Suffolk County

2010 Fire Data Analysis

Massachusetts Fire Incident Reporting System

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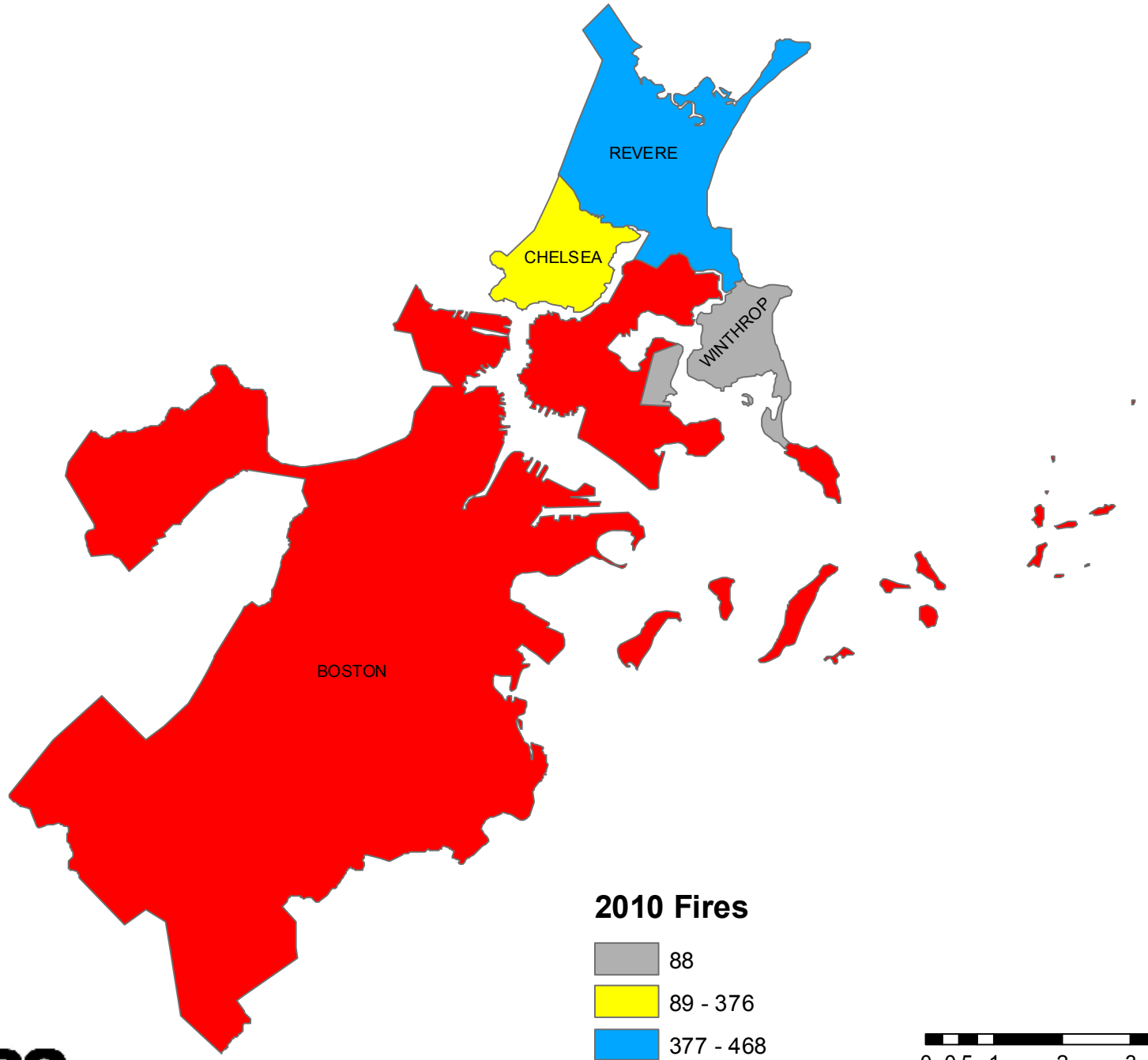
Suffolk County Fires 2010



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2010 Fires

- 88
- 89 - 376
- 377 - 468
- 469 - 5877

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Massachusetts Fire Incident Reporting System 2010

MFIRS
Massachusetts Fire Incident Reporting System

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Suffolk County Fires in 2010

Boston, Chelsea, Revere & Winthrop Comprise Suffolk County

Suffolk County is composed of four communities: the City of Boston, the largest city in the Commonwealth; the City of Chelsea; the City of Revere; and the Town of Winthrop. Because 86% of Suffolk County's residents live in Boston, statistics about the whole county are very heavily influenced by Boston's experience and may not reveal important problems in the other communities.

6,809 Total Fires — 4,861 Structures, 421 Vehicles & 1,527 Other Fires

The four communities in Suffolk County reported a total of 6,809 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 4,861 structure fires, 421 motor vehicle fires, 657 outside rubbish fires, 600 brush, tree or lawn fires, 102 special outside fires, one cultivated vegetation or crop fire, and 167 other fires caused three civilian deaths, 20 civilian injuries, 63 fire service injuries and an estimated dollar loss of $34.4 million. Although 11% of Massachusetts residents live in Suffolk County, these four Suffolk County fire departments reported 21% of the state's 32,680 fires.

Comparing Communities: Rate of Fire/1,000 Population

The easiest way to compare fire problems from community to community while taking into consideration the size of the community is to compare rates of fire per 1,000 population. Suffolk County had 9.4 fires per 1,000 people in 2010, almost two times the statewide rate of 5.0 fires per 1,000 population. Chelsea had the highest rate at 10.7 fires per 1,000 people in 2010. Winthrop had the lowest rate, 5.0 fires per 1,000 people this year, less than the county average. Boston had the second highest rate of fires per population with 9.4. Revere's fire rate per 1,000 population was 9.0.

Structure Fires Per 1,000 Population

Suffolk County had a rate of 6.7 structure fires per 1,000 people in 2010. The community with the highest rate of structure fires per 1,000 population was Chelsea, having 7.2 structure fires per 1,000 people. Revere had 7.1 structure fires per 1,000 people. Boston had 6.8 fires per 1,000 population. Winthrop had the lowest rate of structure fires with 2.6 per 1,000 population. The rate of structure fires per 1,000 people in Massachusetts in 2010 was 2.8. Boston, Chelsea and Revere all experienced a higher than statewide average number of structure fires per 1,000 population.

Vehicle Fires Per 1,000 Population

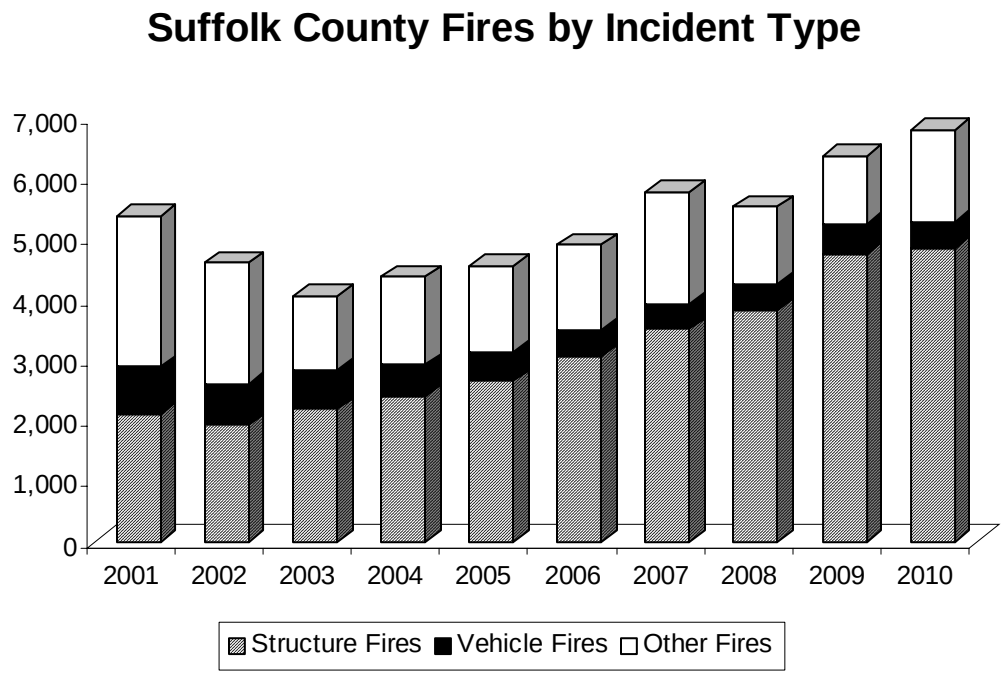
Suffolk County had 0.58 motor vehicle fires per 1,000 population in 2010. Boston had the highest rate in the county at a rate of 0.61 motor vehicle fires per 1,000 people. Chelsea had the next highest rate at 0.48 motor vehicle fires per 1,000 people. Both Revere and Winthrop experienced 0.17 motor vehicle fires per 1,000 population. The state's rate was 0.45 motor vehicle fires per 1,000 people in 2010. Revere and Winthrop were both below the state rate.

Town	Total Fires Per 1,000 Pop.	Structure Fires Per 1,000 Pop.	MV Fires Per 1,000 Pop.	Other Fires Per 1,000 Pop.
Boston	9.41	6.78	0.61	2.02
Chelsea	10.69	7.22	0.48	2.98
Revere	9.04	7.11	0.17	1.76
Winthrop	5.03	2.57	0.17	2.29
Suffolk County	9.42	6.73	0.58	2.11
Massachusetts	4.99	2.83	0.45	1.78

STRUCTURE FIRES

Structure & Outside Fires Up in 2010

The total number of reported fires in Suffolk County increased by 423, or 7%, from the 6,386 reported in 2009. Reported structure fires increased by 93, or 2%, from 4,768 the previous year. Motor vehicle fires decreased by 54, or 11%, from 475 the year before. The total number of reported outside and other fires increased by 384, or 34%, from 1,143 in 2009.



SUFFOLK COUNTY FIRES FROM 2000 TO 2010

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	5,380	2,115	775	2,490	365	161	172	32
2002	4,613	1,933	683	1,997	292	154	122	16
2003	4,060	2,195	636	1,229	192	78	61	53
2004	4,376	2,401	524	1,451	165	80	54	31
2005	4,565	2,655	475	1,435	139	70	28	41
2006	4,911	3,068	445	1,398	154	60	27	67
2007	5,782	3,517	418	1,857	140	71	16	53
2008	5,535	3,833	428	1,274	124	49	50	55
2009	6,386	4,768	475	1,143	129	36	36	57
2010	6,809	4,861	421	1,527	145	39	18	88

BUILDING FIRES

There were 4,840 building fires of different types in Suffolk County in 2010. These 4,840 building fires accounted for 99.6% of all structure fires in Suffolk County.

83% of Building Fires in Homes

The 4,840 building fires that occurred in Suffolk County in 2010 can be broken down by fixed property use as follows: 4,030, or 83% of all reported building fires in 2010, were in residential properties; 241 fires happened in institutional properties; 190 fires occurred in public assembly properties; 186 fires took place in mercantile and office properties; 104 fires occurred in educational properties; 33 fires took place in special properties; 25 fires were in storage properties; 13 occurred in industrial, utility, defense, agricultural or mining facilities; 11 were reported in manufacturing properties; and seven fires occurred in unclassified buildings.

For a complete breakdown of building fires by individual property use type, see the chart on pages 21 through 23.

RESIDENTIAL FIRES

Cooking Caused 80% of Residential Building Fires

In 2010, 4,030, or 83%, of the 4,840 building fires in Suffolk County occurred in residential properties. Since this is such a large percentage of the building fires, we focus in on these incidents. The leading cause of residential building fires in Suffolk County was cooking, accounting for 80% of these fires.

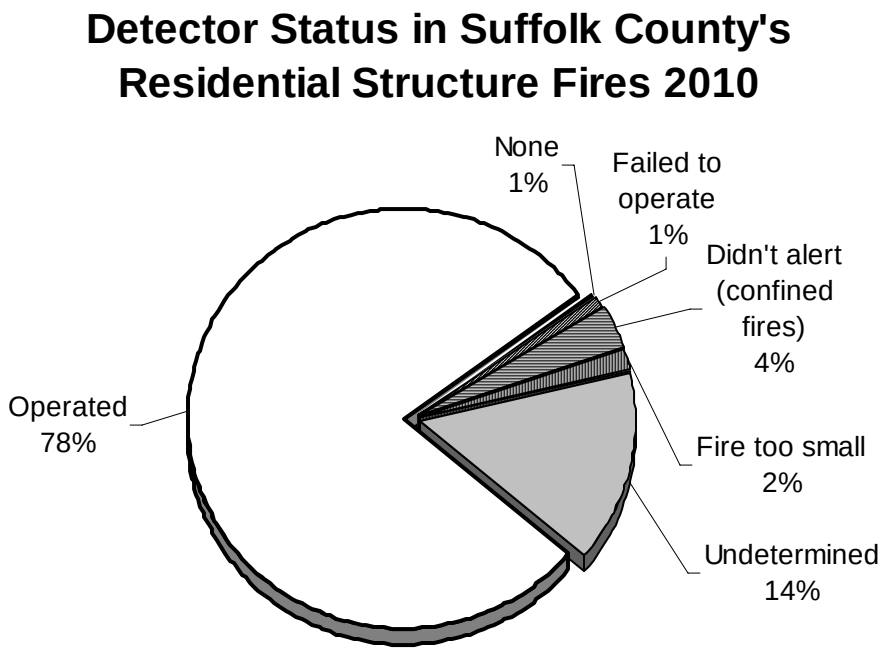
Heating fires were the second leading cause of residential building fires in Suffolk County, causing 6% of these fires. Indoor rubbish fires and smoking each caused 3% of these fires. Arson, juvenile-set fires and candles each accounted for 1% of these fires. Electrical problems and clothes dryers were responsible for less than 1% of the fires in people's homes in Suffolk County in 2010.

88% of Residential Building Fires Are Confined to Non-Combustible Containers[1]
Three thousand five hundred and forty-six (3,546), or 88% of all residential building fires, were reported as confined to non-combustible containers in 2010. Three thousand one hundred and eighty-six (3,186) of the reported fires were cooking fires contained to a non-combustible container accounting for 79% of residential building fires. Two hundred and ten (210), or 5%, were fires confined to a fuel burner or boiler malfunction. There were 115 confined indoor rubbish fires, accounting for 3% of the residential building fires in 2010. Twenty-nine (29), or 1% of all residential fires, were confined to chimneys or flues. Four (4), or 0.1%, of the residential building fires in Suffolk County, was a confined incinerator overload or malfunction. Two (2), or 0.01%, of the residential building fires in Suffolk County, was a confined commercial compactor fire. The number of contained fires decreased by 22, or 1%, from the 3,568 reported in 2009.

Detectors Alerted Occupants in Over 3/4 of Fires
Smoke or heat detectors operated and alerted the occupants in 3,179, or 78%, of the residential building fires. In 4% of these fires[2], the detectors did not alert the occupants. Detectors were present but did not operate in less than 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 the residential fires. Smoke detector performance was undetermined in 595 incidents, or 14% of Suffolk County's residential building fires.

[1] 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.

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



1/3 of Failed Detectors Had Missing Batteries
Of the 27 fires where smoke detectors were present but failed to operate, nine, or 33%, failed because of missing or disconnected batteries. Three (3) detectors, or 11%, failed because of a lack of maintenance. Two (2), or 7%, did not operate because of dead batteries. One (1) detector, or 4%, failed from a power failure, shut-off or disconnect. For 12 cases, or 44%, the reason the detector failed was not determined or classified.

JUVENILE-SET FIRES

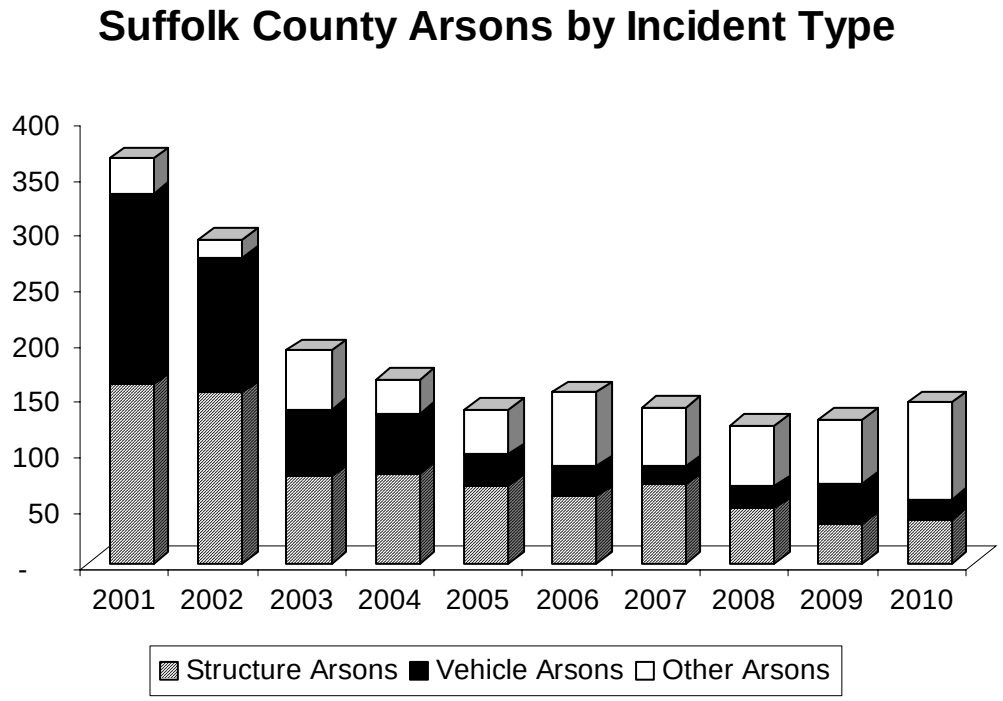
24 Juvenile-set Fires
There were 24 reported juvenile-set fires in Suffolk County in 2010. The 16 structure fires, four brush fires, one special outside fire, and three unclassified fires caused four civilian injuries and $1.4 million in estimated damages.

ARSONS

145 Arsons[3] —39 Structure Arsons, 18 Vehicle Arsons & 88 Other Arsons
One hundred and forty-five (145), or 2%, of Suffolk County's 6,809 fires were considered intentionally set, or for purposes of analysis, arson. The 39 structure arsons,

[3] 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.

18 motor vehicle arsons and 88 outside and other arsons caused one civilian death, two civilian injuries, eight fire service injuries and an estimated dollar loss of $1.2 million.



Motor Vehicle Arson Decreases

The total number of reported arson fires increased by 16, or 12%, from the 129 reported in 2009. Structure arson increased by three from the 36 reported a year earlier. Motor vehicle arsons were cut in half, decreasing by 18 from 36 the previous year. Identified outside and other arson increased by 31 from 57 the year before. Structure arsons represented 27% of the total arson problem while motor vehicle arson only accounted for 12% of all the 2010 arsons in Suffolk County.

Arson Rates Per Population

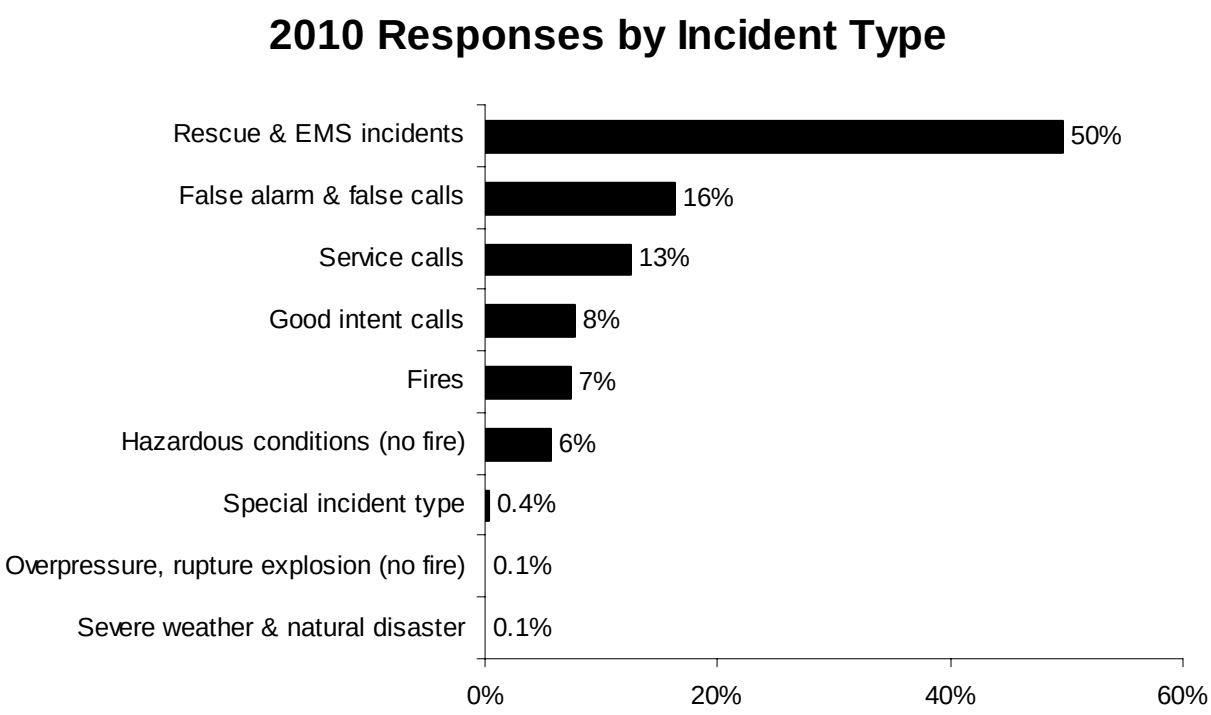
The community in Suffolk County with the highest rate of arson per population in 2010 was Chelsea with 0.43 arsons per 1,000 people. All of the communities, Suffolk County and the state in general had less than one arson per 1,000 population. For all of Suffolk County, the arson rate was 0.20 per 1,000 population; for the entire Commonwealth it was slightly lower at 0.18 per 1,000 population. Chelsea had the highest rate for structure arsons per 1,000 population with 0.23. Boston, had the highest rate for motor vehicle arsons per 1,000 population of 0.03.

ALL INCIDENTS

Rescue & EMS Calls Are 1/2 of All Reported Responses
In 2010, fire departments in Suffolk County reported 92,839 total responses to MFIRS. Of these 92,839 incidents, 85,966 non-fire calls were voluntarily reported.

Of these 85,966 non-fire calls, 46,116, or 50% of all the responses reported in 2010, were reported rescue and emergency medical services (EMS) calls[4]; 15,223, or 16%, were reported false alarm or false calls; 11,641, or 13%, were reported service calls such as lock-outs, water or smoke problem, unauthorized burning or public service assistance; 7,257, or 8%, were reported good intent calls; 5,228, or 6%, were reported hazardous condition calls with no fire; 379, or 0.4%, were special incident type calls such as citizen complaints; 74, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire; and 48, or 0.1%, were severe weather calls.

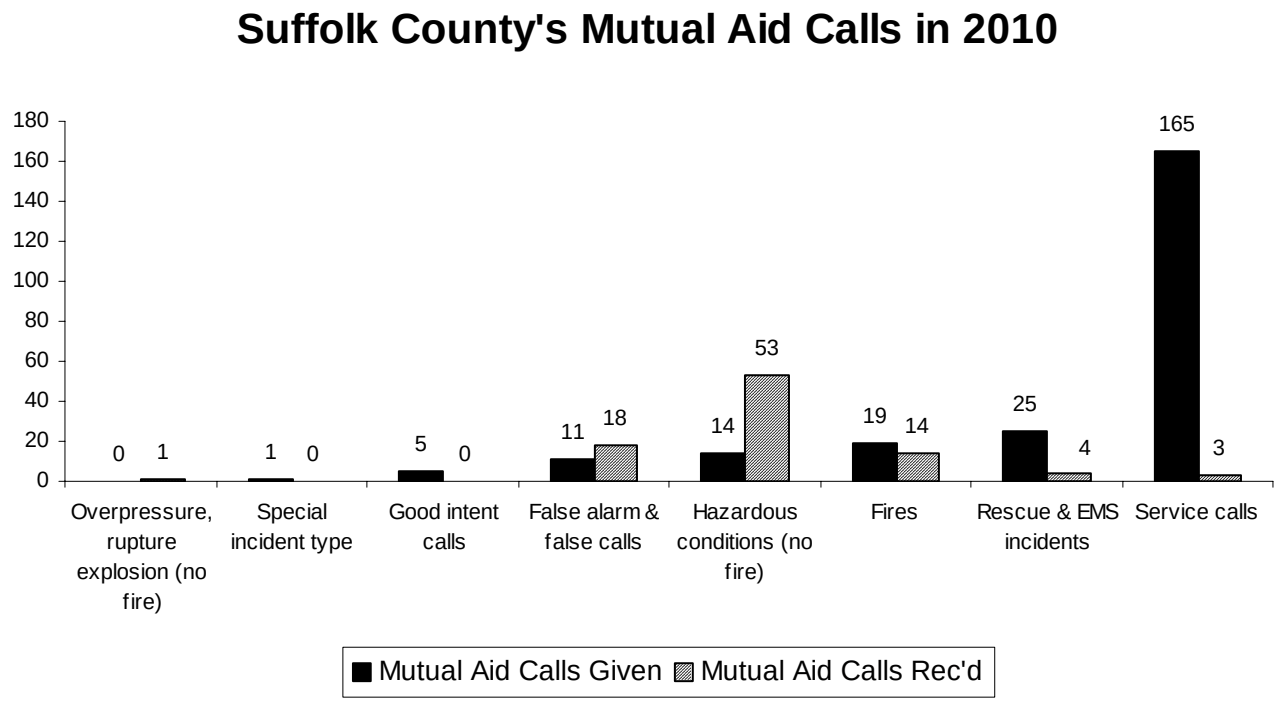
Six thousand eight hundred and seventy-three (6,873), or 7%, of the total responses submitted by Suffolk County fire departments were fires[5].



[4] The Boston Fire Department does not run any ambulances. Instead they dispatch their companies as first responders to all EMS calls.
[5] This figure includes responses in which Suffolk County fire departments gave mutual aid to another fire department at a fire.

Suffolk County Fire Departments Reported Giving Mutual Aid 240 Times
In 2010, Suffolk County fire departments reported coming to the aid of other fire departments 240 times. Of these 240 responses, 165, or 69%, were for service calls such as cover assignments; 25, or 10%, were for rescue or EMS incidents; 19, or 8%, were for fires; 14, or 6%, were for hazardous condition calls with no fire; 11, or 5%, were for false alarms or false calls; five, or 2%, were for good intent calls; and one, or 0.4%, of the mutual aid given calls was for a special incident type.

Suffolk County Fire Departments Reported Receiving Mutual Aid in 93 Incidents
In 2010, Suffolk County fire departments reported receiving aid from surrounding departments in 93 incidents. Of these 93 incidents, 53, or 57%, were hazardous conditions calls with no fire; 18, or 19%, were false alarms or false calls; 14, or 15%, were for fires; four, or 4%, were rescue and emergency medical services calls; three, or 3% were service calls; and one, or 1%, was an overpressure, rupture or explosion with no after fire call.



The City of Boston

5,812 Fires — 4,187 Structure Fires, 378 Vehicle Fires & 1,247 Other Fires
The Boston Fire Department reported 4,187 structure fires, 378 motor vehicle fires, 561 grass, tree or brush fires, 523 outside rubbish fires, 90 special outside fires, and 73 unclassified fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. These 5,812 incidents caused two civilian deaths, 11 civilian injuries, eight fire service injuries and an estimated dollar loss of $31.5 million. There were 9.4 fires for every 1,000 residents in 2010.

Structure & Outside Vehicle Fires Up
The total number of Boston fires reported to the Massachusetts Fire Incident Reporting System increased by 265 from the 5,547 reported in 2009 to 5,812 in 2010. Structure fires increased by 61, motor vehicle fires decreased by 48, and outside and other fires increased by 252. For the eighth year in a row the number of structure fires increased significantly. Motor vehicle fires have been on a downward trend since 1986; increasing only twice since 1994. Outside and other fires continued their up and down trend of the past 10 years. Although fewer than 10% of the state's residents live in the City of Boston, the Boston Fire Department reported 18% of the 32,680 fire incidents reported statewide in 2010.

123 Arsons — 31 Structure Arsons, 17 Vehicle Arsons & 75 Other Arsons
One hundred and twenty-three (123), or 2%, of the 5,812 Boston fires were considered intentionally set[6], or, for purposes of this analysis, arson. The 31 structure arsons, 17 motor vehicle arsons and 75 outside and other arsons caused an estimated dollar loss of $597,822.

Cooking Caused 81% of Boston's Residential Fires
Cooking was the leading cause of the 3,463 fires in Boston residential buildings, accounting for 81% of these fires. Heating equipment was the cause of 5% of these fires. Indoor rubbish fires and smoking each caused 3% of these fires. Arson caused 1% of residential building fires in Boston. Juvenile-set fires, candles, clothes dryers and electrical problems each accounted for less than 1% of the fires in Boston residences in 2010.

Detectors Alerted Occupants in 85% of Fires
Smoke or heat detectors operated and alerted the occupants in 2,989, or 85%, of the residential building fires. In 4% of these fires[7], 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 another

[6] 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.

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

2% of the residential fires. Smoke detector performance was undetermined in 239 incidents, or 7% of Boston's residential building fires.

Largest Loss Fires
The Boston Fire Department reported six fires with over $1 million in estimated damages. These six fires totaled $8.7 million in damages.

- On April 7, 2010, at 1:48 p.m., the Boston Fire Department was called to an undetermined fire at a 10-story, 80-unit apartment building at 483 Beacon St. Detectors were present and alerted the occupants. The building was not sprinklered. The fire originated in a seventh floor apartment. There were no injuries associated with this fire and damages were estimated to be $3.5 million.

The City of Chelsea

376 Fires — 254 Structure Fires, 17 Vehicle Fires and 105 Other Fires
The City of Chelsea reported 376 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 254 structure fires, 17 motor vehicle fires, nine outside rubbish fires, nine grass, tree or brush fires, nine special outside fires, and 78 unclassified fires caused one civilian death, eight civilian injuries, 53 fire service injuries and an estimated dollar loss of $2.3 million. There were 10.7 fires for every 1,000 citizens in 2010.

Structure & Outside Fires Up
Total fires increased by 105, or 39%, from the 271 fires reported in 2009. Structure fires increased by 45 from the 209 reported in 2009. Motor vehicle fires decreased by one, from 18 the previous year. Outside and other fires increased by 61 from the 44 reported in 2009.

15 Arsons — 8 Structure Arsons & 7 Outside & Other Arsons
Fifteen (15), or 4%, of the 376 Chelsea fires were considered intentionally set, or, for purposes of this analysis, arson[8]. The eight structure arsons and seven outside and other arsons caused two civilian injuries, eight fire service injuries, and an estimated dollar loss of $577,065.

Unsafe Cooking Practices Caused Over 3/4of Residential Fires
Cooking was the leading cause of fires in Chelsea's residential properties in 2010, accounting for 78% of these fires. Heating fires were the second leading cause, accounting for 8% of the fires in people's homes in Chelsea in 2010. Arson, indoor rubbish fires and smoking each caused 3% of residential building fires in Chelsea.

[8] 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.

Electrical problems accounted for 1% of these fires; and candles caused less than 1% of the fires in Chelsea residences in 2010.

Detectors Alerted Occupants in Only 31% of Fires
Smoke or heat detectors operated and alerted the occupants in 67, or 31%, of the residential building fires. In 2% of these fires[9], the detectors did not alert the occupants. Detectors were present but did not operate in less than 1% of residential fires. There were no reported fires where there were no detectors in the fire. The fire was too small to trigger the detector in 2% of these fires. Smoke detector performance was undetermined in 136 incidents, or 65% of Chelsea's residential building fires.

Largest Loss Fire in Chelsea

- On January 7, 2010, at 1:02 a.m., the Chelsea Fire Department was dispatched to an electrical fire in a three-story apartment building. The fire started in the basement. There were 11 firefighters injured at this fire. Detectors were present and alerted the occupants. The building was not sprinklered and damages were estimated to be $450,000. The fire spread to a nearby building causing another $50,000 in estimated damages.

The City of Revere

468 Fires — 368 Structure Fires, 9 Vehicle Fires and 91 Other Fires
The City of Revere reported 468 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 368 structure fires, nine motor vehicle fires, 84 outside rubbish fires, three grass, tree or brush fires, and four unclassified fires, caused an estimated dollar loss of $254,200. There were 9.04 fires for every 1,000 citizens in 2010.

Outside Fires Up
The total number of reported fires increased by 54 from the 414 reported in 2009. Structure fires decreased by nine from the 377 reported during the previous year. Motor vehicle fires decreased by one from 10 reported in 2009. Reported outside and other fires increased by 64 from 27 the year before.

1 Arson — 1 Motor Vehicle Arson
One (1), or less than 1%, of Revere's 468 reported fires were considered intentionally set, or for purposes of this analysis, arson[10]. The one motor vehicle arson was an increase of one over none reported in 2009. Structure arsons decreased by three from three in 2009.

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

Unsafe Cooking Causes 84%of Residential Fires
Cooking was the leading cause of fires in Revere's residential properties in 2010, accounting for 84% of these fires. Heating equipment caused 11% of residential building fires in 2010. Indoor rubbish fires were responsible for 4% of these fires. Smoking caused 1% of the residential building fires in Revere in 2010.

Detectors Alerted Occupants in 39% of Fires
Smoke or heat detectors operated and alerted the occupants in 122, or 39%, of the residential building fires. In 3% of these fires[11], the detectors did not alert the occupants. There were no reported incidents where detectors were present but did not operate. In less than 1% of these fires, no detectors were present at all. There were no fires reported where the fire was too small to trigger a detector. Smoke detector performance was undetermined in 182 incidents, or 58% of Revere's residential building fires.

Largest Loss Fire In Revere

- At 4:19 a.m., on April 25, 2010, the Revere Fire Department was called to a fire of undetermined cause in a three-unit apartment building. No one was injured at this fire. Smoke detectors were present and alerted the occupants and the building was not sprinklered. Damages from this blaze were estimated to be $100,000.

The Town of Winthrop

88 Fires — 45 Structure Fires, 3 Vehicle Fires and 40 Other Fires
The Town of Winthrop reported 88 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 45 structure fires, three motor vehicle fires, 18 outside rubbish fires, 13 brush and grass fires, three special outside fires, and six unclassified fires caused one civilian injury, two fire service injuries and an estimated dollar loss of $229,250. There were 5.0 fires for every 1,000 citizens in 2010.

Motor Vehicle Fires Down
The total number of fires reported in Winthrop decreased by one from 89 in 2009. Structure fires remained the same with 45 reported in both 2009 and 2010. Motor vehicle fires decreased by eight from 11 in 2009. Outside and other fires increased by seven from 33 in 2009.

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

6 Arsons – 6 Outside & Other Arsons
Six (6), or 7%, of the 88 Winthrop fires were considered intentionally set, or, for purposes of this analysis, arson[12].

Unsafe Cooking Practices Caused 63% of Winthrop's Residential Fires
Cooking was the leading cause of fires in Winthrop residential properties in 2010 accounting for 63%. Heating equipment fires were the second leading cause, accounting for 13% of these fires. Smoking and indoor rubbish fires each caused 8% of the fires in Winthrop's homes in 2010.

Detectors Alerted Occupants in Only 3% of Fires
Smoke or heat detectors operated and alerted the occupants in one, or 3%, of the residential building fires. In 3% of these fires[13], the detectors did not alert the occupants. There were no reported fires where detectors were present but did not operate. There were no reported fires where no detectors were present at all. There were no reported fires where the fire was too small to trigger the detector. Smoke detector performance was undetermined in 38 incidents, or 94% of Winthrop's residential building fires.

Largest Loss Fire in Winthrop

- On November 15, 2010, at 5:47 p.m., the Winthrop Fire Department was called to an undetermined fire at a single-family home. There were no injuries associated with this fire. It was undetermined if detectors were present. The building was not sprinklered. Damages from this fire were estimated to be $100,000.

[12] 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.
[13] These represent confined fires where it was reported that the detector did not alert the occupants.

Suffolk County Population: 722,023

9.4 Fires/1,000 Population

Total Fires:	**6,809**		**$34,433,633**
Situation	**Fires**	**% of Fires**	**Dollar Loss**
Structure Fires	4,861	71%	$30,139,727
Vehicle Fires	421	6%	4,171,352
Other Fires	1,527	22%	122,554

2 Fatal Fires 0.44 Civilian Deaths/1,000 Fires
3 Civilian Deaths 0.04 Civilian Deaths/10,000 Population

20 Civilian Injuries 631 Fire Service Injuries

Building Fires: 4,840

Residential Building Fires: 4,030

Residential Building Fires Confined to Non-Combustible Containers: 3,546

Unconfined Residential Building Fires: 484

3 Civilian Deaths 19 Civilian Injuries 55 Fire Service Injuries

Occupancy	**Fires**	**%**
Apartments	2,798	69%
1- & 2-Family homes	556	14%
Dormitories	132	3%
Rooming houses	116	3%
Residential board & care	64	2%
Hotel/motel	40	1%

Detector Status	**Fires**	**%**
Operated	3,179	78%
Didn't operate	27	1%
None	24	1%
Fire too small	63	2%
Didn’t Alert (confined)	142	4%
Undetermined	595	14%

Area of Origin[14]	**%**
Kitchen	82%
Heating room or area	5%
Bedroom	1%
Chimney or flue	1%
Exterior balcony/unencl. porch	1%

Heat Source	**%**	**%Unconfined**[15]
Radiated heat from oper. eq.	2%	18%
Heat from operating equip.	2%	13%
Arcing	1%	11%
Hot or smoldering object	1%	10%
Cigarette	1%	8%

[14] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[15] These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited[16]	**%**
Food, cooking materials	80%
Flammable, combustible liquid	5%
Rubbish, trash, waste	4%
Film, residue (creosote)	1%
Structural member, framing	1%

Factor Contrib. to Ignit.	**%**	**%Unconfined[17]**
Abandoned materials	2%	20%
Too close to combustibles	1%	10%
Misuse of materials	1%	10%
Unspecified short-circuit arc	1%	6%
Equipment unattended	1%	5%

Equipment[18]	**%**
Cooking equipment	79%
None	12%
Boiler, furnace, cent. heat unit	5%
Chimney or flue	1%

Cause of Ignition	**%**	**%Unconfined[19]**
Unintentional	8%	64%
Failure of eq. or heat source	1%	11%
Intentional	1%	6%
Act of nature	0.1%	1%
Undetermined	1%	8%
Cause under investigation	1%	9%

Detector Alerted Occupants
(Confined Fires in Non-Combustible Containers)

Alerted Occupants	82%
Didn't Alert Occupants	4%
Undetermined	14%

[16] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[17] 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. These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Factors Contributing to Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[18] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[19]These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	547	475	32	40
February	532	464	25	43
March	508	406	34	68
April	601	393	37	171
May	732	383	37	312
June	532	344	39	149
July	622	309	42	271
August	501	317	34	150
September	525	368	43	114
October	578	461	34	75
November	588	483	22	83
December	551	458	42	51

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	1,050	767	63	220
Monday	948	676	57	215
Tuesday	828	584	66	178
Wednesday	984	709	53	222
Thursday	953	663	55	235
Friday	966	696	62	208
Saturday	1,080	766	65	249

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	565	349	68	148
04:01 - 08:00	423	308	40	75
08:01 - 12:00	1,095	870	64	161
12:01 - 16:00	1,568	1,065	70	433
16:01 - 20:00	1,872	1,366	96	410
20:01 - 00:00	1,286	903	83	300

Motor Vehicle Fires

Total: 421
Automobiles: 330 (86%)
17 (5%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 145 **Dollar loss: $1,175,887**

0.20 Arson Fires/1,000 Population

Situation	Arsons	% Situation	% Arson	Dollar Loss
Structure Arsons	39	1%	27%	$1,098,835
Vehicle Arsons	18	4%	12%	76,200
Other Arsons	88	6%	61%	852

0.05 Structure arsons/1,000 population
0.02 Vehicle arsons /1,000 population
0.12 Other arsons/1,000 population

1 Civilian Death 2 Civilian Injuries 8 Fire Service Injuries

Peak Times of Day for:

Structure Arsons	#	%	Vehicle Arsons	#	%
20:01 - 00:00	15	38%	00:01 - 04:00	6	33%
08:01 - 12:00	7	18%	20:01 - 00:00	4	22%
16:01 - 20:00	7	18%	16:01 - 20:00	3	17%

Other Arsons	#	%
20:01 - 00:00	39	44%
12:01 - 16:00	15	17%
16:01 - 20:00	15	17%

Peak Fixed Property Uses for Structure Arsons	#	%
Apartments	24	62%
1- & 2-Family homes	4	10%
Warehouses	2	5%

BOSTON FIRES FROM 2006 TO 2010 **POPULATION: 617,594**

	Total	Structure	Vehicle	Other	Total	Structure	Vehicle	Other
2006	3,971	2,432	379	1,160	94	46	22	26
2007	4,768	2,910	347	1,097	107	53	14	40
2008	4,678	3,194	387	1,097	109	45	20	44
2009	5,547	4,126	426	995	104	25	34	45
2010	5,812	4,187	378	1,247	123	31	17	75

CHELSEA FIRES FROM 2006 TO 2010 **POPULATION: 35,177**

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2006	268	187	25	56	16	6	1	9
2007	326	212	23	91	16	11	0	5
2008	266	190	13	63	7	2	0	5
2009	271	209	18	44	11	7	1	3
2010	376	254	17	105	15	8	0	7

REVERE FIRES FROM 2006 TO 2010 **POPULATION: 51,755**

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2006	536	385	29	122	31	6	4	21
2007	486	327	26	133	6	4	2	0
2008	443	399	10	34	1	1	0	0
2009	414	377	10	27	3	3	0	0
2010	468	368	9	91	1	0	1	0

WINTHROP FIRES FROM 2006 TO 2010 **POPULATION: 17,497**

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2006	96	54	2	40	13	2	0	11
2007	102	54	5	43	11	3	0	8
2008	68	36	4	28	7	1	0	6
2009	89	45	11	33	8	1	1	6
2010	88	45	3	40	6	0	0	6

Suffolk County Fire Experience by Community for 2010

	Boston	Chelsea	Revere	Winthrop	Suffolk County*	State
Total Fires	**5,812**	**376**	**468**	**89**	**6,809**	**32,680**
Population	617,594	35,177	51,755	17,497	722,023	6,549,639
Rate/1K Pop.	9.4	10.7	9.0	5.0	9.3	5.0
Civilian Deaths	2	1	0	0	0	36
Civ. Deaths/10K Pop.	0.03	0.28	0	0	0	0.05
Fire Service Deaths	0	0	0	0	0	2
Civilian Injuries	11	8	0	1	41	366
Civ. Inj./1K Pop.	0.02	0.23	0	0.06	0.03	0.06
Fire Service Injuries	8	53	0	2	70	531
Est. $ Loss	$31,528,263	2,340,920	254,200	229,250	29,517,460	196,491,576
Structure Fires	**4,187**	**254**	**368**	**45**	**4,861**	**18,650**
Structure Fires/ 1,000 Population	6.8	7.2	7.1	2.6	6.7	2.8
Structure Fires Dollar Loss	$27,744,752	1,988,475	213,800	192,700	30,139,727	176,801,842
Residential Building Fires	3,463	214	310	40	4,030	15,272
Residential Confined Fires	3,022	186	305	33	3,546	12,094
Vehicle Fires	**378**	**17**	**9**	**3**	**421**	**2,967**
Vehicle Fires 1,000 Population	0.6	0.5	0.2	0.2	0.6	0.5
Vehicle Fire Dollar Loss	$3,693,552	347,400	30,900	18,500	4,171,352	15,499,953
Other Fires	**1,247**	**105**	**91**	**40**	**1,527**	**11,153**
Other Fires Dollar Loss	$89,959	5,045	9,500	18,080	122,554	4,189,781

*This figure includes 59 incidents reported by Massport Fire-Rescue. There were 7 structure fires, 14 vehicle fires and 38 outside and other fires.

Suffolk County Arson Experience by Community for 2010

	Boston	Chelsea	Revere	Winthrop	Suffolk County*	State
Total Arsons	**123**	**15**	**1**	**6**	**145**	**1,169**
Population	617,594	35,177	51,755	17,497	722,023	6,549,639
Rate/1,000 Population	0.20	0.43	0.02	0.34	0.20	0.18
Civilian Deaths	0	1	0	0	1	8
Fire Service Deaths	0	0	0	0	0	0
Civilian Injuries	0	2	0	0	2	13
Fire Service Injuries	0	8	0	0	8	17
Est. $ Loss	$597,822	577,065	1,000	31,400	1,175,887	7,131,125
Structure Arsons	**31**	**8**	**0**	**0**	**39**	**268**
Structure Arsons/ 1,000 Population	0.05	0.23	0.00	0.00	0.05	0.04
Structure Arson Dollar Loss	$521,810	577,025	0	0	1,098,835	6,424,112
% of Structure Fires Caused by Arson	1%	3%	0%	0%	1%	1%
% of Structure Fire Dollar Loss Caused by Arson	2%	29%	0%	0%	4%	4%
Residential Building Arsons	24	6	0	0	30	151
Vehicle Arsons	**17**	**0**	**1**	**0**	**18**	**115**
Vehicle Arsons/ 1,000 Population	0.03	0.00	0.02	0.00	0.02	0.02
Vehicle Arson Dollar Loss	$75,200	0	1,000	0	76,200	487,893
% of Vehicle Fires Caused by Arson	4%	0%	11%	0%	4%	4%
% of Vehicle Fire Dollar Loss Caused by Arson	2%	0%	3%	0%	2%	3%
Other Arsons	**75**	**7**	**0**	**6**	**88**	**786**
Other Arson Dollar Loss	$812	40	0	0	852	219,910

*There were no intentionally set fires reported by Massport Fire-Rescue.

2010 Suffolk County Structure Fires by Property Use[20]

Property Use	Boston	Chelsea	Revere	Winthrop	Suffolk County
Assembly	**159**	**5**	**20**	**0**	**188**
Assembly, other	11	0	0	0	11
Fixed use recreation places, other	1	0	0	0	1
Electronic amusement center	1	0	0	0	1
Ice rink: indoor, outdoor	2	0	0	0	2
Roller rink: indoor or outdoor	0	0	1	0	1
Swimming facility: indoor or outdoor	1	0	0	0	1
Variable use amusement, rec. places	2	0	1	0	3
Ballroom, gymnasium	1	0	0	0	1
Convention center, exhibition hall	1	0	0	0	1
Playground	0	0	1	0	1
Places of worship, funeral parlors	3	0	0	0	3
Church, mosque, synagogue, temple	17	2	1	0	20
Clubs, other	3	0	0	0	3
Athletic/health club	6	0	0	0	6
Clubhouse	1	0	0	0	1
Courthouse	1	0	0	0	1
Eating, drinking places	16	0	3	0	19
Restaurant or cafeteria	75	1	10	0	86
Bar or nightclub	10	2	3	0	15
Airport passenger terminal	0	0	0	0	4
Rapid transit station	7	0	0	0	7
Educational	**101**	**0**	**2**	**1**	**104**
Educational, other	20	0	0	0	20
Schools, non-adult	8	0	2	0	10
Preschool	9	0	0	0	9
Elementary school	19	0	0	0	19
High/junior high/middle school	17	0	0	1	18
Adult education, college classroom	15	0	0	0	15
Day care, in commercial property	10	0	0	0	10
Day care, in residence, licensed	2	0	0	0	2
Day care in residence, unlicensed.	1	0	0	0	1
Institutional	**203**	**16**	**19**	**0**	**238**
Health care, detention, & corr., other	32	0	0	0	32
Nursing homes, 4+ persons	25	8	15	0	48
Mental retard./dev. disability facility	29	4	0	0	33
Alcohol/substance abuse recov.ctr.	26	1	0	0	27
Asylum, mental institution	0	3	1	0	4

[20] The Suffolk County figures include 11 Massport fires

2010 Suffolk County Structure Fires by Property Use

Property Use	Boston	Chelsea	Revere	Winthrop	Suffolk County
Institutional (con't)					
Hospital - medical or psychiatric	78	0	0	0	78
Clinics, Dr. offices, hemodialysis ctrs.	2	0	0	0	2
Clinic, clinic-type infirmary	1	0	0	0	1
Doctor, dentist or oral surgeon's office	3	0	2	0	5
Jail, prison (not juvenile)	4	0	0	0	4
Reformatory, juvenile detention center	2	0	0	0	2
Police station	1	0	1	0	2
Residential	**3,440**	**214**	**313**	**40**	**4,007**
Residential, other	313	5	3	0	321
1 or 2 family dwelling	419	15	102	14	550
Multifamily dwellings	2,393	170	198	24	2,785
Boarding/rooming house	97	16	3	0	116
Hotel/motel, commercial	34	0	6	0	40
Residential board and care	53	7	1	2	63
Dormitory type residence, other	118	0	0	0	118
Sorority house, fraternity house	8	0	0	0	8
Barracks, dormitory	5	1	0	0	6
Mercantile, business	**163**	**8**	**11**	**2**	**184**
Mercantile, business, other	53	0	0	0	53
Convenience store	5	1	1	0	7
Food & beverage sales, grocery store	30	4	2	1	37
Textile, wearing apparel sales	5	0	0	0	5
Specialty shop	9	0	1	0	10
Pers. Serv., incl. Barber, beauty shops	1	0	0	0	1
Laundry, dry cleaning	5	0	0	1	6
Professional supplies, services	2	0	0	0	2
MV or boat sales, services, repair	1	0	0	0	1
General retail, other	3	0	2	0	5
Department or discount store	2	0	1	0	3
Bank	4	0	1	0	5
Office: veterinary or research		2	0	0	0
2					
Post office or mailing firms	1	0	0	0	1
Business office	40	3	3	0	46
Utility, defense, agriculture, mining	**12**	**0**	**1**	**0**	**13**
Utility, defense, agric., mining, other	1	0	0	0	1
Laboratory or science laboratory	6	0	0	0	6
Defense, military installation	1	0	0	0	1

Communications center	3	0	0	0	3

2010 Suffolk County Structure Fires by Property Use

Property Use	Boston	Chelsea	Revere	Winthrop	Suffolk County
Utility, defense, agriculture, mining (con't)					
Electrical distribution	1	0	0	0	1
Gas distribution, pipeline	0	0	1	0	1
Manufacturing, processing	**10**	**0**	**0**	**0**	**11**
Storage	**17**	**3**	**0**	**0**	**20**
Storage, other	1	0	0	0	1
Outbuilding or shed	2	0	0	0	2
Vehicle storage, other	3	0	0	0	3
Parking garage, (det. res. garage)	3	0	0	0	3
Parking garage, general vehicle	3	0	0	0	3
Fire station	1	0	0	0	1
Warehouse	4	3	0	0	7
Outside or special property	**22**	**1**	**2**	**1**	**26**
Property Use, other	**9**	**0**	**0**	**0**	**9**
Total Structure Fires	**4,136**	**247**	**368**	**44**	**4,800**

2010 Suffolk County Reponses[21] by Incident Type

Incident Type	Boston	Chelsea	Revere	Winthrop	Massport Fire Rescue	Suffolk County
Fires	5,851	382	469	88	83	6,873
Overpressure, rupture, explosion (no fire)	40	16	5	1	12	74
Rescue & EMS calls	30,934	5,776	5,527	1,665	2,214	46,116
Hazardous conditions (no fire)	4,181	320	228	194	305	5,228
Service calls	9,610	728	726	491	86	11,641
Good intent calls	6,084	343	506	210	114	7,257
False alarm & false calls	12,924	875	924	266	234	15,223
Severe weather & natural disaster	29	13	0	5	1	48
Special incident type	322	22	12	12	11	379

[21] These figures include mutual or automatic aid given calls.

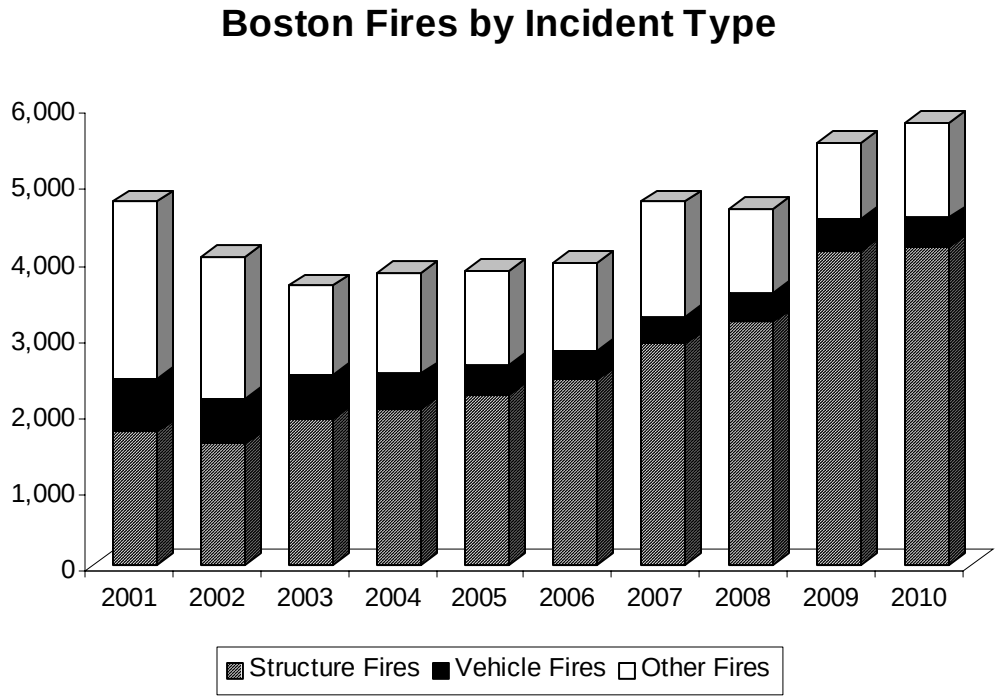
Boston Fires in 2010

5,812 Fires — 4,187 Structure Fires, 378 Vehicle Fires & 1,247 Other Fires
The Boston Fire Department reported 4,187 structure fires, 378 motor vehicle fires, 561 grass, tree or brush fires, 523 outside rubbish fires, 90 special outside fires, and 73 unclassified fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. These 5,812 incidents caused two civilian deaths, 11 civilian injuries, eight fire service injuries and an estimated dollar loss of $31.5 million. There were 9.4 fires for every 1,000 citizens in 2010. The statewide rate was 5.0 fires for every 1,000 people.

Structure & Outside Vehicle Fires Up
The total number of Boston fires reported to the Massachusetts Fire Incident Reporting System increased by 265 from the 5,547 reported in 2009 to 5,812 in 2010. Structure fires increased by 61, motor vehicle fires decreased by 48, and outside and other fires increased by 252. For the eighth year in a row the number of structure fires increased significantly. Motor vehicle fires have been on a downward trend since 1986; increasing only twice since 1994. Outside and other fires continued their up and down trend of the past 10 years. Although fewer than 10% of the state's residents live in the City of Boston, the Boston Fire Department reported 18% of the 32,680 fire incidents reported statewide in 2010.

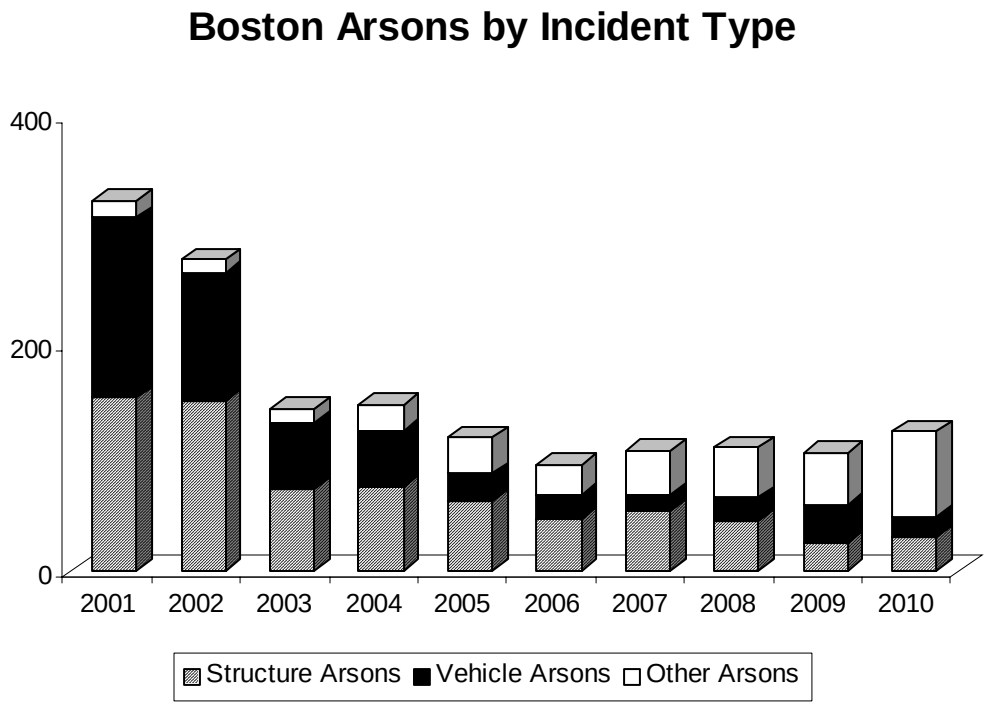
BOSTON FIRES FROM 2001 TO 2010

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	4,769	1,757	692	2,320	327	153	159	15
2002	4,051	1,593	595	1,863	275	151	113	11
2003	3,676	1,938	570	1,168	163	73	58	32
2004	3,833	2,030	452	1,321	141	75	43	23
2005	3,874	2,238	397	1,239	118	62	24	32
2006	3,971	2,432	379	1,160	94	46	22	26
2007	4,768	2,910	347	1,511	107	53	14	40
2008	4,678	3,194	387	1,097	109	45	20	44
2009	5,547	4,126	426	995	104	25	34	45
2010	5,812	4,187	378	1,247	123	31	17	75



123 Arsons — 31 Structure Arsons, 17 Vehicle Arsons & 75 Other Arsons
One hundred and twenty-three (123), or 2%, of the 5,812 Boston fires were considered intentionally set[22], or, for purposes of this analysis, arson. The 31 structure arsons, 17 motor vehicle arsons and 75 outside and other arsons caused an estimated dollar loss of $597,822.

[22] 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.



STRUCTURE FIRES

Reported Structure Fires Up

The 4,187 structure fires caused two civilian deaths, 11 civilian injuries, eight fire service injuries and an estimated dollar loss of $27.7 million. These incidents represented 72% of Boston's reported fires in 2010. The average estimated dollar loss per structure fire was $6,626. The total number of reported structure fires increased by 61, or 1%, from the 4,126 reported in 2009.

Arson Caused 1% of Structure Fires

The 31 structure arsons caused an estimated dollar loss of $521,810. Arson was indicated as the cause of 1% of the structure fires and 2% of Boston's structure fire dollar loss. The 31 structure arsons accounted for 25% of the Boston arson fires reported in 2010. The total number of reported structure arsons increased by six, or 24%, from 25 in 2009.

Almost 3/4 of Structure Arsons Occurred in Residences

Seventy-seven percent (77%) of Boston's 31 structure arsons occurred in residential occupancies; 10% occurred in educational buildings; 6% occurred in institutional facilities; and 3% each occurred in public assembly properties and storage facilities.

BUILDING FIRES

There were 4,169 building fires of different types in Boston in 2010. These 4,110 building fires accounted for 99.6% of all structure fires in Boston.

83% of Building Fires in Homes

The 4,169 building fires that occurred in Boston in 2010 can be broken down by fixed property use as follows: 3,463, or 83%, of all the building fires reported in 2010, were in residential properties; 205 fires happened in institutional facilities; 165 fires took place in mercantile and office properties; 160 fires occurred in public assembly properties; 101 fires occurred in educational properties; 27 took place in special properties; 19 fires were in storage facilities; 12 happened in industrial, utility, defense, agricultural or mining facilities; and 10 were reported in manufacturing properties. Seven (7) fires occurred in buildings where the property use was unclassified or not reported.

RESIDENTIAL FIRES

Residential Building Fires Caused Both Deaths & $20 Million in Damages

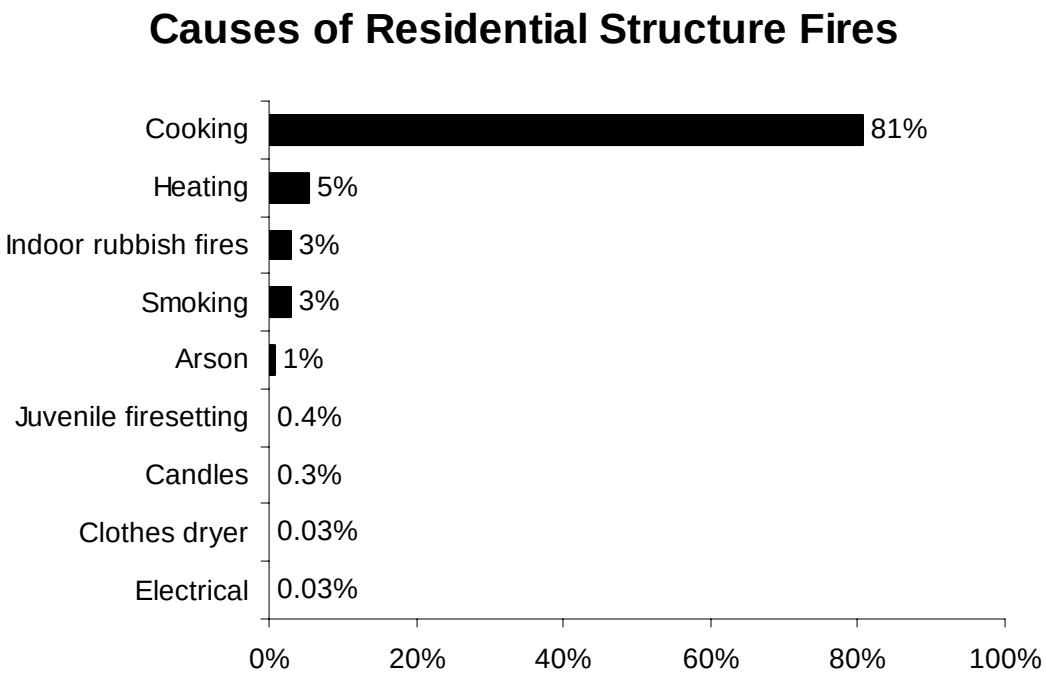
In 2010, 3,463 or 83%, of Boston's 4,169 reported building fires occurred in residences. Fires in or on residential buildings caused both civilian fire deaths, 10 civilian injuries, six fire service injuries and an estimated dollar loss of $20.4 million. The total number of residential building fires increased by 56, or 2%, from the 3,407 reported in 2009.

Apartments Accounted for 69% of Residential Building Fires

The peak fixed property uses for residential building fires were apartments, accounting for 69% of the residential building fires in Boston. Twelve percent (12%) occurred in 1- or 2-family homes, 4% occurred in dormitories, 3% happened in rooming houses, 2% occurred in residential board and care facilities; 1% occurred in hotels or motels, and 9% happened in unclassified residential occupancies.

Cooking Caused 81% of Boston's Residential Fires

Cooking was the leading cause of the 3,463 fires in Boston residential buildings, accounting for 81% of these fires. Heating equipment was the cause of 5% of these fires. Indoor rubbish fires and smoking each caused 3% of residential building fires in Boston. Arson caused 1% of these fires. Juvenile-set fires, candles, clothes dryers, and electrical problems each accounted for less than 1% of the fires in Boston residences in 2010.



85% of Residential Building Fires Are Confined to Non-Combustible Containers[23]
Three thousand and twenty-two (3,022), or 85% of all residential building fires, were reported as confined to non-combustible containers in 2010. Two thousand seven hundred and thirty-nine (2,739) of the reported fires were cooking fires contained to a non-combustible container accounting for 79% of residential building fires. One hundred and fifty-seven (157), or 5%, were fires confined to a fuel burner or boiler malfunction. Ninety-four (94), or 3%, of these fires were contained rubbish fires. Twenty-seven (27), or 1% of all residential building fires reported in 2010, were fires confined to a chimney. Three (3) incinerator overloads or malfunctions caused less than 1% of residential building fires in Boston in 2010. Two (2), or less than 1%, were confined commercial compactor fires.

Detectors Alerted Occupants in 85% of Home Fires
Smoke or heat detectors operated and alerted the occupants in 2,989, or 85%, of the residential building fires. In 4% of these fires[24], 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 the residential fires. Smoke detector performance was undetermined in 239 incidents, or 7% of Boston's residential building fires.

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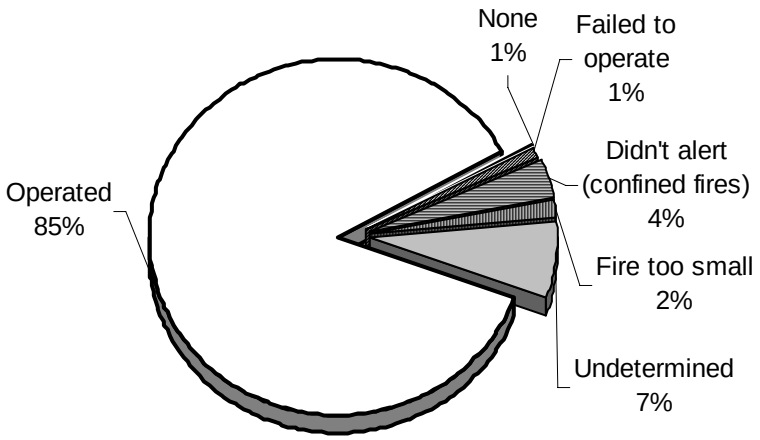
[23] In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing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

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

Detector Status in Boston's Residential Structure Fires 2010

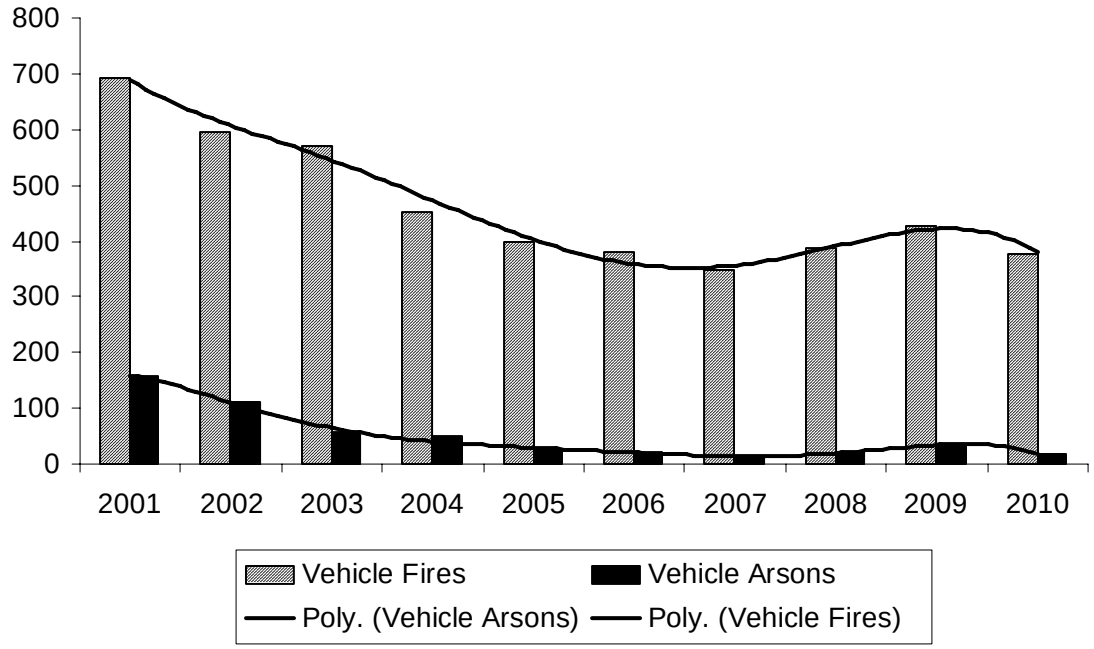


Almost 1/3 Failed Detectors Had Missing Batteries
Of the 26 fires where smoke detectors were present but failed to operate, three, or 31%, failed because of missing or disconnected batteries. Three (3), or 12% failed from a lack of maintenance; two, or 8%, did not operate because of dead batteries; and another one, or 4%, failed because of power failure, shut-off or disconnect. For 12 cases, or 46%, the reason the detector failed was not determined or classified.

MOTOR VEHICLE FIRES

Motor Vehicle Fires Decrease
The 378 motor vehicle fires caused an estimated dollar loss of $3.7 million. Motor vehicle fires comprised 7% of Boston's reported fires in 2010. The total number of motor vehicle fires decreased by 48 from the 426 reported in 2009. This is a restoration of the trend interrupted in 2009 of decreasing motor vehicle fires. Since 2001, motor vehicle fires have decreased by 45% and motor vehicle arsons have decreased by 89%.

Motor Vehicle Fires & Arsons in Boston 2001 - 2010



4% of Motor Vehicle Fires Considered Arson
Seventeen (17), or 4%, of Boston's 378 motor vehicle fires were considered intentionally set, or for purposes of this report, arson. These 17 motor vehicle arsons caused one civilian injury and an estimated dollar loss of $75,200. The total number of reported motor vehicle arsons decreased by 17, or 50% from the 34 reported in 2009.

Boston Fire Department Instrumental in Getting MV Fire Legislation Passed
The Boston Fire Department was instrumental in passing legislation requiring 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 an insurance claim could be made. The Burned/Recovered Motor Vehicle Reporting Law was implemented in 1987. The Boston Fire Department has successfully used this legislation as a tool to aggressively investigate suspicious or questionable motor vehicle fires and has dramatically reduced the frequency of owners burning their cars to "sell" them back to the insurance companies.

Boston Fire Department Brought Vehicle Arson Down 99% Since 1986
The total number of motor vehicle fires reported annually has plunged 3,214 from a high of 3,601 in 1983 to 378 in 2010, a 90% decrease. The drop in vehicle arson was even more dramatic. Vehicle arson fell 3,027 from the 1986 high of 3,061 incidents to 17 in 2010 for a 99% decline.

Motor Vehicle Arsons Less Than Structure Arsons –Downward Trend

There were less motor vehicle arsons than structure arsons in Boston in 2010. Motor vehicle arson represents 14% of the total arson problem while structure arson accounts for 25% of all 2010 arsons in Boston.

OUTSIDE AND OTHER FIRES

Brush Fires Account for 10% of Boston's Fires

The 561 grass, tree or brush fires, 523 outside rubbish fires, 90 special outside fires, and 73 unclassified fires are grouped together as 'outside or other fires.' These 1,247 outside and other fires caused an estimated dollar loss of $89,959. Outside and other fires comprised 21% of the 5,812 Boston fires reported in 2010. Ten percent (10%) of Boston's fires were brush, tree, or grass fires and 9% were outside rubbish or dumpster fires. The total number of outside and other fires increased by 252, or 25%, from the 995 reported in 2009.

75 Outside and Other Fires Considered Arson

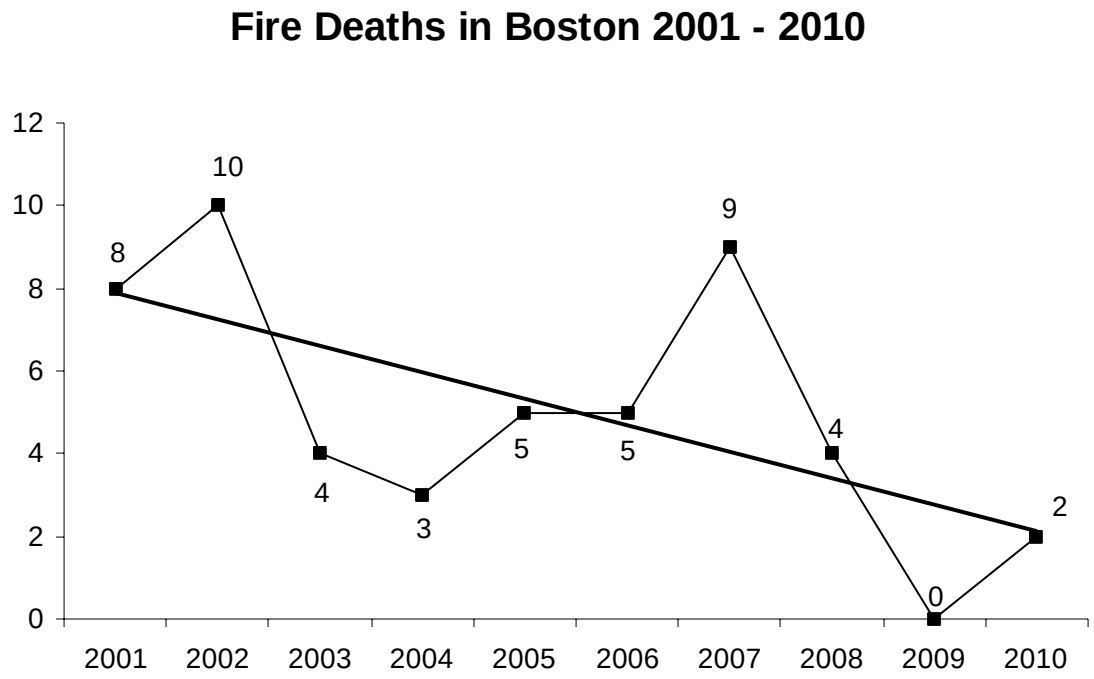
The 75 identified outside and other arsons caused an estimated dollar loss of $812. Forty-five (45) were grass, tree or brush fires. Eighteen (18) were special outside fires; two were outside rubbish fires, and 10 were unclassified fires. Outside and other arsons accounted for 6% of Boston's outside and other fires, and 61% of Boston's total arson fires.

FATAL FIRES

1 Boston Fire Killed 2 Civilians in 2010

There was one fatal fire in Boston that killed two civilians.

- On May 29, 2010, at 2:40 a.m. the Boston Fire Department was called to a fatal electrical fire in a three-unit apartment building. The fire started in a first floor corridor. The victims, a 35-year old woman and her 48-year old husband, were sleeping at the time of the fire and were unable to escape. They were overcome by the heat and smoke. Another woman was also injured at this fire. Detectors were present but they failed to operate. There were no sprinklers. The fire caused an estimated $250,000 worth of damage and one exposure fire to the building next door.



JUVENILE-SET FIRES

24 Juvenile-set Fires
There were 24 reported juvenile-set fires in Boston in 2010. The 16 structure fires, four brush fires, one special outside fire, and three unclassified fires caused four civilian injuries and $1.4 million in estimated damages.

ALL CALLS

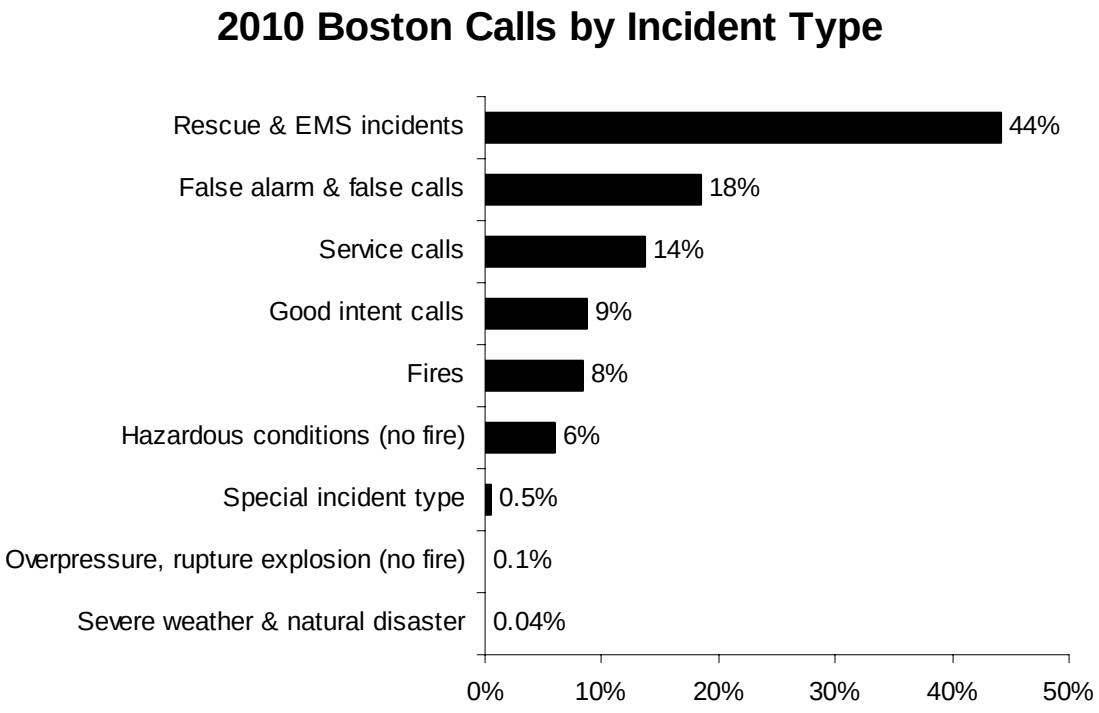
Rescue & EMS Calls Were 44% of All Reported Responses
In 2010, the Boston Fire Department reported 69,975 total responses to MFIRS. Of these 69,975 responses, 64,124 non-fire calls were voluntarily reported.

Of these 64,124 non-fire calls, 30,934, or 44% of all the responses reported in 2010, were reported rescue and emergency medical services (EMS) calls[25]; 12,924, or 18%, were reported false alarm or false calls; 9,610, or 14%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 6,084, or 9%, were reported good intent calls; 4,181, or 6%, were reported hazardous condition calls with no fire; 322, or 0.5%, were special incident type calls such as citizen

[25] The Boston Fire Department does not run any ambulances. Instead they dispatch their companies as first responders to all EMS calls.

complaints; 40, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire; and 29, or 0.04%, were severe weather calls.

Five thousand eight hundred and fifty-one (5,851), or 8%, of the total responses submitted by the Boston Fire Department were fires[26].



CONCLUSIONS

- **2 Civilians Died in Boston in 2010**

Two (2) civilians died in one Boston fire in 2010.

- **No Fire-Related Line of Duty Deaths**

There were no fire-related line of duty deaths in Boston in 2010.

- **Structure Fires Up & Motor Vehicle Fires Drop**

Structure fires increased for the eighth straight year. Motor vehicle fires decreased.

[26] This includes the fires that Boston responded to outside of their jurisdiction as mutual aid given.

- **MV Arsons Cut in 1/2**

Motor vehicle arsons declined by 50% from 34 reported in 2009 to 17 in 2010. Motor vehicle arson represents 14% of the total arson problem while structure arson accounted for 25% of the 2010 arsons in Boston.

- **Cooking Caused 81% of Residential Fires**

Cooking was the leading cause of the 3,407 fires in Boston's residential buildings, accounting for 81%.

- **Smoke Detectors Operated in 85% of Residential Fires**

Smoke or heat detectors operated in 85% of residential building fires.

- **There Were No Working Detectors in 1% of Residential Building Fires**

There were no working detectors in 1% of Boston's residential building fires. Of these detectors that did not work, less than 1% of detectors failed to operate and in 1% of these fires detectors were not present.

- **Apartments Accounted for 69% of Residential Building Fires**

The peak fixed property uses for building fires were apartments, accounting for 69% of the building fires in Boston; 12% occurred in 1- or 2-family homes; 4% occurred in dormitories, 3% happened in rooming houses, 2% occurred in residential board and care facilities; and 1% occurred in hotels or motels.

Boston FDID: 25035 Population: 617,594

Total Fires **5,812** **$31,528,263**

9.4 Fires/1,000 Population

Situation Found	Fires	% of Fires	Dollar Loss
Structure Fires	4,187	72%	$27,744,752
Vehicle Fires	378	7%	3,693,552
Other Fires	1,247	21%	89,959

1 Fatal Fire
2 Civilian Deaths
11 Civilian Injuries
0.34 Civilian Deaths/1,000 Fires
0.03 Civilian Deaths/10,000 population
8 Fire Service Injuries

6.78 Structure fires/1,000 population
0.61 Vehicle fires /1,000 population
2.02 Other fires/1,000 population

Building Fires: 4,169

Residential Building Fires: 3,463

Residential Building Fires Confined to Non-Combustible Containers: 3,022

Unconfined Residential Building Fires: 441

2 Civilian Deaths 10 Civilian Injuries 6 Fire Service Injuries

Occupancy	Fires	%
Apartments	2,406	69%
1- & 2-Family homes	425	12%
Dormitories	131	4%
Rooming houses	97	3%
Residential board & care	54	2%
Hotel/motel	34	1%

Detector Status	Fires	%
Operated	2,989	85%
Didn't operate	26	1%
None	23	1%
Fire too small	58	2%
Didn't alert (confined)	128	4%
Undetermined	239	7%

Area of Origin[27]	%	Heat Source	%	%Unconfined[28]
Kitchen	83%	Radiated heat from oper. eq.	2%	19%
Heating room or area	5%	Heat from operating eq.	2%	13%
Bedroom	2%	Arcing	2%	12%
Exterior balcony/unencl. porch	1%	Hot or smoldering object	1%	10%

[27] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[28] These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited[29]	**%**
Food, cooking materials	81%
Flammable, combustible liquid	5%
Rubbish, trash, waste products	4%
Film, residue (creosote)	1%
Structural member, framing	1%

Factor Contrib. to Ignit.	**%**	**%Unconfined**[30]
Abandoned materials	3%	21%
Too close to combustibles	1%	10%
Unspecified short-circuit arc	1%	9%
Misuse of material or prod.	1%	7%
Equipment unattended	1%	6%
Elec. failure, malf., other	1%	5%

Equipment[31]	**%**
Cooking equipment	79%
None	13%
Boiler, furnace, cent. heat. unit	5%
Chimney, flue	1%
Clothes dryer	0.03%

Cause of Ignition	**%**	**%Unconfined**[32]
Unintentional	8%	66%
Failure of eq. or heat source	2%	12%
Intentional	1%	6%
Undetermined	1%	6%
Cause under investigation	1%	9%
Act of nature	0.1%	1%

Detector Alerted Occupants
(Confined Fires in Non-Combustible Containers)

Alerted occupants	91%
Didn't alert occupants	4%
Undetermined	5%

Mutual Aid Given	**# of Incidents**
Cambridge	1

[29] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[30] 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. These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Factors Contributing to Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[31] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[32]These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	479	421	28	30
February	454	393	24	37
March	439	347	32	60
April	530	350	35	145
May	624	320	32	272
June	448	305	36	107
July	496	269	33	194
August	411	268	30	113
September	457	321	39	97
October	502	404	30	68
November	507	412	19	76
December	465	377	40	48

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	918	676	58	184
Monday	814	589	50	175
Tuesday	702	497	58	147
Wednesday	822	598	47	177
Thursday	799	562	52	185
Friday	831	610	52	169
Saturday	926	655	61	210

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	501	307	65	129
04:01 - 08:00	371	270	38	63
08:01 - 12:00	940	756	55	129
12:01 - 16:00	1,299	894	60	345
16:01 - 20:00	1,582	1,172	85	325
20:01 - 00:00	1,119	788	75	256

Motor Vehicle Fires
Total: 378
Automobiles: 330 (87%)
16 (5%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 123 **$597,822**

	Arsons	% of Situation	% of Arson	Dollar Loss
Structure Arsons	31	1%	25%	$521,810
Vehicle Arsons	17	4%	14%	75,200
Other Arsons	75	6%	61%	812

No Injuries

0.20 Arson fires/1,000 population
0.05 Structure arsons/1,000 population
0.03 Vehicle arsons /1,000 population
0.12 Other arsons/1,000 population

Peak Times of Day for Arson Fires

Structure Arsons	#	%	Vehicle Arsons	#	%
20:01 - 00:00	10	32%	00:01 - 04:00	6	35%
08:01 - 12:00	6	19%	20:01 - 00:00	4	24%
16:01 - 20:00	6	19%	16:01 - 20:00	3	18%

Other Arsons	#	%
20:01 - 00:00	33	44%
12:01 - 16:00	13	17%
16:01 - 20:00	13	17%

Peak Fixed Property Uses for Structure Arsons

Occupancy	#	%
Apartments	19	61%
1- & 2-Family homes	3	10%

Chelsea Fires in 2010

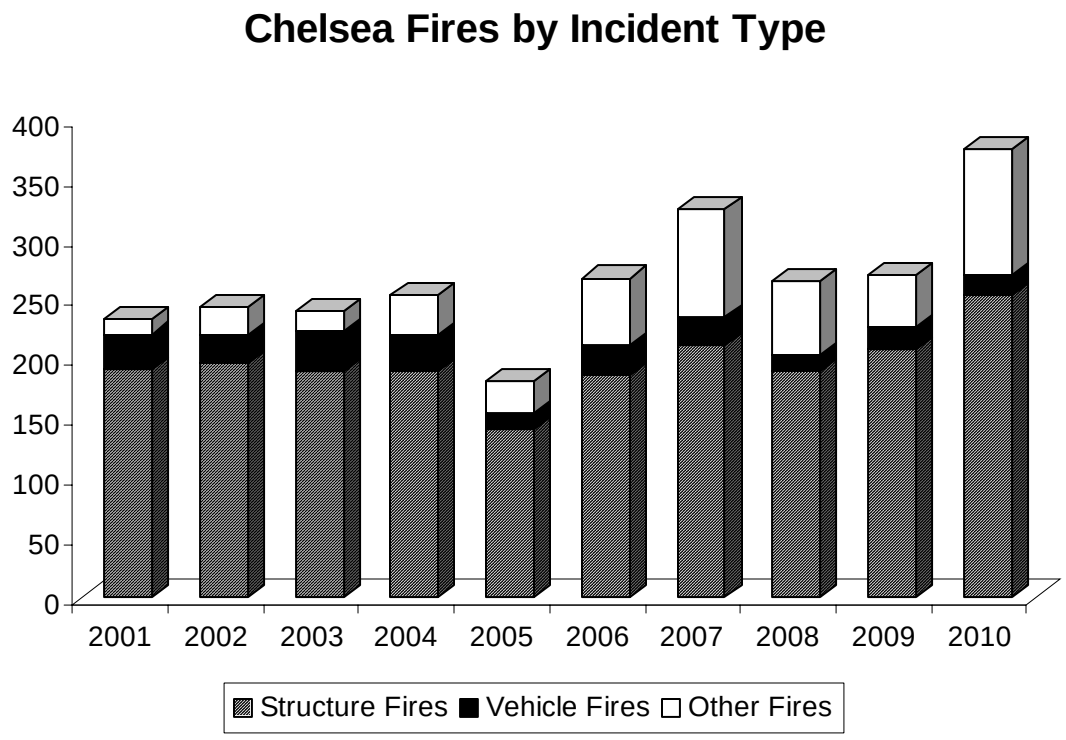
376 Fires — 254 Structure Fires, 17 Vehicle Fires and 105 Other Fires
The City of Chelsea reported 376 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 254 structure fires, 17 motor vehicle fires, nine outside rubbish fires, nine grass, tree or brush fires, nine special outside fires, and 78 unclassified fires caused one civilian death, eight civilian injuries, 53 fire service injuries[33] and an estimated dollar loss of $2.3 million. There were 10.7 fires for every 1,000 citizens in 2010. The statewide rate was 5.0 fires for every 1,000 people.

Structure & Outside Fires Up
The total number of fires reported to the Massachusetts Fire Incident Reporting System increased by 105, from the 271 fires reported in 2009. Structure fires increased by 45 from the 209 reported in 2009. Motor vehicle fires decreased by one from 17 the previous year. Outside and other fires increased by 61 from the 44 reported in 2009.

CHELSEA FIRES FROM 2001 TO 2010

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	234	191	30	13	7	2	4	1
2002	243	197	23	23	4	2	1	1
2003	240	190	34	16	2	2	0	0
2004	253	190	30	33	2	1	0	1
2005	181	141	14	26	1	0	0	1
2006	268	187	25	56	16	6	1	9
2007	326	212	23	91	16	11	0	5
2008	267	191	13	63	7	2	0	5
2009	271	209	18	44	11	7	1	3
2010[34]	376	254	17	105	15	8	0	7

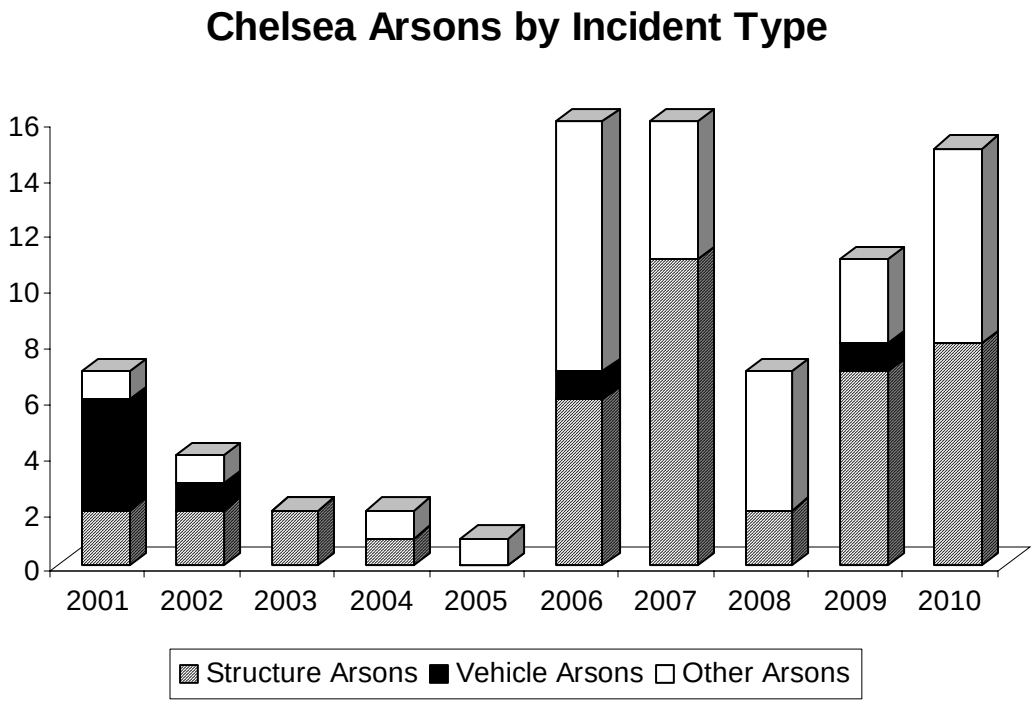
[33] 43 of Chelsea's 53 fire-related fire service injuries were for reported exposures only.
[34] Upon review of a draft of this report, Chelsea FD had determined that they did have 1 motor vehicle arson in 2010. That would bring Chelsea's 2010 total arsons to 16.



15 Arsons — 8 Structure Arsons & 7 Other Arsons

Fifteen (15), or 4%, of the 376 Chelsea fires were considered intentionally set, or, for purposes of this analysis, arson[35]. The eight structure arsons and seven outside and other arsons caused one civilian death and an estimated dollar loss of $577,065.

[35] 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.



All Arsons Up Slightly
The total number of arson fires increased by four, or 36%, from the 11 arsons reported in 2009. Structure arsons increased by one from the seven reported in 2009. Motor vehicle arsons decreased by one from the one reported 2009. Outside and other arsons increased by four from the three reported in 2009.

STRUCTURE FIRES

Structure Fires Rise
The 254 structure fires caused one civilian death, eight civilian injuries, 49 fire service injuries and an estimated dollar loss of $2 million. These fires represented 68% of Chelsea's reported fires in 2010. The total number of structure fires increased by 45, or 22%, from the 209 structure fires reported in 2009.

Arson Caused 3% of Structure Fires
The eight structure arsons caused the lone civilian death, two civilian injuries, eight fire service injuries, and an estimated dollar loss of $577,025. Arson was indicated as the cause of 3% of the structure fires and accounted for 29% of Chelsea's structure fire dollar loss. The eight structure arsons represented 53% of the Chelsea's arson fires reported in 2010. The total number of reported structure arsons increased by one from seven reported in 2009.

BUILDING FIRES

There were 251 building fires of different types in Chelsea in 2010. These 251 building fires accounted for 98.8% of all structure fires in Chelsea.

85% of Building Fires in Homes

The 251 building fires that occurred in Chelsea in 2010 can be broken down by fixed property use as follows: 214 fires were in residential properties accounting for 85% of all building fires; 16 fires occurred at institutional facilities; eight fires happened in mercantile or office properties; six fires occurred in public assembly properties; four fires occurred at storage facilities; and three fires occurred at special properties.

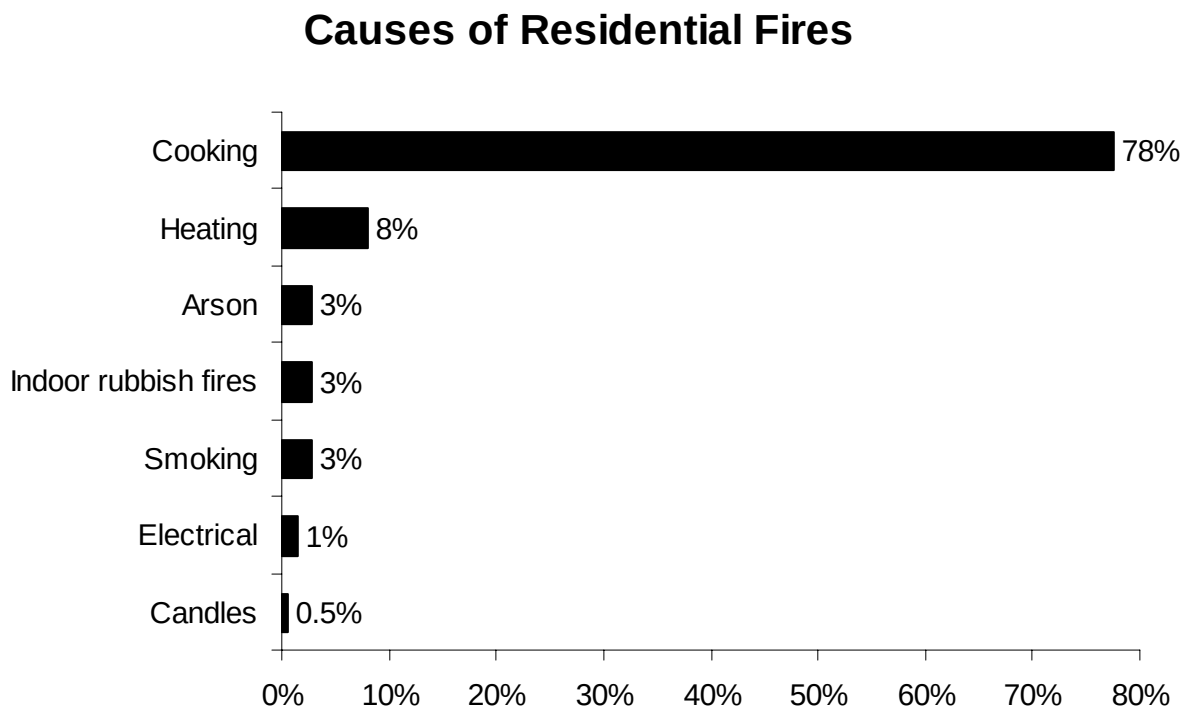
RESIDENTIAL BUILDING FIRES

Residential Building Fires Increase

Two hundred and fourteen (214), or 85%, of Chelsea's 251 building fires occurred in residential occupancies. This is an increase of 39 over the 175 reported residential fires in 2009. The peak fixed property uses for residential building fires were apartments, accounting for 79% of the residential building fires in Chelsea; 7% occurred in one- or two-family homes; 7% occurred in rooming houses; 3% happened at residential board and care facilities; less than 1% happened in dormitories; and 2% occurred in unclassified residential properties.

Unsafe Cooking Practices Caused Over 3/4 of Residential Fires

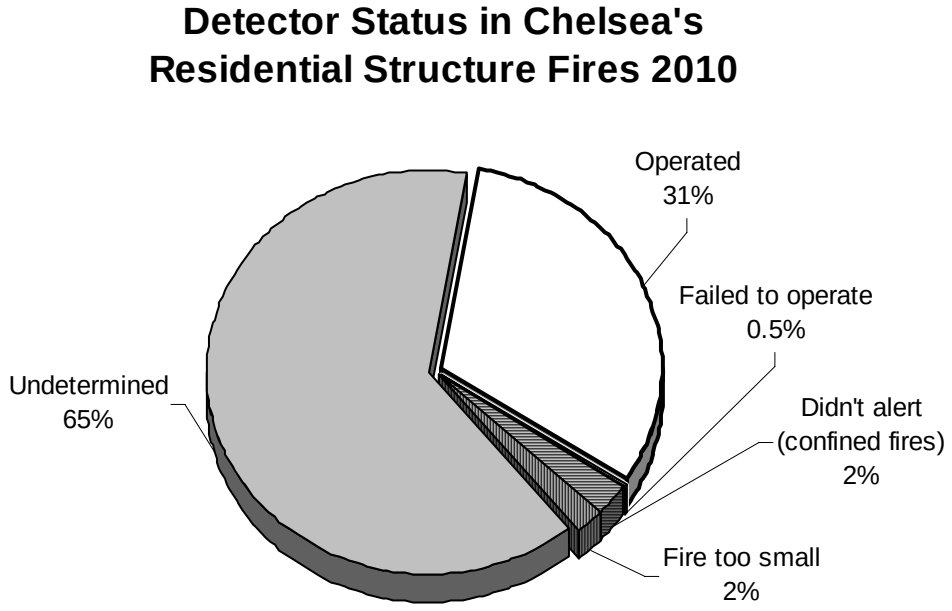
Cooking was the leading cause of fires in Chelsea's residential properties in 2010 accounting for 78% of these fires. Heating fires were the second leading cause, accounting for 8% of the fires in people's homes in Chelsea in 2010. Arson, indoor rubbish fires and smoking each caused 3% of residential building fires in Chelsea.



Electrical problems caused 1% of these fires. Candles caused less than 1% of the fires in Chelsea residences in 2010.

87% of Residential Building Fires Are Confined to Non-Combustible Containers[2]
One hundred and eighty-six (186), or 87%, of all residential building fires, were reported as confined to non-combustible containers in 2010. Nearly all of the confined fires were cooking fires contained to a non-combustible container like a pot or a pan, and accounted for 162, or 76%, of all residential building fires. Seventeen (17), or 8%, were fires confined to a fuel burner or boiler malfunction. Six (6), or 3%, of these fires were contained rubbish fires; and one, or 1%, was a fire confined to a chimney or flue.

Detectors Alerted Occupants in Only 31% of Fires
Smoke or heat detectors operated and alerted the occupants in 67, or 31%, of the residential building fires. In 2% of these fires[36], the detectors did not alert the occupants. There were no reported fires where detectors were not present. Detectors were present but failed to operate in less than 1%. The fire was too small to trigger the detector in 2% of these fires. Smoke detector performance was undetermined in 131 incidents, or 65% of Chelsea's residential building fires.



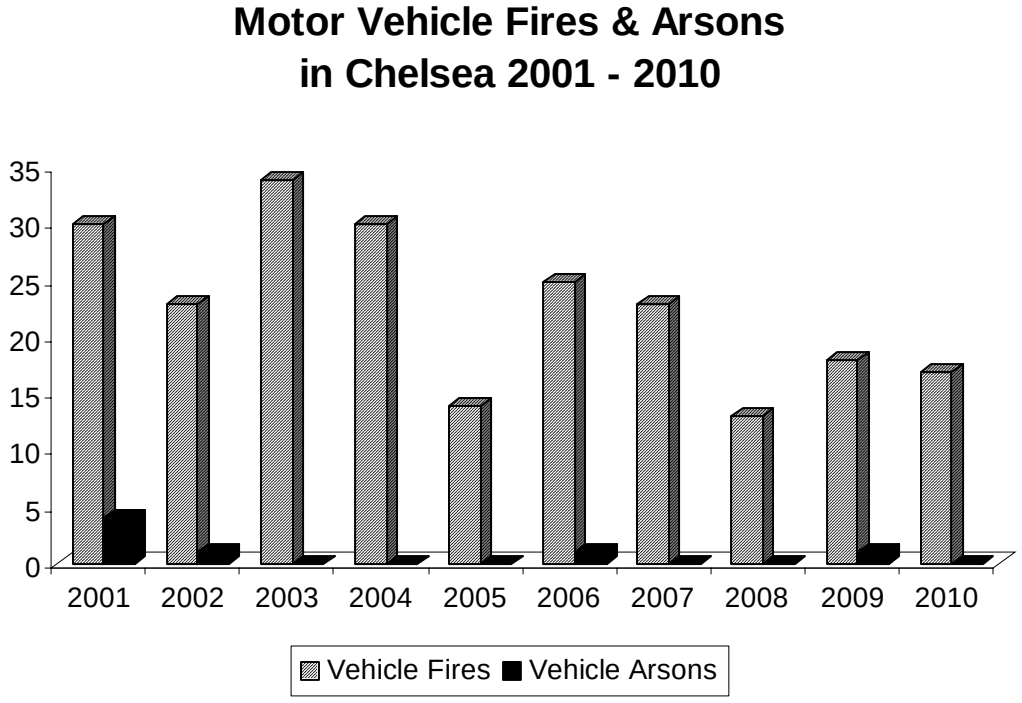
MOTOR VEHICLE FIRES

[2] 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.

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

Vehicle Fires Down 1
The 17 motor vehicle fires caused one fire service injury and an estimated dollar loss of $347,400. Motor vehicle fires comprised 5% of Chelsea's 376 reported fires in 2010. The total number of motor vehicle fires decreased by one from the 18 reported in 2009.

0 Motor Vehicle Fires Considered Arson[37]
Chelsea did not report any motor vehicle arsons in 2010.



OUTSIDE AND OTHER FIRES

Reported Outside and Other Fires Up
The 105 outside and other fires caused three fire service injuries and an estimated dollar loss of $5,045. Outside and other fires comprised 28% of the 376 fires Chelsea reported in 2010. The 105 outside and other fires included nine outside rubbish fires, nine grass, tree or brush fires, nine special outside fires, and 78 unclassified fires. The total number of outside and other fires increased by 61, from the 44 reported in 2009.

7 Outside and Other Fires Considered Arson
There were seven identified outside and other arsons. Two (2) were special outside fires, one was a brush fire, one was an outside rubbish fire; and three were unclassified fires.

[37] Upon review of a draft of this report, Chelsea FD had determined that they did have 1 motor vehicle arson in 2010. That would bring Chelsea's 2010 total arsons to 16.

Outside and other arsons accounted for 7% of Chelsea's outside and other fires, and 47% of Chelsea's total arson fires.

FATAL FIRES

1 Chelsea Fire Killed 1 Civilian in 2010

There was one fatal fire in Chelsea that killed one civilian.

- On December 24, 2010, at 10:59 p.m. the Chelsea Fire Department was called to a fatal arson fire in a five-unit apartment building. The fire was set in the living room using ordinary combustibles. The victim, a 20-year old woman was trying to escape when she was overcome by the heat and smoke. She was transported to a local hospital where she succumbed to her injuries. A 13-year old boy was trapped above the fire. He was rescued and transported to a local hospital. Detectors were present but it was undetermined if they operated. There were no sprinklers. The fire caused an estimated $150,000 in damages.

JUVENILE-SET FIRES

0 Juvenile-set Fires[38]

Chelsea did not report any juvenile-set fires in 2010.

ALL CALLS

Rescue & EMS Calls Are Over 2/3 of All Reported Responses

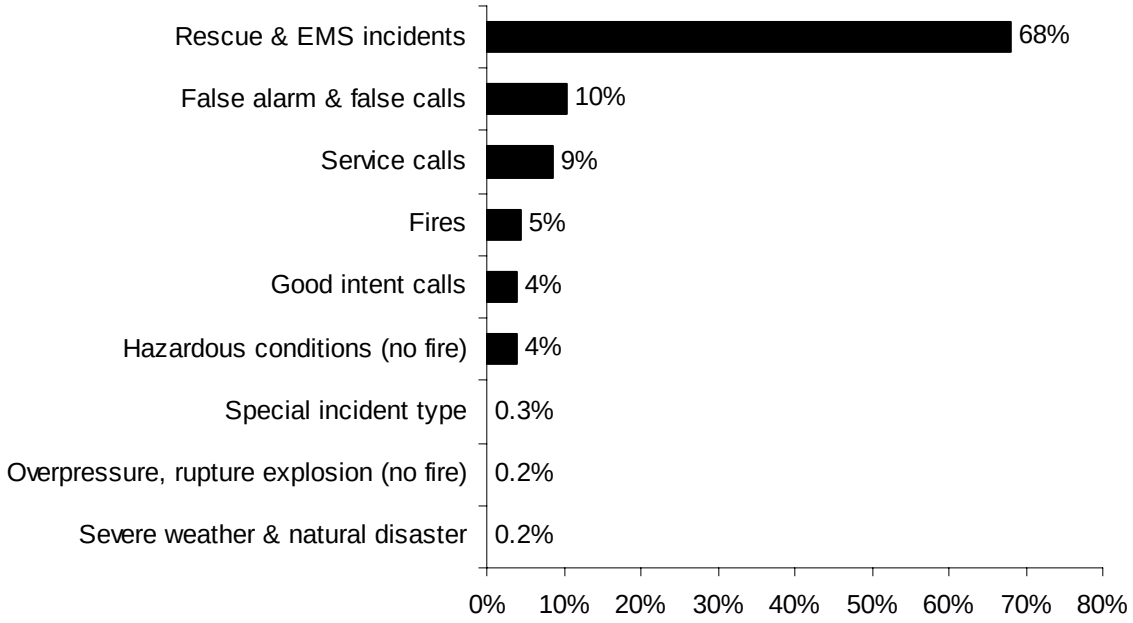
In 2010, the Chelsea Fire Department reported 8,475 total responses to MFIRS. Of these 8,475 responses, 8,093 non-fire calls were voluntarily reported.

Of these 8,093 non-fire calls, 5,776, or 68% of all the responses reported in 2010, were reported rescue and emergency medical services (EMS) calls; 875, or 10%, were reported false alarm or false calls; 728, or 9%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 343, or 4%, were reported hazardous condition calls with no fire; 320, or 4%, were reported good intent calls; 22, or 0.3%, were special incident type calls such as citizen complaints; 16, or 0.2%, were reported overpressure, rupture, explosion or overheat calls with no fire; and 13, or 0.2%, were severe weather calls.

Three hundred and eighty-two (382), or 5%, of the total responses submitted by the Chelsea Fire Department were fires.

[38] Upon review of a draft of this report, Chelsea FD had determined that they did have 4 juvenile-set fires in 2010.

2010 Chelsea Calls by Incident Type



Chelsea Reported Giving Mutual Aid 12 Times[39]
In 2010, the Chelsea Fire Department reported coming to the aid of other fire departments 12 times. Ten (10), or 83%, were for service calls, most likely station coverages. A good intent call and a false alarm were each the incident type for a mutual aid given call by Chelsea in 2010; each of these calls accounted for 8% of all mutual aid given calls.

Chelsea Received Mutual Aid in 14 Incidents[40]
In 2010, the Chelsea Fire Department reported receiving aid from surrounding departments in 14 incidents. Of these 14 incidents, 11, or 79%, were for fires; and three, or 21%, were false alarms or false calls.

CONCLUSIONS

- **1 Civilian Fire Death in 2010**

In 2010 Chelsea had one civilian die in a residential structure arson.

- **Cooking Caused Over 3/4 of Residential Fires**

Over three-fourths, or 78%, of Chelsea's residential building fires were caused by unattended cooking or other unsafe cooking practices. Prevention and education of community members may help this issue.

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[39] Upon review of a draft of this report, Chelsea FD had determined that they did provide mutual aid to other departments a total of 289 times in 2010.
[40] Upon review of a draft of this report, Chelsea FD had determined that they did receive mutual aid from other departments a total of 301 times in 2010.

- **Heating Equipment Fires Were the Second Leading Cause of Residential Fires**

Heating equipment fires were the second leading cause of residential building fires.

- **Structure & Outside Fires Increase**

Reported structure fires increased by 45, from 254 fires reported in 2009. Outside and other fires increased by 61 from the 44 reported in 2009.

- **Confined Fires Account for 87% of All Residential Building Fires in Chelsea**

Residential building fires contained to non-combustible containers accounted for 186, or 87%, of the 214 residential building fires in Chelsea in 2010. Of these 186 fires, 162, or 87%, were confined cooking fires.

- **Undetermined if Smoke Detectors Operated in 65% of Residential Fires**

Smoke alarm performance was unreported in a significant number of fires. It was undetermined in 65% of Chelsea homes where fires occurred if they were protected by smoke detectors. Detectors sounded the alarm in only 31% of the residential fires. The majority of these were confined fires. Data collection in this area has improved in the past few years, but there is still room for improvement.

Chelsea FDID: 25057 Population: 35,177

Total Fires **376** **$2,340,920**

10.7 Fires/1,000 Population

Situation Found	Fires	% of Fires	Dollar Loss
Structure Fires	254	68%	$1,988,475
Vehicle Fires	17	5%	347,400
Other Fires	105	28%	5,045

1 Fatal Fire
1 Civilian Death
8 Civilian Injuries
2.66 Civilian Deaths/1,000 Fires
0.28 Civilian Deaths/10,000 population
53 Fire Service Injuries

7.22 Structure fires/1,000 population
0.48 Vehicle fires /1,000 population
2.98 Other fires/1,000 population

Building Fires: 251

Residential Building Fires: 214

Residential Building Fires Confined to Non-Combustible Containers: 186

Unconfined Residential Building Fires: 28

1 Civilian Death 8 Civilian Injuries 48 Fire Service Injuries

Occupancy	Fires	%
Apartments	170	79%
Rooming houses	16	7%
1- & 2-Family homes	15	7%
Residential board & care	7	3%
Dormitories	1	0.5%

Detector Status	Fires	%
Operated	67	31%
Didn't operate	1	0.5%
None	0	0%
Fire too small	5	2%
Didn't alert (confined)	5	2%
Undetermined	136	65%

Area of Origin[41]	%
Kitchen	80%
Heat equipment room	8%
Bedroom	2%
Exterior balcony/unencl. porch	1%

Heat Source	%	%Unconfined[42]
Heat from operating eq.	2%	14%
Cigarette	1%	7%
Arcing	1%	7%

[41] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[42] These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited[43]	**%**	**Factor Contrib. to Ignit.**	**%**	**%Unconfined**[44]
Food, cooking materials	78%	Misuse of mater. or product	2%	18%
Flammable or combustible. liq.	8%	Too close to combustibles	1%	11%
Rubbish, trash, waste	4%	Backfire	1%	11%
Electrical wire, cable insulation	2%	Electrical failure, malfunc.	1%	11%
Magazine, newspaper, wr. paper	1%	Mechanical failure, malfunc.	1%	11%

Equipment[45]	**%**	**Cause of Ignition**	**%**	**%Unconfined**[46]
Kitchen & cooking equipment	76%	Unintentional	8%	61%
None	13%	Fail of equip. or heat source	1%	7%
Boiler, furnace, cent. heat. unit	8%	Intentional	1%	11%
Fan	0.5%	Undetermined	2%	18%
Incandescent lighting fixture	0.5%	Cause under investigation	0.5%	4%

Detector Alerted Occupants
(Confined Fires in Non-Combustible Containers)

Alerted occupants	27%
Didn't alert occupants	3%
Undetermined	70%

Mutual Aid Given	**# of Incidents**[47]
Revere	10
Boston	1

[43] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[44] 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. These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Factors Contributing to Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[45] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[46]These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[47] Upon review of a draft of this report, Chelsea FD had determined that they did provide mutual aid to other departments more times than was reported in MFIRS. The went to Revere 94 times, Boston 89 times and Winthrop 6 times.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	29	23	2	4
February	26	25	0	1
March	30	26	1	3
April	23	12	1	10
May	44	22	1	21
June	29	12	2	15
July	48	21	4	23
August	38	19	1	18
September	22	14	3	5
October	29	24	2	3
November	25	23	0	2
December	33	33	0	0

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	48	32	1	15
Monday	43	31	1	11
Tuesday	47	34	5	8
Wednesday	63	42	3	18
Thursday	62	38	2	22
Friday	55	34	5	16
Saturday	58	43	0	15

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	26	21	2	3
04:01 - 08:00	18	14	0	4
08:01 - 12:00	57	43	3	11
12:01 - 16:00	104	58	4	42
16:01 - 20:00	106	71	6	29
20:01 - 00:00	65	47	2	16

Motor Vehicle Fires

Total: 17
Automobiles: 13 (76%)
None of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 15 **$577,025**

Situation	Arsons	% of Situation	% of Arson	Dollar Loss
Structure Arsons	8	3%	53%	$577,025
Vehicle Arsons	0	0%	0%	0
Other Arsons	7	7%	47%	40

1 Civilian Death 2 Civilian Injuries 8 Fire Service Injuries

0.43 Arson fires/1,000 population
0.23 Structure arsons/1,000 population
0.00 Vehicle arsons /1,000 population
0.20 Other arsons/1,000 population

Peak Times of Day for Arson Fires

Structure Arsons	#	%	Vehicle Arsons	#	%
20:01 - 00:00	5	63%			

Other Arsons	#	%
12:01 - 16:00	2	29%
16:01 - 20:00	2	29%
20:01 - 00:00	2	29%

Peak Fixed Property Uses for Structure Arsons

Apartments	5	63%
1- or 2-Family homes	1	13%
Warehouse	1	13%

Revere Fires in 2010

468 Fires — 368 Structure Fires, 9 Vehicle Fires & 91 Other Fires
The City of Revere reported 468 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 368 structure fires, nine motor vehicle fires, 84 outside rubbish fires, three tree, grass or brush fires, and four unclassified fires caused an estimated dollar loss of $254,200. There were 9.04 fires for every 1,000 citizens in 2010. The statewide rate was 5.0 fires for every 1,000 people.

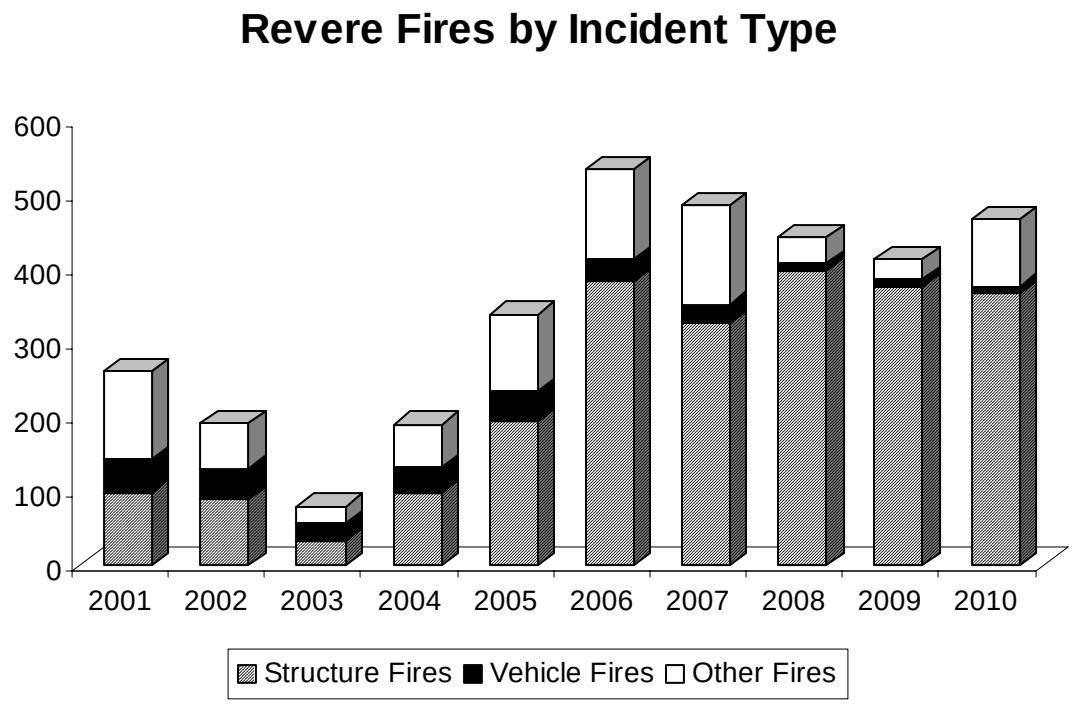
No Fire Deaths in 2010
In 2010, the City of Revere did not have any fire-related deaths.

Outside Fires Up
The total number of reported fires increased by 54 from the 414 reported in 2009. Structure fires decreased by nine from the 377 reported during the previous year. Motor vehicle fires decreased by one from the 10 reported in 2009. Reported outside and other fires increased by 64 from 27 the year before.

REVERE FIRES FROM 2001 TO 2010

Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	262	98	44	120	18	5	8	5
2002	191	88	43	60	4	0	3	1
2003	80	34	23	23	2	0	2	0
2004	188	96	34	58	6	1	4	1
2005	339	195	40	104	13	7	4	2
2006[48]	536	395	29	122	31	6	4	21
2007	486	327	26	133	6	4	2	0
2008	443	399	10	34	1	1	0	0
2009	414	377	10	27	3	3	0	0
2010	468	368	9	91	1	0	1	0

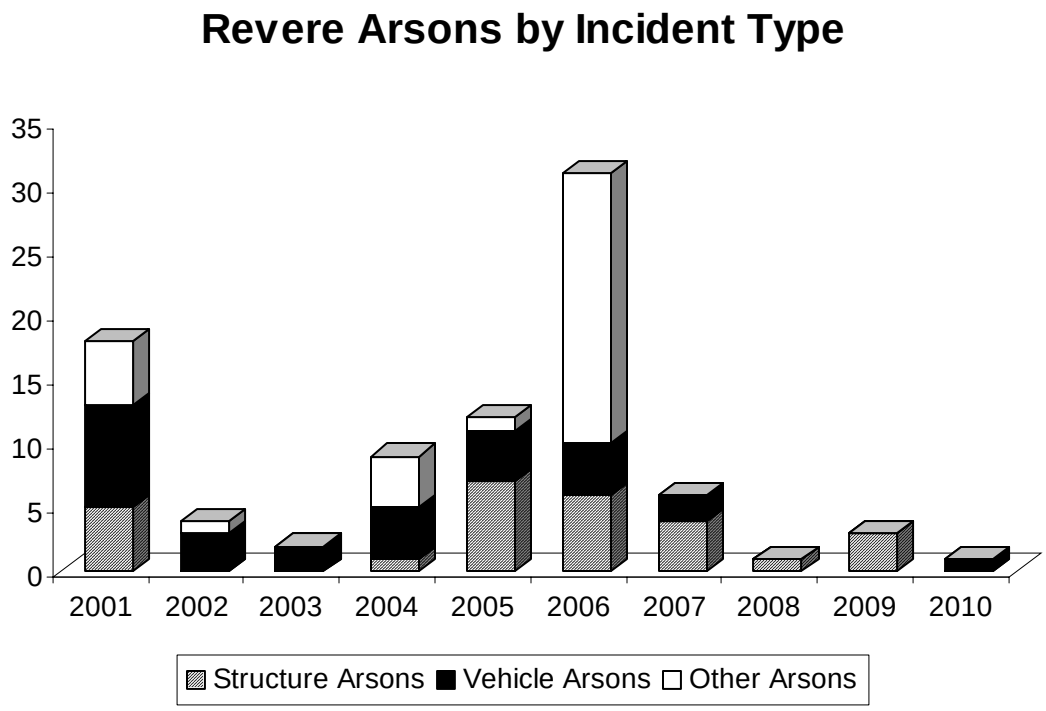
[48] The majority of this increase in reported fires was a dramatic increase in the reporting of the number of confined structure fires. In 2005 Revere reported 133 confined structure fires; and in 2006 they reported 319 of these types of fires for an increase of 140%. This increase of 186 confined fires represents 94% of the increase in all reported fires from 2005 to 2006.



1 Arsons — 1 Motor Vehicle Arson
One (1), or less than 1%, of Revere's 468 reported fires was considered intentionally set, or for purposes of this analysis, arson[49]. The single reported arson in 2010 was a motor vehicle arson.

All Arson Down Slightly
The total number of reported arson fires decreased by two from the three reported in 2009. The single 2010 arson was a motor vehicle arson, and that was an increase of one motor vehicle arson from the previous year. Reported structure arsons decreased by three from the three reported in 2009; and outside arsons remained the same with no reported arsons in 2009 and in 2010.

[49] 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.



STRUCTURE FIRES

Structure Fires Down Slightly

The 368 structure fires caused an estimated dollar loss of $254,200. These fires accounted for 79% of the fires Revere reported in 2010. Structure fires decreased by nine from the 377 reported during 2009.

No Structure Arsons in 2010

There were no reported structure arsons in Revere. The total number of reported structure arsons decreased by three from three in 2009.

BUILDING FIRES

There were 368 building fires of different types in Revere in 2010. These 368 building fires accounted for all structure fires in Revere.

85% of Building Fires in Homes

The 368 building fires that occurred in Revere in 2010 can be broken down by fixed property use as follows: 313, or 85%, of all the building fires, were in residential properties; 20 fires occurred in public assembly properties; 19 fires happened in institutional facilities; 11 fires took place in mercantile and office properties; two fires occurred at educational facilities; another two fires occurred in special properties; and one fire took place at an industrial facility.

RESIDENTIAL BUILDING FIRES

85% of Building Fires Occurred in Residences

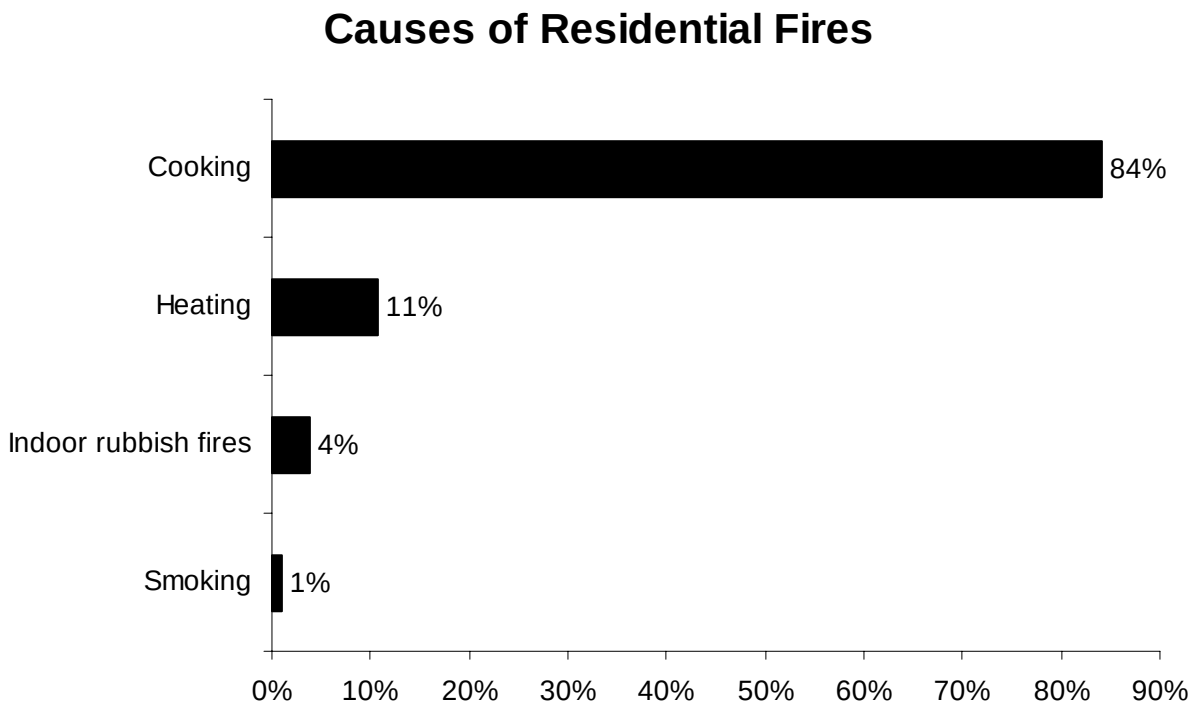
Three hundred and thirteen (313), or 85%, of the 368 building fires occurred in residences. The 313 residential building fires reported in 2010 caused an estimated dollar loss of $183,600.

Apartments Accounted for 63% of Residential Building Fires

The peak fixed property uses for residential building fires were apartments accounting for 63% of the residential building fires in Revere; 33% occurred in 1- or 2-family homes; 2% took place in hotels or motels; 1% happened in rooming houses; less than 1% occurred in residential board and care facilities; and 1% happened in unclassified residential properties.

Unsafe Cooking Causes 84% of Residential Fires

Cooking was the leading cause of fires in Revere's residential properties in 2010, accounting for 84% of these fires. Heating equipment caused 11% of residential building fires in 2010. Indoor rubbish fires were responsible for 4% of these fires. Smoking caused 1% of the residential building fires in Revere in 2010.



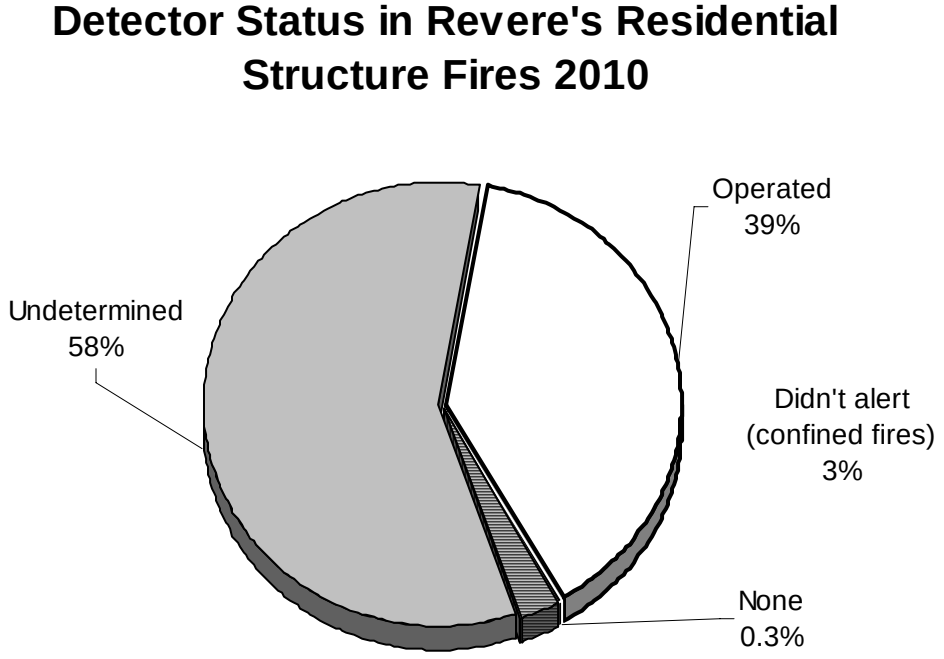
97% of Residential Building Fires Are Confined to Non-Combustible Containers[2]

[2] 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

Three hundred and five (305), or 97% of all residential building fires, were reported as confined to non-combustible containers in 2010. Two hundred and sixty (260) of the confined fires were cooking fires contained to a non-combustible container and accounted for 81% of residential building fires. Thirty-two (32), or 10%, of the confined fires were fires confined to a fuel burner or boiler malfunction. Twelve (12), or 4%, were confined indoor rubbish fires; and one, or less than 1%, was confined to a chimney or flue.

Detectors Alerted Occupants in Only 39% of Fires

Smoke or heat detectors operated and alerted the occupants in 122, or 39%, of the residential building fires. In 3% of these fires[50], the detectors did not alert the occupants. There were no reported fires where the detectors were present but did not operate. In less than 1% of these fires, no detectors were present at all. There were no reported fires where the fire was too small to trigger the detector. Smoke detector performance was undetermined in 182 incidents, or 58% of Revere's residential building fires.



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.

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

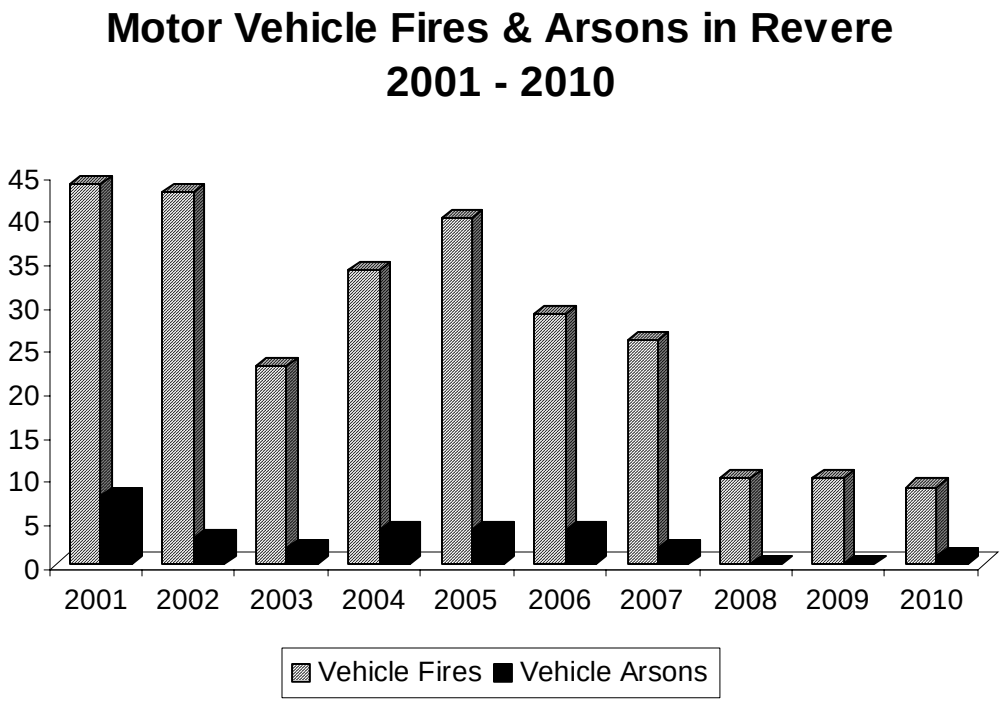
MOTOR VEHICLE FIRES

Motor Vehicle Fires Decline Slightly

There were nine motor vehicle fires in Revere in 2010 that caused an estimated $30,900 in damages. Motor vehicle fires comprised 2% of Revere's reported fires in 2010. The total number of motor vehicle fires decreased by one from the 10 reported in 2009.

1 Motor Vehicles Arson

The only arson in Revere in 2010 was a reported motor vehicle fire that was considered intentionally set. This was an increase of one over no reported motor vehicle arsons in 2009.



OUTSIDE AND OTHER FIRES

Outside and Other Fires Up

There were 91 outside and other fires reported to MFIRS in 2010. These 91 fires included 84 outside rubbish fires, three brush fires and four unclassified fires. Outside and other fires comprised 19% of the 468 Revere fires reported in 2010. These 91 incidents are a 237% increase in the number of outside and other fires in Revere from the 27 reported in 2009.

No Outside and Other Arsons

For the fourth year in a row, Revere did not report any outside or other arsons.

FATAL FIRES

There were no fatal fires in Revere in 2010.

JUVENILE-SET FIRES

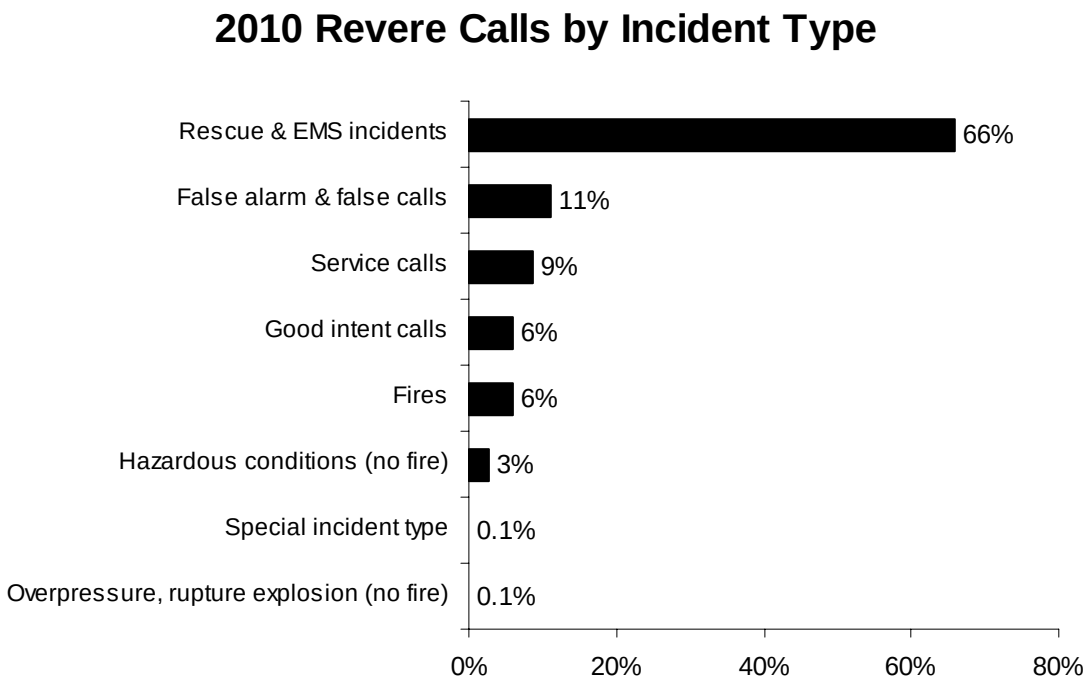
No Juvenile-set Fires
In 2010, Revere did not report any juvenile-set fires.

ALL CALLS

Rescue & EMS Calls Are 2/3 of All Reported Responses
In 2010, the Revere Fire Department reported 8,397 total responses to MFIRS. Of these 8,397 responses, 7,928 non-fire calls were voluntarily reported.

Of these 7,928 non-fire calls, 5,527, or 66% of all the responses reported in 2010, were reported rescue and emergency medical services (EMS) calls; 924, or 11%, were reported false alarm or false calls; 726, or 9%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 506, or 6%, were reported good intent calls; 228, or 3%, were reported hazardous condition calls with no fire; 12, or 0.1%, were special incident type calls such as citizen complaints; and five, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire.

Four hundred and sixty-nine (469), or 6%, of the total responses submitted by the Revere Fire Department were fires.



Revere Reported Giving Mutual Aid 158 Times
In 2010, the Revere Fire Department reported coming to the aid of other fire departments 158 times. Of these 158 responses, 151, or 96%, were for service calls such as cover assignments; three, or 2%, were for a good intent calls; and one each, or 1%, were for a fire, a false alarm; a rescue or EMS incident; and a hazardous condition call with no fire.

Revere Received Mutual Aid in 3 Incidents
In 2010, the Revere Fire Department reported receiving aid from surrounding departments in three incidents. Of these three incidents, two, or 67%, were for fires and one, or 33%, was for a hazardous condition call with no fire.

CONCLUSIONS

- **Structure Fires Were Down Slightly**

Structure fires decreased nine, or 2%, from the 377 reported in 2009. Motor vehicle fires decreased by one and outside and other fires were up by 64 in 2010.

- **Cooking Caused 83% of Residential Fires**

The leading cause of Revere's residential building fires was unattended cooking and other unsafe cooking practices. This is where the department should focus its education and other prevention efforts. Two hundred and sixty-one (261), or 83%, of Revere's residential building fires were attributed to cooking. Two hundred and sixty (260) of these were confined cooking fires.

- **Heating Equipment Fires Second Leading Cause**

The second leading cause of residential fires in Revere was heating equipment fires accounting for 11% of the residential fires. This is the seventh year in a row that heating equipment was the second leading cause of residential fires in Revere.

- **97% of Residential Building Fires Were Confined Fires**

The overwhelming majority of residential fires in 2010 were confined fires. Three hundred and five (305), or 97%, of the 313 residential building fires in Revere in 2010 were confined to their non-combustible containers.

- **Only 1 Arson in Revere in 2010**

In 2010, Revere reported no structure arsons, one motor vehicle arson and no outside and other arsons.

- **Smoke Detectors Operated in Just 39% Residential Fires**

Smoke or heat detectors operated in 122, or 39%, of the 313 residential fires. Unfortunately in 182 incidents, or 58% of residential fires, it was undetermined if smoke detectors were present or if they operated. Improved data collection would be helpful in order to better understand the relationship between fire casualties and smoke detector performance.

Revere FDID: 25248 Population: 51,755

Total Fires **468** **$254,200**

9.0 Fires/1,000 Population

Situation Found	Fires	% of Fires	Dollar Loss
Structure Fires	368	79%	$213,800
Vehicle Fires	9	2%	30,900
Other Fires	91	19%	9,500

No Injuries

7.11 Structure fires/1,000 population
0.17 Vehicle fires /1,000 population
1.76 Other fires/1,000 population

Building Fires: 368

Residential Building Fires: 313

Residential Building Fires Confined to Non-Combustible Containers: 305

Unconfined Residential Building Fires: 8

No Injuries

Occupancy	Fires	%
Apartments	198	63%
1- & 2-Family homes	102	33%
Hotels/motels	6	2%
Rooming houses	3	1%
Residential board & care	1	0.3%

Detector Status	Fires	%
Operated	122	39%
Didn't operate	0	0%
None	1	0.3%
Fire too small	0	0%
Didn’t alert (confined)	8	3%
Undetermined	182	58%

Area of Origin[51]	%
Kitchen	84%
Heating room or area	11%
Courtyard, patio, terrace	1%
Laundry room	1%

Heat Source	%	%Unconfined[52]
Radiated heat from op. eq.	1%	1%
Spark, ember, flame op. eq.	1%	1%
Cigarettes	1%	1%

[51] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[52] These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited[53]	**%**
Food, cooking materials	83%
Flammable, combustible liquid	10%
Rubbish, trash, waste	4%

Factor Contrib. to Ignit.	**%**	**%Unconfined**[54]
Abandoned materials	0.3%	13%
Too close to combustibles	0.3%	13%

Equipment[55]	**%**
Cooking equipment	83%
Boiler, furnace, cent. heat. unit	10%
None	3%
Chimney or flue	0.3%

Cause of Ignition	**%**	**%Unconfined**[56]
Unintentional	2%	63%
Failure of eq./heat source	0.3%	13%
Intentional	0%	0%
Undetermined	1%	25%
Cause under investigation	0%	0%

Detector Alerted Occupants
(Confined Fires in Non-Combustible Containers)

Alerted occupants	38%
Didn't alert occupants	3%
Undetermined	59%

Mutual Aid Given	**# of Incidents**
Chelsea	89
Everett	7
Malden	4
Melrose	3
Winthrop	3

[53] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[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. These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Factors Contributing to Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[55] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[56]These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	28	24	2	2
February	47	43	1	3
March	30	28	0	2
April	39	31	0	8
May	50	38	2	10
June	39	24	0	15
July	51	14	3	34
August	34	26	0	8
September	32	27	0	5
October	29	28	1	0
November	48	44	0	4
December	41	41	0	0

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	59	51	1	7
Monday	65	47	4	14
Tuesday	59	49	0	10
Wednesday	79	63	0	16
Thursday	73	56	0	17
Friday	58	41	3	14
Saturday	75	61	1	13

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	22	16	0	6
04:01 - 08:00	18	16	0	2
08:01 - 12:00	76	63	3	10
12:01 - 16:00	138	104	3	31
16:01 - 20:00	138	107	1	30
20:01 - 00:00	76	62	2	12

Motor Vehicle Fires

Total: 7
Automobiles: 7 (100%)
1 (14%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 3 **$500**

Situation	Arsons	% of Situation	% of Arson	Dollar Loss
Structure Arsons	0	0%	0%	$0
Vehicle Arsons	1	11%	100%	1,000
Other Arsons	0	0%	0%	0

No Injuries

0.02 Arson fires/1,000 population
0.00 Structure arsons/1,000 population
0.02 Vehicle arsons /1,000 population
0.00 Other arsons/1,000 population

Peak Times of Day for Arson Fires

Structure Arsons	#	%	Vehicle Arsons	#	%
			08:01 - 12:00	1	100%

Other Arsons	#	%

Occupancy	#	%

Winthrop Fires in 2010

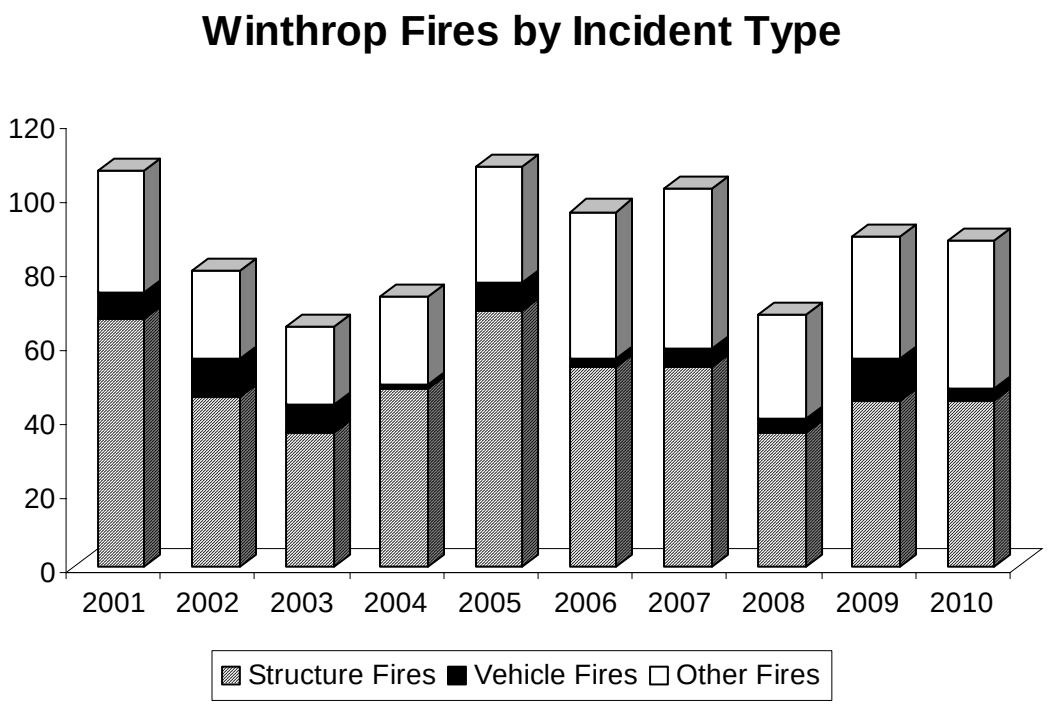
88 Fires — 45 Structure Fires, 3 Vehicle Fires and 40 Other Fires
The Town of Winthrop reported 88 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2010. The 45 structure fires, three motor vehicle fires, 18 outside rubbish fires, 13 brush and grass fires, three special outside fires and six unclassified fires caused one civilian injury, two fire service injuries and an estimated loss of $229,250. There were 5.0 fires for every 1,000 citizens in 2010. The statewide rate was also 5.0 fires for every 1,000 people.

No Fire Deaths in 2010
In 2010, the Town of Winthrop did not have any fire-related deaths.

All Fires Down Slightly
The total number of fires reported in Winthrop decreased by one from 89 in 2009. Structure fires remained the same with 45 reported in both 2009 and 2010. Motor vehicle fires decreased by eight from 11 in 2009. Outside and other fires increased by seven from 33 in 2009.

WINTHROP FIRES FROM 2001 TO 2010

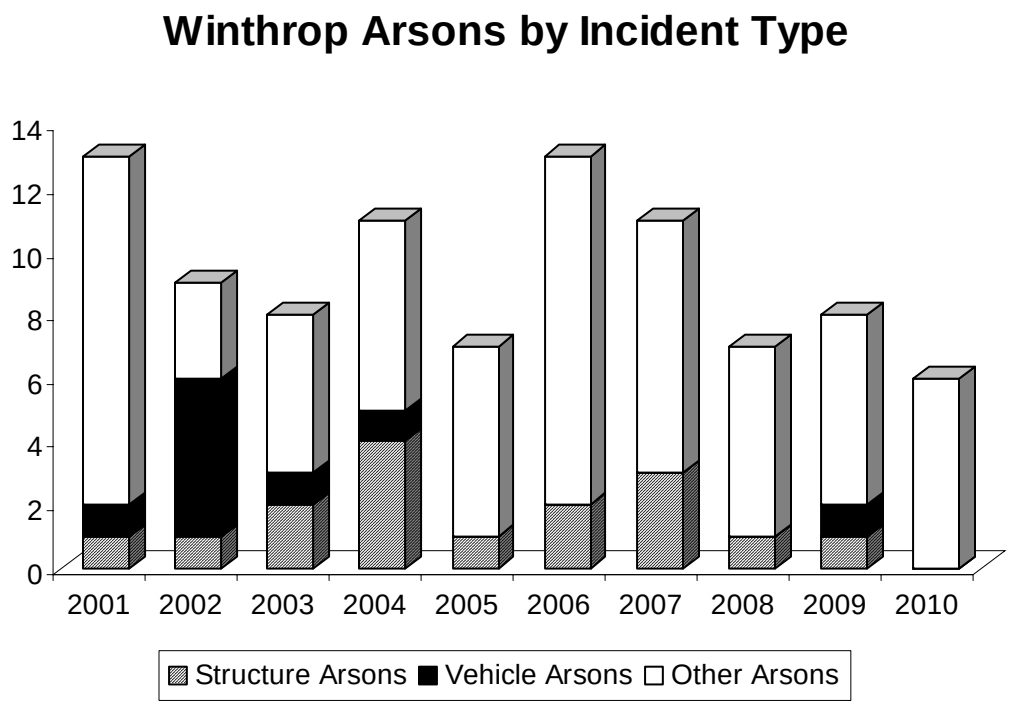
Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	107	67	7	33	13	1	1	11
2002	80	46	10	24	9	1	5	3
2003	65	36	8	21	8	2	1	5
2004	73	48	1	24	11	4	1	6
2005	108	69	8	31	7	1	0	6
2006	96	54	2	40	13	2	0	11
2007	102	54	5	43	11	3	0	8
2008	68	36	4	28	7	1	0	6
2009	89	45	11	33	8	1	1	6
2010	88	45	3	40	6	0	0	6



6 of Winthrop's Fires Considered Arson

Six (6), or 7%, of the 88 Winthrop fires were considered intentionally set, or, for purposes of this analysis, arson[57]. There were five outside rubbish arsons and one special outside arsons.

[57] 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.



STRUCTURE FIRES

Structure Fires Up

The 45 structure fires caused one civilian injury, one fire service injury and an estimated dollar loss of $192,700. These incidents represented 51% of Winthrop's reported fires in 2010. Structure fires remained the same from 2009.

No Structure Arsons

There were no reported in structure arsons in Winthrop in 2010. The total number of reported structure arsons decreased by one from the one reported in 2009.

BUILDING FIRES

There were 44 building fires of different types in Winthrop in 2010. These 44 building fires accounted for 97.8% of the structure fires in Winthrop.

89% of Building Fires in Homes

The 44 building fires that occurred in Winthrop in 2010 can be broken down by fixed property use as follows: 39, or 89%, of all the building fires reported in 2010, were in residential properties; two occurred in public assembly properties; one fire happened at a mercantile or business property; one fire occurred in an educational facility; and one fire happened at a storage facility.

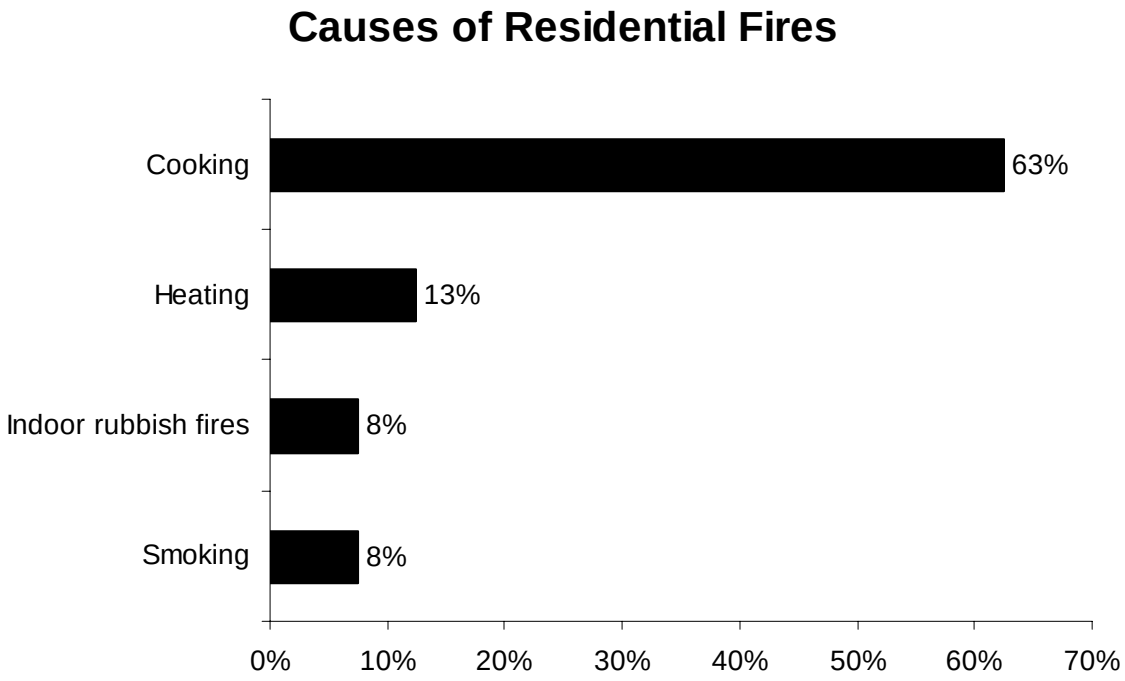
RESIDENTIAL BUILDING FIRES

89% of Winthrop's Building Fires Occurred in Residences

Thirty-nine (39), or 89%, of Winthrop's 44 reported building fires occurred in residential occupancies. There were no reported residential building arsons in 2010.

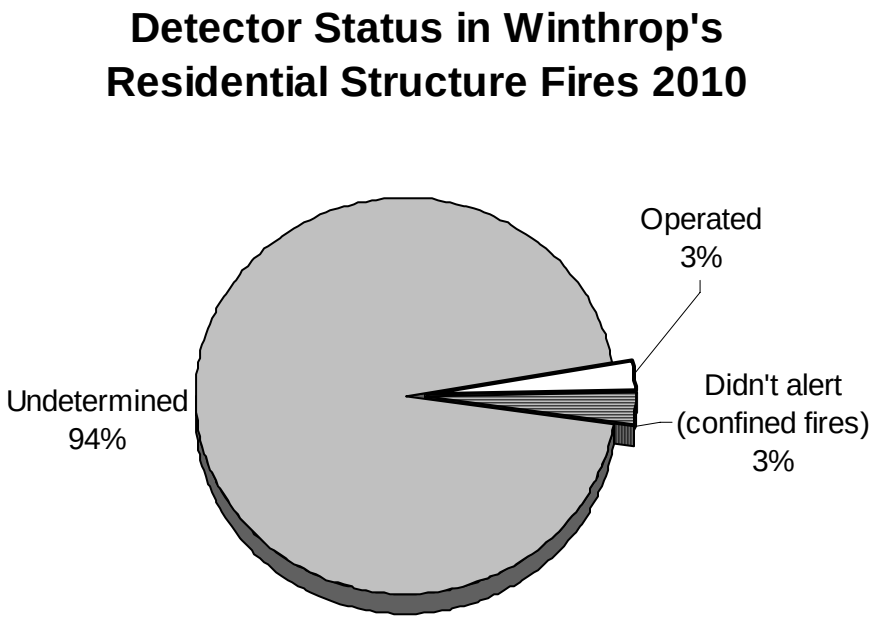
Apartments Accounted for 60% of Residential Building Fires
The peak fixed property uses for residential building fires were apartments, accounting for 60% of the residential building fires in Winthrop; 35% occurred in one- and two-family homes; and 5% happened in residential board and care facilities.

Unsafe Cooking Practices Caused 63% of Winthrop's Residential Fires
Cooking was the leading cause of fires in Winthrop residential properties in 2010, accounting for 63%. Heating equipment fires were the second leading cause, accounting for 13% of these fires. Indoor rubbish fires and smoking each caused 8% of the fires in Winthrop's homes in 2010.



83% of Residential Building Fires Are Confined to Non-Combustible Containers[58]
Thirty-three (33), or 83% of all residential building fires, were reported as confined to non-combustible containers in 2010. Twenty-five (25) of the reported fires were cooking fires contained to a non-combustible container accounting for 63% of residential building fires. Four (4), or 10%, were fires confined to a fuel burner or boiler malfunction. Three (3), or 8%, were confined indoor rubbish fires; and one, or 3%, was a confined chimney or flue fire.

Detectors Alerted Occupants in Only 3% of Fires
Smoke or heat detectors operated and alerted the occupants in one, or 3%, of the residential building fires. In 3% of these fires[59], the detectors did not alert the occupants. There were no reported fires where the detectors were present but did not operate. There were no reported fires where there were no detectors. There were no reported fires where the fire was too small to trigger the detector. Smoke detector performance was undetermined in 31 incidents, or 94% of Winthrop's residential building fires.



[58] 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.
[59] These represent confined fires where it was reported that the detector did not alert the occupants.

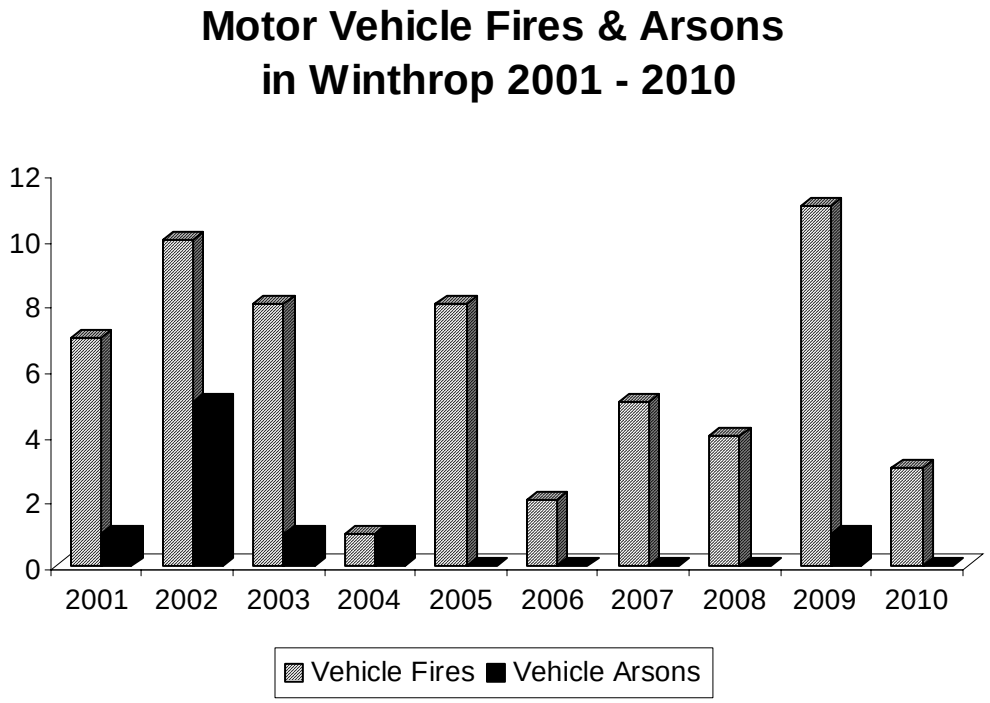
MOTOR VEHICLE FIRES

3 Motor Vehicle Fires Reported in 2010

The three motor vehicle fires caused an estimated dollar loss of $18,500. Motor vehicle fires comprised 3% of Winthrop's 88 reported fires in 2010. Motor vehicle fires decreased by eight, or 73%, from the 11 fires reported in 2009.

No Motor Vehicle Fires Considered Arson

None of Winthrop's three motor vehicle fires was determined to be intentionally set. The total number of motor vehicle arsons decreased by one, or 100%, from the one reported in 2009.



OUTSIDE AND OTHER FIRES

Outside and Other Fires Account for 45% of Winthrop Fires

The Winthrop Fire Department reported 40 outside and other fires to the Massachusetts Fire Incident Reporting System in 2010, an increase of seven from 33 in 2009. The 18 outside rubbish fires, 13 brush and grass fires, three special outside fires, and six unclassified fires caused one fire service injury and an estimated dollar loss of $18,050. Outside and other fires comprised 45%, of the 88 Winthrop fires reported in 2010.

15% of Outside & Other Fires considered Arson
Six (6), or 15%, of the 40 outside and other fires were considered intentionally set. There were five outside rubbish arsons and one special outside arson. Outside and other arsons remained the same with six reported in both 2009 and 2010. Outside and other arson comprised all of Winthrop's arsons.

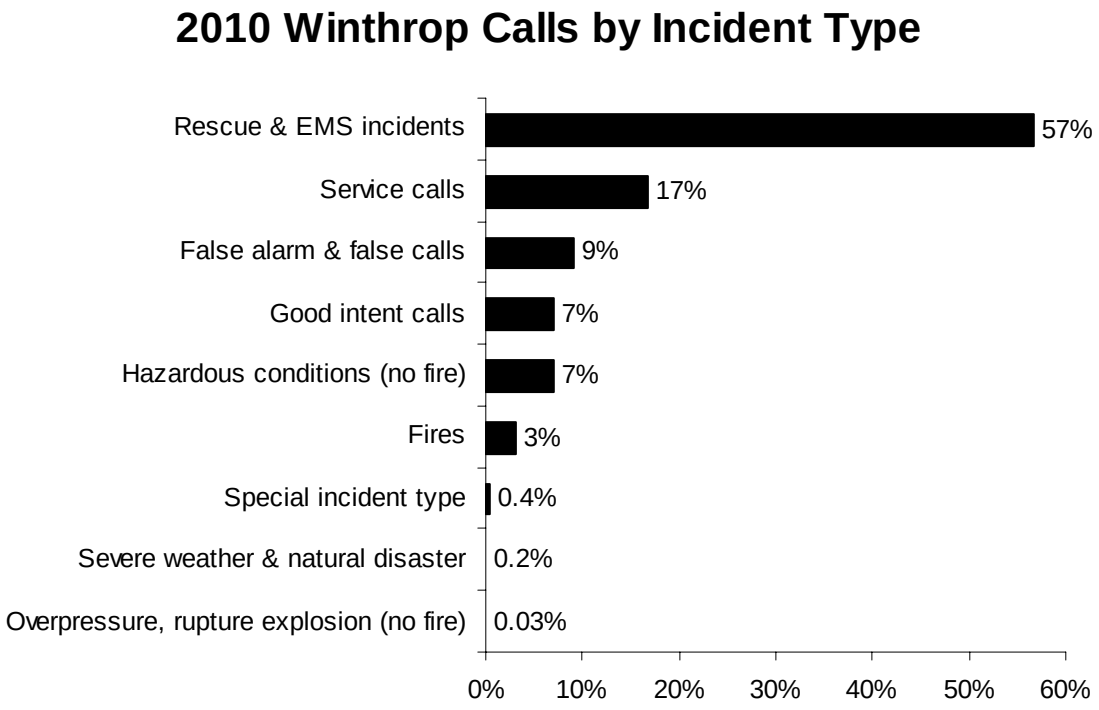
JUVENILE-SET FIRES

0 Juvenile-set Fire
There were no reported juvenile-set fires in Winthrop in 2010.

ALL CALLS

Rescue & EMS Calls Were 57% of All Reported Responses
In 2010, the Winthrop Fire Department reported 2,932 total responses to MFIRS. Of these 2,932 responses, 2,844 non-fire calls were voluntarily reported.

Of these 2,932 non-fire calls, 1,665, or 57% of all the responses reported in 2010, were reported rescue and emergency medical services (EMS) calls; 491, or 17%, were reported service calls such as lock-outs, water or smoke problem, unauthorized burning or public service assistance; 266, or 9%, were reported false alarm or false calls; 210, or 7%, were reported good intent calls; 194, or 7%, were reported hazardous condition calls with no fire; 12, or 0.4%, were special incident type calls such as citizen complaints; five, or 0.2%, were severe weather calls; and one, or 0.03%, were reported overpressure, rupture, explosion or overheat calls with no fire.



Eighty-eight (88), or 3%, of the total responses submitted by the Winthrop Fire Department were fires.

Winthrop Reported Receiving Mutual Aid Once
In 2010, the Winthrop Fire Department reported receiving aid from surrounding departments one time; it was for a service call.

Winthrop Did Not Report Giving Mutual Aid
Winthrop did not report coming to the aid of any other fire departments in 2010.

CONCLUSIONS

- **Most Building Fires in Homes**

89% of building fires occurred in residences.

- **Cooking Caused 63% of Residential Fires**

Cooking caused 63% of Winthrop's residential building fires. Education and other prevention efforts should help address this problem.

- **Heating Caused 13% of Residential Fires**

Heating was the second leading cause of residential fires in Winthrop. Fires started by heating equipment caused 13% of residential building fires.

- **Smoke Detectors Status Undetermined in 94% Residential Fires**

It was undetermined if smoke detectors sounded the alarm in 94% of the residential fires. This could be an area of focus for improved data collection and reporting. This would help to better understand the relationship between fire casualties and smoke detector performance. Detector performance was not collected in any of the 28 confined fires in 2010.

Winthrop FDID: 25346 Population: 17,497

Total Fires 88 $229,250

5.03 Fires/1,000 Population

Situation Found	Fires	% of Fires	Dollar Loss
Structure Fires	45	51%	$192,700
Vehicle Fires	3	3%	18,500
Other Fires	40	45%	18,050

1 Civilian Injury 2 Fire Service Injuries

2.6 Structure fires/1,000 population
0.2 Vehicle fires /1,000 population
2.3 Other fires/1,000 population

Building Fires: 44

Residential Building Fires: 40

Residential Building Fires Confined to Non-Combustible Containers: 33

Unconfined Residential Building Fires: 7

Occupancy	Fires	%
Apartments	24	60%
1- & 2-Family homes	14	35%
Residential board & care	2	5%

Detector Status	Fires	%
Operated	1	3%
Didn't operate	0	0%
None	0	0%
Fire too small	0	0%
Didn't alert (confined)	1	3%
Undetermined	38	94%

Area of Origin[60]	%	Heat Source	%	%Unconfined[61]
Kitchen	70%	Cigarette	5%	29%
Heating room or area	10%	Heat operating equipment	5%	29%
Bathroom	3%	Hot ember or ash	3%	14%

[60] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.
[61] These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited[62]	%	Factor Contrib. to Ignit.	%	%Unconfined[63]
Food, cooking materials	63%			
Flammable, combustible liquid	10%			
Rubbish, trash, waste	8%			

Equipment[64]	%	Cause of Ignition	%	%Unconfined[65]
Cooking equipment	63%	Unintentional	3%	14%
None	18%	Failure of eq. or heat source	0%	0%
Boiler, furnace, cent. heat. unit	10%	Intentional	0%	0%
Chimney or flue	3%	Cause under investigation	13%	71%
		Undetermined	3%	14%

Detector Alerted Occupants
(Confined Fires in Non-Combustible Containers)

Alerted occupants	3%
Didn't alert occupants	3%
Undetermined	94%

[62] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[63] 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. These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Factors Contributing to Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

[64] This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

[65]These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	6	4	0	2
February	4	3	0	1
March	6	5	0	1
April	3	0	0	3
May	7	3	0	4
June	14	3	1	10
July	17	5	0	12
August	8	4	1	3
September	6	4	1	1
October	6	4	0	2
November	4	4	0	0
December	7	6	0	1

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	18	7	1	10
Monday	13	7	0	6
Tuesday	8	3	0	5
Wednesday	13	6	0	7
Thursday	10	7	1	3
Friday	13	9	0	2
Saturday	13	6	1	6

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	11	3	0	8
04:01 - 08:00	8	6	0	2
08:01 - 12:00	14	8	2	4
12:01 - 16:00	13	9	0	4
16:01 - 20:00	25	14	1	10
20:01 - 00:00	17	5	0	12

Motor Vehicle Fires

Total: 3
Automobiles: 3 (100%)
None of the automobile fires were considered to be intentionally set.

Arson Fires

Total Arsons: 6 **$0**

Situation	Arsons	% of Situation	% of Arson	Dollar Loss
Structure Arsons	0	0%	0%	$0
Vehicle Arsons	0	0%	0%	0
Other Arsons	6	15%	100%	0

No Injuries

0.34 Arson fires/1,000 population
0.00 Structure arsons/1,000 population
0.00 Vehicle arsons /1,000 population
0.34 Other arsons/1,000 population

Peak Times of Day for Arson Fires

Structure Arsons	#	%

Vehicle Arsons	#	%

Other Arsons	#	%
20:01 - 00:00	4	67%
00:01 - 04:00	2	33%

Peak Fixed Property Uses for Structure Arsons

Occupancy	#	%

Appendix

2010 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	957	418	103	436	0	27	0	12	$6,393,211
Berkshire	609	356	47	206	0	10	0	11	5,756,399
Bristol	2,013	837	301	875	4	44	1	36	15,690,131
Dukes	28	15	5	8	2	0	0	0	25,050
Essex	3,574	1,977	295	1,302	3	21	0	46	24,267,771
Franklin	396	186	43	167	2	1	0	0	1,679,635
Hampden	2,323	1,173	286	864	2	33	1	57	12,940,237
Hampshire	560	236	59	265	1	9	0	2	3,185,806
Middlesex	5,760	3,405	506	1,849	8	81	0	127	42,087,422
Nantucket	46	29	3	14	0	0	0	0	5,000
Norfolk	3,420	2,020	284	1,116	5	27	0	43	13,876,684
Plymouth	1,903	798	219	886	1	40	0	29	13,112,509
Suffolk	6,809	4,861	421	1,527	3	20	0	63	34,433,633
Worcester	4,282	2,249	395	1,638	5	53	0	105	23,038,088
Total	**32,680**	**18,560**	**2,967**	**11,153**	**36**	**366**	**2**	**531**	**$196,491,576**

2010 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	66	7	7	52	0	2	0	0	$328,400
Berkshire	42	8	4	30	0	1	0	1	75,605
Bristol	116	43	13	60	0	2	0	0	1,926,450
Dukes	1	0	1	0	0	0	0	0	0
Essex	152	23	19	110	2	0	0	2	379,650
Franklin	27	8	1	18	0	0	0	0	154,600
Hampden	77	17	12	48	1	1	0	1	382,900
Hampshire	43	9	1	33	0	1	0	0	88,142
Middlesex	161	44	13	104	1	0	0	0	434,805
Nantucket	1	0	0	1	0	0	0	0	0
Norfolk	80	14	4	62	1	0	0	2	424,300
Plymouth	93	18	12	63	0	1	0	0	1,133,610
Suffolk	145	39	18	88	1	2	0	8	1,175,887
Worcester	165	38	10	117	2	3	0	3	626,776
Total	**1,169**	**268**	**115**	**786**	**8**	**13**	**0**	**17**	**$7,131,125**

*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.

2010 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	215,888	957	4.4	0	0.0	0.00	66	0.3
Berkshire	131,219	609	4.6	0	0.0	0.00	42	0.3
Bristol	548,285	2,013	3.7	4	2.0	0.07	116	0.2
Dukes	16,535	28	1.7	2	71.4	1.21	1	0.1
Essex	743,159	3,574	4.8	3	0.8	0.04	152	0.2
Franklin	71,372	396	5.5	2	5.1	0.28	27	0.4
Hampden	463,490	2,323	5.0	2	0.9	0.04	77	0.2
Hampshire	158,080	560	3.5	1	1.8	0.06	43	0.3
Middlesex	1,503,085	5,760	3.8	8	1.4	0.05	161	0.1
Nantucket	10,172	46	4.5	0	0.0	0.00	1	0.1
Norfolk	670,850	3,420	5.1	5	1.5	0.07	80	0.1
Plymouth	494,919	1,903	3.8	1	0.5	0.02	93	0.2
Suffolk	722,023	6,809	9.4	3	0.4	0.04	145	0.2
Worcester	798,552	4,282	5.4	5	1.2	0.06	165	0.2
Massachusetts	**6,547,629**	**32,680**	**5.0**	**36**	**1.1**	**0.05**	**1,169**	**0.2**

*Population statistics based on 2010 U.S. Census Bureau data.

2010 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[66] & Natural Disaster	Special Incident Type
Barnstable	32,575	30	23,053	1,877	2,502	1,320	3,641	44	108
Berkshire	10,757	13	6,234	768	1,370	537	1,738	44	53
Bristol	47,821	58	29,243	2,504	4,452	3,232	7,944	108	280
Dukes[67]	128	3	9	6	2	1	107	0	0
Essex	81,292	98	44,025	4,459	11,638	5,636	14,505	242	689
Franklin	6,195	12	3,140	599	1,015	455	693	98	183
Hampden	39,720	73	24,059	1,953	3,001	3,799	6,597	66	172
Hampshire	12,821	57	8,155	904	838	613	2,067	36	151
Middlesex	154,353	158	84,625	10,596	19,842	8,980	24,932	585	4,635
Nantucket	2,165	2	1,013	191	147	92	710	9	1
Norfolk	82,969	150	49,798	5,618	9,615	4,338	11,770	115	1,565
Plymouth	56,559	102	34,748	4,306	6,331	3,761	6,819	214	278
Suffolk	85,966	74	46,116	5,228	11,641	7,257	15,223	48	379
Worcester	78,501	120	51,302	4,087	7,115	4,199	10,791	148	739
Massachusetts	**691,822**	**950**	**405,520**	**43,096**	**79,509**	**44,220**	**107,537**	**1,757**	**9,233**

[66] WX is the abbreviation for Weather.

[67] Tisbury is the only department to send us non-fire calls.