered into the statewide contest, along with 10 other county winners, where it was chosen as the First Place Statewide Winner.

The back cover shows a drawing submitted by Courtney Sage, a student at the Silvio Conte Middle School, North Adams, Massachusetts. Courtney's poster was chosen as First Place Winner in the Berkshire County Poster Contest, and as a result, was also automatically entered into the statewide contest where it was chosen as the Second Place Statewide Winner.

The Massachusetts FAIR Plan has generously sponsored the printing of the 2006 Annual Report of the Massachusetts Fire Incident Reporting System (MFIRS), as well as, the use of the first and second place posters for the covers, for the last 24 years.

Massachusetts Fire Incident Reporting System

2006 Annual Report

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This report is also available in an electronic format through the Fire Data section of the Department of Fires Services website:

www.mass.gov/dfs/osfm/firedata/mfirs/index.htm

Fireman's Prayer

When I am called to duty, God
Wherever Flames may rage
Give me the strength to save some life
Whatever Be its age
Help me embrace a little child
Before it is too late
Or save an older person from
The horror of that fate
Enable me to be alert and
Hear the weakest shout
And quickly and efficiently
To put the fire out
I want to fill my calling and
To give the best in me
To guard my every neighbor
And protect their property
And if according to your will
I have to lose my life
Please bless with your protecting hand
My children and my wife

-Unknown

Foreword from the State Fire Marshal

Our Mission: *The mission of the Department of Fire Services is to provide the people of Massachusetts the ability to create safer communities through coordinated training, education, prevention, investigation, emergency response and leadership.*

November 2006

This is the *2006 Annual Report of the Massachusetts Fire Incident Reporting System* (MFIRS) which summarizes the Massachusetts fire experience for 2006. It is based on the 30,198 individual fire reports submitted by members of 342 fire departments and fire districts. It is this effort that makes it possible to look at the total fire experience, to identify our fire problems and to develop strategies to address these issues. One of the goals of the Office of the State Fire Marshal is to provide the fire service and the public with accurate and complete information about the fire experience in Massachusetts.

Record Low Number of Civilian Fire Deaths

Forty-four (44) civilians died in 39 Massachusetts fires during 2006. This is the lowest recorded number of fire deaths since World War II. Civilian deaths decreased by eight, or 15%, from the previous record low of 52 in 2005 and in 2004. Unfortunately one child died in a fire in 2006, this is also a record low. Although one death or injury is one too many, we are making strides in reducing the vulnerability of Massachusetts residents being killed or injured in a fire.

Danvers Explosion Response

On Wednesday, November 22, 2006, at 2:46 a.m., a chemical vapor explosion at the building that housed CAI Inc. and Arnel Co. in Danvers caused 18 civilian injuries, two fire service injuries, destroyed 19 buildings, and damaged 250 buildings, 300 motor vehicles and 65 boats. Luckily no one was killed in the explosion and ensuing fire. Units from the Department of Fire Services assisted the Danvers Fire Department in the management, mitigation, and investigation phases of this devastating incident. This incident was also the impetus for the creation of the Safe Neighborhoods Chemical Initiative Pilot Program that provided inspections of approximately 40 similar facilities throughout the Commonwealth.

Fire in Fall River Social Club Causes Most Fire Deaths

A fire on June 14, 2006 in a Fall River social club on the first floor or a multifamily home that killed four civilians and injured 10 others was started when a candle ignited flammable decorations. This fire caused a renewed awareness to social club operators, fire and building officials of the need to work together to make sure these clubs are safe for members and guests.

Our relentless goal is to reduce the deaths, injuries and damage fires do in the Commonwealth, and to send each and every firefighter home safely at the end of the day. We must continue to fund and strengthen our code compliance efforts, and use enforcement tools when necessary. An important part is educating the public as to why fire codes are in place. We must continue to educate the public at every stage of their lives as to what they can do to prevent a fire and to survive the ones that will occur.

Our annual reports have measured the steady decline in fire deaths. We are making substantial progress. We have measured the positive impact of smoke alarms in reducing fire

deaths and multiple deaths in fires. We have measured the impact of smoking laws and tobacco control programs on reducing fires and fire deaths. We have measured the impact of the Student Awareness of Fire Education Program (S.A.F.E.) on child fire deaths. Seniors own the fastest growing share of our population, so we must expand our prevention efforts to include them, not just shift existing resources to them.

New School Fire Reporting Law

On May 12, 2006, Governor Mitt Romney signed Chapter 80 of the Act of 2006 amending M.G.L. Chapter 148 Section 2, with Section 2A. Section 2A took effect on August 10, 2006, and requires the principal of any public or private school that contains any grades between 1 and 12, to immediately report any incident involving the unauthorized ignition of any fire within the school building or on school grounds to the local fire department. The report shall be filed without regard to the extent of the fire or whether there was a response by the fire department. The fire department must then report it to the fire marshal via MFIRS.

The purpose of this law is to get a better understanding of the fire problem within our schools; and to be able to identify and help those children with a propensity towards setting fires. Through the years many small or 'nuisance' fires were discovered early and extinguished by school personnel and were not reported to local fire departments because no one was hurt and there was no physical damage. Failing to address a child's problem with fire harms both the child and public safety.

Self-Extinguishing Cigarettes a Reality in Massachusetts

The Reduced Ignition Propensity (RIP) legislation or 'fire safe cigarette' law making it mandatory for cigarette manufacturers to start selling only the self-extinguishing type of cigarettes in Massachusetts takes effect on January 1, 2008. By August of 2008 all of the states bordering Massachusetts will be selling self-extinguishing cigarettes; and by January 1, 2009 every state in the Northeast and Mid-Atlantic regions will only sell consumers these types of cigarettes.

Next Steps

We look forward to seeing flammability standards for upholstered furniture, passage of a national standard for self-extinguishing cigarettes, and more buildings -especially homes - with sprinklers. On July 1, 2007 the U.S. CPSC's 16 CFR Part 1633, Standard for the Flammability (Open Flame) of Mattress Sets will take effect nationally. This standard is stricter than California's Technical Bulletin 603 in that it decreases the amount of heat energy that can be released during the first 30 minutes of a mattress fire.

We also wish to recognize the efforts of the staff of the Fire Data and Public Education Unit, Jennifer Mieth, manager; Derryl Dion, research analyst; Pavel Gorelik, programmer; and Usha Patel, data entry clerk, within the Office of the State Fire Marshal who manage the Massachusetts Fire Incident Reporting System and prepared this report.

We would like to thank the Massachusetts Property Insurance Underwriting Association for printing this report and for their support throughout the year. We also wish to thank Governor Deval L. Patrick, and Public Safety and Security Secretary Kevin M. Burke for their commitment and support to the Massachusetts fire service through the Department of Fire Services.

Stephen D. Coan
State Fire Marshal

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Executive Summary

"All…fires or explosions by which a loss is sustained shall be reported… to the State Fire Marshal on forms furnished by the department, and shall contain a statement of all facts relating to the cause and origin of the fire or explosion that can be ascertained, the extent of damage thereof, the insurance upon the property damaged, and such other information as may be required."

-Massachusetts General Laws, Chapter 148, Section 2.

Civilian Fire Deaths Down 15% – Lowest Point Since World War II

Forty-four (44) civilians died in 39 Massachusetts fires during 2006. This is the lowest recorded number of fire deaths since World War II[1]. Civilian deaths decreased by eight, or 15%, from the 52 in 2005 as well as in 2004. Twenty-seven (27) men, 16 women, and one child died in Massachusetts' fires. Of the 44 civilian deaths in fires in 2005, 31 occurred in residential structure fires and three occurred in non-residential structure fires. Seventy percent (70%) of civilians died in the "safety" of their own homes. The majority of these victims died at night, while they were sleeping and did not have working smoke detectors. It is also important to remember that detectors only provide an early warning of a fire. They do not guarantee an escape. It is important to make and practice an escape plan.

Six (6) deaths occurred in motor vehicle fires in 2006. Four (4) people died in four outside and other fires in 2006.

No Fire Related Firefighter Deaths in 2006

In 2006, there were no fire-related fire service fatalities in the Commonwealth of Massachusetts. Firefighter injuries increased by 3% from the 523 reported in 2005 to 541 in 2006.

15,507 Structure Fires, 3,258 Vehicle Fires, 11,433 Outside & Other Fires in 2006

There were 30,198 fire and explosion incidents reported by fire departments to the Massachusetts Fire Incident Reporting System (MFIRS) in 2006. The 15,507 structure fires, 3,258 motor vehicle fires, and 11,433 outside and other fires caused 44 civilian deaths, 386 civilian injuries, 541 fire service injuries, and an estimated dollar loss of $184 million in property damages. In 2006 there were 1.5 civilian deaths for every 1,000 fires.

Structure Fires Up in 2006

The total number of reported fires increased by 3% from 29,272 in 2005 to 30,198 in 2006. Structure fires rose 4% from 2005 to 2006. From 2005 to 2006, motor vehicle fires decreased by 12%. Outside, brush, and other fires increased by 7% during the same time period.

[1] Based upon available records in the State House Library and Office of the State Fire Marshal.

Although the law states that only fires where a loss is sustained must be reported, many fire departments are wisely reporting all of the fire incidents that they respond to, giving a more accurate picture of the fire problem in Massachusetts. Many departments are also reporting the non-fire calls that they respond to. Emergency medical and rescue calls represent over half, or 52%, of the 630,606 total runs that were reported MFIRS in 2006.

Cooking Was the Leading Cause of Residential Building Fires
Over half, 55%, of all residential building fires were caused by unattended and other unsafe cooking practices in 2006. Fifty-eight percent (58%) of residential fires originated in the kitchen.

Once Again Smoking Fires Are the Leading Cause of Fire Deaths
In 2006, smoking fires were the leading cause of residential building fire deaths. These fires accounted for 10, or 32%, of residential fire deaths. For years, smoking has been far and away the leading cause of fatal fires and fire deaths in Massachusetts, with no other cause coming close except in 1999 and 2005. In 1999, cooking and smoking tied as the leading causes of fires that kill. In 2005, electrical fires were the leading cause of residential fire deaths, while smoking remained the leading cause of fatal residential fires

15% of Residential Fires Occurred in Homes With No Working Detectors
Unfortunately, in 15% of the residential building fires, there were no working smoke detectors. No detectors were present at all in 3% of the residential structure fires. Detectors were present but failed to operate in 2%. Detectors, in confined fires, did not alert the occupants in 10% of total residential fires. The fire was too small to activate the detector in 3% of residential fires. Detectors operated in 57% of residential structure fires. It was undetermined if the detectors were present in 25% of residential fires.

Detectors Operated in Over 1/2 of Building Fires that Caused Injuries
Detectors operated in over half, or 53%, of the structure fires that caused injuries. This may be because when the occupant is alerted to the presence of the fire; they may try to extinguish it themselves and injure themselves during this task or during the escape after the situation has considerably worsened. When alerted to the presence of a fire, occupants should vacate the building and notify the fire department as soon as possible, letting the professionals with the proper training and gear extinguish the fire.

All Arson Up 3%
One thousand two hundred and sixty-five (1,265) Massachusetts fires were considered arson in 2006. The 325 structure arsons, 159 vehicle arsons, and 781 outside and other arsons caused four civilian deaths, 21 civilian injuries, 27 fire service injuries, and an estimated dollar loss of $7 million. This is a 3% increase in arson from the 1,234 reported in 2005.

Structure arson fell by 5%. Motor vehicle arsons fell 14% from 2005 to 2006, although since 1987, motor vehicle arson has fallen 97%. The steady decline of motor vehicle arsons can be explained by the enactment of the Burned Motor Vehicle Reporting Law, which took effect in 1987, and requires owners of burned motor vehicles to complete and

sign a report which must also be signed by a fire official from the department in the community where the fire occurred before they can collect on their fire insurance. Outside and other arsons increased by 10%.

Almost 1/3 of All Vacant Building Arsons Occurred in Unsecured Buildings
Thirty-two percent (32%) of all vacant building arsons in 2006 occurred in unsecured vacant buildings. Thirty percent (30%) occurred in secured, vacant buildings; while another 28% happened in idle buildings that are not routinely used. Buildings under major renovation and building being demolished each accounted for 4% of vacant building arsons. Buildings under construction accounted for 1% of the vacant building arsons in 2005. One of the most dangerous types of fires for firefighters in 2006 was vacant building fires. On average there was one firefighter injury for every seven vacant building fires.

Over 1/5 of School Fires Were Intentionally Set
Twenty-one percent (21%) of the 215 school fires were considered intentionally set. Cooking started 33% of fires in Massachusetts' schools in 2005. Indoor rubbish fires, for which no causal information is collected, accounted for 22% of these fires. Only 3% of the fires in schools were attributed to juvenile-set fires.

Conclusion
Most people die in fires at night in the so-called safety of their own home. While deaths continue to decline, smoking is still the leading cause of fatal fires and the lack of working smoke alarms or automatic extinguishing systems are contributing factors to these tragedies. It is important to remember that detectors only provide an early warning of a fire and do not guarantee an escape. It is important to make and practice an escape plan.

Cooking is something that we do everyday but it is still the leading cause of fires in the home and the leading cause of civilian fire injuries and we must address this.

All arson fires were up 3% from the 1,234 arson fire reported in 2005.

Massachusetts Fire Departments

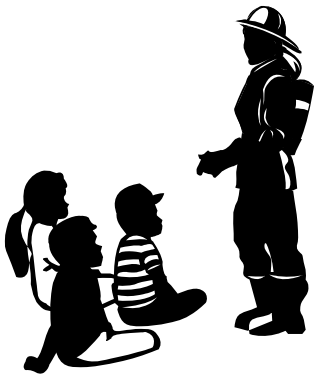
Today's firefighters do far more than fight fires. Many are emergency medical technicians or paramedics. All firefighters must be trained to offer first aid if they arrive first at an emergency. They are the first ones called to deal with hazardous materials incidents ranging from the suspected presence of carbon monoxide to a leaking propane truck. They may be called to rescue a child that fell through the ice or that locked himself in the bathroom. They get people out of stuck elevators and wrecked cars. They test and maintain their equipment, ranging from self-contained breathing apparatus to hydrants to hoses and trucks. They know the basics of construction, electricity and chemistry. Some undertake the calling of fire prevention and become inspectors or public fire educators. They report their fire incidents through the Massachusetts Fire Incident Reporting System so we can spot trends, problems and successes.

When most people think of the fire department, they think of fire trucks, sirens and flames. Actually, the fire department aims to prevent fires. If prevention failed, then the alarm comes in and the trucks roll.

Fire Department Enforces M.G.L. Chapter 148 and 527 CMR
The fire department is legally required to enforce the provisions of 527 Code of Massachusetts Regulations (CMR). This contains regulation sections on fireworks, dry cleaning, oil burners, gas stations, liquid propane, plastics, transportation of flammable liquids, above ground and underground storage tanks, electrical systems, explosives, storage of flammable substances, marine fueling, model rockets, lumber yards, bulk plants, tentage, salamanders, flammable decorations and curtains, cannon or mortar firing, fire extinguishers, smoke detectors, obstructions and hazards, combustible fibers, rubbish handling, crop ripening, pesticide storage, welding and storage, carbon monoxide, and unvented appliances. The fire department must also enforce the laws contained in Massachusetts General Law Chapter 148.

Inspectors must know the regulations they are enforcing and they must know how to apply the regulations to situations in the community. They must communicate information about weaknesses in plans they review and educate people on violations and perform follow-up inspections. Just as firefighters are sent to the Massachusetts Firefighting Academy to learn the principles of suppression, fire prevention personnel must go to classes to learn the ins and outs of the regulations. These functions also produce a corresponding amount of documentation that must be maintained.

Firefighters Teach the Community Fire and Burn Prevention
Firefighters go out in the community to teach children, seniors and interested community groups how to protect themselves from fire and burns. The statistics in this report are critical to these educators in developing injury prevention programs.



The S.A.F.E. Program

The Student Awareness of Fire Education or S.A.F.E. program was implemented in fiscal year 1996. The Legislature appropriated $1,078,666 to fund public fire education grants. These grants provide local fire departments with funding to educate children about the dangers associated with fire, particularly fires caused by smoking. Any city or town whose fire department is committed to working with school systems, public health or other community agencies to develop a well conceived and coordinated fire safety education program message is invited to apply for these grants. In fiscal year 2006, 223 fire departments shared the $1,078,666 in S.A.F.E. funding.

Fitchburg Young Hero – Jared McCloskey

On November 1, 2006 at 3 a.m. 12-year old Jared was awakened by the family dog. As he exited his bedroom the smoke alarms had just begun to sound and he noticed flames on the rear porch outside the kitchen with smoke in the house. He immediately woke his 2-year old brother Alexander and his 1-year old sister Amber, wrapped them in blankets and led them safely out of the house. He then woke his parents and advised them that the house was on fire and insured their exit from the house. As they were leaving, Jared ran upstairs to wake his Uncle Jon Barto, his wife Beth and their two children, 3-year old Megan and 8-month old Abigail. Jared's father was able to extinguish the porch fire with a garden hose prior to the fire department's arrival. Jared received his S.A.F.E. Education in the first grade and credits it with teaching him to respond correctly to the fire emergency that saved nine people including himself.

FF David Simon Named Public Fire & Life Safety Educator of the Year

North Adams Firefighter David R. Simon was awarded the 2006 Public Fire and Life Safety Educator of the Year. He dedicates a great deal of time to the SAFE program and has implemented specialized programs for middle school students, been certified as a child passenger safety technician, secured grant money for his programs, and created partnerships to expand the life and fire safety programs for local elderly citizens. His unique programs "Wiseguys – Male Responsibility Program" and companion "Smart Girls" helps eighth graders learn about values, communication, goal-setting and decision-making so they can safely navigate the stormiest period of their lives. He is the county coordinator for the Arson Watch Reward Program's annual poster contest. His Fire Education of Older Citizens (F.E.O.C.) provides smoke alarms and fire education during home visits to elderly. He also uses cable television to get his messages across. Simon's work with numerous health and human service agencies lead to his appointment to the North Adams Health and Human Service Commission. FF Simon reaches a broad spectrum of his community, targets a variety of life safety issues, and brings enormous creativity to overcoming the obstacles people in his county face.

71 MA Departments Receive $7.8 Million in Federal Grants

In the fifth year of the Federal Assistance to Firefighter Grant program, 69 Massachusetts fire departments received $7.8 million. Sixty-two (62) departments received $6.3 million for fire operations and firefighter safety. Two (2) departments received $47,912 for fire prevention programs. Eight (8) departments received $1.6 million for the purchase of firefighting vehicles. Three (3) fire departments were awarded SAFER grants that allow for the hiring of more firefighters.

98.6% of Massachusetts Fire Departments Participated in MFIRS

By law, fire departments are required to report any fire or explosion resulting in a human casualty or dollar loss to the Office of the State Fire Marshal. This is done through the Massachusetts Fire Incident Reporting System (MFIRS). Three hundred forty-two (342), or 93.7% of Massachusetts Fire Departments reported at least one fire during 2006. Eighteen (18), or 4.9%, certified that they had no fires that met the criteria. As an added incentive to comply with the law, a community had to be participating in MFIRS to be eligible for the federal FIRE Act and SAFER grants.

MFIRS
Massachusetts Fire Incident Reporting Systems

More and more departments are automating fire incident reporting and other department functions. In 2006, 272, or 75%, of Massachusetts' fire departments submitted their data electronically.

Expanded Possibilities With Version 5

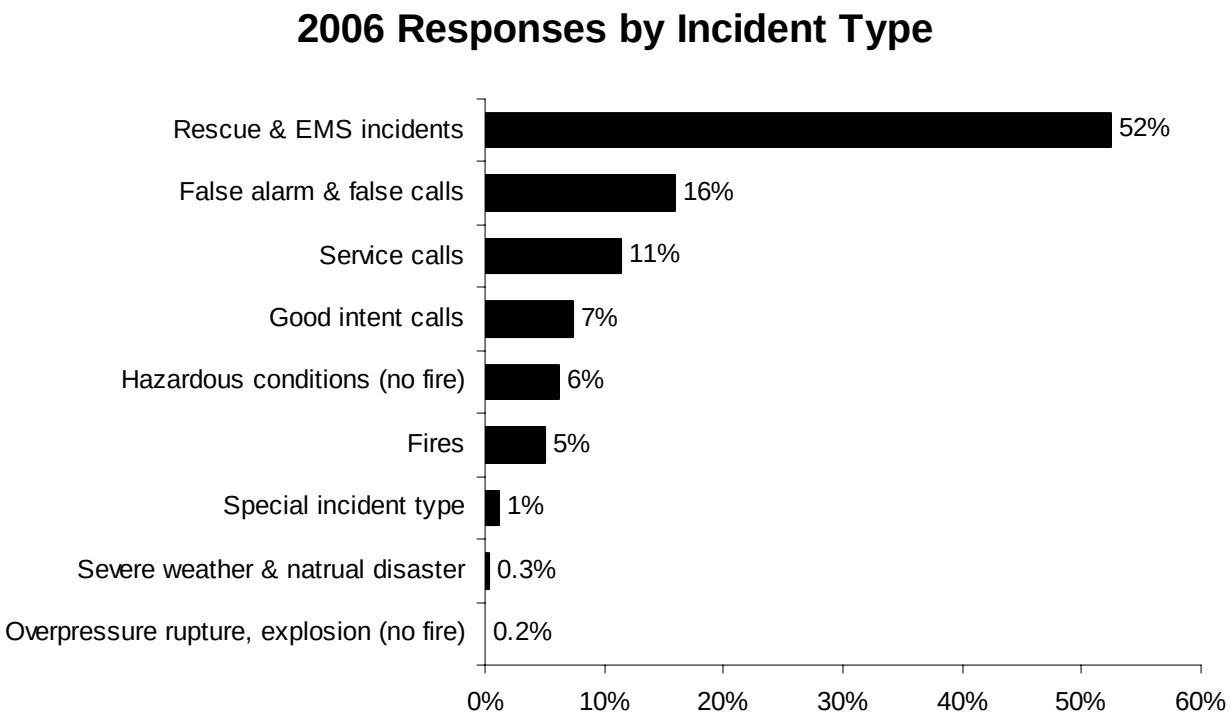
2006 is the fifth full year that fire incident reports were submitted and analyzed using version 5 reporting format and data codes. We hope this new version of the reporting system allows us a greater opportunity to complete a more in-depth analysis of the fire problem in Massachusetts.

Non-Fire Incidents

Fire Departments Do More Than Just Fight Fires
Massachusetts fire departments do much more than just fight fires. Over the past couple of decades they have branched out and taken on the added responsibilities for EMS responses, multiple types of specialized rescues, hazardous materials incidents, responding during and after natural disasters, as well as the typical service calls, good intent calls, false alarms and the special types of incidents that do not fit neatly into any of the other categories. We expect these numbers to rise as more fire departments automate their reporting and begin voluntarily reporting all of their incidents to MFIRS. Only then will we have a more complete understanding of the amount of work the Massachusestts fire service does on a day-to-day basis.

52% of All Massachusetts Calls Were EMS Incidents
In 2006, 356 fire departments in Massachusetts reported 631,072 responses[2] to MFIRS. Of these 631,072 responses, 598,990 non-fire calls were voluntarily reported.

Of these 598,990 non-fire incidents there were 331,010 (52%) reported rescue and emergency medical services (EMS) calls; 100,019 (16%) reported false alarm or false calls; 71,534 (11%) reported service calls such as lock-outs, water or smoke problem, unauthorized burning or public service assistance; 46,752 (7%) reported good intent calls;



[2] These figures include responses in which fire departments gave mutual aid to other fire departments.

39,280 (6%) reported hazardous condition calls with no fire; 7,652 (1%) reported special incident type calls such as citizen complaints; 1,751 (0.3%) reported severe weather and natural disaster incidents; and 992 (0.2%) reported overpressure rupture, explosion or overheat calls with no fire.

Thirty-one thousand six hundred and six (31,616), or 5%, of the total responses submitted by Massachusetts fire departments were fires.

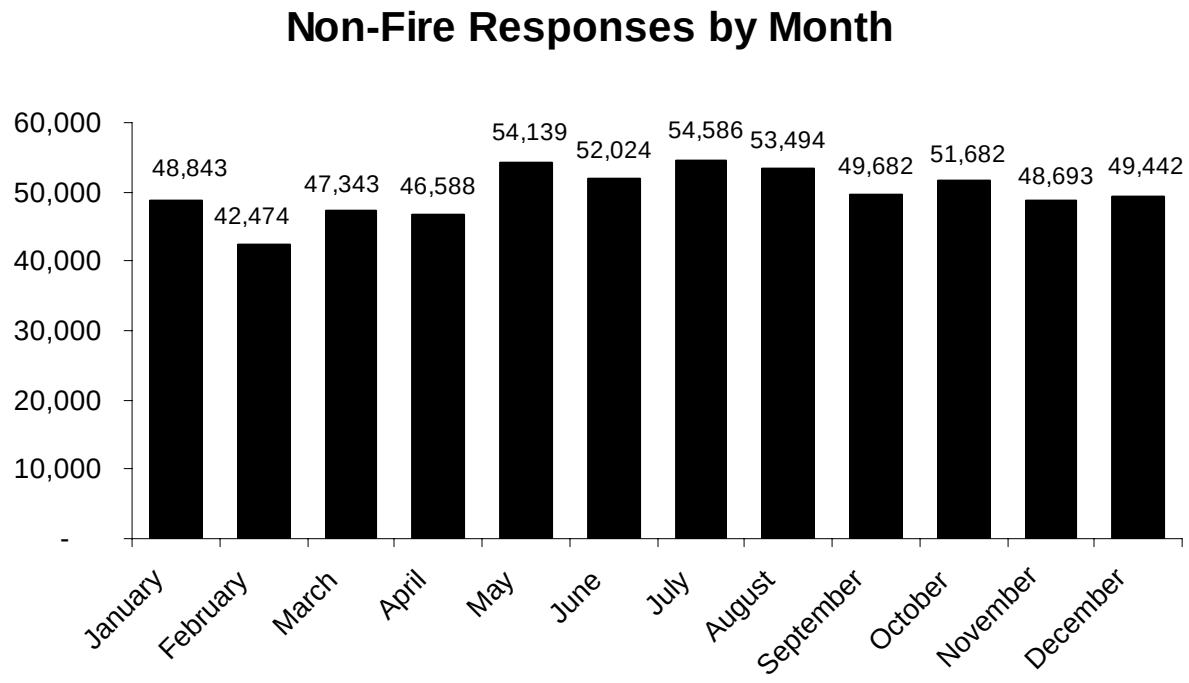
Most Large Cities Voluntarily Reporting All of Their Incidents
Boston, the largest city in the Commonwealth, reported 69,581 non-fire incidents in 2006. The City of Worcester, the second largest city in Massachusetts reported the second most non-fire incidents in 2006, 23,289 incidents. The next five cities in terms of the number of non-fire calls reported were: Cambridge, 12,211 calls; Lowell, 11,717 calls; New Bedford, 10,983 calls; Springfield with 10,698; and Quincy with 9,236 reported non-fire incidents in 2006.

Over Half of All Fire Department Responses Were EMS Calls
Fifty-two percent (52%) of all reported 2006 fire department responses in the Commonwealth were emergency medical service calls. Four of the top five types of all calls were all EMS type incidents. Over one quarter of all reported incidents, or 29%, were non-vehicle accident with injury - EMS calls. Ten percent (10%) were calls where firefighters assisted the EMS crews. Seven percent (7%) classified as rescue, EMS call, other. Four percent (4%) of all reported incidents in 2006 were motor vehicle accidents with injuries. The fifth most reported call in 2006 was good intent calls, other accounting for 3% of all reported incidents.

Middlesex & Suffolk Counties Reported Over 1/3 of All Non-Fire Incidents
Middlesex and Suffolk Counties reported a combined 36% of all non-fire incidents to MFIRS in 2006. Middlesex County reported 22% of these types of incidents and Suffolk County reported 15%. Worcester County submitted the third most non-fire calls totaling 12%, and Worcester County also reported 12% of all the 2006 non-fire incidents. Nantucket County reported 1,394 (0.2%) non-fire incidents and Dukes County reported 149 non-fire incidents; accounting for 0.03% of all non-fire incidents reported to MFIRS in 2006.

For a complete breakdown of non-fire incidents by incident type and county refer to the Appendix.

Non-Fire Incidents by Month
July was the month with the most reported non-fire incidents in 2006 (9%), followed by May (9%) and August (9%). February was the month with the least reported non-fire incidents (7%). Statistically these incidents are spread evenly from month to month. Five (5) months each accounted for 9% of the incidents, and six months each accounted for 8% of the incidents. The average number of monthly reported non-fire incidents in 2006 was 49,916 calls.



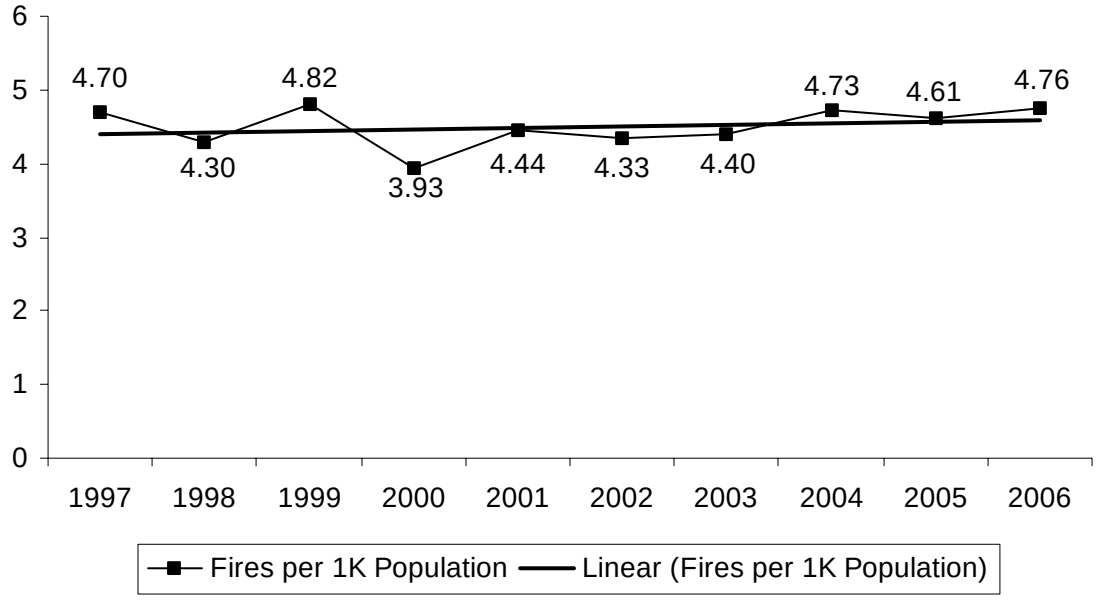
Fires by Incident Type

15,507 Structure Fires, 3,258 Vehicle Fires, 11,433 Outside & Other Fires in 2006
There were 30,198 fire and explosion incidents reported by fire departments to the Massachusetts Fire Incident Reporting System (MFIRS) in 2006. The 15,507 structure fires, 3,258 motor vehicle fires, and 11,433 outside and other fires caused 44 civilian deaths, 386 civilian injuries, 541 fire service injuries, and an estimated dollar loss of $184 million in property damages.

The following chart indicates the number of total fires reported per 1,000 citizens in Massachusetts per year from 1997 through 2006. In 2006, there were 4.76 fires for every 1,000 citizens in Massachusetts[3]. A figure like this allows one to compare our fire problem to other states of different sizes. For example in 2006, Oregon reported 4.08 fires for every 1,000 of its citizens[4], and Florida reported 4.69 fires for every 1,000 of its citizens[5]. There were 5.84 fires per 1,000 citizens for the entire United States in 2006.[6] Massachusetts is below the national average of fires per 1,000 citizens by 1.08.

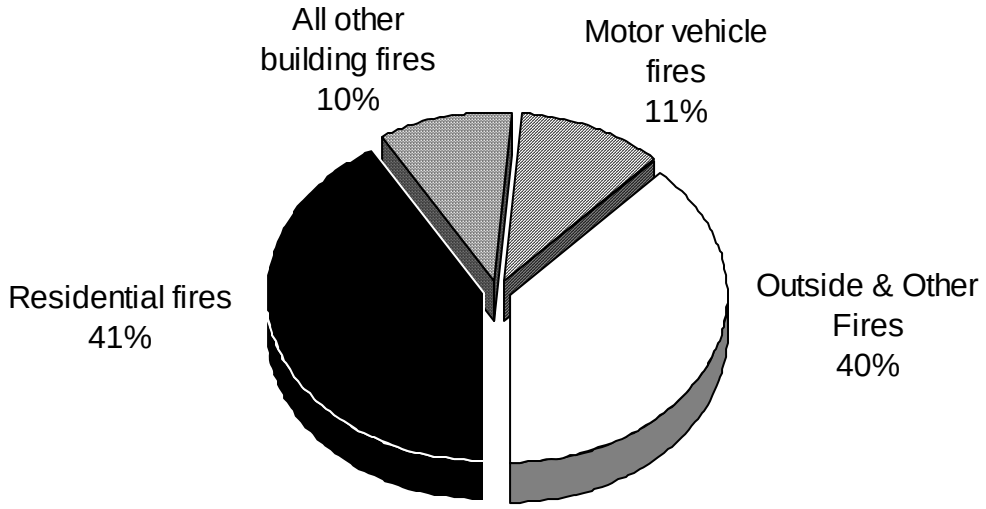
[3] The population figures used were from the 1990 and 2000 U.S. census. For the years 1997 – 1999, the population in MA was said to be 6,016,425 people. For 2000 – 2006, the population figure used was 6,319,097 people.
[4] Oregon State Fire Marshal 2006 Annual Report, 2006 In Review, page 6.
[5] Florida Fires, State Fire Marshal Annual Report 2006, page 57, Total Fires.

Number of Fires per 1,000 Population



The following graph depicts the percentage of the major types of fires as part of the whole Massachusetts fire problem. In 2006, 51% of all reported fires were structure fires. The majority of these fires were in people's homes. Forty-one percent (41%) of all fires in the Commonwealth, and 81% of all structure fires, occurred in someone's home; only 10% of all fires, and 19% of all structure fires, occurred in a type of building other than a residence. Eleven percent (11%) were reported motor vehicle fires, while 40% were classified as outside and other fires.

2006 Fires by Incident Type



15,507 Structure Fires, 41 Civilian Deaths
Massachusetts fire departments reported 15,507 structure fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2006. These fires killed 34 civilians, caused 344 civilian injuries, 488 fire service injuries, and an estimated $165 million in property damage. Structure fires accounted for 51% of the total incidents and 77% of the civilian deaths in 2006. Structure fires were up 4% from 2005. There were 325 structure arsons in 2006. Structure fires in the Massachusetts Fire Incident Reporting System include any fires that occur inside or on a structure.

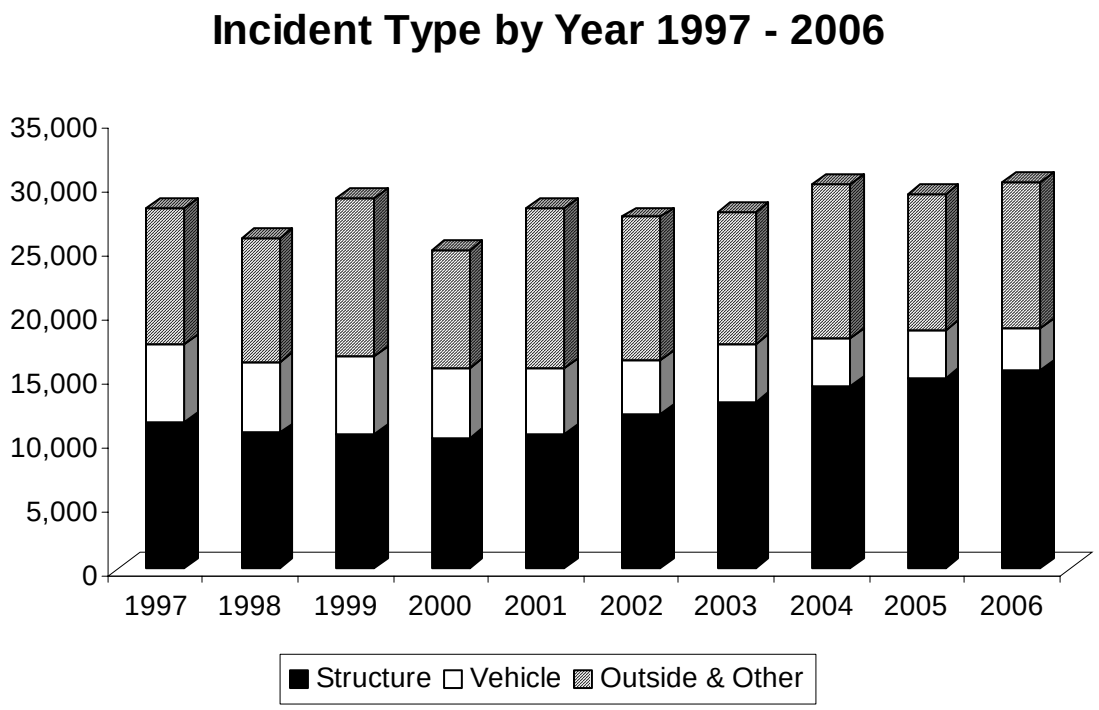
3,258 Motor Vehicle Fires Account for 11% of Reported Fires
The 3,258 motor vehicle fires caused six civilian deaths, 12 civilian injuries, 21 fire service injuries, and $16 million in property damage. These incidents accounted for 11% of the reported 30,198 fires in 2006. Motor vehicle fires accounted for 14% of civilian fire deaths. Motor vehicle fires were down 12% from 2005. There were 159 motor vehicle arsons in 2006. According to MFIRS, a motor vehicle fire is defined as one involving a car, truck, boat, airplane, construction equipment or other mobile property that does not occur inside a structure.

11,433 Brush Fires, Trash Fires, and Other Outside Fires
The 11,433 outside and other fires caused four civilian deaths, 30 civilian injuries, 32 fire service injuries, and an estimated dollar loss of $2.7 million. The 4,661 trees, grass and brush fires, 3,727 outside rubbish fires, 822 special outside fires, 44 cultivated vegetation or crop fires, and 2,179 other fires accounted for 38% of the total fire incidents in 2006. These fires were up 7% from the 10,646 such outside and other fire incidents reported in 2005. There were 781 outside and other arsons in 2006. Fire departments are required to report any fire resulting in a dollar loss or human casualty to MFIRS. Fires that do not result in a loss may be reported. Many fire departments, particularly those that submit data electronically, voluntarily report these fires. These figures should be considered an underestimate of the “no loss” fire incidents to which fire departments actually responded.

The following table indicates the total number of fires and the subsequent breakdown into structure fires, motor vehicle fires and outside and other fires for the years 1997 through 2006. The total number of fire incidents in 2006 was up 3% from the 29,272 incidents reported in 2005. Fires have been on an overall increasing trend since 2000.

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires
2006	30,198	15,507	3,258	11,433
2005	29,272	14,909	3,717	10,646
2004	30,057	14,226	3,831	12,000
2003	27,992	13,024	4,536	10,362
2002	27,519	12,035	4,356	11,128
2001	28,189	10,576	5,165	12,448
2000	24,931	10,279	5,473	9,179
1999	28,976	10,595	6,011	12,370
1998	25,873	10,613	5,565	9,695
1997	28,249	11,452	6,096	10,701

The following graph depicts the same numbers in a different manner that shows what portion of the fire problem each incident type represents. During the first four years of this period (1997-2000) the total number of structure fires decreased. However from 2001 through 2006 the number of structure fires steadily increased[7]. During the past 10 years motor vehicle fires have steadily declined. However, the trend for outside and other fires seems to be developing a 'wave' pattern where the number of these types of fires rises or 'crests' every two to three years.



Structure Fires

15,507 Structure Fires Account for 51% of Reported Fires, 77% of Fire Deaths

The 15,507 structure fires caused 34 civilian deaths, 344 civilian injuries, 488 fire service injuries, and an estimated dollar loss of $165 million. The average structure fire caused $10,659 in property damage. Structure fires accounted for 51% of reported fires and 77% of the civilian fire deaths in 2006.

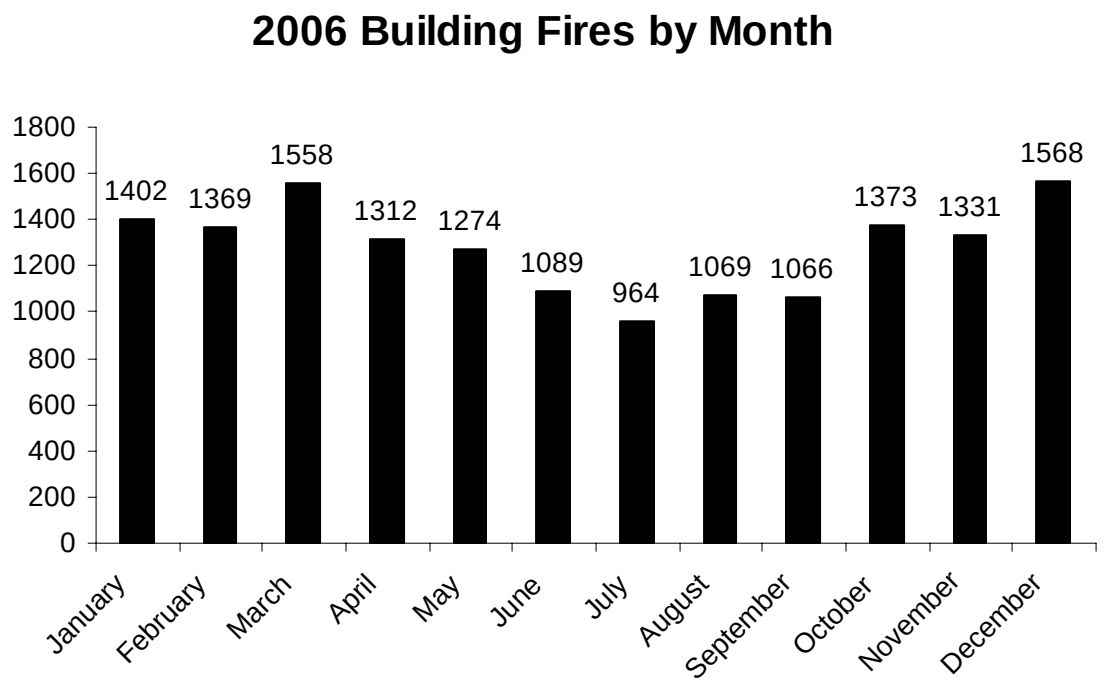
[7] This is due to the new codes for confined fires inside of structures, Incident Types 113 – 118. In the past many of these confined fires may have been coded as smoke scares or other non-fire types of incidents.

According to the MFIRS definition, any fire occurring inside or on a structure is considered a structure fire. This includes chimney fires, cooking fires, indoor waste basket fires, fires on a back porch, exterior trim fires, and vehicle fires that occur inside a garage that extend beyond the vehicle. The number of structure fires rose by 4% from the 14,909 reported in 2005.

Building Fires

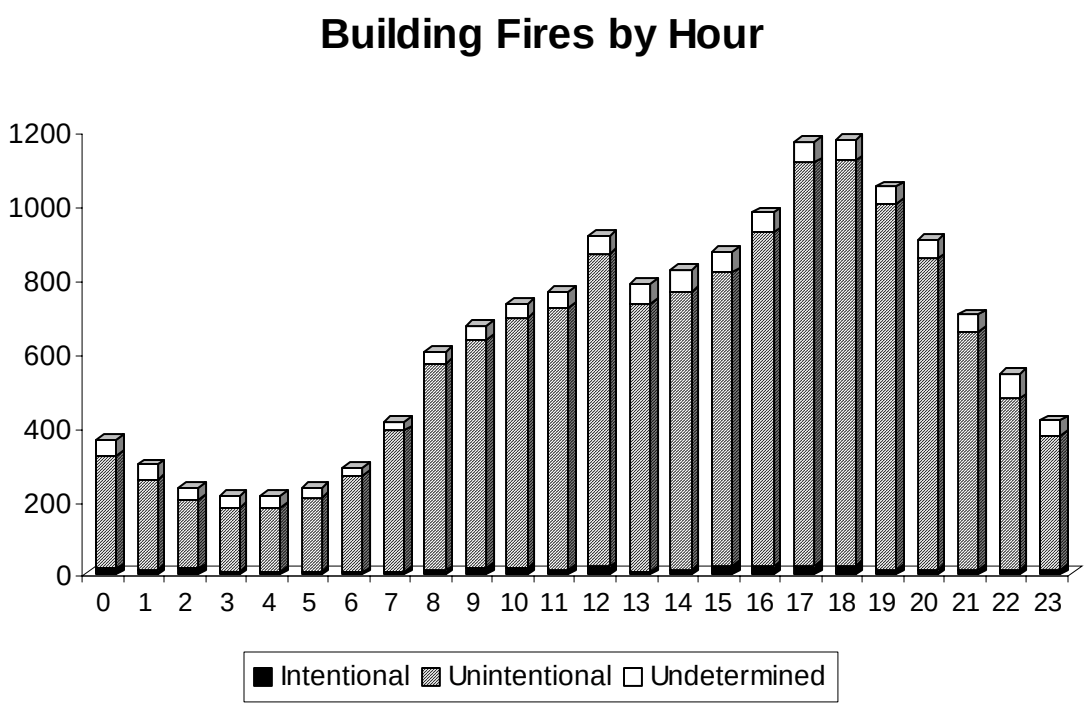
There were 15,375 building fires of different types in Massachusetts in 2006. These 15,375 building fires accounted for 99.1% of all structure fires in Massachusetts.

Building Fires Most Common in Colder Months
Heating equipment plays a frequent role in building fires. It is not surprising that December was the peak month for these incidents in 2006. March ranked second and January had the third largest number of building fires. The warmer months had significantly fewer building fires. The fewest fires occurred in July. September had the second lowest frequency of these incidents, and August had the third lowest number of building fires in 2006.



Building Fires Most Common Around Dinner Time
Cooking is the leading cause of building fires. Predictably, building fires occurred most often around dinnertime. Intentionally set building fires were most common between 5:00 p.m. and 6:00 p.m. and also between 1:00 a.m. and 2 a.m. Unintentional building fires reached their lowest point between 1:00 a.m. and 6:00 a.m. and increased fairly steadily to a peak between 5:00 and 6:00 p.m.

The following graph shows fire frequency by time of day on the 24-hour clock for building arsons, unintentional building fires and building fires of undetermined origin. A fire is considered arson when the ignition factor is incendiary or suspicious. Midnight to 1:00 a.m. is represented by 0, 1:00 a.m. to 2:00 a.m. is represented by 1, etc.



81% of Building Fires Occurred in Residential Occupancies
Eighty-one percent (81%) of the state's 15,375 building fires and 31 of the 34 building fire deaths occurred in residential occupancies. The following table shows the number of building fires, civilian deaths, civilian injuries, fire service injuries, estimated dollar loss and the percentage of total building fires for each occupancy group. Institutional properties are those used for purposes such as medical or other treatment of persons suffering from physical or mental illness, disease, or infirmity; for the care of infants, convalescents, or aged persons; and for penal or corrective purposes. Industrial facilities, utilities, defense facilities, laboratories, agricultural and mining facilities, are considered basic industries. Special properties include buildings such as outbuildings, bus stop shelters and telephone booths.

Fire in Fall River Social Club Causes Most Fire Deaths
On June 14, 2006 the Fall River Fire Department was called to a multiple fatal candle fire in a religious social club located on the first floor of a three-story apartment building. There were four civilian fatalities, 10 civilian injuries and two fire service injuries. It was undetermined if smoke detectors were present and sprinklers were not present. Because the owner never notified the city about changing the use of the first floor apartment into a place of public assembly, the building was never inspected as such. Because the structure was designed to be a multifamily residence, the fire is treated as a multifamily residential fire throughout this report.

Social clubs are places of public assembly and the building and fire code requirements for them are different than for homes. This fire caused a renewed awareness to social club operators, fire and building officials of the need to work together to make sure these clubs are safe for members and guests.

BUILDING FIRES BY OCCUPANCY TYPE

Occupancy	# of Fires	% of Total	Injuries FF	Injuries Civ	Deaths FF	Deaths Civ	Dollar Loss	Avg. Dollar Loss
Public assembly	506	3%	13	13	0	0	$6,343,332	$12,536
Educational	346	2%	3	3	0	0	1,597,863	4,618
Institutional	464	3%	3	3	0	0	1,452,588	3,131
Residential	**12,507**	**81%**	**414**	**276**	**0**	**31**	**120,960,841**	**9,671**
1- & 2-Family homes	*5,634*	*37%*	*239*	*140*	*0*	*11*	*68,976,719*	*12,243*
Apartments	*5,546*	*36%*	*166*	*132*	*0*	*19*	*44,265,259*	*7,981*
All other residential	*1,327*	*9%*	*9*	*4*	*0*	*1*	*7,718,863*	*5,817*
Mercantile, business	720	5%	27	46	0	2	24,617,899	34,192
Basic industry	52	1%	3	1	0	0	1,462,400	28,123
Manufact., processing	178	1%	5	4	0	0	2,619,481	14,716
Storage properties	238	2%	15	5	0	1	4,551,936	19,126
Special properties	350	1%	3	0	0	0	227,691	651
Unclassified	14	0.02%	0	0	0	0	7,200	514
Total	**15,375**	**100%**	**469**	**300**	**0**	**34**	**$163,841,231**	**10,656**

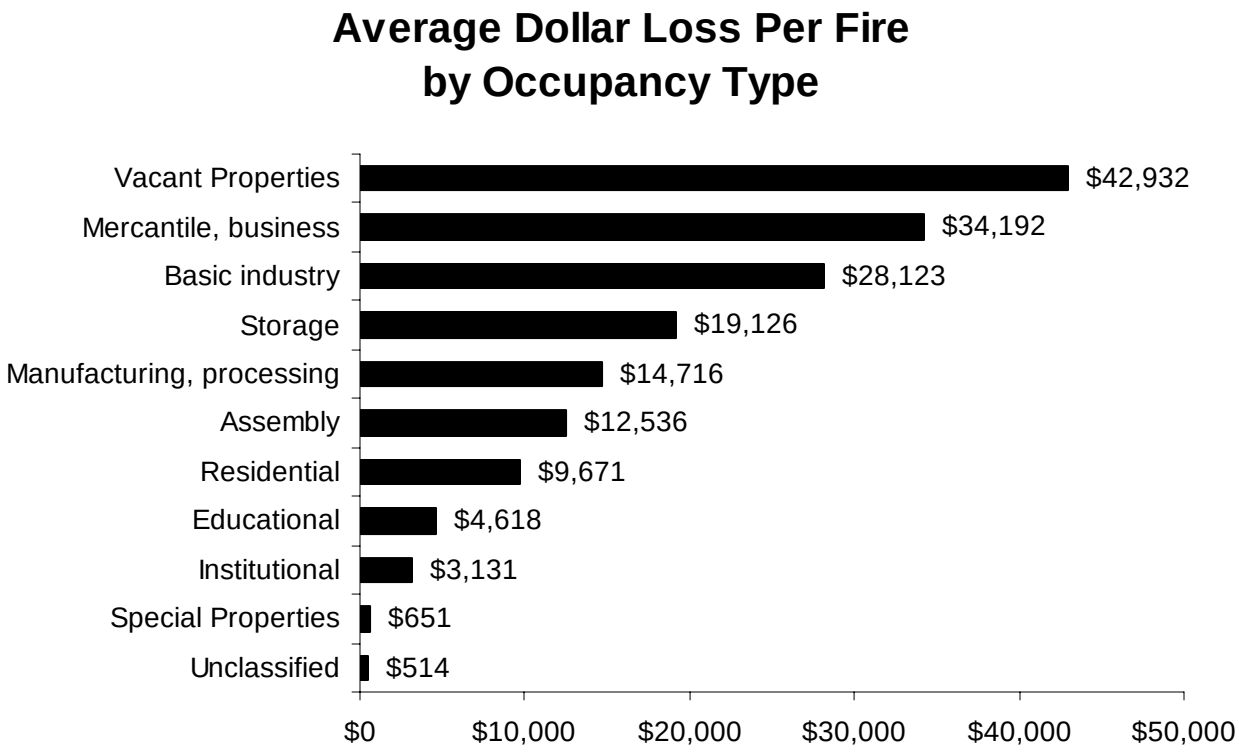
Occupancy Group Definitions

- **Public assembly**: This category includes amusement and recreation places such as bowling alleys, skating rinks, ballrooms, gymnasiums, arenas, stadiums, playgrounds, churches, funeral parlors, clubs, libraries, museums, courtrooms, restaurants, taverns, passenger terminals, theatres and studios.
- **Educational**: This category includes classrooms from nursery school through college, and trade and business schools. Dormitories are considered residential.
- **Institutional**: This category includes institutions that care for the aged, the young, the sick or injured, the physically restrained, the physically inconvenienced and the mentally handicapped.

- **Residential**: This occupancy group includes one- and two-family homes, apartments, rooming, boarding or lodging houses, dormitories, hotels, motels and home hotels, and residential board and care facilities. Seasonal homes are included here.
- **Mercantile, business**: Retail establishments, service stations, laundries, offices, banks, medical offices and post offices are included in this category.
- **Basic industry**: This category includes nucleonics, energy production plants, laboratories, communications facilities, defense facilities, document facilities, utility and energy distribution systems, agriculture, forests, hunting and fishing, mining, and manufacturing of mineral products such as glass, clay or cement.
- **Manufacturing, processing**: Manufacturing that is not listed under Basic Industry is listed here.
- **Storage property**: This category includes warehouses, barns, garages and tool sheds.
- **Special property**: This category includes, dumps, sanitary landfills, recycling collection points, outbuildings, bus stop shelters, phone booths, bridges, roads, railroad property, outdoor properties, water areas, aircraft areas and equipment operating areas outbuildings.

Vacant Properties Have Highest Average Dollar Loss Per Fire

Vacant properties[8] had the highest dollar loss per fire than any property type. In 2006, the average dollar loss for a building fire in a vacant property was $42,932. Mercantile and business properties had the next highest average dollar loss per fire at $34,192. Basic



industrial properties were third highest with $28,123 average dollar loss per fire; and storage facilities were fourth at $19,126 per fire. Manufacturing and processing facilities were next at $14,716 per fire; and public assembly properties had an average dollar loss per fire of $12,536. Residential properties were seventh in average dollar loss at $9,671 per fires; educational facilities had an average dollar loss of $4,618; institutional facilities had $3,131 per fire; and special properties had an average dollar loss of $651 per fire. Unclassified properties had the lowest average dollar loss at $514 per fire.

2006 Massachusetts Building Fires by Property Use

MFIRS Code	Property Use	# of Building Fires
	Assembly	**506**
100	Assembly, other	18
110	Fixed use recreation places, other	5
114	Ice rink: indoor, outdoor	3
116	Swimming facility: indoor or outdoor	4
120	Variable use amusement, recreation places	3
121	Ballroom, gymnasium	2
122	Convention center, exhibition hall	5
123	Stadium, arena	1
124	Playground	36
129	Amusement center: indoor/outdoor	3
130	Places of worship, funeral parlors, other	2
131	Church, mosque, synagogue, temple, chapel	64
134	Funeral parlor	1
140	Clubs, other	11
141	Athletic/health club	12
142	Clubhouse	16
143	Yacht Club	2
150	Public or government, other	15
151	Library	8
152	Museum	7
160	Eating, drinking places	46
161	Restaurant or cafeteria	196
162	Bar or nightclub	21
170	Passenger terminal, other	1
171	Airport passenger terminal	2
173	Bus station	5
174	Rapid transit station	4
180	Studio/theater, other	3

[8] Vacant property is not an occupancy type. Any property use can be a vacant property if certain conditions are met. It is included here with the other property use categories to illustrate how dangerous and destructive fires in these types of buildings can be.

MFIRS Code	Property Use	# of Building Fires
181	Live performance theater	2
182	Auditorium or concert hall	2
183	Movie theater	6
	Educational	**346**
200	Educational, other	23
210	Schools, non-adult	11
211	Preschool	20
213	Elementary school, including kindergarten	61
215	High school/junior high school/middle school	150
241	Adult education center, college classroom	51
254	Day care, in commercial property	23
255	Day care, in residence, licensed	6
256	Day care in residence, unlicensed.	1
	Health care, detention & correction	**464**
300	Health care, detention, & correction, other	27
311	24-hour care nursing homes, 4 or more persons	129
321	Mental retardation/development disability facility	55
322	Alcohol or substance abuse recovery center	37
323	Asylum, mental institution	11
331	Hospital - medical or psychiatric	129
332	Hospices	3
340	Clinics, doctors offices, hemodialysis centers	12
341	Clinic, clinic-type infirmary	8
342	Doctor, dentist or oral surgeon's office	18
361	Jail, prison (not juvenile)	18
363	Reformatory, juvenile detention center	9
365	Police station	8
	Residential	**12,507**
400	Residential, other	413
419	1 or 2 family dwelling	5634
429	Multifamily dwelling	5546
439	Boarding/rooming house, residential hotel	253
449	Hotel/motel, commercial	128
459	Residential board and care	133
460	Dormitory type residence, other	290
462	Sorority house, fraternity house	19
464	Barracks, dormitory	91
	Mercantile, Business	**720**
500	Mercantile, business, other	139
511	Convenience store	21
519	Food and beverage sales, grocery store	129

MFIRS Code	Property Use	# of Building Fires
529	Textile, wearing apparel sales	10
539	Household goods, sales, repairs	11
549	Specialty shop	43
557	Personal service, including barber & beauty shops	21
559	Recreational, hobby, home repair sales, pet store	6
564	Laundry, dry cleaning	41
569	Professional supplies, services	18
571	Service station, gas station	14
579	Motor vehicle or boat sales, services, repair	34
580	General retail, other	32
581	Department or discount store	3
592	Bank	29
593	Office: veterinary or research	5
596	Post office or mailing firms	7
599	Business office	157
	Industrial, Utility, Defense, Agriculture, Mining	**52**
600	Utility, defense, agriculture, mining, other	5
610	Energy production plant, other	4
615	Electric generating plant	3
629	Laboratory or science laboratory	18
635	Computer center	2
640	Utility or Distribution system, other	3
642	Electrical distribution	1
644	Gas distribution, pipeline, gas distribution	2
647	Water utility	1
648	Sanitation utility	2
659	Livestock production	2
669	Forest, timberland, woodland	9
700	**Manufacturing, processing**	**178**
	Storage	**238**
800	Storage, other	17
807	Outside material storage area	19
808	Outbuilding or shed	75
819	Livestock, poultry storage	6
839	Refrigerated storage	2
880	Vehicle storage, other	10
881	Parking garage, (detached residential garage)	51
882	Parking garage, general vehicle	10
888	Fire station	6
891	Warehouse	40
899	Residential or self storage units	2

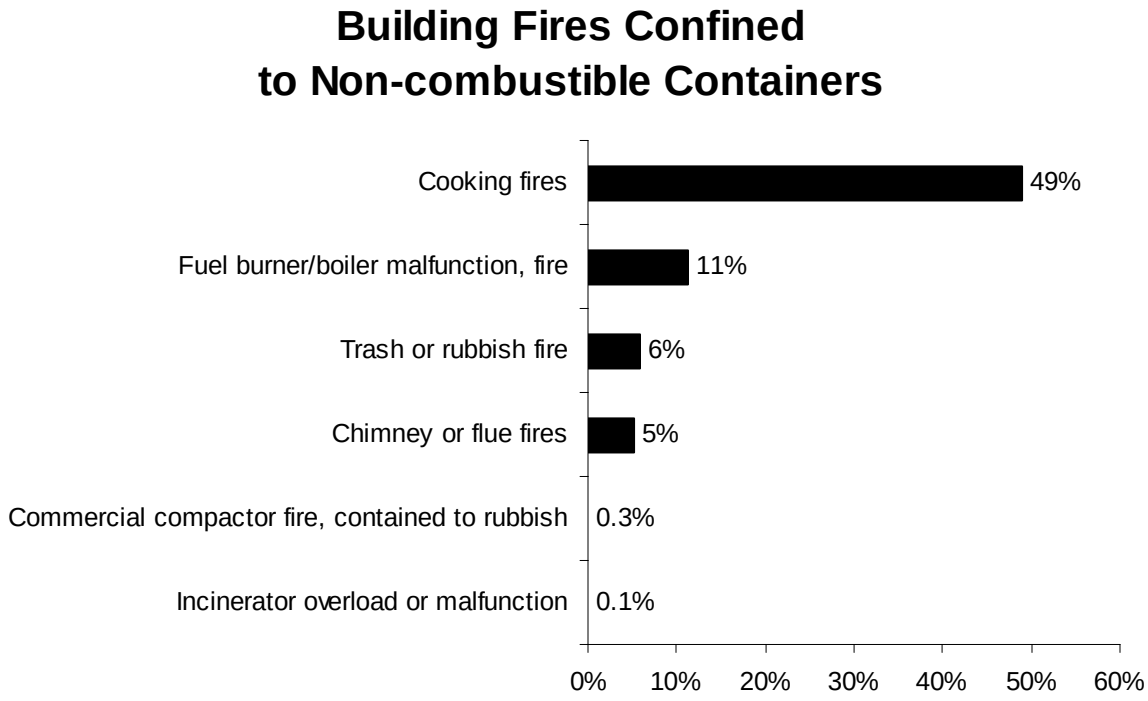
MFIRS Code	Property Use	# of Building Fires
	Outside or special property	**350**
900	Outside or special property, other	29
919	Dump, sanitary landfill	6
921	Bridge, trestle	1
922	Tunnel	4
926	Outbuilding, protective shelter	26
931	Open land or field	39
935	Campsite with utilities	1
936	Vacant lot	20
937	Beach	7
938	Graded and cared-for plots of land	46
940	Water area, other	2
946	Lake, river, stream	1
951	Railroad right of way	11
960	Street, other	16
961	Highway or divided highway	4
962	Residential street, road or residential driveway	77
963	Street or road in commercial area	16
965	Vehicle parking area	32
981	Construction site	9
983	Pipeline, power line or other utility right of way	2
984	Industrial plant yard - area	1
	Other	**14**
000	Property Use, other	14
	Total Building Fires	**15,375**

67% of Building Fires Are Confined to Non-Combustible Containers[9]

Eleven thousand and fourteen (11,014), or 67% of all building fires, were reported as confined to non-combustible containers in 2006. Seven thousand five hundred and thirty-eight (7,538) of the reported fires were cooking fires confined to a non-combustible container accounting for 49% of building fires. One thousand seven hundred and forty (1,740), or 16%, were fires confined to a fuel burner or boiler malfunction. Eight hundred and ninety-five (895), or 6%, of these fires were contained rubbish fires. Seven hundred and eighty-one (781), or 5%, of all building fires reported in 2006 were fires confined to a chimney or flue. Forty (40), or less than 1%, were commercial compactor fires that were confined to the rubbish. Twenty (20), or less than 1%, of these fires in the Commonwealth were contained to an incinerator overload or malfunction.

[9] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

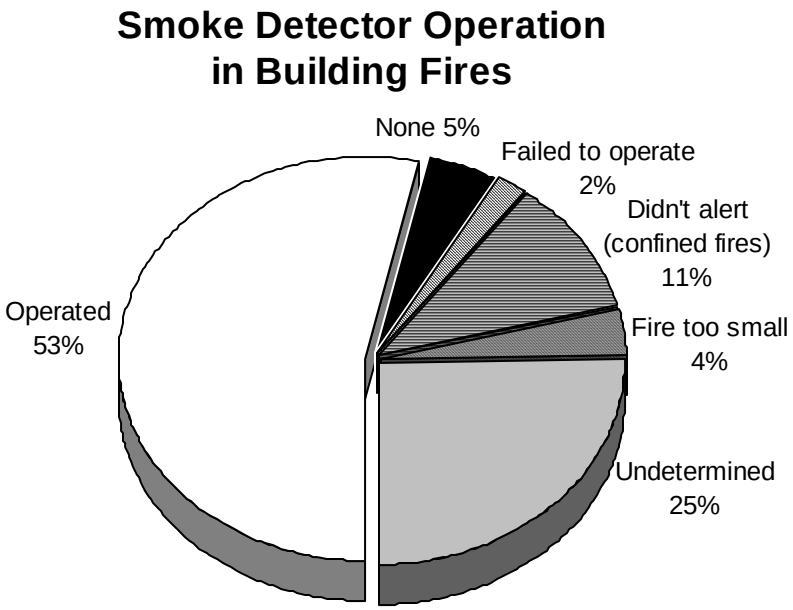
Confined building fires increased by 704 incidents, or 7%, from the 10,310 reported in 2005.



Detectors Operated in Just Over 1/2 of Fires

Smoke or heat detectors operated in 8,227, or 53%, of the building fires in 2006. In 11% of these fires[10], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 5% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 4% of the residential fires. Smoke detector performance was undetermined in 3,881 incidents, or 25% of Massachusetts' 2006 building fires.

[10] These represent confined fires where it was reported that the detector did not alert the occupants.



The following table shows detector performance by occupancy type for building fires.

DETECTOR PERFORMANCE

	Operated	Failed to Operate	Didn't Alert (Conf.)	Fire Too Small	None	Unknown	Total
Public assembly	247	7	42	30	39	141	506
Educational	190	6	36	27	12	75	346
Institutional	350	3	11	24	4	72	464
Residential	7,029	297	1,291	414	354	3,122	12,507
Mercantile, business	307	11	94	56	80	172	720
Basic industry	23	1	1	0	10	17	52
Manufacturing	45	0	20	17	50	46	178
Storage properties	21	0	13	8	151	45	238
Special properties	11	0	131	1	22	185	350
Unclassified	4	0	4	0	0	6	14
Total	**8,227**	**325**	**1,643**	**577**	**722**	**3,881**	**15,375**

$4 Million Fatal Fire at Cambridge Office Building is Largest Loss Building Fire

- On December 8, 2006 at 10:55 a.m., the Cambridge Fire Department was called to a fatal electrical fire in a 19-story office building. The victim, a 28-year old male electrician, and his partner were performing maintenance in the electrical vault in the basement. There was an explosion and the victim was overcome while his partner was able to escape with injuries. The victim's partner, 34 office workers and two firefighters were injured in this fire. Detectors were present and alerted the occupants

of the building. Sprinklers were present and effective in suppressing the fire until firefighters arrived. Damages from this fire were estimated to be $4,000,000.

Reading & Newburyport Tied for 2nd Largest Loss Fire in 2006 - $3.5 Million

- On January 16, 2006, at 2:20 a.m., the Reading Fire Department was called to a fire in a strip mall of undetermined cause. No one was injured at this fire. Detectors were present and operated. Sprinklers were not present. Damages from this fire were estimated to be $3.5 million.

- On April 15, 2006, at 1:16 a.m., the Newburyport Fire Department was called to a fire in a 24-unit apartment building of undetermined cause. The fire began on the second floor and three of the four floors sustained major damage. One civilian and three firefighters were injured at this fire. Smoke detectors operated and alerted the occupants. Damages were estimated to be $3.5 million.

Overall, there were 11 large loss building fires reported to MFIRS in 2006 with a total combined dollar loss of $21.7 million.

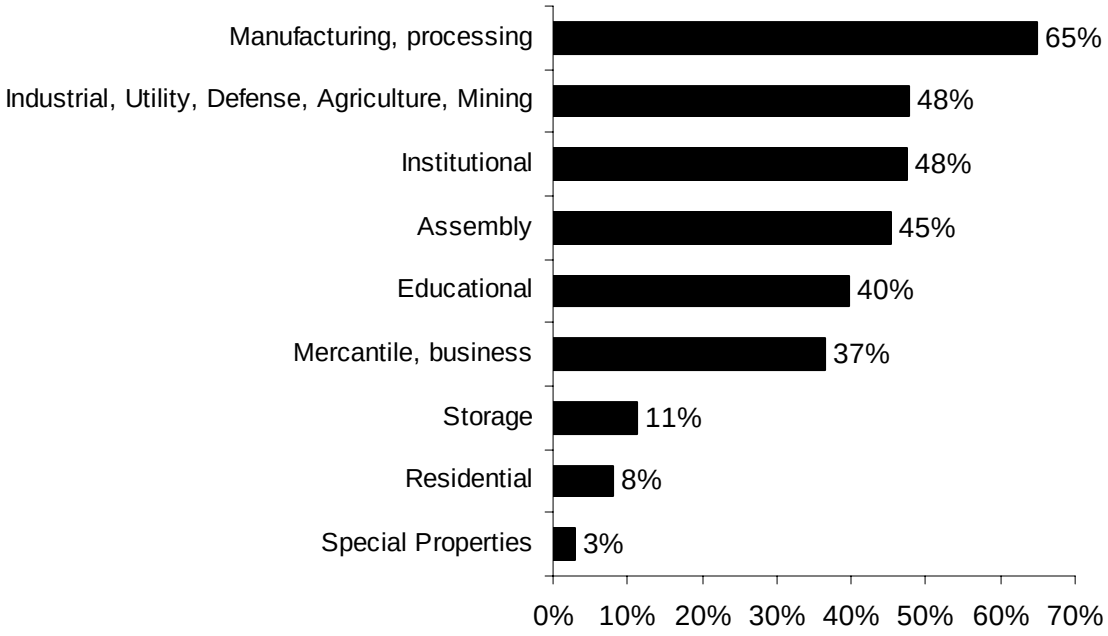
15% of Unconfined Fires Occurred in Buildings with AES

Overall, 639, or 15%, of the 4,358 unconfined[11] building fires in 2006 occurred in buildings that had automatic extinguishing systems (AES), regardless of whether the fire was large enough to activate the system.

The following chart lists the percentage of unconfined fires in buildings that were at least partially protected by an AES for that specific property use. Manufacturing and institutional properties were the most likely to have an AES. Sixty-five percent (65%) of the fires in manufacturing or processing facilities, 48% of the fires in health care, detention and correction facilities, and 48% of the fires in basic industrial facilities occurred in buildings with these systems. Only 8% of the residential fires occurred in buildings protected by an automatic extinguishing system.

[11] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) also does not have to have a Structure Fire Module completed. Therefore the fields concerned with detector and sprinkler presence and performance would not be completed. These incidents are not included in the analysis of these fields.

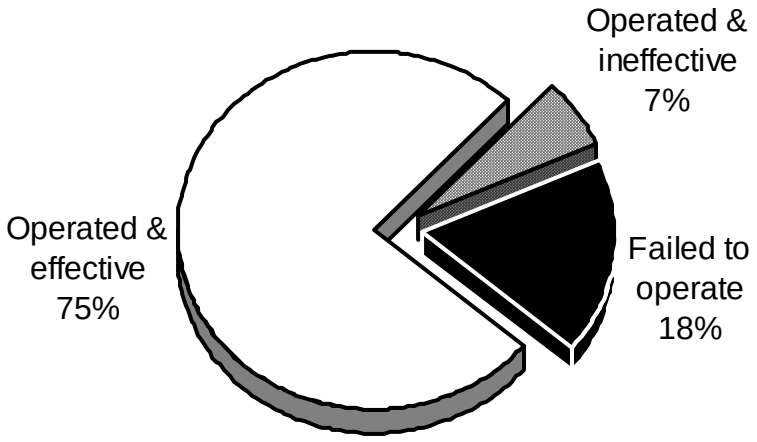
Fires in AES Protected Buildings by Property Use



AES Work in Over 3/4 of Building Fires When Installed

AES were present and operated in 139, or 79%, of the 169 building fires in buildings protected by an automatic extinguishing system, which had a reported fire large enough for the AES to activate in Massachusetts in 2006. Of these 169 fires, the systems were effective in 128, or 75%, and ineffective in 11, or 7%, of these incidents. AES were

AES Status in AES Protected Buildings



present but failed to operate in 30, or 18%, of these 169 building fires. Some of the reasons for the automatic extinguishing system failures were reported to be: the fire was not in an area protected by the system, and the system was shut off; and manual intervention defeated the system.

The table below shows sprinkler performance by occupancy group for those incidents where AES presence and performance were reported.

AUTOMATIC EXTINGUISHING SYSTEM PERFORMANCE

	Operated	Did Not Operate	Fire Too Small	None	Unknown	Total
Assembly	17	6	39	10	2	73
Educational	4	2	29	7	1	43
Institutional	4	1	24	8	1	38
Residential	68	4	118	70	7	267
Mercantile, business	18	11	50	25	2	106
Basic industry	3	1	6	1	0	11
Manufacturing	21	2	39	15	1	78
Storage properties	3	3	14	1	0	21
Special properties	1	0	0	0	0	1
Unclassified	0	0	0	0	0	0
Total	**139**	**30**	**319**	**137**	**14**	**639**

High Rise Buildings Must be Fully Equipped with Sprinklers

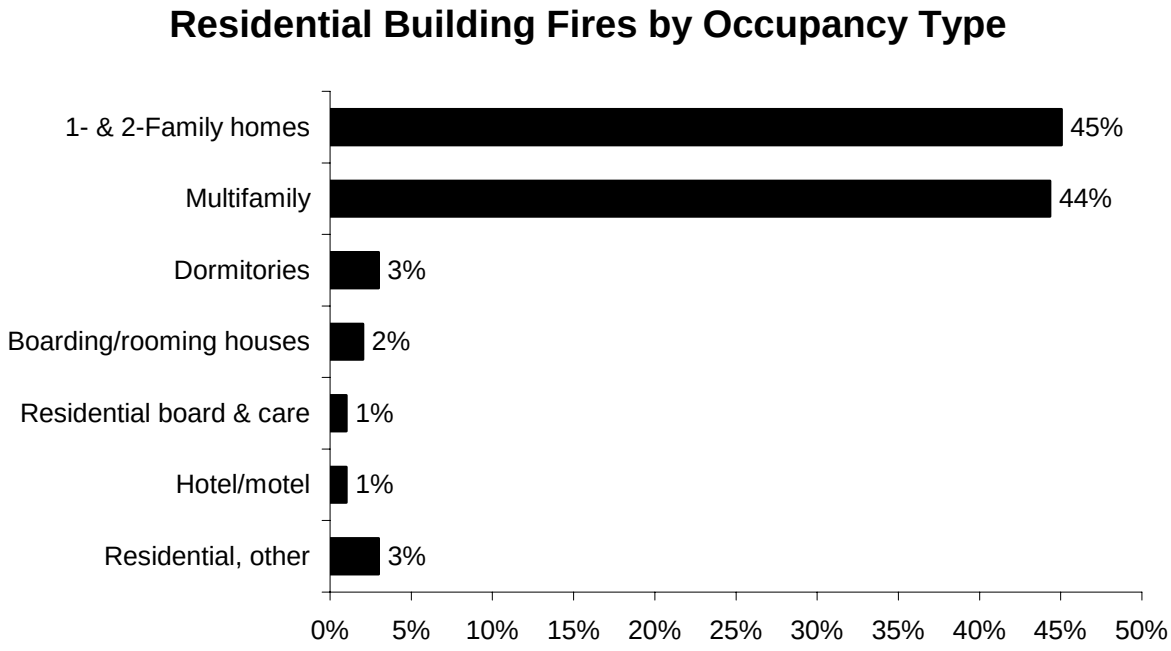
Evacuating a high-rise building while fighting a raging fire is a logistical nightmare for firefighters. Automatic sprinklers make these buildings much safer for residents, office workers, visitors and firefighters. Under the provision of MGL Chapter 148, Section 26A 1/2, all existing buildings of more than 70 feet in height above the mean grade had to be retrofitted by a fully protected adequate system of automatic sprinklers by March 30, 1998. This took effect in 1988. All new high rises are required to have automatic sprinklers.

Written Permit Required from Fire Department before Disconnecting Sprinklers

Under the provisions of MGL Chapter 148, Section 27A, it is illegal to "…shut off, disconnect, obstruct, remove or destroy… any part of any sprinkler system, water main, hydrant, or other device used for fire protection… without first procuring a written permit from the head of the fire department." The head of the fire department is authorized to issue conditions necessary to provide protection from fire and the preservation of public safety. In the event of an emergency, the system may be shut down as long as the fire department head is immediately notified of the action and when the system is back in service. Violators may be punished by imprisonment for not more than one year and/or a fine of not more than $1,000.

Residential Building Fires

81% of Building Fires Occurred in Residential Occupancies
Massachusetts fire departments reported that 12,507, or 81% of the 15,375 building fires occurred in residential occupancies. These fires caused 31 civilian deaths, 276 civilian injuries, 414 fire service injuries and an estimated dollar loss of $121 million. The average dollar loss per fire was $9,671. The total number of reported residential building fires went up 3% from the 12,135 reported in 2005. The following table shows the statistics for fires, firefighter and civilian casualties and the estimated dollar loss by residential occupancy.



RESIDENTIAL BUILDING FIRES

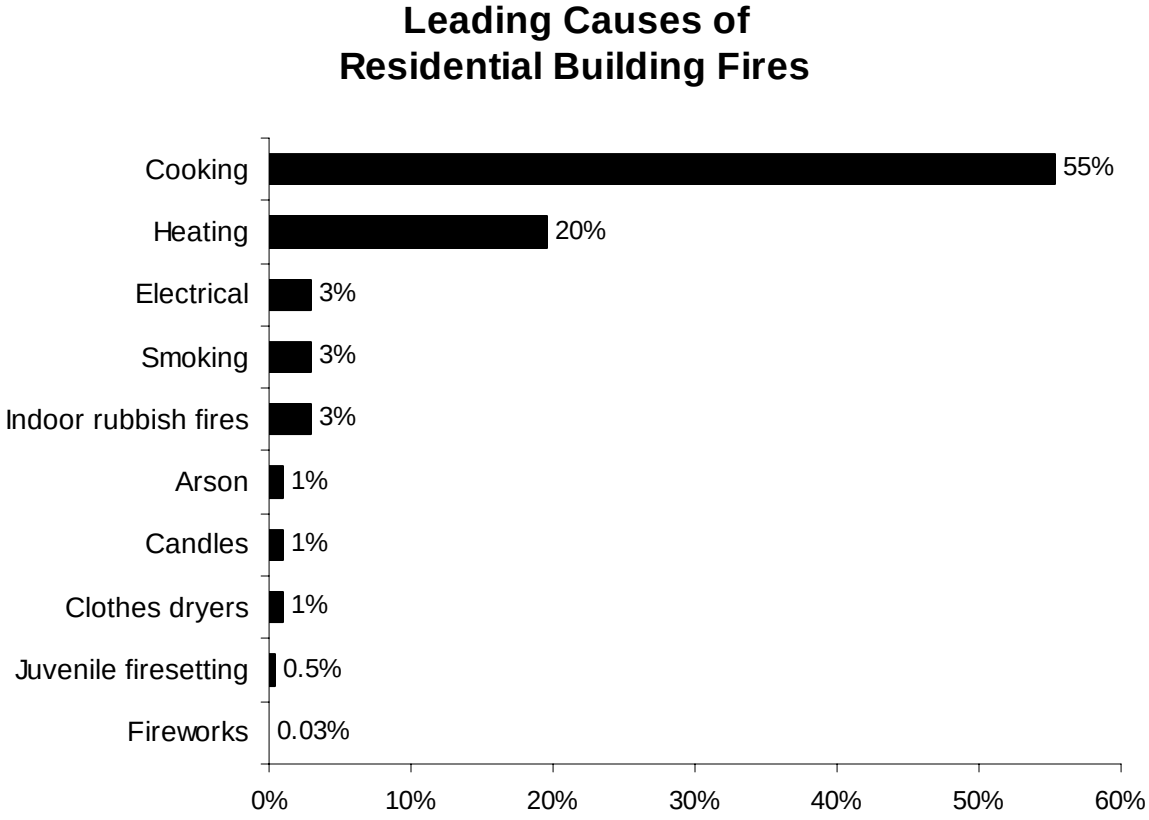
Occupancy	# of Fires	% of Total	Injuries FF	Injuries Civ	Deaths FF	Deaths Civ	Dollar Loss
1- & 2-Family homes	5,634	45%	239	140	0	11	$68,976,719
Multifamily	5,546	44%	166	132	0	19	44,265,259
Rooming houses	253	2%	5	1	0	0	951,047
Hotels & motels	128	1%	0	0	0	1	1,148,566
Residential board & care	133	1%	0	0	0	0	20,733
Dormitories	400	3%	0	0	0	0	1,506,772
Unclassified	413	3%	4	3	0	0	4,091,705
Total	**12,507**	**100%**	**414**	**276**	**0**	**31**	**$120,960,841**

Residential Occupancy Sub-Group Definitions

- **1- & 2-Family**: This category includes one or two family homes, detached, manufactured homes, mobile homes and duplexes.
- **Multifamily dwellings**: This category includes apartments, condominiums, townhouses, rowhouses and tenements.
- **Boarding, rooming house**: This category includes residential hotels and shelters.
- **Hotel, motel**: This occupancy group includes commercial hotels, motels or inns.
- **Residential board and care**: This category includes long-term care and half-way houses. Excluded are nursing facilities (Property Use code = 311).
- **Dormitories**: This category includes dormitory type residences and sorority or fraternity houses. It also includes nurses' quarters, military barracks, monastery/convents, dormitories, bunk houses and workers' barracks.
- **Residential, other**: Any type of residential occupancy that is not defined above.

Cooking Causes Over 1/2 of Residential Building Fires

The leading causes of residential building fires in 2006 were cooking, heating, electrical, smoking, indoor rubbish fires, arson, candles, clothes dryer fires, juvenile firesetting, and fireworks. Cooking was the leading cause of residential building fires accounting for 6,930, or 55%, or more than half of the 12,507 incidents. Heating equipment accounted for 2,453, or 20% of the total fires. Electrical problems caused 433, or 3%, of incidents. The unsafe use and disposal of smoking materials also accounted for 382, or 3%, of these incidents. Indoor rubbish fires were the cause of 365, or 3%, of residential building fires. Arson accounted for 180, or 1%, of residential building fires. One percent (1%), or 161, were caused by candles. Clothes dryer fires were the cause for 72, or 1%, of these incidents. Juvenile firesetting accounted for 57, or less than 1%, of residential building fires. Fireworks caused four, or less than 1%, of these fires in Massachusetts in 2006.



58% of Residential Fires Started in the Kitchen
Fifty-eight percent (58%), of the residential building fires in 2006 started in the kitchen. Thirteen percent (13%) began in a heating room or area; 6% started in the chimney or flue; 3% began in the bedroom; and 1% started in the living room in Massachusetts residential building fires in 2006.

73% of Residential Building Fires Confined to Non-Combustible Containers[12]
Nine thousand one hundred and fifty-five (9,155), or 73% of all residential building fires, were reported as confined to non-combustible containers in 2006. Six thousand four hundred and sixty-three (6,463) of the reported fires were cooking fires contained to a non-combustible container accounting for 52% of residential building fires. One thousand five hundred and fifty-two (1,552), or 11%, were fires confined to a fuel burner or boiler malfunction. Seven hundred and forty-one (741), or 6%, of all residential building fires reported in 2006 were fires confined to a chimney or flue. Three hundred and seventy-nine (379), or 3%, of these fires were contained rubbish fires. Eleven (11), or less than 1%, of these fires in the Commonwealth were contained to an incinerator overload or

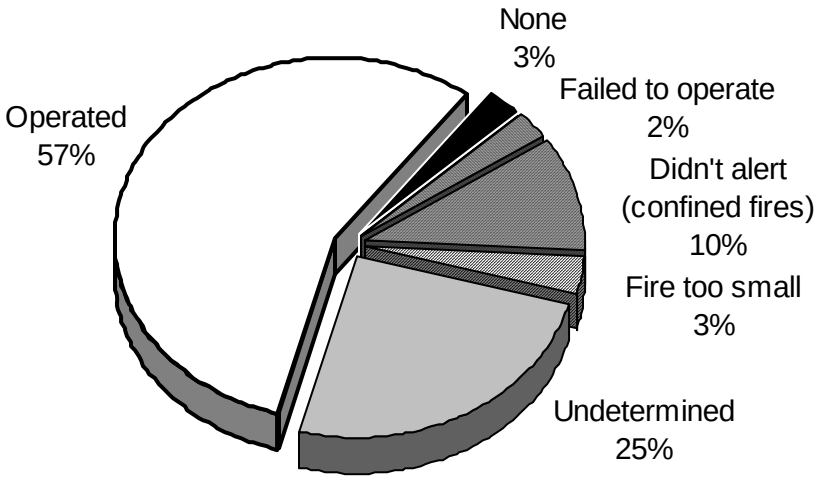
[12] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

malfunction. Nine (9), or less than 1%, of the residential building fires in 2006 were commercial compactor fires confined to the rubbish inside the compactor.

The number of contained fires in residential occupancies rose in 2006. Confined fires increased by 426 incidents, or 5%, from the 8,729 reported in 2005.

Detectors Operated in Over 1/2 of Fires
Smoke or heat detectors operated in 7,029, or 57%, of the residential building fires in 2006. In 10% of these fires[13], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 3% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 3% of the residential fires. Smoke detector performance was undetermined in 3,125 incidents, or 25% of Massachusetts' 2006 residential building fires.

Smoke Detector Status in Residential Fires



Houses Must Have Detectors at Time of Sale
Under the provisions of Massachusetts General Law Chapter 148, Section 26F, all buildings containing one to five dwelling units built prior to 1975, must be equipped by the seller with approved smoke detectors upon the sale or transfer of the building as provided in Section 26E. This statute took effect on January 1, 1982. Many homes changed hands during the real estate boom of the 1980's and while many owners had not installed detectors to protect themselves, they did install these devices to sell their home. The new owners were then protected by an early warning system but it is our concern that many have not been fully maintained since then. The new owners should maintain the

[13] These represent confined fires where it was reported that the detector did not alert the occupants.

detectors by testing the detectors monthly and replacing the batteries twice a year. Detectors should be kept free of dust and never painted over.

Smoke Alarms That Are 10 Years Old or Older Should Be Replaced
Studies have indicated that not unlike any other appliance in your household, smoke detectors do not last forever. The life span for a typical smoke detector whether it is battery-powered or hard-wired is 10 years. Smoke alarms that are 10 years old or older should be replaced. The manufacture date is stamped or marked on the back of the detector. If there is no date, the detector should be replaced because it is already more than 10 years old.

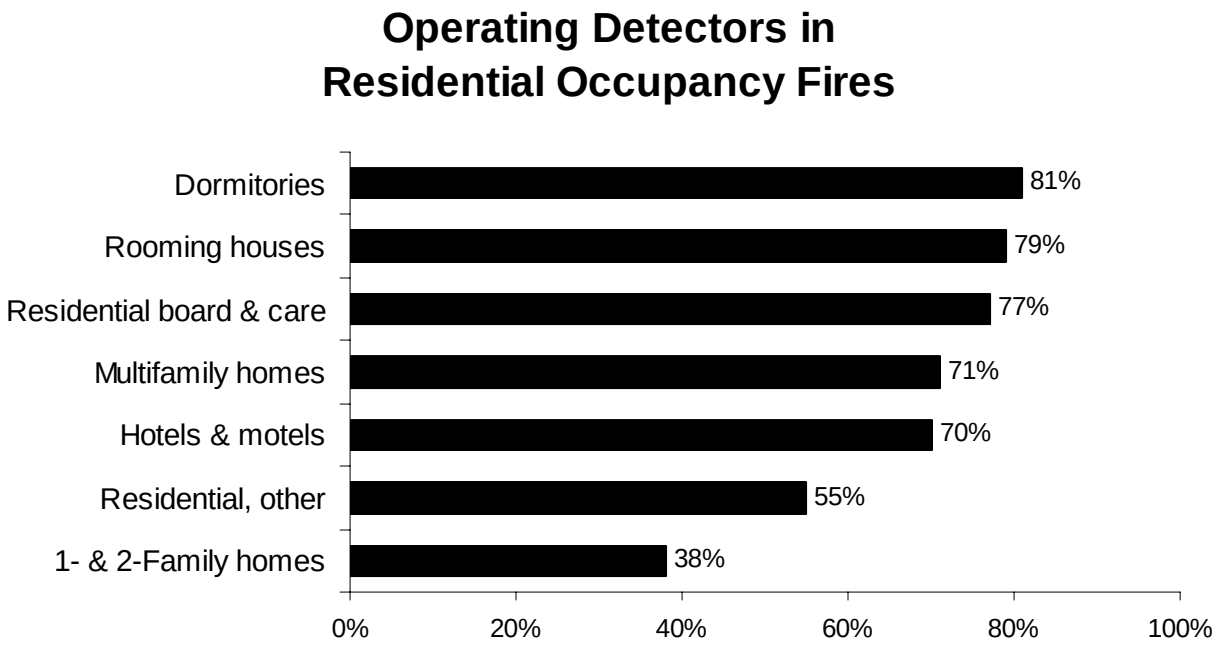
Automatic smoke detectors are required at all times in buildings containing three or more residential units. If adopted as a local ordinance, Massachusetts General Law Chapter 148, Section 26E (a) requires owners of one- and two-family homes built before 1974 to install smoke detectors outside each separate sleeping area and on the ceiling of each stairway leading to a floor above. All homes built after 1975 are required to have smoke alarms. At this date, there is hardly a home left in Massachusetts that is not required to have smoke alarms.

New Homes Must Have Detector in Bedroom Area
At a minimum, smoke detectors should be installed on every floor of the home and at the bottom of the basement stairwell. The Massachusetts Building Code requires smoke detectors within the bedroom area in all *new* residential occupancies. When a bedroom door is shut, it can help prevent the spread of fire from room to room. Unfortunately, a shut door also makes it harder to hear a smoke detector sounding in the hallway. People who sleep with their bedroom door closed should install a detector inside their bedroom. After detectors are installed, they need to be regularly tested and maintained. All the detector can do is sound the alarm. Everyone needs to develop and practice the escape routes they would use in the event of a fire.

Almost 1/4 of Failed Detectors Had Missing or Disconnected Batteries
Of the 297 fires where smoke detectors were present but failed to operate, 78, or 26%, failed because the batteries were either missing or disconnected. Thirty-six (36), or 12%, did not operate because of dead batteries. Thirty-five (35), or 12%, failed because of a power failure, shutoff or disconnect. Nine (9) units, or 3%, failed because they were defective. Eight (8) detectors, or 3%, failed from a lack of maintenance such as not cleaning dust from the detector or painting over the detector. Six (6), or 2% failed from improper installation or placement. For 92 cases, or 31%, the reason the detector failed was not determined.

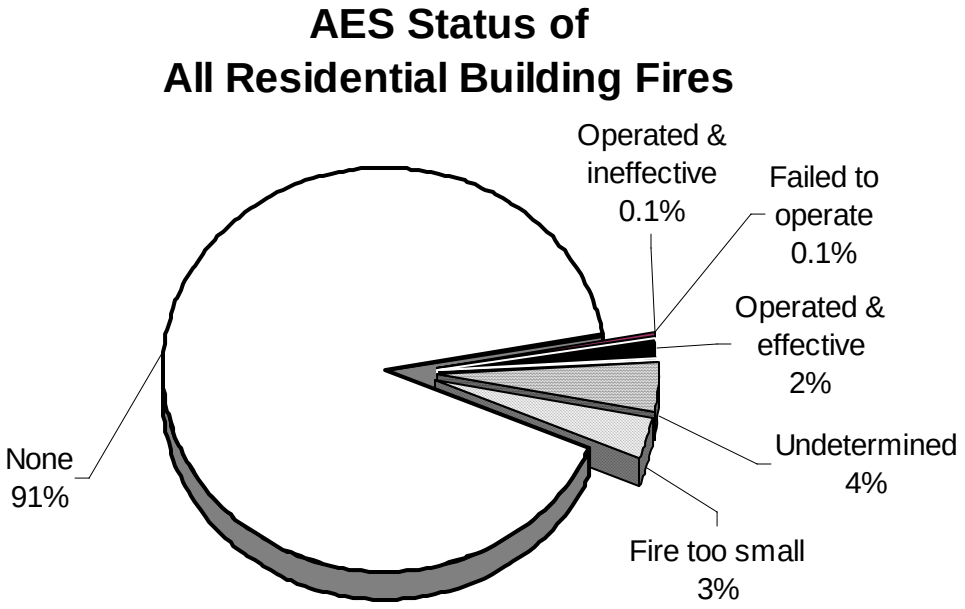
1- & 2-Families Had Lowest Percentage of Operating Detectors
Dormitories were the most likely residential occupancy to have operating smoke detectors in 2006. Rooming houses were the second most likely residence to have working smoke detectors. Hotels and motels were the next most likely residential occupancy to have operating smoke detectors while one- and two-family homes were the

least likely. The following chart shows the percentage of operating smoke detectors in fires in residential occupancies.



No Working Detectors for Over 1/4 of Residential Fire Victims
Of the thirty-one (31) people who died in residential building fires in 2006, the smoke detector performance was known for 23 of the victims. Victims were not alerted by smoke detectors in nine fires that killed nine people, or 29% of the victims. In three of these incidents, no detectors were present at all, killing three, or 10%, of these individuals. Detectors were present, but did not operate in six fires that killed six people, or 19% of fatal residential fire victims. Detector performance was undetermined in four residential building fires that killed eight people accounting for 26% of the residential building fire deaths in 2006.

AES Present in Only 9% of Residential Building Fires
Automatic extinguishing systems (AES) were reported present and operated effectively in 66, or 2% of the 3,624 residential building fires where system performance was reported in 2006. AES were present and operated ineffectively in two, or 0.1%, of these fires. In four, or 0.1%, of the fires in residential occupancies, the system did not operate. In 118, or 3%, the fire was too small to activate the system. In 3,292, or 91%, of the cases, there were no systems present or installed. AES performance was not classified in 142, or 4%, of the incidents involving residential building fires.



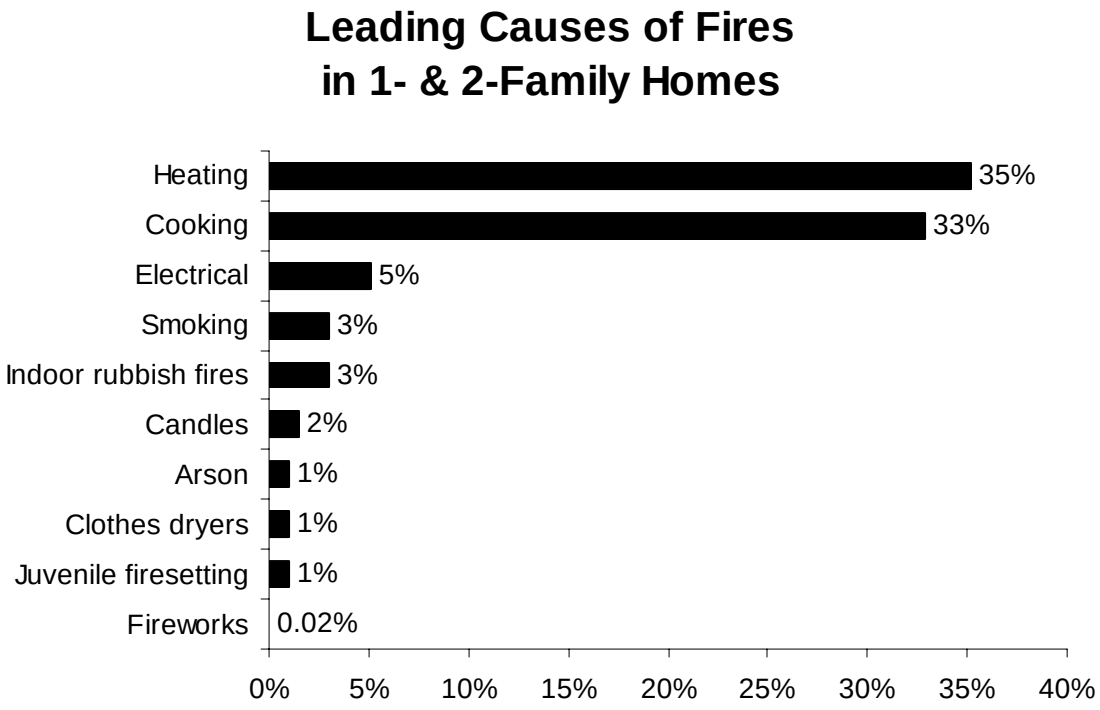
Only You Can Make Your Home Safer for You and Your Family
Eighty-one percent (81%) of building fires and 70% of fire deaths in 2006 took place in residential occupancies. Efforts to reduce the incidence of fire and fire deaths must be focused on home fire safety to have the greatest impact. Increased maintenance of smoke alarms, installation of residential sprinklers, practice of home escape plans coupled with safer products such as self-extinguishing cigarettes, upholstered furniture that meets the California flammability standard, and flame resistant sleepwear for all ages can help make homes and the families who live in them safer from fire.

Fires in One- and Two-Family Homes

5,634 Fires, 11 Civilian Deaths, $70 Million in Damage
Five thousand six hundred and thirty-four (5,634) building fires in one- and two-family homes caused 11 civilian deaths, 140 civilian injuries, 239 fire service injuries, and an estimated $70 million in property damage. In 2006, 45% of the Commonwealth's 12,507 residential building fires occurred in one- and two-family homes. The average dollar loss from these types of fires was $12,243. Fires in one- and two-family homes were down 2% from 5,741 in 2005.

Heating Was the Leading Cause of Fires in 1- & 2-Family Homes
Heating equipment caused 35% of incidents occurring in one- and two-family homes. The next leading cause of fires in one- and two-family homes was cooking, accounting

for 33%. Five percent (5%) of one- and two-family residential building fires were caused by electrical problems. The unsafe and improper use of smoking materials and indoor rubbish fires each caused 3% of these fires. Candle fires were the cause of 2% of one- and two-family building fires. Arson, clothes dryers and juvenile-set fires each caused 1%, and fireworks accounted for less than 1% of the fires in one- and two-family homes in 2006.



Cooking is the leading cause of fires overall and in every other residential occupancy except one- and two-family homes. However, in one- and two-family homes for the past seven years the leading cause of fires was heating equipment and cooking was the second leading cause except in 2003 when they were tied. A reason for this difference is that multifamily dwellings tend to be more regulated by building and fire codes than one- and two-family homes. Most apartments are rental properties, that fall under more stringent fire prevention statutes.

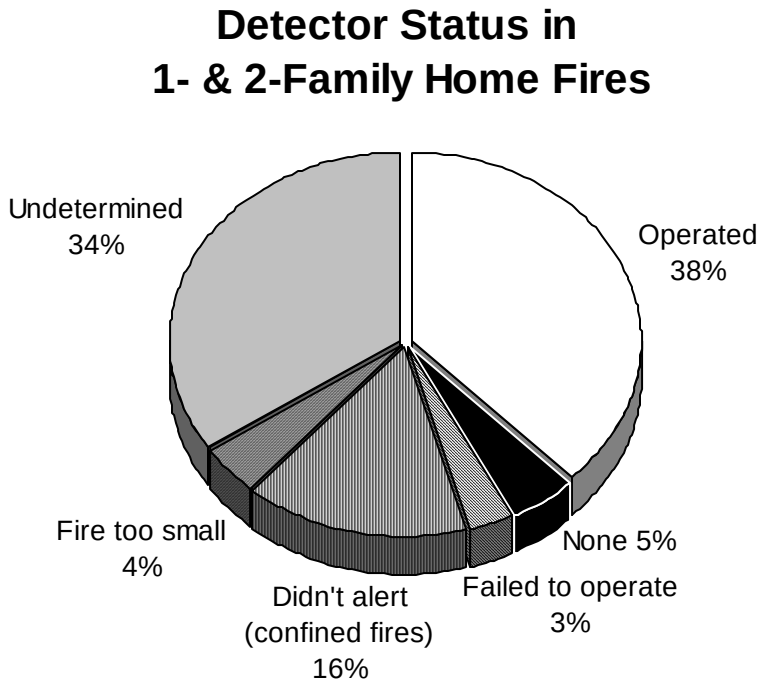
Over 1/3 of Fires in 1- & 2- Family Homes Started in the Kitchen

For fires in one- and two-family homes where area of origin is known, 36% started in the kitchen. The second leading area of origin was rooms or areas with heating equipment accounting for 22% of these fires. Twelve percent (12%) started in the chimney or flue; 3% started in the bedroom. The living room, substructure areas or crawl spaces, and laundry rooms each accounted for 2% of these incidents.

65% of 1- & 2-Family Fires Were Confined to Non-Combustible Containers[14]
Three thousand six hundred and seventy-six (3,676), or 65%, of all residential building fires in one- and two-family homes, were reported as confined to non-combustible containers in 2006. One thousand six hundred and forty (1,640) were cooking fires confined to a non-combustible container accounting for 29% of all the residential building fires in one- and two-family homes. One thousand one hundred and seventy-one (1,171), or 21%, were fires confined to a fuel burner or boiler. Six hundred and ninety-six (696), or 12%, of all one- and two-family fires reported in 2006 were fires confined to a chimney or flue. One hundred and sixty-one (161), or 3%, of these fires were contained rubbish fires. Eight (8), or less than 1%, of the one- and two-family building fires were contained to an incinerator overload or malfunction in 2006.

The number of contained fires dropped in 2006. Confined fires in one- and two-family homes decreased by 91 incidents, or 2%, from the 3,767 reported in 2005.

Detectors Alerted Occupants in Over 1/3 of Fires
Detectors alerted occupants in over one-third of one- and two-family residential fires. Smoke or heat detectors operated and alerted the occupants in 1,938, or 38%, of the one- and two-family home fires in 2006. In 16% of these fires[15], the detectors did not alert the occupants. Detectors were present but did not operate in 3% of these incidents. In 5% of



[14] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.
[15] These represent confined fires where it was reported that the detector did not alert the occupants.

these fires, no detectors were present at all. The fire was too small to trigger the detector in 4% of these residential fires. Smoke detector performance was undetermined in 1,938 incidents, or 34% of Massachusetts' 2006 one- and two-family fires.

Almost 1/3 of Failed Detectors Had Missing or Disconnected Batteries
Of the 183 fires where smoke detectors were present but failed to operate, 56, or 31%, failed because the batteries were either missing or disconnected. Thirty-one (31), or 17%, did not operate because of dead batteries. Eighteen (18), or 10%, failed because of a power failure, shutoff or disconnect. Three (3) units, or 2%, failed because they were defective. Two (2), or 1%, failed from improper installation or placement. Another two detectors, or 1%, failed from a lack of maintenance. For 71 cases, or 39%, the reason the detector failed was not determined.

Detectors Required in All One- and Two-Family Homes
Originally adopted as a local ordinance, and now mandatory through Nicole's Law, Massachusetts General Law Chapter 148, Section 26E (a) requires owners of existing one- and two-family homes built before 1975 to install smoke detectors outside each separate sleeping area and on the ceiling of each stairway leading to a floor above. Section 26F requires the seller of existing one- and two- family homes to equip the building with approved smoke detectors as provided in section 26E. The state building code requires all one- and two-family homes constructed after 1975 to have hardwired, interconnected smoke detectors outside each separate sleeping area and on the ceiling of each stairway leading to a floor above. In 1997 this was amended by requiring all newly constructed one- and two-family homes and any additions that included a bedroom to include requiring installing smoke detectors in all bedrooms per the Commonwealth's Building Code - 780 CMR 3603.16.10.

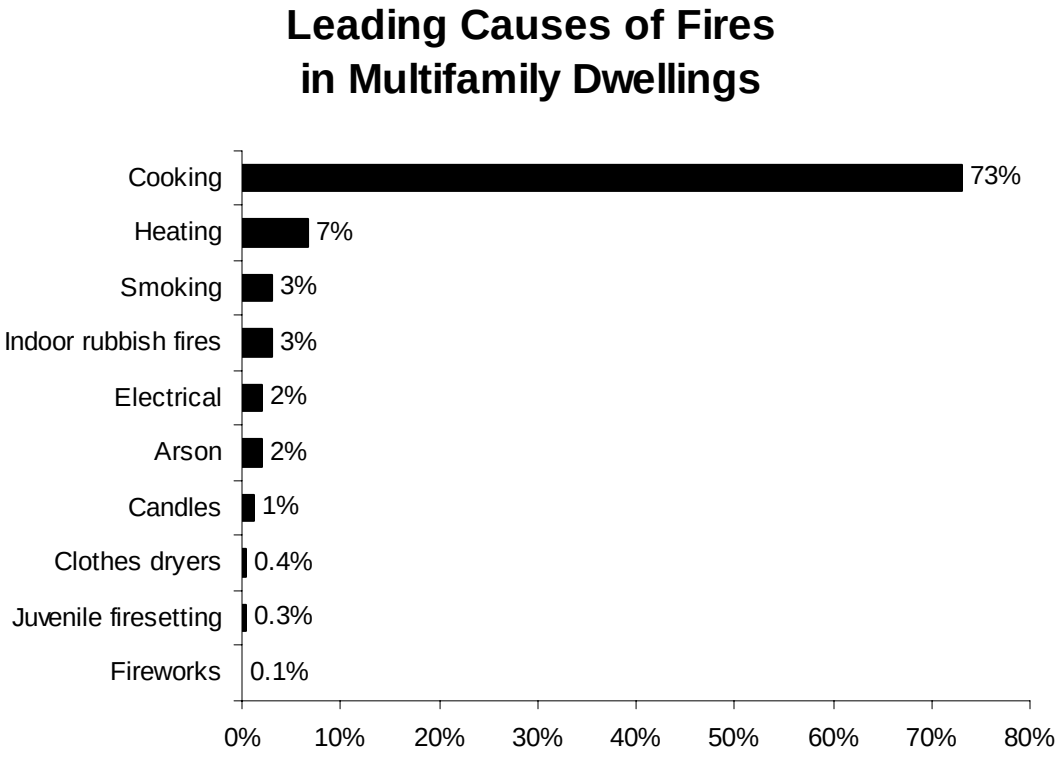
No AES Present in 99% of One- and Two-Family Building Fires
In 2006, in four, or less than 1%, of these incidents an automatic extinguishing system (AES) was present and operated effectively. In two, or less than 1% of the incidents, the fire was too small to activate the system. In 99% of the cases where AES status was known, there were no systems.

Multifamily Home Fires

5,546 Fires, 19 Civilian Deaths & $44.3 Million in Damage
Five thousand five hundred and forty-six (5,546), or 44%, of the Commonwealth's 12,507 residential building fires occurred in multifamily dwellings in 2006. These 5,546 fires caused 19 civilian deaths, 140 civilian injuries, 239 fire service injuries, and an estimated dollar loss of $44.3 million. The average dollar loss per fire was $7,981. Fires in apartments were up 8% from 5,140 in 2005.

This residential occupancy category includes apartments, condominiums, townhouses, rowhouses and tenements.

Unsafe Cooking Caused Almost 3/4 of Apartment Fires
Seventy-three percent (73%) of the fires in apartments were caused by unsafe cooking in 2006. Heating accounted for 7% of apartment fires. Smoking and indoor rubbish fires were each responsible for 3% of these fires. Electrical problems and arson each accounted for 2% of apartment fires. Candles caused 1% of the fires in these dwellings. Clothes dryers, juvenile-set fires and fireworks each caused less than 1% of the fires in multifamily homes in 2006.

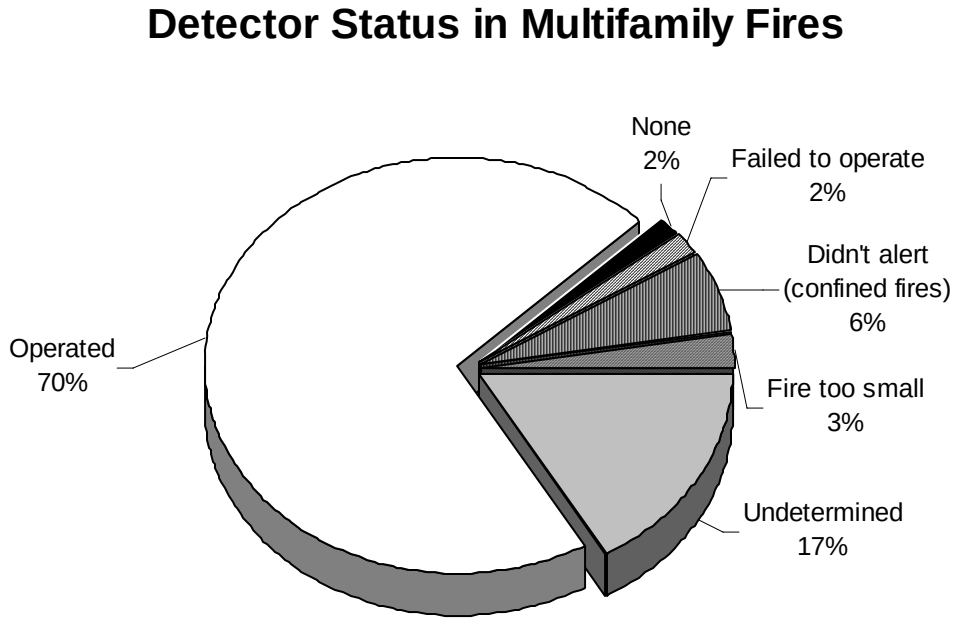


Over 3/4 of Apartment Fires Started in the Kitchen
For apartment fires where area of origin is known, 75% started in the kitchen. Six percent (6%) began in the heating room or area; 3% started in the bedroom; and 1% each started in living rooms, exterior balconies, laundry rooms and in bathrooms.

78% of Multifamily Home Fires Confined to Non-Combustible Containers[16]
Four thousand three hundred and forty-seven (4,347), or 78% of all building fires in multifamily homes, were reported as confined to non-combustible containers in 2006. Three thousand eight hundred and twenty-eight (3,828) were cooking fires contained to a non-combustible container accounting for 69% of all the multifamily dwelling fires in 2006. Three hundred and twenty-one (321), or 6%, were fires confined to a fuel burner or boiler malfunction. One hundred and sixty-one (161), or 3%, of these fires were contained rubbish fires. Twenty-five (25), or 0.5%, of apartment fires reported in 2006 were fires confined to a chimney or flue. Nine (9), or less than 1%, were commercial compactor fires confined to the garbage; and three incinerator overloads or malfunctions contributed less than 1% to the multifamily home fires in 2006.

Confined fires in apartments increased by 431 incidents, or 11%, from the 3,916 reported in 2005.

Detectors Alerted Occupants in Almost 3/4 of Fires
Smoke or heat detectors operated and alerted the occupants in 3,948, or nearly three-quarters (70%), of the multifamily fires in 2006. In 6% of these fires[17], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 2% of these fires, no detectors were present at all. The fire was too small to



[16] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

trigger the detector in 3% of these residential fires. Smoke detector performance was undetermined in 925 incidents, or 17% of Massachusetts' 2006 multifamily fires.

19% of Failed Detectors Failed Due to Missing Batteries
Of the 101 fires where smoke detectors were present but failed to operate, 19, or 19%, failed because the batteries were either missing or disconnected. Sixteen (16), or 16%, failed because of a power failure, shutoff or disconnect. Six (6), or 6%, didn't operate because of a lack of maintenance. Five (5), or 4%, did not operate because of dead batteries. Another five units, or 5% failed because they were defective. Two (2) detectors, or 2%, failed due to improper installation or placement. For 48 cases, or 48%, the reason the detector failed was not classified or undetermined.

Apartments with 3+ Units Must Have Smoke Detectors
According to Massachusetts General Law Chapter 148, Section 26C, apartment houses containing six or more units must be equipped with hard-wired smoke detectors. In buildings of three to five dwelling units, the detectors may be hard-wired or battery operated inside the units themselves. Detectors in common hallways and basements must be hard-wired.

AES Present in Only 10% of Multifamily Dwelling Fires
Automatic extinguishing systems (AES) were present and operated effectively in 45, or 4% of the 1,235 multifamily dwelling fires where system status was known in 2006. In four of the fires, less than 1%, the AES did not operate. In 68, or 6%, of these incidents, the fire was too small to activate the system. In 1,118, or 90%, of the cases, there were no systems present or installed. In 38 incidents, AES status was unknown. These fires were excluded from the percentage calculations.

Apartments More Likely to Have Sprinklers Installed
Apartments are more likely than single-family dwellings to have sprinklers installed. Newly constructed apartments with three or more units are required by building codes to have them installed. Also, apartments are likely to be found in high-rise buildings that were required to be retrofitted with sprinklers by March 1998. Sprinklers were present in 10% of multifamily fires, but in less than 1% of fires in one- and two-family dwellings.

In 1998, the State Building Code required all newly built or substantially renovated building s with three or more apartments with common egresses to be sprinklered.

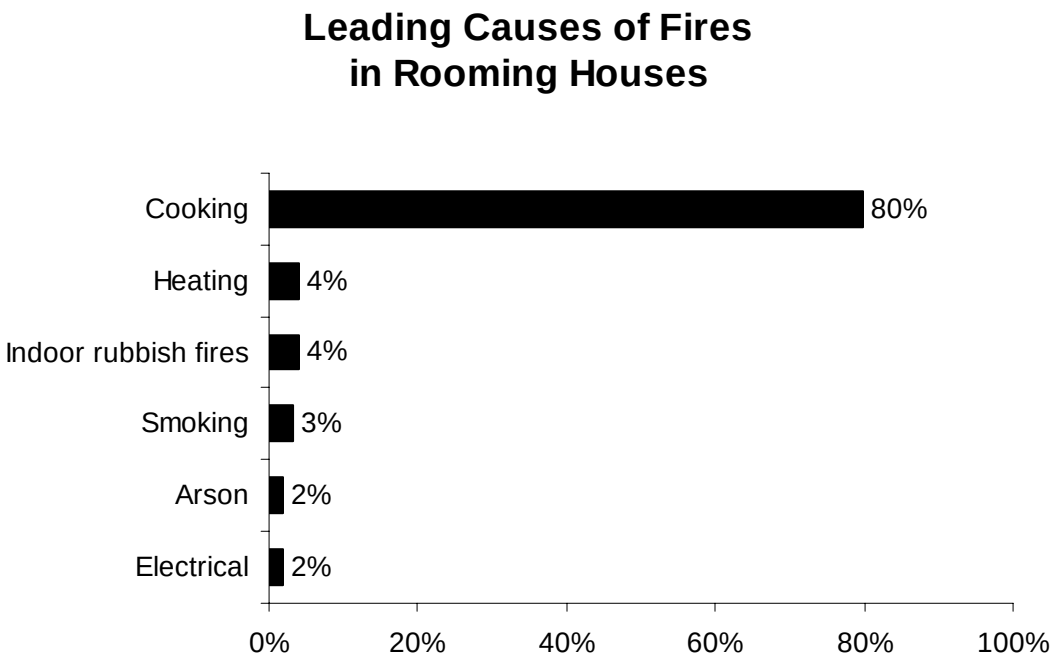
Rooming House Fires

253 Fires, 1 Civilian Injury, 5 Fire Service Injuries & $951,047 in Damages
Two hundred and fifty-three (253) rooming, lodging, and boarding house fires were reported to the Massachusetts Fire Incident Reporting System (MFIRS) in 2006. These

[17] These represent confined fires where it was reported that the detector did not alert the occupants.

253 fires caused one civilian injury, five firefighter injuries and an estimated $951,047 in damages. The average dollar loss per fire was $3,759. Two percent (2%) of the 12,507 residential building fires in 2006 occurred in rooming, boarding, or lodging houses. Fires in rooming houses were up 2% from 247 in 2005.

Cooking Caused Over 80% of Rooming House Fires
Of the 253 incidents in rooming houses, cooking caused 80% of these fires. Heating equipment and indoor rubbish fires each accounted for 4% of these fires. The unsafe use and disposal of smoking materials was the next significant cause, igniting 3%, of the rooming house fires. Arsons and electrical problems each caused 2% of the fires in rooming houses in 2006.



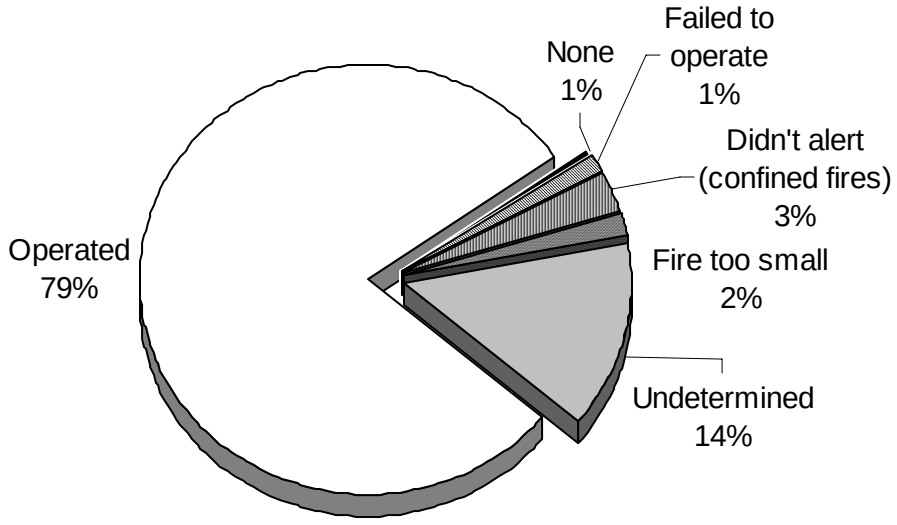
80% of Rooming House Fires Started in the Kitchen
Eighty percent (80%) of rooming house fires started in the kitchen. Four percent (4%) started in the bedroom, 3% started in heating equipment rooms, and 1% each began in the wall assembly and hallway corridor. However, if we assume that all of the confined cooking fires occurred in the occupants bedrooms because most rooming house residents cook in their own bedrooms, 82% of the fires would have occurred in the bedroom, and only 2% would have occurred in the kitchen area.

86% of Rooming House Fires Were Confined to Non-Combustible Containers[18]
Two hundred and seventeen (217), or 86% of all building fires in rooming houses, were reported as confined to non-combustible containers in 2006. One hundred and ninety-seven (197) were cooking fires contained to a non-combustible container accounting for 78% of all the fires in rooming or boarding houses in 2006. Eleven (11) fires, accounting for 4% of rooming house fires were confined indoor rubbish fires. Eight (8), or 3%, were fires confined to a fuel burner or boiler malfunction. There was one fire accounting for less than 1% of these fires that was confined to a chimney or flue.

Confined fires in rooming houses increased by 16 incidents, or 8%, from the 201 reported in 2005.

Detectors Alerted Occupants in Over 3/4 of Fires
Smoke or heat detectors operated and alerted the occupants in 200, or 79%, of the rooming house fires in 2006. In 3% of these fires[19], the detectors did not alert the occupants. Detectors were present but did not operate in 1% of these incidents. In 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 2% of these residential fires. Smoke detector performance was undetermined in 36 incidents, or 14% of Massachusetts' 2006 rooming house fires.

Detector Status in Rooming House Fires



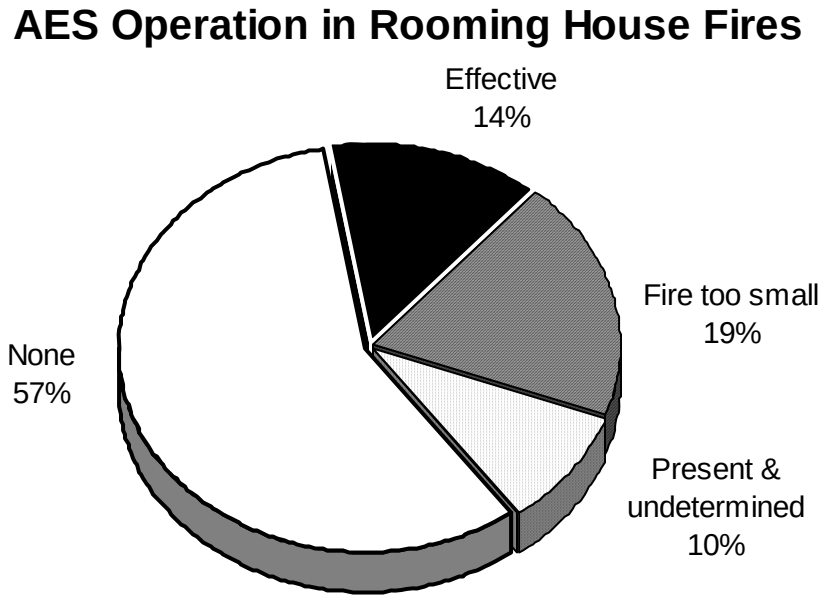
[18] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.
[19] These represent confined fires where it was reported that the detector did not alert the occupants.

Smoke detectors are required in rooming houses. Local communities may elect to adopt the provisions of Massachusetts General Law Chapter 148, Section 26H. This law mandates an adequate system of automatic sprinklers in every lodging or boarding house in the community. Sprinklers must be installed within five years after the provision is accepted. This was enacted after 15 people died in a Beverly rooming house fire on July 4, 1984.

The decline in rooming house fires, especially fatal rooming house fires, is one of the great fire prevention success stories. Prior to the passage of Massachusetts General Law Chapter 148 Section 26H, rooming houses were known as "death traps' because of the large number of fire deaths that occurred in them every year. This is no longer true.

3 Detectors Failed
Of the three fires where smoke detectors were present but failed to operate, one, or 33%, failed because it was defective. One (1), or 33%, failed because of a power failure, shutoff or disconnect. Another detector, or 25%, failed due to improper installation or placement.

AES Present in 49% of Rooming House Residential Building Fires
AES were reported present in 18, or 43%, of the 42 rooming house fires where AES presence was known. In the other 24 incidents, or 57% there were no systems present.

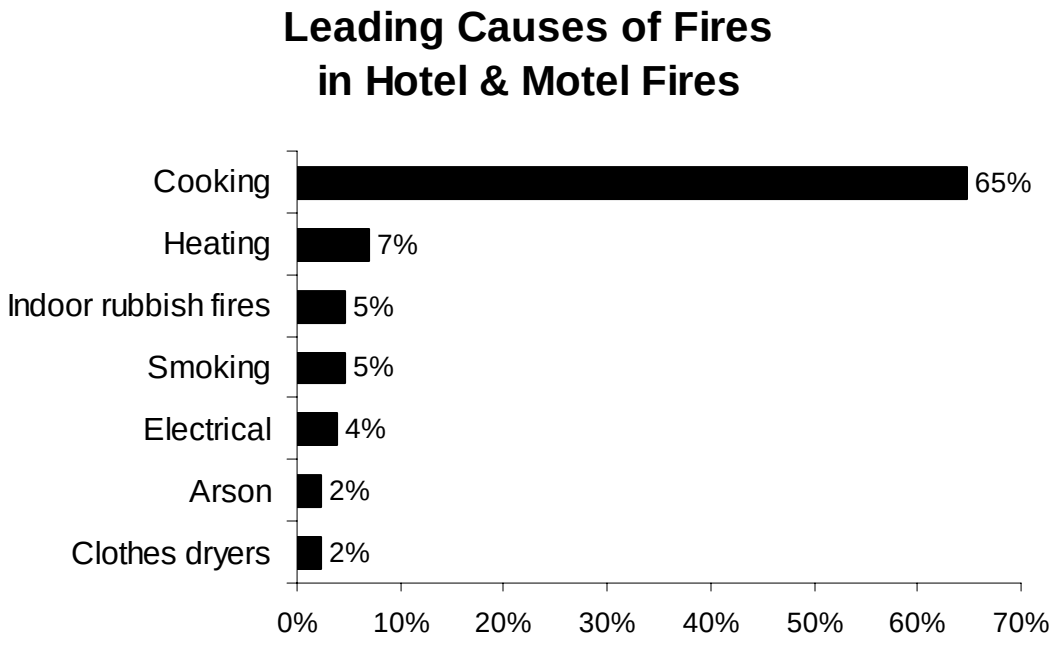


AES Effective in 14% of Rooming House Building Fires
The fire was too small to activate the automatic extinguishing system (AES) in 19% of the 42 rooming house building fires in 2006 where AES status was known. In 14% of these incidents the AES operated effectively. In 10% of rooming house fires systems were present but it was undetermined if they operated. In 57% of the cases, a system had not been installed.

Hotel and Motel Fires

128 Fires, 1 Civilian Death & $1.1 Million in Damages
One hundred and twenty-eight (128) building fires in hotels, motels and home hotels caused one civilian fire death[20] and $1.1 million in estimated property damage. The average dollar loss per fire was $8,973. In 2006, 1% of the 12,507 residential building fires occurred in hotels, motels, or home hotels. Fires in hotels and motels were up 8% from 118 in 2005.

Cooking Caused Almost 1/3 of Hotel & Motel Fires
Of the 128 fires in hotels and motels in 2006, cooking was the leading cause, accounting for 65%, or more than half, of the fires in this occupancy. Heating equipment was responsible for 7% of these fires. Indoor rubbish fires and smoking each accounted for 5% of these fires. Electrical problems caused 4% of the hotel and motel fires. Arson and clothes dryers each accounted for 2% of hotel and motel fires in 2006.



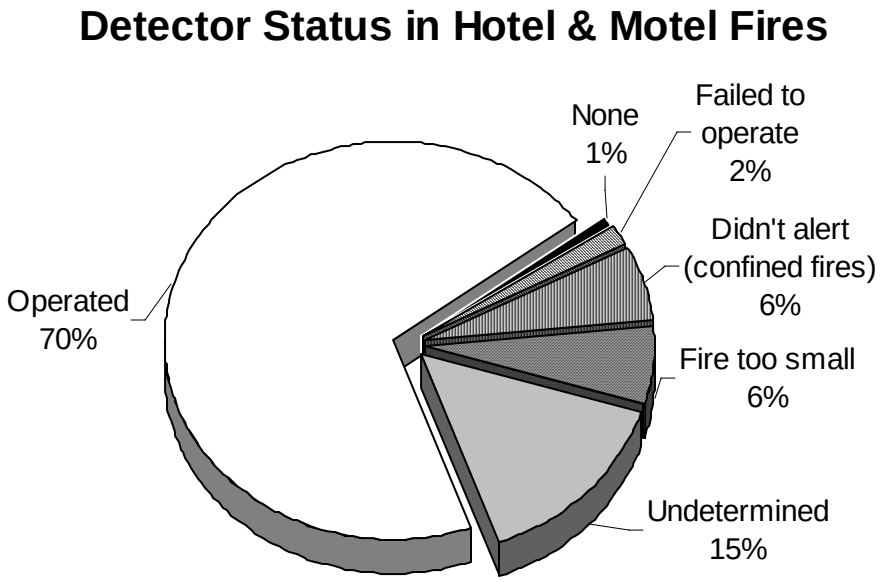
[20] The one civilian fire death was a case of self-immolation.

Over 2/3 of Hotel and Motel Fires Started in the Kitchen
For hotel and motel fires 68% of the fires started in the kitchen. Five percent (5%) of these fires began each in bedrooms and laundry rooms. Four percent (4%) of these fires began in heating rooms or areas. Two percent (2%) of these fires each started in a chimney or flue, or the bathroom.

70% of Hotel or Motel Fires Confined to Non-Combustible Containers[21]
Eighty-nine (89), or 70% of all building fires in hotels and motels, were reported as confined to non-combustible containers in 2006. Seventy-five (75) were cooking fires contained to a non-combustible container accounting for 59% of these fires. Indoor rubbish fires caused seven, or 8%, of the hotel and motel fires in 2006. Four (4), or 3%, of the fires in hotels or motels were confined to a fuel burner or boiler malfunction. Four (4), or 3%, of hotel or motel fires in 2006 were confined to a chimney or flue.

The number of contained fires rose in 2006. Confined fires in hotels and motels increased by four incidents, or 5%, from the 85 reported in 2005.

Detectors Operated in 70% of Fires
Smoke or heat detectors operated in 90, or 70%, of the hotel or motel fires in 2006. In 6%



[21] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

of these fires[22], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 6% of these residential fires. Smoke detector performance was undetermined in 19 incidents, or 15% of Massachusetts' 2006 hotel or motel fires.

1 Detector Failed From Improper Installation or Placement
One (1) of the two detectors that failed in hotel or motel fires in 2006 failed because of improper installation or placement. It was undetermined why the other smoke detector was inoperable.

AES Absent in 44% of Hotel and Motel Residential Building Fires
Automatic extinguishing systems (AES) were present and operated effectively in two, or 6%, of the 34 hotel and motel building fires in 2006 where AES status was known. In one instance, or 3%, the system activated but was ineffective in suppressing the fire. In 15, or 44%, of these incidents, the fire was too small to activate the system. In one, or 3%, the system failed to operate. In 15, or 44%, of the cases, there was no AES system. AES performance was not classified for seven incidents. In six of these seven incidents, AES systems were reported to be present but it was undetermined if they operated.

Federal Hotel and Motel Fire Safety Act of 1990 Implemented in Massachusetts
The Federal Hotel and Motel Fire Safety Act of 1990 was implemented in Massachusetts in 1992. To increase the level of fire safety in hotels and motels, this act limits travel by federal employees to properties meeting certain fire safety standards. Each guestroom must be equipped with a hard-wired, single-station smoke detector installed in accordance with the National Fire Protection Association (NFPA) Standard 72. Hotels and motels over three stories in height must also be protected by an automatic sprinkler system installed in the sleeping area of each room in accordance with NFPA Standard 13 or 13R.

Only properties that meet the fire safety standards are listed in the Federal Travel Directory used by federal employees to select lodging while on official business.

The last provision of this act took effect on October 1, 1996. At that time, 90% of all travel nights by federal employees must be in 'approved accommodations.' The Congressional authors of the act have clarified the term 'place of public accommodation,' to include hotels and motels and all such meeting and sleeping facilities except those specifically exempted. Private conference centers are now included. Meetings funded wholly or in part by federal funds are subject to this requirement. For a list of certified hotels go to the U.S. Fire Administration's website at http://www.usfa.fema.gov/appplications/hotel.

Despite the federal goal of attempting to improve life safety in hotels and motels, the sprinkler provision only applies to buildings over three stories. In the 15 hotel fires that reported having no AES, 13, or 87%, were three stories or less.

[22] These represent confined fires where it was reported that the detector did not alert the occupants.

State Regulations Require Quarterly Innholder Inspections
State regulations require local fire departments to conduct quarterly inspections of the premises specified in inn holder licenses.

Hotel-Motel Safety
It is important to consider fire safety when selecting accommodations.

- Choose lodging equipped with sprinklers and smoke detectors in each room.
- If you are hearing impaired, you may request a room with an appropriate smoke detector with a flashing strobe light.
- Think about fire safety when checking into a hotel or motel. Count the number of doors down the hall to the nearest fire exit staircase. Remember to never use the elevator in case of fire. Travelers should test the smoke detector in their room.
- It is recommended that you keep the room key, eyeglasses and a flashlight on the night table. If a fire occurs or a fire alarm sounds, take them with you and go out the door. However before opening the door, test the door with the back of your hand. If the door feels cool, open the door a crack. Be ready to close the door if hot air, flames, or smoke rush through the crack. If this does not occur, yet the hall is hazy with smoke, crawl down the hall counting the doors to the nearest stairway exit. If this exit cannot be reached, turn around and count the doors back to your room. Unlock the door and re-enter.
- If it is unsafe to leave the room during a fire:
  Fill the tub with cold water; stuff wet towels around the door to keep the smoke out; if possible, open a window and hang a sheet outside to signal for help; cover your face with a wet cloth and stay low if smoke gets in the room; do not jump.
- Try to call out to emergency services on a cell phone or house phone and advise the emergency dispatcher of your exact location within the hotel.

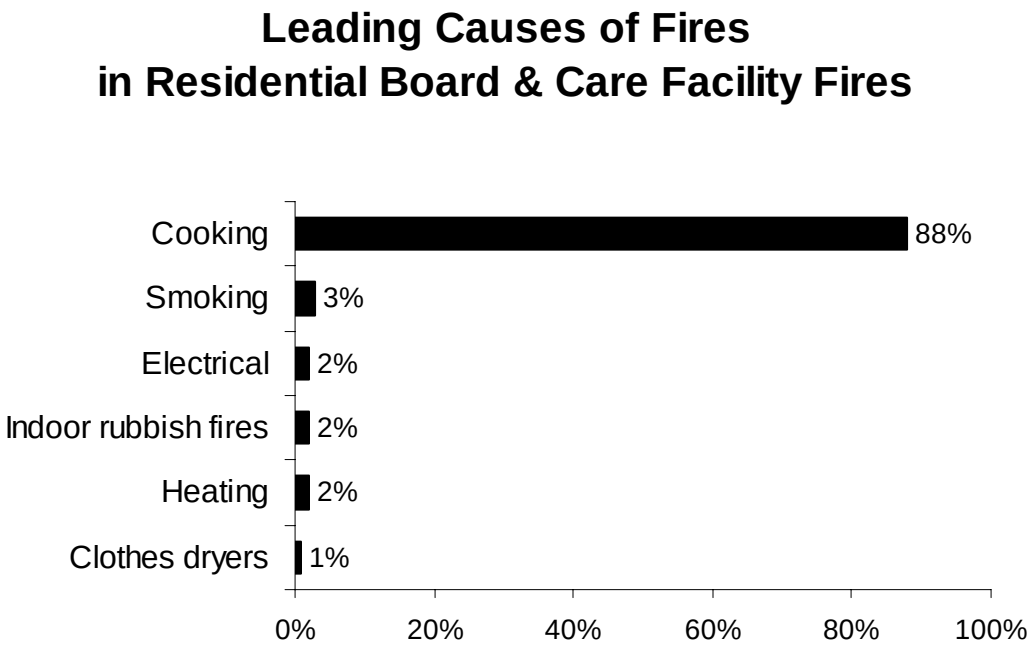
Residential Board & Care Fires

133 Fires Caused $20,773 in Damages
One hundred and thirty-three (133) residential board and care building fires caused an estimated dollar loss of $20,773 in damages. The average dollar loss per fire was $156. In 2006, 1% of the 12,507 residential building fires occurred in residential board and care buildings. Fires in residential board and care facilities were up 6% from 126 in 2005.

This Property Use code includes long term health care facilities, halfway houses and assisted care housing facilities. It excludes nursing homes.

Cooking Accounted for Almost 9 Out of Every 10 Residential Board & Care Fires
Cooking accounted for almost nine out of every 10 residential board and care fires. In the 133 incidents of residential board and care building fires, the leading cause was cooking, accounting for 117 incidents, or 88%, of the fire incidents. Electrical problems and indoor rubbish fires each caused three, or 2%, of these fires. Heating equipment caused two, or

2%, of these fires. Clothes dryers accounted for one, or 1%, of the fires in residential board and care facilities in 2006.



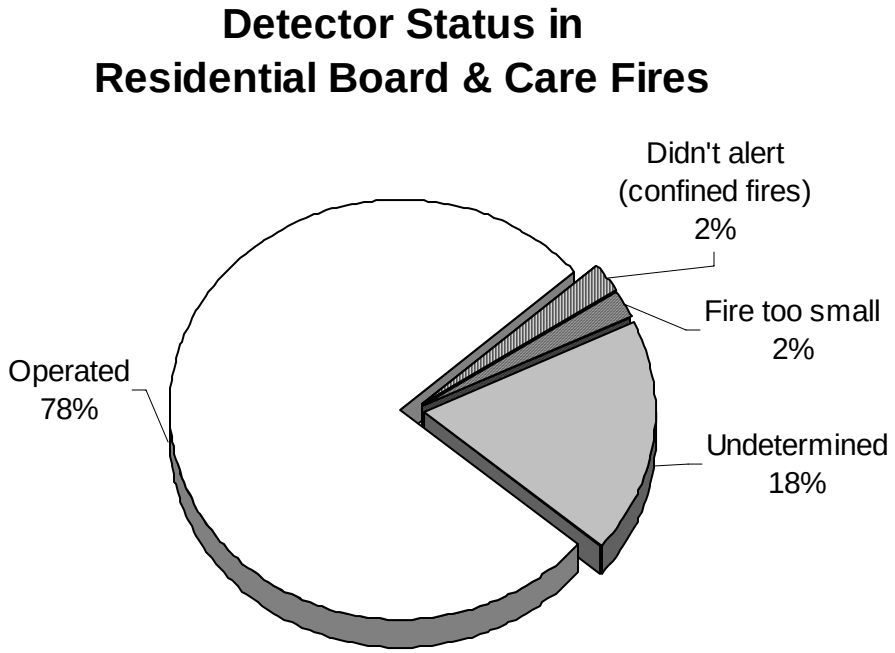
89% of Residential Board & Care Fires Started in the Kitchen
Of the 133 residential board and care building fires, 119, or 89%, started in the kitchen. Six (6), or 5%, began in a heating room or area. Two (2), or 2% began in the bedroom. A heating room or area, a laundry room, an exterior stairway, a closet, a trash chute, an exterior roof surface, and a chimney or flue were each the area of origin for one, or 1%, of fires in residential board and care facilities.

90% of Board & Care Fires Confined to Non-Combustible Containers[23]
One hundred and twenty (120), or 90% of all building fires in residential board and care facilities, were reported as confined to non-combustible containers in 2006. One hundred and fifteen (115) were cooking fires contained to a non-combustible container accounting for 86% of these fires. Three (3), or 2%, of these fires were contained rubbish fires. One (1), or 1%, of the fires in residential board and care facilities was confined to a fuel burner or boiler malfunction. Another fire, or 1%, was confined to a chimney of flue.

The number of contained fires rose in 2006. Confined fires in residential board and care facilities increased by four incidents, or 3%, from the 116 reported in 2005.

[23] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

Detectors Operated in Over 3/4 of Fires
Smoke or heat detectors operated in 103, or 78%, of the residential board and care facility fires in 2006. In 2% of these fires[24], the detectors did not alert the occupants. The fire was too small to trigger the detector in 2% of these residential fires. Smoke detector performance was undetermined in 24 incidents, or 18% of Massachusetts' 2006 residential board and care facility fires.



No AES in Almost 2/3 of Residential Board & Care Building Fires
Automatic extinguishing systems (AES) were present in five, or 35%, of the 14 residential board and care building fires where AES presence was known. In two of these incidents, or 14%, the system operated effectively. In three, or 21%, of these incidents, the fire was too small to activate the system. In nine, or 65%, of these incidents there were no systems present.

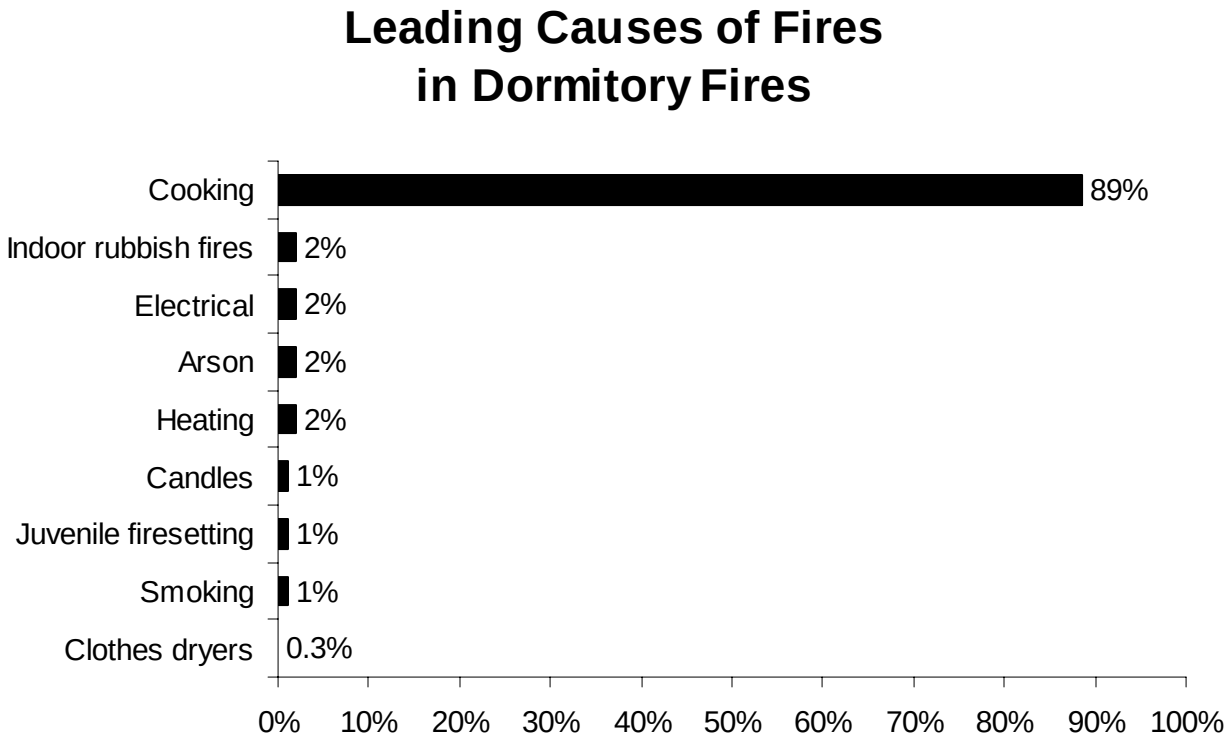
Dormitory Fires

400 Fires & $1.5 Million in Damages
Four hundred (400) dormitory building fires caused an estimated dollar loss of $1.5 million in damages. The average dollar loss per fire was $3,767. In 2006, 3% of the

[24] These represent confined fires where it was reported that the detector did not alert the occupants.

12,507 residential building fires occurred in dormitories. Fires in dormitories were up 22% from 329 in 2005.

Cooking Accounted for 89% of Dormitory Fires
In the 400 incidents of dormitory fires, the leading cause was cooking, accounting for 354, or 89%, of these fires. Indoor rubbish fires, electrical problems, arson and heating equipment were each responsible for 2% of these incidents. Candles, juvenile-set fires, and smoking each accounted for 1% of the fires in Massachusetts dormitories in 2006. Clothes dryer fires accounted for less than 1% of dormitory fires in 2006.



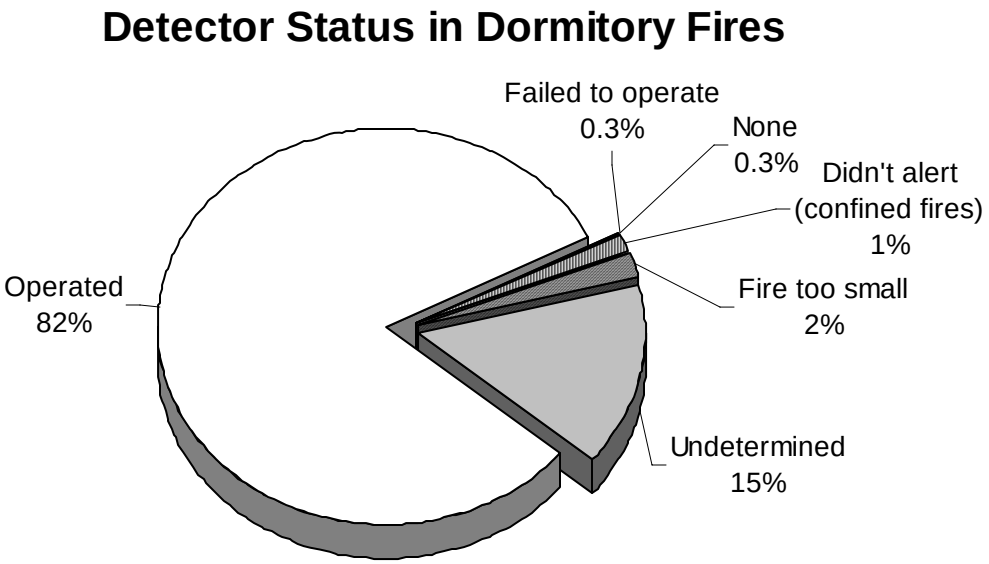
90% Dormitory Fires Started in the Kitchen
For dormitory fires, 90% of the fires started in the kitchen[25]. Two percent (2%) began in bedrooms; and 1% each originated in the hallway, bathroom, heating area, or laundry area. However, if we assume that all of the confined cooking fires occurred in the occupants bedrooms because most dormitory residents cook in their own bedrooms, 82% of the fires would have occurred in the bedroom, and only 3% would have occurred in the kitchen area.

[25] The high number of fires that are reported to have originated in the kitchen may be misleading in dormitory fires. Ninety-seven percent (97%) of the cooking fires in dormitories were confined cooking fires. In most cases we assign the area of origin of a confined cooking fire to the kitchen. However in the case of dormitories many of these fires probably occur in the students bedrooms when they are using hot plates or microwave ovens.

91% of Dormitory Fires Confined to Non-Combustible Containers[26]
Three hundred and sixty-two (362), or 91% of all building fires in dormitories, were reported as confined to non-combustible containers in 2006. Three hundred and fifty-one (351) were cooking fires[27] contained to a non-combustible container accounting for 88% of all dormitory fires. It may be surmised that many if not all of these occurred in a kitchen and but the majority may have been in the students' bedrooms. Indoor rubbish fires accounted for nine, or 2% of the fires in dormitories in 2006. Two (2), or 1%, of fires in Massachusetts' dormitories in 2006 were confined to a fuel burner or boiler malfunction.

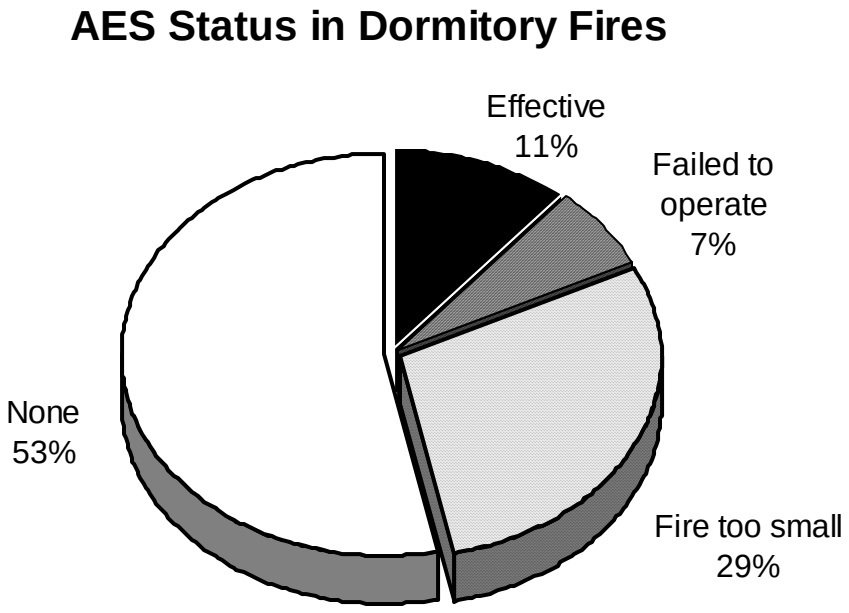
The number of contained fires rose in 2006. Confined fires in dormitories increased by 72 incidents, or 25%, from the 290 reported in 2005.

Detectors Operated in 82% of Fires
Smoke or heat detectors operated and alerted the occupants in 325, or 82%, of the dormitory fires in 2006. In 1% of these fires[28], the detectors did not alert the occupants. Detectors were present but did not operate in less than 1% of these incidents. There were no detectors present at all in less than 1% of these fires. The fire was too small to trigger the detector in 2% of these residential fires. Smoke detector performance was undetermined in 60 incidents, or 15% of Massachusetts' 2006 dormitory fires.



[26] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.
[27] Usually it is assumed that confined cooking fires occur in the kitchen. However, it is our belief that in dormitory fires, the vast majority of these fires occur in the students' bedrooms.

AES Present in Almost 1/2 of Dormitory Fires
Automatic extinguishing systems (AES) were present and operated effectively in 11% of the 45 building fires in dormitories where AES status was known. In 29% of these incidents, the fire was too small to activate the system. In 7% of these incidents the system failed to operate. In just over half of these fires, 53%, there were no systems present.

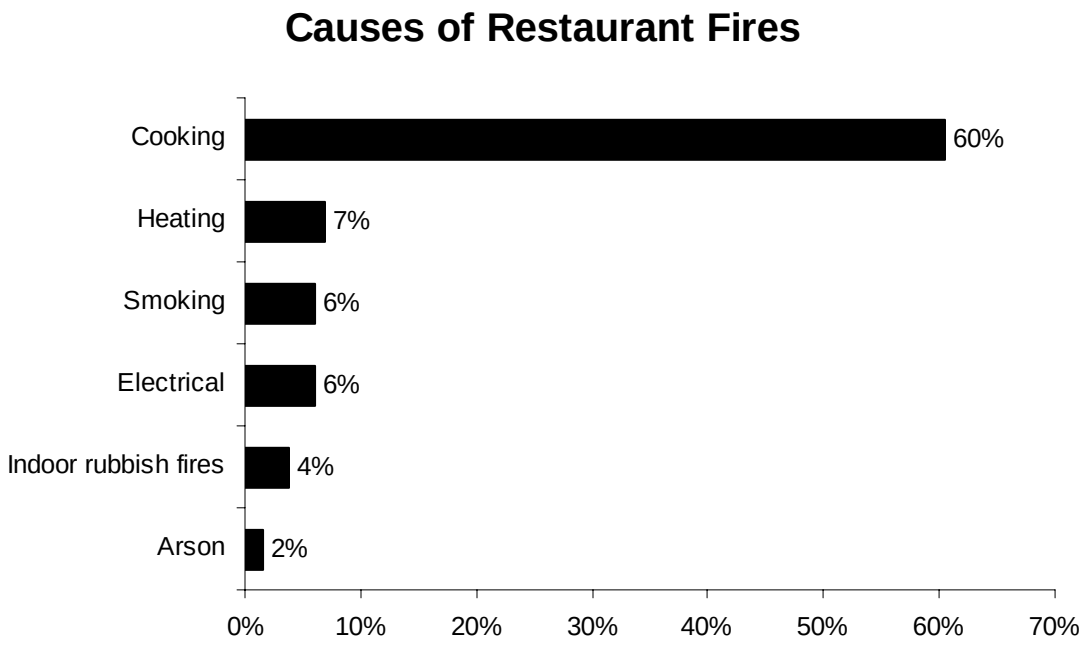


Restaurant Fires

263 Fires, 1 Civilian Injury, 12 Firefighter Injuries, $3.8 Million in Damages
Two hundred and sixty-three (263) building fires in 2006 occurred in restaurants and other eating and drinking establishments, causing one civilian injury, 12 firefighter injuries, and an estimated dollar loss of $3.8 million. The average dollar loss per fire was $14,469. In 2006, 2% of the 15,375 building fires in Massachusetts occurred in restaurants. Fires in restaurants were down 8% from 286 in 2005.

[28] These represent confined fires where it was reported that the detector did not alert the occupants.

60% of Restaurant Fires Caused by Cooking
Cooking caused 60% of the restaurant fires; heating equipment caused 7%; smoking accounted for 6% of these fires; electrical problems also caused 6%; indoor rubbish fires were responsible for 4% of these fires; and 2% of the fires in restaurants in 2006 were considered intentionally set.



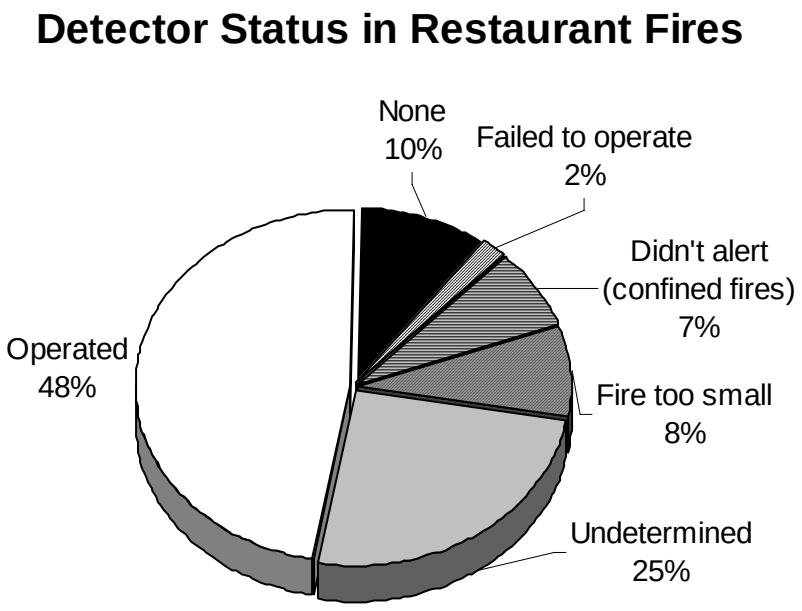
2/3 of Restaurant Fires Started in the Kitchen
Sixty-six percent (66%) of the 263 fires in restaurants, started in the kitchen. Three percent (3%) each began in a heating room or area and an exterior wall surface; and 2% of the fires in restaurants originated in a bathroom, the bar area, the ceiling and floor assembly, and a chimney or flue.

60% of Restaurant Building Fires Confined to Non-Combustible Containers[29]
One hundred and fifty-eight (158), or 60% of all restaurant building fires, were reported as confined to non-combustible containers in 2006. One hundred and thirty-six (136) were cooking fires contained to a non-combustible container accounting for 52% of restaurant building fires. Ten (10), or 4%, of these fires were contained rubbish fires. Seven (7), or 3%, were fires confined to a fuel burner or boiler malfunction. Five (5), or 2%, of all restaurant building fires reported in 2006 were fires confined to a chimney.

[29] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

The number of contained fires fell in 2006. Confined fires in restaurants decreased by 17 incidents, or 10%, from the 175 reported in 2005.

Detectors Operated in Almost 1/2 of Fires
Smoke or heat detectors operated in 125, or 48%, of the restaurant fires in 2006. In 7% of these fires[30], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 10% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 8% of the restaurant fires. Smoke detector performance was undetermined in 66 incidents, or 23% of Massachusetts' 2006 restaurant fires.

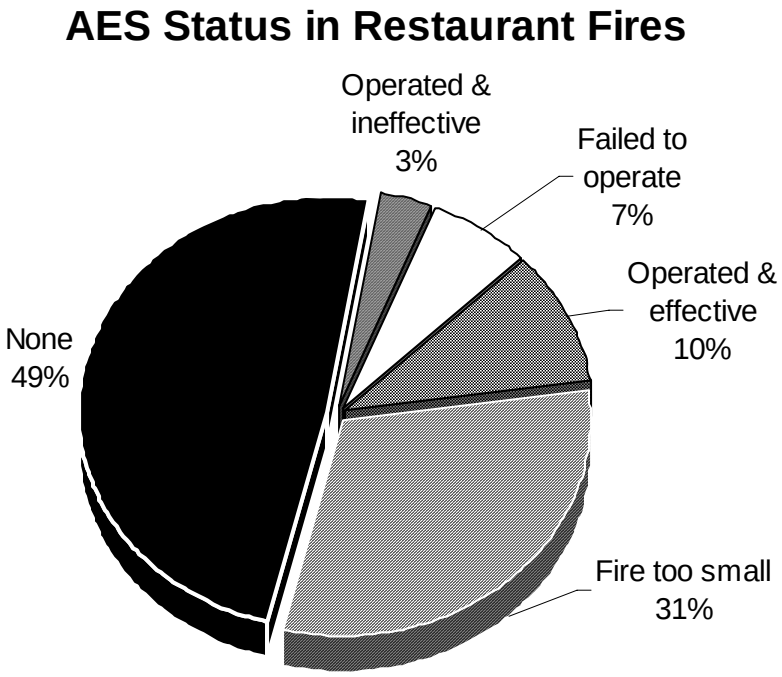


Restaurants Must Have Kitchen Exhaust & Fire Extinguishing Systems
According to Massachusetts 527 CMR 10.03 (8), restaurants must have commercial kitchen exhaust systems and fire extinguishing systems installed and maintained in accordance with NFPA 96 for any cooking equipment that produces grease-laden vapors. An automatic fire extinguishing system would be the primary protection and portable fire extinguishers would be used as a secondary backup. These systems are usually located in the direct vicinity of and specially designed for cooking equipment such as stoves, deep fryers and ovens

No AES in Almost 1/2 of Restaurant Fires
Automatic extinguishing systems (AES) were present and operated effectively in 10% of the 90 restaurant fires where AES status was known. In 3% of these fires, systems were

[30] These represent confined fires where it was reported that the detector did not alert the occupants.

present but operated ineffectively. In 7% of these fires, an AES was present but did not operate. In 31% of these fires, the fire was too small to activate the system. No AES equipment was present in 49% of the restaurant fires in 2006. AES status was unknown in 19 incidents. These incidents were excluded from the percentage calculations.



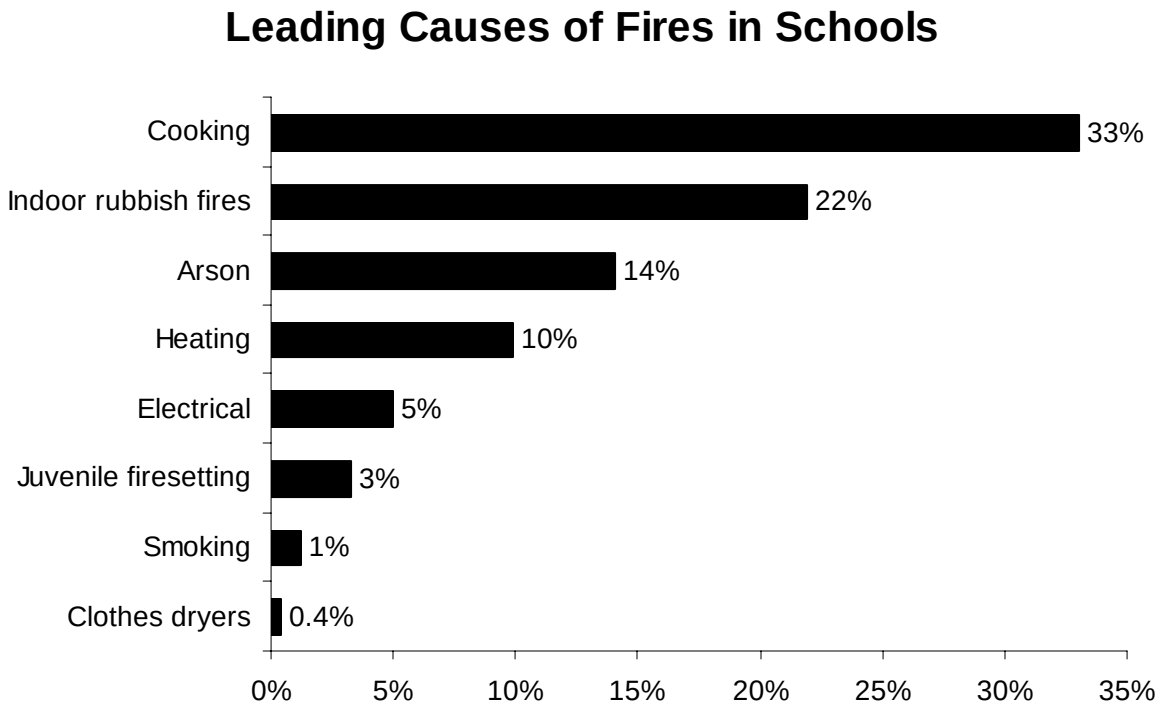
Largest Loss Restaurant Fire is Arson

- On March 16, 2006 at 2:26 a.m., the Bourne Fire Department was called to an arson fire at a restaurant. The fire began on an exterior wall. This blaze was the largest loss fire in this category of building fires, with an estimated $600,000 worth of damage done. No one was injured at this fire. It was undetermined if smoke detectors were present. Sprinklers were not present.

School Fires

242 Fires Caused 5 Civilian Injuries & 3 Fire Service Injuries
Two hundred and forty-two (242) building fires in schools[31] caused five civilian injuries, three fire service injuries and $907,772 million in property damages. The average dollar loss per fire was $3,751. In 2006, 2% of the building fires occurred in schools. Fires in schools were up 2% from 238 in 2005.

1/3 of School Fires Were Cooking Fires
One-third (33%) of the 242 fires reported to have occurred in Massachusetts schools were caused by cooking. Twenty-two percent (22%) of the school fires were confined indoor rubbish fires for which no causal information was reported[32]. Arson accounted for 14% of these fires. Problems with heating equipment accounted for 10% of these fires. Electrical problems caused 5%. Identified juvenile-set fires accounted for 3% of the fires in schools. Smoking caused 1% of the reported fires in schools in 2006. Smoking by students and faculty is generally prohibited in schools. Clothes dryers caused less than 1% of the fires in Massachusetts' schools in 2006.



[31] School fires include version 5 Property Use codes 210 – Schools, non-adult, 211 – Preschool, 213 – Elementary school, including kindergarten, and 215 – High school/junior high school/middle school.
[32] Confined fires, like indoor rubbish fires, do not require causal information to be completed. However some reports do include this information and we are able to classify these fires as other types of fires like arsons or juvenile-set fires.

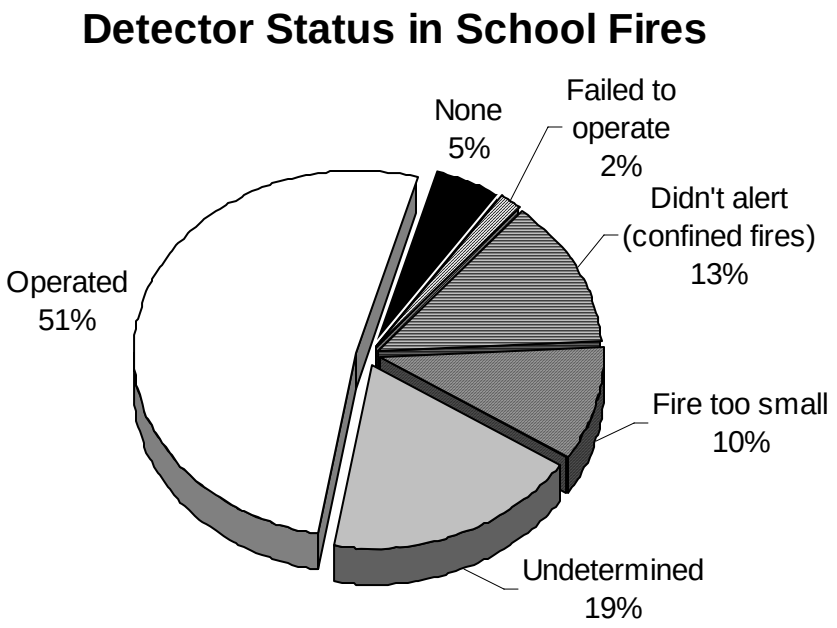
Over 1/3 of School Fires Started in the Kitchen
Thirty-four percent (34%) of the fires in schools started in kitchens; 9% began in a bathroom; 8% started in a heating room or area; 2% started in assembly areas without seats; 2% started in the switchgear area or transformer vault; and 1% began in a chimney or flue.

Area of Ignition for Confined Indoor Rubbish Fires is Not Required to be Reported
Many reports of school fires do not include the area of origin of the fire. The area of ignition for confined indoor rubbish fires is not required to be reported. Beginning in September of 2006 with Chapter 80 of the Acts of 2006, An Act Relative to the Reporting of Fires in School, "…any school that provides instruction to pupils in any of grades 1 to 12, shall immediately report any incident involving the unauthorized ignition of any fire within the school building or on school grounds to the local fire department." Upon receipt of this report from the school, the local fire department must then complete an MFIRS report. It is our belief that this new statute will generate a substantial increase in reported fires in schools and will allow us to have a better understanding of where and how these fires are taking place.

2/3 of School Building Fires Confined to Non-Combustible Containers[33]
One hundred and fifty-nine (159), or 66% of all school building fires, were reported as confined to non-combustible containers in 2006. Seventy-eight (78) were cooking fires contained to a non-combustible container accounting for 32% of school fires. Sixty-two (62), or 26%, of all school fires were contained rubbish fires. Of these 62 confined rubbish fires, 10 were considered intentionally set or arson, one was determined to be set by juveniles, one was caused by the chemical reaction, spontaneous combustion; and the cause for five others were undetermined or under investigation. For 46 of these confined rubbish fires, no causal information was reported. Sixteen (16), or 7%, were fires confined to a fuel burner or boiler malfunction. Three (3), or 1%, were confined to chimneys or flues. Confined fires in schools decreased by two incidents, or 1%, from the 161 reported in 2005.

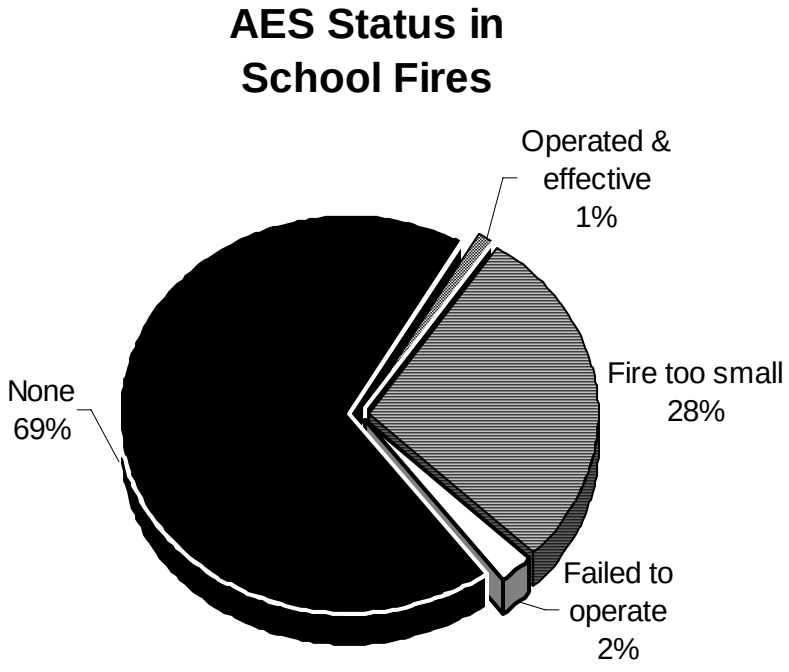
Detectors Operated in Over 1/2 of Fires
Smoke or heat detectors operated in 125, or 51%, of the school fires in 2006. In 13% of these fires[34], the detectors did not alert the occupants. Detectors were present but did not operate in 2% of these incidents. In 5% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 10% of the residential fires. Smoke detector performance was undetermined in 45 incidents, or 19% of Massachusetts' 2006 school fires.

[33] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.
[34] These represent confined fires where it was reported that the detector did not alert the occupants.

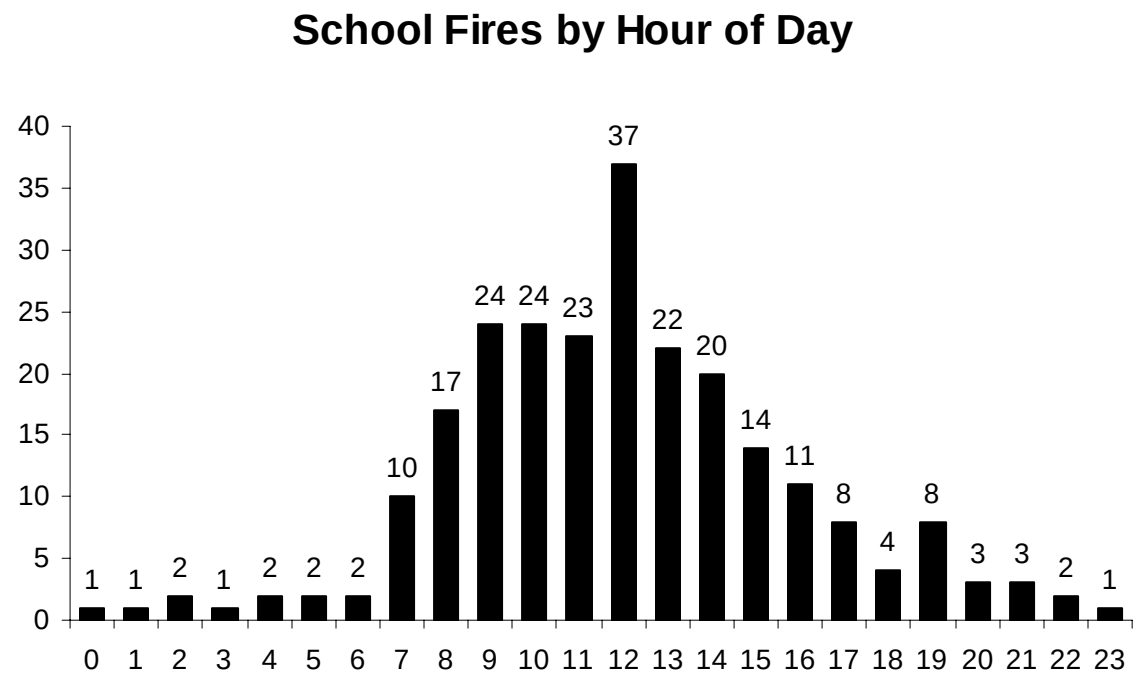


No AES in Over 2/3 of Fires in Schools

There was one school fire, or 1%, where automatic extinguishing systems (AES) were reported to have been present and operated. In 2% of the school fires, the AES failed to operate. In 28% of school fires, the fires were too small to trigger the system. In 69% of the fires in schools, there were no systems. AES performance was unknown in nine fires in Massachusetts' schools in 2006. These incidents were excluded from the percentage calculations.



Most School Fires Occur When School is in Session During Lunch
School fires generally occur during the school day. Seventy-five percent (75%) of the school building fires occurred during the hours between 8:00 a.m. and 3:00 p.m. with a sharp increase between 9:00 a.m. and 12:00 p.m. The following graph shows the hour of alarm on the 24-hour clock. Midnight to 1:00 a.m. is represented by 0, 1:00 a.m. to 2:00 a.m. is represented by 1, etc. Ninety-two percent (92%) of these fires occurred between Monday and Friday.

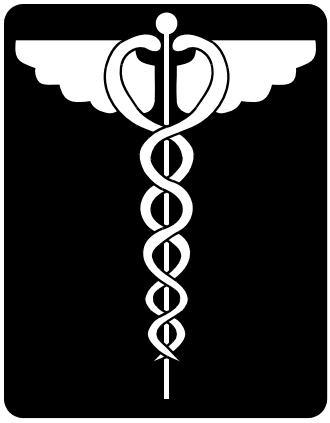


Schools Must Hold Fire Drills Four Times a Year
Effective fire prevention has undoubtedly contributed to the low injury rate at school fires. According to 527 CMR 10.09, fire drills must be conducted four times a year. The fire department must approve an evacuation plan developed by someone from the school system. All teachers must receive instructions about the plan. Students must be advised of the fire drill procedure or take part in a fire drill within three days after entering school.

Springfield Elementary School Had Largest Loss School Fire

- On March 29, 2006 at 2:49 p.m., the Springfield Fire Department was called to a fire at a local elementary school of undetermined cause. This fire originated in a first floor storage room. This blaze was the largest loss fire in a school, with an estimated $175,000 worth of damage. There was one fire service injury. Smoke detectors were present and alerted the occupants in the building. There were no sprinklers present.

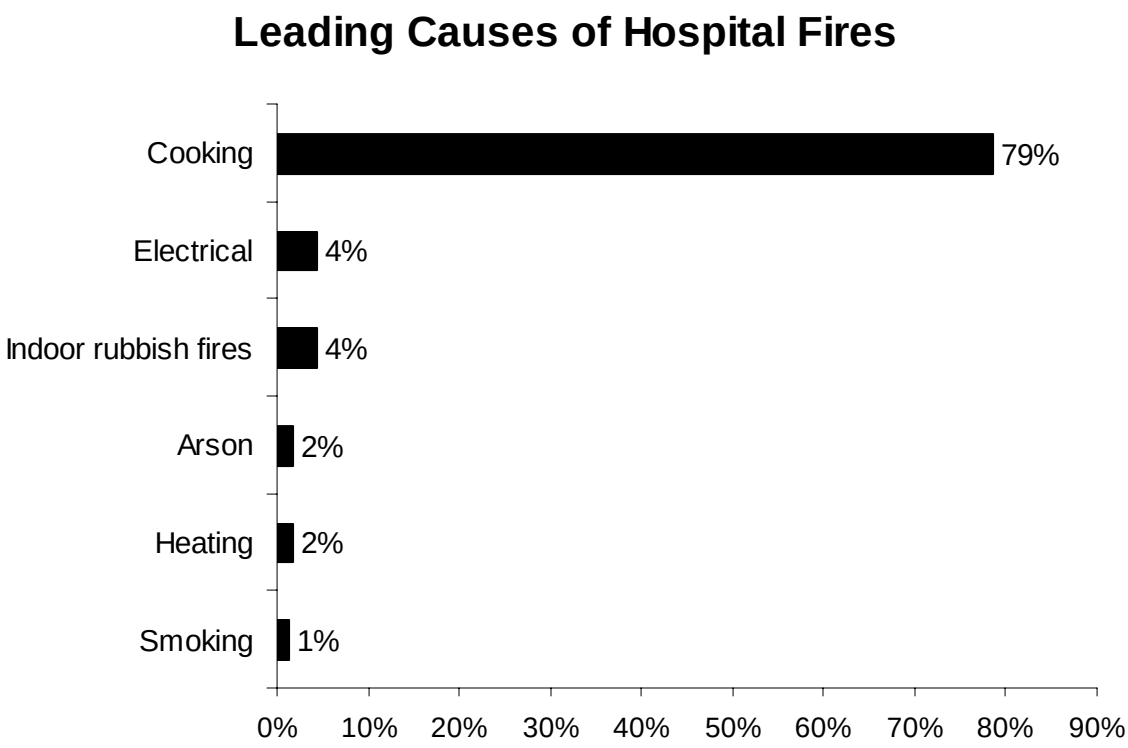
Fires in Hospitals



163 Fires Caused 1 Civilian Casualty
One hundred and sixty-three (163) building fires in hospitals caused one civilian casualty and an estimated dollar loss of $406,942. The average loss per fire was $2,497. In 2006, 1% of the 15,375 building fires occurred in hospitals. Fires in hospitals were up 14% from 143 in 2005.

This property use section includes, mental institutions, including facilities for the criminally insane; medical, psychiatric and specialty hospitals where treatment is provided on a 24-hour basis; hospices; and clinics and clinic type infirmaries. It does not include doctor's or dentist's offices; nursing homes; alcohol or substance abuse centers; and mental retardation/development disability facilities.

Cooking Caused Over 3/4 of Hospital Fires
Unattended cooking and other unsafe cooking practices caused 79%, or over three-quarters of the fires in hospitals in 2006. Electrical fires and indoor rubbish fires each accounted for 4% of these fires. Arson and heating equipment each caused 2% of these fires. Smoking was responsible for 1% of the fires in hospitals in 2006.

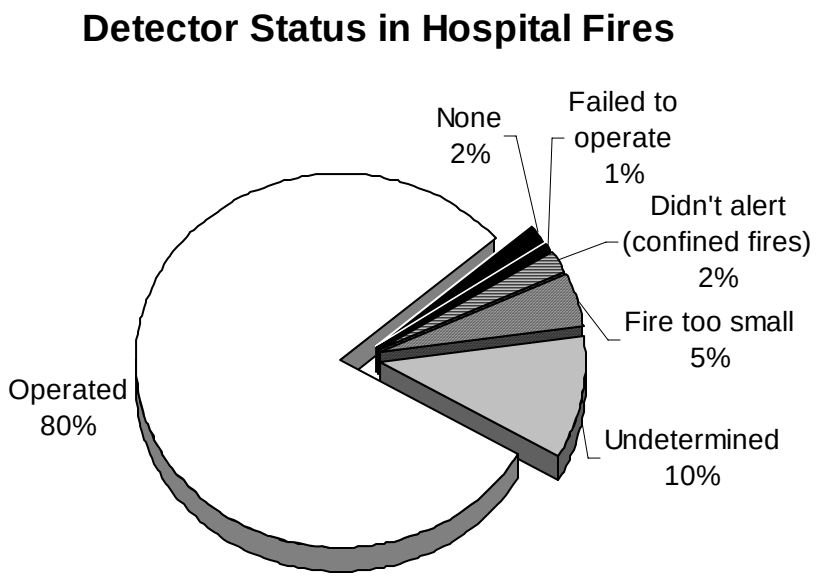


Nearly 80% of Hospital Fires Began in the Kitchen
Seventy-nine percent (79%), of the fires in hospitals in 2006, started in the kitchen; 2% occurred in heating rooms or areas; and 1% occurred in each laboratories, storage rooms and trash chutes or containers.

85% of Hospital Building Fires Confined to Non-Combustible Containers[35]
One hundred and thirty-nine (139), or 85% of all hospital building fires, were reported as confined to non-combustible containers in 2006. One hundred and twenty-eight (128), or 79%, of these fires were contained cooking fires. Seven (7) were confined indoor rubbish fires accounting for 4% of hospital fires. Two (2), or 1%, were fires confined to a fuel burner or boiler malfunction. Another two, or 1%, were confined commercial compactor fires.

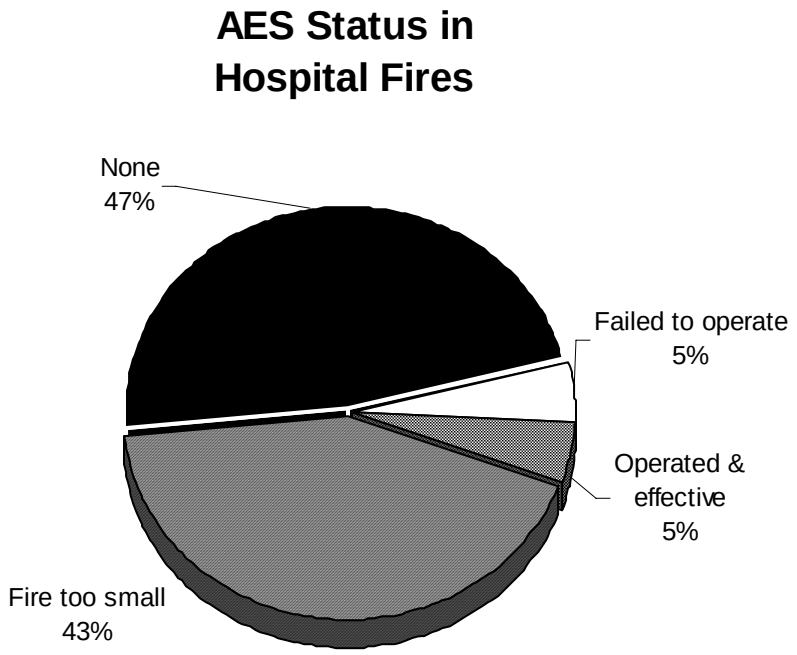
The number of contained fires rose in 2006. Confined fires increased by 26 incidents, or 23%, from the 113 reported in 2005.

Detectors Operated in 80% of Fires
Smoke or heat detectors operated in 131, or 80%, of the hospital fires in 2006. In 2% of these fires[36], the detectors did not alert the occupants. In 1% of these fires, the detectors failed to operate. In 2% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 5% of the hospital fires. Smoke detector performance was undetermined in 17 incidents, or 10% of Massachusetts' 2006 hospital fires.



[35] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

Fire Too Small to Activate AES Systems in 43% of Fires
Of the 26 hospital fires where automatic extinguishing system (AES) performance was known, systems were present and operated effectively in one, or 5% of these fires. AES were present but failed to operate in one, or 5%, of these hospital fires. The fire was too small to activate the AES in nine, or 43%, of these fires. Forty-seven percent (47%), or 10, of the hospital fires had no systems. AES performance was unknown in eight of the fires in hospital facilities. These incidents were excluded from this analysis.



Boston Had Largest Loss Hospital Fire in 2006

- On January 24, 2006 at 12:40 a.m. the Boston Fire Department was called to a fire at a health clinic of undetermined cause. The fire began on the second floor. The fire did not cause any injuries but did cause an estimated $250,000 in damages. Detectors were present and operated, but there were no occupants in the building at the time of the fire. The building was not equipped with sprinklers.

Safety Alert For Hospitals and Fire Investigators
Discarded Battery Powered Cauterizing Tools Cause Fires
Massachusetts State Police Investigators assigned to the Office of State Fire Marshal working in conjunction with local fire investigators have been made aware of a rash of fires occurring in hospitals as a result of the improper disposal of battery powered cauterizing tools. Investigators have learned these fires are occurring when these units are

[36] These represent confined fires where it was reported that the detector did not alert the occupants.

discarded without the proper safety cover in place over the tip and activation switch. The weight of additional refuse placed on top of the unprotected unit activates the unit's ON switch, and causes the cautery tip to heat to a temperature sufficient to ignite any combustible materials (trash). (Weinstein Safety Alert May 17th 2005)

It is imperative to keep the safety cap for each disposable electrocautery unit used during procedures and replace the cap before disposing of the unit.

Four steps to preventing these fires…

1. Retrain surgeons and other operating room staff about the proper disposal procedures for the cordless electrocautery device. This includes first breaking the tip of the device (this interrupts the heating filament circuit so that it cannot be activated) and then recapping the device (which prevents the on button from being activated.
2. Provide intensive and more "hands-on" type of fire safety for operating room staff.
3. Provide additional training to all hospital staff about the importance of pulling the alarm station at the first sign of smoke/fire.
4. Purchase fire-rated sharps disposal containers, which will be used exclusively for these devices. (Weinstein June 16th 2005)

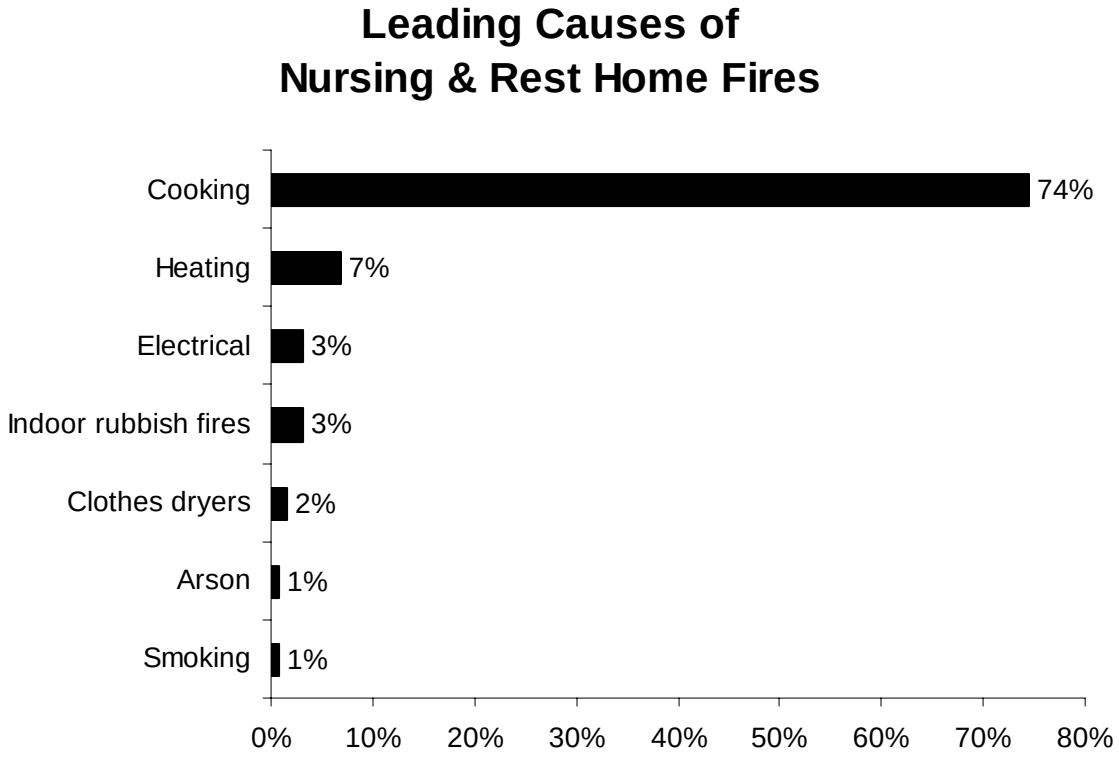
Nursing Home and Rest Home Fires

129 Fires Caused 1 Civilian Injury, 3 Fire Service Injuries & $259,681 in Damages
One hundred and twenty-nine (129) building fires occurred in nursing homes and rest homes[37] during 2006. These fires caused one civilian injury, three fire service injuries and an estimated dollar loss of $259,681. The average loss per fire was $2,013. In 2006, 1% of the 15,375 building fires occurred in nursing homes and rest homes. Fires in nursing homes and rest homes increased by 1% from 128 in 2005.

This property use category includes only nursing homes licensed by the state that provide 24-hour nursing care for four or more persons.

Cooking Caused Almost 3/4 of Nursing Home Fires
Unattended cooking and other unsafe cooking practices caused 74% of the fires in nursing and rest homes. Heating equipment caused 7% of these fires. Electrical problems and indoor rubbish fires each caused 3% of nursing home fires. Clothes dryers caused 2% of the fires in Massachusetts' nursing homes in 2006. Arson and smoking each caused 1% of the fires in Massachusetts' nursing homes in 2006.

[37] In version 4 buildings with a Fixed Property Use code 312 – Care of the aged without nursing staff - was included in this count. However, with the conversion to version 5 codes, all v4 FPU = 312 have been converted to Property Use code 459 – Residential board and care.



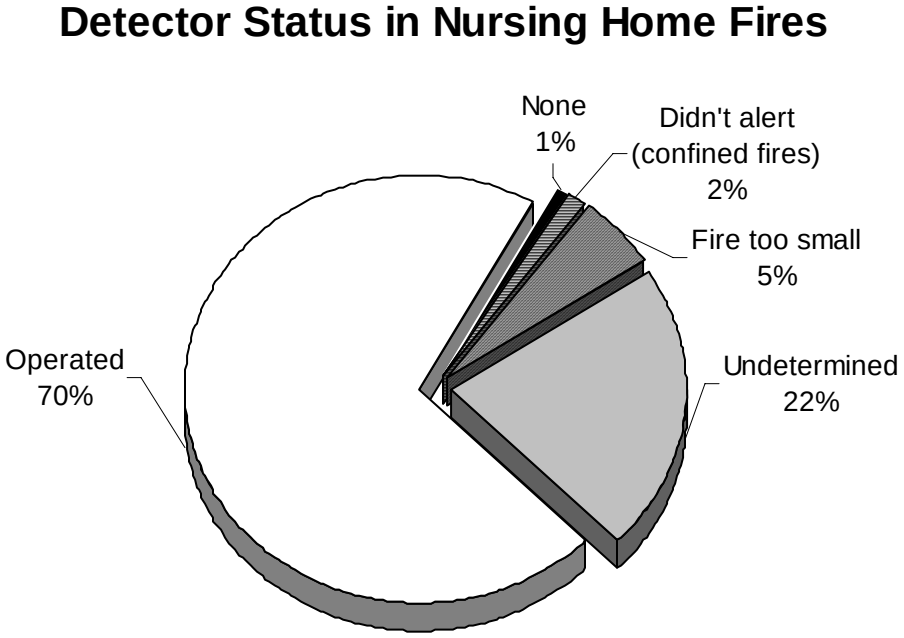
3/4 of Fires Began in the Kitchen
Seventy-five percent (75%) of the nursing and rest home fires began in the kitchen. Five percent (5%) of these fires began in a heating room or area. Two percent (2%) began in the laundry room. Another two percent (2%) occurred in patient's rooms. Two percent (2%) of the fires in nursing homes also started in machinery rooms.

81% of Nursing Home Fires Were Confined to Non-Combustible Containers[38]
One hundred and four (104), or 81%, of all nursing home building fires were reported as confined to non-combustible containers in 2006. Ninety-three (93) of the reported fires were cooking fires contained to a non-combustible container accounting for 72% of nursing home building fires. Seven (7), or 5%, were fires confined to a fuel burner or boiler malfunction. Four (4), or 3%, of these fires were contained indoor rubbish fires.

The number of contained fires in nursing homes rose in 2006. Confined fires increased by three incidents, or 3%, from the 101 reported in 2005.

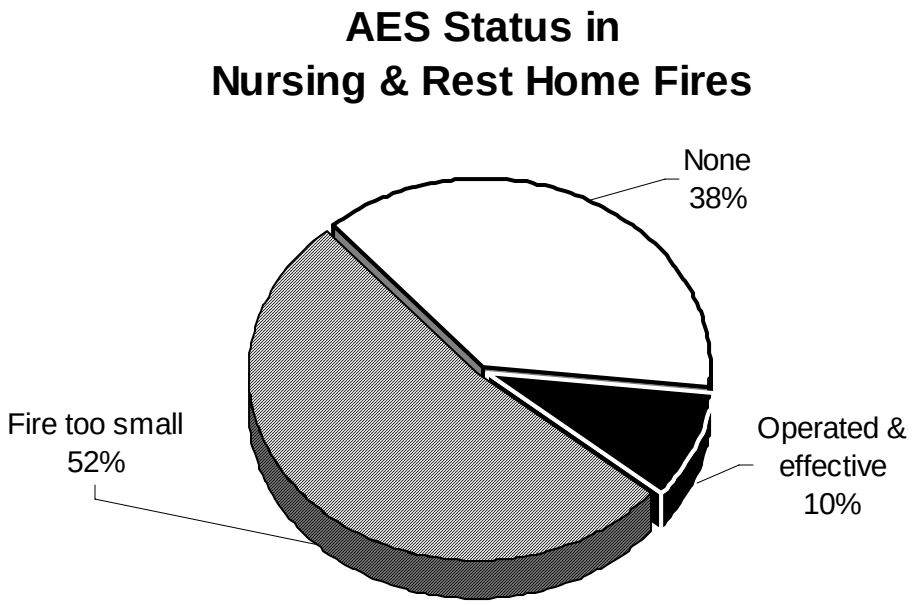
[38] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

Detectors Operated in 70% of Fires
Smoke or heat detectors operated in 91, or 70%, of the nursing home fires in 2006. In 2% of these fires[39], the detectors did not alert the occupants. In 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 5% of the nursing home fires. Smoke detector performance was undetermined in 28 incidents, or 22% of Massachusetts' 2006 nursing and rest home fires.



AES Operated in 10% of Nursing Home Fires
Of the 21 nursing home fires where automatic extinguishing system (AES) performance was known or reported, systems were present and operated effectively in two, or 10% of these fires. In 11 incidents, or 52% of the fires where AES performance was known, the fire was too small to activate the system. No systems were present in eight, or 38% of these fires. In five of these incidents, AES performance was undetermined. These fires were excluded from the analysis.

[39] These represent confined fires where it was reported that the detector did not alert the occupants.



Auburn Has Largest Nursing Home Fire Loss

- On January 10, 2006 at 10:45 p.m., the Auburn Fire Department was called to a fire in a nursing home of undetermined cause. This fire caused $200,000 in damages. No one was injured in this fire. Smoke detectors were present and alerted the staff and occupants. Sprinklers were present and operated effectively.

Office Building and Bank Fires

198 Fires, 1 Civilian Death & 37 Civilian Injuries

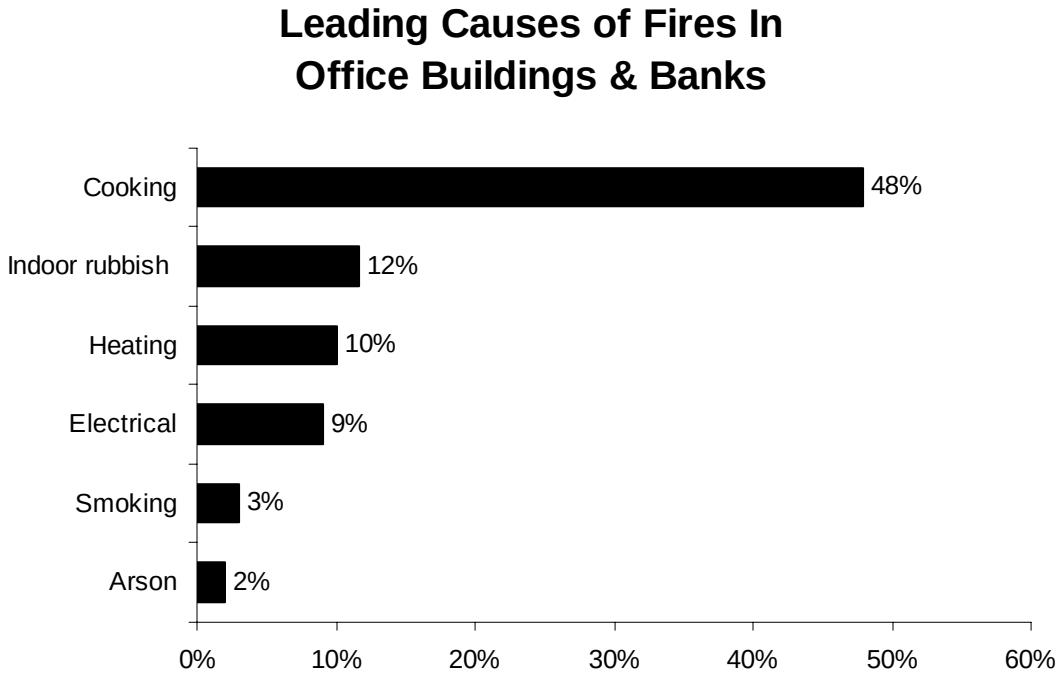
One hundred and ninety-eight (198) building fires occurred in offices and banks during 2006. These fires caused 37 civilian injuries, seven firefighter injuries and an estimated dollar loss of $9.7 million[40]. The average dollar loss per fire was $48,977. In 2006, 1% of the 15,375 building fires occurred in offices and banks. Fires in office buildings and banks were up 3% from 192 in 2005.

Cooking Caused Almost 1/2 of Office & Bank Fires

Unattended cooking and other unsafe cooking practices caused 48% of the 198 fires in office buildings and banks in 2006. Indoor rubbish fires caused 12% of these fires.

[40] The fatal fire in a Cambridge office building on 12/8/06 caused the 1 civilian death, 35 civilian injuries, 2 of the fire service injuries and $4 million in damages.

Heating equipment accounted for 10% of these fires. Electrical problems caused 9% of the office building fires. Smoking caused 3%; and arson was the cause of 2% of the fires in Massachusetts' office buildings and banks in 2006.

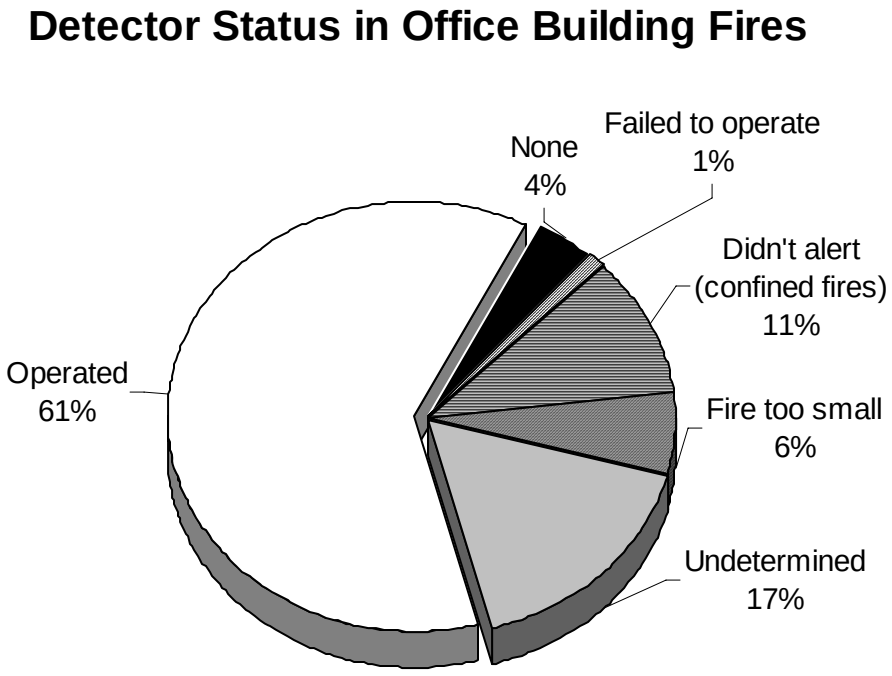


Almost 1/2 Office Building and Bank Fires Started in Kitchen
Forty-nine percent (49%) of the fires in office buildings or banks started in the kitchen. Ten percent (10%) of these fires began in a heating room or area. Four percent (4%) originated in an office. Three percent (3%) each started in service or equipment areas or switchgear area or transformer vaults.

70% of Office Building Fires Are Confined to Non-Combustible Containers41
One hundred and thirty-nine (139), or 70%, of all office building and bank building fires were reported as confined to non-combustible containers in 2006. Ninety-three (93) of the reported fires were cooking fires contained to a non-combustible container accounting for 47% of office building fires. Twenty-six (26), or 13%, of these fires were contained indoor rubbish fires[42]. Twenty (20), or 10%, were fires confined to a fuel burner or boiler malfunction. Confined fires in offices increased by six incidents, or 5%, from the 133 reported in 2005.

[41] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.
[42] Confined rubbish fires in office buildings increased by 18, or 225%, from the 8 reported in 2005.

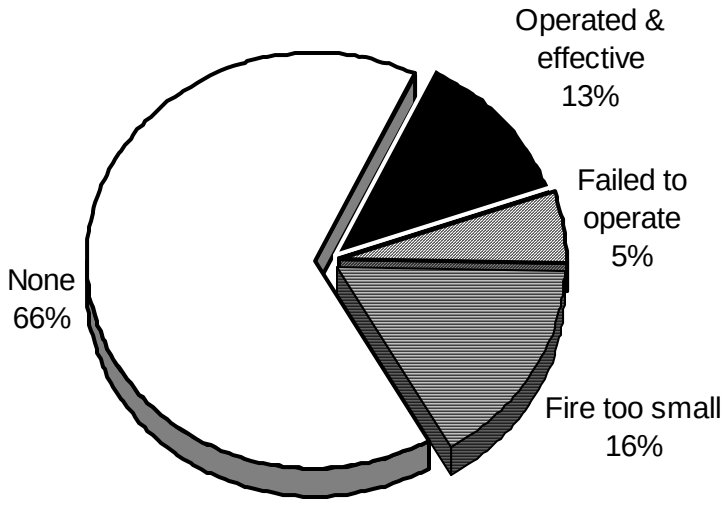
Detectors Operated in 62% of Fires
Smoke or heat detectors operated and alerted the occupants in 122, or 61%, of the office building fires in 2006. In 11% of these fires[43], the detectors did not alert the occupants. In 4% of these fires, no detectors were present at all. In 1% of these fires the detectors failed to operate. The fire was too small to trigger the detector in 6% of the office building fires. Smoke detector performance was undetermined in 33 incidents, or 17% of the fires in Massachusetts' office buildings.



2/3 of Office Building and Banks Had No AES
No automatic extinguishing systems (AES) were installed in 36, or 66%, of the 55 fires occurring in office buildings and banks where AES performance was known. Systems were present and operated effectively in seven, or 13%, of these incidents. The system failed to operate in three, or 5%, of office building fires. The fire was too small to activate the system in nine, or 16%, of these incidents. AES performance was not known in 13 of the total number of office building and bank fires. These incidents were excluded from the analysis.

[43] These represent confined fires where it was reported that the detector did not alert the occupants.

AES Status in Office Building & Bank Fires



Electrical Fire Caused Largest Loss Office Building Fire

- On December 8, 2006 at 10:55 a.m., the Cambridge Fire Department was called to a fatal electrical fire in a 19-story office building. The victim, a 28-year old male electrician, and his partner were performing maintenance in the electrical vault in the basement. There was an explosion and the victim was overcome while his partner was able to escape with injuries. The victim's partner and 34 office workers were injured in this fire, as were two firefighters. Detectors were present and alerted the occupants of the building. Sprinklers were present and effective in controlling the fire until firefighters arrived. Damages from this fire were estimated to be $4 million.

Wellesley Has Second Largest Loss Fire in an Office Building

- On February 13, 2006, at 3:22 a.m., the Wellesley Fire Department was called to an electrical fire in an office building. The fire was caused by arcing in the elevator control panel, and was limited to the building's lobby. No one was injured at this fire. Detectors were present and operated, but there were no occupants at the time of this fire. There were no sprinklers present in the building. Damages from this fire were estimated to be $1.8 million.

Reading Has Third Largest Loss Fire in an Office Building

- On January 17, 2006, at 6:25 a.m., the Reading Fire Department was called to an electrical fire in a two-story office building. The fire began in a second floor office. No one was injured at this fire. Detectors were present but failed to operate because their batteries were missing. There were no sprinklers in the building. Damages were estimated to be $1.6 million.

Vacant Building Fires

340 Fires in Vacant Buildings
Three hundred and forty (340) building fires occurred in buildings that were vacant, under construction or demolition[44]. These 340 fires caused three civilian injuries, 50 firefighter injuries and an estimated $14.6 million in damages. The average dollar loss per vacant building fire was $42,932. Fires in vacant buildings were down 8% from 369 in 2005.

16% of Vacant Building Fires Considered Arson
Fifty-three (53), or 16%, of the fires in vacant buildings were considered arson. These 53 fires caused two firefighter injuries and $1.3 million in damages. In 2006, 16% of the total 325 Massachusetts building arson fires occurred in vacant buildings.

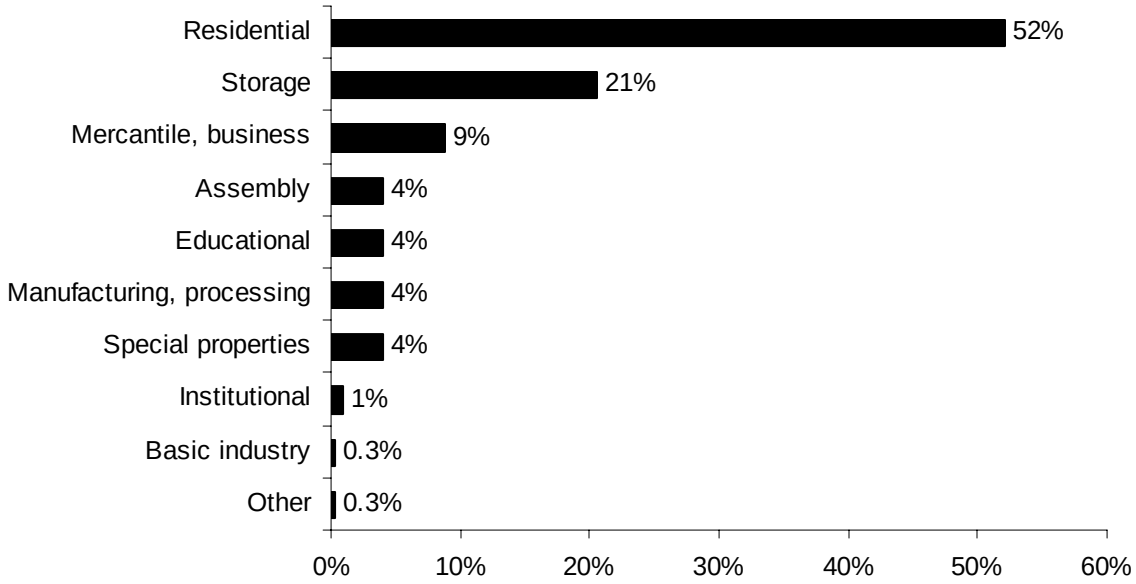
41% of Vacant Building Fires Undetermined
Forty-one percent (41%) of vacant building fires were undetermined. Forty-five (45), or 13%, of the 340 vacant building fires were undetermined after investigation. Ninety-one (91), or 27%, were coded as still under investigation; and five, or 1%, were classified as 'Other'.

In this format, you are able to make a distinction between the property's use and the building's status. For example in version 4 if you had a vacant apartment building, one might code the 'Fixed Property Use' as Apartments, 3-6 units or Vacant property, but not both. If the report used the former code then it would not have been counted as a vacant property fire. However in the new system, this same incident would now be coded with a 'Property Use' of Multi-family dwelling and a 'Building Status' of vacant, secured or unsecured. The addition of this new field is most likely the primary reason for the dramatic increase in vacant property fires in 2001. One of the improvements that came with version 5, is that we believe we now have a more accurate picture of the vacant building fire problem.

Over 1/2 of All Vacant Building Fires Were Residential
Out of the 340 vacant building fires, 177, or 52%, occurred in residential occupancies. Seventy (70), or 21%, happened in storage facilities; 30, or 9%, happened at mercantile or business locations; 15, or 4%, were in public assembly properties; another 15, or 4%, were at educational facilities; 14, or 4% occurred in special properties; another 14, or 4%, happened at manufacturing or processing locations; three, or 1% of vacant building fires, occurred at institutional facilities; one, or less than 1%, occurred at basic industrial sites; and another vacant building fire, or 0.3%, occurred in an "other" type of building.

[44] In version 4 a vacant building was defined by having a Fixed Property Use code in the subsection of construction, unoccupied properties, between 910 & 919. However in version 5, the Property Use is separate from the Building Status. In v5 a building is considered vacant if the Building Status is coded: 1-Under Construction; 3-Idle, not routinely used; 4-Under major renovation; 5-Vacant, secured; 6-Vacant, unsecured; & 7-Being demolished. The building use is coded separately in the Property Use field.

Vacant Building Fires by Property Use



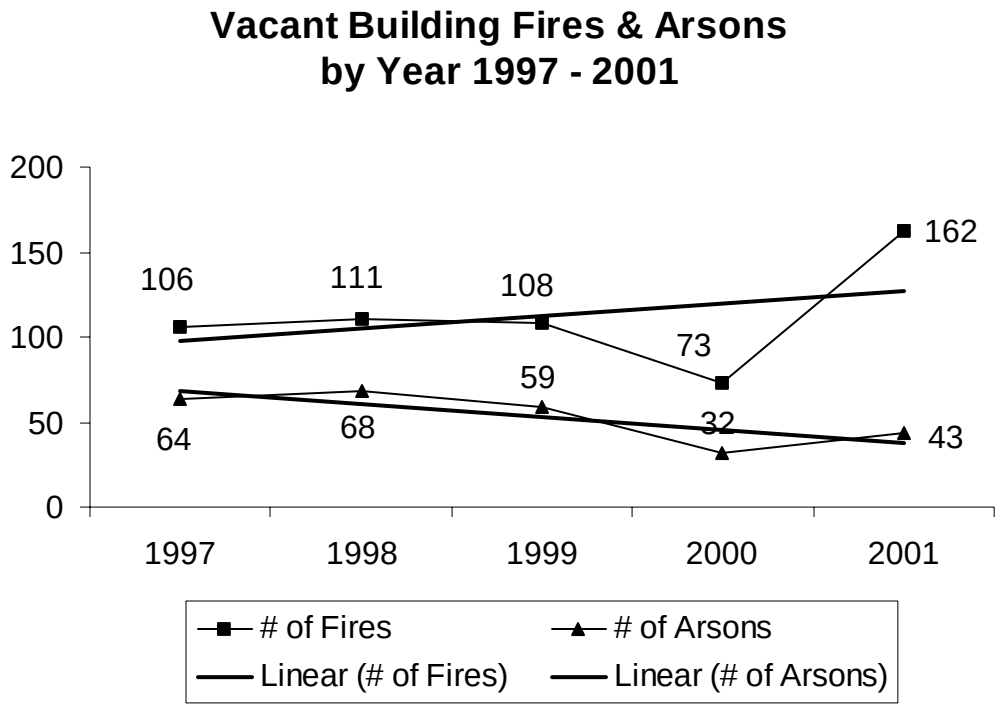
Over 1/3 of All Vacant Building Arsons Occurred in Residential Buildings
Over one-third, or 36%, of the vacant building arsons in 2006 occurred in residential occupancies. Thirty percent (30%) took place in storage facilities; 9% happened at special properties; 8% each occurred in mercantile or business properties and public assembly properties; 4% occurred in institutional facilities; 2% happened at educational facilities; another 2% happened each in manufacturing or processing facilities, and at "other" type properties.

The following table and chart illustrate the trend in vacant building fires and arsons over the past decade. These fires steadily declined from 113 in 1996 to 73 in 2000. 2001 was the transition year to version 5 and its increased ability to track these fires and was also the year when the cause 'suspicious' was eliminated from our definition of arson. It should be noted that prior to 2004, these statistics did not include data from the Boston Fire Department. Data from the BFIRS system lost the capability to identify vacant buildings during conversion to MFIRS. This problem was eliminated when Boston completed its conversion to MFIRS version 5 in 2004. Therefore, the numbers in the table prior to 2004 should be considered to be underestimated.

FIRES AND ARSONS IN VACANT BUILDINGS

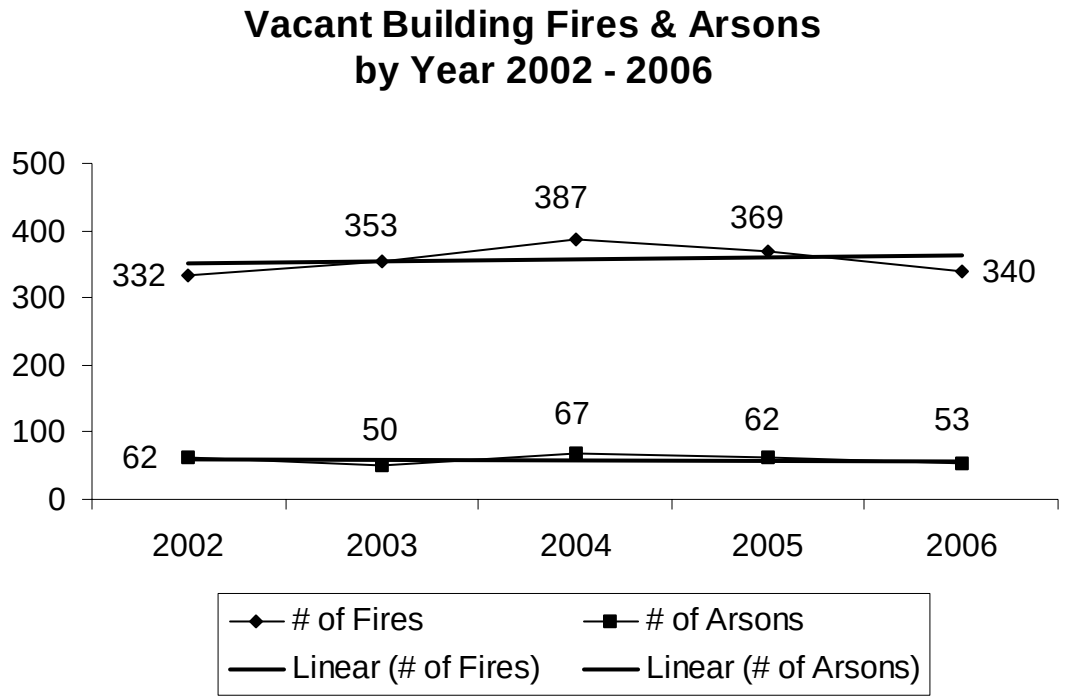
Year	# of Fires	# of Arsons	% Arsons
2006	340	53	16%
2005	369	62	17%
2004	387	67	17%
2003	353	50	14%
2002[45]	332	62	17%
2001	162	43	27%
2000	73	32	44%
1999	108	59	55%
1998	111	68	61%
1997	106	64	60%
1996	113	69	61%

The following graphs clearly show this downward trend in both vacant building fires and vacant building arsons prior to 2001. From 2001 on, numbers are from the new version 5 format. The increase in both the number of vacant building fires and arsons in 2001 was expected because of version 5's new ability to distinguish between a building's property use and its building status. 2006 is the fifth full year that the data is able to delineate between a building's property use and its building status. The change in coding requirements did create a substantial increase in reported vacant building fires and a



[45] The 2002 MFIRS Annual Report reported 487 fires in vacant buildings. This figure incorrectly included 83 building fires where the Building Status code was either 0 – Other or U – Undetermined. Without these

moderate increase in vacant building arsons; only after we have five or more years of version 5 data will we be able to tell how substantial this increase really is.



Communities Have Gone on the Offensive Against Vacant Buildings
Some communities have gone on the offensive against vacant buildings. The 32% drop in reported vacant building fires from 1999 to 2000 was likely due to the aftermath of the December 3, 1999 Worcester Cold Storage Warehouse Fire where six firefighters lost their lives. A homeless squatter couple that had been living in the abandoned Worcester Cold Storage Warehouse started the fire when a candle they were using was knocked over and ignited some of their clothes. This tragedy led to increased awareness of the dangers of abandoned and vacant buildings. This heightened awareness led to pre-incident planning including increased inspections, stricter adherence to building and fire codes along with tighter security around these buildings, more frequent patrols of areas where these buildings are located, tougher fines for owners who fail to keep vacant buildings secured, and the taking of these properties by the municipality through a variety of means. It also led to many changes in firefighting practices in these types of fires such as deciding whether to use an offensive attack strategy placing firefighters inside the building, or a defensive strategy by setting up master stream devices and fighting the fire from the outside.

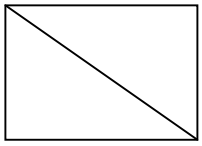
The City of Worcester took the lead. Since the tragic death of six of its own firefighters, the city has marked vacant buildings with large placards for firefighters and other public safety personnel. These placards identify vacant buildings and either warn personnel to

---

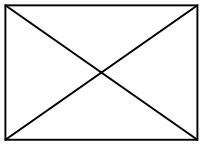
83 fires the total number of building fires in vacant buildings was 332 and arsons in vacant buildings was 62.

proceed with extreme caution when entering these buildings or that the building is off limits and a defensive, exterior attack is recommended.

These standards are now mandatory throughout the Commonwealth. Under both the Building Code (780 CMR 121.7 & 8) and the Fire Code (527 CMR 10.13 (7)), owners of vacant buildings must secure and mark them with the following symbols.



Interior hazards exist. Interior operations should be conducted with extreme caution.



Interior and/or exterior hazards exist. Consideration should be given to conduct operations from the exterior only.

These placards can now be seen in communities throughout the Commonwealth. Neither of these symbols limit the incident commander in directing the operations he deems necessary.

Vacant Buildings Also Threaten Community

Vacant buildings also pose a serious threat to the surrounding community. They become targets for vandalism. Children may find them attractive play spaces. Drug users or dealers may utilize the space for their activities. The homeless may seek shelter and set fires to keep warm. Arsonists who enjoy fires may consider these buildings to be available for their use and entertainment. All of these activities threaten the safety of the neighborhood and surrounding homes. In many ways vacant building fires "tax" the finances of the municipalities where they are located.

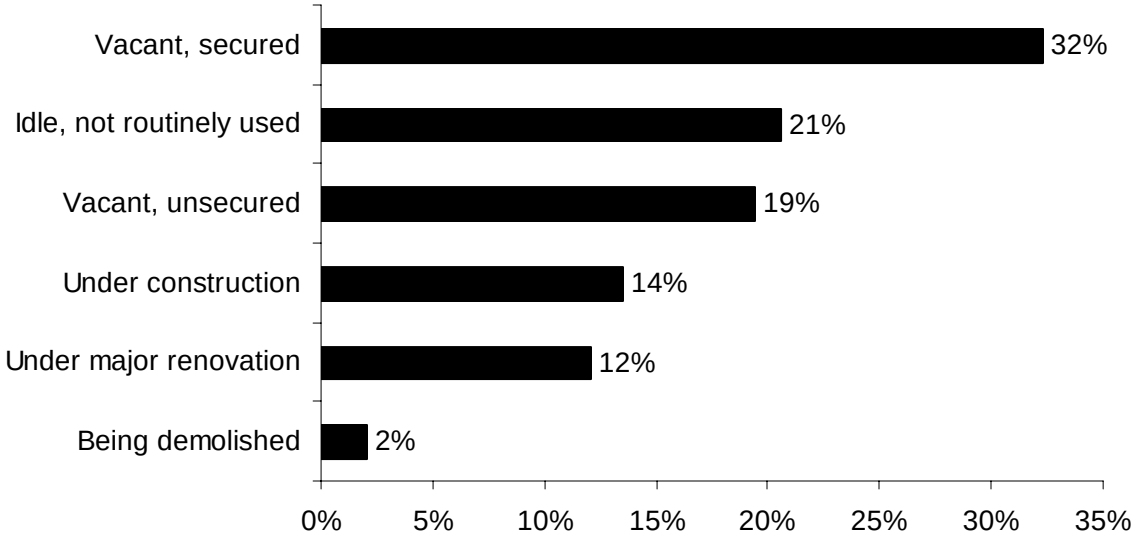
Effective Boarding Up Is Key To Protection

Removing furniture, contents and debris from the interior of the building, local officials insisting that all openings to the building are securely boarded up, preferably from the inside, and periodic security checks can reduce the risk of fire in any vacant building and the inherent risk to firefighters called to fight a vacant building fire. Local officials and building owners must ensure that these buildings are adequately secured to prevent entry into these buildings. This is a community's first line of defense in the battle to prevent arson and to maintain housing stock.

Almost 1/3 Were Vacant and Secured Buildings

Of the 340 fires in vacant buildings in 2006, 110, or 32% were in vacant buildings that were secured. Seventy (70), or 21% of these fires took place in buildings that were idle or not routinely used; 66, or 19% of these fires occurred in vacant buildings that were unsecured; 46, or 14% were under construction; 41, or 12%, happened in buildings undergoing major renovations; and seven, or 2%, of the fires in these buildings occurred in buildings that were in the process of being demolished.

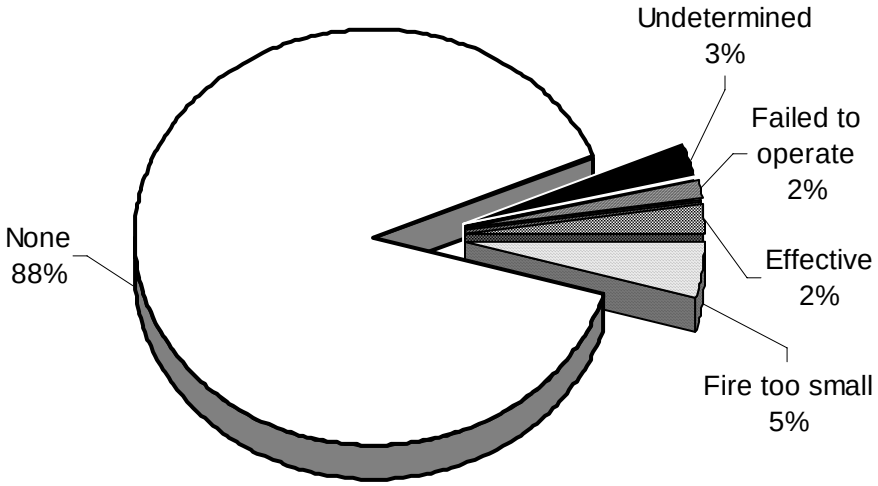
Vacant Building Fires by Building Status



Almost 1/3 of All Vacant Building Arsons Occurred in Unsecured Buildings
Seventeen (17), or 32% of all vacant building arsons in 2006, occurred in unsecured vacant buildings. Sixteen (16), or 30% of these arsons occurred to vacant and secured buildings. Seven (7), or 44% of the arsons involving vacant and secured buildings reported having the fire start on the exterior of the building. Another 15, or 28%, occurred in idle buildings that are not routinely used. Buildings under major renovation accounted for two, or 4% of the vacant building arsons in 2006; and another two, or 4%, of these arsons occurred in buildings being demolished. Buildings under construction accounted for 1% of vacant building arsons, or one of these incidents.

88% Vacant Buildings Had No AES
No automatic extinguishing systems (AES) were installed in 88% of the 332 fires occurring in vacant buildings where AES presence was known. In 5% of these incidents, the fire was too small to activate the system. The AES failed to operate in 2% of these incidents. Systems were present and operated effectively in 2%, of these incidents. AES performance was not known in 3% of the building fires in vacant buildings in 2006.

AES Status in Vacant Buildings



Sprinklers Must Be Maintained
When the sprinkler systems are present, they must be maintained. If the head of the fire department decides to grant a request under MGL Chapter 148, Section 27A to disconnect the system, extra precautions should be taken.

Firefighters Injured at 1 of Every 6 Vacant Building Fires
One of the most dangerous types of fires for firefighters in 2006 was vacant building fires. Vacant building fires accounted for 50, or 9%, of all firefighter injuries in 2006. These 50 injuries also represent 10% of the number of firefighter injuries at all building fires. On average there was one firefighter injury for every seven vacant building fires.

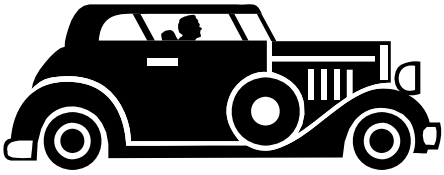
Large Loss Vacant Building Fires
In 2006, there was one vacant building fire that had an estimated dollar loss greater than $1 million. In 2005 there were seven vacant building fires that met this criteria.

- On September 29, 2006, at 1:08 a.m., the Norwood Fire Department was called to a fire in a single story, warehouse of undetermined cause. The warehouse was idle and not routinely used. No one was injured at this fire. It was undetermined if detectors were present in the building. A dry sprinkler system was present, but the system failed to operate because it was shut off. Damages from this fire were estimated to be $1.2 million.

Motor Vehicle Fires

3,258 Motor Vehicle Fires Account for 11% of All Reported Fires

The 3,258 motor vehicle fires accounted for six, or 14%, of civilian fire deaths, 12 civilian injuries, 21 fire service injuries, and an estimated property damage of $16 million. Motor vehicle fires accounted for 11% of total reported fire incidents. The 3,258 fires in 2006 are a 12% decrease from the 3,717 motor vehicle fires in 2005.



According to MFIRS, a motor vehicle fire is defined as any fire involving a car, truck, boat, airplane, construction equipment or other mobile property (not being used as a permanent structure) that occurs outside of a structure.

The Burned Motor Vehicle Reporting Law

The Massachusetts Fire Incident Reporting System identified motor vehicle fires and motor vehicle arson as a major problem in 1985. The Burned Motor Vehicle Reporting Law took effect in August of 1987. The law requires owners of burned motor vehicles to complete and sign a report that must also be signed by a fire official from the department in the community where the fire occurred. This law has been effective in reducing motor vehicle fires overall and vehicle arsons in particular. Since it took effect in 1987, motor vehicle arsons have decreased 96% from a high of 5,116 in 1987 to 159 in 2006. The percentage of motor vehicle fires that are arsons has also dropped 70% in the past decade from 16.1% in 1997 to 4.9% in 2006.

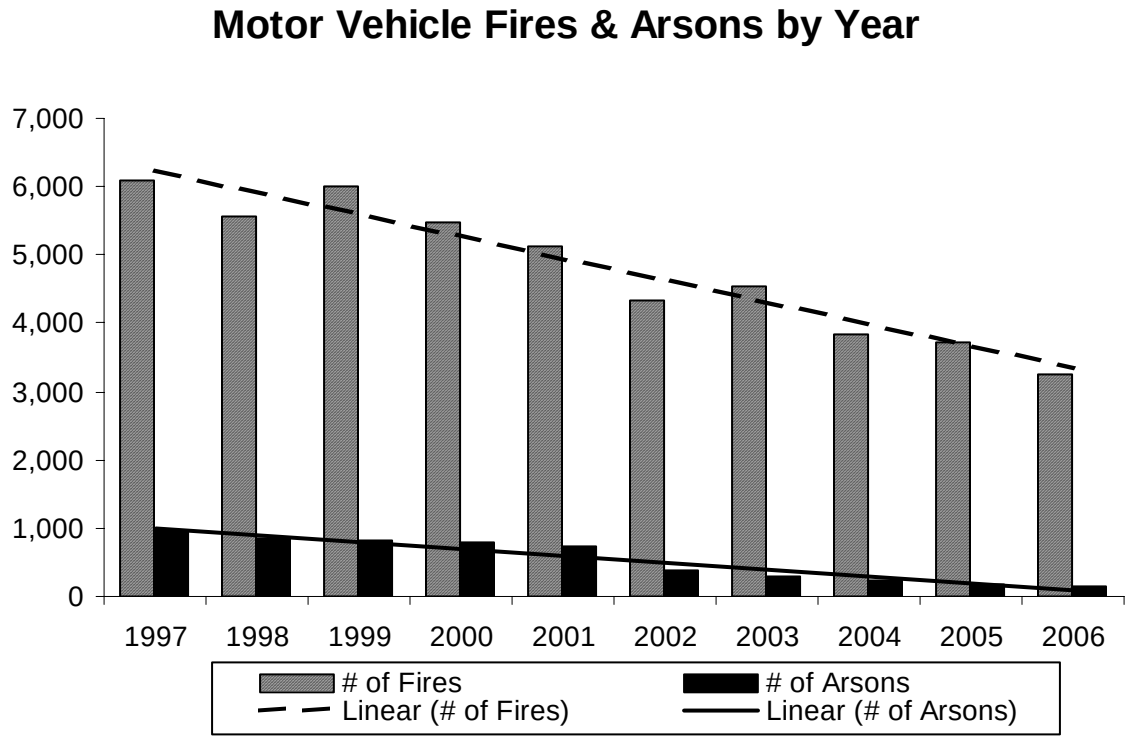
The table below shows the number of vehicle fires and vehicle arsons and the percentage of vehicle fires caused by arson for the past decade.

VEHICLE FIRES AND VEHICLE ARSONS BY YEAR

Year	Vehicle Fires	Vehicle Arsons	% Arsons
2006	3,258	159	4.9%
2005	3,717	184	5.0%
2004	3,825	227	5.9%
2003	4,533	280	6.2%
2002[46]	4,331	395	9.1%
2001	5,127	743	14.5%
2000	5,473	798	14.6%
1999	6,011	818	13.6%
1998	5,565	836	15.0%
1997	6,096	979	16.1%

[46] 2002 was the first full year of using only V5 data. As a result, 'Suspicious' was eliminated as a cause and only 'Intentional' fires were counted as arson, thus the significant drop in MV arsons from 2001-2002.

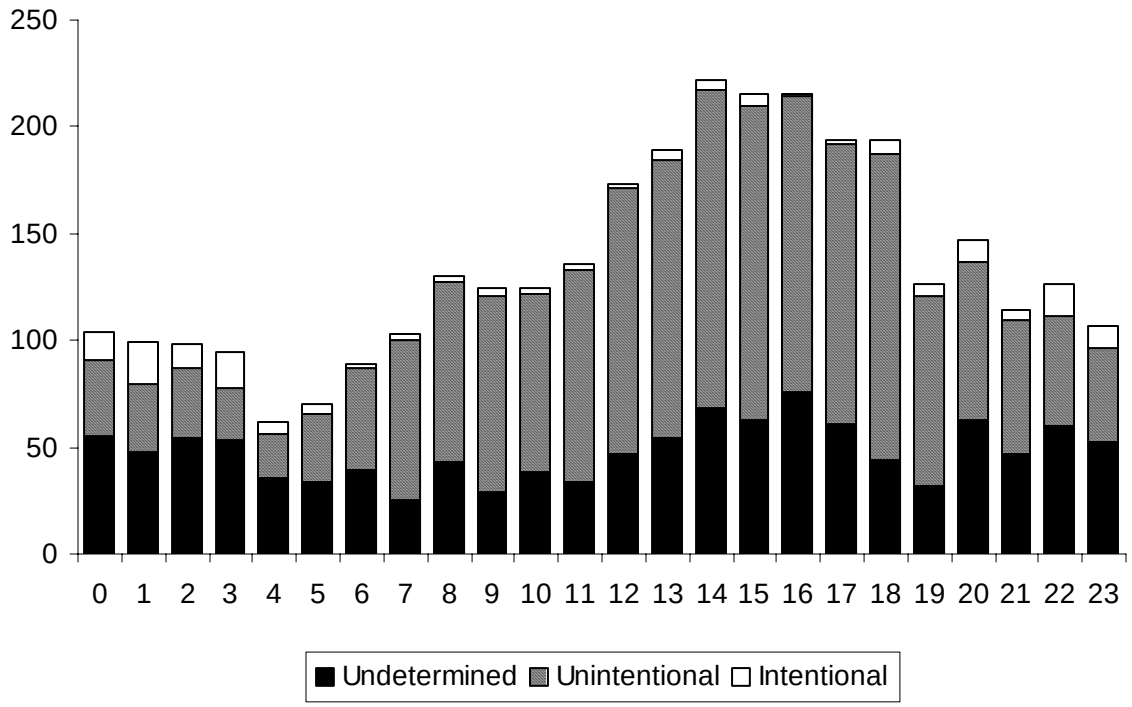
The following graph illustrates the data in the previous table.



Mechanical Failures Caused 27% of Massachusetts Motor Vehicle Fires
Of the 3,258 motor vehicle fires in 2006, 27% were caused by some type of mechanical failure or malfunction; 5% were considered intentionally set and 33% resulted from other accidental causes. The cause was undetermined or not reported in 35% of the motor vehicle fires.

Unintentional Fires Occur During Day and Early Evening
Motor vehicle fires of different causes occur at different times of the day. As the following graph shows, accidental or unintentional fires are more common during the day and early evening. Incendiary fires are generally set in darkness. The graph below shows fire frequency by time of day on the 24-hour clock for the causes of motor vehicle fires. Midnight to 1:00 a.m. is represented by 0, 1:00 a.m. to 2:00 a.m. is represented by 1, etc.

Causes of Motor Vehicle Fires by Time of Day



Almost 2/3 of Massachusetts Motor Vehicle Fires Involved Automobiles
Automobiles and vans accounted for 61% of the 3,258 motor vehicle fires, 1% were trucks weighing less than one ton and 4% were trucks weighing more than one ton.

Car Fire Safety Tips
Regular maintenance is the best way to prevent car fires. Leaking gasoline, oil and hydraulic fluids can catch fire. Electrical problems can cause short circuits and heat build-up. A properly operating catalytic converter can reach 1,100° F. It can get even hotter if the car has worked hard or needs a tune-up. If other parts come in contact with it, they can ignite. Catalytic converters on parked cars will sometimes ignite a pile of leaves or dried grass underneath.

What Should You Do if You Have a Car Fire?

1. Pull over to the side of the road and stop as soon as possible. For automobiles with an automatic transmission put the vehicle in Park; or for cars with a manual transmission, set the parking brake and put it in gear. Fire can disable a car's electrical system in seconds. Power steering and brakes can be harder to use than normal.
2. Turn off the ignition. You want to make sure no more gasoline is pumped to the fire.
3. Get everyone out of the car.

4. Move away and call 911. Do not open the hood or trunk. You risk injury, and give the fire more oxygen.

Unless you're trained, let firefighters handle it. They wear protective clothing and are trained to handle pressurized systems, exploding bumpers, etc. Chemicals in the fire extinguisher can be compacted. To be effective, they must be used correctly. You don't want to practice in a panic situation.

Gasoline Deserves Respect

There were 42 motor vehicle fires at gas and service stations in 2006. There were 38 motor vehicle fires at facilities used for motor vehicle or boat sales, service or repairs. Many of these fires were started by gasoline or the gasoline fumes. Gasoline is so much a part of our lives that we don't think about it. However, it is a very dangerous substance and certain measures should be taken to minimize the chances of an incident.

Gas Station Safety

- Turn off your car when you get gas.
- At self-service stations, remember to put the nozzle back and your gas cap on before driving off. Monitor the fueling; do not get back in the vehicle.
- Gasoline vapors burn at a very low temperature. These fumes are heavier than air, and can travel a distance to find a spark. Keep anything that could provide heat to start a fire away from gasoline. A spark or a lit cigarette is enough to ignite the invisible fumes that may linger on clothing.
- If you need to carry or store gasoline, use an approved container.
- When filling an approved container, place it on the ground to prevent static electricity build–up which could ignite the gasoline vapors. Make sure that the nozzle is always in contact with the container when filling.
- Make sure the approved container is in a secured, upright position away from passenger areas, and that the fill and vent openings are tightly closed. At home, always store these containers in safe secure areas – outside of living areas – away from ignition sources such as pilot lights.

Outside and Other Fires

11,433 Brush, Trash, and Other Outside Fires Reported in 2006

The 11,433 outside and other fires and explosions caused four civilian deaths, 30 civilian injuries, 32 fire service injuries, and an estimated dollar loss of $2.7 million. The 4,661 trees, grass and brush fires, 3,727 outside trash fires, 822 special outside fires, 44 cultivated vegetation or crop fires, and 2,179 other fires accounted for 38% of the total fire incidents in 2006. These fires were up 7% from the 10,646 incidents reported in 2005. Fire departments are required to report any fire or explosion resulting in a dollar loss or human casualty to MFIRS. Fires that do not result in a loss may be reported. Many fire departments, particularly those that submit data electronically, voluntarily report these fires. These figures should be considered an underestimate of the "no-loss" fire incidents to which fire departments actually responded.

The 11,433 reported outside and other fires include:

- 4,661 natural vegetation fires (trees, grass, and brush fires) that caused one civilian death, six civilian injuries, 22 firefighter injuries, and an estimated dollar loss of $310,790; this is a 9% increase from the 4,258 incidents reported in 2005;
- 3,727 trash fires that caused two civilian injuries, three fire service injuries and an estimated dollar loss of $105,930; this is a 6% increase from the 3,508 incidents reported in 2005;
- 822 special outside fires (including outside, storage, equipment, mailbox fires and outside gas or vapor explosions) that caused one civilian death, seven civilian injuries, four fire service injuries and an estimated dollar loss of $230,973; this is a 5% decrease from the 869 incidents reported in 2005;
- 44 cultivated vegetation or crop fires which caused an estimated dollar loss of $1,000; this is a 27% decrease from the 60 incidents reported in 2005;
- 2,179 other fires that could not be classified further which caused two civilian deaths, 15 civilian injuries, three fire service injuries, and an estimated dollar loss of $2 million; this is a 12% increase from the 1,951 incidents reported in 2005.

Large Loss Outside and Other Fires

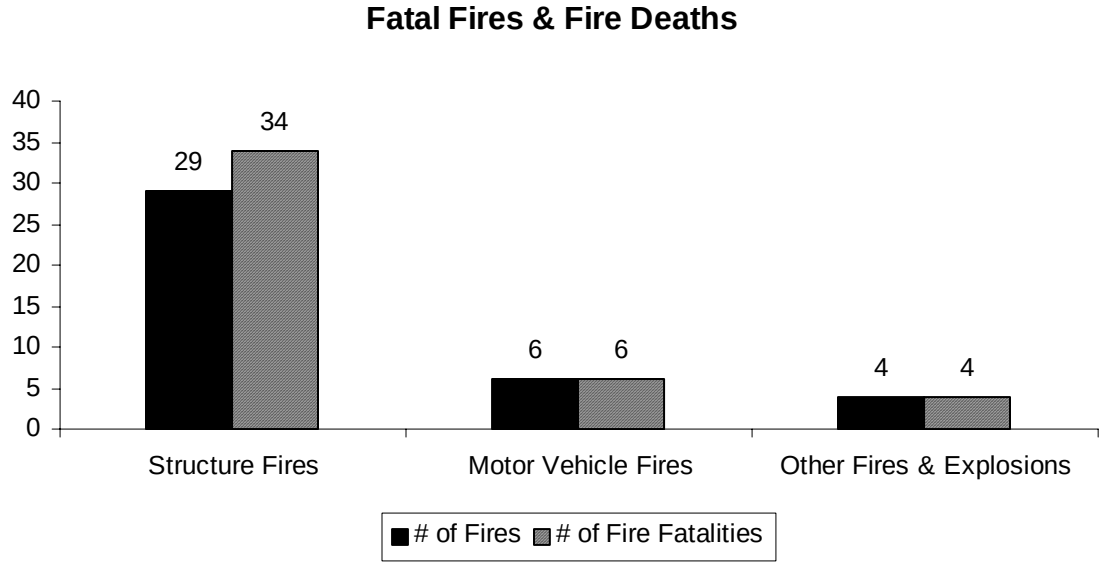
♦ On September 25, 2006 at 2:31 a.m. the Ludlow Fire Department was called to an electrical fire at an electrical generating station. Failure of a piece of unclassified industrial equipment caused the fire. Damages from this fire were estimated to be $500,000. There were no injuries resulting from this fire.

2006 Massachusetts Fire Deaths

Civilian Fire Deaths

44 Civilians Died in Massachusetts Fires – New All-Time Record Low
Forty-four (44) civilians died in 39 Massachusetts fires during 2006. This is the lowest recorded number of fire deaths since World War II[47]. Thirty-four (34) civilians died in 29 structure fires. Six (6) people died in six motor vehicle fires. Four (4) people died in four outside and other fires in 2006. In 2006, there were 6.9 fire deaths per one million population in Massachusetts down from 8.2 fire deaths per one million population in 2004 and 2005.

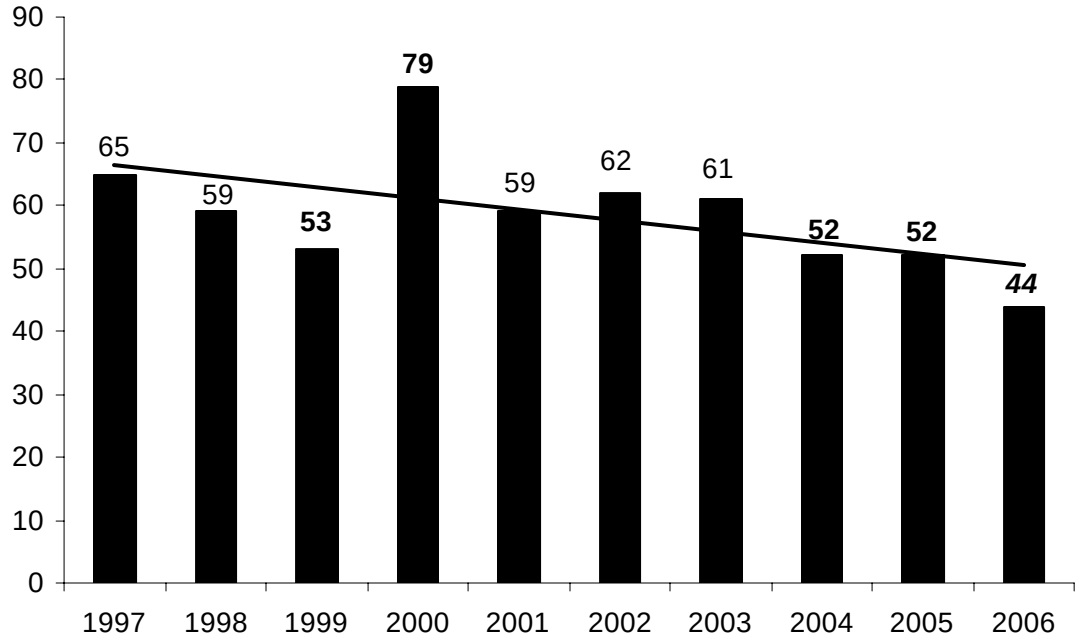
There were no fire-related fire service fatalities in the Commonwealth of Massachusetts in 2006. The following graph shows the number of fatal fires and the number of fire deaths in structure fires, motor vehicle fires and other fires and explosions.



Fire Deaths Decrease to All Time Low
There were 44 fire deaths reported in 2006. This is a decrease of eight, or 15%, from the 52 reported in 2005 and 2004. The following chart shows the trend of civilian fire deaths for the past decade on a steady decline. Civilian fire deaths have decreased by 58% from the high of 105 in 1990.

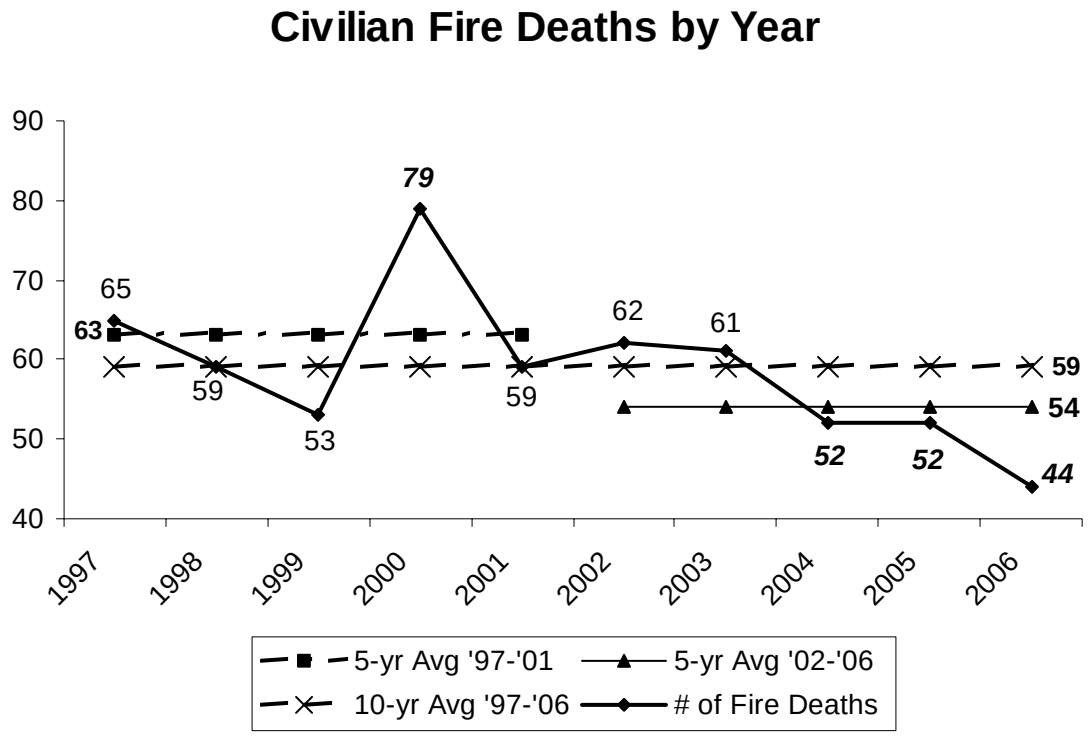
[47] Based upon available records in the State House Library and Office of the State Fire Marshal.

Civilian Fire Deaths by Year

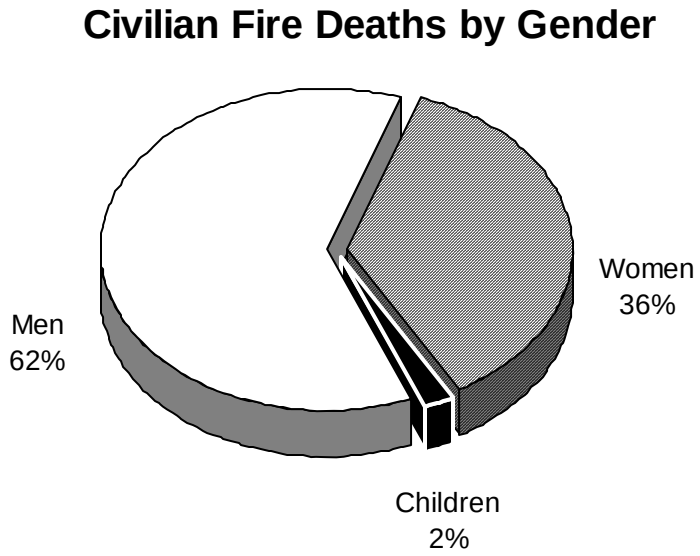


The Last 3 Years Have Been Below Both the 10- & 5-Year Averages
Because the number of fire deaths fluctuates from year to year and may be influenced by uncontrollable outside factors such as high energy costs for heating, it is helpful to look at averages over five and 10-year periods. The following graph illustrates the number of fire deaths for the past 10 years in relation to the five-year average for fire deaths for the periods from 1997 through 2001 and from 2002 through 2006. The average number of fire deaths per year from 1997 through 2001 was 63 deaths. The average number of fire deaths per year from 2002 through 2006 was 54 deaths. The graph also depicts the relationship of the number of fire deaths in relation to the 10-year average of 59 deaths for the same time period. The last three years have been below both the 10-year and the five-year averages.

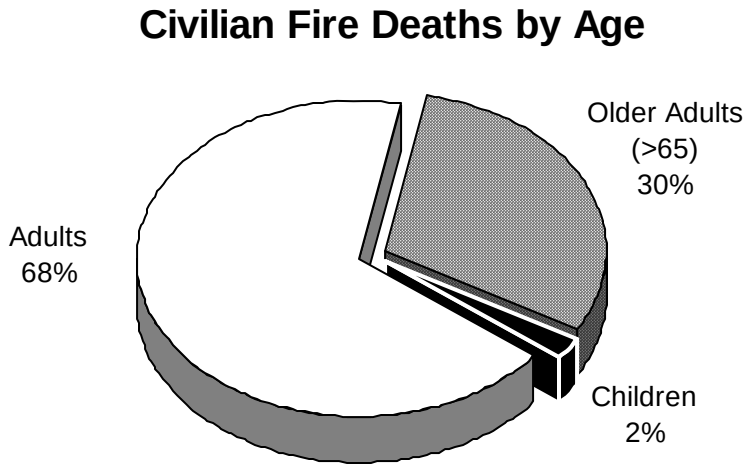
Note that the chart below starts at 40 rather than the traditional zero value. This is so the reader can concentrate on the sometimes subtle changes in the figures. The 44 fire deaths in 2006 are 19% below the five-year average and 25% below the 10-year average.



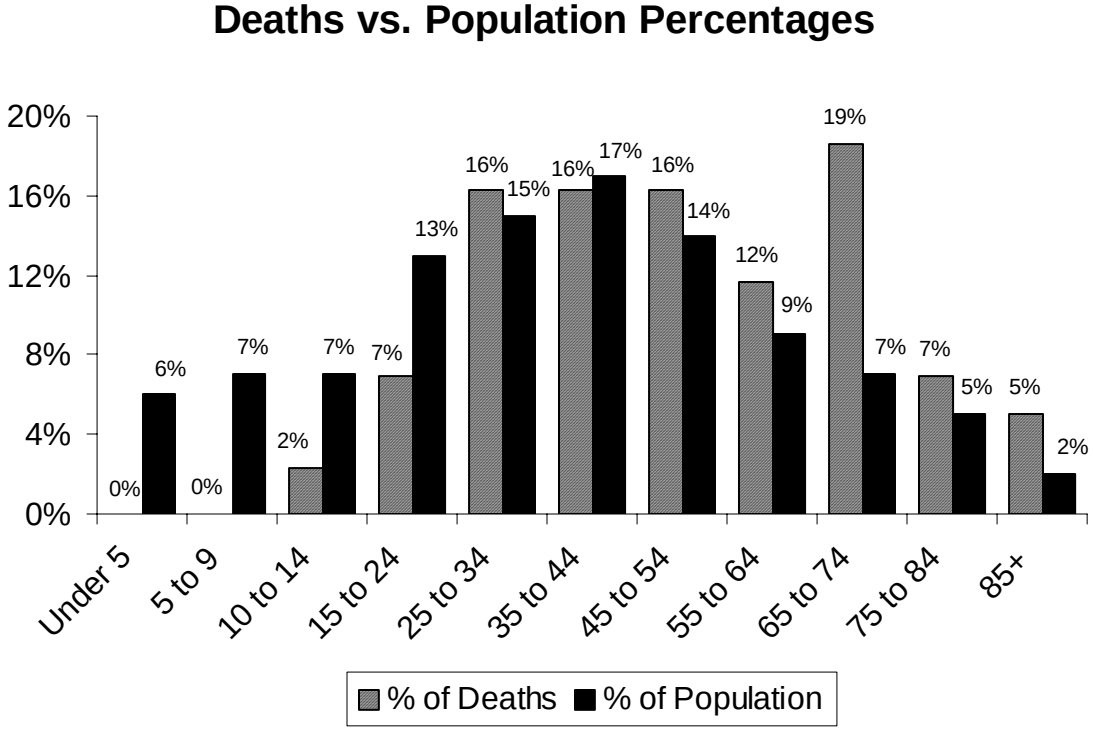
27 Men, 13 Women and 1 Child under 18 Died from Fires in 2006
Of the 44 fire deaths, 27 or 62%, were men, 16, or 36%, were women and one, or 2%, was a child under 18. The single child fire death is thought to be the all-time record low. The following pie chart illustrates the above figures.



Almost 1/3 of Fire Deaths were Over 65
Thirteen (13), or 30%, of the civilian fatal fire victims were over 65 years of age. This included seven elderly men and six elderly women. One (1), or 2%, of the civilian fatal fire victims was under 18-years old. Twenty-nine (29), or 68%, were adults between 18 and 65 years of age. The following pie chart illustrates the above figures. One of the victims was unidentified and his age was not known.



Older Adults at Great Risk for Fire Death
Older adults, especially those between the ages of 65 and 74 had the greatest risk of dying in a fire. Older adults, those over the age of 65, account for 14% of the population but 30% of the fire deaths. The risk of fire death for older adults is 2.2, up slightly from 2.1 the previous year. This means that older adults were twice as likely to be fire-related fatalities. The following graph shows the percentage of fire deaths versus population percentage by age groups in 2006.



How to Read the Preceding Chart
If an age group represents 10% of the population, we expect it to account for 10% of the fire deaths. If it accounts for a higher percentage of fire deaths than it does for the overall population, that group is at a higher risk of dying in a fire. If the age group accounts for a lower percentage of fire deaths that it does for the overall population, then that group is at a lower risk of dying in a fire.

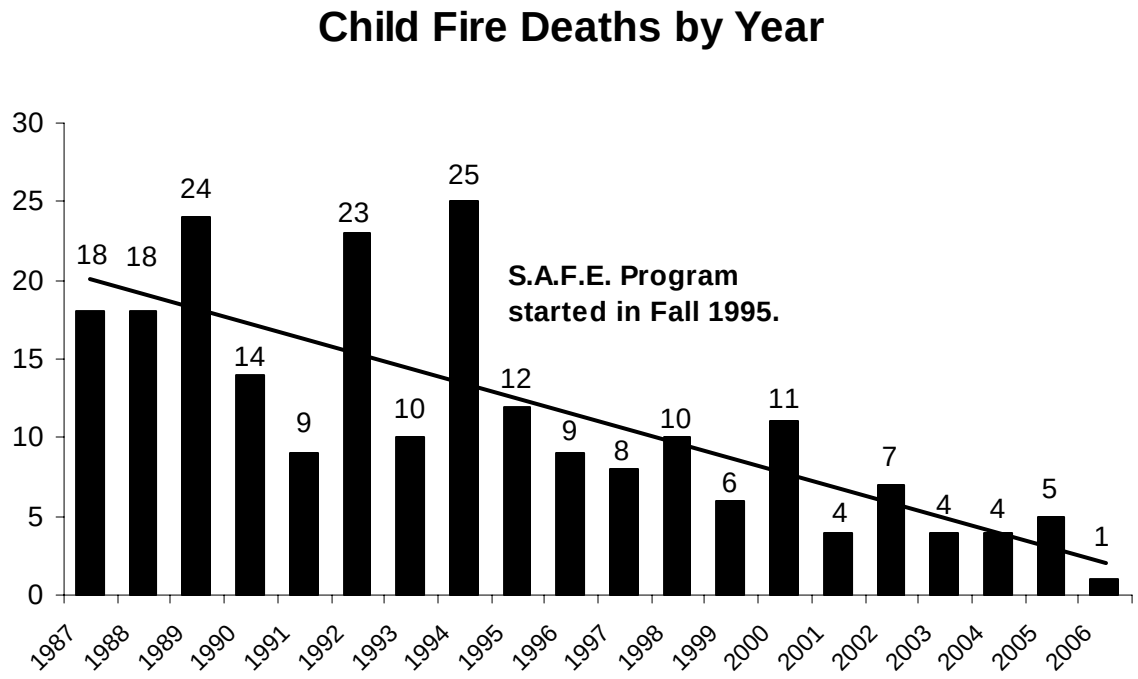
The percentages of the population in each age group were calculated using data from the 2000 Census from the U.S. Census Bureau.

Children Under 10 Had the Lowest Risk of Fire Deaths – No Deaths
Children under the age of 10 had the lowest risk of dying in a fire. There were no fire deaths to anyone under the age of 10 in 2006. Children under five years old accounted for 6% of the population and children between the ages of five and nine accounted for 7% of the population; children between the ages of 10 and 14 accounted for 2% of the deaths and 7% of the population; young adults ages 15 to 24 accounted for 7% of the fire deaths and 13% of the population; people ages 25 to 34 accounted for 16% of the fire deaths and 15% of the population; adults between the ages of 35 and 44 were 16% of the fire fatalities and account for 17% of the population; people ages 45 to 54 accounted for 16% fatal fire victims and 14% of the Massachusetts population; victims between the ages of 55 to 64 accounted for 12% of the fatal fire deaths and 9% of the population; and older adults over the age of 65 accounted for 30% of the fire fatalities in Massachusetts in 2006, but only 14% of the population. Older adults between the ages of 65 and 74 had the greatest risk of dying in a fire; they accounted for 16% of the fire deaths in 2006, the

highest of any age group and 7% of the population, making them 2.2 times more likely to die in a fire.

Children Now at Lower Risk of Dying in Fires in the Commonwealth
Contrary to national trends, children are no longer at a disproportionate risk of dying in fires in Massachusetts. The following graph illustrates the number of child (age >18) fire fatalities in Massachusetts from 1986 through 2006. You can see a definite downward trend in the number of fire related deaths to children from a high of 25 in 1994 to a low of one in 2006 According to United States Fire Administration statistics, children under 10 accounted for an estimated 22% of all fire-related deaths nationally from 1994 – 1998.[48] In 2006 children under 10 accounted for 0% of all Massachusetts fire-related deaths.

Child Fire Deaths Drop 61% Since Start of S.A.F.E. Program
Fire deaths of children under age 18 have fallen 92% since the start of the S.A.F.E. Program in the fall of 1995.

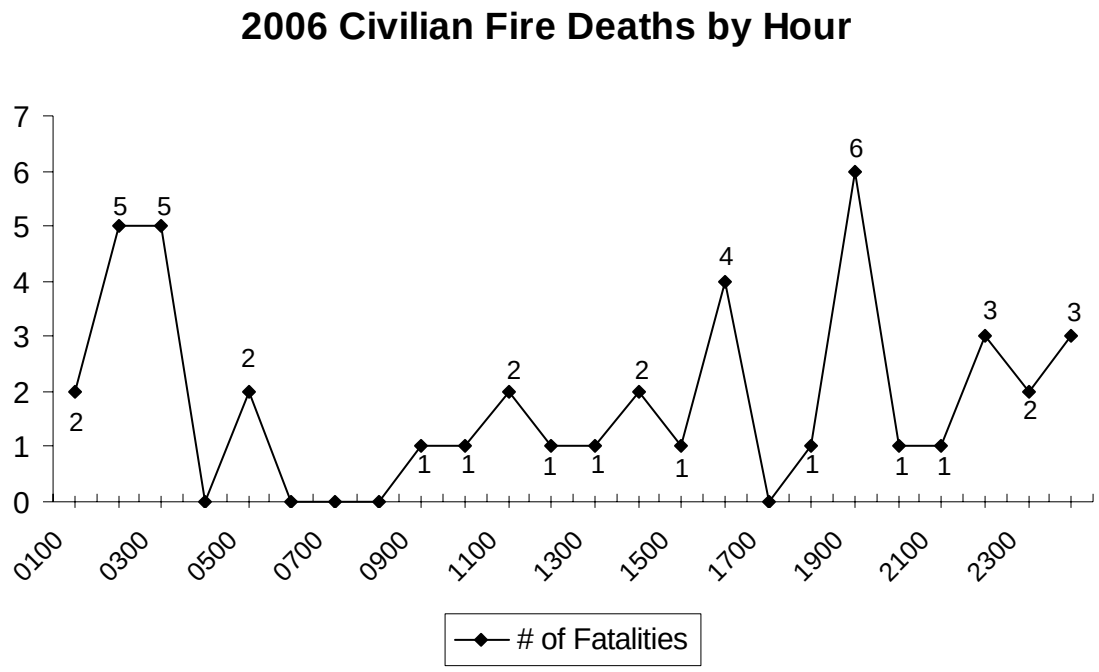


Since fire death numbers fluctuate quite a bit from year, it is helpful to look both at the trendline in the graph below and at averages over several years. During the 11 full years where the S.A.F.E. Program has been in effect, from 1996 to 2006, the average number of child fire deaths per year has been 6.3. In the 11 years prior to the S.A.F.E. Program, 1986-1995, the average number of child fire deaths per year was 16.7. This 62% drop in the average number of child fire deaths is significant when compared to the 31% drop in the average number of all fire deaths during the same time period.

[48] Source: United States Fire Administration's **Facts on Fire: Fire in the United States.**

The one thing that is happening in Massachusetts to improve fire safety exclusively for this age group, that is not also happening to all other age groups, is consistent, comprehensive, statewide, school-based fire safety education.

1/2 of People Died in Fires That Occurred While They Slept
Half of the people died in fires that occurred while they slept. Twenty-two (22), or 50%, of the fire victims died in fires that occurred between 10:00 p.m. and 7:00 a.m. The following graph shows the fire death frequency by time of day on the 24-hour clock. Midnight to 1:00 a.m. is represented by 0100; 1:01 a.m. to 2:00 a.m. is represented by 0200, etc.



The importance of having working smoke alarms is clearly demonstrated here. Because over one-half of the fire victims die during normal sleeping hours, the need to quickly awaken sleepers to the presence of danger is paramount.

Structure Fire Deaths

In 2006, there were 29 structure fire deaths in 34 fatal fires. Not all of the structure fire deaths occurred in residential occupancies. One fatal fire occurred at a laundromat, another in an office building and a third in a detached garage.

Man Accidentally Causes Fire in Laundromat that Kills Him

- On September 15, 2006, at 10:47 p.m., the Lowell Fire Department was called to a fatal fire in a laundromat. The 43-year old male would-be burglar became trapped in the dryers' heat vent, entirely blocking the vent. His blocking of the vent caused a build up of heat, starting his clothing on fire. The victim received burns to the lower half of his body and later died while he was trapped in the vent. Detectors were present but the fire was too small to activate them. Sprinklers were not present. No one else was injured in this fire, and damages were not estimated.

Man Killed in a Detached Garage Fire

- On November 3, 2006, at 6:21 p.m., the Boston Fire Department was called to a fatal smoking fire in a detached parking garage. The victim, a 74-year old man fell asleep while smoking. The victim was transported to a local hospital where he later died from his injuries. Smoke detectors were not present. Damages from this blaze were estimated to be $25,000.

Worker Killed in Electrical Fire in Office Building

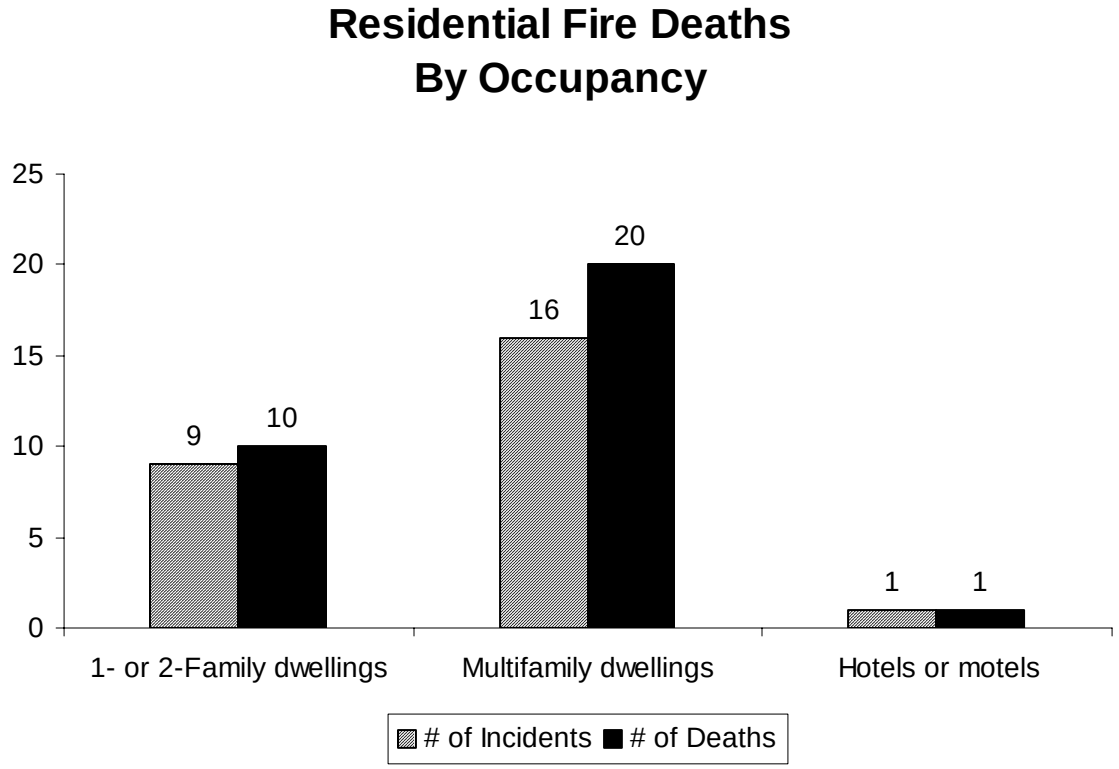
- On December 8, 2006 at 10:55 a.m., the Cambridge Fire Department was called to a fatal electrical fire in a 19-story office building. The victim, a 28-year old male electrician, and his partner were performing maintenance in the electrical vault in the basement. There was an explosion and the victim was overcome while his partner was able to escape with injuries. The victim's partner and 34 office workers were injured in this fire, as were two firefighters. Detectors were present and alerted the occupants of the building. Sprinklers were present and effective in suppressing the fire until firefighters arrived. Damages from this fire were estimated to be $4,000,000.

Residential Building Fire Deaths

Most Fire Deaths Occur in the Home

The majority of fire deaths occur in residential occupancies. We focus our analysis on these deaths because it is where prevention can yield the greatest results or have the most impact.

Ninety-one percent (91%) of structure fire deaths occurred in residential occupancies. In 2006 there were 31 residential building fire deaths in 29 residential fatal fires. This represents 91% of the structure fire deaths and 70% of all fire deaths. Twenty (20) fire deaths occurred in 16 apartment fires; 10 fire deaths occurred in nine fires in one- and two-family dwellings; and one fire death occurred in one hotel fire. Typically more fatal fires and associated deaths occur in and one- and two-family homes than occur in apartment fires. The graph below shows the number of fatal fire incidents and the number of civilian fatalities associated with various types of residential occupancies in 2006.

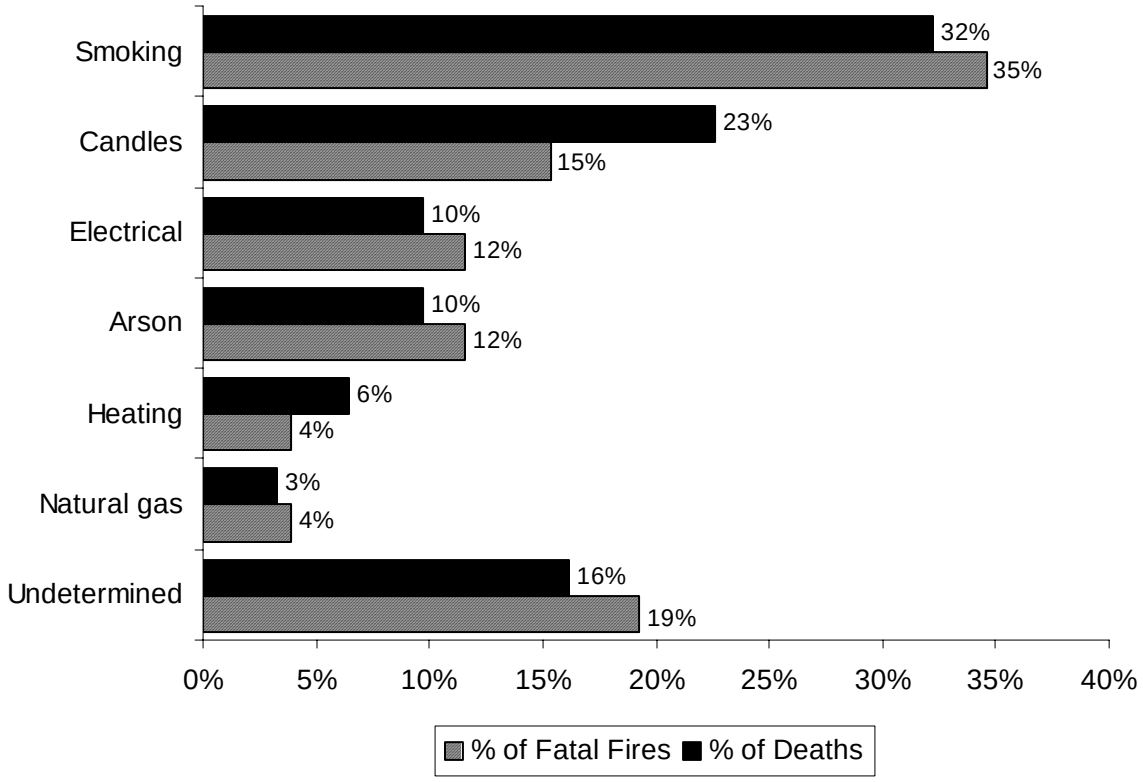


Once Again Smoking Fires Are the Leading Cause of Fire Deaths
In 2006, smoking fires were the leading cause of residential building fire deaths. These fires accounted for 10, or 32%, of residential fire deaths. For years, smoking has been far and away the leading cause of fatal fires and fire deaths in Massachusetts, with no other cause coming close except in 1999 and 2005. In 1999, cooking and smoking tied as the leading causes of fires that kill. In 2005, electrical fires were the leading cause of residential fire deaths. In 2006, candle fires were the second leading cause of fire deaths accounting for seven, or 23%, of residential fire deaths. Arson and electrical fires tied for the third leading cause of fire deaths in 2006 with each accounting for three, or 10%, of the fire deaths.

1 Elderly Fire Death Caused by Smoking
In 2006, one, or 8%, of the older adult fire deaths were caused by the careless disposal of smoking materials while in the confines of their own home. In 2005 two of the older adults died in a smoking-related fire. In 2004, none of the older adults died in a smoking related fire. In 2003 almost half (47%) of the fire deaths to older adults were caused by smoking fires at home.

The following graph illustrates the number of residential building fire deaths and the number of fatal residential building fires by cause. The classifications are ranked by the percentage of fire deaths that they caused.

Causes of Residential Fatal Fires and Fire Deaths



9 Fatal Smoking Fires Cause 10 Deaths in Homes
Smoking was once again the leading cause of residential fire deaths and fatal residential building fires. In 2006, the improper use and disposal of smoking materials caused 10 fire deaths in nine fatal residential fires. The unsafe and improper use of smoking materials caused 32% of residential building fire deaths and 35% of fatal residential building fires. One (1) of the 13 residential building fire deaths of people over the age of 65 were caused by smoking.

- On January 14, 2006, at 2:39 a.m. the Plymouth Fire Department was dispatched to a fatal smoking fire in a 12-unit apartment building. The fire began in the living room of a third floor apartment. The victim, a 54-year old man, fell asleep while smoking and succumbed to his injuries. One firefighter was injured fighting this fire. Smoke detectors were present and operated but other occupants failed to respond. Sprinklers were not present. No estimation was made as to the damages incurred by this fire.

- On February 3, 2006, at 3:54 a.m. the Pittsfield Fire Department was called to a fatal smoking fire in a 4-unit apartment building. The fire began in the living room where the 50-year old victim fell asleep on the couch while smoking. The victim may have been impaired by alcohol. There were no other injuries at this fire. Smoke detectors

were present and alerted the other residents of the building. However the smoke detector in the area of origin had been disconnected prior to the start of the fire, and was found on the floor with the carpet beneath it unburned. Damages from this fire were estimated to be $20,000.

- On February 10, 2006 at 10:52 p.m., the Lynn Fire Department was called to a fatal smoking fire in an 18-unit apartment building. The fire was started by the careless disposal of a cigarette in a sitting room in a third-story apartment. The victim, a 63-year old man, was sleeping at the time of the fire. He was overcome and found deceased by firefighters on his bed. There were no other injuries associated with this fire. Smoke detectors were present and alerted the other occupants of the building. Sprinklers were not present. Damages from this fire were estimated at $25,000.

- On February 25, 2006, at 4:06 p.m., the Templeton Fire Department was called to a fatal smoking fire in a two-family home. The victim, a 52-year old woman, was found in a second floor rear bedroom, which was also determined to be the area of origin of the fire. The victim died from the burns sustained in the fire. Detectors were present but they failed to operate. No one else was injured in this fire. Damages were estimated to be $100,000.

- On March 25, 2006, at 3:37 a.m., the Brockton Fire Department was called to a fatal smoking fire in a five-unit apartment building. A cigarette ignited the living room sofa. There were two victims, a 23-year old woman and a 24-year old man. The woman was a guest in the home and unable to escape because the only exit that she knew about was blocked by the burning sofa. She died from smoke inhalation. The male victim was attempting to remove the sofa from the apartment while it was only smoldering but when it flared up it blocked the exit. He attempted to escape through a bathroom window but was overcome by the smoke before he could open it. There was one other civilian injury associated with this fire. Smoke detectors were present and they alerted the occupants. Damages from this blaze were estimated at $110,000.

- On May 30, 2006 at 12:58 a.m., the Leicester Fire Department was called to a fatal smoking fire in a single-family home. The victim, an 80-year old woman was found by firefighters in the kitchen. She died from burns and smoke inhalation. Smoke detectors and sprinklers were not present. Damages from the fire were estimated to be $121,000.

- On October 1, 2006, at 10:25 p.m., the Melrose Fire Department was called to a fatal smoking fire in a six-unit apartment building. The fire began in a second floor apartment's living room. The victim, a 38-year old man was transported to a local hospital where he later succumbed to his injuries. There were no other injuries associated with this fire. Smoke detectors were present but failed to operate. Damages from this fire were estimated to be $255,000.

- On October 1, 2006, at 11:38 p.m., the Gloucester Fire Department was called to a fatal smoking fire in a single-family home. The fire was started by a cigarette on a

piece of living room furniture. The victim, a 42-year old woman, was sleeping at the time of the fire. She was discovered by firefighters in her bed and transported to a local hospital where she later died from smoke inhalation. No other injuries were associated with this fire. Smoke detectors were present but failed to operate because of missing batteries. No estimation of the damages was made for this fire.

- On December 25, 2006, at 12:08 p.m., the Lynn Fire Department was called to a fatal smoking fire in an illegal basement apartment in a two-family house. A cigarette ignited a mattress. When the victim, a 56-year old man, tried to remove the mattress, it became stuck in the doorway blocking his only exit and he was overcome by the heat and smoke. One firefighter was injured battling this fire. It was undetermined if smoke detectors were present. No estimation of the damages was made for this fire.

4 Candle Fires Cause 7 Deaths

Four fatal candle fires, or 15% of all fatal residential building fires, caused seven, or 23%, of residential building fire deaths in 2006.

- On March 4, 2006, at 1:12 a.m., the Westfield Fire Department was called to a fatal candle fire in a 22-unit apartment building. The victim, a 65-year old man, was found deceased. The victim died from the burns and smoke inhalation. The fire was caused by a candle in a second floor apartment's living room. There were four other civilian injuries and one firefighter injury associated with this fire. Detectors were present and alerted the residents of the fire. Damages were estimated to be $230,000.

- On June 14, 2006 at 7:23 p.m., the Fall River Fire Department was called to a fatal fire in a religious social club located on the first floor of a three-story apartment building. A candle ignited some of the paper decorations inside the club and extended to the building itself. All four of the victims were overcome by the heat and smoke of the fire while they were attempting to escape. They were adult women aged 65, 65, 62 and 31. Ten (10) other civilians and two firefighters were also injured at this fire. It was undetermined if smoke detectors were present. Sprinklers were not present. Damages from this fire were estimated to be $100,000.

- On July 21, 2006, at 7:06 p.m., the Lynn Fire Department was called to a fatal candle fire in a nine-unit apartment building. The victim, a 50-year old woman, was overcome by the heat and smoke as she attempted to escape. The fire began in the bedroom. The victim's son was the only other civilian injured in this fire. Smoke detectors were present and alerted the other occupants. Sprinklers[49] were present in the hallway and two heads activated, but water did not reach the fire inside of the apartment. Damages from this fire were estimated at $55,000.

- On October 30, 2006 at 2:22 a.m., the Pembroke Fire Department was called to a fatal candle fire at the local elderly housing complex. The candle ignited the clothes of the

[49] The building had only a limited sprinkler system; sprinklers were only installed in the hallways and corridors. The fire started in the bedroom of one of the apartments where there were no sprinklers installed.

victim. The victim, a 23-year old physically disabled woman, was overcome by heat and smoke and was transported to a local hospital where she later died from her injuries. There were 2 other civilian injuries and one firefighter injured in this fire. Smoke detectors were present and alerted the other residents in the building. Damages from this fire were estimated to be $225,000.

3 Fatal Electrical Fires Cause 3 Deaths

Three (3) fatal electrical fires, or 12% of fatal residential building fires, caused three, or 10%, of residential building fire deaths in 2006.

- On June 10, 2006, at 2:59 a.m., the Boston Fire Department was called to a fatal fire in a 3-unit apartment building caused by a plastic multiple outlet strip short-circuiting in a bedroom on the first floor. The victim, a 13-year old girl, was sleeping in her bedroom on the third floor when the fire started. Another female relative was trapped above the fire along with victim. They were transported to a local hospital where the victim later died. There were three other civilian injuries associated with this fire. Detectors were present and alerted the other occupants. Damages from the blaze were estimated to be $400,000.

- On September 9, 2006 at 11:37 a.m., the Fairhaven Fire Department was called to a fatal electrical fire in a six-unit apartment building. The fire was started when scaffolding that the victim was moving hit a power line. The scaffolding fell and broke the gas main. The electrical line ignited the natural gas and started the fire. The victim, a 42-year old man, died from his burn injuries. One other civilian was injured at this fire. Detectors were present and alerted the occupants of the building. Sprinklers were not present. Damages from this fire were estimated to be $250,000.

- On October 27, 2006, at 8:59 p.m., the Wakefield Fire Department was called to a fatal electrical fire in a single-family home. An extension cord in the living room started the fire. The victim, an 88-year old physically disabled man was overcome by the heat and smoke while he was attempting to escape. He was transported to a local hospital where he died from his injuries. There were no other injuries associated with this fire, and damages were estimated to be $300,000. Smoke detectors were present but it was undetermined if they operated.

3 Fatal Arson Fires Cause 3 Deaths

Three (3) people died in three (3) residential arson fires in 2006. Arson accounted for 10% of fire deaths and 12% of the fatal fires in residential buildings. One of these three victims committed self-immolation. Self-immolation is considered arson because the fire is intentionally set.

- On January 19, 2006, at 11:10 a.m. the Lenox Fire Department was called to a fatal arson fire at a two-story, 60-unit hotel. The 40-year old female victim successfully attempted self-immolation. No one else was injured at this fire. Smoke detectors were present and operated. Sprinklers were not present. Damages from this fire were estimated to be $175,000.

- On July 6, 2006, at 5:45 a.m. the Brockton Fire Department was called to a fatal arson fire in a three-unit apartment building. The fire was set in the first floor apartment's living room. The victim, a 28-year old woman, was attempting to escape from her third floor apartment when she was overcome by the heat and smoke. She was transported to a Boston hospital where she succumbed to her injuries the next day. Detectors were present but did not operate because of a power failure or shut-off. There were 10 other civilian injuries and three fire service injuries associated with this fire. The fire caused an estimated $270,000 worth of damage.

- On August 12, 2006 at 2:34 p.m., the Fall River Fire Department was called to a fatal arson fire in a six-unit apartment building. The victim, a 40-year old man, was the victim of domestic violence. He also suffered from a gunshot wound. Two (2) police officers suffered from smoke inhalation during rescue attempts, and one firefighter also suffered smoke inhalation. Detectors were present and alerted the other occupants of the building. Sprinklers were not present. Damages from this fire were estimated to be $135,000.

1 Fatal Heating Fire Caused 2 Deaths
One fatal heating fire, or 4% of fatal residential building fires, caused two, or 6%, of residential building fire deaths in 2006. A space heater caused this fatal fire.

- On February 21, 2006 at 12:11 a.m., the Onset Fire Department was called to a fatal space heater fire in a single-family home. Clothes had been placed too close to an electric space heater in the kitchen. The victims, a 69-year old man and his 68-year old wife were sleeping at the time of the fire and were not able to get out. They died from smoke inhalation. There were no other injuries associated with this fire. It was undetermined if smoke detectors were present. No estimation was made as to the damages incurred by this fire.

1 Natural Gas Explosion & Ensuing Fire Caused 1 Death
One (1) Massachusetts resident died in one residential fire caused by a natural gas explosion. This fire accounted for 3% of the fire deaths and 4% of fatal fires in people's homes in Massachusetts.

- On August 16, 2006, at 2:36 p.m., the Amherst Fire Department was called to a fatal natural gas explosion with ensuing fire at a condominium complex. The victim, an 82-year old woman, and her 87-year old husband were found by firefighters inside the remnants of the building. Both were transported to local hospitals. The victim succumbed to her injuries two weeks later. There were no other injuries associated with this fire. Detectors were present and operated. Damages from the blaze were estimated to be $1.45 million. This was also the largest loss fire in Hampshire County in 2006.

5 Fatal Fires of Undetermined Cause

Five (5) fatal residential building fires that took the lives of five Massachusetts residents in 2006 remain undetermined after investigation. These represent 19% of the fatal fires, and the five related deaths represent 16% of the fire deaths in 2006. The cause of less than one-fifth of all residential fire deaths could not be definitely determined after investigation. According to the National Fire Protection Association (NFPA) standard 921, Chapter 16.2.4, whenever the cause of a fire cannot be proven, the proper classification is "undetermined." NFPA 921, Chapter 16.2.5 advises that, "Undetermined is also acceptable when multiple fire causes or ignition factors cannot be eliminated, leaving the investigator with most probable causes."

- On February 26, 2006, at 2:34 a.m., the Leominster Fire Department was called to a fatal fire in a single-family home of undetermined cause. The most probable cause was careless disposal of smoking materials. The victim, a 73-year old man, was sleeping at the time of the fire and became incapacitated by the heat and smoke and died from burns and smoke inhalation. No estimation was made as to the damages from this fire. Smoke detectors and sprinklers were not present.

- On April 15, 2006, at 9:25 p.m., the Springfield Fire Department was called to a fatal fire of undetermined cause in a manufactured home (trailer). The fire started in the kitchen area of the mobile home and spread to the entire building. The victim, an 80-year old woman, was overcome by smoke inhalation as she attempted to escape. She was transported to a local hospital where she later succumbed to her injuries. No one else was injured at this fire. It was undetermined if smoke detectors were present. Damages from this fire were estimated to be $75,000.

- On June 20, 2006 at 5:13 a.m. the Centerville-Osterville-Marston Mills Fire Department was called to a fatal fire in a single-family home of undetermined cause. The fire began in a first floor bedroom. The victim, an 86-year old man, was asleep at the time of the fire and died from burns and smoke inhalation. No other injuries were associated with this fire. There were no smoke detectors in the house. Damages from this blaze were estimated to be $259,400.

- On June 26, 2006 at 4:32 p.m., the Hudson Fire Department was called to a fatal fire in a single-family home of undetermined cause. The victim, a 72-year old man, was rescued by firefighters and transported to a local hospital where he later died. The fire began in a bedroom. There were no other injuries associated with this fire. Detectors were present but failed to operate. Damages from this fire were estimated to be $124,000.

- On December 10, 2006 at 7:18 p.m., the Fall River Fire Department was called to a fatal fire of undetermined cause in a four-unit apartment building. The victim, a 53-year old man, was found by firefighters in the bathtub with severe burns. He was transported to a local hospital where he later succumbed to his injuries. Detectors were present but failed to operate. Sprinklers were not present. Damages from this fire were estimated to be $60,000.

Bedroom or Living Room Is the Area of Origin for Over 1/2 of All Victims
Given the time most fatal fires occur, and that many people fall asleep in their living rooms, it is not surprising that many, over half, 16, or 52%, of the civilians that died in residential fires were killed in fires that started in the bedroom or living room. Nine (9), or 29%, succumbed to fires that originated in the bedroom, and seven victims, or 23%, died in fires that began in the living room, and five victims, or 16%, perished in fires that began in the kitchen. Four (4) victims, or 13%, died when the area of origin was in an assembly area without fixed seats for less than 100 people[50]. Unclassified function rooms accounted for three, or 10%, of the deaths. The laundry room and an exterior area each accounted for one, or 3% of the residential fire deaths in 2006. The area of origin was undetermined for one, or 3% of these fire fatalities.

Over 1/3 of Deaths Involved Smoking Materials as a Heat Source
Over one-third of deaths involved smoking materials as a heat source. Of the 31 residential building fire deaths, 35% involved smoking materials: 29% were from cigarettes, and 6% were from unspecified smoking materials. Twenty-three percent (23%) involved candles. Ten percent (10%) of the deaths involved arcing, and lighters[51] were involved in 6% of residential fire deaths. Radiated or conducted heat from operating equipment caused two deaths, or 6%. A spark, ember or flame from operating equipment; was the heat source in one, or 3%, of the 2006 residential building fire deaths. Heat source was undetermined in five deaths, or 16%, of the residential building fire deaths in 2006.

Upholstered Sofa or Chair Is Ignited First in 16% of Deaths
Of the 31 residential building fire deaths, 16% of the fire deaths were from fires where an upholstered sofa or chair was the item first ignited. Adornments[52] were the item first ignited in 13% of the residential fire deaths. Bedding, a box, cabinetry, curtains, flammable gas escaping from a pipe, a flammable liquid, a rug, an interior wall covering, linen other than bedding, a mattress, unclassified soft goods, an unclassified structural component, and wearing apparel on a person were each the item first ignited in 3% of the fatal fire deaths in 2006. First material ignited was undetermined in nine, or 29%, of the residential building fire deaths in 2006.

The National Association of State Fire Marshals (NASFM) has supported mandatory national fire safety standards for mattresses and upholstered furniture for the past decade. NASFM and the CPSC has recommended the national adoption of the most recently revised California standard (California Technical Bulletin 117) for upholstered furniture that addresses both small open flame (match, lighter, candle) and cigarette ignitions and the California standard (California Technical Bulletin 603) for resistance of a mattress/box spring set to a large open flame. These standards make the average piece of

[50] These were the 4 deaths in the social club in Fall River that was on the first floor of a 3-unit apartment building.
[51] A lighter was used as the heat source in 2 intentionally set fires.
[52] These were the 4 deaths in the social club in Fall River where a candle ignited some paper decorations.

furniture less likely to ignite rapidly, and if ignited, less likely to burn quickly or sustain burning[53].

Although many buildings and building materials help contain fires, the problem is that all of the contents we have inside our homes are more flammable than ever and create ever increasing levels of toxic gases when they burn.

No Working Detectors for Over 1/4 of Residential Fire Victims

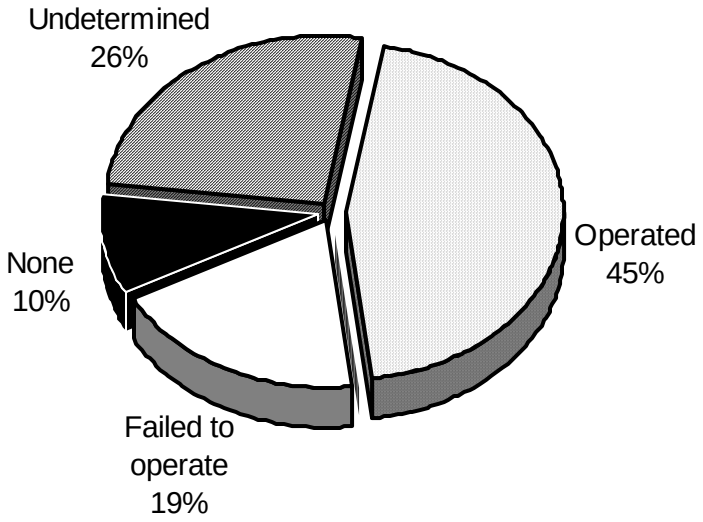
Of the thirty-one (31) people who died in residential building fires in 2006, the smoke detector performance was known for 23 of the victims. Victims were not alerted by smoke detectors in nine fires that killed nine people, or 29% of the victims. In six of these deaths, or 19%, there were detectors present but they failed to operate. No detectors were present at all, in three, or 10% of the deaths.

Fourteen (14) people died in 13 separate residential fires with detectors that did operate, accounting for 45% of fatal fire victims. It is important to remember that detectors provide an early warning of a fire. They do not guarantee an escape if exits are blocked or an individual's clothing ignites. A fire that appears small when discovered can quickly grow beyond an individual's ability to control or escape it. In 2006, nine of the 14 fatal residential fire victims that had their smoke detector operate were in the area of origin. Five (5) of the victims were intimately involved with ignition while the other four were in the same room and died while they tried to escape. It was undetermined if where the other three victims were at the time of the fire started. While smoke detectors cannot by themselves save a person who is directly involved in the ignition, they alert other occupants to the danger and give them precious time to escape to safety.

Detector performance was undetermined in four residential building fires that killed eight people accounting for 26% of the residential building fire deaths in 2006. The pie chart shows the smoke detector status as a percentage of the civilian residential building fire deaths in 2006.

[53] There has been some debate about the use of certain types of flame retardant used to make products conform to these standards. The issue is about using polybrominated diphenyl ethers (PBDEs) that have caused health concerns in animals in lab tests. According to the U.S. Environmental Protection Agency (EPA) production of these chemicals ceased in 2004 and their use will end when existing stocks are exhausted. National Association of State Fire Marshals (NASFM) is working with health and environment toxicologists, the EPA and the U.S. Consumer Product Safety Commission (CPSC) in assuring that there are many other fire retardant chemicals that can be used with confidence on upholstered furniture.

Smoke Detector Operation for Fatal Residential Fires

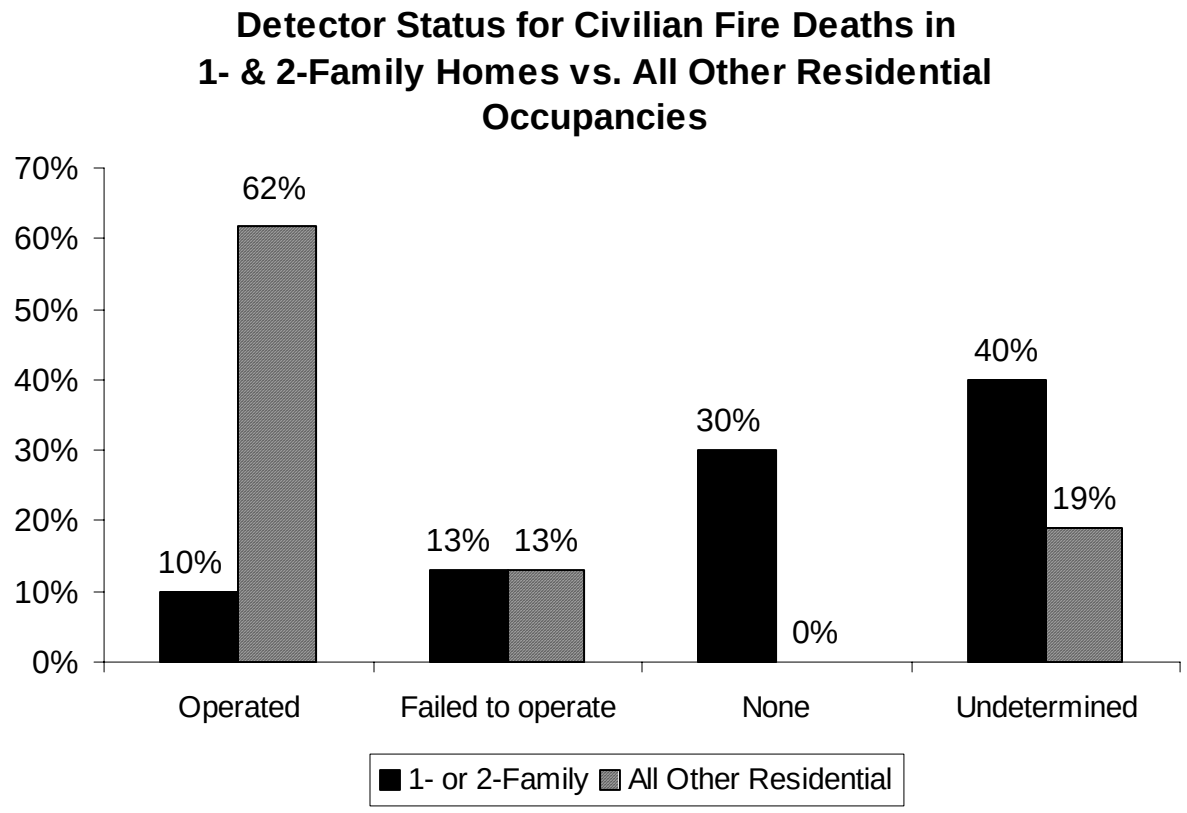


No Working Smoke Detectors in 43% of Fire Deaths in 1 & 2-Family Homes
There were 55% less fire deaths in 1- & 2-family homes than all other residential occupancies combined. Ten (10) people died in nine one- and two-family dwelling fires in 2006. Five (5), or 43%, of the fire deaths in one- and two-family homes occurred in fires with no detectors at all or with detectors that failed to operate. Of these five deaths, two occurred in homes where smoke detectors failed to work while the other three deaths were in homes where there were no smoke detectors present. One (1) death, or 10%, occurred in a home where the smoke detector operated. Four (4) deaths, or 40%, occurred in four fires where smoke detector performance was undetermined.

2 Detectors Failed from a Power Shutoff or Disconnect
Of the six residential fire deaths where smoke detectors were present but failed to operate, two deaths, or 33%, failed to operate because the power had been shutoff or disconnected. One death, or 17%, occurred when a detector did not operate because of a missing or disconnected battery. It was undetermined in the case of three deaths, or 50%, why the detectors failed.

Other Residential Occupancies More Likely to be Protected by Smoke Detectors
Twenty (20) people died in 16 apartment fires in 2006. The detector performance was known for 17 of the 20 victims. Four (4) individuals perished in two fires where smoke detectors were present but did not function. Twelve (12) people died in 12 apartment fires where smoke detectors were present and working. One self-immolation victim died in a hotel fire where the smoke detector was present and operated. Detector performance was unknown or not reported in four apartment fires where four people lost their lives.

The following graph illustrates the detector status in the percentage of deaths between 1- and 2-family homes and all other residential occupancies.



Alcohol Was the Leading Human Factor Contributing to Injury[54]

Of the 31 fatal residential building fire victims, nine had some human factor contributing to their injury reported to MFIRS. Nineteen percent (19%) of the victims were possibly impaired by alcohol before they died; 10% were asleep; 3% were bedridden or had another physical handicap; and another 3% were possibly impaired by drugs or chemicals. Twenty-two (22), or 71%, of the 31 civilians fire deaths did not have a human factor contributing to injury reported.

Time is the Enemy in a Fire

A human factor contributing to injury is defined as the physical or mental state of the person shortly before becoming a casualty. Our data reports 10% of fatalities were asleep shortly before becoming a casualty. It also shows that 29% of these victims were attempting to escape the fire when they were overcome. This would seem to indicate that some people were awoken from their sleep and attempted to escape before being overcome. This combined with the lack of working smoke detectors in 29% of the fire deaths indicates that victims did not have enough time to get to safety.

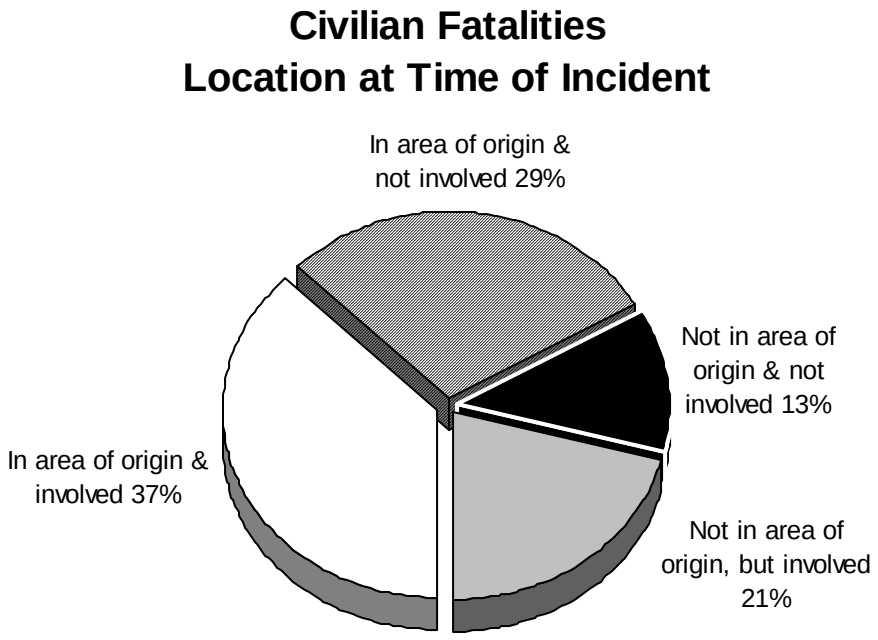
[54] Some fields in version 5 allow for multiple entries. Therefore the number of entries may be greater than the actual number of incidents being analyzed.

Escaping & Sleeping Were Leading Activities at Time of Death
Nine (9), or 29%, of the 31 fatal fire victims were trying to escape when they died. Nineteen percent (19%) of the victims were sleeping. Fire control, a rescue attempt, an irrational act and a return to the vicinity of the fire before it was under control each was the activity at the time of death for 3% of the victims. Activity at time of death was undetermined for 12, or 29%, victims of fatal fires in 2006.

88% of Victims Suffered Burns, Smoke Inhalation or Both
Burns or smoke inhalation was the primary apparent symptom for 21, or 88%, of the victims where the primary apparent symptom of their injury was known; 13, or 52%, suffered burns and smoke inhalation; eight, or 32%, suffered from smoke inhalation only, and one victim, or 4% died from only the burns incurred in the fire. Cardiac arrest, electrocution, and a gunshot wound were each the primary apparent symptom for one, or 3%, of these victims. The primary apparent symptom was undetermined in six deaths. These victims were excluded from the percentage calculation.

2/3 of the Victims Were in the Area of Origin
Knowing where the victim was at the time of the incident and if they were intimately involved with the ignition of the fire, helps us determine if they could have escaped to safety with appropriate warning from smoke or heat detectors.

Sixteen (16), or 66%, of the residential fatal fire victims were in the area of origin of the fire. Nine (9), or 37%, of these victims were intimately involved with the ignition of the fire that killed them. These nine were in the area of origin and somehow involved with the fire's ignition. Seven (7), or 29%, were in the area of origin but not involved with the

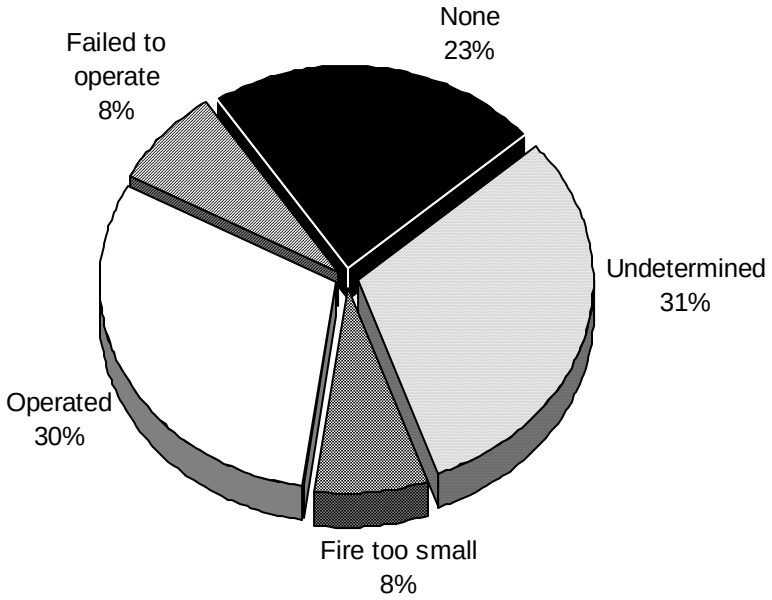


ignition, such as the sleeping woman whose electric blanket started the fire. Five (5), or 21%, of these victims were not in the area of origin but were somehow involved in starting these fires; such as the person who is cooking and exits the room, leaving the stove unattended. Three (3), or 13%, of the victims were not in the area of origin and not involved with the ignition of the fire that claimed their lives. The *Location at Time of Incident* was unknown for seven of the residential fatal fire victims. These seven were excluded from the calculations.

56% of Detectors Operated When the Victim Was Intimately Involved in Ignition
There were nine victims that were reportedly in the area of origin and involved with the ignition of the fire that killed them. Five (5), or 56%, of these nine victims, actually had a working smoke detector in their home at the time of the fire. Two (2) victims, or 22%, did not have any smoke detectors in their home. One victim, or 11%, had a detector but it failed to operate. It was undetermined for one, or 11% of the victims that were intimately involved with ignition whether their homes had operating smoke detectors.

In the case of one of the five victims where the detectors operated and they were involved with the ignition, the victim fell asleep while smoking on the couch in the living room, and the cigarette ignited the sofa. Another of the five victims started the fire with the careless disposal of smoking materials before he fell asleep. The third victim was a wheelchair bound woman whose candle ignited her clothes. Another victim was a woman who could not escape her home after a candle started a fire in her apartment. The last person was a victim of arson, who was left for dead after a struggle and his home was set on fire.

Detector Perfomance of Fire Deaths When Victim Was in Intimately Involved with Ignition



It is most probable that no amount of early warning would have saved any of these victims. This is where fire prevention and education become key components in saving lives.

Fatal Motor Vehicle Fires

In 2006, six motor vehicle fires killed six civilians. Motor vehicle fire deaths are determined subsequent to the autopsy of the victim. When smoke is found in the lungs of the victim, it is an indication the victim survived the impact of the collision and was killed by the fire and not the crash. Four (4) of the fires and four of the deaths involved automobile accidents, smoking caused one of the fires, and the other cause was undetermined.

4 Motor Vehicle Collisions Cause 4 Fires and 4 Deaths
Four (4) Massachusetts residents were killed in four separate motor vehicle collisions resulting in three motor vehicle fires. These four incidents accounted for 10% of the fatal fires and 9% of the fire fatalities in 2006.

- On March 15, 2006, at 1:21 a.m., the Uxbridge Fire Department was called to a fatal car fire. First arriving firefighters found the car overturned and fully involved. The victim, a 36-year old man, was trapped in his car as it became fully involved. The victim was unable to be extricated from the vehicle and died from smoke inhalation and burns sustained in this fire. Damages from the blaze were estimated to be $20,250.

- On March 25, 2006 at 3:38 a.m., the Mansfield Fire Department was called to a fatal car fire on Interstate 95. The fire was caused by a collision. The driver and only victim was a 56-year old man. He was trapped and died from his burn injuries. Damages were estimated to be $15,000.

- On June 19, 2006, at 4:03 p.m., the Worcester Fire Department was called to a fatal truck fire. The 29-year old male truck driver was seriously burned when the truck he was operating experienced a severe mechanical malfunction. The malfunction caused the truck to roll down a hill and collide with another vehicle. The ensuing collision started a fire and the truck continued on into a home. The victim received burns to 40% of his body and later died in the hospital. No one else was injured in this fire, and damages were not estimated.

- On June 25, 2006 at 3:21 a.m., the Dartmouth District #3 Fire Department was called to a fatal car fire on Interstate 195 caused by a motor vehicle accident. The driver and only victim was a 25-year old woman. She was trapped and died from her burn injuries.

Smoking Causes 1 Motor Vehicle Fire Killing 1 Man
One (1) Massachusetts resident was killed in a car fire that was caused by smoking. This incident accounted for 3% of the fatal fires and 2% of the fire fatalities in the Commonwealth in 2006.

- On February 27, 2006, at 9:20 a.m., the Ayer Fire Department was called to a fatal car fire. Upon arrival firefighters discovered that the fire had self-extinguished. The most likely scenario is that the victim, a 25-year old man, was drinking and smoking. He then fell asleep while smoking and the cigarette ignited the vehicle's seat. He died from burns and smoke inhalation. No estimation was made as to the damages incurred by this fire.

1 Undetermined Car Fire Kills 1 Massachusetts Man
One (1) Massachusetts resident died in a car fire of undetermined cause. This incident accounted for 3% of the fatal fires and 2% of the fire fatalities in the Commonwealth in 2006.

- On December 9, 2006, at 2:07 a.m., the Upton Fire Department was called to a fatal car fire of undetermined cause. The most likely cause was the re-wiring of a new car stereo. The victim, a 26-year old man, was found inside the vehicle after the fire was extinguished. He died from smoke inhalation and burns sustained in this fire. Damages from the blaze were estimated to be $3,000.

Other Fatal Fires

In 2006, four outside and other fire incidents killed four civilians. These four incidents accounted for 10% of the fatal fires and 9% of the fire fatalities in Massachusetts in 2006.

Homeless Man Killed in Brush Fire
- On March 25, 2006, at 1:05 p.m., the Brockton Fire Department was called to a fatal fire in a vacant lot. The victim, a 48-year old homeless man accidentally started a brush fire. He received life-threatening burns and was transported via Med-Flight to a Boston hospital where he later succumbed to his injuries. No one else was injured in this fire. No estimation was made as to the damages incurred by this fire.

Woman Dies in Undetermined Outside Fire
- On July 25, 2006, at 11:43 p.m., the Springfield Fire Department responded to an outside fire in an open field of undetermined cause. Upon further investigation it became apparent that the victim, a 57-year old woman, was the only thing burning. No one else was injured in this fire, and there was nothing else damaged.

Unidentified Body Found in Woods

- On November 26, 2006 at 3:09 p.m., the Brockton Fire Department was called to a report of a burned body in the woods. Firefighters found the badly burned body. There was no smoke or smell of brush having burned. The victim was unable to be identified.

Norwell Man Commits Suicide

- On November 27, 2006 at 4:00 p.m., the Norwell Fire Department was advised by the Norwell Police Department of an incident that had occurred several hours earlier in the day. The victim, a 35-year old man committed suicide by taking poison and then setting himself on fire in a patch of woods behind a local office building. He succumbed to his burn injuries. The fire department did not respond to the initial call.

Multiple Fire Deaths

For statistical purposes, a fire is considered a multiple death fire if it kills three or more people. There was one multiple death fire in Massachusetts in 2006. The multiple death fire occurred in a Fall River social club on June 14, 2006[55] and was caused by a candle.

Civilian Fire Deaths - Conclusion

In 2006, there were 39 fatal fires in Massachusetts with 44 accompanying fatalities. This is the lowest number of deaths on record. This is a 15% decrease from the 52 deaths reported in both 2004 and 2005. Of these 44 deaths, 31 occurred in residential fires.

Majority of Fire Deaths Occur in Residential Occupancies

We focus our analysis on these deaths because it is where prevention can have the most impact. Ninety-one percent (91%) of all fatal structure fire victims, died in residential building fires. Twenty (20) of these deaths occurred in apartments. 2006 was atypical in that the majority of residential fire deaths occurred in apartments rather than one- or two-family homes.

Smoking Fires Were the Leading Causes of Fire Deaths

In 2006, smoking fires were once again the leading cause of residential structure fire deaths. These fires accounted for 10, or 32%, of residential fire deaths. For years, smoking has been far and away the leading cause of fatal fires and fire deaths in Massachusetts, with no other cause coming close except in 1999 and 2005. In 1999, cooking and smoking tied as the leading causes of fires that kill. In 2005, electrical fires

[55] The anecdote to this multiple death fire is on page 89.

were the leading cause of residential fire deaths. Candle fires were the second leading cause of fire deaths in 2006, accounting for seven, or 23%, of residential fire deaths. Arson and electrical fires tied for the third leading cause of fire deaths in 2006 with each accounting for 10% of the fire deaths.

Older Adults (65+) at Greater Risk of Dying in Fires – Twice as Likely
Older adults (65 years+) were at a greater risk for dying in a Massachusetts fire in 2006. Older adults accounted for 14% of the population but 30% of the fire deaths. They were twice as likely to become a fire victim. Two (2) older adults died in a fire started by a space heater; one person over the age of 65 died in smoking related residential fire; one died in an electrical fire; and another older adult died in a natural gas explosion and ensuing fire in 2006.

People Were More Likely to Die in Fires That Occurred While They Slept
People were more likely to die in fires that occurred while they slept. Nineteen percent (19%) of fire fatalities were sleeping at the time of their injury. Twenty-nine percent (29%) of the residential fire victims did not have a working smoke detector so they were never afforded the chance of escape because they had no prior warning. Over half, 52%, of the victims died in fires that began in either the bedroom or living room. Upholstered sofas or chairs were the leading item first ignited in residential structure fire deaths; adornments and bedding were the second and third leading item first ignited, respectively. Also, 88% of these victims suffered burns, smoke inhalation or both.

Sixteen (16), or 44%, of all the civilians that died in residential fires were reported to be in the area of fire origin. Of these 16 victims, nine, or 37%, were intimately involved in the ignition of the fire that killed them. It is most probable that no amount of early warning would have saved any of these victims. This is where fire prevention and education become key components in saving lives.

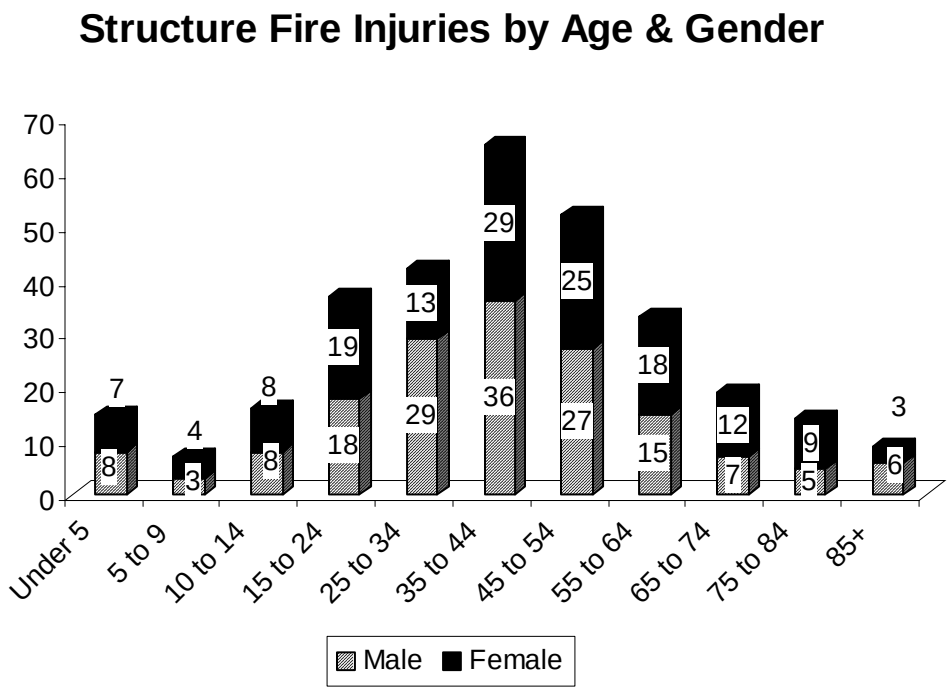
Growing Trend of Homeless Fire Deaths
There seems to be a growing trend of fire deaths involving homeless people and people living in places not considered as traditional residential structures. In 2006, one homeless man died in a brush fire. The badly burned body of a possible second homeless person was found in the woods. In 2005, four homeless men died in fires; and one unidentified woman, possibly homeless, died in an outside dumpster fire. In 2004, we saw one homeless man die in an outside fire. He was sleeping in a tent at a makeshift campsite and knocked over a candle igniting the fire. There were two such fires causing three fire deaths in 2003.

Civilian Injuries

386 Civilians Injured in Fires in 2006 – Mostly at Home
Massachusetts' fires injured 386 civilians in 2006, but only 351 of these injuries had casualty reports completed in full[56]. Three hundred and forty-four (344), or 89%, of civilian injuries occurred in structure fires. Two hundred and seventy-six (276), or 80%, of all the structure fire injuries occurred in residential building fires. Twelve (12), or 3%, occurred in motor vehicle fires. Thirty (30), or 8%, occurred in special outside fires such as mailbox or outside equipment fires. Brush fires accounted for six, or 2%, of civilian fire injuries; outside rubbish fires accounted for two, or 1%, of civilian injuries; and special outside fires accounted for seven, or 2%, of civilian injuries. Fifteen (15), or 4%, of civilian injuries were caused by unclassified fires.

Structure Fire Injuries

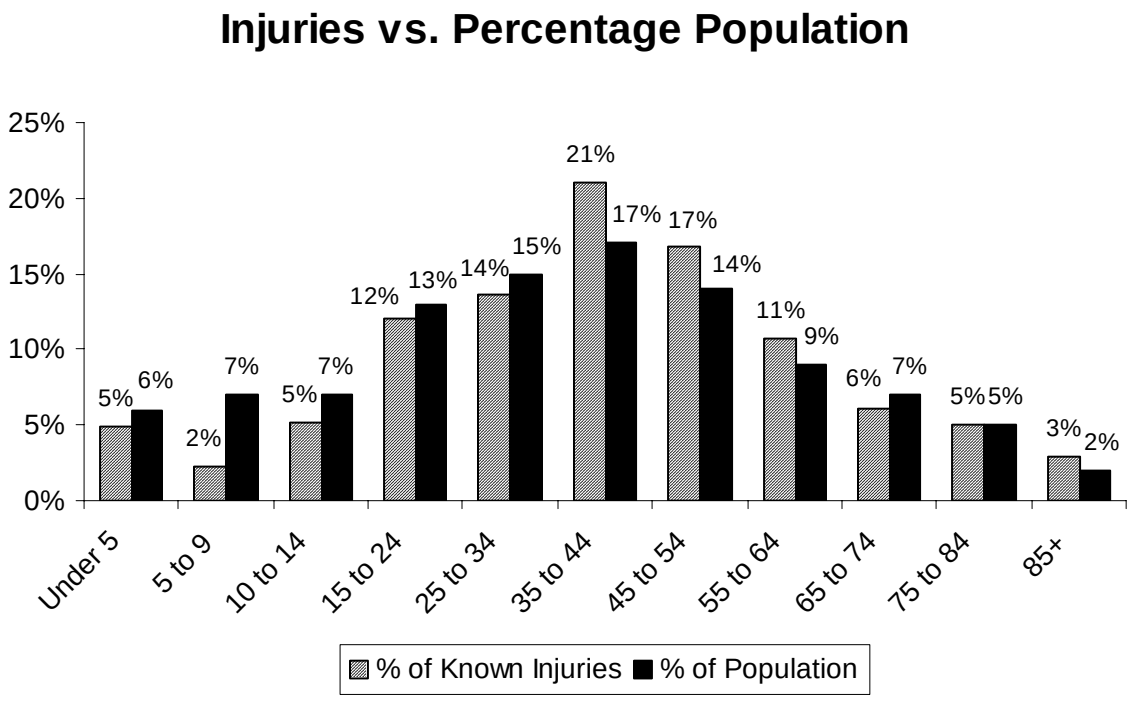
Of the 309 civilian injuries resulting from structure fires where gender was reported, 162, or 52%, were men and 147, or 48%, were women. Overall, 47 children under 18 years of age, 220 adults and 42 older adults over the age of 65, were injured by structure fires in



[56] The December 8, 2006 fatal fire in Cambridge had 35 civilian fire injuries. These individuals were transported by many different ambulance providers to area hospitals. Information was not collected for these 35 people. The MFIRS report has 35 Civilian Fire Casualty Modules attached that do not have any information collected for them.

2006. The following chart illustrates the structure fire injuries by age and gender in 2006. Men and women ages 35-44 and 45-54 were injured the most and children between five and nine and older adults over the age of 85 were injured the least in 2006. Fifteen (15) children ages 0-4 were injured; seven children ages 5-9; 16 children ages 10-14; 37 people ages 15-24; 42 people ages 25-34; 65 people ages 35-44; 52 people ages 45-54; 33 people ages 55-64; 19 people ages 65-74; 14 people ages 75-84; and nine people were injured that were over 85 years of age, of which six were men and three were women.

The following graph shows the percentage of injuries by age group and the percent of the population that age group represents in Massachusetts. When the percentage of injuries is greater than the percentage of population, that group is at a greater risk for being injured in a fire.



Adults 35 to 54 at High Risk for Fire Injury
Adults between the ages of 35 and 24 represent 17% of the Massachusetts population, yet the accounted for 21% of the injuries at structure fires in 2006. Adults between the ages of 35 and 44 represent 17% of the population and yet they accounted for 21% of the injuries in 2006. Adults between the ages of 45 and 54 represent 14% of the population and yet they accounted for 17% of the injuries in 2006. And adults between the ages of 55 and 64 represent 9% of the population and accounted for 11% of the injuries. The disparity in the percentage of injuries to the percentage of population is most likely caused by the tendency to try and control the fire. In these age groupings, almost half, 48%, of the fire-related injuries were incurred while trying to control the fire.

In 2001, older adults over the age of 85 accounted for 9% of the civilian fire injuries. In 2003, as in 2002, they only accounted for 2% of these injuries. They also account for 2%

of the Commonwealth's population. In 2006, 2005, and 2004, they accounted for 3% of the injuries and thus were at a slightly higher risk of receiving a fire-related injury.

83% of Injuries Were Directly Related to Exposure to Fire Products
Of the 310 civilian injuries in structure fires where the Cause of Injury was known, 83% were directly linked to exposure to fire products; 5% of the casualties were exposed to hazardous materials or toxic fumes; 3% were caused by jumping in an escape attempt; 2% were caused by being struck by or contact with an object; 1% each were caused by overexertion, and the victim falling, slipping or tripping. Two percent (2%) of the civilian fire injuries were caused by 'Other' causes; and another 2% were reported to have multiple causes. The Cause of Injury was undetermined or not reported for 34 victims. These figures were not included in this analysis.

80% of Injuries Were Due to Smoke Inhalation or Burns or Both
Of the 281 civilian injuries in structure fires where the Primary Apparent Symptom was known, 49%, were caused by smoke inhalation only. Twenty-one percent (21%) were caused by thermal burns only. Burns and smoke inhalation together caused 11% of the injuries. Breathing difficulty or shortness of breath was responsible for 7% of these injuries. Two percent (2%) were caused by strains or sprains. Shock, burns from scalds, cardiac symptoms dizziness, fainting or weakness, emotional or psychological stress, cuts or lacerations and fractures each caused 1% of these injuries. Abrasions, contusions, electrical burns, exhaustion or fatigue, unconsciousness and pain each accounted for less than 1% of the structure fire-related injuries in 2006. 'None' was reported as the Primary Apparent Symptom for two of these victims. The nature of injury was undetermined or not reported in 61 civilian fire injuries. These were excluded from the percentage calculations.

36% Injured While Trying to Escape the Fire
Of the 228 victims for whom activity at time of injury was known, 36% were escaping. Twenty-nine percent (29%) were attempting to control the fire, down from 47% in 2005. Nine percent (9%) were sleeping; 6% were attempting a rescue; 5% returned to the vicinity of the fire before it was under control; and 3% were unable to act; 2% were acting irrationally. Nine percent (9%) were injured in 'Other' activities. There were 81 injuries where the activity at time of injury was unknown; these were excluded from the percentage calculations.

Men More Likely to Be Injured Trying to Control the Fire
In 2006, 36% of male victims sustained their injuries while attempting to control the fire as compared to only 30% of female victims. This goes against the recent trend started in 2003 of women being more likely to be hurt while attempting to control the fire. A slightly higher percentage of men (8%) sustained their injuries while making a rescue attempt than did women (6%), and 36% of women were attempting to escape compared to 17% of men. Eight percent (8%) of men and 12% of women were injured while

sleeping; 8% of men and 5% of the women were injured returning to the vicinity of the fire before it was under control; and 4% of male victims were injured performing an irrational act, while there were no female victims injured in the same way. There is a 1% or less difference between men and women in every other activity except the 'Other' activity.

Historically Men More Apt to Get Hurt Trying to Fight the Fire
Historically, a higher percentage of men received fire-related injuries from trying to extinguish the fire themselves. In 2000, twice as many men than women were injured while trying to control the fire. In 2001 structure fires, men and women were equally likely to be injured attempting to control the fire. In 2002, men were 1.2 times more likely to be injuries attempting to control the fire.

The key to prevention of these injuries is to make and practice a home escape plan, remember to get out and stay out, and leave firefighting to the professionals. They have the training, equipment and protective clothing to do the job.

Almost 1/2 of Victims Were Asleep Just Before the Injury[57]
Of the 68 victims for which the human factor contributing to the injury was known, 47% were asleep; 22% were physically disabled; 10% were unattended or unsupervised persons; 9% were possibly impaired by alcohol; 6% were possibly impaired by drugs; and another 6% were possibly mentally disabled.

The following table is a cross tabulation which allows us to know what the person was doing when injured and what was either their physical or mental state shortly before becoming a victim. The overall majority of civilian fire injuries came about through trying to control the fire. In version 4 being awake was a valid entry for *Condition Before Injury*. However in version 5 there is no equivalent code in the field *Human Factors Contributing to Injury*.

Most Injured People Asleep When Fire Started Slept Through Fire
When both of the fields, *Activity When Injured* and *Human Factors Contributing to Injury*, were completed, the majority of civilian fire injuries occurred when people were asleep at the time of injury and were still asleep at the time of the fire. The next leading result was when someone was asleep, awoke and attempted to escape.

[57] This is a new field. It is not mandatory that it be completed. It loosely corresponds to the version 4 field Condition Before Injury. This is the reason for the low number of victims for which the field had been completed. It also does not contain a corresponding value for the version 4 code - awake and unimpaired.

CIVILIAN INJURIES BY ACTIVITY AND PRIOR CONDITION

Human Factors Contributing to Injury

Activity At Injury	Asleep	Uncon-scious	Possibly Impaired		Mentally Disabled	Physically		Unsuper-vised
			Alcohol	Drugs		Disabled	Restrained	
Escaping	**5**	0	1	0	0	0	0	0
Rescue attempt	1	0	0	0	0	0	0	0
Fire control	3	0	1	0	1	1	0	4
Return before fire control	1	0	1	1	1	0	0	0
Return after fire control	0	0	0	1	0	0	0	0
Sleeping	**20**	0	0	0	0	0	0	0
Unable to act	1	0	0	0	0	2	0	1
Irrational action	0	0	0	1	1	0	0	0
Other	0	0	0	0	0	0	0	1
Unknown	1	0	0	0	1	0	0	1
Total	32	0	3	3	4	3	0	7

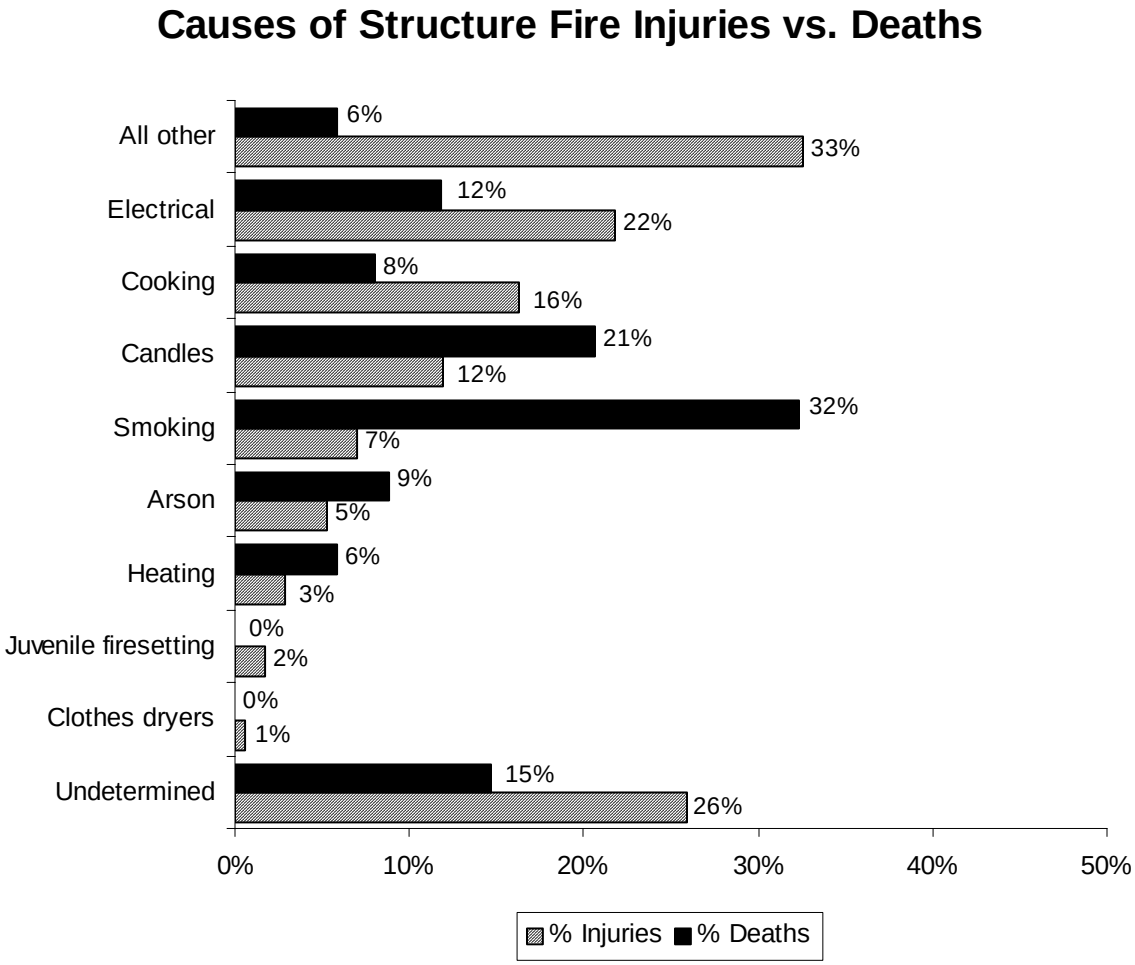
Almost 1/2 of All Victims Were Involved With the Ignition of the Fire

Forty-seven percent (47%) of all victims were involved with the ignition of the fire that injured them. Eighty-nine (89), or 34%, of the 261 civilian victims where *Location at Time of Incident* was known, were in the area of origin and intimately involved with the ignition of the fire. Thirty-three (33), or 13% were not in the area of origin but were involved with the start of the fire. An example of this is when someone is involved with the start of the fire (e.g. cooking, smoking, arson), leaves the area but becomes trapped by the heat or smoke of the fire and is injured in their attempt to escape. Fifty-seven (57), or 22%, of the 261 victims were in the area of origin but not involved with the ignition of the fire. An example of this is when someone leaves food unattended on the stove in the kitchen and leaves the room. After the fire starts and the individual is alerted to its presence they are injured trying to put out the fire. Eighty-two (82), or 31%, of these victims were not in the area of fire origin and were also not involved with its ignition The *Location at Time of Incident* was undetermined or not reported in 82 civilian fire injuries. These were excluded from the percentage calculations.

Electrical Fires Were the Leading Cause of Injuries in Structure Fires

Electrical fires were the leading cause of injuries in structure fires. Electrical fires caused 22% of structure fire injuries and 12% of structure fire deaths. Fires started by cooking caused 16% of structure fire injuries and 8% of structure fire deaths. Candles caused 12% of injuries and 21% of the deaths. Smoking fires caused 7% of structure fire injuries and 32% of structure fire deaths. Arson caused 5% of structure fire injuries and 9% of structure fire deaths. Heating equipment fires caused 3% of injuries and 6% of deaths. Juvenile-set fires caused 2% of structure fire injuries and none of the structure fire deaths in 2006. Clothes dryer fires caused 1% of the structure fire injuries and none of the structure fire deaths. All the other known causes of structure fires combined caused 33%

of the structure fire injuries and 6% of structure fire deaths[58]. In 2006, undetermined fires caused 15% of structure fire injuries and 26% of structure fire deaths in Massachusetts.



The leading cause of fire-related injuries is most often not the leading cause of fire-related deaths. In 2006, electrical fires caused the most injuries and smoking fires caused the most fire deaths. In smoking fires, the victim is usually intimately involved in the ignition of the fire. The victim usually falls asleep with a lit cigarette or cigar and the ashes or butt fall down upon and ignite the victim's clothing, bedding or furniture that they were sleeping upon. The resulting smoke usually renders the victim unconscious and unable to respond to any alarms and attempt an escape, and thus succumb to burns, smoke inhalation or both. In electrical fires, most of the victims are not directly involved with the ignition of the fire. When the fire begins they are either alerted by working smoke alarms or by the smell of the smoke itself. The alerted individual usually either tries to control the fire or escape from the flames, incurring their injury in the process.

[58]The two deaths in the Other category of fires were from a natural gas explosion, and a person becoming trapped in and blocking the dryer vents of a laundromat causing the heat buildup underneath him to start the fire.

Self-extinguishing Cigarettes Soon to be a Reality in Massachusetts
At present there does not seem to be any support at the national level to pass a federal law requiring fire-safe or self-extinguishing cigarettes. New York, Vermont, California and Canada have passed the Safer Cigarette Law, and similar legislation, the Reduced Ignition Propensity law, will take effect in January of 2008 in Massachusetts. By August of 2008 all of the states bordering Massachusetts will also be selling only this type of cigarette; and by January 1, 2009 in every state in the Northeast and Mid-Atlantic regions a consumer will only be able to buy one of these types of cigarettes. The fire service needs to redouble its efforts at the state level to get state legislation passed in all 50 states requiring manufacturers to produce and sell only self-extinguishing cigarettes creating a de facto national standard.

Detectors Operated in Over 1/2 of Structure Fires that Caused Injuries
Of the 343 injuries 53% occurred where smoke detectors were present and operated. In 1% of these fires[59], the detectors did not alert the occupants. Thirteen percent (13%) of the injuries occurred in structure fires where detectors were present but did not operate. Six percent (6%) of the injuries occurred where there were no detectors present in the structure at all. Five percent (5%) of civilian structure fire injuries occurred where the fire was too small to activate the smoke detector. Smoke detector performance was undetermined in 76 injuries, or 22% of all injuries. The presence of operating smoke detectors generally gives the victims the time needed to escape the byproducts of the fire; heat, flame and smoke.

Motor Vehicle Fire Injuries

There were 12 motor vehicle fire injuries in 2006. Seventy-five percent (75%) were men and 25% were women. Sixty-four percent (64%) of the injuries were caused by exposure to fire products, when cause was known. Nine percent (9%) were exposed to hazardous materials; and another 9% of the injuries were caused when the victim was struck by or from contact with an object. When the primary apparent symptom was reported, 27% of these were reported as burns and smoke inhalation, 18% were reported as burns only; and another 18% were reported as smoke inhalation only. Where activity at time of injury was known, 63% of the victims were trying to control the fire when injured; 25% were trying to escape; and 13% were unable to act. The causes of motor vehicle fires that injured civilians in 2006 included fuel spills, collisions, arson, and mechanical malfunctions. See the Motor Vehicle Fire section for safety tips in the event of a car fire.

Outside and Other Fire Injuries

Thirty (30), or 8%, of civilian fire injuries occurred in outside and other fire incidents in 2006. Seven (7), or 2% of civilian injuries were caused by special outside fires. Six (6), or 2%, of civilian injuries occurred in brush fires; and two, or 0.5%, occurred during

[59] These represent confined fires where it was reported that the detector did not alert the occupants.

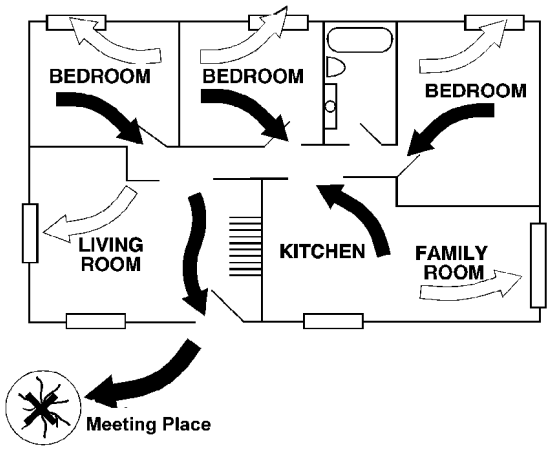
outdoor rubbish fires. Fifteen (15), or 4%, of civilian injuries were caused by unclassified fires.

Where gender was known, 70% of the civilian victims were men and 30% were women. Burns accounted for almost three-quarters, or 74%, of the injuries to this group, when the primary apparent symptom was known. The victim was intimately involved with the ignition in two-thirds, or 67%, of these injuries where location at ignition was known.

Safety Practices Are the Best Prevention Methods

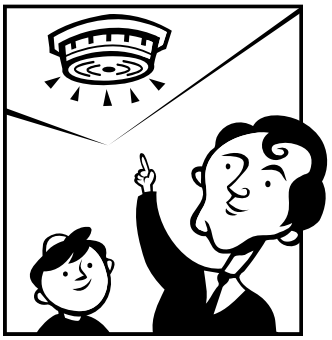
In a typical nighttime fire, there is a window of 2-4 minutes in the average home after the smoke alarm sounds for the family to get out safely. In a few minutes, heat and toxic gases make escape impossible. To survive a fire, one must install and maintain smoke detectors as well as make and practice an escape plan. It is these types of basic fire safety practices that are ignored by too many Massachusetts residents and results in fires, injuries, and deaths.

Home Escape Plan



- Practice your home escape plan with the whole family at least twice a year.
- Hold a nighttime drill to test if your children will react properly to a smoke alarm activation. Adjust your escape plan accordingly.
- Plan two ways out of each room. The easy way out is probably a door and the second way out might be a window.
- If you plan for a child or a senior to exit a window, make sure they can open it easily.
- If you can't get out, close your door and go to the window and signal for help.
- Teach children to never hide under beds or in closets.
- If you must go through smoke, crawl low.
- The coolest, cleanest air will be about 18 inches off the ground.
- Have a meeting place outside where everyone will meet. Be able to tell the fire department if everyone is out safely.
- Get out and stay out; don't go back into a burning building for anything.
- Telephone the fire department from a neighbor's house or use the fire alarm emergency box or use a cell phone a safe distance from the building.

Smoke Detectors



- Install smoke detectors on every level and outside each sleeping area.
- Test smoke detectors monthly.
- Replace the batteries twice a year.
- Never disable your detector.
- Replace detectors every 10 years.

Cooking Safety

- Put a lid on a grease fire to smother it then turn off the heat. Baking soda will also work.
- Wear short or tight fitting sleeves when cooking. Loose sleeves easily catch fire.
- Never throw water on a grease fire. Water will only spread the fire around.
- Never move a burning pan. You can too easily ignite your clothes or spill the fire onto someone or something else.
- Stand by your pan! Never leave cooking unattended.

Safe Smoking

- Quit!
- Never smoke in bed.
- Use large ashtrays with center rests so cigarettes fall into the ashtray not on the floor.
- Restrict smoking to outdoors.
- Do not smoke in homes or buildings where oxygen is used. Oxygen soaks into clothes, rugs, furniture, hair and bedding, creating an oxygen enriched environment, which make fires start more easily and burn more rapidly, even when the oxygen is "turned off."

Dryer Safety

- Clean the filter screen after each load.
- Stay home while the dryer is in use.
- Clean vents to outside.
- Vacuum the motor area periodically.
- Clean dryer vents regularly.

Fire Service Injuries

541 Firefighters Injured in 2006
In 2006, 541 firefighters were injured while fighting the 30,198 reported fires in Massachusetts. There were no firefighter deaths in 2006. On average, one firefighter was injured at one of every 56 fires in 2006. Four hundred and eighty-eight (488) firefighters were injured at structure fires. Eighteen (18) firefighters were injured at motor vehicle fires. Fifty (50) firefighters were injured at outside and other fires.

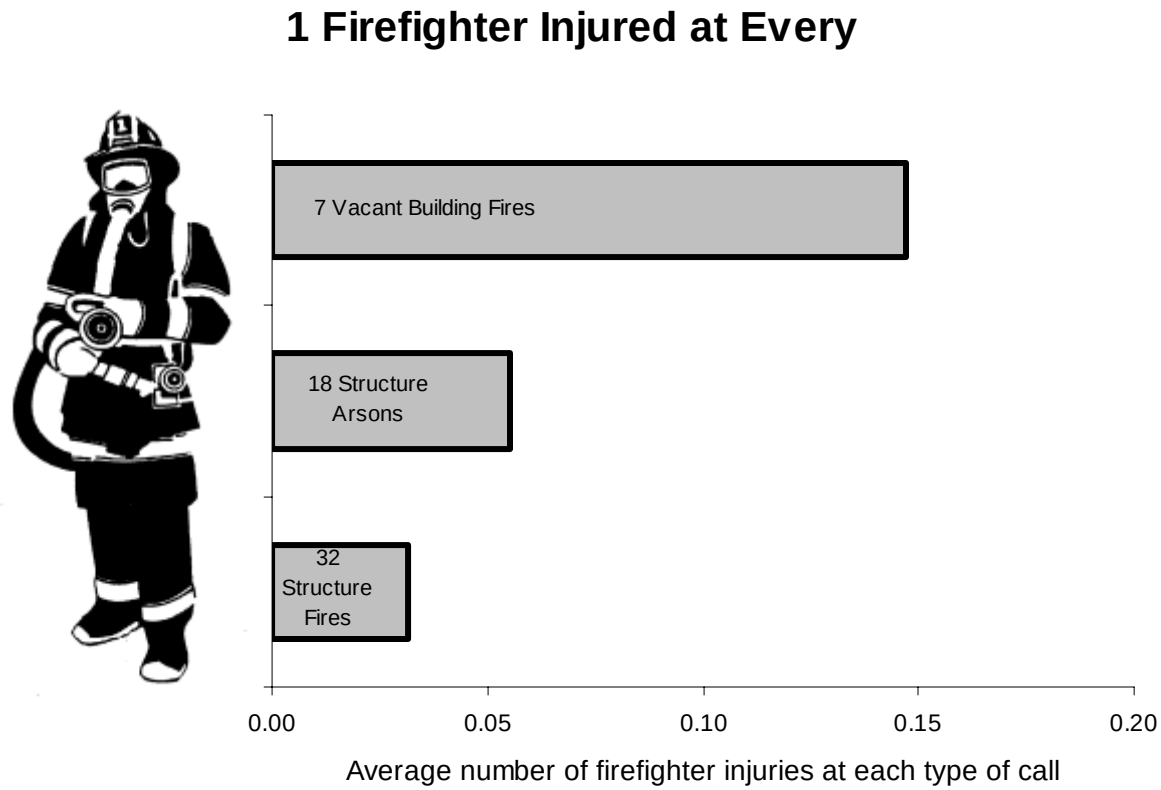
9 Out of Every 10 Firefighter Injuries Occurred at Structure Fires
Firefighters were injured more frequently at structure fires than any other fire incident type. Ninety percent (90%) of firefighter injuries occurred at structure fires. While structure fires only accounted for 51% of all fires.

We ranked the total number of firefighter injuries at structure fires by fire cause. The largest number of firefighter injuries took place at electrical-caused fires. Ninety-four (94), or 19% of structure fire firefighter injuries occurred at electrical fires. Fires caused by heating equipment accounted for 45, or 9%, of all structure fire injuries. Cooking fires accounted for 40, or 8%, of structure fire firefighter injuries. Thirty-two (32) fire service injuries, or 7%, occurred at smoking fires. Arson fires accounted for 18, or 7%, of fire service injuries at structure fires.

Firefighters Injured at One of Every 7 Vacant Building Fires
One of the most dangerous types of fires for firefighters in 2006 was vacant building fires. Vacant building fires accounted for 50, or 9%, of firefighter injuries in 2006. These 50 injuries also represent 15% of the number of firefighter injuries incurred fighting structure fires in 2006. On average there was one firefighter injury for every 7 vacant building fires; one firefighter injured at every 18 structure arsons; and one firefighter injured at every 32 structure fires[60].

[60] On average there were 0.15 firefighter injuries at every vacant building fire; there were only 0.06 reported firefighter injuries per structure arson in 2006; and there was 0.03 reported firefighter injuries per structure fire in the Commonwealth in 2006.

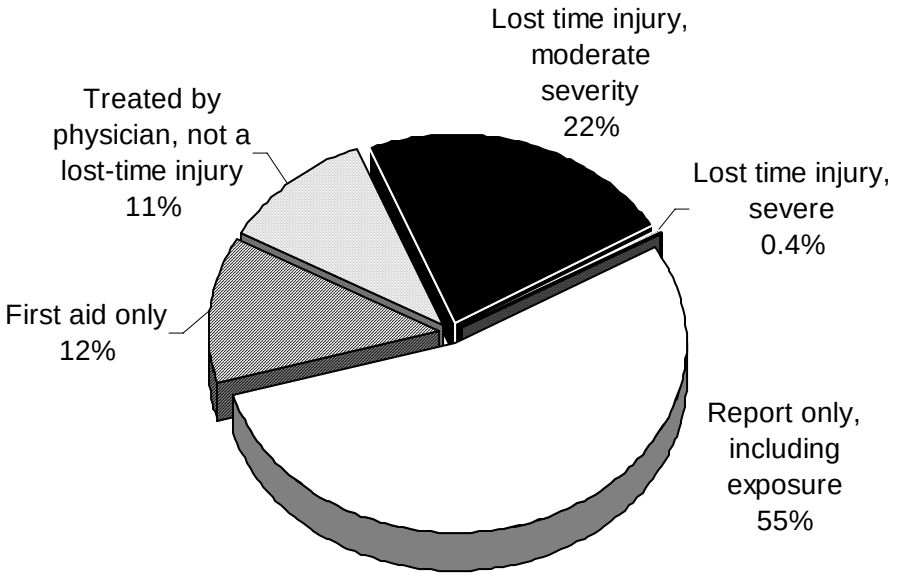
The following graph illustrates this.



Over 3/4 of Firefighter Injuries Minor

Over three-quarters of reported firefighter injuries were minor. When examining the severity of the 541 firefighter injuries that reported severity, 55% of the injuries were reports only, including exposures to toxic substances or harmful physical agents through any route of entry into the body. Moderate severity injuries accounted for 22% of firefighter injuries, meaning that immediate medical attention was needed but there is little danger of death or permanent disability. Twelve percent (12%) of these injuries were recorded as only needing first aid. Eleven percent (11%) reported having been treated by a physician with no time lost. Less than one percent (0.4%) of firefighter injuries were coded as severe. This means that the injury was potentially life threatening if the condition was not controlled. None of the reported firefighter injuries were life threatening, where body processes and vital signs were not normal.

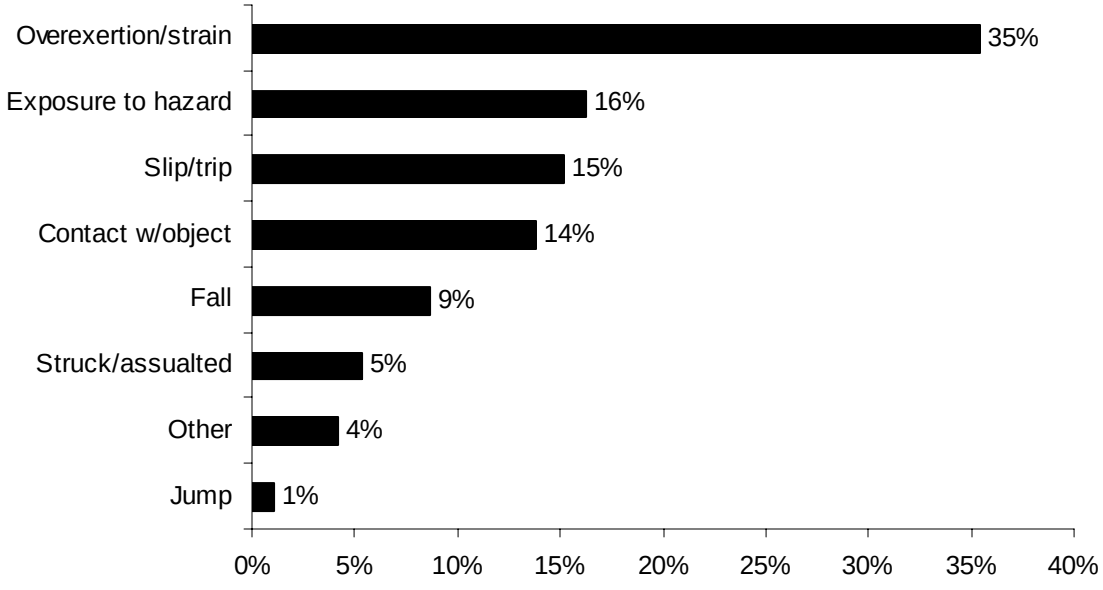
Severity of Firefighter Injuries



Over 1/3 of Injuries from Overexertion or Strain

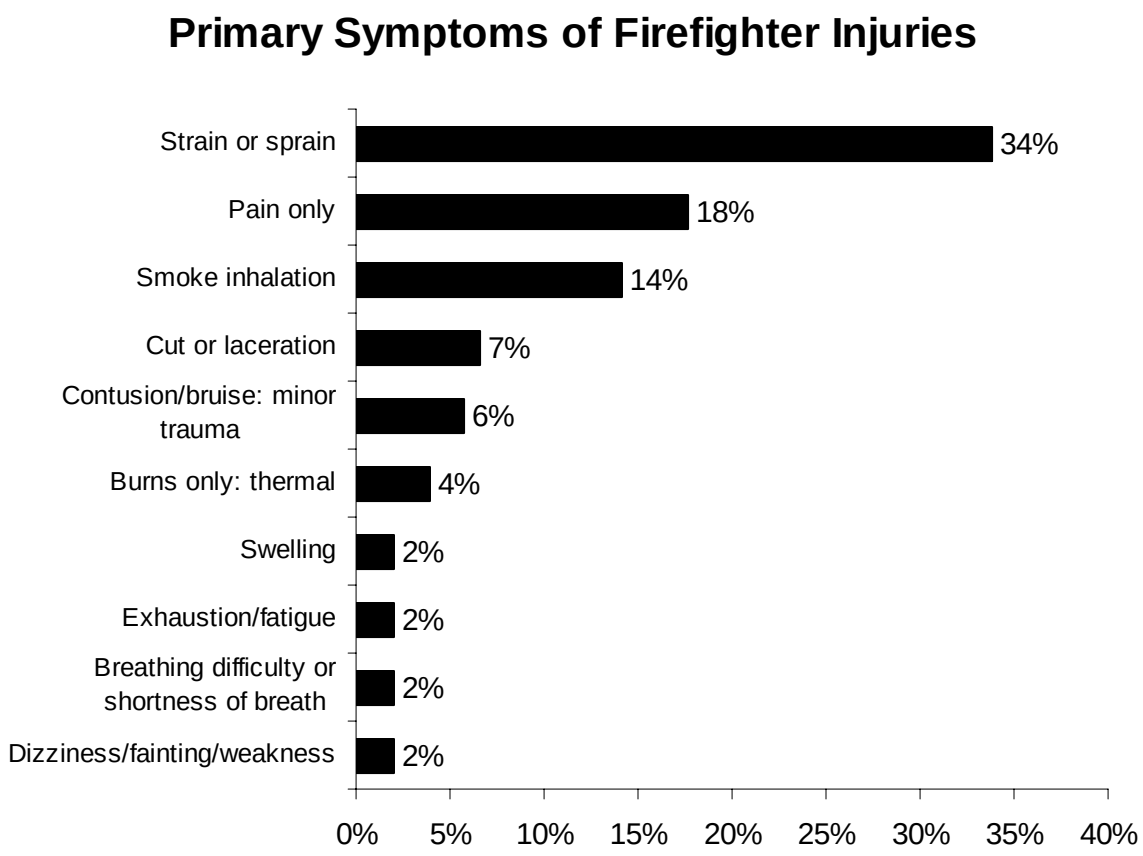
Thirty-five percent (35%), or over one-third, of the 449 firefighter injuries where cause is known were due to overexertion or strain; 16% were exposed to some form of hazard including heat, smoke or toxic agents; 15% were injured when they slipped or tripped; 14% were caused by contact with some object; 9% of firefighters were injured from falls; 5% were injured when they were struck or assaulted by a person, animal or object; 1%

Causes of Firefighter Injuries



were injured when they jumped; and 4% of the Massachusetts fire service injuries were caused by other conditions where no code was available to describe the situation. The cause was not reported or undetermined for 92 firefighter injuries, and these injuries were excluded from the percentage calculations.

Over 1/3 Experienced Sprains or Strains; 18% of Firefighters Reported Pain
Of the 488 firefighter injuries where primary symptom was known, more than one-third, 34%, of injured firefighters reported sprains or strains as their primary symptom; 18% reported pain only; 14% reported smoke inhalation; 7% reported lacerations or cuts; 6% reported contusions or bruises; and 4% reported thermal burns. Swelling, exhaustion and fatigue, breathing difficulty and dizziness, fainting or weakness each caused 2% of firefighter injuries in Massachusetts in 2006. Primary apparent symptom was undetermined or not reported for 53 firefighter injuries. These injuries were excluded from the percentage calculations.



Firefighters Face Other Risks in Addition to Fires
The Massachusetts Fire Incident Reporting System (MFIRS) primarily only collects information about injuries at fires. Firefighters face many other dangerous situations in addition to those found at fires. Many are also injured while controlling hazardous

materials incidents, performing rescues and extrications, performing emergency medical services, investigations, inspections and other activities.

Look at Symptoms Incurred by Different Parts of Body to Prevent Injuries
Different parts of the body suffer different types of injuries. The following chart shows the types of injuries suffered by different parts of the body. For example, 28% of eye injuries were caused by avulsions; cuts or lacerations caused 41% of the injuries to the hands and fingers; 54% of the injuries to the back and spine were sprains or strains; and smoke inhalation caused 70% of the internal injuries.

Almost 1/4 of All Firefighter Injuries Were To the Trunk Part of the Body
Almost 1/4 of all firefighter injuries were to the trunk part of the body. Ninety-seven (97), or 22%, of all known firefighter injuries occurred to firefighters' trunks. Forty-five (45), or 46% of these injuries were from strains or sprains and 24, or 25%, were only reports of pain. The chart below shows the distribution of firefighter injuries by body part. The percentages given are the ratio of the number of reported primary apparent symptoms for each given body part grouping.

4-Alarm Fire Injures 16 Firefighters – Most Fire Service Injuries

- On January 4, 2006, at 3:48 p.m., the Milton Fire Department was called to an electrical fire in a four-unit apartment building. The fire was started by worn wiring in the basement. All 16 firefighters received injuries such as strains and sprains, and smoke inhalation. All 16 injuries were only reported injuries where not even first aid was required. It was undetermined if smoke detectors were present. No estimate was made as to the damages incurred by this fire.

Milton also had the incident with the second most reported fire injuries, 13 reported fire service injuries. Cambridge, Chelsea, Milton and Worcester all had an incident with nine fire service injuries, tying for the incident with the third most fire service injuries in 2006.

Firefighter Injuries by Part of Body

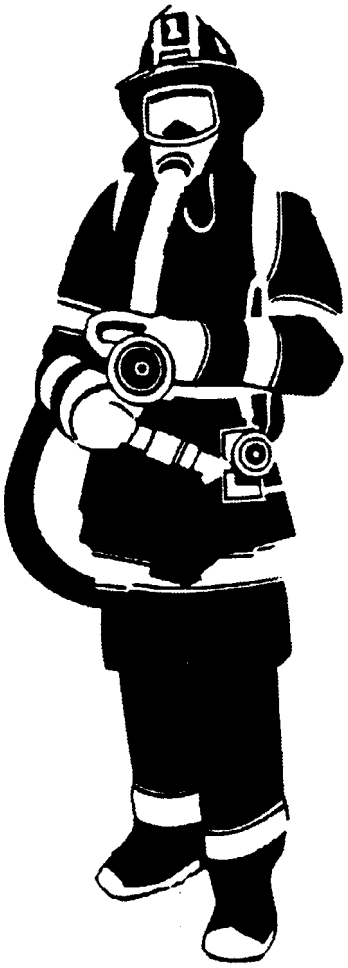
Eyes (18)
Avulsion 28%
Cut or laceration 22%

Trunk (97)
Strain or sprain 46%
Pain only 25%
Thermal burns 8%

Internal (37)
Smoke inhalation 70%
Breathing difficulty 11%
Cardiac symptoms 5%
Nausea 3%

Hand, Fingers (65)
Cut, laceration 41%
Strain or sprain 13%
Pain only 13%

Legs (13)
Strain or sprain 38%
Pain only 23%
Contusion, bruise 15%



Ears & Face (11)
Contusion, bruise 36%
Cut or laceration 9%

Back & Spine (48)
Strain or sprain 54%
Pain only 42%

Arm (26)
Strain or sprain 50%
Pain only 23%
Contusion, bruise 19%

Wrist (7)
Strain or sprain 43%
Thermal burns 43%

Knee (35)
Strain or sprain 57%
Pain only 29%

Foot & Toes (12)
Strain or sprain 33%
Pain only 17%
Puncture wound 17%

Arson Fires

1,265 Arsons - 325 Structures, 159 Vehicles, 781 Other Arsons
One thousand two hundred and sixty-five (1,265), or 4%, of the 30,198 fire incidents reported to the Massachusetts Fire Incident Reporting System, were considered to be intentionally set, or for the purpose of analysis, arson[61]. The 325 structure arsons, 159 motor vehicle arsons, and 781 outside and other arsons caused four civilian deaths, accounting for 9% of civilian fire deaths, 21 civilian injuries and 27 fire service injuries. The estimated dollar loss from arsons was $7 million. The average dollar loss per arson fire was $5,536. Total arson was up 3% from 1,234 in 2005.

'Suspicious' Eliminated as a Cause of Ignition
In version 5, arson is defined as Cause of Ignition is intentional and the age of the person involved is greater than 17, whereas in version 4 we included both intentionally set and suspicious fires in our definition of arson. In version 5, suspicious is eliminated, and the more accurate description Cause of Ignition = Cause Under Investigation is used.

1,193 Fires with Cause Still Under Investigation
In 2006, 1,193 Massachusetts fires were still listed as Cause Under Investigation. There were 2,624 fires where the Cause of Ignition was listed as Undetermined. In the past (in version 4) many of these fires would have been coded as 'Suspicious' and would have been counted as arsons. The change in coding requirements created a substantial drop in reported arsons. However, after five years with the new system, the number of reported arsons continues to decrease at a slower rate. It is important that fire departments update their fire incident reports when either a cause is determined or its cause is deemed to be undetermined after investigation.

Rubbish Fires Collect No Causal Data
Another reason for this large drop is that in version 5, outside rubbish fires such as dumpster fires and confined indoor rubbish fires use the abbreviated reporting format where a Fire Module is not needed and the field Cause of Ignition is not captured. Thus many intentionally set rubbish fires will not be counted as arsons.

Arson Module Will Bring Better Understanding & Tracking of Arsons
This Arson Module contains data fields that we can use to identify when and where the crime takes place, what form it takes, and the characteristics of its targets and perpetrators. With this information we can develop and implement arson prevention initiatives and track trends to see if any arsons in an area exhibit similar characteristics.

[61] In MFIRS v5 a fire is considered an arson if the Cause of Ignition = 1 (Intentional) and the Age of Person (Fire Module) is greater than 17 or if the field is blank; or if the Wildland Module is used, the Wildland Fire Cause = 7 (Incendiary) and the Age of the Person (Wildland Module) is greater than 17 or if the field is left blank.

One of the new fields is 'Other Investigative Information.' This field identifies other information pertinent to the case. In 2006, 30%, of the 63 reported arsons which had this field completed, occurred in vacant structures; 27% had some other crimes involved; 14% had some code violations; 13% were reported to have criminal or civil actions pending; 6% occurred in structures that were for sale; 5% reported financial problems; and another 5% were involved with some illicit drug activity.

Suspected Motive

Another field is 'Suspected Motivation Factors.' It indicates the suspected stimulus that caused the subject to burn any real or personal property. In 44% of the 141 reported arsons that had this field completed, the motive was thought to be from playing with fire or curiosity of fire. Thrills was suspected in 14% of these arsons; in 11% the motive was for personal motivation; in 6% was looking for some attention or sympathy; in 5% the arsonist was attempting to intimidate someone; in 4%, the arson was an attempt at auto theft concealment; the arsonist was believed to be committing insurance fraud in 3% and an act of domestic violence in another 3% of these arsons. Burglaries, suicides or one's vanity were each the suspected motivation factor in 2% of arsons. The fire was set to be a protest, extortion, labor unrest, some form of sexual excitement, to void a contract or lease, or an act against society were each the suspected motivation factor in 1% of arsons.

Incendiary Devices

Gasoline or other fuel cans were the leading container of incendiary devices. Ordinary combustibles such as paper and wood, and ignitable liquids were the leading fuels of reported incendiary devices.

The following table shows the total number of reported arsons for the past 10 years. The total is then broken down into total number of reported structure, vehicle and all other types of arsons along with that subtotal's percentage of the total number of arsons. It also illustrates that structure arsons and motor vehicle arsons are at an all time low. 2005 was the lowest total for outside and other arsons in the last 10 years.

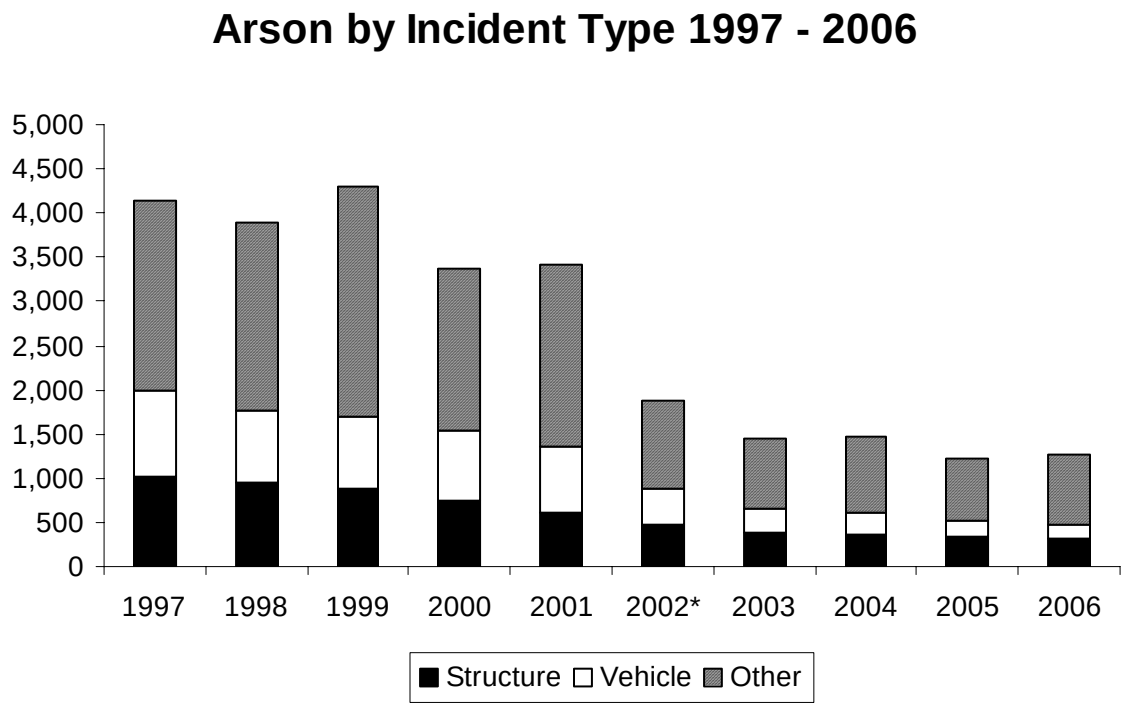
ARSONS BY YEAR

Year	Total Arsons	Structure Arsons	% All Arsons	Vehicle Arsons	%All Arsons	Other Arsons	% All Arsons
2006	1,265	325	26%	159	13%	781	62%
2005	1,234	343	28%	184	15%	707	57%
2004	1,477	373	26%	227	15%	877	59%
2003	1,491	381	26%	280	19%	830	56%
2002*	1,867	488	26%	395	21%	991	53%
2001	3,426	620	18%	743	22%	2,063	60%
2000	3,360	747	22%	798	24%	1,815	54%
1999	4,307	886	21%	818	19%	2,603	60%
1998	3,882	939	24%	836	22%	2,107	54%
1997	4,131	1,020	25%	979	24%	2,132	52%

*2002 was the 1st full year of version 5 with a new definition of arson with 'suspicious' eliminated.

Largest Reduction in Motor Vehicle Arsons

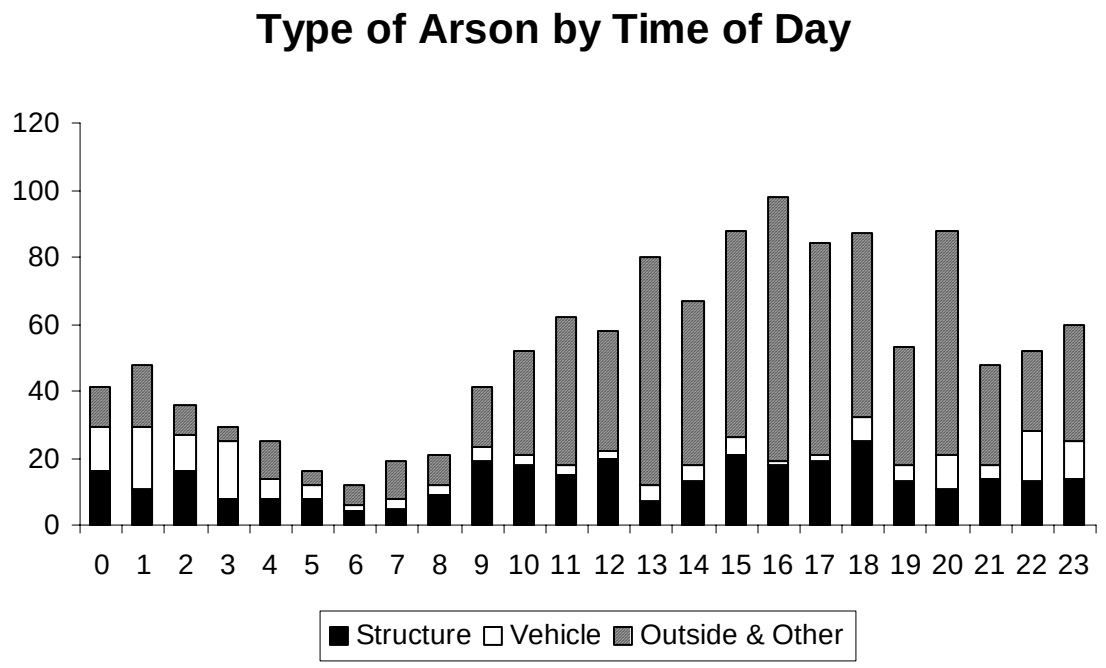
The following chart illustrates arson by incident type over the past decade. This type of chart can be used as a visual representation of the ratios between the three types of arson, structure, motor vehicle and outside and other arsons. The trend has been for motor vehicle arsons to comprise a smaller percentage of total arsons, while the percentage of outside and other arsons of total arsons has risen during the same time span. For example, motor vehicle arsons accounted for 24% of arson fires in 1997 but only 13% of the total reported arson fires in 2006. Looking at these ratios allows one to more clearly identify specific fire problems, such as increases in structure or motor vehicle arsons. Trends may be masked if you were to look just at total numbers.



*2002 was the 1st full year of version 5 with a new definition of arson with 'suspicious' eliminated.

For instance, outside and other arsons numbered 2,132 in 1997 and 781 in 2006. While we have a huge drop in the total numbers of reported outside and other arsons, the ratio or percentage of outside and other arsons to total arsons has remained at or above 50%.

The following chart illustrates the types of arsons by the time of day they occur. Midnight to 1:00 a.m. is represented by 0, 1:00 a.m. to 2:00 a.m. is represented by 1, etc. Arson is most likely to occur between the hours of 3:00 p.m. to 9 p.m. The peak times for structure arson were from 12:00 p.m. and 6:00 p.m. Motor vehicle arsons were most likely to occur between 10:00 p.m. and 3:00 a.m. Outside and other arsons peaked from 2:00 p.m. to 8:00 p.m.



Structure Arson

325 Arsons, 3 Civilian Deaths, 18 Civilian Injuries, 18 Fire Service Injuries
In 2006, there were 325 reported structure arsons. They caused three civilian deaths, 18 civilian injuries, 18 fire service injuries and an estimated dollar loss of $6.1 million. These 325 incidents accounted for 2% of the 15,507 structure fires in 2006, down 5% from the 343 reported structure arsons in 2005.

The three civilian deaths accounted for 7% of the total civilian death count and 9% of all structure fire deaths. The 18 civilian injuries accounted for 5% of the overall civilian injuries and 5% of all civilian injuries at structure fires. Eighteen (18) fire service injuries accounted for 3% of the total fire service injuries and 4% of the injuries fire fighters sustained at all structure fires in 2006. The estimated dollar loss for structure arsons was $6,084,275, accounting for 3% of the overall dollar loss and 4% of the estimated dollar loss in all reported structure fires. The average loss per structure arson was $18,721.

In 2006, 572 Massachusetts structure fires were still listed as Cause Under Investigation. There were 480 structure fires where the Cause of Ignition was listed as Undetermined. In the past (in version 4) many of these fires would have been coded as ‘Suspicious’ and would have been counted as arsons. The change in coding requirements did create a decrease in reported structure arsons.

Building Arsons
In 2006 there were 305 building arsons. These 305 arsons accounted for 94% of all the structure arsons in Massachusetts. These 305 building arsons caused three civilian deaths, 18 civilian injuries, 18 fire service injuries and an estimated dollar loss of $6 million.

Over 1/2 of Building Arsons Occurred in Residences
One hundred and seventy-seven (177), or 58%, of the 305 structure arsons occurred in residential occupancies. Educational occupancies accounted for 38, or 13%, of the 305 structure arsons in 2006. The following table shows the number of structure arsons, civilian deaths, civilian injuries, fire service injuries, dollar loss and the percentage of the total structure arsons for each occupancy type.

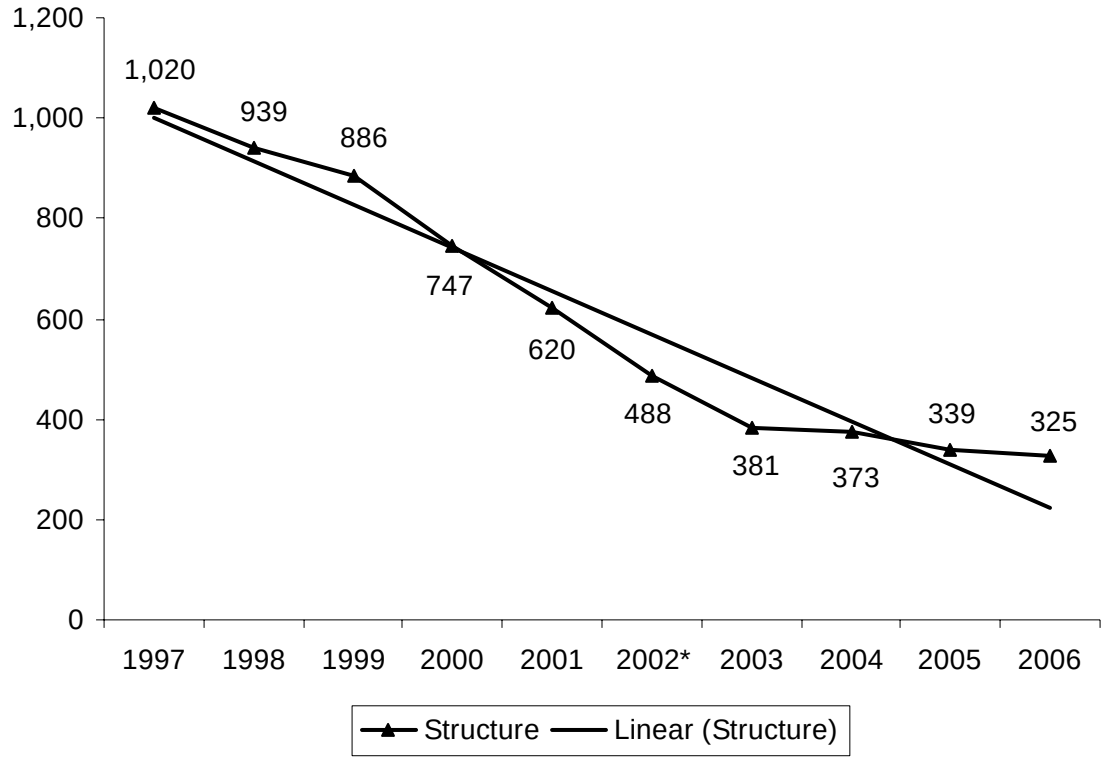
BUILDING ARSON BY OCCUPANCY TYPE

Occupancy	Structure Arsons	Percent of Total	Injuries FF	Injuries Civ	Deaths FF	Deaths Civ	Dollar Loss
Assembly	10	3.3%	1	0	0	0	$846,850
Educational	38	12.5%	0	0	0	0	136,440
Institutional	15	4.9%	0	2	0	0	7,200
Residential	**177**	**58.0%**	**15**	**16**	**0**	**3**	**3,817,160**
1- & 2-Family	*70*	*23.0%*	*4*	*2*	*0*	*0*	*2,207,663*
Multifamily	*90*	*29.5%*	*11*	*14*	*0*	*2*	*1,311,735*
All Other Residential	*20*	*6.6%*	*0*	*0*	*0*	*1*	*302,762*
Mercantile, business	18	5.9%	0	0	0	0	1,010,660
Basic Industry	3	1.0%	0	0	0	0	20,000
Manufacturing	1	0.3%	1	0	0	0	1,000
Storage	22	7.2%	1	0	0	0	207,500
Special Properties	21	6.9%	0	0	0	0	2,465
Unclassified	0	0.0%	0	0	0	0	0
Total	**305**	**100%**	**18**	**18**	**0**	**3**	**$6,049,275**

Structure Arson Down 68% Since 1997
Structure arson has been on a downward trend since 1991 when 1,974 structure arsons were reported to MFIRS[62]. Structure arsons have decreased 68% since 1,020 were reported in 1997. The chart below shows the trend of structure arsons in the past decade.

[62] The highest number of reported structure arsons in the past 25 years, occurred in 1984 when 2,133 structure fires were considered to be intentionally set.

Structure Arson by Year 1997 - 2006



*2002 was the 1st full year of version 5 with a new definition of arson with 'suspicious' eliminated.

The following table shows the cities that reported the most structure arsons in 2006, their 2000 population according to the United States Census, the number of structure arsons reported in 2006, the rate of structure arsons per 1,000 people in 2006, and the same information for 2005. The cities are ranked by the 2006 rate of arsons per 1,000 population. Cities with the most structure arsons may not have the highest rate of structure arsons.

The City of Boston, as the largest city in the Commonwealth, leads the state in the number of structure arsons, the Village of Hyannis had a higher structure arson rate[63]. Although the Village of Hyannis ranked 12th in total structure arsons, its rate of 0.40 structure arsons per 1,000 population was the highest in the state and was eight times the state structure arson rate of .05 per 1,000 population.

[63] Three of the five structure arsons that occurred in Hyannis happened at the middle and high schools. Two of the three occurred during the same-week in March.

MASSACHUSETTS CITIES WITH THE MOST STRUCTURE ARSONS IN 2006

City	Population	2006 Arsons	2006 Rate/ 1,000 Pop.	2005 Arsons	2005 Rate/ 1,000 Pop.
Hyannis	12,543	5	0.40	5	0.40
Rehoboth	10,172	4	0.39	2	0.20
Walpole[64]	22,824	6	0.26	8	0.35
Fall River	91,938	24	0.26	23	0.25
Bourne	18,721	4	0.21	1	0.05
Gardner	20,770	4	0.19	2	0.10
Chelsea	35,080	6	0.17	0	0.00
Revere	47283	6	0.13	7	0.15
Amherst	34,874	4	0.11	5	0.14
Pittsfield	45,793	5	0.11	9	0.20
Everett	38,037	4	0.11	10	0.26
Haverhill	58,969	5	0.08	5	0.08
Boston	589,141	44	0.07	62	0.11
New Bedford	93,768	7	0.07	5	0.05
Chicopee	54,653	4	0.07	7	0.13
Massachusetts	**6,349,097**	**325**	**0.05**	**343**	**0.05**

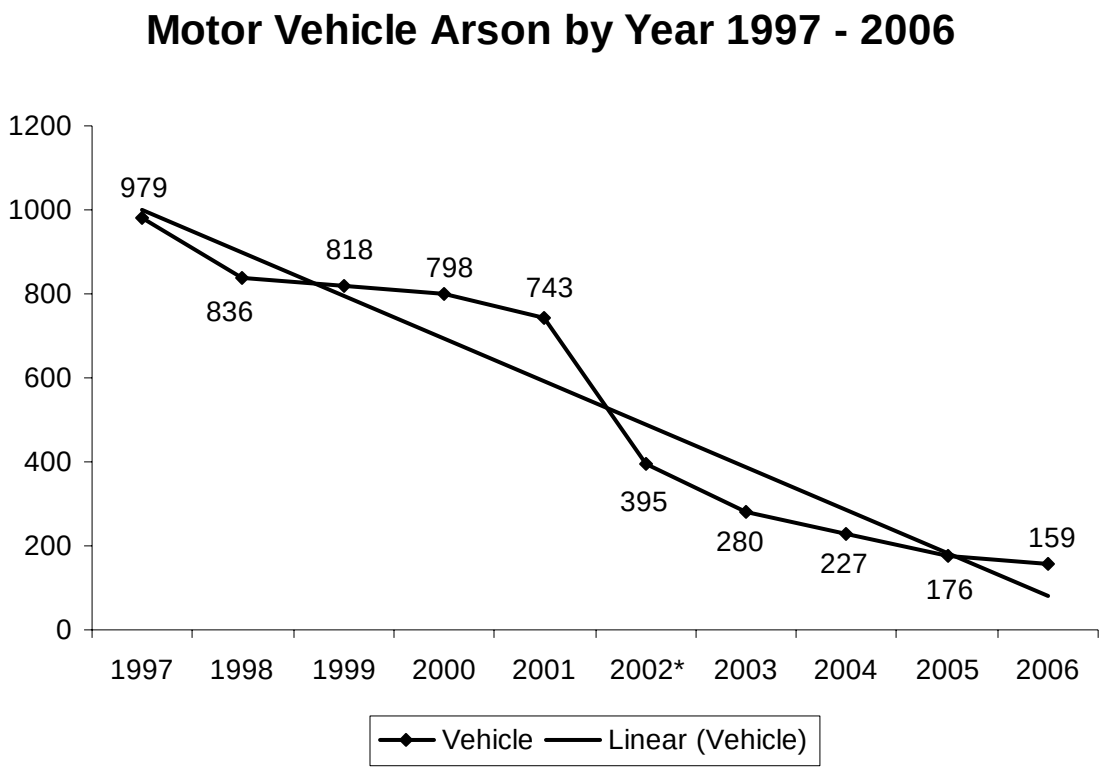
Motor Vehicle Arson

159 Arsons, 2 Fire Service Injuries & $748,7961 in Damages
One hundred and fifty-nine (159), or 5%, of the 3,258 vehicle fires were considered intentionally set in 2006. There were no deaths or civilian injuries associated with motor vehicle arsons in 2006. The two fire service injuries accounted for less than 1% of the total fire service injuries and 10% of firefighter injuries associated with motor vehicle fires. The estimated dollar loss in motor vehicle arsons was $748,761, accounting for less than 1% of the overall fire dollar loss and 5% of the dollar loss associated with all the 2006 motor vehicle fires. The average loss per vehicle arson was $4,709. Passenger cars and vans accounted for 76% of the 159 motor vehicle arsons.

In 2006, 371 Massachusetts motor vehicle fires were still listed as Cause Under Investigation. There were 674 motor vehicle fires where the Cause of Ignition was listed as Undetermined. In the past (in version 4) many of these fires would have been coded as 'Suspicious' and would have been counted as arsons. The change in coding requirements did create a large drop in reported motor vehicle arsons; and the declining trend has continued during the past five years using the new coding format.

[64] All 6 of these structure arsons in Walpole occurred at MCI - Cedar Junction.

The Burned Motor Vehicle Reporting Law
The Massachusetts Fire Incident Reporting System first identified motor vehicle fires and motor vehicle arson as a major problem in 1985 and the Burned Motor Vehicle Reporting Law took effect in August of 1987. The law requires owners of burned motor vehicles to complete and sign a report that must also be signed by a fire official from the department in the community where the fire occurred. The graph below shows the effectiveness of this law. Since the law took effect in 1987, motor vehicle arsons have decreased 97% from 5,116 in 1987 to 159 in 2006.



*2002 was the 1st full year of version 5 with a new definition of arson with 'suspicious' eliminated.

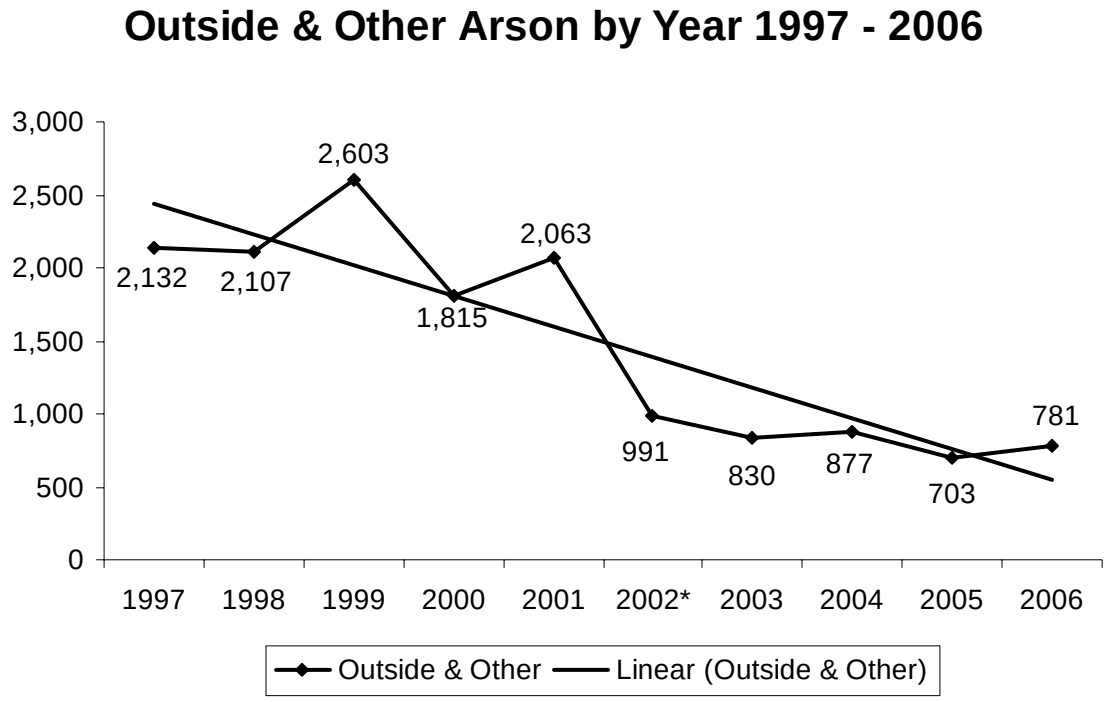
Outside and Other Arson

781 Arsons, 1 Civilian Death, 3 Civilian Injuries & 7 Fire Service Injuries
Seven hundred and eighty-one (781), or 7%, of the total outside and other fires were considered intentionally set in 2006. The civilian death accounted for 2% of the overall civilian deaths and 25% of the outside and other fire deaths. The three civilian injuries in outside and other arson fires accounted for 1% of the total civilian injuries and 10% of civilian injuries in all outside and other fires. The seven fire service injuries accounted for 1% of the total fire service injuries and 22% of firefighter injuries associated with outside

and other fires. The estimated dollar loss for these arsons was $170,498. The average loss per outside and other arson was $218.

In 2006, 250 outside and other fires were still listed as 'Cause Under Investigation.' There were also 1,470 outside and other fires where the "Cause of Ignition" was listed as 'Undetermined.' In the past (in version 4) many of these fires would have been coded as 'Suspicious' and would have been counted as arsons. T The change in coding requirements did create a large drop in reported outside and other arsons; and the declining trend has continued during the past five years using the new coding format.

No Causal Data for Outside Rubbish Fires
Another reason for this large drop is that in version 5, outside rubbish fires such as dumpster fires use the abbreviated reporting format where a Fire Module is not needed and the field Cause of Ignition is not captured. Thus many intentionally set outside rubbish fires will not be counted as arsons.



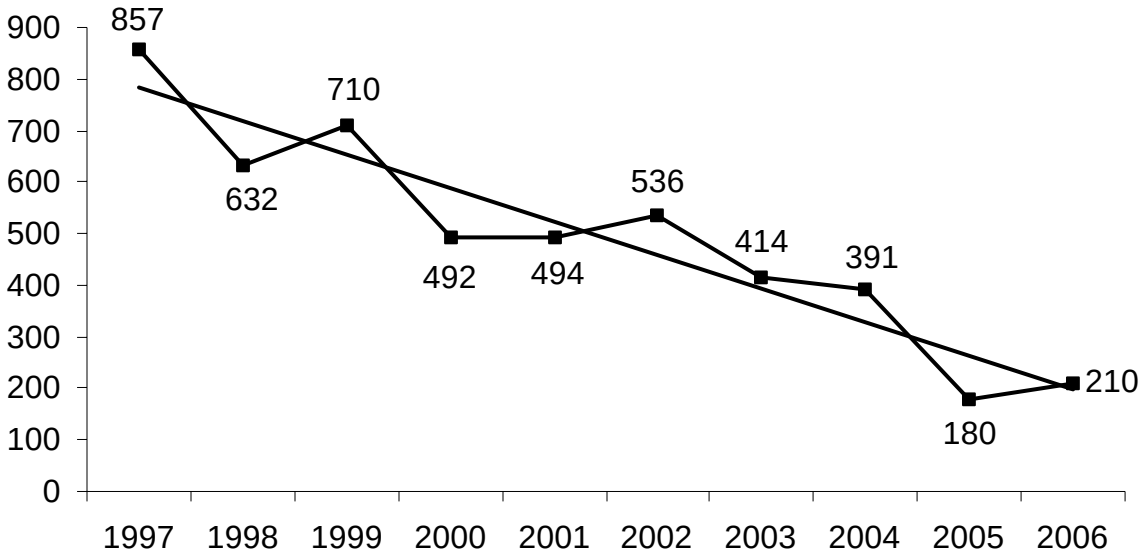
*2002 was the 1st full year of version 5 with a new definition of arson with 'suspicious' eliminated.

It is important to keep in mind that no-loss fires are voluntarily reported and these numbers represent only a fraction of the problem.

Juvenile-set Fires

Children Playing With Fire Caused 210 Fires, 7 Civilian Injuries & $956,295
In 2006, children playing with matches, lighters and other heat sources caused 210 reported fires, seven civilian injuries, five fire service injuries and an estimated dollar loss of $956,295. The average dollar loss per fire was $4,554. These fires were up 17% from 180 incidents in 2005. This goes against the declining trend over the past decade. We expected the number of juvenile-set fires to increase in 2002 with the implementation of v5 and our increased ability to capture these incidents. This makes the overall drop all the more remarkable.

Juvenile-Set Fires In Massachusetts 1997 - 2006



Version 5 Giving Us A Better Understanding of the Problem
Prior to 2001, you could not code a fire as suspicious or incendiary and also as juvenile-set. The fire department may have considered a fire deliberately set by a juvenile or a group of children to be incendiary; these statistics should be considered an underestimate of the severity of the juvenile firesetting problem. The current reporting system is able to capture these types of incidents by allowing the recording of multiple causal factors. The Arson/Juvenile Firesetting Module can collect information when a fire is intentionally set by an adult or set by a child. The information that can be collected about juvenile firesetters includes age, race, family type, gender and ethnicity. Also included will be the motivation and risk factors associated with firesetting, for example, if there is a history of shoplifting, stealing, physical assault, fire play, transiency, etc.

The second half of the Arson Module is the Juvenile Firesetter[65] Module. This module contains many data fields that we can use to identify key items of information that could be used for local, state and national intervention programs. With this information we can develop and implement juvenile firesetting prevention initiatives and track trends to see if they exhibit similar characteristics.

Over 1/2 of Juvenile Firesetters Were Male

Other than identify the age, gender and race of the subject, one of the new fields is called Motivation Risk Factors. It is an attempt to identify the possible motivation for the subject to burn, or attempt to burn, any real or personal property. The leading Motivation Risk Factors reported to MFIRS in 2006 was a mild curiosity about fire. The leading family type was a two-parent family followed by single-parent family. When age was given, the majority of the subjects were between 12 and 17 years old. When gender was completed 54% of the children were listed as males.

76 Structure Fires – 3 Motor Vehicle Fires – 131 Outside & Other Fires

The 210 fires set by children included: 76 structure fires; 102 brush, tree or grass fires; 10 special outside fires; nine outside rubbish fires; three motor vehicle fires; and 10 fires that could not be classified further.

Juvenile-set Structure Fires Cause 6 Civilian Injuries & $956,295 in Damages

Six (6) civilian injuries and five fire service injuries occurred in the 76 structure fires set by children. Child-set structure fires caused an estimated dollar loss of $948,195 with an average dollar loss of $12,476 per fire.

Forty-eight percent (48%) of the 76 structure fires caused by children occurred in one- or two-family homes; 25% occurred in multifamily homes; and 11% occurred in high schools, junior high schools or middle schools. Thirty-five percent (35%) of the juvenile-set fires started in the bedroom; 11% started in the bathroom; and 5% each began in the kitchen or in the garage.

Almost 2/3 of Structure Fires Set by Children Using Smoking Materials

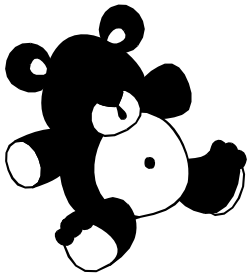
Nearly two-thirds, or 65%, of juvenile-set fires were started by smoking materials[66]. Thirty-three percent (33%) of the structure fires set by children were started with matches. Twenty-nine percent (29%) of the structure fires were started using lighters. One percent (1%) was caused by unspecified smoking materials; 1% was started by cigarettes; and another 1% was started by a pipe or cigar. Unclassified open flames were the heat source for 7% of juvenile-set fires in 2006. Candles started 6% of these fires. Four percent (4%) of the juvenile-set structure fires were started by fireworks; and another 4% involved unclassified hot or smoldering objects. This demonstrates a need for

[65] Each juvenile-firesetter is assigned a unique number for that particular incident. No other personal identification information for juvenile firesetters is recorded on an MFIRS report.

[66] Smoking materials includes cigarettes, pipes, cigars, cigarette lighters, matches, and heat from unspecified smoking materials.

education to both parents and children on the danger of matches and lighters, the use of illegal fireworks and safer candle use.

Child Playing with Lighter Sets Bedding & House Ablaze



- On November 2, 2006 at 6:06 p.m., the Lowell Fire Department was called to a fire in a two-family home caused by a 6-year old girl playing with a lighter in her bedroom. She ignited her bedding and the fire spread to all three stories of the building. Six civilians were injured at this fire. Smoke detectors were present and operated. There were no sprinklers present. Damages were estimated to be $350,000. This was the largest loss juvenile-set fire in Massachusetts in 2006.

Parents and Caregivers Must Protect Children from Themselves

Parents and caregivers must take steps to protect their children from the dangers of fire.

- Make sure that all matches and lighters are stored out of children's reach.
- If you need a lighter, buy one that is child resistant. Since, 1994, all disposable butane lighters and most novelty-lighters must be able to resist the efforts of 85% of children under 5 who tried to operate them in a specified test. Some are easier to use than others. If one brand is cumbersome, switch to another. *Do not disable the child-resistant feature.*

- Supervise young children at all times. Teach children the safe uses of fire, such as birthday candles and barbecuing. When a child is old enough, let him or her light the candles while you watch. It is only safe for children to use fire when adults are present.
- If your child seems overly curious about fire or has set a fire, call your local fire department and ask if they have a juvenile firesetters intervention program. Don't assume the child will 'grow out of it.' Juvenile firesetting is dangerous and must be addressed.
- Smoking parents should keep their lighter on their person at all times, not on the table or in a purse.
- Fireworks are illegal in Massachusetts. Adults should leave the fireworks to the professionals in order to protect everyone's children

17-Year Old Ignited School Bus in the High School Parking Lot

- On December 20, 2006, at 3:53 p.m., the Marlborough Fire Department responded to a motor vehicle fire at Marlborough High School. A student playing with a lighter, ignited one of the seats on a school bus. No one was injured and no estimation was made of the damages.

Cooking Fires

Cooking Caused 8,166 Fires &58 Civilian Injuries
Unattended cooking, other unsafe cooking practices and defective cooking equipment caused 8,166 fires, 58 civilian injuries, 42 firefighter injuries and an estimated dollar loss of $9.6 million. The average dollar loss per fire was $1,180. Cooking fires accounted for 27% of the total 30,198 fires that occurred in 2006.

Ninety-nine percent (99%) of the fires caused by cooking occurred in structures. The 8,166 fires included: 8,074 structure fires; 44 special outside fires; four motor vehicle fires; four brush fires; two outside rubbish fires; and another 38 fires that could not be classified further.

Confined Cooking Fires Account for Almost 1/4 of Total Fires
There were 7,055 cooking fires confined to a non-combustible container. These 7,055 fires represent 25% of the total 30,198 fires that occurred in Massachusetts in 2006. This is the largest single cause of fires in Massachusetts. These fires are also a 12% increase over the 6,726 confined cooking fires that were reported in 2005.

82% of Cooking Fires Were Unintentional
In 82% of the 997 cooking fires where the 'Cause of Ignition' was reported, it was reported as unintentional. Seven percent (7%) of these fires were the result of a failure of equipment or heat source. Only 2% of the reported cooking fires were classified as intentional. In 9% of cooking fires, the cause of ignition was undetermined. Seven thousand and fifty-five (7,055), or 86%, of all cooking fires, were fires contained to non-combustible containers that did not require to have a cause reported.[67]

Unattended Cooking Starts 16% – Stand by Your Pan!
Human error was responsible for the majority of cooking fires. Sixteen percent (16%) of cooking fires where 'Factors Contributing to Ignition' was completed were caused by unattended cooking; 6% were caused by the misuse of materials or product; 5% were caused by combustibles left too close to the cooking equipment; 4% started when the equipment was accidentally turned on or not turned off; 3% of the fires started because the cooking equipment had not been

[67] In version 5, a fire contained to a non-combustible container has a special incident type code. If one of these codes is used then only a Basic Form is completed and the Cause of Ignition field on the Fire Module does not have to be populated. A fire department may still elect to complete the Fire & Structure Fire Modules and all associated fields if it wants to. In 2005, there were 6,726 confined cooking fires. However fire departments filed a Fire Module in 581, or 9%, of these incidents.

cleaned; and another 3% were caused by abandoned or discarded cooking materials. Ninety-four percent (94%) of cooking fires were confined fires where this data is not collected.

Cooking Was the 2nd Leading Cause of Injury in Fires in 2006
Cooking was the second leading cause of injury in fires in 2006. This is not surprising considering that over one-half, or 58%, of residential structure fires start in the kitchen. Of the 55 cooking fire injuries, 49% of victims were male and 51% were female. Four percent (4%) of victims were under age 10; 9% of victims were between the ages of 10-14; 14% were 15-24; 23% were 25-34; 14% were 35-44; 9% were 45-54; 4% were 55-64; 7% were 65-74; 9% were 75-84 and 7% were over the age of 85. People aged 25 to 54 accounted for 46% of the people injured in cooking fires.

82% of Victims in Room or Area of Fire Origin
Of the 44 cooking fire injuries where location at ignition is known 82% of the victims were injured in the room or area of fire origin. Forty-six percent (46%) were intimately involved with the ignition; 36% of victims were in the room or space of fire origin but not involved; 7% were not in the area of origin but involved, most likely these are the people who initially left the cooking unattended; and 11% were not in the area of origin and not involved.

Almost 3/4 of Cooking Injuries Occurred When Trying to Control Fire
Almost three-quarters of cooking injuries occurred when trying to control the fire. Of the 42 cooking fire injuries for which activity at time of injury was known, 71% of victims were attempting to control the fire; of the 30 victims injured while attempting to control the fire 57% were male. Ten percent (10%) were escaping; 2% were sleeping; 2% were unable to act; 2% acted irrationally; 2% were attempting to return to the vicinity of the fire before the fire was under control; another 2% were attempting a rescue; and 10% of the victims activities were classified as 'Other'.

38% of All Cooking Injuries Were Breathing Related
Stovetop fires tend to produce a lot of smoke and when people choose to attempt to extinguish them, they run the great risk of being overcome by toxic smoke. Of the 45 cooking fire injuries where nature of injury was known, 38% suffered only from smoke inhalation or breathing difficulty; 38% of victims suffered only from burns; 11% suffered from burns and asphyxia; 9% received scald burns; and 2% of cooking fire injuries were attributed each to cuts or lacerations and emotional or psychological stress.

No Cooking Fire Deaths in 2006
While cooking is the leading cause of residential building fires, there were no fire deaths attributed to cooking in 2006.

The importance of responding correctly to a clothing ignition – stop, drop and roll – cannot be overemphasized. Older adults, who often are more afraid of falling than of fire, are the highest risk of being injured in a cooking fire. They must be persuaded that they can indeed safely lower themselves to the ground and roll to smother the flames. T

- **Put a lid** on a grease fire to smother it then turn off the heat. Baking soda will also work.
- Wear short or tight fitting sleeves when cooking. Loose sleeves can easily catch fire.
- Never throw water on a grease fire. Water will only spread the fire around.
- Never move a burning pan. You can too easily ignite your clothes or spill the fire onto someone or something else.
- Stand by your pan! Never leave cooking unattended.
- Stop, drop and roll if clothing ignites, no matter how young or old.

Fires Caused by Smoking

Smoking Caused 5% of Fires and 27% of Deaths

During 2006, 1,513, or 5%, of the 30,198 reported incidents were caused by the improper use or disposal of smoking materials. These 1,513 fires caused 12, or 23% of the 44 civilian deaths and 11, or 38%, of the 34 structure fire deaths, 28 civilian injuries, 35 fire service injuries, and an estimated dollar loss of $12 million. The average dollar loss per fire was $7,870. The number of smoking fires increased by 9% from 1,422 in 2005 to 1,513 in 2006.

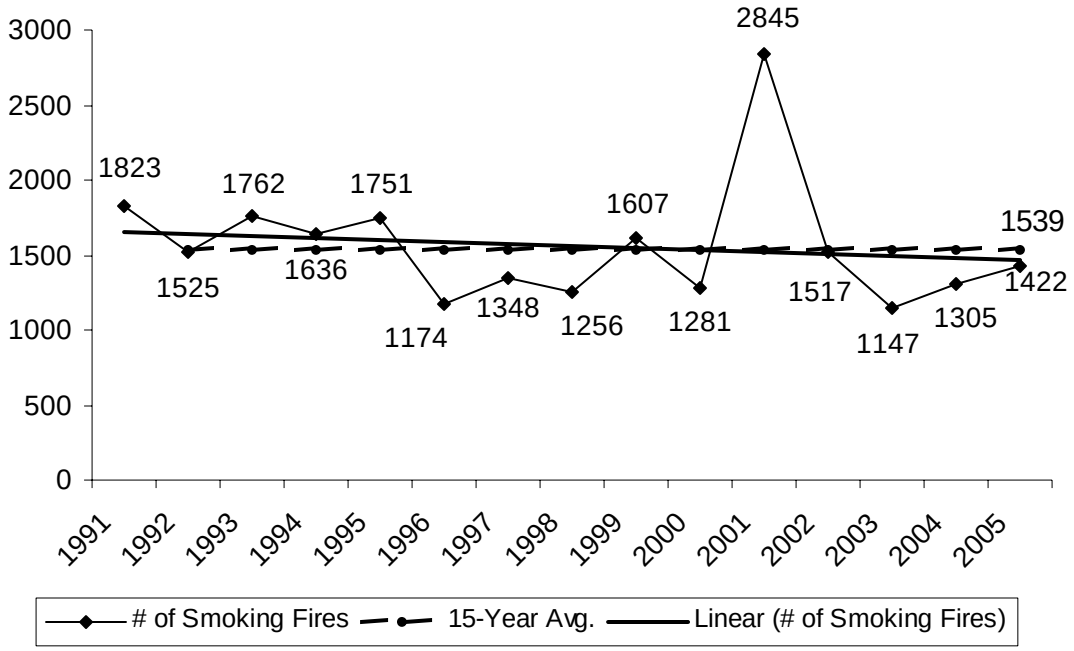
541 Structure Fires - Up From 469 In 2005

The 1,422 fires caused by smoking included: 541 structure fires, up from 469 in 2005; 54 motor vehicle fires, up from 47 in 2005; 699 tree, brush or grass fires, down from 713 in 2005; 89 trash or rubbish fires, up from 64 in 2005; 89 special outside fires, the same as in 2005; seven cultivated vegetation or crop fires, down from 12 in 2005, and 29 fires that could not be classified further, up from 28 in 2005. The total number of fires caused by smoking has increased by 91, or 6%, from 2005.

The largest increase came in structure fires, with an increase of 67, or 14%, from the 468 reported in 2005. The previous two years tree, brush or grass fires saw the largest increases.

Since 2004, smoking fires are have been on an increased trend. Even with these increases from 2003 to 2006, smoking fires have a declining trend over the last 15-year period.

Smoking Fires 1992 - 2006



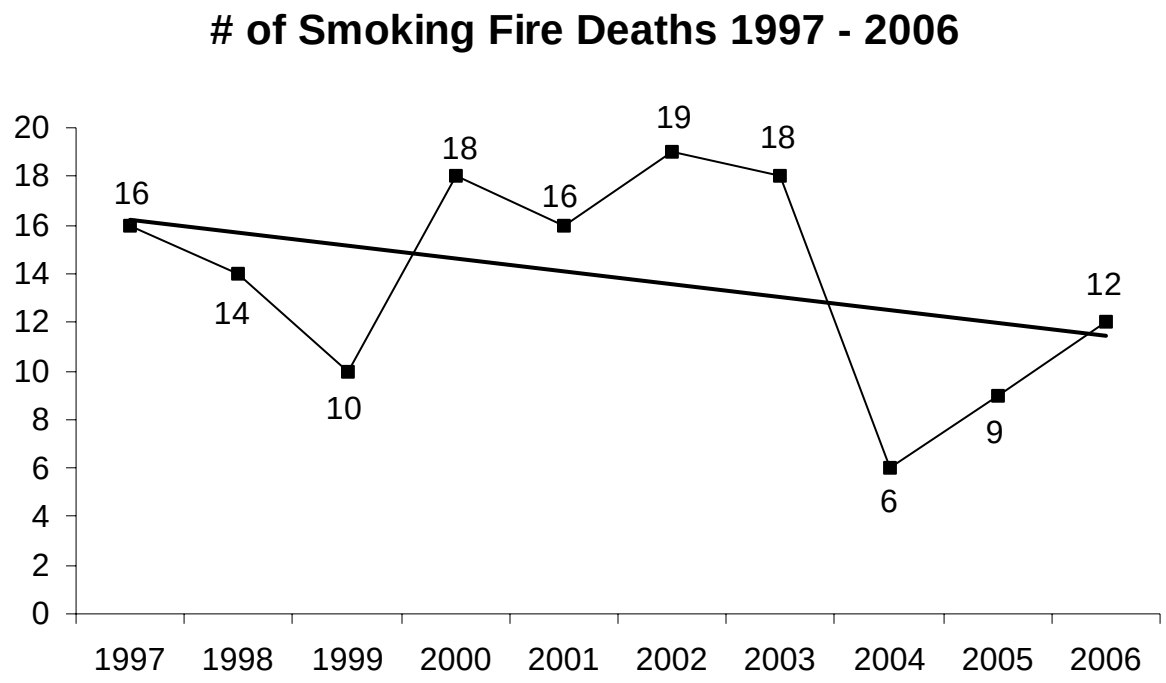
84% of All Smoking Building Fires Occurred in Residences
Eighty-four percent (84%) of all smoking-related building fires occurred in residential occupancies. The occupancies with the next highest percentages of smoking-related structure fires in Massachusetts in 2006 were mercantile and business properties accounting for 4% and public assembly properties also accounting for 4%.

A reason for this is all of the new statutes that prohibit smoking in public places. These new laws have forced smokers to smoke outside where they may not be as careful disposing of their cigarettes or cigars. People are now more likely to smoke more heavily at home because it is one of the few 'sanctuaries' where they can partake in smoking.

Smoking is the Leading Cause of Fire Deaths
The 541 smoking-related structure fires caused 11 of the 12 smoking-related fire deaths, 24 civilian injuries, 32 fire service injuries, an estimated dollar loss of $11.6 million and an average dollar loss of $21,397. Smoking fires accounted for 38% of the fatal structure fires and 32% of structure fire deaths in 2006. The unsafe and improper use of smoking materials caused 32% of residential structure fire deaths and 38% of fatal residential structure fires. Only one, or 8%, of the 12 home fire deaths to seniors (over 65) was caused by smoking.

In 2005, nine people died in smoking-related fires of all types. In 2004, six people died, and in 2003, 18 people died in 18 smoking-related fires of all types. While smoking fires

are still the top cause of fire fatalities, the total number of smoking deaths declined dramatically in 2004 and 2005. The 12 deaths in 2006 are still 13% below the 10-year average of 14 smoking-related fire deaths per year since 1997. The decline in smoking fire deaths is one of the principle reasons for the record low number of fire deaths in 2006.



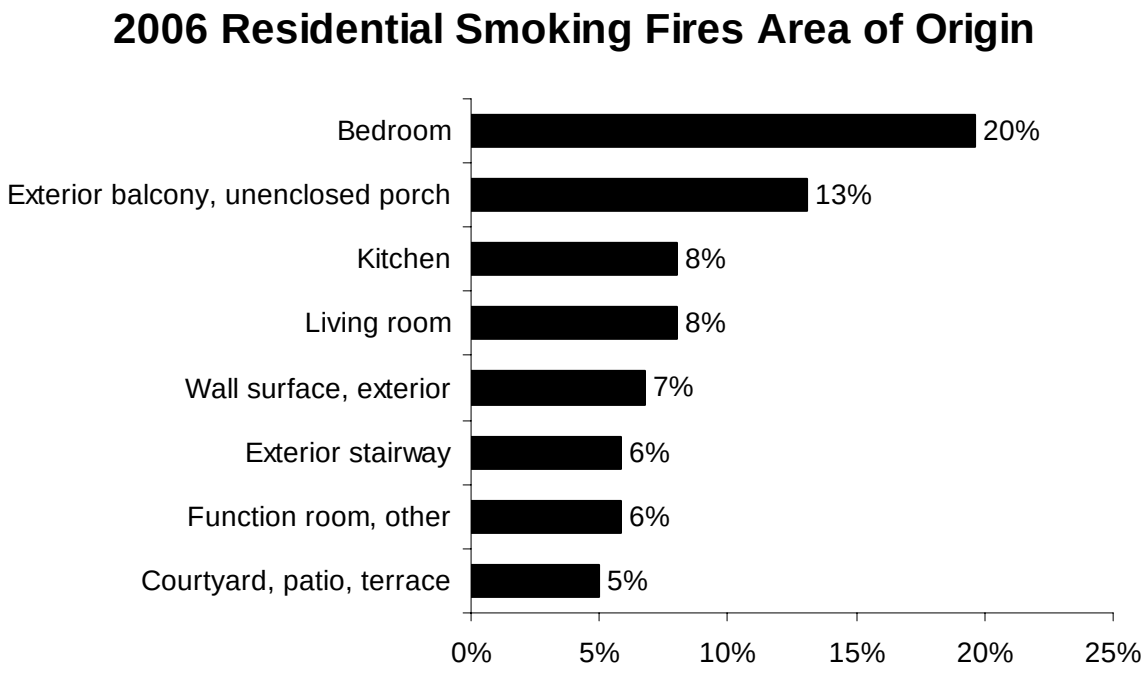
No Working Detectors in 40% of Fatal Smoking Fires
In four, or 40%, of these deaths, there were no working smoke detectors; three of these deaths occurred where smoke detectors did not operate and one of these deaths occurred when there wasn't a detector present at all. Five (5) smoking fire deaths occurred in a structure where smoke detectors were present and operated, however all of these victims were intimately involved with the ignition when they fell asleep while smoking. The smoke detectors helped prevent this fire from claiming any additional lives. In another fire, the smoking-related death occurred where smoke detector status was undetermined.

For a listing of all the smoking-related fire deaths in 2006, please refer to the Fire Deaths section of this report.

Smoking on Oxygen
Although the use of oxygen while smoking caused none of the smoking-related structure fire deaths in 2006, there was one known case where it could have led to a more tragic ending.

- According to M-BIRS, on September 22, 2006, a 51-year old Leominster woman received severe burns to her face, airway and hands when she fell asleep while smoking while using oxygen.

84% of Building Smoking Fires Occurred in Residences
Of the 512 smoking-related building fires, 428, or 84%, occurred in residences. Smoke detectors operated in 36% of the smoking-related residential structure fires. Detectors were present but failed to operate in an additional 8% of these incidents. No smoke detectors were present in 13% of these incidents. In 19% the fire was too small to activate the smoke detector. It was undetermined if the detectors were present or if they operated in 25% of these fires. The leading areas of origin were bedrooms, where 20% of residential smoking fires occurred; exterior balconies or porches, where 13% of the fires occurred; kitchens, where 8% of the fires occurred; living rooms, where 8% of the fires occurred; and exterior wall surfaces, where 7% started; exterior stairways and unclassified function rooms, where 6% started in each; and courtyards, patios and terraces where 5% or residential smoking fires started.



Smoking Fires Ignite Rubbish, Bedding & Upholstered Furniture
The most common items first ignited by smoking fires in the home were rubbish, trash or waste which accounted for 14% of these fires and upholstered furniture and bedding which combined accounted for 18% of these smoking fires. If smokers were using self-extinguishing cigarettes, many of these fires could have been avoided. Some tobacco companies have begun to sell self-extinguishing cigarettes in test markets. There is no federal standard for self-extinguishing cigarettes despite nearly 20 years of proposed legislation. The state of New York mandates that all cigarettes sold in New York are of

the self-extinguishing type. Canada also has passed similar legislation in March of 2006. California and Vermont have also recently passed legislation for self-extinguishing cigarettes. In January of 2008, the Resistant Ignition Propensity (RIP) legislation or 'fire safe cigarette' law making it mandatory for cigarette manufacturers to start selling only the self-extinguishing type of cigarettes in Massachusetts takes effect.

Another safety aspect to think about is purchasing only upholstered furniture that meets the California flammability standard, because many smoking-related fires start by igniting upholstery.

Until they can quit, smokers should use deep ashtrays, store ashes in metal containers and never smoke in bed. Families should consider banning smoking inside the house for health and fire safety reasons. Children of smokers often have easy access to matches and lighters. Adults must keep these tools out of the reach of small children. If smokers are going to smoke on an exterior balcony, deck or porch, they should also be using an appropriate metal or other non-combustible container to collect the ashes and properly extinguish their smoking materials.

State and federal regulations require most children's sleepwear to be flame-retardant. However, no such requirements apply to adult clothing. Physically disabled and elderly people may not be able to easily 'stop, drop and roll' if their clothing ignites.

While everyone needs at least one working smoke detector on every level of their home, this is even more important to smokers because of the high risk of fire death. Placing a detector inside every bedroom increases the probability that if a fire occurs, residents will wake up in time to escape. A cigarette accidentally left on a sofa, places the smoker and everyone else in the building at risk. A smoke detector's warning may enable a smoker to live long enough to quit.

No smoking should ever be permitted in a home where oxygen is in use. The oxygen-enriched environment increases the speed at which the fire will burn once it starts. "Most materials will ignite at considerably lower temperatures in oxygen-enriched environments than in air, and once ignited, combustion rates are greater in oxygen-enriched environments."[68]

Oxygen can saturate clothing, rugs, and upholstery, increasing the fire danger even when the home oxygen system is "turned off".

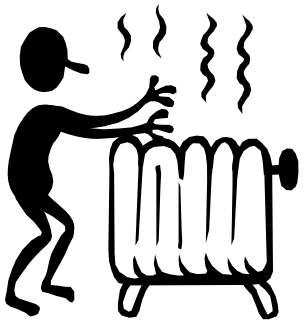
Illegal to Throw Cigarettes Out Car Window

The improper disposal of smoking materials has been a major problem to the fire service for years. Massachusetts General Law Chapter 148 Section 54 states, "Whoever drops or throws from any vehicle while the same is upon a public or private way running along or near forest land or open fields, or, except as permitted by law, drops, throws, deposits or otherwise places in or upon forest land, any lighted cigarette, cigar, match, live ashes or

[68] *Fire Protection Handbook*, 19th edition, 2003, National Fire Protection Association, pg 8-134, Quincy, MA.

other flaming or glowing substance, or any substance or thing which in and of itself is likely to cause a fire, shall be punished by a fine of not more than one hundred dollars or by imprisonment for not more than thirty days."

Heating Equipment Fires



2,728 Fires, 2 Civilian Deaths, 45 Fire Service Injuries
Massachusetts fire departments reported that some form of heating equipment was involved in 2,728, or 18%, of the 15,375 building fires in 2006. These heating equipment fires caused two civilian fire deaths, 10 civilian injuries, 45 fire service injuries, and an estimated dollar loss of $6.3 million. The average loss per fire was $2.325.

92% of All Heating Fires Were Confined Fires
In 2006, 92% of heating fires were confined to the container of origin. In version 5, you are able to report two types of structure fires caused by heating equipment that are contained to its non-combustible container. When one of these incidents is reported, the official writing the report only needs to complete a Basic Module, so causal data fields that would otherwise be captured on the Fire Module are not required. One thousand seven hundred and forty (1,740), or 64% of all heating related building fires in Massachusetts, were coded as fuel burner/boiler malfunction, fire contained. Seven hundred and eighty-one (781), or 29%, were determined to be chimney or flue fires, confined to the chimney or flue.

The number of contained heating fires fell in 2006. Confined heating equipment fires decreased by 230 incidents, or 8%, from the 2,751 reported in 2005.

Types of Heating Equipment
Only one type of equipment per fire incident may be reported to MFIRS. Consequently, the totals for specific types of equipment, should, in many cases, be considered underestimates. For example, sparks from a wood stove may ignite a fire in the chimney. The recorded equipment involved might be either the chimney or the wood stove. When a fire results from an extension cord overloaded by the demands of a portable heater, the extension cord might be recorded instead of the heater.

The following table shows the number of fires caused by each of the top types of heating equipment (which caused fires), the percentage of heating equipment fires for each type of equipment, the number of civilian and fire service deaths and injuries, and the estimated dollar loss for each type of heating equipment.

HEATING EQUIPMENT FIRES

Equipment	# of Fires	% of Heat Eq.	Injuries FF	Injuries Civ	Deaths FF	Deaths Civ	Dollar Loss
Central heating units	1,758	64%	7	6	0	0	$1,177,008
Confined	*1,693*	*61%*	*6*	*6*	*0*	*0*	*324,936*
Furnace, central heating unit	*48*	*2%*	*1*	*0*	*0*	*0*	*818,072*
Boiler (power, process, heating)	*17*	*1%*	*0*	*0*	*0*	*0*	*84,301*
Chimney, flue	802	29%	7	1	0	0	691,055
Confined (no equip. reported)	*770*	*28%*	*6*	*1*	*0*	*0*	*155,455*
Fireplace, chimney, other	*11*	*0.4%*	*0*	*0*	*0*	*0*	*335,500*
Chimney, brick, stone, masonry	*11*	*0.4%*	*0*	*0*	*0*	*0*	*64,500*
Chimney connector, vent connect.	*4*	*0.2%*	*0*	*0*	*0*	*0*	*62,000*
Chimney, metal, incl. stovepipe	*6*	*0.2%*	*1*	*0*	*0*	*0*	*73,600*
Fixed, local heating	80	3%	18	1	0	0	2,344,673
Stove, heating	*62*	*2%*	*18*	*0*	*0*	*0*	*2,260,372*
Furnace, local heat. unit, built-in	*18*	*1%*	*0*	*1*	*0*	*0*	*84,301*
Water heater	29	1%	2	1	0	0	484,850
Fireplace	20	1%	2	1	0	0	614,200
Fireplace insert/stove	*10*	*0.5%*	*0*	*1*	*0*	*0*	*342,200*
Fireplace, masonry	*7*	*0.3%*	*1*	*0*	*0*	*0*	*230,500*
Fireplace, factory-built	*5*	*0.2%*	*1*	*0*	*0*	*0*	*41,500*
Space heaters	20	1%	6	1	0	2	712,000
Portable space heaters	*8*	*0.3%*	*4*	*1*	*0*	*2*	*344,000*
Heating, vent. & air cond., other	48	4%	4	0	0	0	123,300
Total	**2,728**	**100%**	**45**	**10**	**0**	**2**	**$6,342,235**

Central Heating Units

1,758 Fires, 6 Civilian Injuries & 7 Fire Service Injuries

Central heating units[69] were involved in 1,758 structure fires in 2006. These fires caused six civilian injuries, seven fire service injuries, and an estimated dollar loss of $1.2 million. The average loss per fire was $670. One thousand seven hundred and forty (1,740) of these fires involving central heating units were confined fires.

14% Caused by Mechanical Failures or Malfunctions

Of the 180 central heating unit fires where Factors Contributing to Ignition was completed, 14% were caused by mechanical failures or malfunctions; 10% were caused by backfires; automatic control failures caused 8% of these fires; 3% were caused because parts were worn out; and 2% were caused by a failure to clean the equipment.

[69] These include all structure fires with Equipment Involved = 132: Furnace & 133: Boiler, central heating unit. And all Incident Type = 116 Fuel burner/boiler malfunction, fire confined that did not complete a Fire Module.

Fifty-four (54), or 61%, of the 89 central heating unit fires where the power source was known were caused by liquid-fueled equipment. These fires caused one fire service injury and an estimated dollar loss of $315,972. The average loss per fire was $5,851.

Twenty-two (22), or 25%, were caused by electrically powered equipment[70]. Eleven (11), or 12%, of the central heating unit fires were caused by gas-fueled equipment; and two, or 2%, were caused by wood-fueled equipment.

Furnaces Should Be Cleaned and Checked Annually

- Homeowners should have furnaces cleaned and checked annually to ensure that they are working well.
- Combustible materials such as trash or supplies should never be stored near heating equipment.
- Keep a 3-foot clear space around the furnace.
- Only licensed trades people may install oil, gas, or electric heating units.
- Regulations about oil burners may be found in 527 CMR 4.

Chimney Fires

802 Fires Caused 7 Fire Service Injuries & $691,055 in Damages

Eight hundred and two (802) building fires involved chimneys[71], gas vent flues, chimney connectors or vent connectors. These 802 fires caused one civilian injury, seven fire service injuries and an estimated dollar loss of $691,055. The average dollar loss per fire was $862.

Seven hundred and fifty-eight (758) of these chimney or flue fires were confined to the chimney or flue. Seven hundred and thirty-nine (739) of these did not report any equipment involved or they were reported using only a Basic Module.

Sixteen percent (16%) of the 139 fires where heat source was reported, were caused by a failure to clean the creosote buildup; 3% were caused by unclassified operational deficiency; and another 3% were caused by a construction deficiency.

Have Chimneys Cleaned Annually to Remove Creosote

Creosote is a black, tar-like by-product of fire. It can accumulate in your chimney and cause a fire. Have your chimney cleaned at the start of each heating season and check it monthly for soot build-up. It should also be checked for loose mortar. If you use a wood or coal stove, keep the temperature in the recommended range. Use chimney guards to

[70] Version 5 has a data field called Equipment Power Source that describes the power source of the equipment involved in ignition.

[71] These include all incidents with an Incident Type = 114: Chimney or flue fire, confined to the chimney or flue, and all other structure fires with Equipment Involved = 120 or between 125 and 127.

prevent animals from nesting in your chimney. If you should have a chimney fire, have the chimney inspected by a professional before using it again.

Fixed Heater Fires

80 Fires, 1 Civilian Injury, 18 Fire Service Injuries & $2.3 Million
Eighty (80) fixed heater structure fires caused one civilian injury, 18 fire service injuries and an estimated dollar loss of $2.3 million. The average dollar loss per fire was $29,308.

Fixed heaters include stationary local units such as wood stoves and in-room gas heaters. A central heating unit heats the entire building or apartment, whereas a fixed local heating unit is set in a specific room to heat just that room or immediate area.

19% Caused by Combustibles Being Too Close to the Heat Source
Nineteen percent (19%) of fixed heater fires were caused by combustibles being too close to the heat source. Eight percent (8%) were caused from a failure to clean the heater. Unclassified mechanical failures or malfunctions and backfires each caused 6% of fixed heater fires in 2006. Five percent (5%) of these fires were caused by the heater being accidentally turned on and then not turned off.

Electrical powered fixed heaters caused 28, or 38%, of these fires and were responsible for one civilian injury, one fire service injury and a dollar loss of $349,803. Twenty-two (22), or 30%, were caused by gas-fueled fixed heaters and they were responsible for nine fire service injuries and a dollar loss of $1.3 million. The average loss per fire was $58,232. Seventeen (17), or 23% of fixed heater fire incidents in 2006, involved solid fueled fixed heaters, 15 of which were wood fueled. These fires caused one civilian injury and an estimated dollar loss of $509,769 and the average dollar loss was $29,986. Six (6), or 8%, of these heater fires were caused by liquid-fueled heaters, and they were responsible for $2,001 in losses. There were seven fires where the power source of the fixed heater was undetermined. These were excluded from the calculations.

Install Wood Stoves According to Building Code Standards
A homeowner must obtain a building permit prior to installing a wood or coal stove and the installation must be inspected upon completion. In general, the stove should be at least three feet away from walls, ceilings and furnishings. If the flue does not draw properly, deadly levels of carbon monoxide may accumulate in the home.

- Keep the temperature within the manufacturer's suggested range. Wood and coal stoves should be operated at moderate heat. If the fire is too low, creosote, a black tarry fire by-product, may accumulate in the chimney and eventually cause a fire. If the fire is too hot, nearby combustibles or creosote in the chimney could ignite.
- Only burn fuels intended for use in these stoves. Other items may cause overheating and the release of toxic gases. Never use gasoline or flammable liquids to stoke the fire — doing so could cause a flash fire or explosion.

- Install and regularly test smoke and carbon monoxide detectors.
- Have your chimney cleaned and inspected for creosote build-up before each heating season, and check it at least once a month during the season.
- Place ashes in a covered metal container until they are completely cool. Store outdoors, away from the house, porch or other outside buildings. Hot ashes may stay "live" for 24 hours.

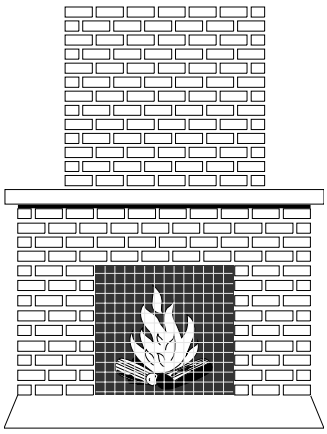
Fires Caused by Hot Water Heaters

29 Fires, 1 Civilian Injury, 2 Fire Service Injuries & $484,850 in Damages
Twenty-four (24) structure fires were caused by hot water heaters[72] in 2006. These 29 fires caused one civilian injury, two fire service injuries and an estimated dollar loss of $484,850. The average dollar loss per fire was $16,719. Combustibles placed too close to the water heater caused 21% of these fires. Forty-five percent (45%) were ignited from a spark, ember or flame from operating equipment and 17% of these fires were started by a radiated or conducted heat from operating equipment.

Sixty-three percent (63%) of the 27 fires involving hot water heaters were identified as gas-fueled water heaters. Thirty-three percent (33%) were identified as electric powered water heaters; 4% were identified as liquid-fueled water heaters; and there were two fires where the power source was undetermined.

Fires Caused by Fireplaces

20 Fires, 1 Civilian Injury, 2 Fire Service Injuries & $614,200 in Damages
Twenty (20) fireplaces[73] were involved in Massachusetts structure fires in 2006. These 20 fires caused one civilian injury, two fire service injuries and an estimated dollar loss of $614,200. The average dollar loss per fire was $30,710.



Thirty percent (30%) were caused when combustibles were placed too close to the fireplace; and 10% each were caused by construction and installation deficiencies.

Fourteen (14), or 70%, of fireplaces involved in fires were solid-fueled. Five (5) incidents, or 25% were gas-fueled; and one, or 5%, was electric.

[72] These include all structure fires with Equipment Involved = 151: Water Heater.
[73] These include all structure fires with Equipment Involved = Between 121 and 123.

Space Heater Fires

20 Fires, 2 Civilian Deaths, 1 Civilian Injury & 6 Fire Service Injuries
Space heaters of all kinds accounted for 20 fires and caused two civilian deaths, one civilian injury, six fire service injuries, and an estimated dollar loss of $712,000. The average dollar loss per fire was $35,600

Portable Space Heater Fires

8 Fires, 2 Civilian Deaths 1 Civilian Injury & 4 Fire Service Injuries
History has taught us that the larger problem is from portable space heater fires. Eight (8) portable space heater[74] fires caused two civilian deaths, one civilian injury, four fire service injuries and an estimated dollar loss of $344,000. The average dollar loss per fire was $43,000. Overloaded equipment, an automatic control failure, the heater too close to combustibles, and an unclassified electrical failure each caused one, or 13%, of the 2006 portable space heater fires.

Seven (7), or 88% of the portable heaters involved in fires were electric; and one, or 12%, was gas-fueled.

If you must use a space heater for heat, use it as safely as possible.

- When buying a heater, look for one that has been tested and labeled by a nationally recognized testing company.
- Keep the heater three feet away from drapes, furniture or other things that can burn. Place it on a level surface away from areas where a person or a pet might bump it and knock it over.
- If you must use an extension cord, make sure it is a heavy-duty cord marked with a power rating as least as high as that on the label of the heater itself.
- Never leave a space heater unattended or running while you sleep.
- Keep electric heaters away from water. Never use them near a sink or in the bathroom.
- Do not use space heaters to thaw pipes. They were not designed for this task. Space heaters must be kept at least 3 feet away from any combustibles including walls and wall coverings.

According to MGL Chapter 148, Section 5A, 25A and 25B, the sale and use of liquid-fired unvented space heaters using kerosene, range oil, number 1 fuel oil, or any oil as fuel are illegal in Massachusetts. The use of unvented space heaters using natural gas or propane gas as fuel is acceptable only if they meet the requirements of 780 CMR 30.00.

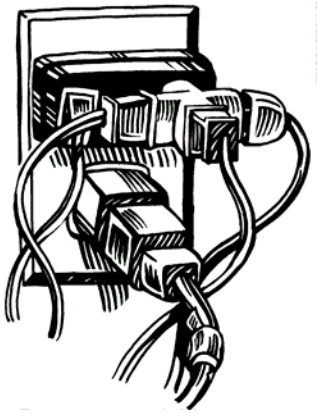
[74] These include all structure fires with Equipment Involved = Between 141 and 143; and Equipment Portability = 1: Portable

Fires Caused by HVAC, Other

48 Fires, 4 Fire Service Injuries and $123,300 in Damages
Forty-eight (48) structure fires were caused by unclassified heating, ventilation and air conditioning equipment (HVAC, other)[75] in 2006. These 48 fires caused four fire service injuries and an estimated dollar loss of $123,000. The average dollar loss per fire was $2,569. Unclassified electrical failures or malfunctions caused 15% of these fires; and combustibles placed too close to the equipment caused 6%.

Fifty-two percent (52%) of the 46 fires involving unclassified heating, ventilating or air conditioning equipment were identified as electric powered. Thirty-three percent (33%) were identified as liquid-fueled equipment, 13% were identified as gas-fueled equipment, and 2% was identified as solid-fueled equipment.

Electrical Fires



579 Electrical Fires Caused 4 Civilian Deaths
Local fire departments reported that there were 579 structure fires caused by electrical problems in Massachusetts in 2006. These fires caused four civilian deaths, 75 civilian injuries, 92 fire service injuries and an estimated dollar loss of $26.2 million. The average loss per fire was $45,248.

Electrical Fires Were the 3rd Leading Cause of Fire Deaths
Electrical fires were the third leading cause of structure fire deaths in 2006. Four (4) fatal electrical fires, or 14% of fatal structure fires, caused four, or 12%, of structure fire deaths in 2006. In 2005, electrical fires were the leading cause of fire deaths, causing nine, or 17% of the structure fire deaths.

When we used MFIRS version 4, this section of the annual report used to count electrical equipment fires. The criteria to qualify for an electrical equipment fire was to have the Form of Heat of Ignition – heat from electrical equipment arcing, overloaded. In version 5 this section has been expanded to include all fires caused by electrical problems or malfunctions. The new criteria is to have Factors Contributing to Ignition – equipment overloaded or – electrical failure malfunction or to have Equipment Involved in Ignition in the 200 series – electrical distribution, lighting and power transfer equipment.

[75] These include all structure fires with Equipment Involved = 100: Heating, ventilating & air conditioning, other.

Unspecified Electrical Failure Responsible for Almost 1/3 of Electrical Fires[76]
Almost one-third of electrical fires caused by unspecified electrical failure. One hundred and eighty-four (184), or 32% of electrical fires, were caused by an unclassified electrical failure or malfunction. One hundred and thirty-three (133), or 23%, were caused by an unspecified short circuit arc. Twelve percent (12%), or 70 of these fires, had a short circuit arc from defective or worn insulation. Twenty-five (25), or 4%, of electrical fires were caused by an arc from a faulty contact or broken conductor. An arc or spark from operating equipment caused 22, or 4% of these fires. Twenty-one (21), or 4%, of electrical fires were caused by a short circuit arc from mechanical damage. Three percent (3%), or 20 of the fires, were caused by overloaded equipment. The heat source being too close to combustibles also caused 15, or 3%, of these fires. Water caused a short circuit arc in 14, or 2%, of electrical fires in 2006.

Electrical Equipment Fires

Three hundred and six (306), or 53%, of the 579 electrical fires reported the type of equipment involved in ignition. These 306 fires caused three civilian deaths, 57 civilian injuries, 46 fire service injuries and an estimated dollar loss of $16.1 million. The average dollar loss per fire was $52,889.

109 Electrical Service, Wiring, Meter Boxes & Circuit Breaker Fires
The most common reported equipment involved in ignition in electrical was electrical service, wiring, meter boxes and circuit breakers accounting for 109, or 36%, of the fires. These fires caused one civilian death, six civilian injuries, five fire service injuries and an estimated dollar loss of $4.9 million. The average dollar loss per electrical wiring fire was $44,560.

Lamp, Lighting Fixtures Involved in 49 Fires
Lamps and other lighting fixtures were involved in 49, or 16%, of electrical equipment fires where equipment involved in ignition was reported. These fires caused three civilian injuries, two fire service injuries and an estimated dollar loss of $597,684. The average loss per fire was $12,198.

Ventilation & Air Conditioners Caused 25 Fires
Twenty-five (25), or 8%, of the structure fires involving known electrical equipment were caused by air conditioning or ventilation units. These fires caused three fire service

[76] *Factors Contributing to Ignition* is one of the fields in version 5 that allows for multiple codes. Two factors contributing to ignition may be coded. For example, in the case of a malfunctioning electrical heater, we can capture not only the electrical malfunction, but also a contributing factor such as: was the heater too close to combustibles; did the automatic control fail; was it knocked over; was it worn out; or was the equipment overloaded. This field also is not a mandatory field, although fire departments are strongly encouraged to complete it, should it apply to the incident. Because of these factors, the percentages may not add up to 100%.

injuries and an estimated dollar loss of $154,675. The average dollar loss per fire was $6,187.

20 Fires Involving Kitchen & Cooking Equipment
Twenty (20) electrical equipment fires involving kitchen or cooking equipment; they caused one civilian injury and an estimated dollar loss of $164,351. These fires accounted for 7% of the structure fires involving electrical equipment when equipment involved in ignition was reported. The average dollar loss per fire was $8,218.

Cords or Plugs Caused 19 Fires
Nineteen (19), or 6%, of the structure fires where electrical equipment involved was reported were caused by cords or plugs. These fires caused one civilian death, five civilian injuries, three fire service injuries and an estimated dollar loss of $992,620. The average dollar loss per fire was $52,243.

Household Appliances (Non-Cooking) Caused 16 Fires
Non-cooking household appliances such as clothes dryers, washing machines and trash compactors, caused 16, or 5%, of the 306 electrical structure fires where equipment involved in ignition was reported. These 16 fires caused five civilian injuries, five fire service injuries and an estimated $606,702 in damages. The average dollar loss was $37,919.

15 Fires Involving Unspecified Electrical Distribution Equipment
Fifteen (15) electrical equipment fires involving unspecified electrical distribution equipment caused one civilian death, 37 civilian injuries, 15 fire service injuries and an estimated dollar loss of $6 million. These fires accounted for 5% of the building fires involving reported electrical equipment. The average dollar loss per fire was $402,580[77].

Heating Equipment Caused 14 Fires
Fourteen (14), or 5%, of the structure fires involving known electrical equipment were caused by various heating equipment. These electrical fires involving heating equipment caused 11 fire service injuries and an estimated dollar loss of $1.3 million. The average dollar loss per fire was $95,632.

Transformer, Generator, Battery or Chargers Caused 14 Fires
Transformers, generators, batteries and chargers were involved in 14, or 5%, of the electrical fires where equipment involved in ignition was reported. These fires caused an estimated dollar loss of $1.2 million. The average loss per fire was $88,388.

11 Fires Involving Electronic & Other Electrical Equipment
Eleven (11) electrical equipment fires involving electronic and other electrical equipment caused one fire service casualty and an estimated dollar loss of $69,800. These fires accounted for 4% of the structure fires involving reported electrical equipment. The average dollar loss per fire was $6,345.

[77] One incident, the Cambridge fatal fire on 12/8/06, caused 1 civilian death, 35 civilian injuries, 2 fire service injuries and an estimated $4 million in damages.

6 Fires Involving Decorative Lighting & Signs
Six (6) electrical fires involving decorative or landscaping lights or electric signs caused one fire service injury and an estimated dollar loss of $55,000. These fires accounted for 2% of the structure fires involving electrical equipment. The average dollar loss per fire was $9,167.

6 Fires Involving Shop Tools & Industrial Equipment
Six (6) electrical fires involving shop tools or industrial equipment caused an estimated dollar loss of $61,200. These fires accounted for 2% of the structure fires involving electrical equipment. The average dollar loss per fire was $10,200.

2 Fires Involving Commercial & Medical Equipment
Two (2) electrical fires involving commercial or medical equipment caused an estimated dollar loss of $10,000. These fires accounted for 1% of the structure fires involving electrical equipment. The average dollar loss per fire was $5,000.

273 Unspecified Electrical Equipment Fires Caused $10 Million in Damages
There were 273 electrical fires where the piece of equipment involved in ignition was unknown or not reported. These 273 fires caused one civilian death, 18 civilian injuries, 46 fire service injuries and an estimated dollar loss of $10 million. The average dollar loss per fire was $36,684.

Large Loss Electrical Fires
There were three large loss ($1 million+) electrical fires in 2006. There were also 53 fires with estimated damages between $100,000 and $999,999.

- On December 8, 2006 at 10:55 a.m., the Cambridge Fire Department was called to a fatal electrical fire in a 19-story office building. The victim, a 28-year old male electrician, and his partner were performing maintenance in the electrical vault in the basement. There was an explosion and the victim was overcome while his partner was able to escape with injuries. The victim's partner and 34 office workers were injured in this fire, as were two firefighters. Detectors were present and alerted the occupants of the building. Sprinklers were present and effective in suppressing the fire until firefighters arrived. Damages from this fire were estimated to be $4,000,000.

- On January 17, 2006 at 6:25 a.m. the Reading Fire Department was called to a fire in a two-story office building. The fire was caused by arcing in a second floor office. There were no injuries at this fire. Detectors were present but failed to operate because of a missing battery. Sprinklers were not present. Damages from this fire were estimated to be $1.6 million.

- On September 16, 2006 at 7:37 a.m., the Hyannis Fire Department was called to a fire at an electrical distribution facility. The fire began in the switchgear area of the facility. One (1) firefighter was injured battling this blaze. Smoke detectors and

automated extinguishing systems were not present. Damages from this blaze were estimated to be $1 million.

3/4 of Electrical Fires Occurred in Residential Occupancies

Three-quarters of electrical fires occurred in residential occupancies. Of the 579 electrical fires, 433, or 75% occurred in residential occupancies. Sixty (60), or 10%, occurred in mercantile or business properties, such as offices, banks, retail stores or markets. Public assembly buildings like restaurants, libraries and courthouses accounted for 22, or 4%, of these fires. Educational properties accounted for 17, or 3%, of Massachusetts' electrical fires in 2006. Institutional buildings such as hospitals and asylums had 15, or 3%, of the 2006 electrical fires occur on their premises. Manufacturing or processing facilities had 12, or 2%, of these incidents. Storage properties accounted for nine, or 2%, of these fires. Seven (7), or 1%, of Massachusetts' electrical fires occurred in basic industry properties such as laboratories, communications centers, electrical distribution sites and utility and distribution centers. Four (4), or less than 1%, of electrical fires occurred in special or outside properties.

Over 1/5 of Electrical Fires Began in the Kitchen or Bedroom

Sixty-one (61), or 11%, originated in the bedroom. Fifty-eight (58), or 10%, of the 579 electrical fires occurred in the kitchen. The ceiling and floor assembly or crawl space between stories accounted for 9%, or 50, of the electrical fires. A wall assembly or concealed wall space was the area of origin for 33, or 6%, of these fires. Six percent (6%), or 32, occurred each in the living room. The bathroom accounted for 5%, or 28, of these fires. The attic or crawl spaces accounted for 5%, or 27, of these fires; and the substructure area or crawl spaces, accounted for 23, or 4%, of the electrical fires in Massachusetts in 2006.

Electrical Wiring Was the Item First Ignited in Over 1/3 of Electrical Fires

Electrical wiring was the item first ignited in over one-third of electrical fires. In 194, or 34%, of electrical fires, electrical wiring or cable insulation was the item first ignited. This includes fixed wiring and appliance cords. In 74, or 13% of these fires, a structural member or framing, was the first item ignited. Structural components or finishes were the item first ignited in 5% of electrical fires in 2006. Exterior sidewall coverings were the item first ignited in 4% of these fires. Appliance housings or casings were the item first ignited in 3% of electrical structure fires. Thermal or acoustical insulation within a wall was the item first ignited in 3% of electrical fires in 2006.

Watch For Warning Signs

People should watch for warning signs of electrical problems. These include:

- Fuses blowing or circuit breakers tripping frequently.
- Unusually warm or faulty outlets or switches.
- A vague smell of something burning.
- A sizzling sound in the wall.

Any of these signs may indicate a potential problem. Contact a licensed electrician if you notice any of these signs. Or contact the local fire department. Many departments now have new technologies such as thermal imaging cameras that can see inside walls to detect potential problems before they expand and extend to other parts of the building.

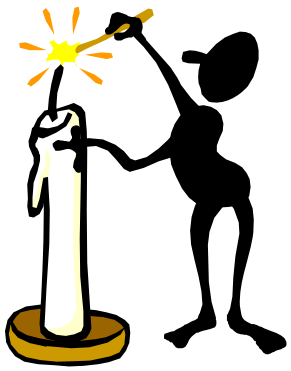
Fuses and circuit breakers are safety devices. They blow or trip when the amount of current cannot safely travel through the wires. *Trying to bypass the fuse or circuit breaker protection is an invitation to danger.*

Electrical Systems Pose Unseen Dangers
Just as all systems need maintenance and inspection, so does electrical wiring. As switches, receptacles and connections age, heat is generated and the risk of fires inside walls and at poor connections greatly increases. Because wiring is often hidden behind walls, electrical faults may be hard to detect except by properly trained electricians.

Have Electrical Systems Examined by a Licensed Electrician Every 10 Years
Have electrical systems examined by a licensed electrician every 10 years. A good electrician will look for electrical faults, check for warm switch plates and receptacles, and analyze the use of electricity to see if additional capacity is needed. It is important to help our homes keep up with the electrical demands of our changing lifestyles, changes in society and new technologies.

Candle Fires

178 Candle Fires Caused 7 Civilian Deaths
In 2006, candles caused 178 fires of all types. These fires caused seven civilian deaths, 41 civilian injuries, 19 firefighter injuries and an estimated dollar loss of $6.2 million in damages. There was an 8% decrease from the 193 fires of all types started by candles in Massachusetts in 2005.



94% of Candle Fires are Structure Fires
Of the 178 candles fires in 2006, 168, or 94%, were classified as structure fires. One (1), or 1%, was a reported motor vehicle fire; one, or 1%; was a brush fire; one, or 1%, was a special outside fire; and seven, or 4%, were unclassified fires.

Candle Fires Happen Most During the Holidays
Between 2002 and 2006, the day of the year the most candle fires occurred was December 24, Christmas Eve. Halloween, October 31, had the second most reported candle fires during the past five years. During the same time period, New Year's day, January 1 and Christmas day, December 25 were tied with four other days during the winter holiday season as having the fourth most candle fires during any one day of the year.

Largest Loss Candle Fire Injured 5 Firefighters
On April 30, 2006 at 3:40 p.m., the Worcester Fire Department was called to a candle fire in a four-unit apartment building. The fire began when a candle in a function room ignited some plastic bags. Five (5) firefighters were injured battling this blaze. Damages from this fire were estimated to be $700,000. Smoke detectors were present and they alerted the building's occupants. There were no sprinklers in the building.

7 People Died in Candle Fires in 2006
In 2006, seven people died in four fires started by candles. One of the four fires killed four women. For anecdotes on all fatal fires please see the fatal fire section in this report.

96% of Candle Fires Occurred in Homes
Of the 168 candle fires that occurred in buildings, 96% were residential fires. Candles caused 161 residential building fires, seven civilian deaths, 41 civilian injuries, 19 firefighter injuries and an estimated dollar loss of $5.8 million. Five candle fires, or 3%, occurred at mercantile or business properties; one candle fire, or 1%, occurred in a public assembly property; and one candle fire, or 1%, occurred in a storage facility.

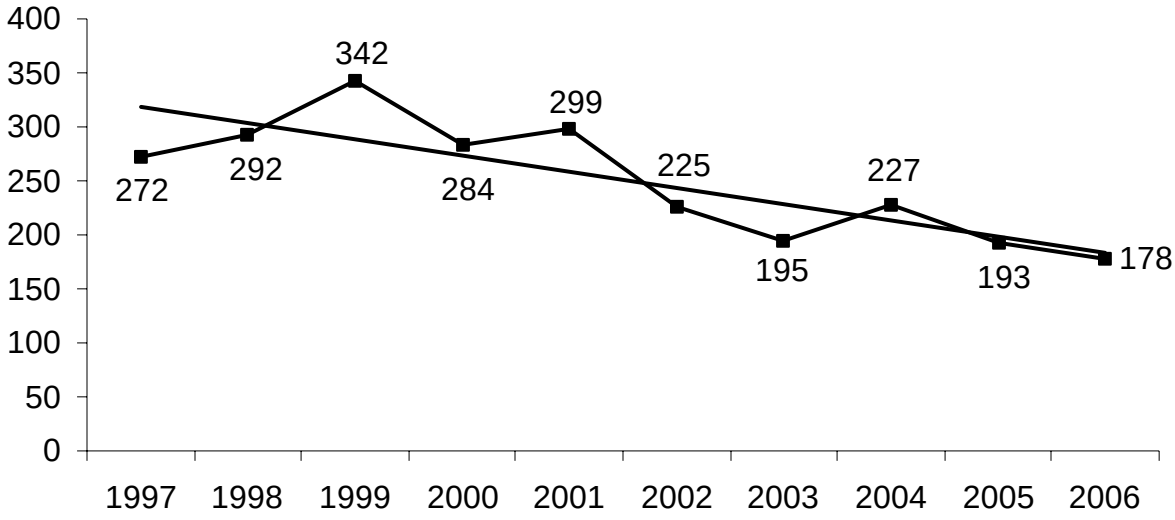
Over 1/3 of Candle Fires in Homes Occurred in the Bedroom
Of the 161 candle fires in residential structures, 38% occurred in the bedroom. Sixteen percent (16%) occurred in the living room; 12% started in the bathroom; 11% occurred in the kitchen; 7% occurred in some other type of function room such as three-season rooms; and 2% began on the wall.

Smoke Detectors Operated in 2/3 of Candle Fires in Homes
Of the 161 candle fires in homes, smoke alarms operated in 66%. Smoke detectors were present but did not operate in 11% of these incidents. No detectors were present in 4% of candle fires in people's homes. Three percent (2%) of the candle fires were too small to activate the smoke detector. In 25 incidents, or 16%, the smoke detector status was undetermined.

Candle Safety Tips
- Burn candles in the center of a 1-foot **Circle of Safety,** free of anything that can burn.
- Stay in the same room with burning candles; do not leave unattended.
- Burn candles on a non-combustible surface such as a ceramic saucer, or plate.
- Be sure to snuff out candles before falling asleep, going out, or leaving the room.
- Teach everyone in the family the rules of safe candle use.
- Keep candles out of reach of small children and pets.

Candle fires had become a serious problem in Massachusetts during the decade of the 1990's, nearly tripling from 93 incidents in 1990 to an all time high of 342 in 1999. The following chart shows candle fires over the past decade increasing from 272 candle fires in 1997 to the peak of 342 candle fires in 1999 and then decreasing to 178 in 2006. In 1999, a new effort to analyze these incidents began. In conjunction with the National Fire Protection Association (NFPA), the Office of the State Fire Marshal conducted a follow-up survey that went out to any fire department having a candle fire for one year. The goal was to gain a greater understanding of these incidents, why they are happening and what we can do to prevent them.

Candle Fires by Year 1997 - 2006



Major findings from the report were:

- 75% of the fires occurred when the candle was left unattended.
- 40% of the fires resulted from combustible materials being too close to the candle.
- Teenagers face the greatest risk of starting candle fires. Although teens account for only 9% of the state population, 21% of the candle fires were attributed to them. Two-thirds of candle users, however, were between 20 and 64 years old.
- 98% of the candles used in Massachusetts' candle fires were not needed as sources of light but were used for other purposes such as decoration, pleasure or mood.

There has been a downward trend in candle fires since the year 2000. Stronger public education and tougher industry standards are the main reasons for this downturn. From 1999 to 2006 this drop increased to 48%. In 2000, State Fire Marshal Coan began reaching out to candle manufacturers and retailers in Massachusetts to ask for their help in educating consumers on candle fire safety and to highlight and separate fire safety information from other fire safe use tips. He also asked them to adopt the candle **Circle of Safety** logo, to use it in their printed materials and on their webpages.

The downward trend is contrary to the national trend of the increasing problem of candle fires, especially in residences. According to the NFPA's most recent statistics[78], the share of fires started by candles in homes has jumped to 5%. In Massachusetts candle fires only represent 1% of total residential building fires.

More information on candle fire safety can be found on our webpage at http://www.mass.gov/dfs.htm.

Clothes Dryer Fires

Dryer Fires Cause 1 Civilian Fire Death

Eight-seven (87) clothes dryer fires caused one civilian fire death, two civilian injuries, two firefighter injuries, and an estimated dollar loss of $489,922. The average dollar loss per fire was $5,631. Of these 87 fires, 72, or 83%, occurred in residential occupancies.

The one civilian fire death was a burglar who broke into a laundromat. He became trapped inside a heating duct as he tried to exit the building. His body totally blocked the duct, and the buildup of heat beneath him caused the fire that killed him.

Twenty percent (20%) of the dryer fires were caused by a failure to clean the machines; 5% were caused by mechanical failures or malfunctions; another 5% had parts that were worn out; 3% each were caused by electrical failures or malfunctions, mechanical failures or malfunctions, and automatic control failures; and 2% each were caused by overloaded equipment, unattended equipment, misuse of the product and installation deficiencies.

[78] Ahrens, Marty, "Home Candle Fires," NFPA, Quincy, MA (August 2005); pg. 1.

2/3 of Dryers Were Electrical
Two thirds, or 67%, of the 87 dryers involved in fires were identified as having electricity as their power source. Thirty percent (30%) involved gas-fueled clothes dryers. This may be a reflection of the market share of electrical and gas-powered dryers rather than any inherent danger of one power source over another.

Forty-four percent (44%) of clothes dryer fires identified the heat source as radiated or conducted heat from equipment inside the dryer itself. Thirty-two percent (32%) of dryer fires identified the heat source as heat coming from the dryer itself but could not be any more specific.

Over 1/2 of Clothes Dryer Fires Occurred In 1- & 2-Family Homes
Fifty-three percent (53%) of the dryer fires occurred in one- and two-family homes; 23% occurred in apartments; 9% occurred in mercantile or business properties such as laundry or dry cleaning businesses; 5% occurred in institutional properties such as nursing homes hospitals and jails; 3% occurred in hotel and motels; 2% occurred at educational facilities; 1% occurred in dormitories; 1% occurred in rooming houses; another 1% occurred in unclassified residential occupancies; and 1% happened in storage facilities.

Clean the Lint Filter After Every Load
The public should be reminded to clean the dryer filter screen after each load of laundry, to clean the outside vents twice a year and to occasionally vacuum the motor area of the dryer. If materials such as cooking oil, solvents and other combustible or flammable liquids were not removed completely during the laundry cycle, heat from the dryer may cause them to ignite. This is the reason that mop heads should not be put into the dryer. An adult should be at home whenever the dryer is in use and the home should have working smoke alarms.

- Remember to keep dryer vents clear during heavy snowstorms to prevent the risk of carbon monoxide poisoning.

Saugus Has Largest Loss Clothes Dryer Fires
- On September 28 2006 at 9:57 a.m., the Saugus Fire Department was called to a dryer fire in a single-family home. The fire began in an electrically powered clothes dryer in the first floor laundry room and extended to the rear doorway and kitchen. No one was injured at this fire. Damages from this fire were estimated to be $80,000. It was undetermined if detectors were present in the building.

Fireworks Incidents

75 Incidents Involving Fireworks Caused $44,050 In Damages
There were 75 fire and explosion incidents reported that involved fireworks in 2006. This is a 1% increase from the 74 fire and explosion incidents reported in 2005. Incidents involving fireworks caused an estimated $35,350 in property damages. The average dollar loss per fireworks incident was $930.

More Than 1/4 of Fireworks Fires Occurred the Week of July 4th
Ten (10), or 26%, of the fireworks-caused fires in 2006 took place during the week of the 4th of July. Seven (7) of the 10 incidents, occurred between July 3 and July 5. Fifty-eight percent (58%) of the fireworks incidents were brush fires, while almost a fifth, 19%, were structure fires.

In version 5, a fireworks explosion without fire is coded as an Incident Type 243 – Fireworks explosion (no fires). In 2006, 37 such incidents were reported.

Largest Loss Fireworks Fire – New Bedford Apartment Fire

- On July 4, 2006, at 9:42 p.m., the New Bedford Fire Department was called to a fire at a three-unit apartment building. The fire began when an ember from an ignited fireworks landed on the roof of the building. There were no injuries associated with this fire and damages were estimated to be $20,000. Smoke detectors were present and they alerted the occupants. There were no sprinklers in the building.

Refer to M–BIRS Annual Report for More Information about Fireworks Injuries
For more information about the causes of burn injuries, please refer to the *Massachusetts Burn Injury Reporting System — 2006 Annual Report.* According to Massachusetts General Law (MGL) Chapter 112, Section 12A, the treatment of all burn injuries extending over 5% or more of a person's body surface area must be reported immediately to the State Fire Marshal. All burn reports received by the Office of the State Fire Marshal are reviewed for possible suspicious circumstances. Gasoline burns, burns on the hands and arms or other unusual scenarios are referred for further investigation.

There were three fireworks-related burn injuries reported to M-BIRS in 2006. Since we started collecting burn injury reports in M-BIRS in 1984, the average number of fireworks-related burns per year is 12 burns. The highest number of reported fireworks-related burns occurred in 1989, with 45 reported burn injuries.

Grill Fires

46 Incidents Involving Grills in 2006
In 2006, there were 46 fires and explosion incidents reported to the Massachusetts Fire Incident Reporting System (MFIRS) involving open fired grills. These incidents caused an estimated dollar loss of $28,390. There were no reported injuries associated with these fires. Predictably almost three-quarters, or 72%, of these incidents occurred in the months of May to September when people are most likely to use their outdoor grills.

Gas Grill Fires
Of the 46 grill incidents, 42, or 91%, of the grills were gas grills. Four percent (4%) used solid fuels such as charcoal briquettes. Two percent (2%) of the grills involved in these incidents were electrically powered. It was undetermined in 2% of these incidents what powered the grill. LP-gas grill fire incidents caused an estimated $7,890 in damage. Seventy-four percent (74%) of the LP-gas grill fires in Massachusetts occurred between May and September.

It is illegal to have LP-gas on balconies or porches above the first floor. Section 5a of 527 Code of Massachusetts Regulation 6:07 states "…Storage or use of LP-Gas containers above the first floor of a building used for habitation is prohibited…" The reason for this is that LP-gas is heavier than air and will sink. A spark from below could ignite gas that has leaked.

Largest Loss Portable Grill Fire

- On January 7, 2006 at 5:59 p.m. the Marlborough Fire Department was called to a fire started by a gas grill in a single-family home. The grill was placed too close to the exterior wall of the home and the heat eventually ignited the wall. There were no injuries associated with this fire. There were no smoke detectors in the building. The estimated dollar loss of this incident was $5,400.

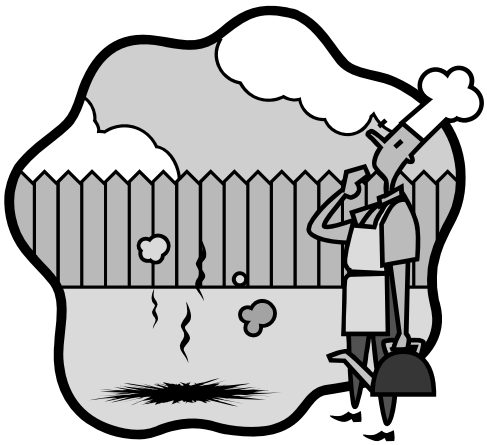
Refer to MBIRS Annual Report for More Information about Grill Injuries
For more information about the causes of burn injuries, please refer to the *Massachusetts Burn Injury Reporting System — 2006 Annual Report.* According to Massachusetts General Law (MGL) Chapter 112, Section 12A, the treatment of all burn injuries extending over 5% or more of a person's body surface area must be reported immediately to the State Fire Marshal. Three (3) civilians were reported to M-BIRS in 2006 with burn injuries from a grill. One of these burns happened each in April, July and August.

Grill Safety
Follow these safety tips when using a grill:

- Use all barbecue grills away from the house in the backyard.
- Supervise children whenever any grill is in use.
- Never use gasoline on any grill!

Gas Grill Safety

- Keep all LP-gas outside, 10 feet away from building openings such as doors, windows, dryer vents and 20 feet from air intake vents. Gas grill containers must be kept at least five feet away from possible ignition sources such as air conditioners, compressors, cars, and pilot lights.
- LP-gas grills are not permitted inside or on balconies above the first floor of any building where people live. LP-gas is heavier than air and sinks. A leaky grill could pose a hazard to people below.
- Make sure all connections are tight and secure.



Charcoal Grill Safety

- Use only charcoal lighter fluid to start charcoal grills.
- Once the coals have been lighted, never add more lighter fluid to the fire — flames may travel up the stream of lighter fluid resulting in serious burns.
- Only use charcoal grills outside.

Carbon Monoxide Incidents

In 2006, 260 fire departments voluntarily reported 9,651 carbon monoxide (CO) incidents[79], carbon monoxide detector activations due to malfunction[80] and carbon monoxide detector activations – no CO[81]. A CO hazard is an identifiable carbon monoxide emergency whether or not a CO detector activated, the presence of CO was confirmed, and some corrective action was indicated. Fire departments responded to some 3,867 confirmed CO hazard incidents.

93% Increase from 2005
There was a 93% increase in reported carbon monoxide incidents between 2005 and 2006. In 2006, the number of reported carbon monoxide incidents increased by 4,639 calls, or 93%, from the 5,012 calls reported in 2005. Many reasons can explain this increase including but not limited to: an increase in fire departments voluntarily reporting

[79] Carbon monoxide hazards = Incident Type – 424.
[80] Carbon monoxide detector activation due to a malfunction = Incident Type – 736.
[81] Carbon monoxide detector activation, no CO = Incident Type – 746.

these types of calls to MFIRS; a better educated public that may have purchased CO detectors for the first time after the tragedies of the Winter of 2004 – 2005; and the installation of CO detectors because of Nicole's Law[82], which made them mandatory in most residential occupancies throughout the Commonwealth.

Boston, the largest city in the Commonwealth, reported the most total CO incidents in 2006, 796 carbon monoxide incidents. The City of Newton reported the second most CO incidents in 2006, 212 CO calls. The next five cities in terms of the number of carbon monoxide calls reported were: Cambridge, 191 calls; Lowell, 186 calls; Springfield, 161 calls; and Plymouth, and Fall River each reported 120 carbon monoxide incidents in 2006.

Two hundred and forty-four (244) fire departments responded to 3,867 CO incidents. Fire departments responded to5,784 CO detector activations. A CO detector activation is when a CO detector activated in response to pollution, an unknown trigger or a non-threatening situation. These types of calls are split into two categories: CO detector activation due to malfunction and CO detector activation – no CO found. Two hundred and twenty-one (221) fire departments reported 3,070 CO detector activations due to malfunction. While 213 fire departments reported 2,714 CO detector activations with no CO found after investigation.

Finding little or no CO when the fire department arrives does not prove conclusively that no problem exists. An appliance may release large quantities of CO at one particular stage in its operation or someone may have vented the house with fresh air from the outside. Knowledgeable repair people must check out the equipment.

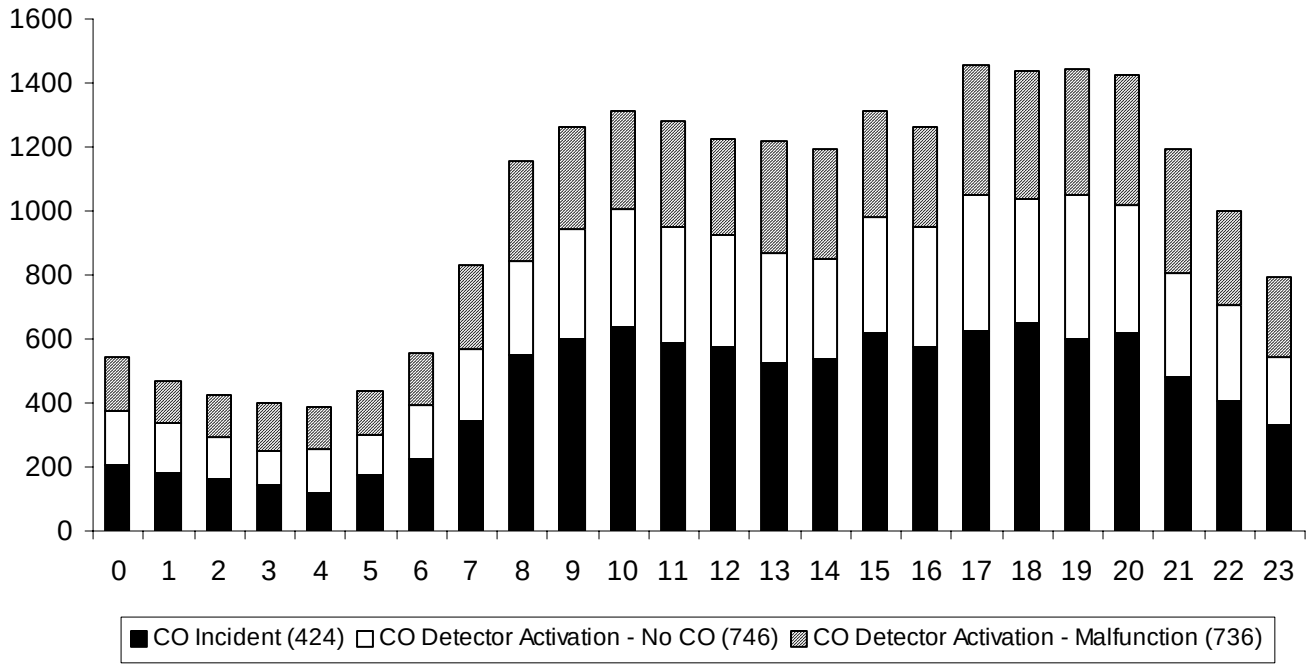
97% of All CO Incidents Occur in Residences
Ninety-seven percent (97%) of all carbon monoxide calls occurred in residential occupancies. Mercantile and business properties are the next leading property use for CO calls accounting for 1% of the incidents. Special properties also accounted for 1% of these calls. Public assembly, educational, institutional, storage facilities, basic industrial, and manufacturing and processing facilities each accounted for less than 1% of the carbon monoxide calls in 2006.

40% of All CO Calls Occur During the Winter
Forty percent (40%) of all the CO calls that occurred in 2006 happened during the colder months of November, December, January and February. Most CO calls occurred between the hours of 9:00 a.m. and 1:00 p.m. and 5:00 p.m. and 10:00 p.m.

These seem to be the times when most people are waking up and coming home from work or school. This would also be the time that people would turn the heat up. Heating equipment is a leading cause of carbon monoxide incidents.

[82] We expected to see a dramatic rise in all 3 types of CO calls: Incident Types: 424 = 59%, 736 = 116% & 746 = 132%.

Carbon Monoxide Calls by Hour 2001 - 2006



According to the U.S. Consumer Product Safety Commission (CPSC), an acceptable level of CO is a 15 PPM average over a time span of eight hours or a 22 PPM average for an hour. If you have 1,000 PPM for over thirty minutes, it puts you at a high level of danger in the form of a collapse into a coma or permanent brain damage.

Only a gas meter can detect if carbon monoxide is present and in what quantities. Because you can't see it or smell it, you may not know that it is there. Human senses don't provide enough information. Carbon monoxide is a by-product of combustion. It is one of the toxic gases produced in a fire. Many people falsely believe they will awaken to the smell of smoke. In fact, when a person falls asleep, so does their sense of smell. Carbon monoxide usually causes fatigue and will put someone into a deeper sleep so that people are less likely to awaken before their life slips away. This is why carbon monoxide detectors are so important. Large amounts of carbon monoxide are produced in a fire.

Nicole's Law Now Requires CO Alarms in Homes

In November of 2006, the Legislature passed Nicole's Law, requiring CO alarms in any residence with a potential source of CO. The law directed the Board of Fire Prevention Regulations to promulgate technical regulations on the type and placement of CO detectors, with a March 31, 2006 implementation date for locations the board determined could be protected by non-hardwired and a January 1, 2008 implementation date for locations the board felt had a higher risk and needed hardwired detectors.

Mapping the Fire Experience

Boston & Worcester Had the Most Reported Fires
Boston reported having the most fires, with 3,971 in 2006. Worcester had the second highest number of reported fires at 1,312. Springfield (1,146), Lowell (688), Quincy (670), and Cambridge (630) rounded out the top six communities in the Commonwealth in terms of reported fires.

However if we look at the number of reported fires compared to the total population of the individual community we get a different picture. One would expect that the bigger cities and towns to have more fires because of their populations. When we calculate the rate of reported fires for every 10,000 people in a given municipality, the ranking changes. Usually the top communities in terms of number of reported fires fall towards the bottom of the rankings. Communities with one, two or three reported fires take over the top spots. These communities may have a rate that far exceeds that actual number of fires that they reported. For example towns like Hawley, Tolland and Gosnold all reported five or less fires in 2006 but their small populations cause them to have a high fires per 10,000 population.

For a listing and breakdown of the number of reported fires and arsons by community please go to the appendix.

2006 Fires per 10,000 Population by Community, on page 164, displays the rate of reported fires by community for every 10,000 of that community's population. The map's legend indicates to which group a municipality belongs. Cities and towns that are blank had reported no fires or failed to report at all. The more shading a community shows the more fires per 10,000 people were reported from that municipality. These legend symbols are consistent through the other three maps.

Topsfield had the highest rate of 165 reported fires per 10,000 population. Next highest was Berlin with 160 structure fires per 10,000 population; Hawley had 149; Southampton had 140; Great Barrington had 138; and Bridgewater also had 138 structure fires per 10,000 population.

Boston & Worcester Had the Most Reported Structure Fires
Boston reported having the most structure fires, with 2,432 in 2006. Worcester had the second highest number of reported structure fires at 635. Springfield (633), Cambridge (495), Lowell (443) and Revere (385) rounded out the top six communities in the Commonwealth in terms of reported structure fires.

2006 Structure Fires per 10,000 Population by Community, on page 165, displays the rate of reported structure fires by community for every 10,000 of that community's population. The more shading a community shows the more structure fires per 10,000 people were reported from that municipality. Cities and towns that are blank did not report any structure fires or failed to report at all.

Topsfield, with 79 structure fires, had the highest rate of 129 structure fires per 10,000 population. Gosnold was the next highest with one structure fire and 116 structure fires per 10,000 population; Great Barrington had 106; Hawley had 89; and Stoughton had 88 structure fires per 10,000 population.

Boston & Worcester Had the Most Reported Residential Building Fires
Boston reported having the most residential building fires, with 1,972 in 2006. Worcester had the second highest number of reported building fires at 554. Springfield (543), Lowell (364), Cambridge (362), and Revere (350) rounded out the top six communities in the Commonwealth in terms of reported residential building fires.

2006 Residential Building Fires per 10,000 Population by Community, on page 166, displays the rate of reported building fires by community for every 10,000 of that community's population. The more shading a community shows the more residential building fires per 10,000 people were reported from that municipality. Cities and towns that are blank did not report any residential building fires or failed to report at all.

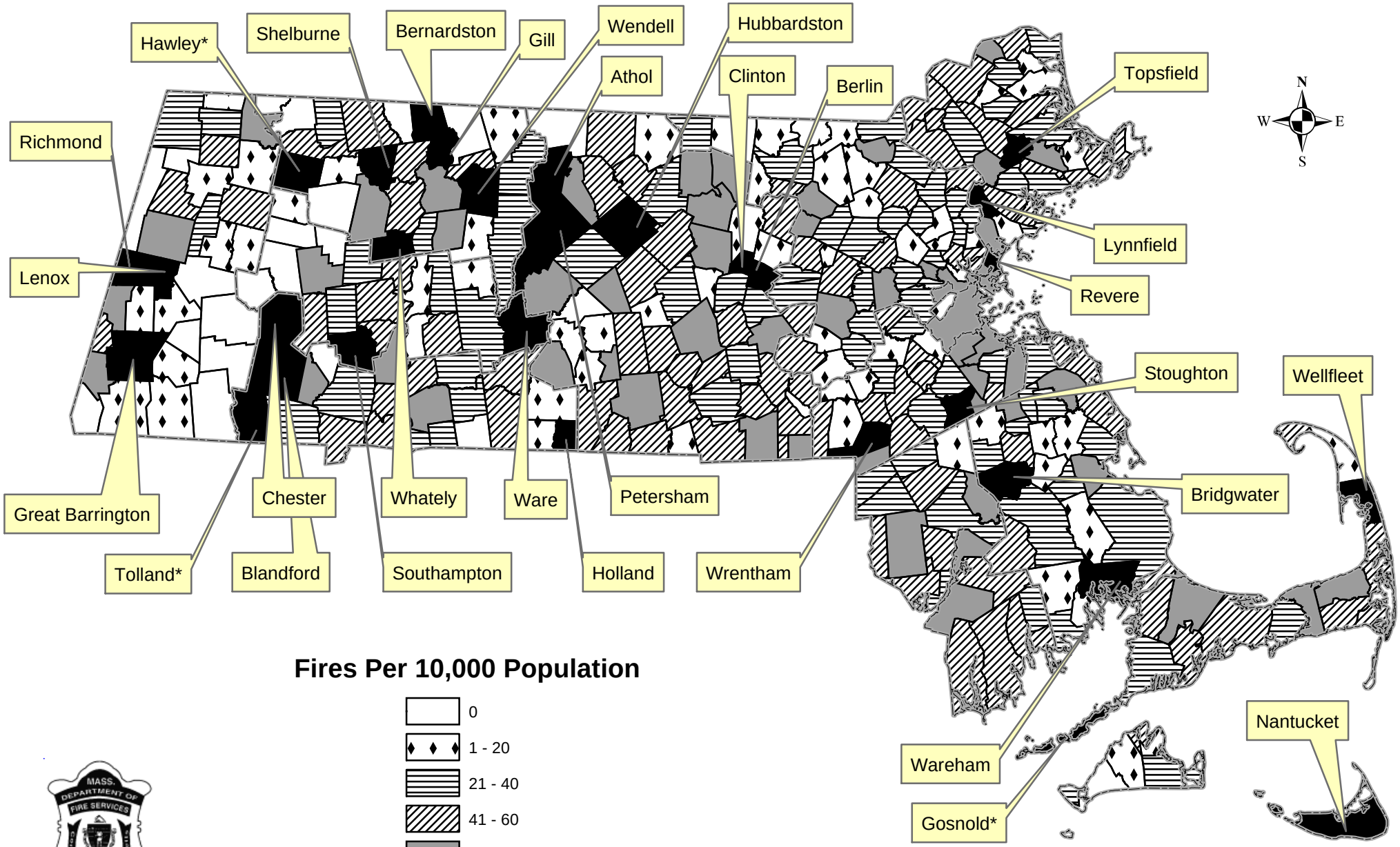
Topsfield, with 73 residential building fires, had the highest rate of 119 residential building fires per 10,000 population. Next highest was Great Barrington with 97 residential building fires per 10,000 population; Hawley had 90; Revere had 74; Tolland had 70; and Lenox had 67 residential building fires per 10,000 population.

Boston & Fall River Had the Most Reported Arsons
Boston reported having the most arsons, with 94 in 2006. Fall River had the second highest number of reported arsons at 50. Worcester (45), New Bedford (32), Revere (31), and Haverhill (29) rounded out the top six communities in the Commonwealth in terms of reported arsons.

2006 Arsons per 10,000 Population by Community, on page 167, displays the rate of the total reported arsons by community for every 10,000 of that community's population. The more shading a community shows the more arsons per 10,000 people were reported from that municipality. Cities and towns that are blank had no reported of arsons or failed to report at all.

Holland, with 12 arsons, had the highest rate of 50 reported arsons per 10,000 population. Next highest was Hubbardston with 31 arsons per 10,000 population; Hardwick also had 31; Ware had 29; Granby had 18, and Wareham had 14 arsons per 10,000 population.

2006 Fires by 10,000 Population by Community

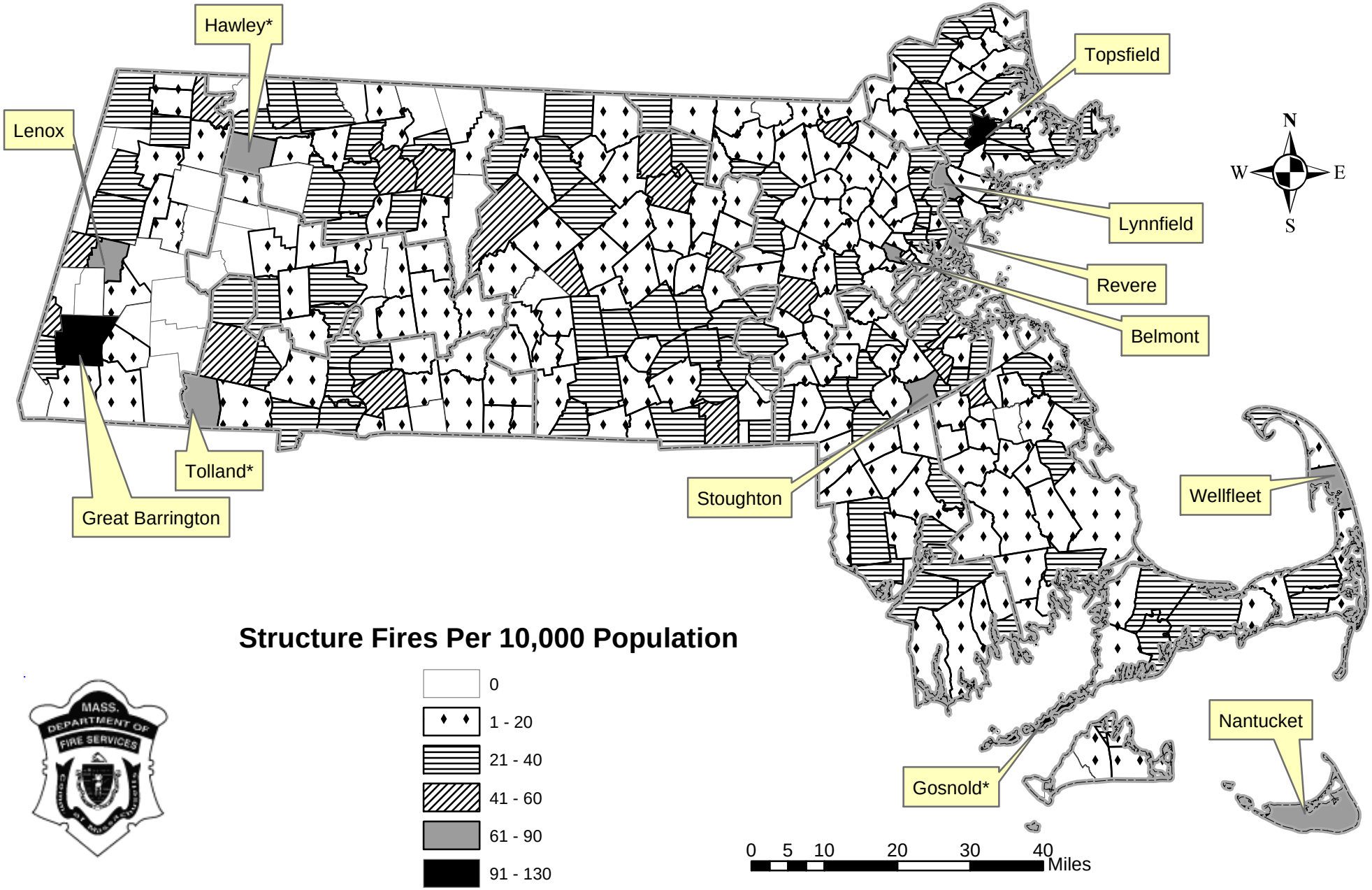


Fires Per 10,000 Population

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 90
- 91 - 165

*These communities reported 5 or less fires in 2006

2006 Structure Fires by 10,000 Population by Community



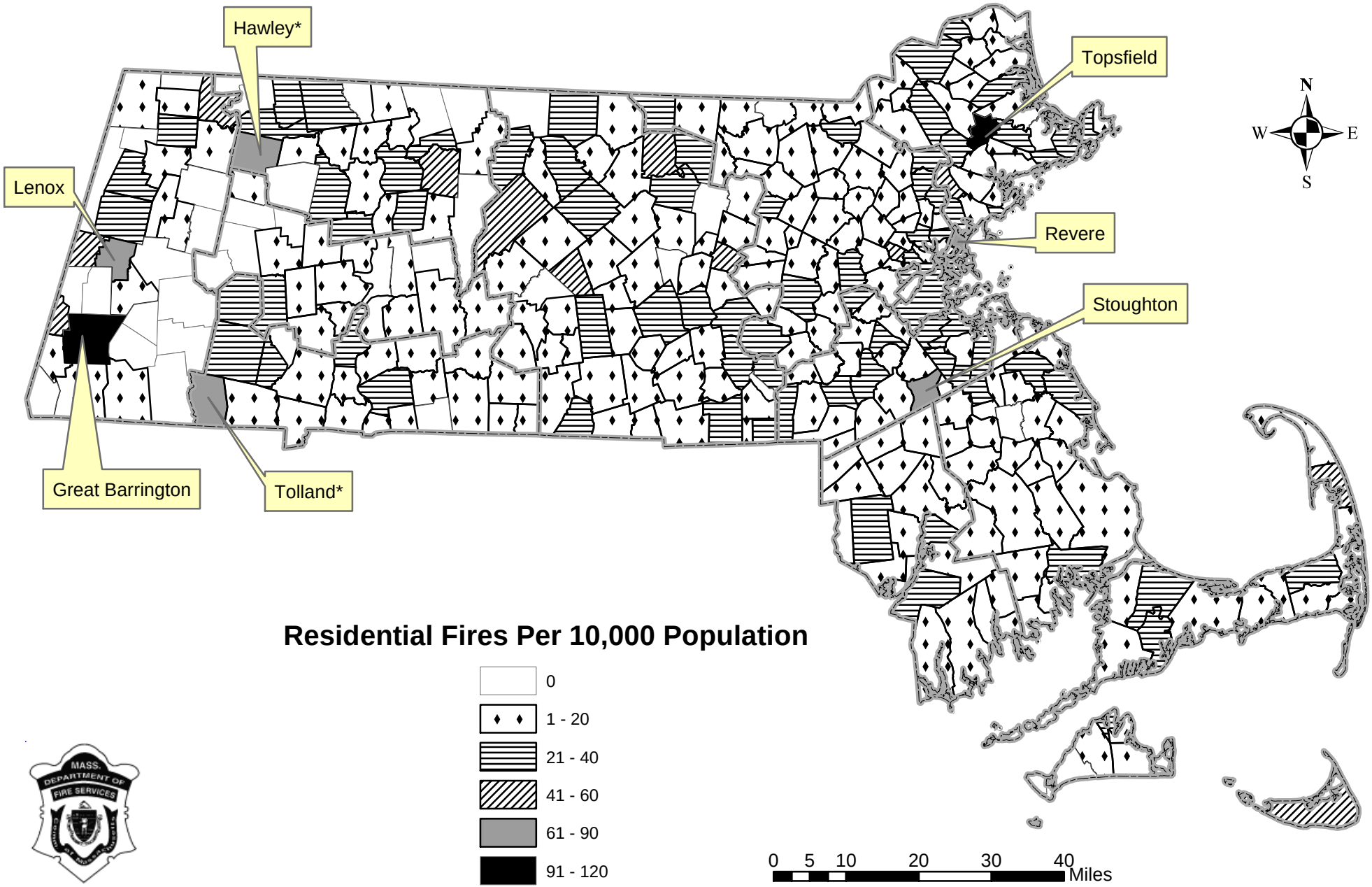
Structure Fires Per 10,000 Population

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 90
- 91 - 130

Massachusetts Fire Incident Reporting System 2006

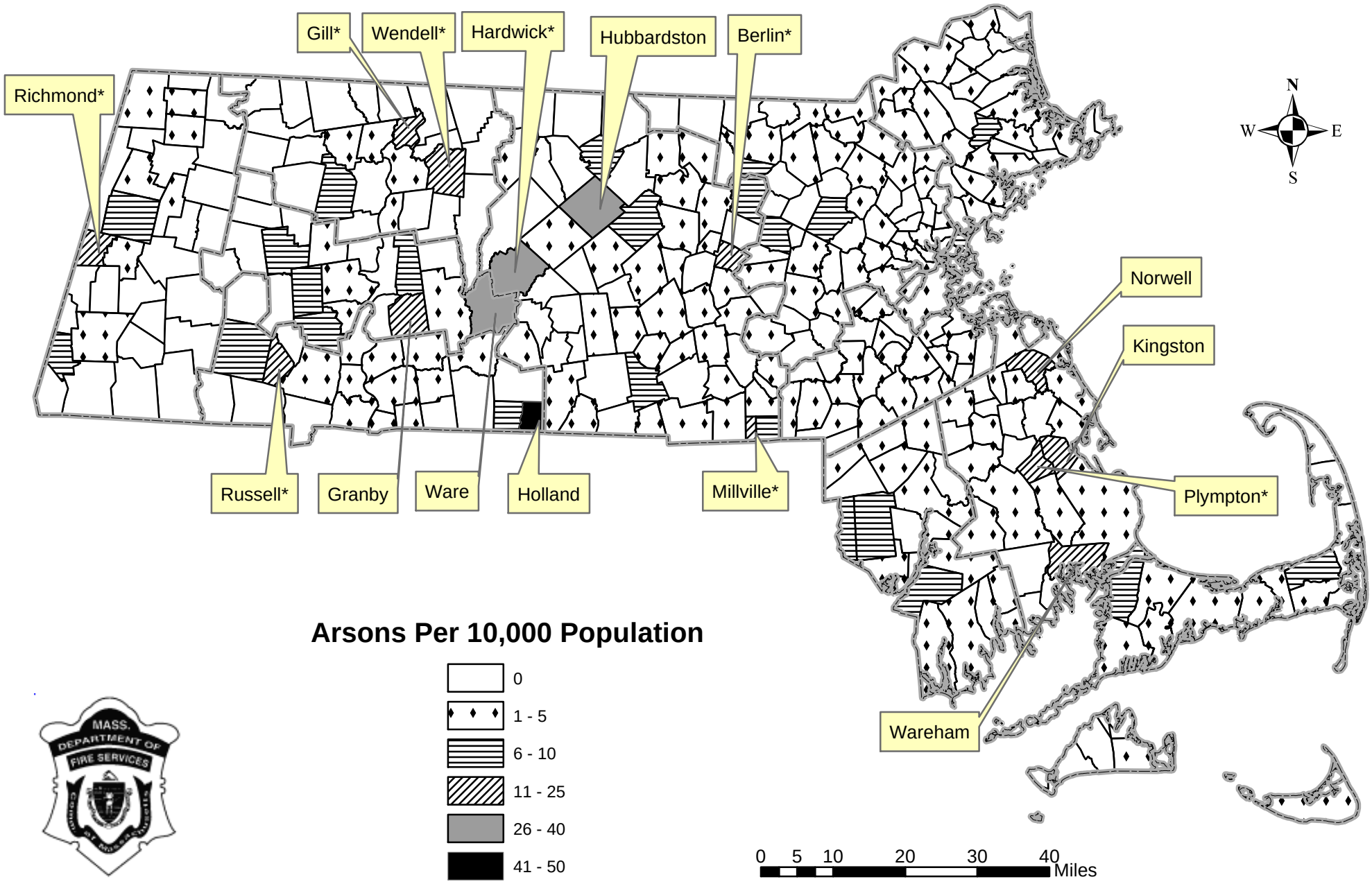
*These communities reported 5 or less structure fires in 2006

2006 Residential Fires by 10,000 by Community



*These communities reported 5 or less residential building fires in 2006

2006 Arsons by 10,000 Population by Community



*These communities reported 5 or less arsons in 2006

Groundbreaking at the MA Fallen Firefighters Memorial on October 16, 2006

DFS response to Danvers explosion on Wednesday, November 22, 2006.

Appendix

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Abington	100	64	8	28	0	2	0	1	$259,275
Acton	43	14	3	26	0	0	0	0	$15,050
Acushnet	31	20	4	7	0	0	0	0	$9,700
Adams	40	28	3	9	0	2	0	0	$98,320
Agawam	125	68	14	43	0	4	0	0	$812,176
Alford	2	2	0	0	0	0	0	0	$1,500
Amesbury	68	39	5	24	0	1	0	0	$297,177
Amherst	120	52	14	54	1	3	0	1	$2,469,420
Andover	132	59	27	46	0	0	0	0	$768,650
Aquinnah	1	0	1	0	0	0	0	0	$15,000
Arlington	92	49	9	34	0	0	0	0	$66,725
Ashburnham	7	2	1	4	0	0	0	0	$0
Ashby	9	7	1	1	0	0	0	0	$5,000
Ashfield	Fire Department in Good Standing; Certified No Fire To Report								
Ashland	20	10	1	9	0	0	0	0	$15,000
Athol	105	44	13	48	0	1	0	0	$10,200
Attleboro	121	52	15	54	0	1	0	1	$36,000
Auburn	92	28	21	43	0	0	0	2	$649,295
Avon	28	10	7	11	0	0	0	0	$29,400
Ayer	38	14	1	23	1	0	0	0	$22,053
Barnstable Fire Districts									
Barnstable	*26*	*6*	*4*	*16*	*0*	*1*	*0*	*1*	*$172,000*
C.O.M.M.	*84*	*35*	*11*	*38*	*1*	*4*	*0*	*1*	*$427,385*
Cotuit	*2*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*$55,000*
Hyannis	*133*	*43*	*17*	*73*	*0*	*5*	*0*	*1*	*$2,101,500*
West Barnstable	*26*	*13*	*4*	*9*	*0*	*1*	*0*	*0*	*$0*
Barre	32	16	1	15	0	1	0	1	$303,300
Becket	Fire Department in Good Standing; Certified No Fire To Report								
Bedford	29	14	6	9	0	1	0	2	$980,900
Belchertown	47	19	7	21	0	0	0	0	$3,000
Bellingham	80	43	12	25	0	0	0	0	$910,345
Belmont	178	146	6	26	0	1	0	6	$616,376
Berkley	35	14	7	14	0	0	0	0	$5,000
Berlin	38	12	7	19	0	0	0	2	$23,000
Bernardston	26	4	4	18	0	0	0	0	$90,000
Beverly	92	51	12	29	0	0	0	0	$1,809,002

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Abington	2	0	0	2	0	0	0	0	$0
Acton	0	0	0	0	0	0	0	0	$0
Acushnet	3	1	1	1	0	0	0	0	$5,000
Adams	2	0	0	2	0	0	0	0	$0
Agawam	1	0	0	1	0	0	0	0	$0
Alford	0	0	0	0	0	0	0	0	$0
Amesbury	2	1	0	1	0	0	0	0	$1,500
Amherst	20	4	0	15	0	0	0	0	$250
Andover	1	0	1	0	0	0	0	0	$18,020
Aquinnah	0	0	0	0	0	0	0	0	$0
Arlington	8	2	1	5	0	0	0	0	$125
Ashburnham	0	0	0	0	0	0	0	0	$0
Ashby	0	0	0	0	0	0	0	0	$0
Ashfield	Fire Department in Good Standing; Certified No Fire To Report								
Ashland	0	0	0	0	0	0	0	0	$0
Athol	3	0	0	3	0	0	0	0	$0
Attleboro	0	0	0	0	0	0	0	0	$0
Auburn	2	0	0	2	0	0	0	0	$0
Avon	1	1	0	0	0	0	0	0	$0
Ayer	5	3	0	2	0	0	0	0	$20,000
Barnstable Fire Districts									
Barnstable	*2*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*$0*
C.O.M.M.	*10*	*0*	*1*	*9*	*0*	*0*	*0*	*0*	*$13,585*
Cotuit	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Hyannis	*10*	*5*	*1*	*4*	*0*	*0*	*0*	*0*	*$17,500*
West Barnstable	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*$0*
Barre	2	0	1	1	0	0	0	0	$1,500
Becket	Fire Department in Good Standing; Certified No Fire To Report								
Bedford	2	2	0	0	0	0	0	1	$950,000
Belchertown	4	0	0	4	0	0	0	0	$0
Bellingham	3	3	0	0	0	0	0	0	$220
Belmont	4	0	0	4	0	0	0	0	$0
Berkley	1	0	0	1	0	0	0	0	$0
Berlin	3	0	2	1	0	0	0	0	$4,800
Bernardston	0	0	0	0	0	0	0	0	$0
Beverly	1	1	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Billerica	166	71	19	76	0	0	0	3	$1,019,558
Blackstone	62	27	2	33	0	1	0	0	$0
Blandford	14	5	8	1	0	0	0	0	$199,250
Bolton	3	2	1	0	0	0	0	0	$71,000
Boston	3,971	2,432	379	1,160	2	24	0	12	$23,793,625
Bourne	85	33	13	39	0	3	0	2	$1,264,575
Boxborough	32	13	8	11	0	0	0	0	$49,160
Boxford	37	20	7	10	0	0	0	0	$9,000
Boylston	10	7	1	2	0	0	0	0	$113,000
Braintree	101	21	28	52	0	2	0	2	$2,295,750
Brewster	80	31	5	44	0	1	0	2	$322,000
Bridgewater	347	29	15	303	0	4	0	3	$152,950
Brimfield	3	2	1	0	0	0	0	0	$29,000
Brockton	148	87	35	26	5	22	0	10	$2,078,350
Brookfield	4	4	0	0	0	0	0	0	$0
Brookline	37	27	6	4	0	1	0	7	$1,243,300
Buckland	1	1	0	0	0	0	0	0	$44,000
Burlington	82	42	19	21	0	3	0	1	$533,800
Cambridge	630	495	33	102	1	41	0	18	$5,618,255
Canton	44	23	10	11	0	1	0	0	$538,551
Carlisle	1	1	0	0	0	0	0	0	$125,000
Carver	9	6	3	0	0	0	0	0	$217,000
Charlemont	7	4	1	2	0	0	0	0	$0
Charlton	69	29	15	25	0	0	0	0	$83,655
Chatham	32	13	2	17	0	0	0	3	$238,700
Chelmsford	49	23	18	8	0	0	0	0	$1,893,650
Chelsea	271	189	26	56	0	2	0	19	$1,669,726
Cheshire	3	2	0	1	0	0	0	0	$25
Chester	14	5	1	8	0	0	0	0	$0
Chesterfield	9	2	0	7	0	0	0	0	$0
Chicopee	229	113	32	84	0	9	0	3	$928,448
Chilmark	Fire Department in Good Standing; Certified No Fire To Report								
Clarksburg	2	1	1	0	0	0	0	0	$30,750
Clinton	176	25	3	148	0	0	0	0	$0
Cohasset	34	13	2	19	0	1	0	0	$0

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Billerica	10	0	2	8	0	0	0	0	$4
Blackstone	8	0	0	8	0	0	0	0	$0
Blandford	1	0	0	1	0	0	0	0	$0
Bolton	0	0	0	0	0	0	0	0	$0
Boston	94	46	22	26	0	1	0	0	$1,536,200
Bourne	12	5	2	5	0	0	0	0	$958,750
Boxborough	0	0	0	0	0	0	0	0	$0
Boxford	0	0	0	0	0	0	0	0	$0
Boylston	0	0	0	0	0	0	0	0	$0
Braintree	7	1	2	4	0	0	0	0	$500
Brewster	7	0	0	7	0	0	0	0	$0
Bridgewater	2	1	0	1	0	0	0	0	$50
Brimfield	0	0	0	0	0	0	0	0	$0
Brockton	6	6	0	0	1	11	0	2	$321,200
Brookfield	0	0	0	0	0	0	0	0	$0
Brookline	1	1	0	0	0	0	0	0	$500
Buckland	0	0	0	0	0	0	0	0	$0
Burlington	0	0	0	0	0	0	0	0	$0
Cambridge	15	6	1	8	0	0	0	0	$2,107
Canton	3	2	1	0	0	0	0	0	$1,100
Carlisle	0	0	0	0	0	0	0	0	$0
Carver	1	0	1	0	0	0	0	0	$2,000
Charlemont	0	0	0	0	0	0	0	0	$0
Charlton	0	0	0	0	0	0	0	0	$0
Chatham	0	0	0	0	0	0	0	0	$0
Chelmsford	2	0	1	1	0	0	0	0	$1,400
Chelsea	16	6	1	9	0	0	0	0	$25,020
Cheshire	0	0	0	0	0	0	0	0	$0
Chester	0	0	0	0	0	0	0	0	$0
Chesterfield	1	0	0	1	0	0	0	0	$0
Chicopee	11	5	0	6	0	1	0	0	$8,213
Chilmark	Fire Department in Good Standing; Certified No Fire To Report								
Clarksburg	0	0	0	0	0	0	0	0	$0
Clinton	4	0	0	4	0	0	0	0	$0
Cohasset	0	0	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Colrain	9	7	1	1	0	0	0	0	$86,000
Concord	60	22	7	31	0	0	0	0	$1,455,295
Conway	14	7	2	5	0	0	0	0	$0
Cummington	Fire Department in Good Standing; Certified No Fire To Report								
Dalton	25	12	4	9	0	1	0	0	$65,600
Danvers	85	43	19	23	0	0	0	3	$2,134,625
Dartmouth Fire Districts									
Dartmouth #1	*42*	*23*	*7*	*12*	*0*	*2*	*0*	*1*	*$0*
Dartmouth #2	*8*	*3*	*1*	*4*	*0*	*0*	*0*	*0*	*$0*
Dartmouth #3	*99*	*18*	*24*	*57*	*1*	*1*	*0*	*1*	*$0*
Dedham	5	5	0	0	0	1	0	1	$93,700
Deerfield Fire Districts									
Deerfield	*Non-reporting Community*								
South Deerfield	*20*	*13*	*2*	*5*	*0*	*0*	*0*	*0*	*$48,000*
Dennis	104	23	8	73	0	3	0	3	$675,000
Devens	17	8	2	7	0	0	0	0	$516,320
Dighton	30	10	5	15	0	0	0	0	$229,000
Douglas	38	21	4	13	0	0	0	1	$10,000
Dover	4	4	0	0	0	0	0	0	$0
Dracut	96	33	14	49	0	1	0	2	$938,700
Dudley	47	19	7	21	0	0	0	0	$21,000
Dunstable	Fire Department in Good Standing; Certified No Fire To Report								
Duxbury	39	13	5	21	0	0	0	0	$378,600
East Bridgewater	52	25	6	21	0	4	0	1	$830,000
East Brookfield	13	3	0	10	0	0	0	1	$20,000
East Longmeadow	38	6	6	26	0	2	0	0	$127,570
Eastham	24	6	6	12	0	0	0	0	$14,000
Easthampton	80	35	8	37	0	0	0	2	$418,500
Easton	22	17	4	1	0	3	0	0	$463,100
Edgartown	11	2	2	7	0	0	0	1	$0
Egremont	10	3	0	7	0	0	0	0	$0
Erving	6	3	0	3	0	0	0	0	$8,000
Essex	1	1	0	0	0	0	0	0	$0
Everett	154	72	29	53	0	0	0	2	$1,025,430
Fairhaven	73	34	8	31	1	1	0	7	$1,033,750
Fall River	559	248	74	237	6	21	0	8	$2,273,595

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Colrain	0	0	0	0	0	0	0	0	$0
Concord	9	3	2	4	0	0	0	0	$150,300
Conway	1	0	1	0	0	0	0	0	$0
Cummington	Fire Department in Good Standing; Certified No Fire To Report								
Dalton	1	0	1	0	0	0	0	0	$1,000
Danvers	2	1	1	0	0	0	0	0	$7,000
Dartmouth Fire Districts									
Dartmouth #1	*6*	*3*	*1*	*2*	*0*	*0*	*0*	*0*	*$0*
Dartmouth #2	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Dartmouth #3	*9*	*2*	*0*	*7*	*0*	*0*	*0*	*0*	*$0*
Dedham	0	0	0	0	0	0	0	0	$0
Deerfield Fire Districts									
Deerfield	*Non-Reporting Community*								
South Deerfield	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Dennis	1	0	0	1	0	0	0	0	$0
Devens	0	0	0	0	0	0	0	0	$0
Dighton	0	0	0	0	0	0	0	0	$0
Douglas	3	0	1	2	0	0	0	0	$0
Dover	0	0	0	0	0	0	0	0	$0
Dracut	5	2	1	2	0	0	0	0	$500
Dudley	0	0	0	0	0	0	0	0	$0
Dunstable	Fire Department in Good Standing; Certified No Fire To Report								
Duxbury	2	1	0	1	0	0	0	0	$150,000
East Bridgewater	1	0	0	1	0	0	0	0	$0
East Brookfield	0	0	0	0	0	0	0	0	$0
East Longmeadow	2	0	0	2	0	0	0	0	$0
Eastham	0	0	0	0	0	0	0	0	$0
Easthampton	6	1	1	4	0	0	0	1	$10,100
Easton	1	0	0	1	0	0	0	0	$200
Edgartown	1	0	0	1	0	0	0	0	$0
Egremont	1	0	0	1	0	0	0	0	$0
Erving	0	0	0	0	0	0	0	0	$0
Essex	0	0	0	0	0	0	0	0	$0
Everett	18	4	5	9	0	0	0	0	$119,200
Fairhaven	2	1	1	0	0	0	0	0	$0
Fall River	51	24	8	19	1	2	0	1	$308,000

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Falmouth	77	34	14	29	0	0	0	2	$2,237,450
Fitchburg	304	225	9	70	0	2	0	11	$1,548,566
Florida	6	3	1	2	0	0	0	0	$73,500
Foxborough	79	34	19	26	0	0	0	0	$878,200
Framingham	402	282	22	98	0	9	0	5	$2,650,341
Franklin	18	18	0	0	0	0	0	0	$32,050
Freetown	45	21	10	14	0	0	0	1	$263,320
Gardner	113	40	16	57	0	1	0	1	$488,891
Georgetown	26	9	1	16	0	0	0	0	$10,000
Gill	16	2	3	11	0	0	0	0	$0
Gloucester	153	87	14	52	1	2	0	15	$387,000
Goshen	Fire Department in Good Standing; Certified No Fire To Report								
Gosnold	1	1	0	0	0	0	0	0	$0
Grafton	50	30	7	13	0	0	0	0	$85,000
Granby	35	8	4	23	0	1	0	0	$71,500
Granville	5	3	0	2	0	0	0	0	$0
Great Barrington	104	80	3	21	0	0	0	0	$263,700
Greenfield	102	51	8	43	0	2	0	5	$335,950
Groton	36	14	1	21	0	0	0	0	$0
Groveland	4	3	1	0	0	0	0	0	$102,800
Hadley	1	0	0	1	0	0	0	0	$7,237
Halifax	5	5	0	0	0	0	0	0	$136,000
Hamilton	57	30	3	24	0	1	0	2	$339,100
Hampden	Fire Department in Good Standing; Certified No Fire To Report								
Hancock	Fire Department in Good Standing; Certified No Fire To Report								
Hanover	40	15	4	21	0	1	0	0	$18,225
Hanson	1	0	0	1	0	0	0	0	$0
Hardwick	19	2	0	17	0	0	0	0	$0
Harvard	33	9	1	23	0	0	0	0	$0
Harwich	65	33	9	23	0	3	0	4	$1,675,832
Hatfield	18	5	2	11	0	0	0	0	$47,000
Haverhill	272	190	26	56	0	0	0	2	$514,300
Hawley	5	3	0	2	0	0	0	0	$200
Heath	3	3	0	0	0	0	0	0	$0
Hingham	67	38	10	19	0	1	0	0	$1,088,240

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Falmouth	10	2	3	5	0	0	0	0	$12,450
Fitchburg	6	1	0	5	0	0	0	2	$50
Florida	0	0	0	0	0	0	0	0	$0
Foxborough	2	1	0	1	0	0	0	0	$1,000
Framingham	8	4	0	4	0	0	0	0	$36,500
Franklin	1	1	0	0	0	0	0	0	$0
Freetown	4	0	2	2	0	0	0	0	$28,300
Gardner	11	4	1	6	0	0	0	1	$4,416
Georgetown	1	1	0	0	0	0	0	0	$0
Gill	2	0	0	2	0	0	0	0	$0
Gloucester	2	0	0	2	0	0	0	0	$0
Goshen	Fire Department in Good Standing; Certified No Fire To Report								
Gosnold	0	0	0	0	0	0	0	0	$0
Grafton	1	1	0	0	0	0	0	0	$0
Granby	11	0	0	11	0	0	0	0	$0
Granville	0	0	0	0	0	0	0	0	$0
Great Barrington	2	0	0	2	0	0	0	0	$0
Greenfield	4	2	1	1	0	0	0	1	$22,400
Groton	3	0	1	2	0	0	0	0	$0
Groveland	1	1	0	0	0	0	0	0	$100,000
Hadley	0	0	0	0	0	0	0	0	$0
Halifax	0	0	0	0	0	0	0	0	$0
Hamilton	3	0	0	3	0	0	0	0	$0
Hampden	Fire Department in Good Standing; Certified No Fire To Report								
Hancock	Fire Department in Good Standing; Certified No Fire To Report								
Hanover	2	1	0	1	0	1	0	0	$0
Hanson	0	0	0	0	0	0	0	0	$0
Hardwick	8	0	0	8	0	0	0	0	$0
Harvard	3	0	0	3	0	0	0	0	$0
Harwich	2	0	0	2	0	0	0	0	$0
Hatfield	0	0	0	0	0	0	0	0	$0
Haverhill	29	5	0	24	0	0	0	0	$520
Hawley	0	0	0	0	0	0	0	0	$0
Heath	0	0	0	0	0	0	0	0	$0
Hingham	5	2	1	2	0	0	0	0	$7,000

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Hinsdale	1	1	0	0	0	0	0	0	$130,000
Holbrook	61	35	1	25	0	0	0	0	$40,450
Holden	46	25	5	16	0	0	0	0	$0
Holland	24	4	1	19	0	0	0	0	$2,000
Holliston	6	6	0	0	0	0	0	0	$530,000
Holyoke	282	138	35	109	0	1	0	7	$1,301,436
Hopedale	35	33	2	0	0	4	0	1	$95,810
Hopkinton	80	50	10	20	0	1	0	0	$481,300
Hubbardston	40	10	4	26	0	5	0	1	$40,100
Hudson	57	34	9	14	1	3	0	0	$1,528,130
Hull	33	16	3	14	0	0	0	0	$377,050
Huntington	11	5	0	6	0	0	0	0	$0
Ipswich	41	14	3	24	0	0	0	0	$987,800
Kingston	88	26	14	48	0	1	0	0	$30,624
Lake Pleasant	0	0	0	0	0	0	0	0	$0
Lakeville	45	11	2	32	0	0	0	0	$15,000
Lancaster	5	2	2	1	0	0	0	0	$590,000
Lanesborough	15	6	1	8	0	0	0	0	$75,000
Lawrence	296	97	64	135	0	0	0	10	$3,599,676
Lee	6	6	0	0	0	0	0	0	$10,600
Leicester	47	22	4	21	1	0	0	0	$533,000
Lenox	62	40	2	20	1	1	0	0	$495,935
Leominster	283	185	21	77	1	0	0	0	$39,304
Leverett	10	6	1	3	0	0	0	0	$3,250
Lexington	45	27	10	8	0	4	0	1	$47,038
Leyden	Fire Department in Good Standing; Certified No Fire To Report								
Lincoln	33	16	3	14	0	0	0	0	$57,100
Littleton	51	18	18	15	0	0	0	0	$1,065,600
Logan Airport FD	37	8	9	20	0	0	0	0	$1,100
Longmeadow	43	19	8	16	0	0	0	1	$44,900
Lowell	688	443	53	192	1	1	0	2	$687,425
Ludlow	69	37	9	23	0	1	0	0	$1,006,900
Lunenburg	66	27	7	32	0	1	0	0	$13,550
Lynn	95	65	29	1	3	6	0	15	$347,650
Lynnfield	112	75	7	30	0	2	0	0	$111,601

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Hinsdale	0	0	0	0	0	0	0	0	$0
Holbrook	3	2	0	1	0	0	0	0	$5,100
Holden	3	1	0	2	0	0	0	0	$0
Holland	13	1	0	12	0	0	0	0	$0
Holliston	0	0	0	0	0	0	0	0	$0
Holyoke	9	2	3	4	0	0	0	0	$12,575
Hopedale	0	0	0	0	0	0	0	0	$0
Hopkinton	5	1	1	3	0	0	0	0	$2,500
Hubbardston	12	2	0	10	0	0	0	0	$25,000
Hudson	4	2	1	1	0	0	0	0	$750
Hull	1	0	1	0	0	0	0	0	$6,000
Huntington	0	0	0	0	0	0	0	0	$0
Ipswich	2	0	1	1	0	0	0	0	$17,300
Kingston	13	1	0	12	0	0	0	0	$0
Lake Pleasant	0	0	0	0	0	0	0	0	$0
Lakeville	3	0	1	2	0	0	0	0	$0
Lancaster	1	1	0	0	0	0	0	0	$180,000
Lanesborough	1	0	0	1	0	0	0	0	$0
Lawrence	13	5	3	5	0	0	0	0	$9,685
Lee	0	0	0	0	0	0	0	0	$0
Leicester	1	0	0	1	0	0	0	0	$0
Lenox	1	1	0	0	1	0	0	0	$175,000
Leominster	7	2	0	5	0	0	0	0	$2,500
Leverett	0	0	0	0	0	0	0	0	$0
Lexington	1	0	0	1	0	0	0	0	$0
Leyden	Fire Department in Good Standing; Certified No Fire To Report								
Lincoln	0	0	0	0	0	0	0	0	$0
Littleton	0	0	0	0	0	0	0	0	$0
Logan Airport FD	0	0	0	0	0	0	0	0	$0
Longmeadow	1	0	0	1	0	0	0	0	$0
Lowell	13	6	1	6	0	0	0	0	$925
Ludlow	7	2	0	5	0	0	0	0	$2,600
Lunenburg	4	1	0	3	0	0	0	0	$350
Lynn	8	6	2	0	0	0	0	3	$71,600
Lynnfield	0	0	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Malden	315	173	20	122	0	6	0	4	$895,800
Manchester	28	14	6	8	0	0	0	0	$0
Mansfield	67	18	13	36	1	1	0	1	$1,311,800
Marblehead	60	37	6	17	0	0	0	1	$552,856
Marion	5	2	3	0	0	1	0	0	$152,445
Marlborough	118	56	21	41	0	3	0	1	$1,039,700
Marshfield	109	62	6	41	0	1	0	1	$1,000
Mashpee	71	40	7	24	0	2	0	2	$1,245,650
Mattapoisett	22	2	2	18	0	0	0	0	$0
Maynard	9	7	2	0	0	1	0	0	$397,100
Medfield	34	10	2	22	0	0	0	0	$0
Medford	300	196	19	85	0	3	0	4	$565,300
Medway	7	4	3	0	0	0	0	1	$140,000
Melrose	40	30	3	7	1	4	0	0	$760,300
Mendon	27	6	2	19	0	0	0	1	$16,500
Merrimac	38	23	3	12	0	0	0	0	$0
Methuen	201	83	20	98	0	0	0	1	$139,000
Middleborough	84	31	15	38	0	0	0	1	$0
Middlefield	Fire Department in Good Standing; Certified No Fire To Report								
Middleton	56	25	5	26	0	0	0	0	$40,000
Milford	129	71	13	45	0	1	0	2	$1,220,200
Millbury	58	32	11	15	0	0	0	0	$170,735
Millis	4	3	1	0	0	0	0	0	$27,000
Millville	13	1	1	11	0	0	0	0	$3,000
Milton	183	103	17	63	0	0	0	49	$426,800
Monroe	Fire Department in Good Standing; Certified No Fire To Report								
Monson	39	15	3	21	0	0	0	0	$12,600
Montague Fire Districts									
Montague Center	*25*	*11*	*1*	*13*	*0*	*0*	*0*	*0*	*$33,000*
Turners Falls	*44*	*30*	*4*	*10*	*0*	*0*	*0*	*1*	*$278,220*
Monterey	1	1	0	0	0	0	0	0	$6,150
Montgomery	Non-Reporting Community								
Nahant	4	0	0	4	0	0	0	0	$0
Nantucket	113	66	9	38	0	1	0	0	$24,250
Natick	105	58	13	34	0	2	0	1	$613,600
Needham	74	41	8	25	0	0	0	0	$150,155

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Malden	6	2	0	4	0	0	0	0	$0
Manchester	0	0	0	0	0	0	0	0	$0
Mansfield	2	1	0	1	0	1	0	0	$0
Marblehead	1	0	0	1	0	0	0	0	$0
Marion	1	1	0	0	0	0	0	0	$150,050
Marlborough	3	1	1	1	0	0	0	0	$2,000
Marshfield	3	0	0	3	0	0	0	0	$0
Mashpee	2	0	1	1	0	0	0	0	$250
Mattapoisett	0	0	0	0	0	0	0	0	$0
Maynard	0	0	0	0	0	0	0	0	$0
Medfield	5	0	1	4	0	0	0	0	$0
Medford	1	0	1	0	0	0	0	0	$25,000
Medway	0	0	0	0	0	0	0	0	$0
Melrose	4	2	0	2	0	0	0	0	$2,600
Mendon	2	0	0	2	0	0	0	0	$0
Merrimac	2	0	0	2	0	0	0	0	$0
Methuen	5	0	1	4	0	0	0	0	$0
Middleborough	4	0	0	4	0	0	0	0	$0
Middlefield	Fire Department in Good Standing; Certified No Fire To Report								
Middleton	1	1	0	0	0	0	0	0	$0
Milford	5	1	0	4	0	0	0	0	$1,050
Millbury	2	2	0	0	0	0	0	0	$250
Millis	0	0	0	0	0	0	0	0	$0
Millville	3	0	0	3	0	0	0	0	$0
Milton	11	0	0	11	0	0	0	0	$0
Monroe	Fire Department in Good Standing; Certified No Fire To Report								
Monson	0	0	0	0	0	0	0	0	$0
Montague Fire Districts									
Montague Center	*2*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*$25,000*
Turners Falls	*2*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*$0*
Monterey	0	0	0	0	0	0	0	0	$0
Montgomery	Non-Reporting Community								
Nahant	0	0	0	0	0	0	0	0	$0
Nantucket	2	0	2	0	0	0	0	0	$9,000
Natick	5	3	0	2	0	0	0	0	$1,000
Needham	3	0	0	3	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
New Ashford	Fire Department in Good Standing; Certified No Fire To Report								
New Bedford	378	138	86	154	0	2	0	2	$556,375
New Braintree	Non-Reporting Community								
New Marlborough	1	1	0	0	0	0	0	0	$185,000
New Salem	3	0	0	3	0	0	0	0	$0
Newbury	12	1	2	9	0	1	0	0	$0
Newburyport	13	8	2	3	0	1	0	4	$3,594,600
Newton	187	107	20	60	0	1	0	6	$1,874,400
Norfolk	46	28	2	16	0	1	0	0	$464,000
North Adams	53	22	2	29	0	3	0	0	$538,465
North Andover	108	66	5	37	0	0	0	0	$187,325
North Attleboro	100	31	12	57	0	0	0	0	$426,500
North Brookfield	3	3	0	0	0	0	0	0	$265,000
North Reading	66	32	7	27	0	0	0	0	$60,000
Northampton	153	65	25	63	0	5	0	1	$2,494,360
Northborough	37	8	12	17	0	0	0	0	$85,900
Northbridge	68	31	8	29	0	0	0	0	$137,875
Northfield	Non-Reporting Community								
Norton	82	13	6	63	0	1	0	0	$514,300
Norwell	71	33	7	31	1	0	0	0	$0
Norwood	124	43	16	65	0	3	0	3	$2,464,000
Oak Bluffs	4	3	1	0	0	0	0	0	$113,000
Oakham	12	8	0	4	0	0	0	0	$0
Orange	20	12	0	8	0	0	0	0	$0
Orleans	35	6	6	23	0	0	0	0	$8,000
Otis	0	0	0	0	0	0	0	0	$0
Oxford	80	20	15	45	0	2	0	0	$207,650
Palmer Fire Districts									
Bondsville	*6*	*2*	*2*	*2*	*0*	*0*	*0*	*0*	*$250*
Palmer	*48*	*21*	*11*	*16*	*0*	*0*	*0*	*0*	*$40,215*
Three Rivers	*15*	*1*	*5*	*9*	*0*	*0*	*0*	*0*	*$0*
Paxton	8	5	1	2	0	0	0	0	$39,000
Peabody	214	64	18	132	0	1	0	2	$2,263,455
Pelham	1	1	0	0	0	0	0	0	$1,000
Pembroke	22	13	6	3	1	2	0	3	$958,050
Pepperell	21	12	3	6	0	1	0	0	$611,300

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
New Ashford	Fire Department in Good Standing; Certified No Fire To Report								
New Bedford	32	8	21	3	0	0	0	0	$54,000
New Braintree	Non-Reporting Community								
New Marlborough	0	0	0	0	0	0	0	0	$0
New Salem	0	0	0	0	0	0	0	0	$0
Newbury	0	0	0	0	0	0	0	0	$0
Newburyport	0	0	0	0	0	0	0	0	$0
Newton	8	1	0	7	0	0	0	0	$1,500
Norfolk	4	1	0	3	0	1	0	0	$2,000
North Adams	7	3	1	3	0	0	0	0	$1,015
North Andover	4	1	0	3	0	0	0	0	$0
North Attleboro	1	0	1	0	0	0	0	0	$0
North Brookfield	0	0	0	0	0	0	0	0	$0
North Reading	3	1	0	2	0	0	0	0	$0
Northampton	7	0	0	7	0	0	0	0	$0
Northborough	2	1	0	1	0	0	0	0	$30,300
Northbridge	2	1	0	1	0	0	0	0	$25
Northfield	Non-Reporting Community								
Norton	5	1	0	4	0	0	0	0	$10,050
Norwell	11	1	0	10	1	0	0	0	$0
Norwood	4	0	0	4	0	0	0	0	$300
Oak Bluffs	0	0	0	0	0	0	0	0	$0
Oakham	0	0	0	0	0	0	0	0	$0
Orange	0	0	0	0	0	0	0	0	$0
Orleans	3	0	0	3	0	0	0	0	$0
Otis	0	0	0	0	0	0	0	0	$0
Oxford	13	2	0	11	0	0	0	0	$0
Palmer Fire Districts									
Bondsville	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Palmer	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*$0*
Three Rivers	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Paxton	0	0	0	0	0	0	0	0	$0
Peabody	4	0	0	4	0	0	0	0	$0
Pelham	0	0	0	0	0	0	0	0	$0
Pembroke	0	0	0	0	0	0	0	0	$0
Pepperell	0	0	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Peru	1	0	0	1	0	0	0	0	$0
Petersham	14	7	0	7	0	0	0	0	$0
Phillipston	14	2	2	10	0	0	0	0	$0
Pittsfield	336	155	19	162	1	2	0	2	$1,095,985
Plainfield	1	1	0	0	0	0	0	0	$0
Plainville	61	11	3	47	0	0	0	0	$12,000
Plymouth	200	60	41	99	1	3	0	12	$1,696,525
Plympton	10	5	0	5	0	0	0	0	$30,150
Princeton	19	5	4	10	0	0	0	0	$25,500
Provincetown	16	9	1	6	0	0	0	0	$0
Quincy	670	367	54	249	0	4	0	27	$2,370,000
Randolph	215	135	18	62	0	0	0	0	$128,750
Raynham	104	24	18	62	0	0	0	1	$389,000
Reading	80	68	7	5	0	0	0	2	$6,230,625
Rehoboth	62	36	3	23	0	0	0	0	$0
Revere	536	385	29	122	0	3	0	3	$1,187,465
Richmond	17	8	1	8	0	0	0	0	$0
Rochester	4	3	0	1	0	0	0	0	$50,300
Rockland	54	33	6	15	0	5	0	1	$30,000
Rockport	14	5	1	8	0	0	0	0	$0
Rowe	Fire Department in Good Standing; Certified No Fire To Report								
Rowley	33	18	4	11	0	1	0	0	$25,500
Royalston	Non-Reporting Community								
Russell	10	5	0	5	0	3	0	0	$450,400
Rutland	27	9	2	16	0	0	0	0	$203,300
Salem	190	97	16	77	0	1	0	0	$107,000
Salisbury	29	6	5	18	0	0	0	0	$68,500
Sandisfield	Fire Department in Good Standing; Certified No Fire To Report								
Sandwich	139	79	11	49	0	3	0	2	$571,895
Saugus	212	84	19	109	0	1	0	12	$1,413,562
Savoy	2	2	0	0	0	0	0	0	$5,000
Scituate	88	34	9	45	0	1	0	2	$728,000
Seekonk	76	21	5	50	0	1	0	0	$564,945
Sharon	53	25	8	20	0	1	0	2	$1,606,425
Sheffield	3	2	0	1	0	0	0	0	$350,000

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Peru	0	0	0	0	0	0	0	0	$0
Petersham	0	0	0	0	0	0	0	0	$0
Phillipston	0	0	0	0	0	0	0	0	$0
Pittsfield	26	5	5	16	0	0	0	0	$21,500
Plainfield	0	0	0	0	0	0	0	0	$0
Plainville	0	0	0	0	0	0	0	0	$0
Plymouth	14	2	0	12	0	0	0	1	$0
Plympton	3	0	0	3	0	0	0	0	$0
Princeton	3	0	0	3	0	0	0	0	$0
Provincetown	0	0	0	0	0	0	0	0	$0
Quincy	1	0	0	1	0	0	0	0	$0
Randolph	2	1	1	0	0	0	0	0	$0
Raynham	1	1	0	0	0	0	0	0	$0
Reading	2	1	0	1	0	0	0	1	$50
Rehoboth	7	4	0	3	0	0	0	0	$0
Revere	31	6	4	21	0	0	0	2	$349,000
Richmond	2	0	0	2	0	0	0	0	$0
Rochester	0	0	0	0	0	0	0	0	$0
Rockland	3	0	0	3	0	0	0	0	$0
Rockport	0	0	0	0	0	0	0	0	$0
Rowe	Fire Department in Good Standing; Certified No Fire To Report								
Rowley	0	0	0	0	0	0	0	0	$0
Royalston	Non-Reporting Community								
Russell	2	0	0	2	0	0	0	0	$0
Rutland	1	0	0	1	0	0	0	0	$0
Salem	6	2	3	1	0	0	0	0	$0
Salisbury	0	0	0	0	0	0	0	0	$0
Sandisfield	Fire Department in Good Standing; Certified No Fire To Report								
Sandwich	1	0	0	1	0	0	0	0	$0
Saugus	13	1	0	12	0	0	0	0	$1,000
Savoy	1	1	0	0	0	0	0	0	$2,500
Scituate	4	2	0	2	0	0	0	0	$5,000
Seekonk	9	3	0	6	0	1	0	0	$36,000
Sharon	4	0	0	4	0	0	0	0	$0
Sheffield	0	0	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Shelburne Fire Districts									
Shelburne	*12*	*2*	*1*	*9*	*0*	*0*	*0*	*0*	*$0*
Shelburne Falls	*10*	*0*	*1*	*9*	*0*	*0*	*0*	*0*	*$0*
Sherborn	16	6	1	9	0	0	0	0	$302,000
Shirley	7	6	1	0	0	0	0	0	$0
Shrewsbury	135	78	18	39	0	1	0	0	$1,267,410
Shutesbury	2	1	1	0	0	0	0	0	$8,500
Somerset	46	16	7	23	0	0	0	0	$413,400
Somerville	66	36	29	1	0	6	0	29	$3,058,495
South Hadley Fire Districts									
S. Hadley Dist.#1	*3*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*$105,000*
S. Hadley Dist.#2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Southampton	75	6	0	69	0	2	0	0	$5,000
Southborough	37	19	6	12	0	1	0	1	$229,630
Southbridge	77	59	5	13	0	1	0	1	$792,320
Southwick	47	20	5	22	0	0	0	0	$480,850
Spencer	63	31	5	27	0	4	0	0	$275,000
Springfield	1,146	633	108	405	2	15	0	54	$6,533,804
Sterling	53	10	7	36	0	0	0	0	$411,520
Stockbridge	Fire Department in Good Standing; Certified No Fire To Report								
Stoneham	65	45	9	11	0	0	0	0	$118,500
Stoughton	292	239	14	39	0	0	0	0	$32,500
Stow	32	12	5	15	0	0	0	1	$101,000
Sturbridge	40	10	5	25	0	1	0	0	$161,050
Sudbury	68	31	3	34	0	0	0	2	$0
Sunderland	15	5	1	9	0	0	0	0	$414,400
Sutton	21	6	5	10	0	0	0	0	$0
Swampscott	55	32	9	14	0	0	0	1	$584,000
Swansea	85	32	7	46	0	1	0	5	$0
Taunton	185	33	26	126	0	1	0	0	$44,500
Templeton	35	24	3	8	1	0	0	0	$105,000
Tewksbury	93	37	12	44	0	0	0	0	$227,010
Tisbury	20	11	3	6	0	0	0	0	$0
Tolland	5	3	0	2	0	0	0	0	$0
Topsfield	101	79	1	21	0	0	0	0	$0
Townsend	4	2	1	1	0	0	0	0	$0
Truro	3	3	0	0	0	2	0	0	$419,300

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Shelburne Fire Districts									
Shelburne	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Shelburne Falls	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*$0*
Sherborn	0	0	0	0	0	0	0	0	$0
Shirley	0	0	0	0	0	0	0	0	$0
Shrewsbury	9	0	3	6	0	0	0	0	$0
Shutesbury	0	0	0	0	0	0	0	0	$0
Somerset	6	2	2	2	0	0	0	0	$29,850
Somerville	4	2	2	0	0	0	0	0	$50,000
South Hadley Fire Districts									
S. Hadley Dist.#1	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
S. Hadley Dist.#2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$0*
Southampton	4	0	0	4	0	0	0	0	$0
Southborough	0	0	0	0	0	0	0	0	$0
Southbridge	4	0	1	3	0	0	0	0	$6,000
Southwick	0	0	0	0	0	0	0	0	$0
Spencer	2	0	0	2	0	0	0	0	$0
Springfield	10	5	1	4	0	0	0	2	$91,010
Sterling	2	0	0	2	0	0	0	0	$0
Stockbridge	Fire Department in Good Standing; Certified No Fire To Report								
Stoneham	0	0	0	0	0	0	0	0	$0
Stoughton	3	0	0	3	0	0	0	0	$0
Stow	3	0	1	2	0	0	0	0	$0
Sturbridge	3	0	0	3	0	0	0	0	$0
Sudbury	3	0	0	3	0	0	0	0	$0
Sunderland	1	0	0	1	0	0	0	0	$0
Sutton	0	0	0	0	0	0	0	0	$0
Swampscott	0	0	0	0	0	0	0	0	$0
Swansea	5	0	0	5	0	0	0	0	$0
Taunton	9	0	1	8	0	0	0	0	$0
Templeton	1	1	0	0	0	0	0	0	$0
Tewksbury	4	1	0	3	0	0	0	0	$1,100
Tisbury	1	0	0	1	0	0	0	0	$0
Tolland	0	0	0	0	0	0	0	0	$0
Topsfield	5	0	0	5	0	0	0	0	$0
Townsend	0	0	0	0	0	0	0	0	$0
Truro	0	0	0	0	0	0	0	0	$0

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Tyngsborough	26	8	6	12	0	0	0	0	$61,300
Tyringham	Fire Department in Good Standing; Certified No Fire To Report								
Upton	29	15	4	10	1	0	0	1	$1,500
Uxbridge	89	47	14	28	1	5	0	5	$207,020
Wakefield	73	56	15	2	1	1	0	0	$700,000
Wales	1	1	0	0	0	0	0	0	$2,200
Walpole	103	64	8	31	0	1	0	0	$36,500
Waltham	196	76	26	94	0	1	0	2	$2,072,500
Ware	96	18	6	72	0	1	0	0	$421,114
Wareham Fire Districts									
Wareham	*138*	*48*	*17*	*73*	*0*	*3*	*0*	*2*	*$633,850*
Onset	*54*	*30*	*7*	*17*	*2*	*0*	*0*	*0*	*$0*
Warren	29	6	6	17	0	1	0	0	$539,769
Warwick	1	0	0	1	0	0	0	0	$0
Washington	Fire Department in Good Standing; Certified No Fire To Report								
Watertown	72	30	8	34	0	0	0	0	$540,000
Wayland	28	10	2	16	0	0	0	0	$156,850
Webster	30	9	7	14	0	0	0	0	$0
Wellesley	108	77	5	26	0	0	0	1	$2,505,525
Wellfleet	25	18	3	4	0	1	0	1	$6,500
Wendell	12	5	1	6	0	1	0	0	$42,200
Wenham	20	10	0	10	0	0	0	0	$228,000
West Boylston	3	1	0	2	0	0	0	0	$0
West Bridgewater	18	6	8	4	0	1	0	0	$135,700
West Brookfield	2	2	0	0	0	0	0	0	$0
West Newbury	12	5	2	5	0	0	0	0	$2,500
West Springfield	143	66	25	52	0	2	0	2	$930,180
West Stockbridge	10	0	6	4	0	0	0	0	$0
West Tisbury	1	1	0	0	0	0	0	0	$0
Westborough	114	60	21	33	0	2	0	0	$785,950
Westfield	136	74	13	49	1	5	0	1	$1,070,950
Westford	31	10	3	18	0	0	0	0	$412,050
Westhampton	5	1	0	4	0	0	0	0	$0
Westminster	27	11	7	9	0	0	0	0	$31,500
Weston	72	35	7	30	0	0	0	0	$100
Westport	81	15	11	55	0	4	0	0	$366,500
Westwood	62	38	5	19	0	0	0	0	$99,000
Weymouth	341	209	28	104	0	4	0	7	$1,482,150

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Tyngsborough	2	0	0	2	0	0	0	0	$0
Tyringham	Fire Department in Good Standing; Certified No Fire To Report								
Upton	0	0	0	0	0	0	0	0	$0
Uxbridge	4	2	0	2	0	0	0	0	$1,200
Wakefield	0	0	0	0	0	0	0	0	$0
Wales	1	1	0	0	0	0	0	0	$2,200
Walpole	8	6	0	2	0	1	0	0	$0
Waltham	4	2	2	0	0	0	0	0	$5,000
Ware	28	0	2	26	0	0	0	0	$28
Wareham Fire Districts									
Onset	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*$0*
Wareham	*29*	*2*	*1*	*26*	*0*	*0*	*0*	*2*	*$900*
Warren	2	0	0	2	0	0	0	0	$0
Warwick	0	0	0	0	0	0	0	0	$0
Washington	Fire Department in Good Standing; Certified No Fire To Report								
Watertown	0	0	0	0	0	0	0	0	$0
Wayland	0	0	0	0	0	0	0	0	$0
Webster	2	0	0	2	0	0	0	0	$0
Wellesley	0	0	0	0	0	0	0	0	$0
Wellfleet	1	1	0	0	0	0	0	0	$0
Wendell	1	0	0	1	0	0	0	0	$0
Wenham	1	1	0	0	0	0	0	0	$228,000
West Boylston	1	0	0	1	0	0	0	0	$0
West Bridgewater	0	0	0	0	0	0	0	0	$0
West Brookfield	0	0	0	0	0	0	0	0	$0
West Newbury	0	0	0	0	0	0	0	0	$0
West Springfield	3	1	2	0	0	0	0	0	$1,300
West Stockbridge	0	0	0	0	0	0	0	0	$0
West Tisbury	0	0	0	0	0	0	0	0	$0
Westborough	6	2	0	4	0	0	0	0	$500
Westfield	4	3	0	1	0	0	0	0	$1,050
Westford	2	0	0	2	0	0	0	0	$0
Westhampton	1	0	0	1	0	0	0	0	$0
Westminster	0	0	0	0	0	0	0	0	$0
Weston	4	0	0	4	0	0	0	0	$0
Westport	4	1	0	3	0	0	0	0	$50
Westwood	6	1	1	4	0	0	0	0	$1,200
Weymouth	16	3	1	12	0	0	0	1	$124,000

2006 Fire Experience By Community

Community	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Whately	20	5	3	12	0	0	0	0	$20,000
Whitman	44	19	6	19	0	1	0	0	$394,700
Wilbraham	37	15	3	19	0	2	0	0	$211,550
Williamsburg	10	4	1	5	0	0	0	0	$5,000
Williamstown	31	17	3	11	0	0	0	0	$718,050
Wilmington	43	26	8	9	0	0	0	0	$741,500
Winchendon	51	34	3	14	0	0	0	0	$508,885
Winchester	35	25	4	6	0	0	0	1	$63,085
Windsor	4	0	0	4	0	0	0	0	$4,500
Winthrop	96	54	2	40	0	0	0	0	$1,318,955
Woburn	66	48	5	13	0	0	0	0	$556,500
Worcester	1,312	635	119	558	1	2	0	55	$5,719,556
Worthington	Fire Department in Good Standing; Certified No Fire To Report								
Wrentham	142	10	3	129	0	0	0	0	$73,215
Yarmouth	83	34	10	39	0	2	0	0	$436,245

2006 Arson Experience by Community

Community	Total Arson	Structure Arson	Vehicle Arson	Other Arson	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Whately	0	0	0	0	0	0	0	0	$0
Whitman	0	0	0	0	0	0	0	0	$0
Wilbraham	4	1	0	3	0	0	0	0	$150
Williamsburg	1	0	0	1	0	0	0	0	$0
Williamstown	3	0	0	3	0	0	0	0	$0
Wilmington	1	1	0	0	0	0	0	0	$0
Winchendon	0	0	0	0	0	0	0	0	$0
Winchester	0	0	0	0	0	0	0	0	$0
Windsor	0	0	0	0	0	0	0	0	$0
Winthrop	13	2	0	11	0	0	0	0	$154,870
Woburn	0	0	0	0	0	0	0	0	$0
Worcester	45	12	8	25	0	1	0	6	$443,621
Worthington	Fire Department in Good Standing; Certified No Fire To Report								
Wrentham	1	0	0	1	0	0	0	0	$0
Yarmouth	5	1	0	4	0	0	0	0	$1,200

2006 Fires By Incident Type

Incident Type	Total Fires	% of Total	Civilian Deaths	Civilian Inj.	Fire Service Deaths	Fire Service Inj.	Dollar Loss
Structure Fires	15,507	51%	34	344	0	488	$165,282,781
Vehicle Fires	3,258	11%	6	12	0	21	16,010,907
Brush Fires	4,661	15%	1	6	0	22	310,790
Outside Rubbish Fires	3,727	12%	0	2	0	3	105,930
Special Outside Fires	822	3%	1	7	0	4	230,973
Cult. Veg.& Crop Fires	44	0.1%	0	0	0	0	1,000
Other Fires	2,179	7%	2	15	0	3	2,013,787
Total Fires	**30,198**	**100%**	**44**	**386**	**0**	**541**	**$183,956,168**

2006 Arsons* By Incident Type

Incident Type	Total Fires	% of Total	Civilian Deaths	Civilian Inj.	Fire Service Deaths	Fire Service Inj.	Dollar Loss
Structure Arsons	325	26%	3	18	0	18	$6,084,275
Vehicle Arsons	159	13%	0	0	0	2	748,761
Brush Arsons	499	39%	0	1	0	6	157,617
Outside Rubbish Arsons	104	8%	0	0	0	0	1,612
Special Outside Arsons	138	11%	1	2	0	1	2,547
Cult. Veg.& Crop Arsons	2	0.2%	0	0	0	0	0
Other Arsons	38	3%	0	0	0	0	8,725
Total Arsons	**1,265**	**100%**	**4**	**21**	**0**	**27**	**$7,003,354**

*For statistical purposes in MFIRS v5 a fire is considered an arson if the Cause of Ignition = 1 (Intentional) and the Age of Person (Fire Module) is greater than 17 or if the field is blank; or if the Wildland Module is used, the Wildland Fire Cause = 7 (Incendiary) and the Age of the Person (Wildland Module) is greater than 17 or if the field is left blank.

2006 Fires By County

County	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Barnstable	1,111	460	132	519	1	31	0	24	$11,871,032
Berkshire	735	391	47	297	2	9	0	2	4,145,580
Bristol	2,331	837	353	1,141	9	40	0	28	8,900,785
Dukes	38	18	7	13	0	0	0	1	128,000
Essex	2,869	1,441	341	1,087	4	18	0	66	18,394,179
Franklin	383	175	35	173	0	3	0	6	1,411,720
Hampden	2,479	1,256	290	933	3	44	0	68	14,184,679
Hampshire	664	224	67	373	1	11	0	4	6,050,131
Middlesex	5,339	3,159	562	1,618	6	94	0	95	44,092,221
Nantucket	113	66	9	38	0	1	0	0	24,250
Norfolk	3,010	1,640	280	1,090	0	20	0	96	18,079,766
Plymouth	1,874	705	232	937	10	53	0	37	10,332,034
Suffolk	4,908	3,066	444	1,398	2	29	0	29	27,743,871
Worcester	4,344	2,069	459	1,816	6	33	0	85	18,597,920
Total	**30,198**	**15,507**	**3,258**	**11,433**	**44**	**386**	**0**	**541**	**$183,956,168**

2006 Arsons* By County

County	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons	Civilian Deaths	Civilian Injuries	Fire Service Deaths	Fire Service Injuries	Dollar Loss
Barnstable	68	14	9	45	0	0	0	0	$1,003,735
Berkshire	46	9	7	30	1	0	0	0	198,515
Bristol	158	53	38	67	1	4	0	1	471,450
Dukes	2	0	0	2	0	0	0	0	0
Essex	107	27	12	68	0	0	0	3	226,625
Franklin	14	3	3	8	0	0	0	1	47,400
Hampden	70	21	6	43	0	1	0	2	119,098
Hampshire	82	5	3	74	0	0	0	1	10,378
Middlesex	169	52	24	93	0	0	0	2	1,372,561
Nantucket	1	0	1	0	0	0	0	0	9,000
Norfolk	89	24	7	58	0	1	0	2	135,920
Plymouth	110	20	5	85	2	12	0	5	642,200
Suffolk	154	60	27	67	0	1	0	2	2,065,090
Worcester	195	37	17	141	0	1	0	9	701,562
Total	**1,265**	**325**	**159**	**781**	**4**	**21**	**0**	**27**	**$7,003,534**

*For statistical purposes in MFIRS v5 a fire is considered an arson if the Cause of Ignition = 1 (Intentional) and the Age of Person (Fire Module) is greater than 17 or if the field is blank; or if the Wildland Module is used, the Wildland Fire Cause = 7 (Incendiary) and the Age of the Person (Wildland Module) is greater than 17 or if the field is left blank.

2006 Fires, Arsons and Deaths By County and By Population*

County	Population	Total Fires	Fires per 1,000 Pop.	Fire Deaths	Deaths per 1,000 Fires	Deaths per 10,000 Pop.	Total Arsons	Arsons per 1,000 Pop.
Barnstable	222,230	1,111	5.0	1	0.9	0.04	68	0.3
Berkshire	134,953	735	5.4	2	2.7	0.15	46	0.3
Bristol	534,678	2,331	4.4	9	3.9	0.17	158	0.3
Dukes	14,987	38	2.5	0	0.0	0.00	2	0.1
Essex	723,419	2,869	4.0	4	1.4	0.06	107	0.1
Franklin	71,535	383	5.4	0	0.0	0.00	14	0.2
Hampden	456,228	2,479	5.4	3	1.2	0.07	70	0.2
Hampshire	152,251	664	4.4	1	1.5	0.07	82	0.5
Middlesex	1,465,396	5,339	3.6	6	1.1	0.04	169	0.1
Nantucket	9,520	113	11.9	0	0.0	0.00	1	0.1
Norfolk	650,308	3,010	4.6	0	0.0	0.00	89	0.1
Plymouth	472,822	1,874	4.0	10	5.3	0.21	110	0.2
Suffolk	689,807	4,908	7.1	2	0.4	0.03	154	0.2
Worcester	750,963	4,344	5.8	6	1.4	0.08	195	0.3
Massachusetts	6,349,097	30,198	4.8	44	1.5	0.07	1,265	0.2

*Population statistics based on 2000 U.S. Census Bureau data.

2006 Non-Fire Responses By County and By Incident Type

County	Total Non-Fire Responses	Overpressure Rupt. & Explos. (No-fire)	Rescue EMS Incidents	Hazardous Conditions (No-fire)	Service Calls	Good Intent Calls	False Alarm Calls	Severe WX[1] & Natural Disaster	Special Incident Type
Barnstable	32,792	42	23,680	1,506	2,123	1,309	3,967	48	117
Berkshire	10,810	13	5,652	889	1,806	565	1,812	26	47
Bristol	42,174	69	23,831	2,417	3,637	3,619	8,270	65	266
Dukes	149	5	10	18	3	1	109	0	3
Essex	65,506	143	32,654	4,523	10,492	4,629	11,839	878	348
Franklin	4,433	15	1,875	470	778	361	654	33	247
Hampden	36,717	92	20,656	1,860	4,222	3,167	6,496	57	167
Hampshire	7,899	37	3,934	654	463	527	2,179	14	91
Middlesex	127,196	193	66,345	9,473	15,278	7,021	24,489	258	4,139
Nantucket[2]	1,394	2	666	135	115	95	364	0	17
Norfolk	69,920	103	36,714	4,719	7,763	3,363	9,397	105	756
Plymouth	39,797	70	23,785	3,487	4,417	2,827	4,677	79	455
Suffolk	85,428	53	41,312	3,858	11,177	14,167	14,500	17	344
Worcester	70,305	142	43,153	4,904	6,576	4,054	10,748	149	579
Massachusetts	587,520	979	324,267	38,913	68,850	45,705	99,501	1,729	7,576

[1] WX is the abbreviation for Weather.

[2] Nantucket had some computer reporting problems. The only incidents reported for the first six months of 2006 were fires; and they contained only the most basic information available.

M.G.L. Chapter 148 §26G – Sprinklers in Buildings or Additions

"In any city or town which accepts the provisions of this section, every building of more than seventy-five hundred gross square feet in floor area or every addition of more than seventy-five hundred gross square feet in floor area shall be protected throughout with an adequate system of automatic sprinklers in accordance with the state building code; provided, however, that in the case of said addition, such an adequate system of automatic sprinklers shall be installed in said addition only. No such sprinkler system shall be required unless sufficient water and water pressure exists. For the purposes of this section, the gross square feet of a building or addition shall include the sum total of the floor areas for all floor levels, basements and sub-basements, measured from outside walls, irrespective of the existence of interior fire resistive walls, floors and ceilings.

In such buildings or additions, or in certain areas of such buildings or additions, where the discharge of water would be an actual danger in the event of fire, the head of the fire department shall permit the installation of such other fire suppressant systems as are prescribed by the state building code in lieu of automatic sprinklers, Automatic suppressant or sprinkler systems shall not be required in rooms or areas of a telephone central office equipment building when such rooms or areas are protected with an automatic fire alarm system. Sprinkler systems shall not be required in a one-story building having a fire resistance rating as prescribed in the state building code that is used solely for offices provided the building is protected by an automatic fire alarm system. Sprinkler systems shall not be required in open-air parking structures, defined as: buildings, structures, or portions thereof, used for parking motor vehicles and having not less than twenty-five per cent of the total area open to atmosphere at each level, utilizing at least two sides of the structure. This section shall not apply to buildings or additions used for residential purposes.

The head of the fire department shall enforce the provisions of this section.

Whoever is aggrieved by the head of the fire department's interpretation, order, requirement, direction or failure to act under the provisions of this section, may, within forty-five days after the service of notice thereof, appeal from such interpretation, order, requirement, direction or failure to act to the automatic sprinkler board as provided in section two hundred and one of chapter six."

Communities Which Have Adopted M.G.L. Chapter 148 Section 26G

Abington
Acton
Acushnet
Agawam
Amesbury
Amherst
Arlington
Ashburnham
Ashland
Attleboro
Auburn
Avon
Ayer
Barnstable
Barre
Belchertown
Bellingham
Belmont
Berkley
Beverly
Billerica
Boston
Boxborough
Braintree
Bridgewater
Brockton
Brookfield
Brookline
Burlington
Cambridge
Centerville
Chatham
Chelsea
Chelmsford
Chicopee
Cohasset
Concord
Cotuit
Danvers
Dartmouth Dist. 1
Dartmouth Dist. 3
Dedham
Dighton
Duxbury
East Bridgewater
East Longmeadow
Easton
Edgartown
Everett
Fairhaven
Fall River
Falmouth
Fitchburg
Foxborough
Framingham
Franklin
Gardner
Georgetown
Grafton
Granby
Groton
Hamilton
Hanover
Hanson
Harwich
Haverhill
Hingham
Holbrook
Holden
Holliston
Holyoke
Hopedale
Hubbardston
Hudson
Hull
Hyannis
Ipswich
Kingston
Lakeville
Lancaster
Lawrence
Leicester
Leominster
Lexington
Lowell
Ludlow
Lunenburg
Manchester
Mansfield
Marblehead
Marlborough
Marshfield
Mashpee
Maynard
Medfield
Medford
Medway
Melrose
Methuen
Middleborough
Middleton
Milford
Millbury
Natick
Needham
Newburyport
Newton
North Andover
North Attleboro
North Reading
Northborough
Norton
Norwell
Orange
Paxton
Pelham
Pittsfield
Plainville
Plymouth
Randolph
Raynham
Reading
Revere
Rockland
Rutland
Salem
Sandwich
Saugus
Scituate
Seekonk
Sharon
Shirley
Shrewsbury
Somerset
Somerville
S. Hadley-Dist. 2
Southborough
Southbridge
Sterling
Stoneham
Stoughton
Sudbury
Sutton
Swampscott
Swansea
Taunton
Tewksbury
Tisbury
Turners Falls
Tyngsboro
Upton
Wakefield
Walpole
Waltham
Ware
Wareham
Warren
Watertown
Wayland
Wellesley
Wenham
West Barnstable
West Boylston
West Bridgewater
West Brookfield
West Springfield
Westborough
Westfield
Westford
Westminster
Westport
Westwood
Whitman
Wilbraham
Wilmington
Winchester
Winthrop
Woburn
Worcester
Wrentham
Yarmouth

Total : 181

M.G.L. Chapter 148 §26H – Sprinklers in Boarding & Lodging Houses

"In any city or town which accepts the provision of this section, every lodging house or boarding house shall be protected throughout with an adequate system of automatic sprinklers in accordance with the provisions of the state building code…The head of the fire department shall enforce the provisions of this section.

For the purpose of this section, 'lodging house' or 'boarding house' shall mean a house where lodgings are let to six or more persons not within the second degree of kindred to the person conducting it, but shall not include fraternity houses or dormitories, rest homes or group home licensed to or regulated by the agencies of the Commonwealth.

Any lodging or boarding house subject to the provisions of this section shall be equipped with automatic sprinklers within five years of the acceptance of this act by a city or town…Whoever is aggrieved by the head of the fire department's interpretation…under the provisions of this section, may within forty-five days after the service of notice thereof, appeal from such interpretation, order or requirement to the board of appeals of the fire safety commission in section two hundred and one of chapter six."

Communities Which Have Adopted M.G.L. Chapter 148 Section 26H

Abington
Acton
Acushnet
Amesbury
Amherst
Arlington
Ashland
Auburn
Ayer
Belmont
Berkley
Beverly
Billerica
Boston
Braintree
Brockton
Brookfield
Brookline
Burlington
Chatham
Chelsea
Chelmsford
Chicopee
Clinton
Cohasset
Concord
Danvers
Dartmouth Dist. 1
Dartmouth Dist. 3
Dennis
Everett
Fairhaven
Fall River
Fitchburg
Framingham
Franklin
Gardner
Georgetown
Grafton
Hamilton
Hanson
Haverhill
Holyoke
Hopedale
Hull
Ipswich
Kingston
Lancaster
Lawrence
Lee
Lowell
Ludlow
Lunenburg
Mansfield
Marlborough
Marshfield
Maynard
Medford
Medway
Melrose
Middleton
Milford
Natick
Needham
Newburyport
Newton
North Andover
North Reading
Northborough
Norton
Pelham
Plainville
Randolph
Raynham
Revere
Rutland
Salem
Saugus
Scituate
Seekonk
Sharon
Somerset
Somerville
Southborough
Sterling
Stoneham
Stoughton
Sudbury
Sutton
Swampscott
Taunton
Tewksbury
Turners Falls
Tyngsboro
Upton
Wakefield
Ware
Warren
Watertown
Wayland
Wenham
Westborough
Westford
Westminster
Westport
Westwood
Whitman
Wilmington
Winchester
Winthrop
Woburn
Worcester
Wrentham

Total: 112

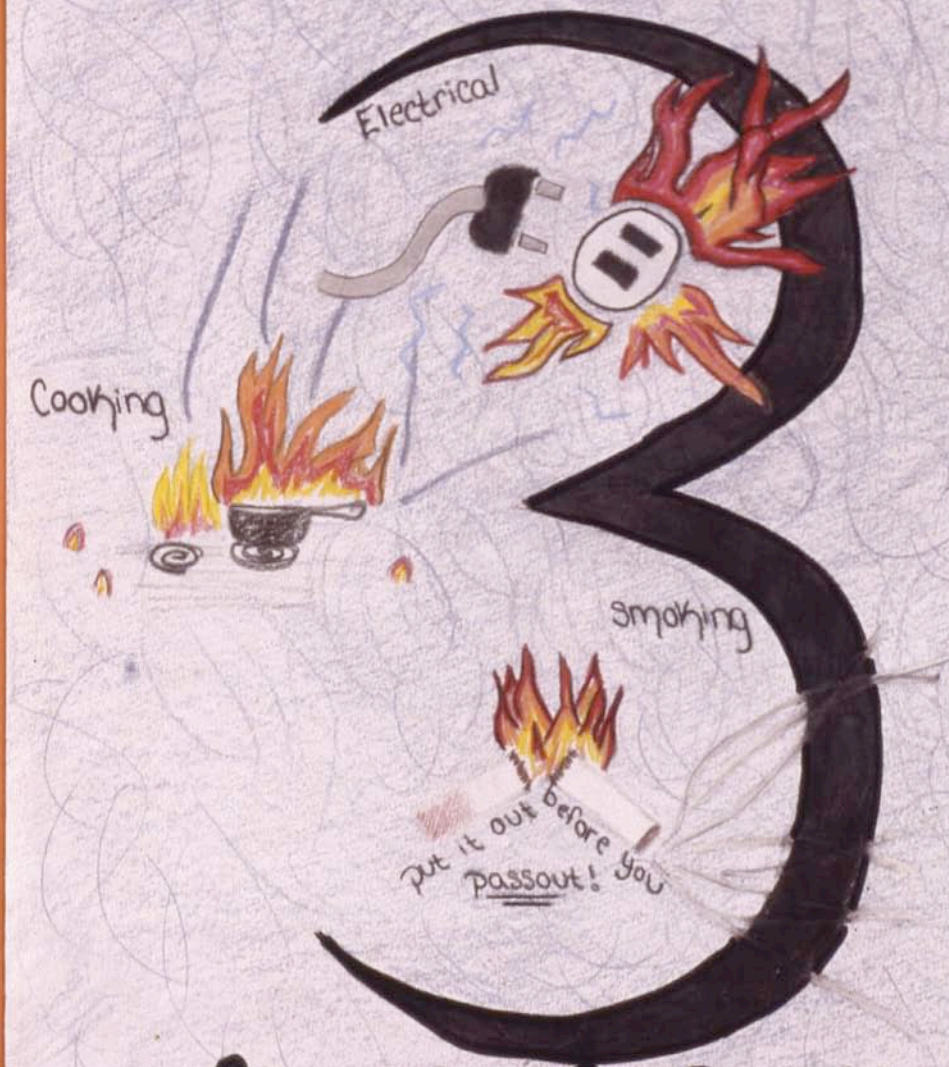
M.G.L. Chapter 148 §26I – Sprinklers in New Dwelling Units (4+ units)

"In a city, town or district which accepts the provisions of this section, any building hereafter constructed or hereafter substantially rehabilitated so as to constitute the equivalent of new construction and occupied in whole or in part for residential purposes and containing not less than four dwelling units including, but not limited to, lodging houses, boarding houses, fraternity houses, dormitories, apartments, townhouses, condominiums, hotels, motels and group residences, shall be equipped with an approved system of automatic sprinklers in accordance with the state building code. In the event that adequate water supply is not available, the head of the fire department shall permit the installation of such other fire suppression systems as are prescribed by the state building code in lieu of automatic sprinklers. Owners of building with approved and properly maintained installations may be eligible for a rate reduction on fire insurance."

Communities Which Have Adopted M.G.L. Chapter 148 Section 26I

Abington	Easton	Mansfield	S. Hadley-Dist. 2
Acton	Everett	Marblehead	Southborough
Acushnet	Fairhaven	Marlborough	Sterling
Agawam	Fall River	Marshfield	Stoneham
Amesbury	Falmouth	Mashpee	Stoughton
Amherst	Fitchburg	Maynard	Sudbury
Arlington	Foxborough	Medfield	Swansea
Ashland	Framingham	Medford	Taunton
Athol	Franklin	Medway	Tewksbury
Avon	Georgetown	Melrose	Tyngsboro
Ayer	Grafton	Milford	Upton
Barnstable	Great Barrington	Millbury	Wakefield
Barre	Groton	Natick	Walpole
Bellingham	Hamilton	Newton	Waltham
Belmont	Hanover	North Andover	Ware
Berkley	Hanson	North Attleboro	Watertown
Beverly	Harwich	North Reading	Wayland
Billerica	Haverhill	Northborough	Wellesley
Boston	Hingham	Norton	Wenham
Brewster	Holden	Norwell	West Barnstable
Brookfield	Holliston	Orange	West Boylston
Brookline	Holyoke	Paxton	West Springfield
Burlington	Hopedale	Pelham	Westborough
Centerville	Hopkinton	Plainville	Westford
Chatham	Hudson	Randolph	Westminster
Chelmsford	Hull	Raynham	Westport
Clinton	Hyannis	Revere	Westwood
Cohasset	Ipswich	Rockland	Whitman
Concord	Kingston	Rutland	Wilmington
Cotuit	Lancaster	Salem	Winthrop
Dartmouth Dist. 1	Lawrence	Saugus	Woburn
Dartmouth Dist. 3	Lexington	Scituate	Wrentham
Dedham	Longmeadow	Shrewsbury	Yarmouth
Duxbury	Lowell	Somerset	
E. Longmeadow	Lunenburg	Somerville	**Total: 113**

Try to be Safe from the TOP....



3 HAZARDS

Causes of fires!!