

# **Suffolk County**

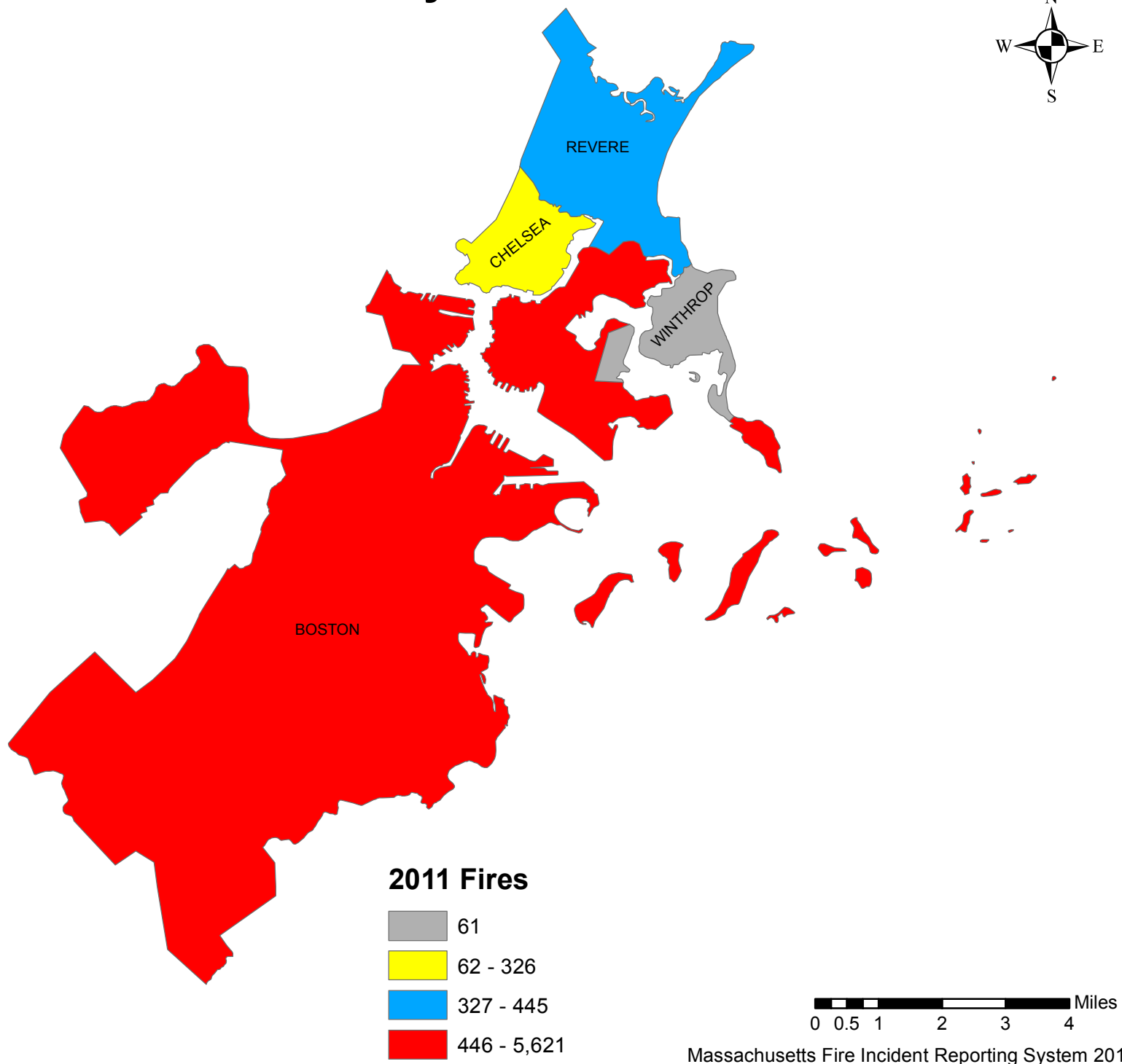
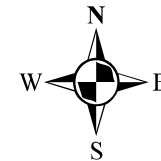
## **2011 Fire Data Analysis**



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# Suffolk County Fires 2011



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# Suffolk County Fires in 2011

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## **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.

## **6,453 Total Fires — 4,906 Structures, 369 Vehicles & 1,178 Other Fires**

The four communities in Suffolk County reported a total of 6,453 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011<sup>1</sup>. The 4,906 structure fires, 369 motor vehicle fires, 633 outside rubbish fires, 320 brush, tree or lawn fires, 98 special outside fires, eight cultivated vegetation or crop fire, and 119 other fires caused three civilian deaths, 10 civilian injuries, 42 fire service injuries and an estimated dollar loss of \$32.1 million. Although 11% of Massachusetts residents live in Suffolk County, these four Suffolk County fire departments reported 22% of the state's 29,110 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 8.9 fires per 1,000 people in 2011, two times the statewide rate of 4.4 fires per 1,000 population. Chelsea had the highest rate at 9.7 fires per 1,000 people in 2011. Winthrop had the lowest rate, 3.5 fires per 1,000 people this year, less than the county average. Boston had the second highest rate of fires per population with 9.0. Revere's fire rate per 1,000 population was 8.6.

## **Structure Fires Per 1,000 Population**

Suffolk County had a rate of 6.8 structure fires per 1,000 people in 2011. The community with the highest rate of structure fires per 1,000 population was Revere, having 7.1 structure fires per 1,000 people. Chelsea had 6.91 structure fires per 1,000 people. Boston had 6.9 fires per 1,000 population. Winthrop had the lowest rate of structure fires with 2.1 per 1,000 population. The rate of structure fires per 1,000 people in Massachusetts in 2011 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 0.51 motor vehicle fires per 1,000 population in 2011. Chelsea had the highest rate in the county at a rate of 0.65 motor vehicle fires per 1,000 people. Boston had the next highest rate at 0.53 motor vehicle fires per 1,000 people. Revere experienced 0.25 motor vehicle fires per 1,000 population and Winthrop was at 0.06. The state's rate was 0.46 motor vehicle fires per 1,000 people in 2011. Revere and Winthrop were both below the state rate.

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<sup>1</sup> This figure also includes the 79 fires reported by Massport at Logan Airport.

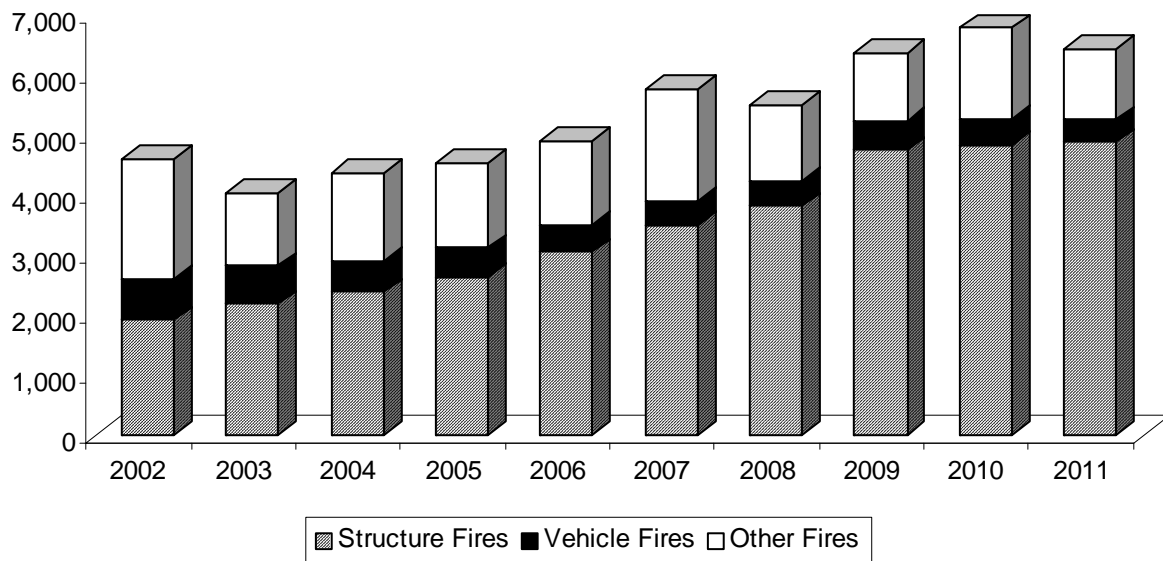
| Town                  | Total Fires<br>Per 1,000 Pop. | Structure Fires<br>Per 1,000 Pop. | MV Fires<br>Per 1,000 Pop. | Other Fires<br>Per 1,000 Pop. |
|-----------------------|-------------------------------|-----------------------------------|----------------------------|-------------------------------|
| <b>Boston</b>         | 8.97                          | 6.88                              | 0.53                       | 1.56                          |
| <b>Chelsea</b>        | 9.27                          | 6.91                              | 0.65                       | 1.71                          |
| <b>Revere</b>         | 8.60                          | 7.13                              | 0.25                       | 1.22                          |
| <b>Winthrop</b>       | 3.49                          | 2.11                              | 0.06                       | 1.31                          |
| <b>Suffolk County</b> | 8.93                          | 6.79                              | 0.51                       | 1.63                          |
| <b>Massachusetts</b>  | 4.44                          | 2.78                              | 0.46                       | 1.78                          |

## STRUCTURE FIRES

### Motor Vehicle & Outside Fires Down in 2011

The total number of reported fires in Suffolk County decreased by 357, or 5%, from the 6,810 reported in 2010. Reported structure fires increased by 45, or 1%, from 4,861 the previous year. Motor vehicle fires decreased by 53, or 13%, from 422 the year before. The total number of reported outside and other fires decreased by 349, or 23%, from 1,527 in 2010.

## Suffolk County Fires by Incident Type



**SUFFOLK COUNTY FIRES FROM 2002 TO 2011**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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        | 6,810                  | 4,861                      | 422                      | 1,527                  | 141                     | 38                          | 19                        | 84                      |
| 2011        | 6,453                  | 4,906                      | 369                      | 1,178                  | 156                     | 42                          | 16                        | 98                      |

**BUILDING FIRES**

There were 4,881 building fires of different types in Suffolk County in 2011. These 4,881 building fires accounted for 99.5% of all structure fires in Suffolk County.

**82% of Building Fires in Homes**

The 4,881 building fires that occurred in Suffolk County in 2011 can be broken down by fixed property use as follows: 4,019, or 82% of all reported building fires in 2011, were in residential properties; 247 fires happened in institutional properties; 215 fires took place in mercantile and office properties; 180 fires occurred in public assembly properties; 111 fires occurred in educational properties; 64 fires took place in special properties; 29 fires were in storage properties; six occurred in industrial, utility, defense, agricultural or mining facilities; four were reported in manufacturing properties; and six 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 83% of Residential Building Fires**

In 2011, 4,019, or 82%, of the 4,881 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 83% of these fires.

Heating fires were the second leading cause of residential building fires in Suffolk County, causing 5% of these fires. Indoor rubbish fires, electrical problems and smoking

each caused 2% of these fires. Arson, accounted for 1% of these fires. Candles and juvenile-set fires were responsible for less than 1% of the fires in people's homes in Suffolk County in 2011.

### **89% of Residential Building Fires Are Confined to Non-Combustible Containers<sup>2</sup>**

Three thousand five hundred and sixty-six (3,566), or 89% of all residential building fires, were reported as confined to non-combustible containers in 2011. Three thousand two hundred and eighty (3,280) of the reported fires were cooking fires contained to a non-combustible container accounting for 82% of residential building fires. One hundred and forty-four (144), or 4%, were fires confined to a fuel burner or boiler malfunction. There were 100 confined indoor rubbish fires, accounting for 2% of the residential building fires in 2011. Thirty-six (36), 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 0.05%, of the residential building fires in Suffolk County, was a confined commercial compactor fire. The number of contained fires decreased by 20, or 1%, from the 3,546 reported in 2010.

### **Detectors Alerted Occupants in 80% of Fires**

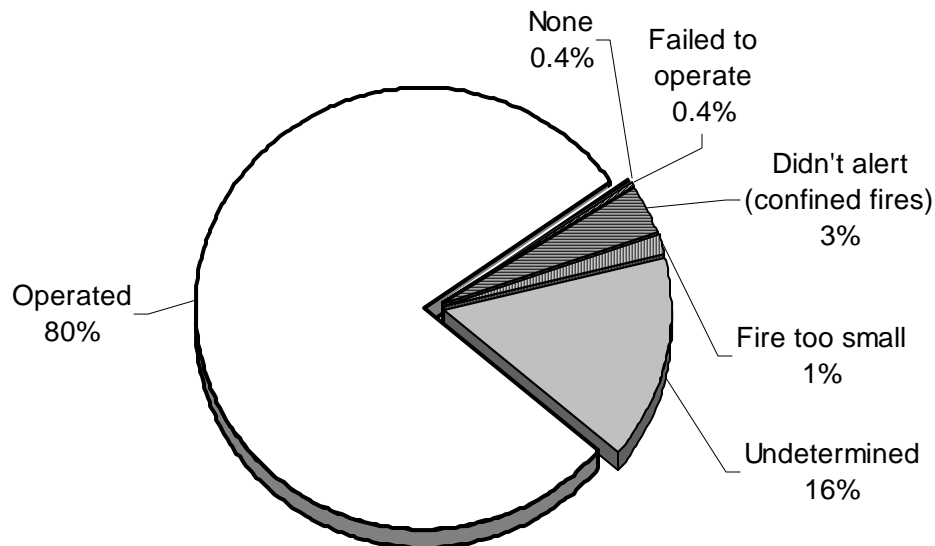
Smoke or heat detectors operated and alerted the occupants in 3,184, or 80%, of the residential building fires. In 3% of these fires<sup>3</sup>, the detectors did not alert the occupants. Detectors were present but did not operate in less than 1% of these incidents. In less than 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 1% of the residential fires. Smoke detector performance was undetermined in 608 incidents, or 16% of Suffolk County's residential building fires.

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<sup>2</sup> 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.

<sup>3</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

## Detector Status in Suffolk County's Residential Structure Fires 2011



### 39% of Failed Detectors Had Missing or Dead Batteries

Of the 18 fires where smoke detectors were present but failed to operate, four, or 22%, failed because of missing or disconnected batteries. Three (3), or 17%, did not operate because of dead batteries. One (1) detector, or 6%, failed because of a lack of maintenance; and another detector, or 6%, failed from a power failure, shut-off or disconnect. For nine cases, or 50%, the reason the detector failed was not determined or classified.

## JUVENILE-SET FIRES

### 19 Juvenile-set Fires

There were 19 reported juvenile-set fires in Suffolk County in 2011. The 11 structure fires, three brush fires, one special outside fire, and four unclassified fires caused \$89,901 in estimated damages.

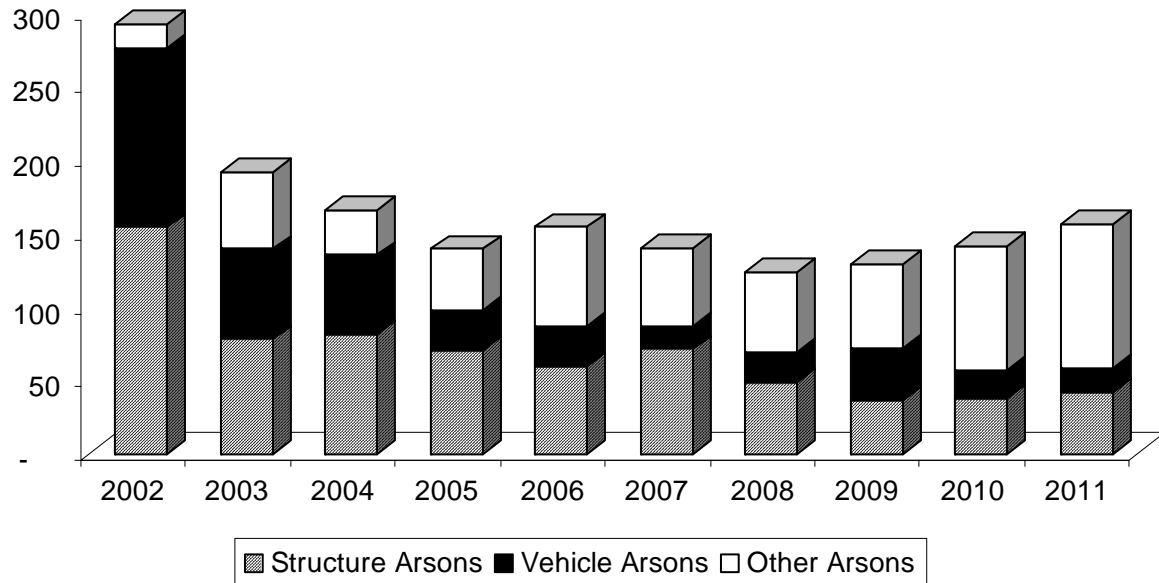
## ARSONS

### 156 Arsons —42 Structure Arsons, 16 Vehicle Arsons & 98 Other Arsons

One hundred and fifty-six (156), or 2%, of Suffolk County's 6,453 fires were considered intentionally set, or for purposes of analysis, arson. The 42 structure arsons, 16 motor vehicle arsons and 98 outside and other arsons caused one fire service injury and an estimated dollar loss of \$5.2 million.



## Suffolk County Arsons by Incident Type



### Structure & Outside Arson Increases

The total number of reported arson fires increased by 15, or 11%, from the 141 reported in 2010. Structure arson increased by four from the 38 reported a year earlier. Motor vehicle arsons decreased by three from 19 the previous year. Identified outside and other arson increased by 14 from 84 the year before. Structure arsons represented 27% of the total arson problem while motor vehicle arson only accounted for 10% of all the 2011 arsons in Suffolk County.

### Arson Rates Per Population

The community in Suffolk County with the highest rate of arson per population in 2011 was Chelsea with 0.31 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 0.21 per 1,000 population; for the entire Commonwealth it was slightly lower at 0.15 per 1,000 population. Chelsea had the highest rate for structure arsons per 1,000 population with 0.14. Boston, had the highest rate for motor vehicle arsons per 1,000 population of 0.06.

## ALL INCIDENTS

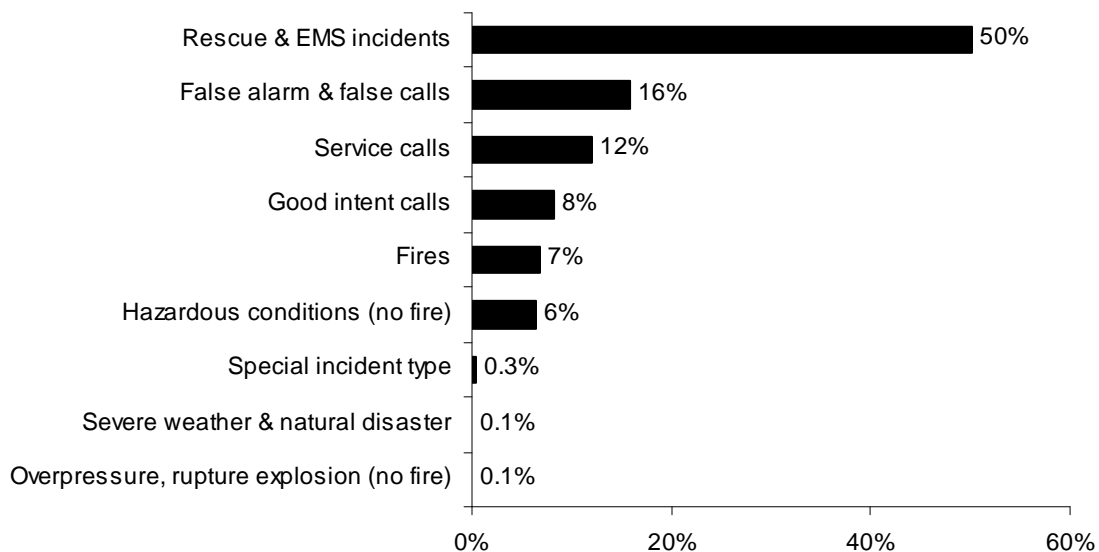
### Rescue & EMS Calls Are 1/2 of All Reported Responses

In 2011, fire departments in Suffolk County reported 93,672 total responses to MFIRS. Of these 93,672 incidents, 87,209 non-fire calls were voluntarily reported.

Of these 87,209 non-fire calls, 46,904, or 50% of all the responses reported in 2011, were reported rescue and emergency medical services (EMS) calls<sup>4</sup>; 14,760, or 16%, were reported false alarm or false calls; 11,247, or 12%, were reported service calls such as lock-outs, water or smoke problem, unauthorized burning or public service assistance; 7,790, or 8%, were reported good intent calls; 6,054, or 6%, were reported hazardous condition calls with no fire; 312, or 0.3%, were special incident type calls such as citizen complaints; 74, or 0.1%, were severe weather calls; and 68, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire.

Six thousand four hundred and sixty-three (6,463), or 7%, of the total responses submitted by Suffolk County fire departments were fires<sup>5</sup>.

### 2011 Responses by Incident Type



<sup>4</sup> The Boston Fire Department does not run any ambulances. Instead they dispatch their companies as first responders to all EMS calls.

<sup>5</sup> This figure includes responses in which Suffolk County fire departments gave mutual aid to another fire department at a fire.

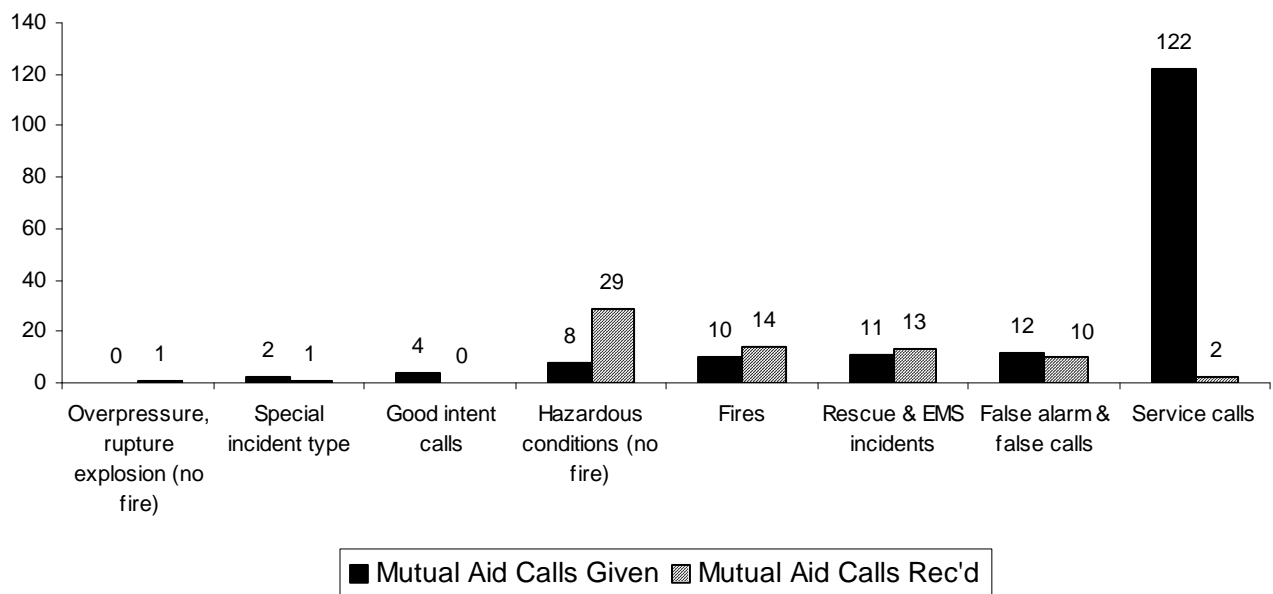
### Suffolk County Fire Departments Reported Giving Mutual Aid 169 Times

In 2011, Suffolk County fire departments reported coming to the aid of other fire departments 169 times. Of these 169 responses, 122, or 72%, were for service calls such as cover assignments; 12, or 7%, were for false alarms or false calls; 11, or 7%, were for rescue or EMS incidents; 10, or 6%, were for fires; eight, or 5%, were for hazardous condition calls with no fire; four, or 2%, were for good intent calls; and two, or 1%, of the mutual aid given calls were for special incident types.

### Suffolk County Fire Departments Reported Receiving Mutual Aid in 70 Incidents

In 2011, Suffolk County fire departments reported receiving aid from surrounding departments in 70 incidents. Of these 70 incidents, 29, or 41%, were hazardous conditions calls with no fire; 14, or 20%, were for fires; 13, or 19%, were rescue and emergency medical services calls; 10, or 14%, were false alarms or false calls; two, or 3% were service calls; one, or 1%, was an overpressure, rupture or explosion with no after fire call; and another call, or 1%, was for a special incident type.

## Suffolk County's Mutual Aid Calls in 2011



## The City of Boston

### **5,539 Fires — 4,249 Structure Fires, 327 Vehicle Fires & 963 Other Fires**

The Boston Fire Department reported 4,249 structure fires, 327 motor vehicle fires, 510 outside rubbish fires, 263 grass, tree or brush fires, 92 special outside fires, three cultivated vegetation or crop fires, and 95 unclassified fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. These 5,539 incidents caused two civilian deaths, five civilian injuries, nine fire service injuries and an estimated dollar loss of \$27.9 million. There were 9.0 fires for every 1,000 residents in 2011. Although fewer than 10% of the state's residents live in the City of Boston, the Boston Fire Department reported 19% of the 29,110 fire incidents reported statewide in 2011.

### **Motor Vehicle & Outside Vehicle Fires Down**

The total number of Boston fires reported to the Massachusetts Fire Incident Reporting System decreased by 273 from the 5,812 reported in 2010 to 5,539 in 2011. Structure fires increased by 62, motor vehicle fires decreased by 51, and outside and other fires decreased by 284. For the ninth 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.

### **138 Arsons — 36 Structure Arsons, 13 Vehicle Arsons & 89 Other Arsons**

One hundred and thirty-eight (138), or 2%, of the 5,539 Boston fires were considered intentionally set, or, for purposes of this analysis, arson. The 36 structure arsons, 13 motor vehicle arsons and 89 outside and other arsons caused an estimated dollar loss of \$5.2 million.

### **Cooking Caused 83% of Boston's Residential Fires**

Cooking was the leading cause of the 3,473 fires in Boston residential buildings, accounting for 83% of these fires. Heating equipment was the cause of 4% of these fires. Indoor rubbish fires were responsible for 3%; and electrical problems and smoking each caused 2% of these fires. Arson caused 1% of residential building fires in Boston. Candles and juvenile-set fires each accounted for less than 1% of the fires in Boston residences in 2011.

### **Detectors Alerted Occupants in 87% of Fires**

Smoke or heat detectors operated and alerted the occupants in 2,765, or 87%, of the residential building fires. In 4% of these fires<sup>6</sup>, the detectors did not alert the occupants. Detectors were present but did not operate in less than 1% of these incidents. In less than 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 1% of the residential fires. Smoke detector performance was undetermined in 196 incidents, or 6% of Boston's residential building fires.

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<sup>6</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

**Largest Loss Fire**

The Boston Fire Department reported one fire with over \$1 million in estimated damages.

- On October 17, 2011, at 12:48 a.m., the Boston Fire Department was called to an arson in a four-story, 30-unit apartment building at 71 Westminster St. Detectors were present and alerted the occupants. The building was not sprinklered. The fire originated in a 7<sup>th</sup> floor apartment. There were no injuries associated with this fire and damages were estimated to be \$4 million.

**The City of Chelsea****326 Fires — 243 Structure Fires, 23 Vehicle Fires and 60 Other Fires**

The City of Chelsea reported 326 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 243 structure fires, 23 motor vehicle fires, 32 grass, tree or brush fires, 15 outside rubbish fires, four special outside fires, and nine unclassified fires caused four civilian injuries, 32 fire service injuries and an estimated dollar loss of \$2.9 million. There were 9.3 fires for every 1,000 citizens in 2011.

**Structure & Outside Fires Down**

Total fires decreased by 50, or 39%, from the 376 fires reported in 2010. Structure fires decreased by 11 from the 254 reported in 2010. Motor vehicle fires increased by six, from 17 the previous year. Outside and other fires decreased by 45 from the 105 reported in 2010.

**11 Arsons — 5 Structure Arsons, 2 Vehicle Arsons & 4 Outside & Other Arsons**

Eleven (11), or 3%, of the 326 Chelsea fires were considered intentionally set, or, for purposes of this analysis, arson. The five structure arsons two motor vehicle arsons and four outside and other arsons caused one fire service injury, and an estimated dollar loss of \$17,700.

**Unsafe Cooking Practices Caused 3/4 of Residential Fires**

Cooking was the leading cause of fires in Chelsea's residential properties in 2011, accounting for 75% of these fires. Smoking were the second leading cause, accounting for 7% of the fires in people's homes in Chelsea in 2011. Heating equipment fires accounted for 6% and electrical problems caused 5% of these fires. Arson and indoor rubbish fires each caused 2% of residential building fires in Chelsea.

**Detectors Alerted Occupants in Only 35% of Fires**

Smoke or heat detectors operated and alerted the occupants in 51, or 37%, of the residential building fires. In 3% of these fires<sup>7</sup>, the detectors did not alert the occupants. Detectors were present but did not operate in 1% of residential fires. In 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 2% of

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<sup>7</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

these fires. Smoke detector performance was undetermined in 102 incidents, or 58% of Chelsea's residential building fires.

### **Largest Loss Fire in Chelsea**

- On February 15, 2011, at 10:55 a.m., the Chelsea Fire Department was dispatched to an undetermined fire in a 24-unit apartment building. The fire started on an exterior portion of the building. Eight (8) firefighters were injured at this fire. Detectors were present and alerted the occupants. The building was not sprinklered and damages were estimated to be \$550,000. The fire spread to a nearby building causing another \$120,000 in estimated damages.

## **The City of Revere**

### **445 Fires — 369 Structure Fires, 13 Vehicle Fires and 63 Other Fires**

The City of Revere reported 445 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 369 structure fires, 13 motor vehicle fires, 61 outside rubbish fires, one grass, tree or brush fire, and one unclassified fire, caused one civilian death and an estimated dollar loss of \$154,925. There were 8.6 fires for every 1,000 citizens in 2011.

### **Outside Fires Down**

The total number of reported fires decreased by 23 from the 468 reported in 2010. Structure fires increased by one from the 368 reported during the previous year. Motor vehicle fires increased by four from nine reported in 2010. Reported outside and other fires decreased by 28 from 91 the year before.

### **2 Arsons — 1 Structure Arson & 1 Motor Vehicle Arson**

Two (2), or less than 1%, of Revere's 445 reported fires were considered intentionally set, or for purposes of this analysis, arson. The one structure arson was an increase of one over the none reported in 2010. The one motor vehicle arson was the same as the one reported the previous year.

### **Unsafe Cooking Causes 85% of Residential Fires**

Cooking was the leading cause of fires in Revere's residential properties in 2011, accounting for 85% of these fires. Heating equipment caused 10% of residential building fires in 2011. Indoor rubbish fires were responsible for 2% of these fires. Smoking caused 1%. Arson, candles and electrical problems were each the cause of less than 1% of the residential building fires in Revere in 2011.

**Detectors Alerted Occupants in 41% of Fires**

Smoke or heat detectors operated and alerted the occupants in 133, or 41%, of the residential building fires. In 3% of these fires<sup>8</sup>, the detectors did not alert the occupants. There were no reported incidents where detectors were present but did not operate. In 1% of these fires, no detectors were present at all. The fire was too small to trigger a detector in less than 1% of these fires. Smoke detector performance was undetermined in 174 incidents, or 54% of Revere's residential building fires.

**Largest Loss Fire In Revere**

- At 5:46 p.m., on July 18, 2011, the Revere Fire Department was called to an electrical fire at a state police barracks. Heat from an air conditioner ignited a nearby cardboard box. 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 \$200,000.

**The Town of Winthrop****61 Fires — 37 Structure Fires, 1 Vehicle Fire & 23 Other Fires**

The Town of Winthrop reported 61 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 37 structure fires, one motor vehicle fire, nine outside rubbish fires, two special outside fires, one brush and grass fire, and 11 unclassified fires caused one civilian injury, one fire service injury and an estimated dollar loss of \$1.1 million. There were 3.5 fires for every 1,000 citizens in 2011.

**All Fires Down**

The total number of fires reported in Winthrop decreased by 27 from 88 in 2010. Structure fires dropped by eight from the 45 reported in 2010. Motor vehicle fires decreased by two from three in 2010. Outside and other fires decreased by 17 from 40 in 2010.

**2 Arsons – 2 Outside & Other Arsons**

Two (2), or 3%, of the 61 Winthrop fires were considered intentionally set, or, for purposes of this analysis, arson.

**Unsafe Cooking Practices Caused 60% of Winthrop's Residential Fires**

Cooking was the leading cause of fires in Winthrop residential properties in 2011 accounting for 60%. Heating equipment fires were the second leading cause, accounting for 17% of these fires; and smoking caused 13% of the fires in Winthrop's homes in 2011.

**Detectors Alerted Occupants in Only 13% of Fires**

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<sup>8</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

Smoke or heat detectors operated and alerted the occupants in four, or 13%, of the residential building fires. In 7% of these fires<sup>9</sup>, 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 24 incidents, or 80% of Winthrop's residential building fires.

**Largest Loss Fire in Winthrop**

- On October 25, 2011, at 12:14 a.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 \$650,000.

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<sup>9</sup> These represent confined fires where it was reported that the detector did not alert the occupants.



**Suffolk County****Population: 722,023****8.9 Fires/1,000 Population****Total Fires: 6,453 \$32,135,631**

| <b>Situation</b> | <b>Fires</b> | <b>% of Fires</b> | <b>Dollar Loss</b> |
|------------------|--------------|-------------------|--------------------|
| Structure Fires  | 4,906        | 76%               | \$27,768,360       |
| Vehicle Fires    | 369          | 6%                | 2,091,356          |
| Other Fires      | 1,178        | 18%               | 2,275,915          |

3 Fatal Fires 0.46 Civilian Deaths/1,000 Fires

3 Civilian Deaths 0.04 Civilian Deaths/10,000 Population

10 Civilian Injuries 42 Fire Service Injuries

**Building Fires: 4,881****Residential Building Fires: 4,019****Residential Building Fires Confined to Non-Combustible Containers: 3,556****Unconfined Residential Building Fires: 453**

2 Civilian Deaths 7 Civilian Injuries 38 Fire Service Injuries

| <b>Occupancy</b>         | <b>Fires</b> | <b>%</b> | <b>Detector Status</b>  | <b>Fires</b> | <b>%</b> |
|--------------------------|--------------|----------|-------------------------|--------------|----------|
| Apartments               | 2,685        | 67%      | Operated                | 3,184        | 80%      |
| 1- & 2-Family homes      | 550          | 14%      | Didn't operate          | 18           | 0.4%     |
| Dormitories              | 198          | 5%       | None                    | 18           | 0.4%     |
| Rooming houses           | 133          | 3%       | Fire too small          | 52           | 1%       |
| Residential board & care | 69           | 2%       | Didn't Alert (confined) | 139          | 3%       |
| Hotel/motel              | 41           | 1%       | Undetermined            | 608          | 16%      |

| <b>Area of Origin<sup>10</sup></b> | <b>%</b> | <b>Heat Source</b>           | <b>%</b> | <b>%Unconfined<sup>11</sup></b> |
|------------------------------------|----------|------------------------------|----------|---------------------------------|
| Kitchen                            | 85%      | Heat from operating equip.   | 2%       | 14%                             |
| Heating room or area               | 4%       | Radiated heat from oper. eq. | 2%       | 14%                             |
| Bedroom                            | 1%       | Arcing                       | 1%       | 13%                             |
| Chimney or flue                    | 1%       | Hot or smoldering object     | 1%       | 9%                              |
| Exterior balcony/unencl. porch     | 1%       | Cigarette                    | 1%       | 5%                              |

<sup>10</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>11</sup> 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.

| <b>Item First Ignited<sup>12</sup></b> | <b>%</b> | <b>Factor Contrib. to Ignit.</b> | <b>%</b> | <b>%Unconfined<sup>13</sup></b> |
|--|----------|----------------------------------|----------|---------------------------------|
| Food, cooking materials                | 83%      | Abandoned materials              | 2%       | 14%                             |
| Flammable, combustible liquid          | 4%       | Too close to combustibles        | 1%       | 10%                             |
| Rubbish, trash, waste                  | 3%       | Unspecified short-circuit arc    | 1%       | 8%                              |
| Structural member, framing             | 1%       | Electrical failure/malfunc.      | 1%       | 7%                              |
| Film, residue (creosote)               | 1%       | Equipment unattended             | 1%       | 7%                              |
|  |          | Misuse of materials              | 1%       | 7%                              |

| <b>Equipment<sup>14</sup></b>    | <b>%</b> | <b>Cause of Ignition</b>      | <b>%</b> | <b>%Unconfined<sup>15</sup></b> |
|----------------------------------|----------|-------------------------------|----------|---------------------------------|
| Cooking equipment                | 82%      | Unintentional                 | 7%       | 63%                             |
| None                             | 11%      | Failure of eq. or heat source | 2%       | 14%                             |
| Boiler, furnace, cent. heat unit | 4%       | Intentional                   | 1%       | 6%                              |
| Chimney or flue                  | 1%       | Act of nature                 | 0.1%     | 1%                              |
|                                  |          | Undetermined                  | 1%       | 6%                              |
|                                  |          | Cause under investigation     | 1%       | 6%                              |

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

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

<sup>12</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>13</sup> 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.

<sup>14</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>15</sup> 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.

| <b>Month</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|--------------|------------------------|----------------------------|--------------------------|------------------------|
| January      | 590                    | 515                        | 35                       | 40                     |
| February     | 508                    | 439                        | 24                       | 45                     |
| March        | 523                    | 414                        | 22                       | 87                     |
| April        | 474                    | 360                        | 21                       | 93                     |
| May          | 521                    | 360                        | 34                       | 127                    |
| June         | 542                    | 372                        | 40                       | 130                    |
| July         | 589                    | 347                        | 22                       | 220                    |
| August       | 443                    | 315                        | 36                       | 92                     |
| September    | 559                    | 402                        | 43                       | 114                    |
| October      | 523                    | 420                        | 33                       | 70                     |
| November     | 562                    | 457                        | 30                       | 75                     |
| December     | 619                    | 505                        | 29                       | 85                     |

| <b>Day</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|------------|------------------------|----------------------------|--------------------------|------------------------|
| Sunday     | 1,045                  | 799                        | 45                       | 201                    |
| Monday     | 869                    | 645                        | 50                       | 174                    |
| Tuesday    | 869                    | 658                        | 50                       | 161                    |
| Wednesday  | 822                    | 641                        | 59                       | 122                    |
| Thursday   | 861                    | 666                        | 51                       | 144                    |
| Friday     | 897                    | 655                        | 65                       | 177                    |
| Saturday   | 1,090                  | 842                        | 49                       | 199                    |

| <b>Time</b>   | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|---------------|------------------------|----------------------------|--------------------------|------------------------|
| 00:01 - 04:00 | 542                    | 357                        | 43                       | 142                    |
| 04:01 - 08:00 | 424                    | 302                        | 47                       | 75                     |
| 08:01 - 12:00 | 1,045                  | 856                        | 61                       | 128                    |
| 12:01 - 16:00 | 1,493                  | 1,135                      | 80                       | 278                    |
| 16:01 - 20:00 | 1,751                  | 1,374                      | 77                       | 300                    |
| 20:01 - 00:00 | 1,198                  | 882                        | 61                       | 255                    |

### **Motor Vehicle Fires**

Total: 369

Automobiles: 320 (87%)

15 (5%) of the automobile fires considered intentionally set.

## Arson Fires

**Total Arsons: 156**

**Dollar loss: \$5,199,255**

### 0.22 Arson Fires/1,000 Population

| <b>Situation</b> | <b>Arsons</b> | <b>% Situation</b> | <b>% Arson</b> | <b>Dollar Loss</b> |
|------------------|---------------|--------------------|----------------|--------------------|
| Structure Arsons | 36            | 1%                 | 26%            | \$5,117,750        |
| Vehicle Arsons   | 13            | 4%                 | 9%             | 79,500             |
| Other Arsons     | 89            | 9%                 | 64%            | 2,005              |

0.06 Structure arsons/1,000 population

0.02 Vehicle arsons /1,000 population

0.14 Other arsons/1,000 population

No Injuries

### Peak Times of Day for:

| <b>Structure Arsons</b> | <b>#</b> | <b>%</b> | <b>Vehicle Arsons</b> | <b>#</b> | <b>%</b> |
|-------------------------|----------|----------|-----------------------|----------|----------|
| 20:01 - 00:00           | 8        | 22%      | 20:01 - 00:00         | 5        | 38%      |
| 00:01 - 04:00           | 7        | 19%      | 08:01 - 12:00         | 4        | 31%      |
| 12:01 - 16:00           | 6        | 17%      |                       |          |          |

| <b>Other Arsons</b> | <b>#</b> | <b>%</b> |
|---------------------|----------|----------|
| 20:01 - 00:00       | 29       | 33%      |
| 16:01 - 20:00       | 23       | 26%      |
| 12:01 - 16:00       | 15       | 17%      |

| <b>Peak Fixed Property Uses for Structure Arsons</b> | <b>#</b> | <b>%</b> |
|--|----------|----------|
| Apartments   | 14       | 39%      |
| 1- & 2-Family homes                                  | 8        | 22%      |
| High/junior high/middle schools                      | 3        | 8%       |

**BOSTON FIRES FROM 2007 TO 2011****POPULATION: 617,594**

|      | <b>Total</b> | <b>Structure</b> | <b>Vehicle</b> | <b>Other</b> | <b>Total</b> | <b>Structure</b> | <b>Vehicle</b> | <b>Other</b> |
|------|--------------|------------------|----------------|--------------|--------------|------------------|----------------|--------------|
| 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           |
| 2011 | 5,539        | 4,249            | 327            | 963          | 138          | 36               | 13             | 89           |

**CHELSEA FIRES FROM 2007 TO 2011****POPULATION: 35,177**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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                       |
| 2011        | 326                    | 243                        | 23                       | 60                     | 11                      | 5                           | 2                         | 4                       |

**REVERE FIRES FROM 2007 TO 2011****POPULATION: 51,755**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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                       |
| 2011        | 445                    | 369                        | 13                       | 63                     | 2                       | 1                           | 1                         | 0                       |

**WINTHROP FIRES FROM 2007 TO 2011****POPULATION: 17,497**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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                       |
| 2011        | 61                     | 37                         | 1                        | 23                     | 2                       | 0                           | 0                         | 2                       |

## Suffolk County Fire Experience by Community for 2011

|                                      | Boston       | Chelsea    | Revere     | Winthrop  | Suffolk<br>County* | State         |
|--------------------------------------|--------------|------------|------------|-----------|--------------------|---------------|
| <b>Total Fires</b>                   | <b>5,539</b> | <b>326</b> | <b>445</b> | <b>61</b> | <b>6,450</b>       | <b>29,110</b> |
| Population                           | 617,594      | 35,177     | 51,755     | 17,497    | 722,023            | 6,549,639     |
| Rate/1K Pop.                         | 9.0          | 9.3        | 8.6        | 3.5       | 8.9                | 4.4           |
| Civilian Deaths                      | 2            | 0          | 1          | 0         | 0                  | 54            |
| Civ. Deaths/10K Pop.                 | 0.03         | 0          | 0.19       | 0         | 0.04               | 0.08          |
| Fire Service Deaths                  | 0            | 0          | 0          | 0         | 0                  | 2             |
| Civilian Injuries                    | 5            | 4          | 0          | 1         | 10                 | 323           |
| Civ. Inj./1K Pop.                    | 0.01         | 0.11       | 0          | 0.06      | 0.01               | 0.05          |
| Fire Service Injuries                | 9            | 32         | 0          | 1         | 42                 | 531           |
| Est. \$ Loss                         | \$27,865,765 | 2,916,040  | 154,925    | 1,086,585 | 32,135,631         | 217,002,934   |
| <b>Structure Fires</b>               | <b>4,249</b> | <b>243</b> | <b>369</b> | <b>37</b> | <b>4,906</b>       | <b>18,178</b> |
| Structure Fires/<br>1,000 Population | 6.9          | 6.9        | 7.1        | 2.1       | 6.8                | 2.8           |
| Structure Fires<br>Dollar Loss       | \$23,920,740 | 2,537,470  | 136,950    | 1,063,200 | 27,768,360         | 195,095,440   |
| Residential<br>Building Fires        | 3,473        | 194        | 321        | 30        | 4,019              | 15,043        |
| Confined Fires                       | 3,085        | 158        | 303        | 19        | 3,566              | 12,066        |
| <b>Vehicle Fires</b>                 | <b>327</b>   | <b>23</b>  | <b>13</b>  | <b>1</b>  | <b>369</b>         | <b>2,997</b>  |
| Vehicle Fires<br>1,000 Population    | 0.5          | 0.7        | 0.3        | 0.1       | 0.5                | 0.5           |
| Vehicle Fire<br>Dollar Loss          | \$1,879,081  | 193,550    | 15,475     | 2,250     | 2,091,356          | 16,305,466    |
| <b>Other Fires</b>                   | <b>963</b>   | <b>60</b>  | <b>63</b>  | <b>23</b> | <b>1,178</b>       | <b>7,935</b>  |
| Other Fires<br>Dollar Loss           | \$2,065,944  | 185,020    | 2,500      | 21,135    | 2,275,915          | 5,605,028     |

\*This figure includes 79 incidents reported by Massport Fire-Rescue. There were 8 structure fires, 5 vehicle fires and 66 outside and other fires.

## Suffolk County Arson Experience by Community for 2011

|  | Boston      | Chelsea   | Revere   | Winthrop | Suffolk<br>County* | State      |
|--|-------------|-----------|----------|----------|--------------------|------------|
| <b>Total Arsons</b>                                | <b>138</b>  | <b>11</b> | <b>2</b> | <b>2</b> | <b>156</b>         | <b>979</b> |
| Population   | 617,594     | 35,177    | 51,755   | 17,497   | 722,023            | 6,549,639  |
| Rate/1,000 Population                              | 0.22        | 0.31      | 0.04     | 0.11     | 0.22               | 0.15       |
| Civilian Deaths                                    | 0           | 0         | 0        | 0        | 0                  | 7          |
| Fire Service Deaths                                | 0           | 0         | 0        | 0        | 0                  | 0          |
| Civilian Injuries                                  | 0           | 0         | 0        | 0        | 0                  | 20         |
| Fire Service Injuries                              | 0           | 1         | 0        | 0        | 1                  | 20         |
| Est. \$ Loss                                       | \$5,199,255 | 17,700    | 600      | 0        | 5,217,955          | 12,378,234 |
| <b>Structure Arsons</b>                            | <b>36</b>   | <b>5</b>  | <b>1</b> | <b>0</b> | <b>42</b>          | <b>223</b> |
| Structure Arsons/<br>1,000 Population              | 0.06        | 0.14      | 0.02     | 0.00     | 0.06               | 0.03       |
| Structure Arson<br>Dollar Loss                     | \$5,117,750 | 5,000     | 600      | 0        | 5,123,350          | 11,681,993 |
| % of Structure Fires Caused<br>by Arson            | 1%          | 2%        | 0.3%     | 0%       | 1%                 | 1%         |
| % of Structure Fire Dollar Loss<br>Caused by Arson | 21%         | 0.2%      | 0.4%     | 0%       | 18%                | 6%         |
| Residential<br>Building Arsons                     | 23          | 4         | 1        | 0        | 28                 | 128        |
| <b>Vehicle Arsons</b>                              | <b>13</b>   | <b>2</b>  | <b>1</b> | <b>0</b> | <b>16</b>          | <b>125</b> |
| Vehicle Arsons/<br>1,000 Population                | 0.02        | 0.06      | 0.02     | 0.00     | 0.02               | 0.02       |
| Vehicle Arson<br>Dollar Loss                       | \$79,500    | 11,600    | 0        | 0        | 91,100             | 667,825    |
| % of Vehicle Fires<br>Caused by Arson              | 4%          | 9%        | 8%       | 0%       | 4%                 | 4%         |
| % of Vehicle Fire Dollar Loss<br>Caused by Arson   | 4%          | 6%        | 0%       | 0%       | 4%                 | 4%         |
| <b>Other Arsons</b>                                | <b>89</b>   | <b>4</b>  | <b>0</b> | <b>2</b> | <b>98</b>          | <b>631</b> |
| Other Arson<br>Dollar Loss                         | \$2,005     | 1,100     | 0        | 200      | 3,505              | 28,416     |

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

## 2011 Suffolk County Structure Fires by Property Use

| Property Use                            | Boston     | Chelsea   | Revere    | Winthrop | Suffolk County <sup>16</sup> |
|---|------------|-----------|-----------|----------|------------------------------|
| <b>Assembly</b>                         | <b>159</b> | <b>4</b>  | <b>13</b> | <b>0</b> | <b>182</b>                   |
| Assembly, other                         | 9          | 1         | 0         | 0        | 10                           |
| Fixed use recreation places, other      | 2          | 0         | 0         | 0        | 2                            |
| Electronic amusement center             | 2          | 0         | 0         | 0        | 2                            |
| Ice rink: indoor, outdoor               | 1          | 0         | 0         | 0        | 1                            |
| Variable use amusement, rec. places     | 1          | 0         | 0         | 0        | 1                            |
| Ballroom, gymnasium                     | 1          | 0         | 0         | 0        | 1                            |
| Places of worship, funeral parlors      | 4          | 0         | 0         | 0        | 4                            |
| Church, mosque, synagogue, temple       | 19         | 1         | 0         | 0        | 20                           |
| Clubs, other                            | 3          | 0         | 0         | 0        | 3                            |
| Athletic/health club                    | 2          | 0         | 0         | 0        | 2                            |
| Clubhouse                               | 0          | 0         | 2         | 0        | 2                            |
| Public or government, other             | 1          | 0         | 0         | 0        | 1                            |
| Library                                 | 1          | 0         | 0         | 0        | 1                            |
| Museum                                  | 2          | 0         | 0         | 0        | 2                            |
| Eating, drinking places                 | 19         | 0         | 3         | 0        | 22                           |
| Restaurant or cafeteria                 | 71         | 1         | 6         | 0        | 78                           |
| Bar or nightclub                        | 9          | 1         | 2         | 0        | 12                           |
| Passenger terminal, other               | 5          | 0         | 0         | 0        | 5                            |
| Airport passenger terminal              | 0          | 0         | 0         | 0        | 6                            |
| Rapid transit station                   | 6          | 0         | 0         | 0        | 6                            |
| Film/movie production studio            | 1          | 0         | 0         | 0        | 1                            |
| <b>Educational</b>                      | <b>105</b> | <b>2</b>  | <b>3</b>  | <b>1</b> | <b>111</b>                   |
| Educational, other                      | 22         | 0         | 0         | 0        | 22                           |
| Schools, non-adult                      | 2          | 0         | 0         | 0        | 2                            |
| Preschool                               | 10         | 0         | 0         | 0        | 10                           |
| Elementary school,                      | 13         | 1         | 0         | 1        | 15                           |
| High /junior high/middle school         | 18         | 1         | 1         | 0        | 20                           |
| Adult education, college classroom      | 16         | 0         | 1         | 0        | 17                           |
| Day care, in commercial property        | 16         | 0         | 1         | 0        | 17                           |
| Day care, in residence, licensed        | 8          | 0         | 0         | 0        | 8                            |
| <b>Institutional</b>                    | <b>233</b> | <b>11</b> | <b>5</b>  | <b>0</b> | <b>249</b>                   |
| Health care, detention, & corr, other   | 39         | 0         | 0         | 0        | 39                           |
| Nursing homes, 4+ persons               | 22         | 4         | 2         | 0        | 28                           |
| Mental retard./dev. disability facility | 37         | 2         | 0         | 0        | 39                           |
| Alcohol/substance abuse recov. ctr.     | 34         | 0         | 0         | 0        | 34                           |
| Asylum, mental institution              | 0          | 4         | 0         | 0        | 4                            |
| Hospital - medical or psychiatric       | 73         | 0         | 0         | 0        | 73                           |

<sup>16</sup> Suffolk County includes the 6 structure fires at airport terminals reported by Massport at Logan Airport.



## 2011 Suffolk County Structure Fires by Property Use

| Property Use                                 | Boston       | Chelsea    | Revere     | Winthrop  | Suffolk<br>County |
|--|--------------|------------|------------|-----------|-------------------|
| <b>Institutional (cont'd)</b>                |              |            |            |           |                   |
| Clinics, Dr. offices, hemodialysis ctrs.     | 10           | 0          | 0          | 0         | 10                |
| Clinic, clinic-type infirmary                | 2            | 0          | 0          | 0         | 2                 |
| Doctor, dentist or oral surgeon's office     | 1            | 1          | 2          | 0         | 4                 |
| Jail, prison (not juvenile)                  | 4            | 0          | 0          | 0         | 4                 |
| Reformatory, juvenile detention center       | 5            | 0          | 0          | 0         | 5                 |
| Police station                               | 6            | 0          | 1          | 0         | 7                 |
| <b>Residential</b>                           | <b>3,476</b> | <b>195</b> | <b>321</b> | <b>30</b> | <b>4,023</b>      |
| Residential, other                           | 341          | 2          | 0          | 0         | 343               |
| 1 or 2 family dwelling                       | 382          | 30         | 125        | 13        | 550               |
| Multifamily dwellings                        | 2,331        | 151        | 193        | 14        | 2,689             |
| Boarding/rooming house                       | 127          | 6          | 0          | 0         | 133               |
| Hotel/motel, commercial                      | 36           | 0          | 2          | 2         | 41                |
| Residential board and care                   | 61           | 6          | 1          | 1         | 69                |
| Dormitory type residence, other              | 181          | 0          | 0          | 0         | 181               |
| Sorority house, fraternity house             | 5            | 0          | 0          | 0         | 5                 |
| Barracks, dormitory                          | 12           | 0          | 0          | 0         | 12                |
| <b>Mercantile, business</b>                  | <b>181</b>   | <b>15</b>  | <b>16</b>  | <b>4</b>  | <b>216</b>        |
| Mercantile, business, other                  | 49           | 0          | 0          | 0         | 49                |
| Convenience store                            | 8            | 0          | 5          | 0         | 13                |
| Food & beverage sales, grocery store         | 38           | 7          | 2          | 1         | 48                |
| Textile, wearing apparel sales               | 3            | 0          | 0          | 0         | 3                 |
| Household goods, sales, repairs              | 0            | 1          | 0          | 0         | 1                 |
| Specialty shop                               | 12           | 0          | 0          | 0         | 12                |
| Pers. serv., incl. Barber, beauty shops      | 10           | 0          | 2          | 0         | 12                |
| Recreational, hobby, home repair             | 1            | 0          | 0          | 0         | 1                 |
| Laundry, dry cleaning                        | 10           | 1          | 0          | 1         | 12                |
| Professional supplies, services              | 2            | 0          | 0          | 0         | 2                 |
| Service station, gas station                 | 1            | 0          | 0          | 0         | 1                 |
| MV or boat sales, services, repair           | 4            | 0          | 0          | 0         | 4                 |
| General retail, other                        | 3            | 0          | 2          | 0         | 5                 |
| Department or discount store                 | 1            | 0          | 0          | 0         | 1                 |
| Bank   | 1            | 1          | 1          | 0         | 3                 |
| Office: veterinary or research               | 3            | 0          | 0          | 0         | 3                 |
| Post office or mailing firms                 | 4            | 0          | 0          | 0         | 4                 |
| Business office                              | 31           | 5          | 4          | 2         | 42                |
| <b>Utility, defense, agriculture, mining</b> | <b>8</b>     | <b>0</b>   | <b>0</b>   | <b>0</b>  | <b>8</b>          |
| Energy production plant, other               | 1            | 0          | 0          | 0         | 1                 |
| Electric generating plant                    | 1            | 0          | 0          | 0         | 1                 |

## 2011 Suffolk County Structure Fires by Property Use

| Property Use  | Boston       | Chelsea    | Revere     | Winthrop  | Suffolk County |
|---|--------------|------------|------------|-----------|----------------|
| <b>Utility, defense, agriculture, mining (cont'd)</b> |              |            |            |           |                |
| Laboratory or science laboratory                      | 4            | 0          | 0          | 0         | 4              |
| Communications center                                 | 1            | 0          | 0          | 0         | 1              |
| Sanitation utility                                    | 1            | 0          | 0          | 0         | 1              |
| <b>Manufacturing, processing</b>                      | <b>1</b>     | <b>3</b>   | <b>0</b>   | <b>0</b>  | <b>4</b>       |
| <b>Storage</b>  | <b>22</b>    | <b>12</b>  | <b>1</b>   | <b>1</b>  | <b>37</b>      |
| Storage, other  | 3            | 0          | 0          | 0         | 3              |
| Outbuilding or shed                                   | 4            | 0          | 1          | 0         | 5              |
| Vehicle storage, other                                | 0            | 0          | 0          | 1         | 1              |
| Parking garage, (det. res. garage)                    | 1            | 0          | 0          | 0         | 1              |
| Parking garage, general vehicle                       | 7            | 11         | 0          | 0         | 18             |
| Fire station  | 2            | 0          | 0          | 0         | 2              |
| Warehouse   | 3            | 1          | 0          | 0         | 5              |
| Dock, marina, pier, wharf                             | 2            | 0          | 0          | 0         | 2              |
| <b>Outside or special property</b>                    | <b>55</b>    | <b>1</b>   | <b>10</b>  | <b>1</b>  | <b>67</b>      |
| <b>Property Use, other</b>                            | <b>3</b>     | <b>0</b>   | <b>0</b>   | <b>0</b>  | <b>3</b>       |
| <b>Total Structure Fires</b>                          | <b>4,243</b> | <b>243</b> | <b>369</b> | <b>37</b> | <b>4,900</b>   |

## 2011 Suffolk County Responses<sup>17</sup> by Incident Type

| Incident Type                              | Boston | Chelsea | Revere | Winthrop | Massport Fire Rescue | Suffolk County |
|--|--------|---------|--------|----------|----------------------|----------------|
| Fires                                      | 5,539  | 326     | 445    | 61       | 92                   | 6,463          |
| Overpressure, rupture, explosion (no fire) | 41     | 12      | 9      | 1        | 5                    | 68             |
| Rescue & EMS calls                         | 32,385 | 5,863   | 5,416  | 1,659    | 1,581                | 46,904         |
| Hazardous conditions (no fire)             | 4,905  | 428     | 267    | 232      | 222                  | 6,054          |
| Service calls                              | 9,458  | 553     | 748    | 417      | 71                   | 11,247         |
| Good intent calls                          | 6,375  | 602     | 552    | 200      | 61                   | 7,790          |
| False alarm & false calls                  | 12,778 | 841     | 787    | 213      | 141                  | 14,760         |
| Severe weather & natural disaster          | 61     | 12      | 1      | 0        | 0                    | 74             |
| Special incident type                      | 266    | 26      | 8      | 10       | 2                    | 312            |

<sup>17</sup> These figures include mutual or automatic aid given calls.

# Boston Fires in 2011

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## **5,539 Fires — 4,249 Structure Fires, 327 Vehicle Fires & 963 Other Fires**

The Boston Fire Department reported 4,249 structure fires, 327 motor vehicle fires, 510 outside rubbish fires, 263 grass, tree or brush fires, 92 special outside fires, three cultivated vegetation or crop fires, and 95 unclassified fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. These 5,539 incidents caused two civilian deaths, five civilian injuries, nine fire service injuries and an estimated dollar loss of \$27.9 million. There were 9.0 fires for every 1,000 residents in 2011.

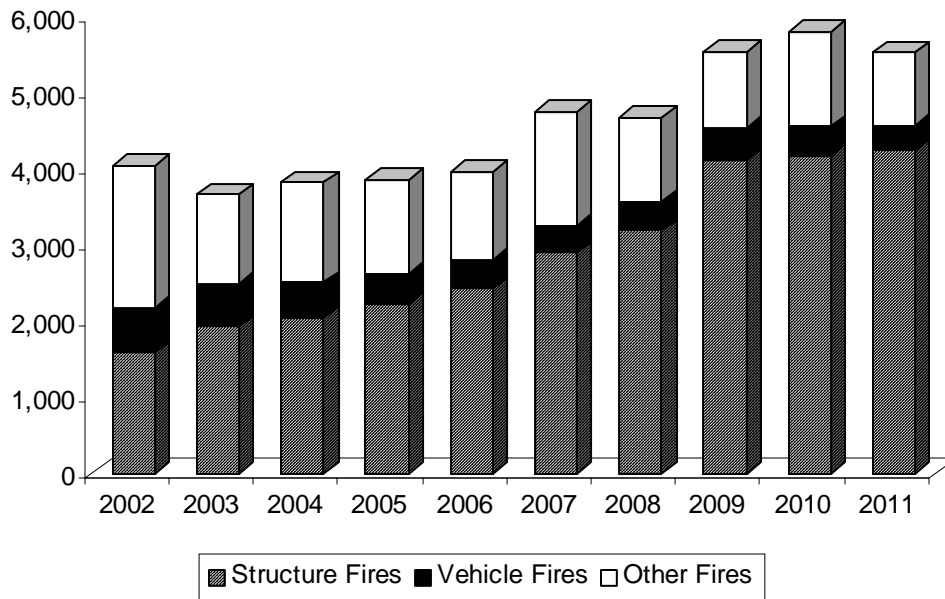
## **Motor Vehicle & Outside Vehicle Fires Down**

The total number of Boston fires reported to the Massachusetts Fire Incident Reporting System decreased by 273 from the 5,812 reported in 2010 to 5,539 in 2011. Structure fires increased by 62, motor vehicle fires decreased by 51, and outside and other fires decreased by 284. For the ninth 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 19% of the 29,110 fire incidents reported statewide in 2011.

## **BOSTON FIRES FROM 2002 TO 2011**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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                      |
| 2011        | 5,539                  | 4,249                      | 327                      | 963                    | 138                     | 36                          | 13                        | 89                      |

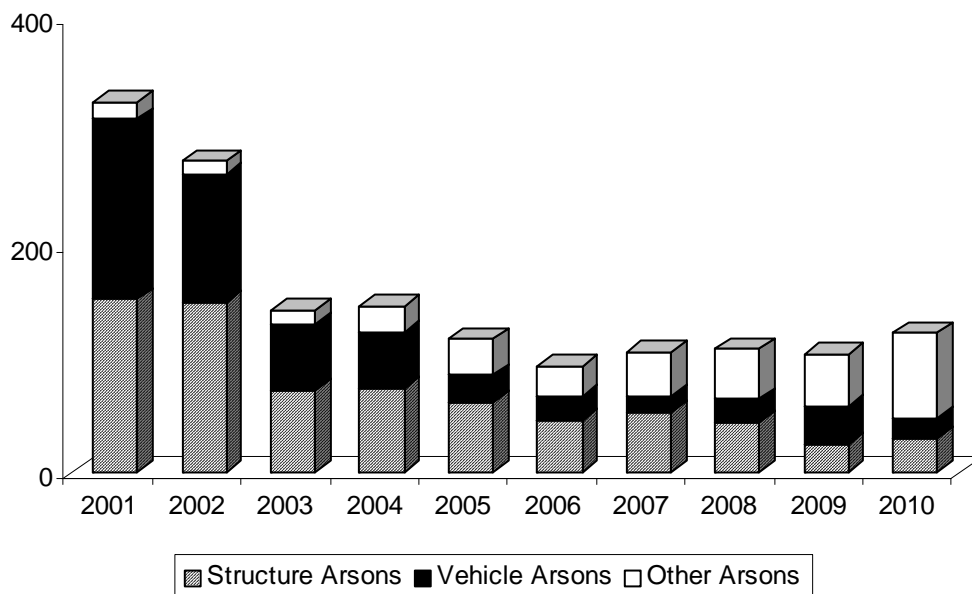
### Boston Fires by Incident Type



### 138 Arsons — 36 Structure Arsons, 13 Vehicle Arsons & 89 Other Arsons

One hundred and thirty-eight (138), or 2%, of the 5,539 Boston fires were considered intentionally set, or, for purposes of this analysis, arson. The 36 structure arsons, 13 motor vehicle arsons and 89 outside and other arsons caused an estimated dollar loss of \$5.2 million.

### Boston Arsons by Incident Type



## **STRUCTURE FIRES**

### **Reported Structure Fires Up**

The 4,249 structure fires caused two civilian deaths, five civilian injuries, nine fire service injuries and an estimated dollar loss of \$23.9 million. These incidents represented 77% of Boston's reported fires in 2011. The average estimated dollar loss per structure fire was \$5,630. The total number of reported structure fires increased by 62, or 1%, from the 4,187 reported in 2010.

### **Arson Caused 1% of Structure Fires**

The 36 structure arsons caused an estimated dollar loss of \$5.1 million. Arson was indicated as the cause of 1% of the structure fires and 21% of Boston's structure fire dollar loss. The 36 structure arsons accounted for 26% of the Boston arson fires reported in 2011. The total number of reported structure arsons increased by five, or 16%, from 31 in 2010.

### **Almost 2/3 of Structure Arsons Occurred in Residences**

Sixty-four percent (64%) of Boston's 36 structure arsons occurred in residential occupancies; 14% occurred in educational buildings; another 14% happened in mercantile facilities; and 3% each occurred in institutional facilities, public assembly properties and storage facilities.

## **BUILDING FIRES**

There were 4,235 building fires of different types in Boston in 2011. These 4,235 building fires accounted for 99.7% of all structure fires in Boston.

### **82% of Building Fires in Homes**

The 4,235 building fires that occurred in Boston in 2011 can be broken down by fixed property use as follows: 3,473, or 82%, of all the building fires reported in 2011, were in residential properties; 232 fires happened in institutional facilities; 180 fires took place in mercantile and office properties; 158 fires occurred in public assembly properties; 105 fires occurred in educational properties; 52 took place in special properties; 20 fires were in storage facilities; eight happened in industrial, utility, defense, agricultural or mining facilities; and one was reported in a manufacturing facility. Six (6) 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 2011, 3,473 or 82%, of Boston's 4,235 reported building fires occurred in residences. Fires in or on residential buildings caused both civilian fire deaths, four civilian injuries, nine fire service injuries and an estimated dollar loss of \$21.1 million. The total number of residential building fires increased by 10, or less than 1%, from the 3,463 reported in 2010.

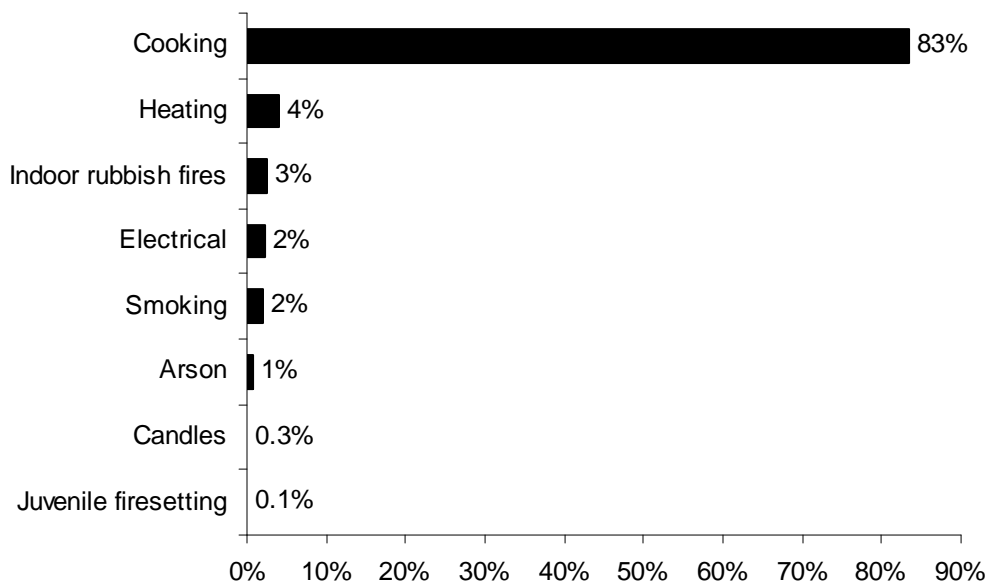
### Apartment Accounts for 2/3 of Residential Building Fires

The peak fixed property uses for residential building fires were apartments, accounting for 67% of the residential building fires in Boston. Eleven percent (11%) occurred in 1- or 2-family homes, 6% occurred in dormitories, 4% happened in rooming houses, 2% occurred in residential board and care facilities, 1% occurred in hotels or motels, and 10% happened in unclassified residential occupancies.

### Cooking Caused 83% of Boston's Residential Fires

Cooking was the leading cause of the 3,473 fires in Boston residential buildings, accounting for 83% of these fires. Heating equipment was the cause of 4% of these fires. Indoor rubbish fires were responsible for 3%; and electrical problems and smoking each caused 2% of these fires. Arson caused 1% of residential building fires in Boston. Candles and juvenile-set fires each accounted for less than 1% of the fires in Boston residences in 2011.

### Causes of Residential Structure Fires



### 89% of Residential Building Fires Are Confined to Non-Combustible Containers<sup>18</sup>

Three thousand and eighty-five (3,085), or 85% of all residential building fires, were reported as confined to non-combustible containers in 2011. Two thousand eight hundred and fifty-three (2,853) of the reported fires were cooking fires contained to a non-

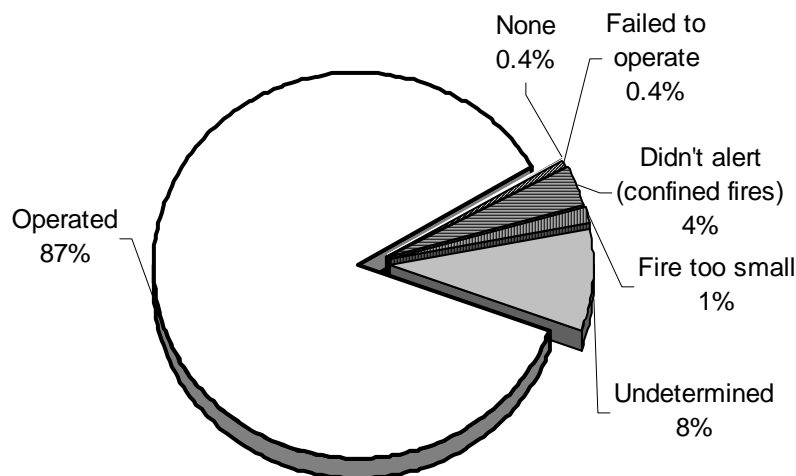
<sup>18</sup> In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

combustible container accounting for 82% of residential building fires. One hundred and four (104), or 3%, were fires confined to a fuel burner or boiler malfunction. Ninety-one (91), or 3%, of these fires were contained rubbish fires. Thirty-one (31), or 1% of all residential building fires reported in 2011, were fires confined to a chimney. Four (4) incinerator overloads or malfunctions caused less than 1% of residential building fires in Boston in 2011. Two (2), or less than 1%, were confined commercial compactor fires.

### **Detectors Alerted Occupants in 87% of Fires**

Smoke or heat detectors operated and alerted the occupants in 2,765, or 87%, of the residential building fires. In 4% of these fires<sup>19</sup>, the detectors did not alert the occupants. Detectors were present but did not operate in less than 1% of these incidents. In less than 1% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 1% of the residential fires. Smoke detector performance was undetermined in 295 incidents, or 8% of Boston's residential building fires.

### **Detector Status in Boston's Residential Structure Fires 2011**



### **1/3 of Failed Detectors Had Missing or Dead Batteries**

Of the 15 fires where smoke detectors were present but failed to operate, three, or 20%, failed because of missing or disconnected batteries; and two, or 13%, did not operate because of dead batteries. One (1), or 7% failed from a lack of maintenance; and another

<sup>19</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

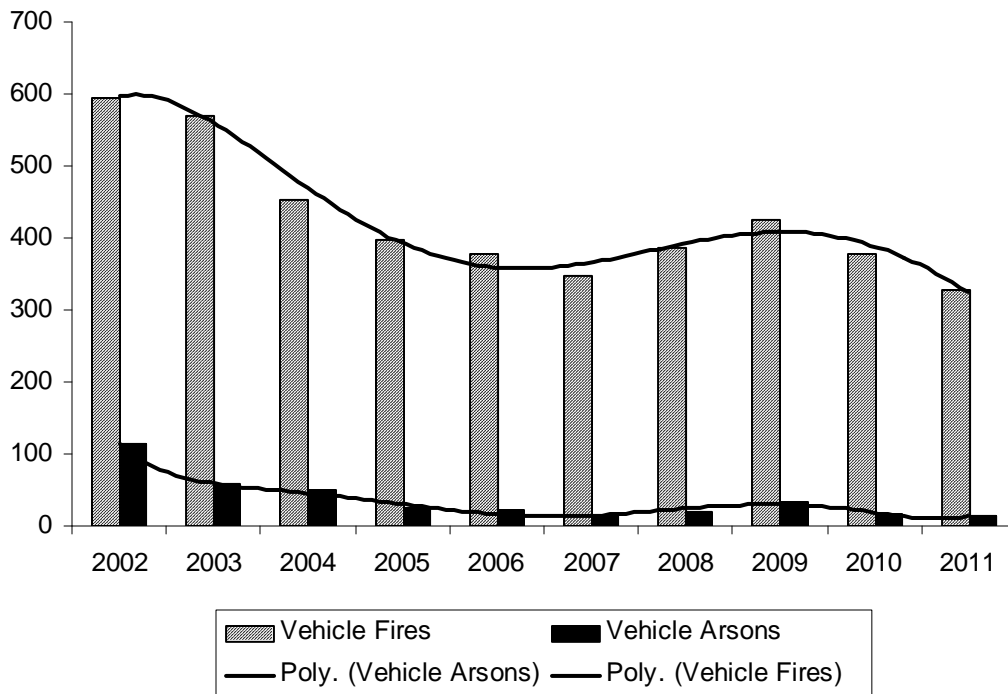
one, or 7%, failed because of power failure, shut-off or disconnect. For eight cases, or 53%, the reason the detector failed was not determined or classified.

## MOTOR VEHICLE FIRES

### Motor Vehicle Fires Decrease

The 327 motor vehicle fires caused an estimated dollar loss of \$1.9 million. Motor vehicle fires comprised 6% of Boston's reported fires in 2011. The total number of motor vehicle fires decreased by 51 from the 378 reported in 2010. This is a continuation of the trend interrupted in 2009 of decreasing motor vehicle fires. Since 2002, motor vehicle fires have decreased by 45% and motor vehicle arsons have decreased by 88%.

### Motor Vehicle Fires & Arsons in Boston 2002 - 2011



### 4% of Motor Vehicle Fires Considered Arson

Thirteen (13), or 4%, of Boston's 327 motor vehicle fires were considered intentionally set, or for purposes of this report, arson. These 13 motor vehicle arsons caused an estimated dollar loss of \$79,500. The total number of reported motor vehicle arsons decreased by four, or 24% from the 17 reported in 2010.

### 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 327 in 2011, a 90% decrease. The drop in vehicle arson was even more dramatic. Vehicle arson fell 3,048 from the 1986 high of 3,061 incidents to 13 in 2011 for a 99% decline.

### **Motor Vehicle Arsons Less Than Structure Arsons – Continues Downward Trend**

There were less motor vehicle arsons than structure arsons in Boston in 2011. Motor vehicle arson represents 9% of the total arson problem while structure arson accounts for 26% of all 2011 arsons in Boston.

## **OUTSIDE AND OTHER FIRES**

### **Outside Rubbish Fires Account for 9% of Boston’s Fires**

The 510 outside rubbish fires, 263 grass, tree or brush fires, 92 special outside fires, three cultivated vegetation or crop fires, and 95 unclassified fires are grouped together as ‘outside or other fires.’ These 963 outside and other fires caused an estimated dollar loss of \$2.1 million. Outside and other fires comprised 17% of the 5,539 Boston fires reported in 2011. Nine percent (9%) were outside rubbish or dumpster fires. The total number of outside and other fires decreased by 284, or 23%, from the 1,247 reported in 2010. The drop was mainly due to the 53% decrease in brush fires between 2010 and 2011. This drop in outside fires was a statewide trend.

### **89 Outside and Other Fires Considered Arson**

The 89 identified outside and other arsons caused an estimated dollar loss of 2,005. Thirty-eight (38) were grass, tree or brush fires. Twenty-seven (27) were special outside fires; two were cultivated vegetation or crop fires, and 22 were unclassified fires. Outside and other arsons accounted for 9% of Boston’s outside and other fires, and 64% of Boston’s total arson fires.

## **FATAL FIRES**

### **2 Boston Fires Killed 2 Civilians in 2011**

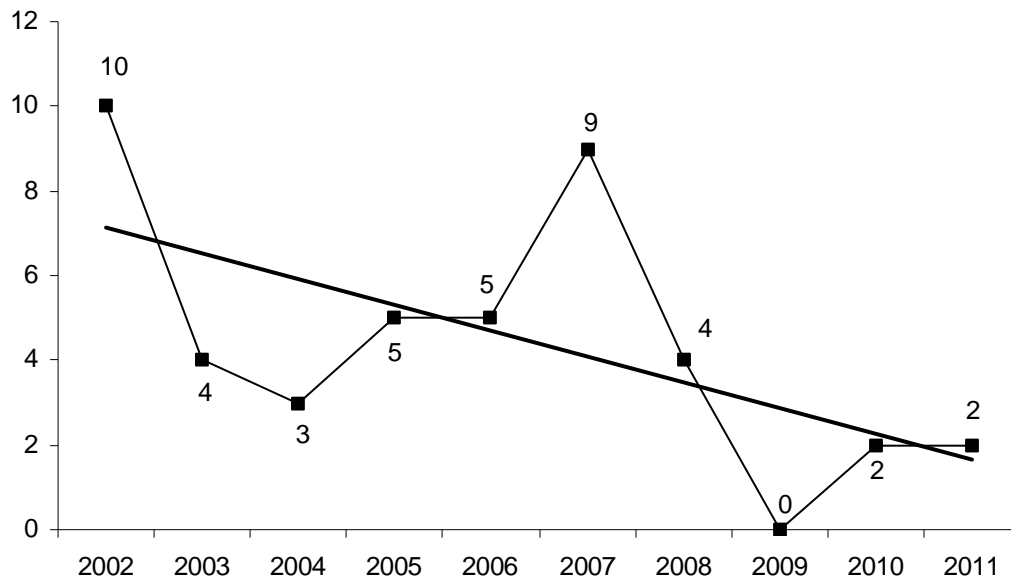
There were two fatal fires in Boston that killed two civilians.

- On January 4, 2011, at 12:08 p.m., the Boston Fire Department was called to a fatal cooking fire in a 40-unit apartment building. The victim, a 51-year old woman, was cooking at the stove when her clothes ignited. She was transported to a local hospital where she succumbed to her injuries in March. Detectors were present and they

alerted the other occupants of the building. Sprinklers successfully suppressed the fire. Damages from this fire were estimated to be \$5,000.

- On June 16, 2011, at 5:46 a.m., the Boston Fire Department was called to a fatal fire in a 100-unit apartment building of undetermined cause. The victim, a 64-year old woman, was overcome by the heat and smoke. She was in the area of origin when the fire began. No one else was injured at this fire. Detectors were present and operated. Sprinklers extinguished the fire. Damages from the blaze were estimated to be \$100,000.

### Fire Deaths in Boston 2002 - 2011



### JUVENILE-SET FIRES

#### 19 Juvenile-set Fires

There were 19 reported juvenile-set fires in Boston in 2011. The 11 structure fires, three brush fires, one special outside fire, and four unclassified fires caused four civilian injuries and \$89,901 in estimated damages.

### ALL CALLS

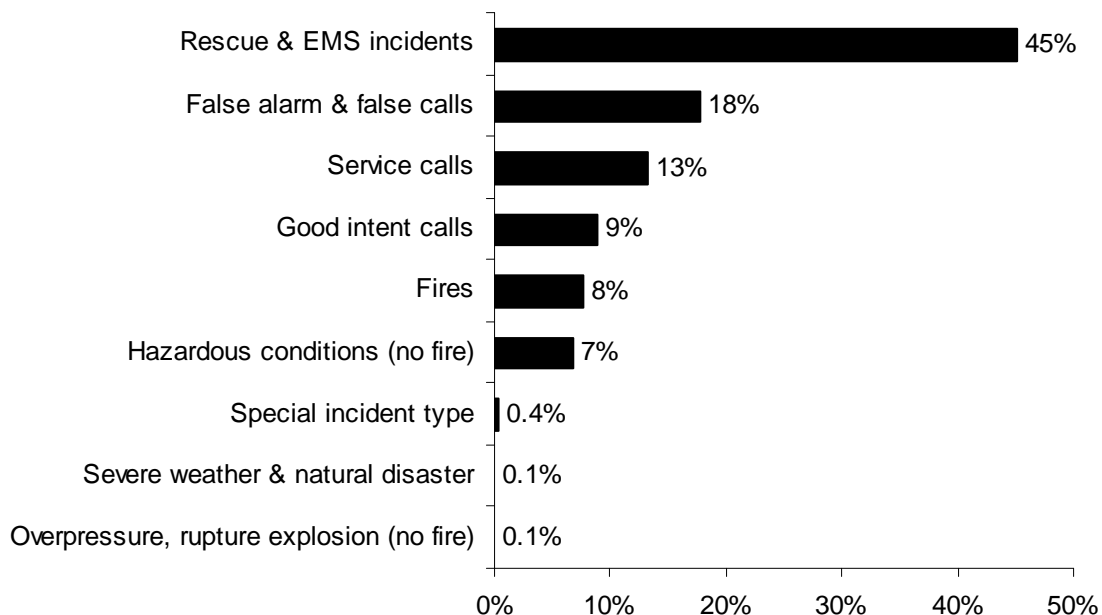
#### Rescue & EMS Calls Were 45% of All Reported Responses

In 2011, the Boston Fire Department reported 71,808 total responses to MFIRS. Of these 71,808 responses, 66,269 non-fire calls were voluntarily reported.

Of these 66,269 non-fire calls, 32,385, or 45% of all the responses reported in 2011, were reported rescue and emergency medical services (EMS) calls<sup>20</sup>; 12,778, or 18%, were reported false alarm or false calls; 9,458, or 13%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 6,375, or 9%, were reported good intent calls; 4,905, or 7%, were reported hazardous condition calls with no fire; 266, or 0.4%, were special incident type calls such as citizen complaints; 61, or 0.1%, were severe weather calls; and 41, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire.

Five thousand five hundred and thirty-nine (5,539), or 8%, of the total responses submitted by the Boston Fire Department were fires<sup>21</sup>.

### 2011 Boston Calls by Incident Type



## CONCLUSIONS

- **2 Civilians Died in Boston in 2011**

Two (2) civilians died in two Boston fires in 2011.

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

There were no fire-related line of duty deaths in Boston in 2011.

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

<sup>20</sup> The Boston Fire Department does not run any ambulances. Instead they dispatch their companies as first responders to all EMS calls.

<sup>21</sup> This includes the fires that Boston responded to outside of their jurisdiction as mutual aid given.

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

- **MV Arsons Continue to Decline**

Motor vehicle arsons declined by 24% from 17 reported in 2010 to 13 in 2011. Motor vehicle arson represents 9% of the total arson problem while structure arson accounted for 26% of the 2011 arsons in Boston.

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

Cooking was the leading cause of the 3,407 fires in Boston's residential buildings, accounting for 83%.

- **Smoke Detectors Operated in 86% of Residential Fires**

Smoke or heat detectors operated in 86% 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 less than 1% of these fires detectors were not present.

- **Apartments Accounted for 2/3 of Residential Building Fires**

The peak fixed property uses for building fires were apartments, accounting for 67% of the building fires in Boston; 11% occurred in 1- or 2-family homes; 6% occurred in dormitories, 4% 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 5,539 \$27,865,765**

9.0 Fires/1,000 Population

| <b>Situation Found</b> | <b>Fires</b> | <b>% of Fires</b> | <b>Dollar Loss</b> |
|------------------------|--------------|-------------------|--------------------|
| Structure Fires        | 4,249        | 77%               | \$23,920,740       |
| Vehicle Fires          | 327          | 6%                | 1,879,081          |
| Other Fires            | 963          | 17%               | 2,065,944          |

2 Fatal Fires 0.36 Civilian Deaths/1,000 Fires

2 Civilian Deaths 0.03 Civilian Deaths/10,000 population

5 Civilian Injuries 9 Fire Service Injuries

6.88 Structure fires/1,000 population

0.53 Vehicle fires /1,000 population

1.56 Other fires/1,000 population

**Building Fires: 4,235****Residential Building Fires: 3,473****Residential Building Fires Confined to Non-Combustible Containers: 3,085****Unconfined Residential Building Fires: 388**

2 Civilian Deaths 4 Civilian Injuries 9 Fire Service Injuries

| <b>Occupancy</b>         | <b>Fires</b> | <b>%</b> | <b>Detector Status</b>  | <b>Fires</b> | <b>%</b> |
|--------------------------|--------------|----------|-------------------------|--------------|----------|
| Apartments               | 2,328        | 67%      | Operated                | 2,977        | 87%      |
| 1- & 2-Family homes      | 382          | 11%      | Didn't operate          | 15           | 0.4%     |
| Dormitories              | 198          | 6%       | None                    | 14           | 0.4%     |
| Rooming houses           | 127          | 4%       | Fire too small          | 48           | 1%       |
| Residential board & care | 61           | 2%       | Didn't alert (confined) | 124          | 4%       |
| Hotel/motel              | 36           | 1%       | Undetermined            | 295          | 8%       |

| <b>Area of Origin<sup>22</sup></b> | <b>%</b> | <b>Heat Source</b>           | <b>%</b> | <b>%Unconfined<sup>23</sup></b> |
|------------------------------------|----------|------------------------------|----------|---------------------------------|
| Kitchen                            | 86%      | Radiated heat from oper. eq. | 2%       | 15%                             |
| Heating room or area               | 3%       | Arcing                       | 2%       | 14%                             |
| Bedroom                            | 1%       | Heat from operating eq.      | 2%       | 13%                             |
| Exterior balcony/unencl. porch     | 1%       | Hot or smoldering object     | 1%       | 10%                             |

<sup>22</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>23</sup> 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.

| <b>Item First Ignited<sup>24</sup></b> | <b>%</b> | <b>Factor Contrib. to Ignit.</b> | <b>%</b> | <b>%Unconfined<sup>25</sup></b> |
|--|----------|----------------------------------|----------|---------------------------------|
| Food, cooking materials                | 83%      | Abandoned materials              | 2%       | 16%                             |
| Rubbish, trash, waste products         | 3%       | Too close to combustibles        | 1%       | 10%                             |
| Flammable, combustible liquid          | 3%       | Unspecified short-circuit arc    | 1%       | 10%                             |
| Structural member, framing             | 1%       | Equipment unattended             | 1%       | 8%                              |
| Film, residue (creosote)               | 1%       | Electrical failure, malfunc.     | 1%       | 7%                              |
|  |          | Misuse of material or prod.      | 1%       | 7%                              |

| <b>Equipment<sup>26</sup></b>     | <b>%</b> | <b>Cause of Ignition</b>      | <b>%</b> | <b>%Unconfined<sup>27</sup></b> |
|-----------------------------------|----------|-------------------------------|----------|---------------------------------|
| Cooking equipment                 | 82%      | Unintentional                 | 7%       | 64%                             |
| None                              | 11%      | Failure of eq. or heat source | 2%       | 15%                             |
| Boiler, furnace, cent. heat. unit | 3%       | Intentional                   | 1%       | 6%                              |
| Chimney, flue                     | 1%       | Undetermined                  | 1%       | 5%                              |
|                                   |          | Cause under investigation     | 1%       | 7%                              |
|                                   |          | Act of nature                 | 0.1%     | 1%                              |

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

|                        |     |
|------------------------|-----|
| Alerted occupants      | 90% |
| Didn't alert occupants | 4%  |
| Undetermined           | 6%  |

**Mutual Aid Given**

**# of Incidents**

<sup>24</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>25</sup> 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.

<sup>26</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>27</sup> 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.

| <b>Month</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|--------------|------------------------|----------------------------|--------------------------|------------------------|
| January      | 502                    | 432                        | 32                       | 38                     |
| February     | 456                    | 392                        | 23                       | 41                     |
| March        | 463                    | 366                        | 17                       | 80                     |
| April        | 425                    | 320                        | 17                       | 88                     |
| May          | 443                    | 315                        | 29                       | 99                     |
| June         | 441                    | 309                        | 33                       | 99                     |
| July         | 479                    | 302                        | 21                       | 156                    |
| August       | 370                    | 268                        | 31                       | 71                     |
| September    | 483                    | 356                        | 39                       | 88                     |
| October      | 450                    | 362                        | 30                       | 58                     |
| November     | 491                    | 389                        | 30                       | 72                     |
| December     | 536                    | 438                        | 25                       | 73                     |

| <b>Day</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|------------|------------------------|----------------------------|--------------------------|------------------------|
| Sunday     | 899                    | 690                        | 43                       | 166                    |
| Monday     | 749                    | 566                        | 41                       | 142                    |
| Tuesday    | 754                    | 574                        | 44                       | 136                    |
| Wednesday  | 697                    | 542                        | 52                       | 103                    |
| Thursday   | 734                    | 579                        | 47                       | 108                    |
| Friday     | 753                    | 557                        | 59                       | 137                    |
| Saturday   | 953                    | 741                        | 41                       | 171                    |

| <b>Time</b>   | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|---------------|------------------------|----------------------------|--------------------------|------------------------|
| 00:01 - 04:00 | 491                    | 323                        | 37                       | 131                    |
| 04:01 - 08:00 | 380                    | 278                        | 44                       | 58                     |
| 08:01 - 12:00 | 911                    | 754                        | 52                       | 105                    |
| 12:01 - 16:00 | 1,231                  | 958                        | 68                       | 205                    |
| 16:01 - 20:00 | 1,467                  | 1,155                      | 68                       | 244                    |
| 20:01 - 00:00 | 1,059                  | 781                        | 58                       | 220                    |

### **Motor Vehicle Fires**

Total: 327

Automobiles: 290 (89%)

13 (4%) of the automobile fires considered intentionally set.

**Arson Fires****Total Arsons: 138****\$5,117,750**

|                  | <b>Arsons</b> | <b>% of Situation</b> | <b>% of Arson</b> | <b>Dollar Loss</b> |
|------------------|---------------|-----------------------|-------------------|--------------------|
| Structure Arsons | 36            | 1%                    | 26%               | \$5,117,750        |
| Vehicle Arsons   | 13            | 4%                    | 9%                | 79,500             |
| Other Arsons     | 89            | 9%                    | 64%               | 2,005              |

No Injuries

0.22 Arson fires/1,000 population

0.06 Structure arsons/1,000 population

0.02 Vehicle arsons /1,000 population

0.14 Other arsons/1,000 population

**Peak Times of Day for Arson Fires**

| <b>Structure Arsons</b> | <b>#</b> | <b>%</b> | <b>Vehicle Arsons</b> | <b>#</b> | <b>%</b> |
|-------------------------|----------|----------|-----------------------|----------|----------|
| 20:01 - 00:00           | 8        | 22%      | 20:01 - 00:00         | 5        | 38%      |
| 00:01 - 04:00           | 7        | 19%      | 08:01 - 12:00         | 4        | 31%      |
| 12:01 - 16:00           | 6        | 17%      |                       |          |          |
| <b>Other Arsons</b>     | <b>#</b> | <b>%</b> |                       |          |          |
| 20:01 - 00:00           | 29       | 33%      |                       |          |          |
| 16:01 - 20:00           | 23       | 26%      |                       |          |          |
| 12:01 - 16:00           | 15       | 17%      |                       |          |          |

**Peak Fixed Property Uses for Structure Arsons**

| <b>Occupancy</b>               | <b>#</b> | <b>%</b> |
|--------------------------------|----------|----------|
| Apartments                     | 14       | 39%      |
| 1- & 2-Family homes            | 8        | 22%      |
| High/junior high/middle school | 3        | 8%       |



# Chelsea Fires in 2011

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## **326 Fires — 243 Structure Fires, 23 Vehicle Fires and 60 Other Fires**

The City of Chelsea reported 326 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 243 structure fires, 23 motor vehicle fires, 32 grass, tree or brush fires, 15 outside rubbish fires, four special outside fires, and nine unclassified fires caused four civilian injuries, 32 fire service injuries and an estimated dollar loss of \$2.9 million. There were 9.3 fires for every 1,000 citizens in 2011.

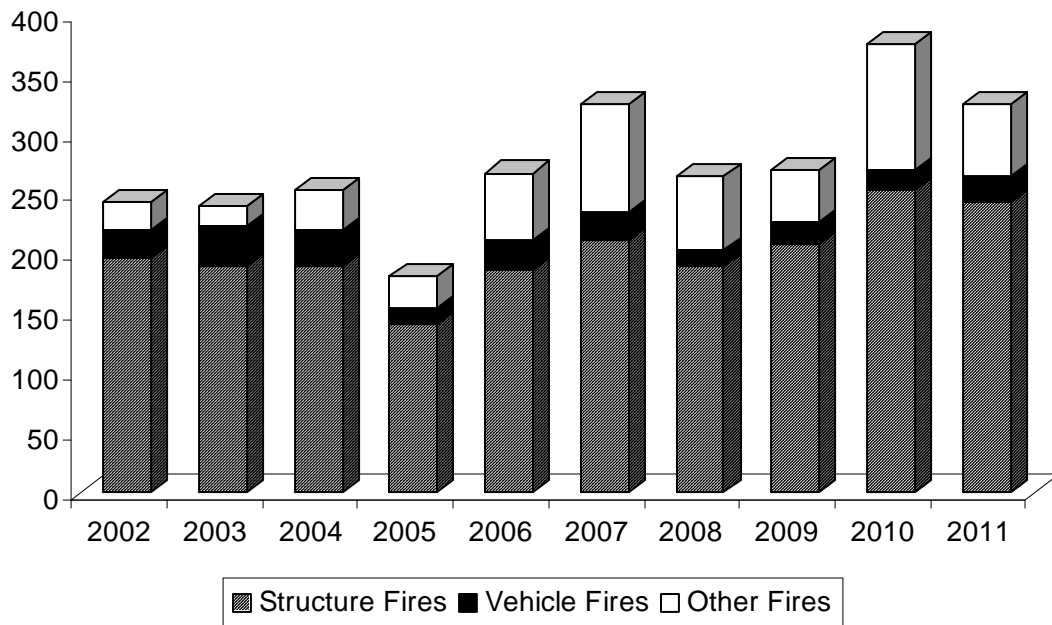
## **Structure & Outside Fires Dow**

Total fires decreased by 50, or 39%, from the 376 fires reported in 2010. Structure fires decreased by 11 from the 254 reported in 2010. Motor vehicle fires increased by six, from 17 the previous year. Outside and other fires decreased by 45 from the 105 reported in 2010.

## **CHELSEA FIRES FROM 2002 TO 2011**

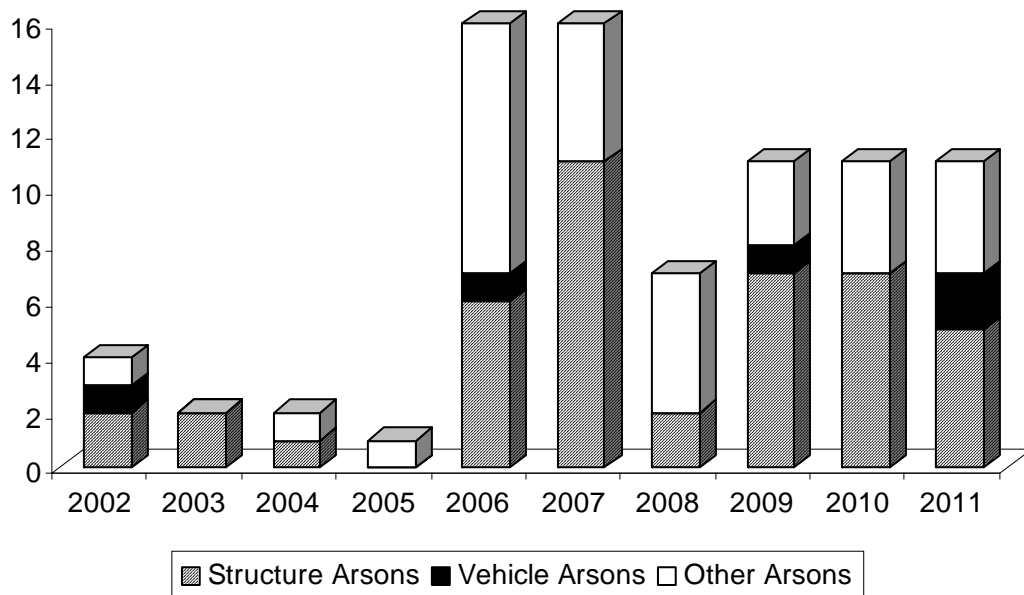
| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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        | 376                    | 254                        | 17                       | 105                    | 15                      | 7                           | 0                         | 4                       |
| 2011        | 326                    | 243                        | 23                       | 60                     | 11                      | 5                           | 2                         | 4                       |

### Chelsea Fires by Incident Type



**11 Arsons — 5 Structure Arsons, 2 Vehicle Arsons & 4 Outside & Other Arsons**  
 Eleven (11), or 3%, of the 326 Chelsea fires were considered intentionally set, or, for purposes of this analysis, arson. The five structure arsons two motor vehicle arsons and four outside and other arsons caused one fire service injury, and an estimated dollar loss of \$17,700.

### Chelsea Arsons by Incident Type



**All Arsons Remain the Same**

The total number of arson fires remained the same for the second year in a row. Structure arsons decreased by two from the seven reported in 2010. Motor vehicle arsons increased by two from none reported 2010. Outside and other arsons remained the same with four reported in both 2010 and 2011.

**STRUCTURE FIRES****Structure Fires Fall Slightly**

The 243 structure fires caused four civilian injuries, 32 fire service injuries and an estimated dollar loss of \$2.9 million. These fires represented 75% of Chelsea's reported fires in 2011. The total number of structure fires decreased by 11, or 4%, from the 254 structure fires reported in 2010.

**Arson Caused 2% of Structure Fires**

The five structure arsons caused one fire service injury, and an estimated dollar loss of \$5,000. Arson was indicated as the cause of 2% of the structure fires and accounted for 0.2% of Chelsea's structure fire dollar loss. The five structure arsons represented 45% of Chelsea's arson fires reported in 2011. The total number of reported structure arsons decreased by two from seven reported in 2010.

**BUILDING FIRES**

There were 236 building fires of different types in Chelsea in 2011. These 236 building fires accounted for 97.1% of all structure fires in Chelsea.

**82% of Building Fires in Homes**

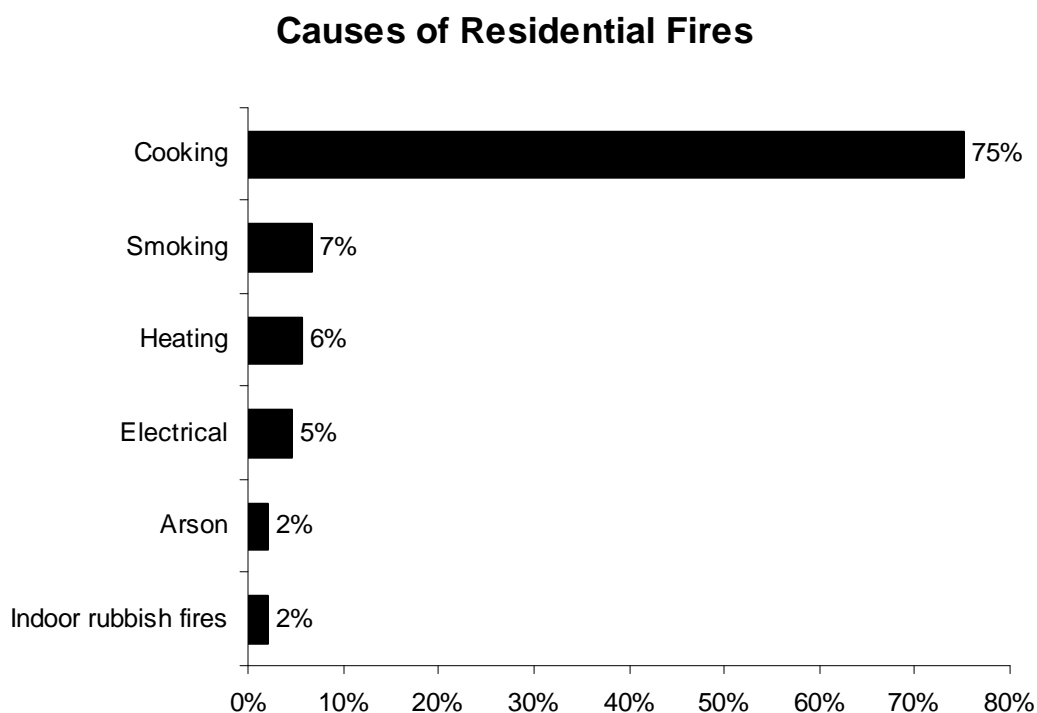
The 236 building fires that occurred in Chelsea in 2011 can be broken down by fixed property use as follows: 194 fires were in residential properties accounting for 82% of all building fires; 15 fires happened in mercantile or office properties; 10 fires occurred at institutional facilities; seven fires occurred at storage facilities; four fires occurred in public assembly properties; three fires happened at manufacturing facilities; two fires occurred in educational buildings; and one fire occurred at special property.

**RESIDENTIAL BUILDING FIRES****Residential Building Fires Decrease**

One hundred and ninety-four (194), or 82%, of Chelsea's 236 building fires occurred in residential occupancies. This is a decrease of 20 over the 214 reported residential fires in 2010. The peak fixed property uses for residential building fires were apartments, accounting for 77% of the residential building fires in Chelsea; 15% occurred in one- or two-family homes; 3% occurred in rooming houses; another 3% happened at residential board and care facilities; and 2% occurred in unclassified residential properties.

**Unsafe Cooking Practices Caused 3/4 of Residential Fires**

Cooking was the leading cause of fires in Chelsea's residential properties in 2011, accounting for 75% of these fires. Smoking were the second leading cause, accounting for 7% of the fires in people's homes in Chelsea in 2011. Heating equipment fires accounted for 6% and electrical problems caused 5% of these fires. Arson and indoor rubbish fires each caused 2% of residential building fires in Chelsea.



### **81% of Residential Building Fires Are Confined to Non-Combustible Containers<sup>2</sup>**

One hundred and fifty-eight (158), or 81%, of all residential building fires, were reported as confined to non-combustible containers in 2011. Nearly all of the confined fires were cooking fires contained to a non-combustible container like a pot or a pan, and accounted for 143, or 74%, of all residential building fires. Eleven (11), or 6%, were fires confined to a fuel burner or boiler malfunction. Four (4), or 2%, of these fires were contained rubbish fires.

### **Detectors Alerted Occupants in Only 35% of Fires**

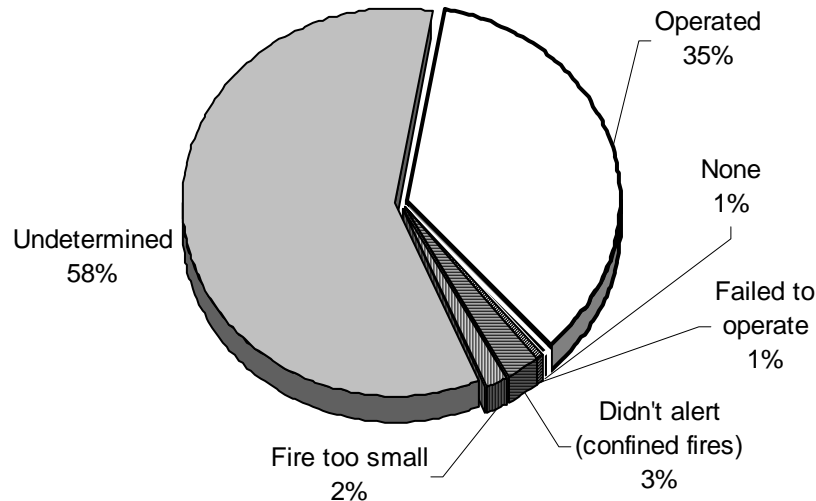
Smoke or heat detectors operated and alerted the occupants in 69, or 35%, of the residential building fires. In 3% of these fires<sup>28</sup>, the detectors did not alert the occupants. Detectors were present but did not operate in 1% of residential fires. In 1% of these fires,

<sup>2</sup> 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.

<sup>28</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

no detectors were present at all. The fire was too small to trigger the detector in 2% of these fires. Smoke detector performance was undetermined in 102 incidents, or 58% of Chelsea's residential building fires.

### Detector Status in Chelsea's Residential Structure Fires 2011



## MOTOR VEHICLE FIRES

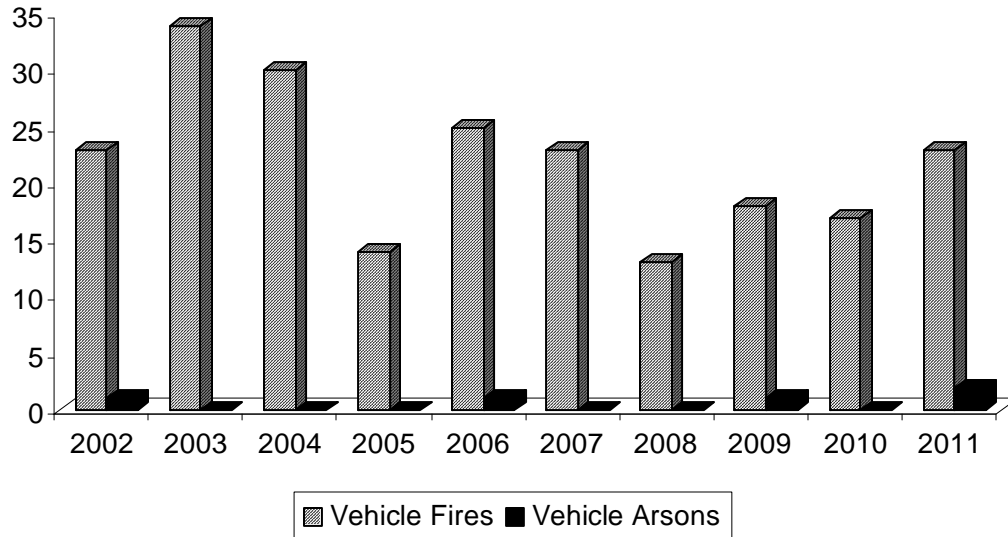
### Vehicle Fires Up

The 23 motor vehicle fires caused one civilian injury, one fire service injury and an estimated dollar loss of \$193,550. Motor vehicle fires comprised 7% of Chelsea's 326 reported fires in 2011. The total number of motor vehicle fires increased by six from the 17 reported in 2010.

### 2 Motor Vehicle Fires Considered Arson

Chelsea reported two motor vehicle arsons in 2011. These two arsons caused an estimated dollar loss of \$11,600. The two reported arsons are an increase of two over the zero motor vehicle arsons reported in 2010.

## Motor Vehicle Fires & Arsons in Chelsea 2002 - 2011



## OUTSIDE AND OTHER FIRES

### Reported Outside and Other Fires Down

The 60 outside and other fires caused one civilian injury, two fire service injuries and an estimated dollar loss of \$185,020. Outside and other fires comprised 18% of the 326 fires Chelsea reported in 2011. The 60 outside and other fires included 32 grass, tree or brush fires, 15 outside rubbish fires, four special outside fires, and nine unclassified fires. The total number of outside and other fires decreased by 45, from the 105 reported in 2010. This was a statewide trend.

### 4 Outside and Other Fires Considered Arson

There were four identified outside and other arsons. Two (2) were outside rubbish fires and two were unclassified fires. These four arsons caused an estimated dollar loss of \$1,100. Outside and other arsons accounted for 7% of Chelsea's outside and other fires, and 36% of Chelsea's total arson fires.

## FATAL FIRES

### 0 Chelsea Fatal Fires in 2011

There were no fatal fires in Chelsea in 2011.

## JUVENILE-SET FIRES

### 0 Juvenile-set Fires<sup>29</sup>

Chelsea did not report any juvenile-set fires in 2011.

## ALL CALLS

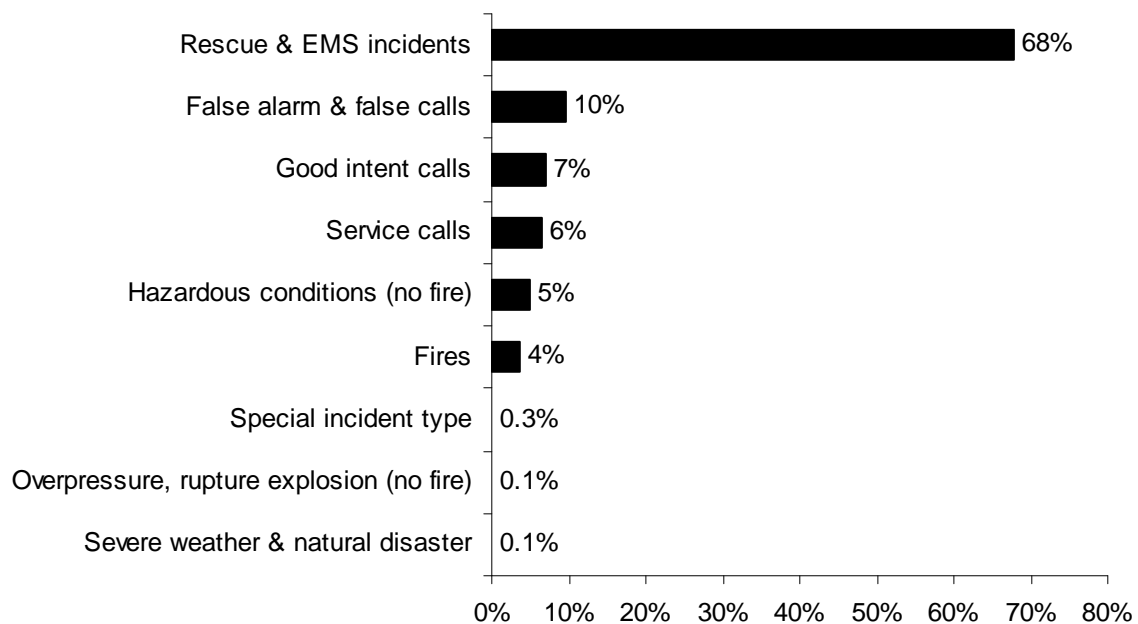
### Rescue & EMS Calls Are Over 2/3 of All Reported Responses

In 2011, the Chelsea Fire Department reported 8,663 total responses to MFIRS. Of these 8,663 responses, 8,337 non-fire calls were voluntarily reported.

Of these 8,337 non-fire calls, 5,863, or 68% of all the responses reported in 2011, were reported rescue and emergency medical services (EMS) calls; 841, or 10%, were reported false alarm or false calls; 602, or 7%, were reported good intent calls; 553, or 6%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 428, or 5%, were reported hazardous condition calls with no fire; 26, or 0.3%, were special incident type calls such as citizen complaints; 12, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire; and another 12, or 0.1%, were severe weather calls.

Three hundred and twenty-six (326), or 4%, of the total responses submitted by the Chelsea Fire Department were fires.

### 2011 Chelsea Calls by Incident Type



**Chelsea Reported Giving Mutual Aid 3 Times**

In 2011, the Chelsea Fire Department reported coming to the aid of other fire departments three times. Two (2), or 67%, were for service calls, most likely station coverages. A hazardous condition call with no ensuing fire was the incident type for a mutual aid given call by Chelsea in 2011 accounting for 33% of these calls.

**Chelsea Received Mutual Aid in 17 Incidents**

In 2011, the Chelsea Fire Department reported receiving aid from surrounding departments in 17 incidents. Of these 17 incidents, eight, or 47%, were for fires; four, or 24%, were false alarms or false calls; two, or 12%, were for hazardous condition call with no ensuing fire; another two, or 12%, were for rescue or EMS calls; and one, or 6%, was for a service call.

**CONCLUSIONS**

- **0 Civilian Fire Deaths in 2011**

In 2011 Chelsea did not have any fire deaths.

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

Three-fourths, or 75%, 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.

- **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 Decrease**

Reported structure fires decreased by 11, from 254 fires reported in 2010. Outside and other fires decreased by 45 from the 105 reported in 2010.

- **Confined Fires Account for 81% of All Residential Building Fires in Chelsea**

Residential building fires contained to non-combustible containers accounted for 158, or 81%, of the 194 residential building fires in Chelsea in 2011. Of these 158 fires, 143, or 74%, were confined cooking fires.

- **Undetermined if Smoke Detectors Operated in 58% of Residential Fires**

Smoke alarm performance was unreported in a significant number of fires. It was undetermined in 58% of Chelsea homes where fires occurred if they were protected by smoke detectors. Detectors sounded the alarm in only 35% 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.

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<sup>29</sup> Upon review of a draft of this report, Chelsea FD had determined that they did have 4 juvenile-set fires in 2010.



**Chelsea**                      **FDID: 25057**                      **Population: 35,177**

**Total Fires**                      **326**                      **\$2,916,040**

9.3 Fires/1,000 Population

| <b>Situation Found</b> | <b>Fires</b> | <b>% of Fires</b> | <b>Dollar Loss</b> |
|------------------------|--------------|-------------------|--------------------|
| Structure Fires        | 243          | 75%               | \$2,537,470        |
| Vehicle Fires          | 23           | 7%                | 193,550            |
| Other Fires            | 60           | 18%               | 185,020            |

No Fire Deaths

4 Civilian Injuries                      32 Fire Service Injuries

6.91 Structure fires/1,000 population

0.65 Vehicle fires /1,000 population

1.71 Other fires/1,000 population

**Building Fires: 236**

**Residential Building Fires: 194**

**Residential Building Fires Confined to Non-Combustible Containers: 158**

**Unconfined Residential Building Fires: 36**

2 Civilian Injuries                      28 Fire Service Injuries

| <b>Occupancy</b>         | <b>Fires</b> | <b>%</b> | <b>Detector Status</b>  | <b>Fires</b> | <b>%</b> |
|--------------------------|--------------|----------|-------------------------|--------------|----------|
| Apartments               | 150          | 77%      | Operated                | 69           | 35%      |
| 1- & 2-Family homes      | 30           | 15%      | Didn't operate          | 1            | 1%       |
| Rooming houses           | 6            | 3%       | None                    | 1            | 1%       |
| Residential board & care | 6            | 3%       | Fire too small          | 3            | 2%       |
|                          |              |          | Didn't alert (confined) | 5            | 1%       |
|                          |              |          | Undetermined            | 115          | 58%      |

| <b>Area of Origin<sup>30</sup></b> | <b>%</b> | <b>Heat Source</b>        | <b>%</b> | <b>%Unconfined<sup>31</sup></b> |
|------------------------------------|----------|---------------------------|----------|---------------------------------|
| Kitchen                            | 76%      | Heat from operating eq.   | 3%       | 17%                             |
| Heat equipment room                | 6%       | Arcing                    | 1%       | 3%                              |
| Ceiling & floor assembly           | 2%       | Lightning                 | 1%       | 3%                              |
| Living room                        | 2%       | Match                     | 1%       | 3%                              |
|                                    |          | Heat, spark from friction | 1%       | 3%                              |

<sup>30</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>31</sup> 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.

| <b>Item First Ignited<sup>32</sup></b> | <b>%</b> | <b>Factor Contrib. to Ignit.</b> | <b>%</b> | <b>%Unconfined<sup>33</sup></b> |
|--|----------|----------------------------------|----------|---------------------------------|
| Food, cooking materials                | 77%      | Misuse of mater. or product      | 2%       | 17%                             |
| Flammable or combustible. liq.         | 6%       | Electrical failure, malfunc.     | 1%       | 14%                             |
| Rubbish, trash, waste                  | 3%       | Backfire                         | 1%       | 6%                              |
| Electrical wire, cable insulation      | 2%       | Too close to combustibles        | 1%       | 3%                              |
|  |          | Failure to clean                 | 1%       | 3%                              |

| <b>Equipment<sup>34</sup></b>     | <b>%</b> | <b>Cause of Ignition</b>      | <b>%</b> | <b>%Unconfined<sup>35</sup></b> |
|-----------------------------------|----------|-------------------------------|----------|---------------------------------|
| Kitchen & cooking equipment       | 74%      | Unintentional                 | 10%      | 73%                             |
| None                              | 16%      | Fail of equip. or heat source | 1%       | 8%                              |
| Boiler, furnace, cent. heat. unit | 6%       | Intentional                   | 1%       | 4%                              |
| Electrical branch circuit         | 2%       | Undetermined                  | 2%       | 12%                             |
|                                   |          | Cause under investigation     | 0.5%     | 4%                              |

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

|                        |     |
|------------------------|-----|
| Alerted occupants      | 32% |
| Didn't alert occupants | 3%  |
| Undetermined           | 65% |

| <b>Mutual Aid Given</b> | <b># of Incidents</b> |
|-------------------------|-----------------------|
| Boston                  | 3                     |
| Revere                  | 2                     |
| Everett                 | 1                     |

<sup>32</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>33</sup> 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.

<sup>34</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>35</sup> 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.

| <b>Month</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|--------------|------------------------|----------------------------|--------------------------|------------------------|
| January      | 29                     | 26                         | 3                        | 0                      |
| February     | 14                     | 12                         | 0                        | 2                      |
| March        | 24                     | 20                         | 3                        | 1                      |
| April        | 23                     | 15                         | 4                        | 4                      |
| May          | 21                     | 15                         | 1                        | 5                      |
| June         | 54                     | 32                         | 7                        | 15                     |
| July         | 34                     | 19                         | 1                        | 14                     |
| August       | 27                     | 21                         | 2                        | 4                      |
| September    | 23                     | 15                         | 0                        | 8                      |
| October      | 25                     | 24                         | 0                        | 1                      |
| November     | 25                     | 24                         | 0                        | 1                      |
| December     | 27                     | 20                         | 2                        | 5                      |

| <b>Day</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|------------|------------------------|----------------------------|--------------------------|------------------------|
| Sunday     | 50                     | 37                         | 1                        | 12                     |
| Monday     | 50                     | 33                         | 5                        | 12                     |
| Tuesday    | 38                     | 31                         | 2                        | 5                      |
| Wednesday  | 43                     | 35                         | 5                        | 3                      |
| Thursday   | 50                     | 38                         | 2                        | 10                     |
| Friday     | 45                     | 32                         | 2                        | 11                     |
| Saturday   | 50                     | 37                         | 6                        | 7                      |

| <b>Time</b>   | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|---------------|------------------------|----------------------------|--------------------------|------------------------|
| 00:01 - 04:00 | 21                     | 13                         | 5                        | 3                      |
| 04:01 - 08:00 | 15                     | 10                         | 2                        | 3                      |
| 08:01 - 12:00 | 43                     | 33                         | 3                        | 7                      |
| 12:01 - 16:00 | 111                    | 75                         | 7                        | 29                     |
| 16:01 - 20:00 | 93                     | 78                         | 6                        | 9                      |
| 20:01 - 00:00 | 43                     | 34                         | 0                        | 9                      |

### **Motor Vehicle Fires**

Total: 23

Automobiles: 16 (70%)

1 (6%) of the automobile fires considered intentionally set.

## Arson Fires

**Total Arsons: 11**

**\$17,700**

| <b>Situation</b> | <b>Arsons</b> | <b>% of Situation</b> | <b>% of Arson</b> | <b>Dollar Loss</b> |
|------------------|---------------|-----------------------|-------------------|--------------------|
| Structure Arsons | 5             | 2%                    | 45%               | \$5,000            |
| Vehicle Arsons   | 2             | 9%                    | 18%               | 11,600             |
| Other Arsons     | 4             | 7%                    | 36%               | 1,100              |

1 Fire Service Injury

0.31 Arson fires/1,000 population

0.14 Structure arsons/1,000 population

0.06 Vehicle arsons /1,000 population

0.11 Other arsons/1,000 population

### Peak Times of Day for Arson Fires

| <b>Structure Arsons</b> | <b>#</b> | <b>%</b> | <b>Vehicle Arsons</b> | <b>#</b> | <b>%</b> |
|-------------------------|----------|----------|-----------------------|----------|----------|
| 12:01 - 16:00           | 2        | 40%      | 00:01 – 04:00         | 1        | 50%      |
|                         |          |          | 16:00 – 20:00         | 1        | 50%      |

| <b>Other Arsons</b> | <b>#</b> | <b>%</b> |
|---------------------|----------|----------|
| 16:01 - 20:00       | 2        | 50%      |
| 12:01 - 16:00       | 1        | 25%      |
| 20:01 - 00:00       | 1        | 25%      |

### Peak Fixed Property Uses for Structure Arsons

|                      |   |     |
|----------------------|---|-----|
| Apartments           | 3 | 60% |
| 1- or 2-Family homes | 1 | 20% |
| Warehouse            | 1 | 20% |

# Revere Fires in 2011

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## **445 Fires — 369 Structure Fires, 13 Vehicle Fires and 63 Other Fires**

The City of Revere reported 445 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 369 structure fires, 13 motor vehicle fires, 61 outside rubbish fires, one grass, tree or brush fire, and one unclassified fire, caused one civilian death and an estimated dollar loss of \$154,925. There were 8.6 fires for every 1,000 citizens in 2011.

## **Outside Fires Down**

The total number of reported fires decreased by 23 from the 468 reported in 2010. Structure fires increased by one from the 368 reported during the previous year. Motor vehicle fires increased by four from nine reported in 2010. Reported outside and other fires decreased by 28 from 91 the year before.

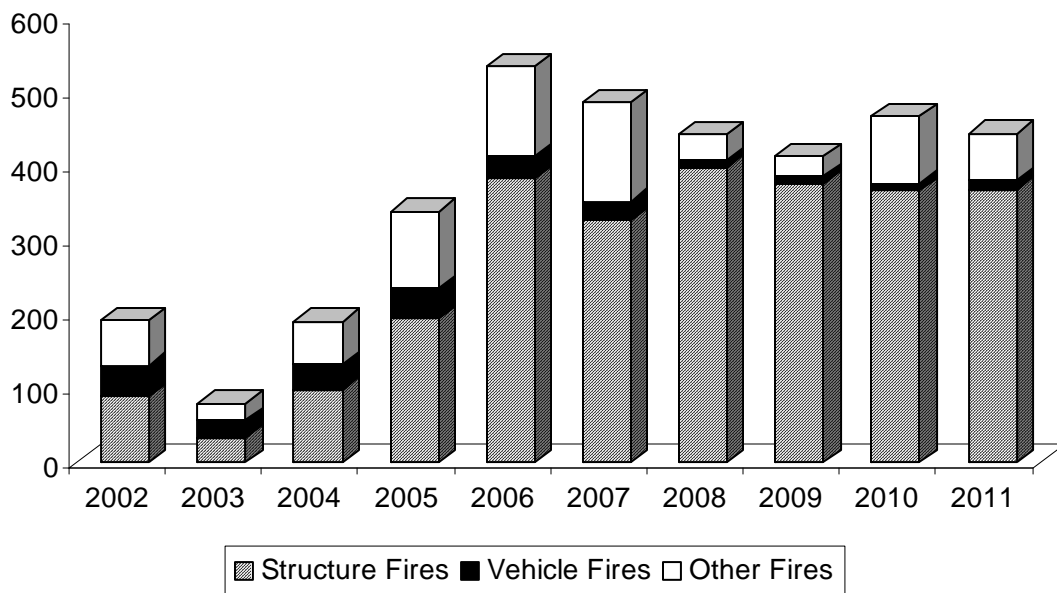
## **REVERE FIRES FROM 2002 TO 2011**

| <b>Year</b>        | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|--------------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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 <sup>36</sup> | 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                       |
| 2011               | 445                    | 369                        | 13                       | 63                     | 2                       | 1                           | 1                         | 0                       |

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<sup>36</sup> 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.

## Revere Fires by Incident Type



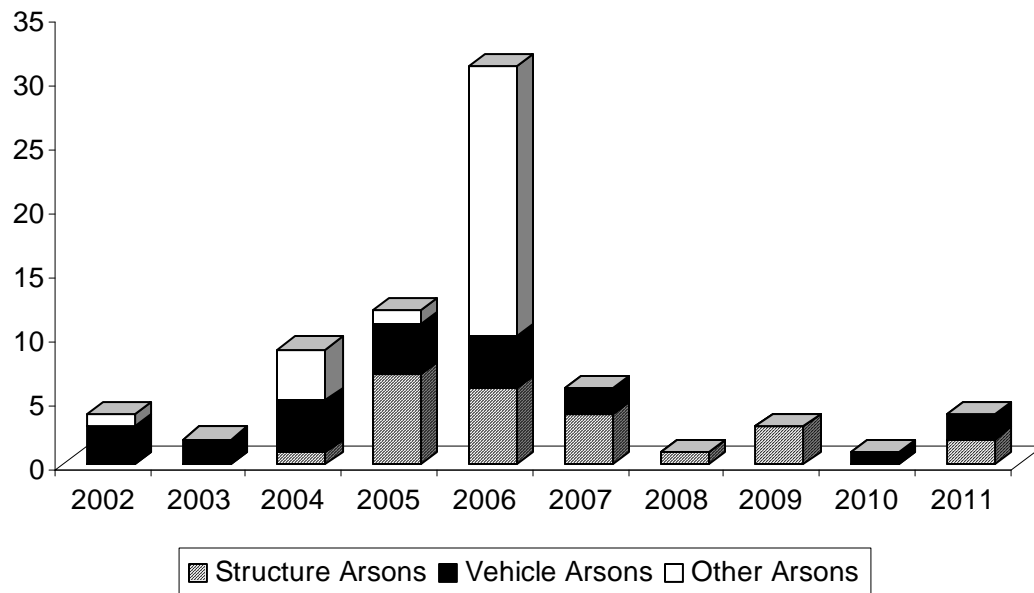
### 2 Arsons — 1 Structure Arson & 1 Motor Vehicle Arson

Two (2), or less than 1%, of Revere's 445 reported fires were considered intentionally set, or for purposes of this analysis, arson. The one structure arson was an increase of one over the none reported in 2010. The one motor vehicle arson was the same as the one reported the previous year.

### All Arson Up Slightly

The total number of reported arson fires increased by one from the one reported in 2010. The one structure arson was an increase of one from the previous year. Reported motor vehicle arsons remained the same with one reported in both 2010 and 2011. There were no reported outside and other arsons since 2007.

## Revere Arsons by Incident Type



## STRUCTURE FIRES

### Structure Fires Up by 1

The 369 structure fires caused an estimated dollar loss of \$136,950. These fires accounted for 83% of the fires Revere reported in 2011. Structure fires increased by one from the 368 reported during 2010.

### 1 Structure Arson in 2011

The one structure arson caused an estimated dollar loss of \$600. Arson was indicated as the cause of less than 1% of the structure fires and accounted for less than 1% of Revere's structure fire dollar loss. The one structure arson represented 50% of the Revere's arson fires reported in 2011. The total number of reported structure arsons increased by one from none in 2010.

## BUILDING FIRES

There were 369 building fires of different types in Revere in 2011. These 369 building fires accounted for all structure fires in Revere.

### 87% of Building Fires in Homes

The 369 building fires that occurred in Revere in 2011 can be broken down by fixed property use as follows: 321, or 87%, of all the building fires, were in residential properties; 16 fires took place in mercantile and office properties; 13 fires occurred in public assembly properties; 10 fires occurred in special properties; five fires happened in

institutional facilities; three fires occurred at educational facilities; and one fire took place at a storage facility.

## **RESIDENTIAL BUILDING FIRES**

### **87% of Building Fires Occurred in Residences**

Three hundred and twenty-one (321), or 87%, of the 369 building fires occurred in residences. The 321 residential building fires reported in 2011 caused an estimated dollar loss of \$50,450.

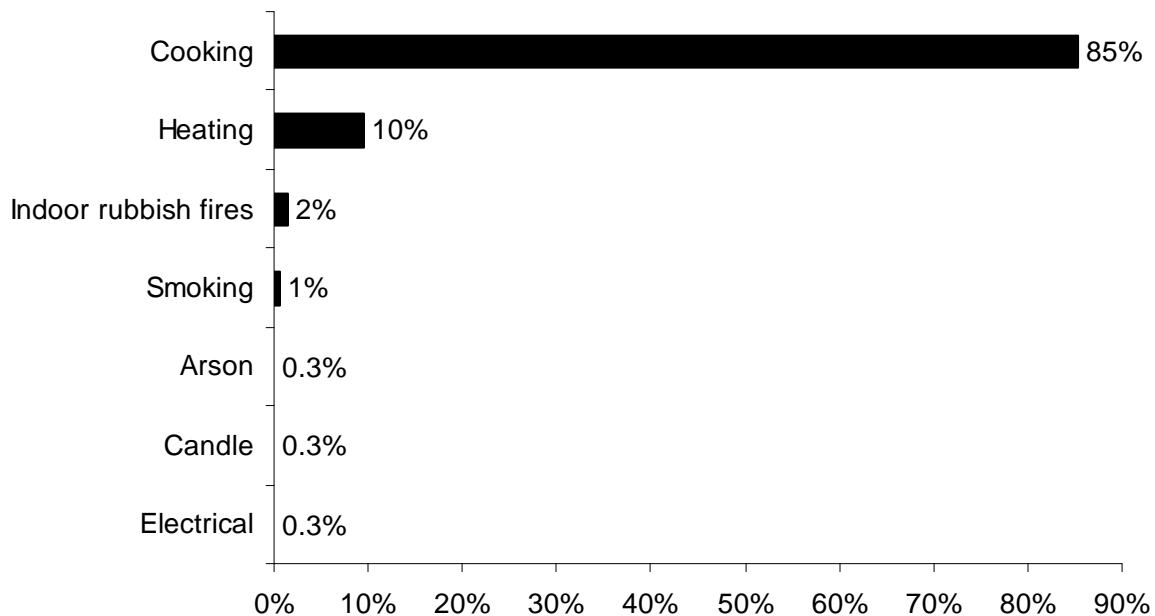
### **Apartments Accounted for 60% of Residential Building Fires**

The peak fixed property uses for residential building fires were apartments accounting for 60% of the residential building fires in Revere; 39% occurred in 1- or 2-family homes; 1% took place in hotels or motels; and less than 1% occurred in residential board and care facilities.

### **Unsafe Cooking Causes 85% of Residential Fires**

Cooking was the leading cause of fires in Revere's residential properties in 2011, accounting for 85% of these fires. Heating equipment caused 10% of residential building fires in 2011. Indoor rubbish fires were responsible for 2% of these fires. Smoking caused 1%. Arson, candles and electrical problems were each the cause of less than 1% of the residential building fires in Revere in 2011.

## **Causes of Residential Fires**





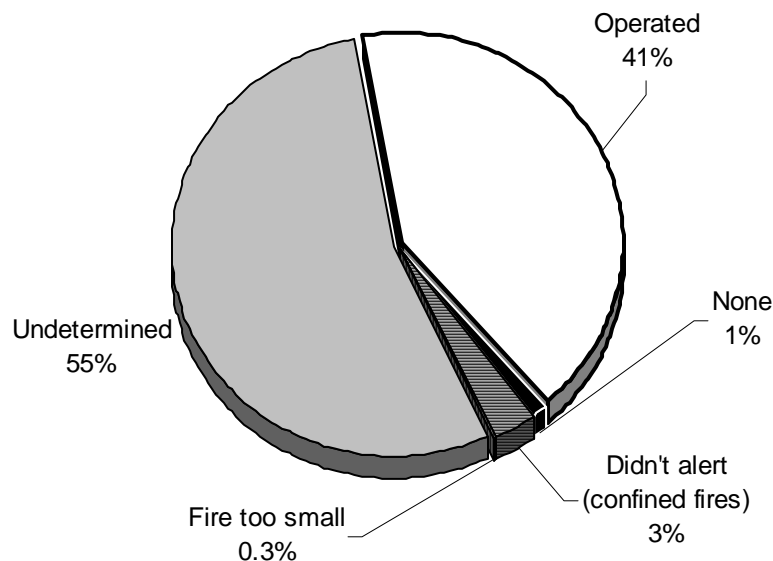
### 94% of Residential Building Fires Are Confined to Non-Combustible Containers<sup>2</sup>

Three hundred and three (303), or 94% of all residential building fires, were reported as confined to non-combustible containers in 2011. Two hundred and sixty-seven (267) of the confined fires were cooking fires contained to a non-combustible container and accounted for 83% of residential building fires. Twenty-nine (29), or 9%, of the confined fires were fires confined to a fuel burner or boiler malfunction. Five (5), or 2%, were confined indoor rubbish fires; and two, or 1%, were confined to a chimney or flue.

### Detectors Alerted Occupants in 41% of Fires

Smoke or heat detectors operated and alerted the occupants in 133, or 41%, of the residential building fires. In 3% of these fires<sup>37</sup>, the detectors did not alert the occupants. There were no reported incidents where detectors were present but did not operate. In 1% of these fires, no detectors were present at all. The fire was too small to trigger a detector in less than 1% of these fires. Smoke detector performance was undetermined in 174 incidents, or 55% of Revere's residential building fires.

### Detector Status in Revere's Residential Structure Fires 2011



<sup>2</sup> 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.

<sup>37</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

## MOTOR VEHICLE FIRES

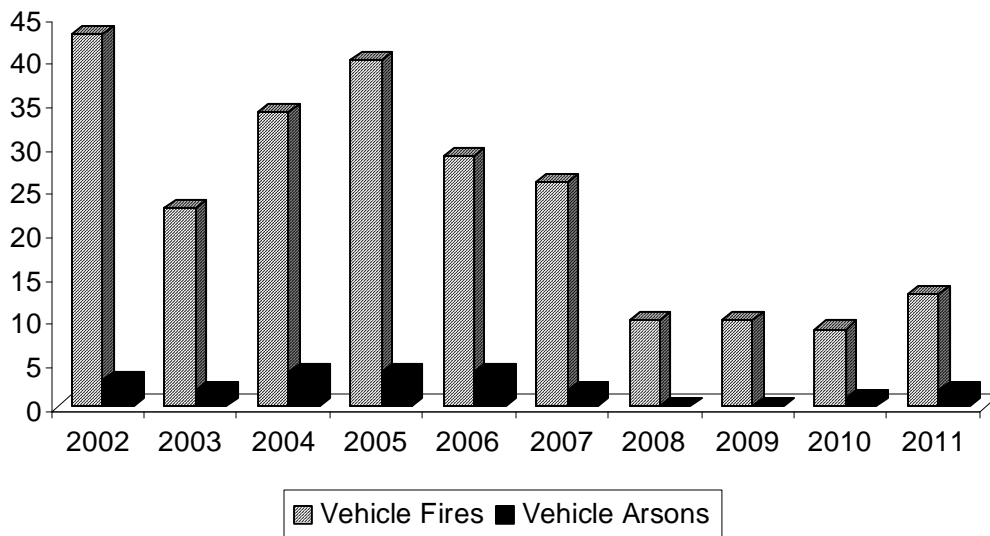
### Motor Vehicle Fires Up Slightly

There were 13 motor vehicle fires in Revere in 2011 that caused one civilian death and an estimated \$15,475 in damages. Motor vehicle fires comprised 3% of Revere's reported fires in 2011. The total number of motor vehicle fires increased by four from the nine reported in 2010.

### 1 Motor Vehicle Arson

There was one reported motor vehicle fire that was considered intentionally set. This was the same number of motor vehicle arsons as in 2010.

**Motor Vehicle Fires & Arsons in Revere  
2002 - 2011**



## OUTSIDE AND OTHER FIRES

### Outside and Other Fires Down

There were 63 outside and other fires reported to MFIRS in 2011. These 63 fires included 84 outside rubbish fires, three brush fires and four unclassified fires. Outside and other fires comprised 19% of the 445 Revere fires reported in 2011. These 63 incidents are a 31% decrease in the number of outside and other fires in Revere from the 91 reported in 2010. this decrease in outside fires was a statewide trend.

### No Outside and Other Arsons

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

## FATAL FIRES

### 1 Fire Death in 2011

There was one fatal fire in Revere in 2011. It was a motor vehicle crash with ensuing fire.

- On December 26, 2011, at 7:25 a.m., the Revere Fire Department was dispatched to a fatal motor vehicle crash with ensuing fire. The victim, the 50-year old male driver, was trapped in the vehicle as the car became fully involved. No one else was injured in this fire.

## JUVENILE-SET FIRES

### No Juvenile-set Fires

In 2011, Revere did not report any juvenile-set fires.

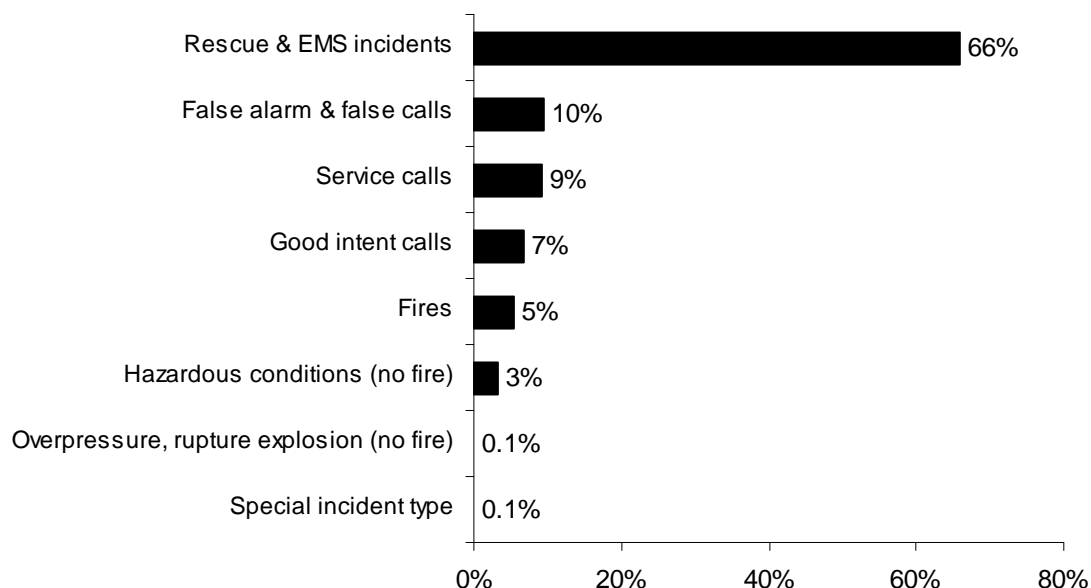
## ALL CALLS

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

In 2011, the Revere Fire Department reported 8,233 total responses to MFIRS. Of these 8,233 responses, 7,788 non-fire calls were voluntarily reported.

Of these 7,788 non-fire calls, 5,416, or 66% of all the responses reported in 2011, were reported rescue and emergency medical services (EMS) calls; 787, or 10%, were reported false alarm or false calls; 748, or 9%, were reported service calls such as lock-outs, water or smoke problems, unauthorized burning or public service assistance; 552, or 7%, were reported good intent calls; 267, or 3%, were reported hazardous condition calls with no

### 2011 Revere Calls by Incident Type



fire; nine, or 0.1%, were reported overpressure, rupture, explosion or overheat calls with no fire; eight, or 0.1%, were special incident type calls such as citizen complaints; and one, or 0.01%, was a reported severe weather call.

Four hundred and forty-five (445), or 5%, of the total responses submitted by the Revere Fire Department were fires.

### **Revere Reported Giving Mutual Aid 121 Times**

In 2011, the Revere Fire Department reported coming to the aid of other fire departments 121 times. Of these 121 responses, 114, or 94%, were for service calls such as cover assignments; two, or 2%, were for a good intent calls; another two, or 2%, were rescue or EMS incidents; and one each, or 1%, were for a special incident type, a false alarm, and a hazardous condition call with no fire.

### **Revere Received Mutual Aid in 3 Incidents**

In 2011, 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 rescue or EMS call.

## **CONCLUSIONS**

- **Outside & Other Fires Were Down**

Outside and other fires decreased 28, or 31%, from the 91 reported in 2010. Structure fires increased by one and motor vehicle fires increased by four in 2011.

- **Cooking Caused 85% 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 seventy-four (274), or 85%, of Revere's residential building fires were attributed to cooking. Two hundred and sixty-seven (267) 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 10% of the residential fires. This is the eighth year in a row that heating equipment was the second leading cause of residential fires in Revere.

- **94% of Residential Building Fires Were Confined Fires**

The overwhelming majority of residential fires in 2011 were confined fires. Three hundred and three (303), or 94%, of the 321 residential building fires in Revere in 2011 were confined to their non-combustible containers.

- **Only 2 Arsons in Revere in 2011**

In 2011, Revere reported one structure arson, one motor vehicle arson and no outside and other arsons.

- **Smoke Detectors Operated in Just 41% Residential Fires**

Smoke or heat detectors operated in 121, or 41%, of the 321 residential fires.

Unfortunately in 174 incidents, or 54% 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** **445** **\$154,925**

8.6 Fires/1,000 Population

| <b>Situation Found</b> | <b>Fires</b> | <b>% of Fires</b> | <b>Dollar Loss</b> |
|------------------------|--------------|-------------------|--------------------|
| Structure Fires        | 369          | 83%               | \$136,950          |
| Vehicle Fires          | 13           | 3%                | 15,475             |
| Other Fires            | 63           | 14%               | 2,500              |

1 Fatal Fire 2.25 Civilian Deaths/1,000 Fires

1 Civilian Death 0.19 Civilian Deaths/10,000 population

7.13 Structure fires/1,000 population

0.25 Vehicle fires /1,000 population

1.22 Other fires/1,000 population

**Building Fires: 369**

**Residential Building Fires: 321**

**Residential Building Fires Confined to Non-Combustible Containers: 303**

**Unconfined Residential Building Fires: 18**

No Injuries

| <b>Occupancy</b>         | <b>Fires</b> | <b>%</b> | <b>Detector Status</b>  | <b>Fires</b> | <b>%</b> |
|--------------------------|--------------|----------|-------------------------|--------------|----------|
| Apartments               | 193          | 60%      | Operated                | 133          | 41%      |
| 1- & 2-Family homes      | 125          | 39%      | Didn't operate          | 0            | 0%       |
| Hotels/motels            | 2            | 1%       | None                    | 3            | 1%       |
| Residential board & care | 1            | 0.3%     | Fire too small          | 1            | 0.3%     |
|                          |              |          | Didn't alert (confined) | 10           | 3%       |
|                          |              |          | Undetermined            | 174          | 55%      |

| <b>Area of Origin<sup>38</sup></b> | <b>%</b> | <b>Heat Source</b>            | <b>%</b> | <b>%Unconfined<sup>39</sup></b> |
|------------------------------------|----------|-------------------------------|----------|---------------------------------|
| Kitchen                            | 86%      | Radiated heat from op. eq.    | 1%       | 1%                              |
| Heating room or area               | 9%       | Heat from oper. equip., other | 1%       | 1%                              |
| Bedroom                            | 1%       | Cigarettes                    | 1%       | 1%                              |
| Living room                        | 1%       | Spark, ember, flame op. eq.   | 1%       | 1%                              |
| Chimney or flue                    | 1%       |                               |          |                                 |

<sup>38</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>39</sup> 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.

| <b>Item First Ignited<sup>40</sup></b> | <b>%</b> | <b>Factor Contrib. to Ignit.</b> | <b>%</b> | <b>%Unconfined<sup>41</sup></b> |
|--|----------|----------------------------------|----------|---------------------------------|
| Food, cooking materials                | 85%      | Too close to combustibles        | 1%       | 11%                             |
| Flammable, combustible liquid          | 9%       | Abandoned materials              | 0.3%     | 6%                              |
| Rubbish, trash, waste                  | 2%       | Automatic control failure        | 0.3%     | 6%                              |
| Structural member, framing             | 1%       | Electrical failure, malfunc.     | 0.3%     | 6%                              |
| Film, residue (creosote)               | 1%       |                                  |          |                                 |

| <b>Equipment<sup>42</sup></b>     | <b>%</b> | <b>Cause of Ignition</b>   | <b>%</b> | <b>%Unconfined<sup>43</sup></b> |
|-----------------------------------|----------|----------------------------|----------|---------------------------------|
| Cooking equipment                 | 84%      | Unintentional              | 4%       | 78%                             |
| Boiler, furnace, cent. heat. unit | 9%       | Failure of eq./heat source | 1%       | 17%                             |
| None                              | 5%       | Intentional                | 0.3%     | 0%                              |
| Chimney or flue                   | 1%       | Undetermined               | 0%       | 0%                              |
|                                   |          | Cause under investigation  | 0%       | 0%                              |

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

|                        |     |
|------------------------|-----|
| Alerted occupants      | 40% |
| Didn't alert occupants | 3%  |
| Undetermined           | 57% |

| <b>Mutual Aid Given</b> | <b># of Incidents</b> |
|-------------------------|-----------------------|
| Chelsea                 | 67                    |
| Winthrop                | 6                     |
| Malden                  | 5                     |
| Everett                 | 3                     |
| Natick                  | 1                     |

<sup>40</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>41</sup> 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.

<sup>42</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>43</sup> 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.

| <b>Month</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|--------------|------------------------|----------------------------|--------------------------|------------------------|
| January      | 53                     | 53                         | 0                        | 0                      |
| February     | 32                     | 30                         | 1                        | 1                      |
| March        | 31                     | 25                         | 2                        | 4                      |
| April        | 22                     | 22                         | 0                        | 0                      |
| May          | 33                     | 23                         | 2                        | 8                      |
| June         | 34                     | 27                         | 0                        | 7                      |
| July         | 44                     | 23                         | 0                        | 21                     |
| August       | 35                     | 25                         | 1                        | 9                      |
| September    | 39                     | 26                         | 4                        | 9                      |
| October      | 37                     | 32                         | 2                        | 3                      |
| November     | 40                     | 40                         | 0                        | 0                      |
| December     | 45                     | 43                         | 1                        | 1                      |

| <b>Day</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|------------|------------------------|----------------------------|--------------------------|------------------------|
| Sunday     | 80                     | 68                         | 1                        | 11                     |
| Monday     | 53                     | 41                         | 3                        | 9                      |
| Tuesday    | 53                     | 44                         | 2                        | 7                      |
| Wednesday  | 66                     | 55                         | 1                        | 10                     |
| Thursday   | 54                     | 42                         | 1                        | 11                     |
| Friday     | 71                     | 60                         | 4                        | 7                      |
| Saturday   | 68                     | 59                         | 1                        | 8                      |

| <b>Time</b>   | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|---------------|------------------------|----------------------------|--------------------------|------------------------|
| 00:01 - 04:00 | 27                     | 19                         | 1                        | 7                      |
| 04:01 - 08:00 | 15                     | 10                         | 1                        | 4                      |
| 08:01 - 12:00 | 73                     | 64                         | 3                        | 6                      |
| 12:01 - 16:00 | 119                    | 94                         | 5                        | 20                     |
| 16:01 - 20:00 | 141                    | 124                        | 1                        | 16                     |
| 20:01 - 00:00 | 70                     | 58                         | 2                        | 10                     |

### **Motor Vehicle Fires**

Total: 13

Automobiles: 12 (92%)

1 (8%) of the automobile fires considered intentionally set.



## Arson Fires

**Total Arsons: 2**

**\$600**

| <b>Situation</b> | <b>Arsons</b> | <b>% of Situation</b> | <b>% of Arson</b> | <b>Dollar Loss</b> |
|------------------|---------------|-----------------------|-------------------|--------------------|
| Structure Arsons | 1             | 0.3%                  | 50%               | \$6000             |
| Vehicle Arsons   | 1             | 8%                    | 50%               | 0                  |
| Other Arsons     | 0             | 0%                    | 0%                | 0                  |

No Injuries

0.04 Arson fires/1,000 population

0.02 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

| <b>Structure Arsons</b> | <b>#</b> | <b>%</b> | <b>Vehicle Arsons</b> | <b>#</b> | <b>%</b> |
|-------------------------|----------|----------|-----------------------|----------|----------|
| 08:01 - 12:00           | 1        | 100%     | 20:01 - 00:00         | 1        | 100%     |

**Other Arsons**                      **#**                      **%**

| <b>Occupancy</b>         | <b>#</b> | <b>%</b> |
|--------------------------|----------|----------|
| Residential board & care | 1        | 100%     |

# Winthrop Fires in 2011

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## **61 Fires — 37 Structure Fires, 1 Vehicle Fire & 23 Other Fires**

The Town of Winthrop reported 61 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2011. The 37 structure fires, one motor vehicle fire, nine outside rubbish fires, two special outside fires, one brush and grass fire, and 11 unclassified fires caused one civilian injury, one fire service injury and an estimated dollar loss of \$1.1 million. There were 3.5 fires for every 1,000 citizens in 2011.

## **No Fire Deaths in 2011**

In 2011, the Town of Winthrop did not have any fire-related deaths.

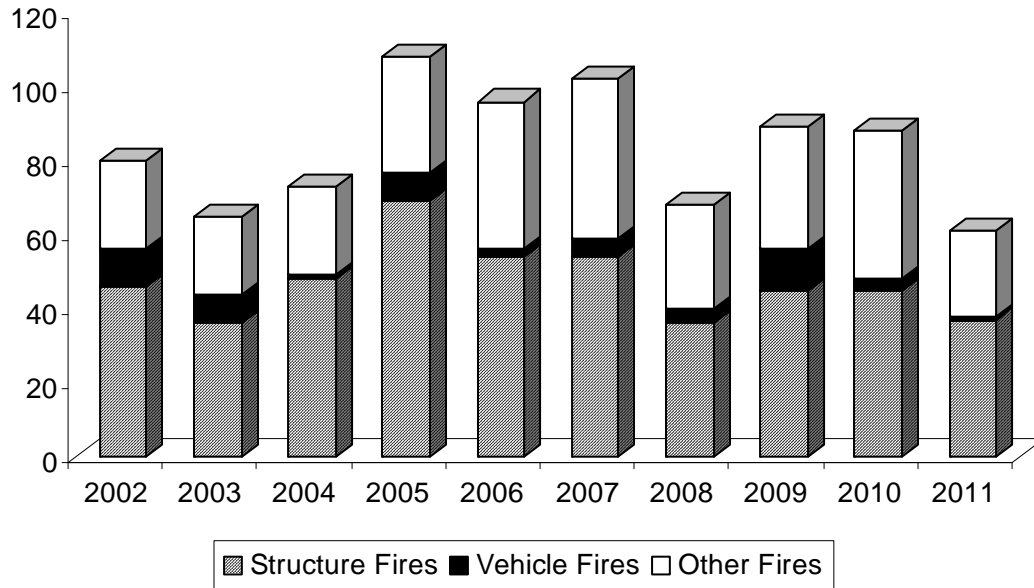
## **All Fires Down Slightly**

The total number of fires reported in Winthrop decreased by one from 89 in 2010. Structure fires remained the same with 45 reported in both 2010 and 2011. Motor vehicle fires decreased by eight from 11 in 2010. Outside and other fires increased by seven from 33 in 2010.

## **WINTHROP FIRES FROM 2002 TO 2011**

| <b>Year</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> | <b>Total<br/>Arsons</b> | <b>Structure<br/>Arsons</b> | <b>Vehicle<br/>Arsons</b> | <b>Other<br/>Arsons</b> |
|-------------|------------------------|----------------------------|--------------------------|------------------------|-------------------------|-----------------------------|---------------------------|-------------------------|
| 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                       |
| 2011        | 61                     | 37                         | 1                        | 23                     | 2                       | 0                           | 0                         | 2                       |

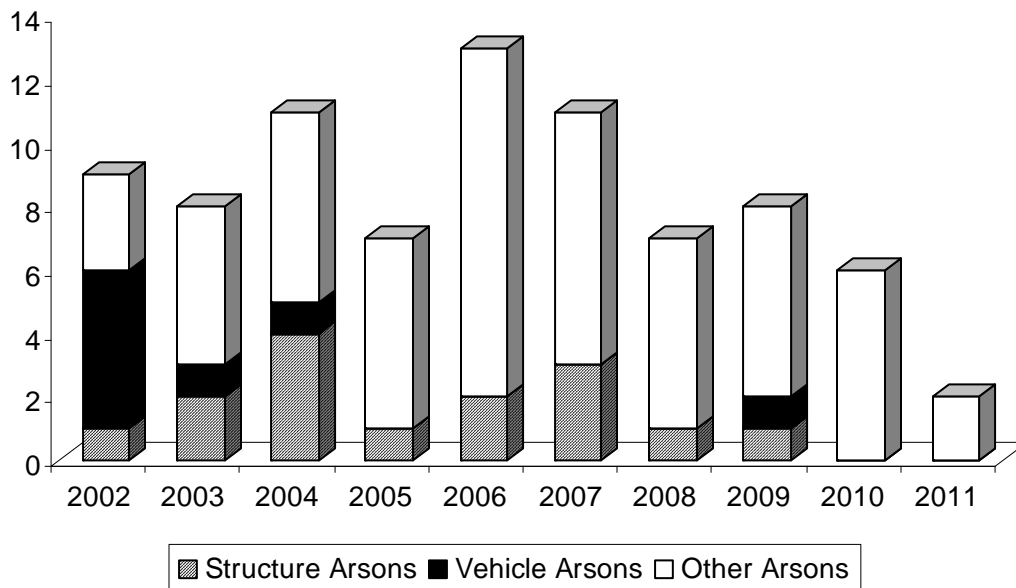
## Winthrop Fires by Incident Type



### 2 Arsons – 2 Outside & Other Arsons

Two (2), or 3%, of the 61 Winthrop fires were considered intentionally set, or, for purposes of this analysis, arson.

## Winthrop Arsons by Incident Type



## **STRUCTURE FIRES**

### **Structure Fires Down**

The 37 structure fires caused one civilian injury, one fire service injury and an estimated dollar loss of \$1.1 million. These incidents represented 61% of Winthrop's reported fires in 2011. Structure fires decreased by eight, or 18%, from the 45 reported in 2010.

### **No Structure Arsons**

For the second year in a row there were no reported structure arsons in Winthrop in 2011.

## **BUILDING FIRES**

There were 37 building fires of different types in Winthrop in 2011. These 37 building fires accounted for all of the structure fires in Winthrop.

### **81% of Building Fires in Homes**

The 37 building fires that occurred in Winthrop in 2011 can be broken down by fixed property use as follows: 30, or 81%, of all the building fires reported in 2011, were in residential properties; four fires, or 11%, happened at a mercantile or business properties; one fire, or 3%, occurred in an educational facility; another fire, or 3%, happened at a storage facility; and one fire, or 3%, occurred at a special property.

## **RESIDENTIAL BUILDING FIRES**

### **81% of Winthrop's Building Fires Occurred in Residences**

Thirty (30), or 81%, of Winthrop's 44 reported building fires occurred in residential occupancies. There were no reported residential building arsons in 2011. The 30 residential building fires reported in 2011 caused one civilian injury, one fire service injury and an estimated dollar loss of \$1.1 million.

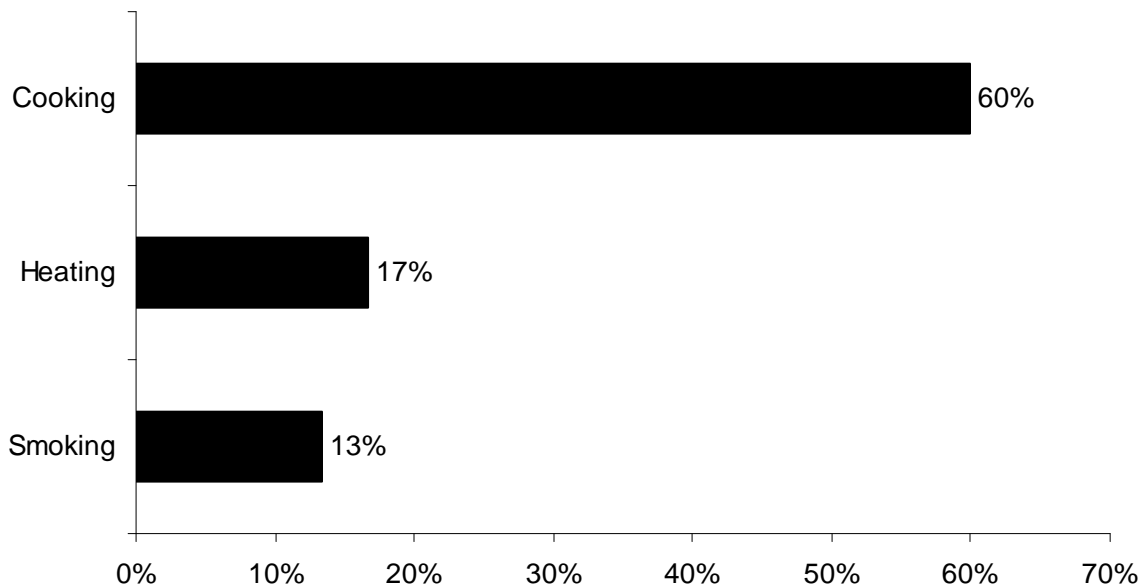
### **Apartments Accounted for 47% of Residential Building Fires**

The peak fixed property uses for residential building fires were apartments, accounting for 47% of the residential building fires in Winthrop; 43% occurred in one- and two-family homes; 7% occurred in hotels or motels; and 3% happened in residential board and care facilities.

### **Unsafe Cooking Practices Caused 60% of Winthrop's Residential Fires**

Cooking was the leading cause of fires in Winthrop residential properties in 2011 accounting for 60%. Heating equipment fires were the second leading cause, accounting for 17% of these fires; and smoking caused 13% of the fires in Winthrop's homes in 2011.

## Causes of Residential Fires



### **63% of Residential Building Fires Are Confined to Non-Combustible Containers<sup>44</sup>**

Nineteen (19), or 63% of all residential building fires, were reported as confined to non-combustible containers in 2011. Sixteen (16) of the reported fires were cooking fires contained to a non-combustible container accounting for 53% of residential building fires. Three (3), or 10%, were fires confined to a fuel burner or boiler malfunction.

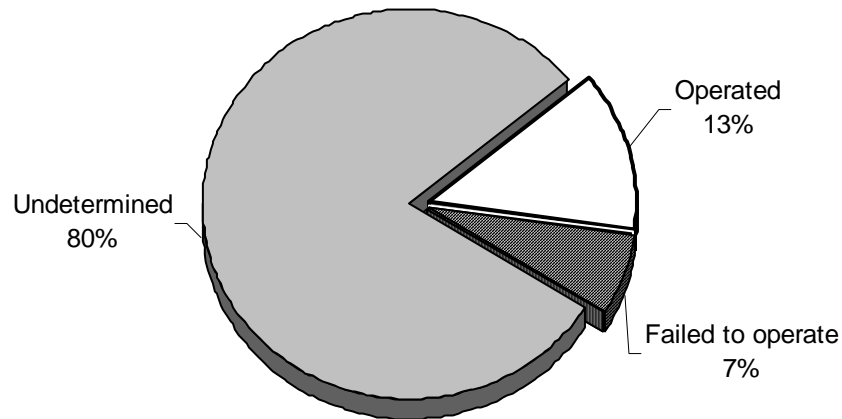
### **Detectors Alerted Occupants in Only 13% of Fires**

Smoke or heat detectors operated and alerted the occupants in four, or 13%, of the residential building fires. In 7% of these fires<sup>45</sup>, 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 24 incidents, or 80% of Winthrop's residential building fires.

<sup>44</sup> 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.

<sup>45</sup> These represent confined fires where it was reported that the detector did not alert the occupants.

## Detector Status in Winthrop's Residential Structure Fires 2011



## MOTOR VEHICLE FIRES

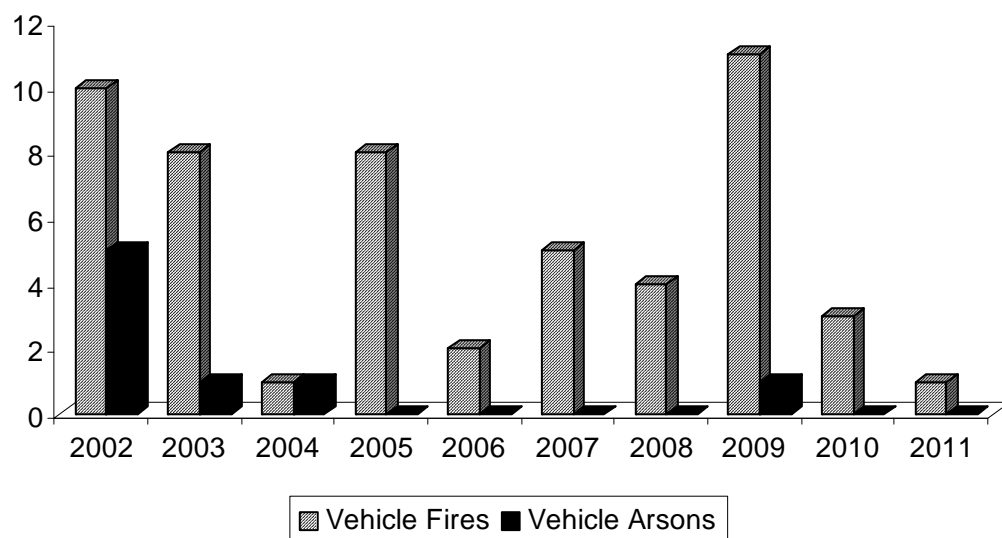
### 1 Motor Vehicle Fire Reported in 2011

The one motor vehicle fire caused an estimated dollar loss of \$2,250. Motor vehicle fires comprised 2% of Winthrop's 61 reported fires in 2011. Motor vehicle fires decreased by two, or 67%, from the three fires reported in 2010.

### No Motor Vehicle Fires Considered Arson

None of Winthrop's three motor vehicle fires was determined to be intentionally set. This is the second year in a row with no reported motor vehicle arsons.

## Motor Vehicle Fires & Arsons in Winthrop 2002 - 2011



## **OUTSIDE AND OTHER FIRES**

### **Outside and Other Fires Account for 38% of Winthrop Fires**

The Winthrop Fire Department reported 23 outside and other fires to the Massachusetts Fire Incident Reporting System in 2011, a decrease of 17 from 40 in 2010. The nine outside rubbish fires, two special outside fires, one brush and grass fire, and 11 unclassified fires caused estimated dollar loss of \$21,135. Outside and other fires comprised 38%, of the 61 Winthrop fires reported in 2011. This decrease in outside fires was a statewide trend.

### **9% of Outside & Other Fires considered Arson**

Two (2), or 9%, of the 23 outside and other fires were considered intentionally set. Both were outside rubbish arsons. Outside and other arsons decreased by four from the six reported in 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 2011.

## **ALL CALLS**

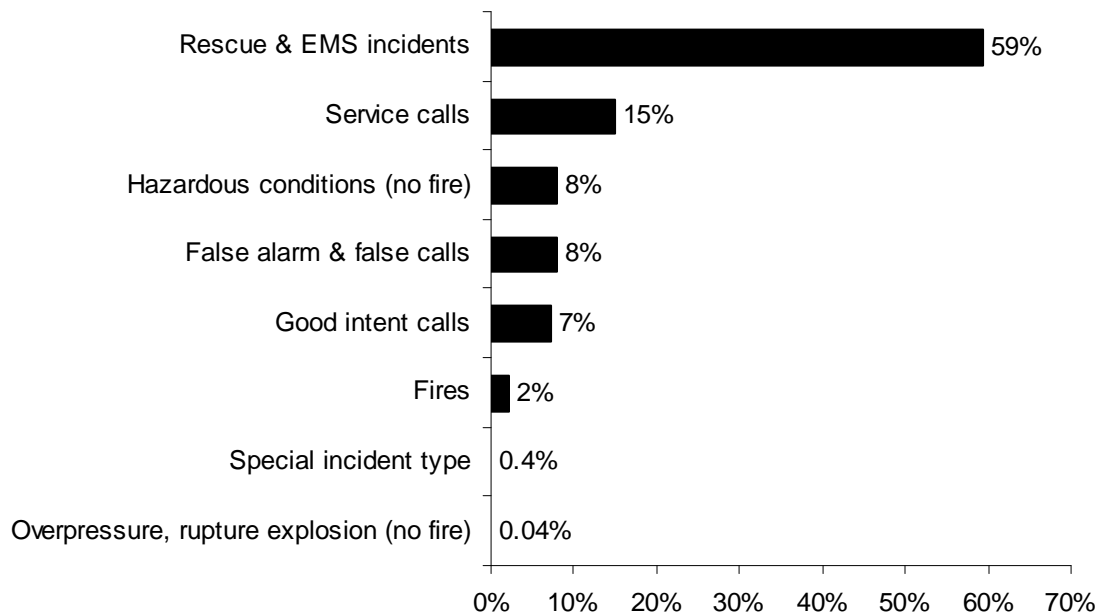
### **Rescue & EMS Calls Were 59% of All Reported Responses**

In 2011, the Winthrop Fire Department reported 2,793 total responses to MFIRS. Of these 2,793 responses, 2,732 non-fire calls were voluntarily reported.

Of these 2,732 non-fire calls, 1,659, or 59% of all the responses reported in 2011, were reported rescue and emergency medical services (EMS) calls; 417, or 15%, were reported service calls such as lock-outs, water or smoke problem, unauthorized burning or public service assistance; 232, or 8%, were reported hazardous condition calls with no fire; 213, or 8%, were reported false alarm or false calls; 200, or 7%, were reported good intent calls; 10, or 0.4%, were special incident type calls such as citizen complaints; and one, or 0.04%, was a reported overpressure, rupture, explosion or overheat call with no fire.

Sixty-one (61), or 2%, of the total responses submitted by the Winthrop Fire Department were fires.

## 2011 Winthrop Calls by Incident Type



### Winthrop Reported Receiving Mutual Aid 6 Times

In 2011, the Winthrop Fire Department reported receiving aid from surrounding departments six times. Three (3), or 50%, were for rescue or EMS calls; two, or 33%, were fires; and one, or 17%, 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 2011.



## CONCLUSIONS

- **Most Building Fires in Homes**

81% of building fires occurred in residences.

- **Cooking Caused 60% of Residential Fires**

Cooking caused 60% of Winthrop's residential building fires. Education and other prevention efforts should help address this problem.

- **Heating Caused 17% of Residential Fires**

Heating was the second leading cause of residential fires in Winthrop. Fires started by heating equipment caused 17% of residential building fires.

- **Smoke Detectors Status Undetermined in 80% Residential Fires**

It was undetermined if smoke detectors sounded the alarm in 80% 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 18 confined fires in 2011.

**Winthrop****FDID: 25346****Population: 17,497****Total Fires 61 \$1,086,585**

3.49 Fires/1,000 Population

| <b>Situation Found</b> | <b>Fires</b> | <b>% of Fires</b> | <b>Dollar Loss</b> |
|------------------------|--------------|-------------------|--------------------|
| Structure Fires        | 37           | 61%               | \$1,063,200        |
| Vehicle Fires          | 1            | 2%                | 2,250              |
| Other Fires            | 23           | 38%               | 21,135             |

1 Civilian Injury

1 Fire Service Injury

2.1 Structure fires/1,000 population

0.1 Vehicle fires /1,000 population

1.3 Other fires/1,000 population

**Building Fires: 37****Residential Building Fires: 30****Residential Building Fires Confined to Non-Combustible Containers: 19****Unconfined Residential Building Fires: 11**

| <b>Occupancy</b>         | <b>Fires</b> | <b>%</b> | <b>Detector Status</b>  | <b>Fires</b> | <b>%</b> |
|--------------------------|--------------|----------|-------------------------|--------------|----------|
| Apartments               | 14           | 47%      | Operated                | 4            | 13%      |
| 1- & 2-Family homes      | 13           | 43%      | Didn't operate          | 2            | 7%       |
| Hotel or motel           | 2            | 7%       | None                    | 0            | 0%       |
| Residential board & care | 1            | 3%       | Fire too small          | 0            | 0%       |
|                          |              |          | Didn't alert (confined) | 0            | 0%       |
|                          |              |          | Undetermined            | 24           | 80%      |

| <b>Area of Origin<sup>46</sup></b> | <b>%</b> | <b>Heat Source</b>           | <b>%</b> | <b>%Unconfined<sup>47</sup></b> |
|------------------------------------|----------|------------------------------|----------|---------------------------------|
| Kitchen                            | 60%      | Heat operating equipment     | 17%      | 45%                             |
| Heating room or area               | 10%      | Cigarette                    | 3%       | 9%                              |
| Bathroom                           | 7%       | Heat from undet. smok. mat.  | 3%       | 9%                              |
|                                    |          | Lightning                    | 3%       | 9%                              |
|                                    |          | Rad./cond. heat from op. eq. | 3%       | 9%                              |

<sup>46</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>47</sup> 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.

| <b>Item First Ignited<sup>48</sup></b> | <b>%</b> | <b>Factor Contrib. to Ignit.</b> | <b>%</b> | <b>%Unconfined<sup>49</sup></b> |
|--|----------|----------------------------------|----------|---------------------------------|
| Food, cooking materials                | 60%      | Too close to combustibles        | 7%       | 18%                             |
| Film, residue (creosote)               | 10%      | Failure to clean                 | 3%       | 9%                              |
| Soft goods, clothes, other             | 7%       |                                  |          |                                 |

| <b>Equipment<sup>50</sup></b> | <b>%</b> | <b>Cause of Ignition</b>      | <b>%</b> | <b>%Unconfined<sup>51</sup></b> |
|-------------------------------|----------|-------------------------------|----------|---------------------------------|
| Cooking equipment             | 53%      | Unintentional                 | 10%      | 27%                             |
| None                          | 27%      | Failure of eq. or heat source | 0%       | 0%                              |
| Chimney or flue               | 10%      | Intentional                   | 0%       | 0%                              |
| Stove, heating                | 7%       | Act of Nature                 | 3%       | 9%                              |
| Hair curler warmer            | 3%       | Undetermined                  | 7%       | 18%                             |
|                               |          | Cause under investigation     | 17%      | 45%                             |

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

|                        |     |
|------------------------|-----|
| Alerted occupants      | 5%  |
| Didn't alert occupants | 0%  |
| Undetermined           | 95% |

<sup>48</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>49</sup> 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.

<sup>50</sup> This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

<sup>51</sup> 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.

| <b>Month</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|--------------|------------------------|----------------------------|--------------------------|------------------------|
| January      | 2                      | 2                          | 0                        | 0                      |
| February     | 6                      | 5                          | 0                        | 1                      |
| March        | 5                      | 3                          | 0                        | 2                      |
| April        | 4                      | 3                          | 0                        | 1                      |
| May          | 7                      | 6                          | 0                        | 1                      |
| June         | 3                      | 3                          | 0                        | 0                      |
| July         | 11                     | 3                          | 0                        | 8                      |
| August       | 2                      | 0                          | 1                        | 1                      |
| September    | 6                      | 3                          | 0                        | 3                      |
| October      | 3                      | 2                          | 0                        | 1                      |
| November     | 6                      | 4                          | 0                        | 2                      |
| December     | 6                      | 3                          | 0                        | 3                      |

| <b>Day</b> | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|------------|------------------------|----------------------------|--------------------------|------------------------|
| Sunday     | 3                      | 3                          | 0                        | 0                      |
| Monday     | 9                      | 5                          | 0                        | 4                      |
| Tuesday    | 12                     | 8                          | 0                        | 4                      |
| Wednesday  | 10                     | 7                          | 0                        | 3                      |
| Thursday   | 8                      | 6                          | 0                        | 2                      |
| Friday     | 12                     | 4                          | 0                        | 8                      |
| Saturday   | 7                      | 4                          | 1                        | 2                      |

| <b>Time</b>   | <b>Total<br/>Fires</b> | <b>Structure<br/>Fires</b> | <b>Vehicle<br/>Fires</b> | <b>Other<br/>Fires</b> |
|---------------|------------------------|----------------------------|--------------------------|------------------------|
| 00:01 - 04:00 | 3                      | 2                          | 0                        | 1                      |
| 04:01 - 08:00 | 3                      | 2                          | 0                        | 1                      |
| 08:01 - 12:00 | 7                      | 3                          | 1                        | 3                      |
| 12:01 - 16:00 | 9                      | 8                          | 0                        | 1                      |
| 16:01 - 20:00 | 27                     | 14                         | 1                        | 13                     |
| 20:01 - 00:00 | 12                     | 8                          | 0                        | 4                      |

### Motor Vehicle Fires

Total: 1

Automobiles: 0 (0%)

None of the automobile fires were considered to be intentionally set.

## Arson Fires

**Total Arsons: 2**

**\$200**

| <b>Situation</b> | <b>Arsons</b> | <b>% of Situation</b> | <b>% of Arson</b> | <b>Dollar Loss</b> |
|------------------|---------------|-----------------------|-------------------|--------------------|
| Structure Arsons | 0             | 0%                    | 0%                | \$0                |
| Vehicle Arsons   | 0             | 0%                    | 0%                | 0                  |
| Other Arsons     | 2             | 9%                    | 100%              | 200                |

No Injuries

0.11 Arson fires/1,000 population

0.00 Structure arsons/1,000 population

0.00 Vehicle arsons /1,000 population

0.11 Other arsons/1,000 population

### Peak Times of Day for Arson Fires

|                         |          |          |                       |          |          |
|-------------------------|----------|----------|-----------------------|----------|----------|
| <b>Structure Arsons</b> | <b>#</b> | <b>%</b> | <b>Vehicle Arsons</b> | <b>#</b> | <b>%</b> |
|-------------------------|----------|----------|-----------------------|----------|----------|

|                     |          |          |
|---------------------|----------|----------|
| <b>Other Arsons</b> | <b>#</b> | <b>%</b> |
| 16:01 - 20:00       | 2        | 100%     |

### Peak Fixed Property Uses for Structure Arsons

|                  |          |          |
|------------------|----------|----------|
| <b>Occupancy</b> | <b>#</b> | <b>%</b> |
|------------------|----------|----------|

# Appendix

## 2011 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          | 900           | 405             | 109           | 386          | 2               | 36                | 0                   | 13                    | \$9,203,072          |
| Berkshire           | 609           | 340             | 47            | 164          | 2               | 8                 | 0                   | 19                    | 5,486,403            |
| Bristol             | 1,878         | 827             | 316           | 735          | 6               | 29                | 0                   | 24                    | 18,712,131           |
| Dukes <sup>52</sup> | 2             | 1               | 0             | 1            | 0               | 0                 | 0                   | 0                     | 0                    |
| Essex               | 2,992         | 1,879           | 286           | 827          | 10              | 31                | 1                   | 62                    | 32,041,000           |
| Franklin            | 235           | 140             | 29            | 66           | 0               | 4                 | 0                   | 4                     | 2,380,126            |
| Hampden             | 2,093         | 1,214           | 293           | 586          | 9               | 45                | 0                   | 43                    | 15,702,326           |
| Hampshire           | 452           | 218             | 40            | 194          | 0               | 6                 | 0                   | 3                     | 1,863,724            |
| Middlesex           | 4,856         | 3,239           | 510           | 1,107        | 10              | 49                | 0                   | 90                    | 36,367,667           |
| Nantucket           | 48            | 37              | 2             | 9            | 0               | 0                 | 0                   | 0                     | 95,000               |
| Norfolk             | 3,047         | 1,982           | 287           | 778          | 3               | 11                | 0                   | 43                    | 26,844,035           |
| Plymouth            | 1,796         | 805             | 271           | 720          | 4               | 54                | 0                   | 31                    | 10,542,566           |
| Suffolk             | 6,453         | 4,906           | 369           | 1,178        | 3               | 10                | 0                   | 42                    | 32,135,631           |
| Worcester           | 3,807         | 2,185           | 438           | 1,184        | 5               | 40                | 1                   | 48                    | 25,629,253           |
| <b>Total</b>        | <b>29,110</b> | <b>18,178</b>   | <b>2,997</b>  | <b>7,935</b> | <b>54</b>       | <b>323</b>        | <b>2</b>            | <b>422</b>            | <b>\$217,002,934</b> |

## 2011 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          | 57           | 7                | 1              | 49           | 0               | 0                 | 0                   | 3                     | \$372,200           |
| Berkshire           | 42           | 8                | 4              | 30           | 0               | 1                 | 0                   | 1                     | 75,605              |
| Bristol             | 99           | 29               | 14             | 56           | 0               | 2                 | 0                   | 1                     | 716,150             |
| Dukes <sup>53</sup> | 0            | 0                | 0              | 0            | 0               | 0                 | 0                   | 0                     | 0                   |
| Essex               | 106          | 23               | 18             | 65           | 1               | 2                 | 0                   | 6                     | 700,700             |
| Franklin            | 13           | 4                | 2              | 7            | 0               | 0                 | 0                   | 0                     | 92,600              |
| Hampden             | 56           | 10               | 13             | 33           | 1               | 0                 | 0                   | 2                     | 281,625             |
| Hampshire           | 28           | 0                | 0              | 28           | 0               | 0                 | 0                   | 0                     | 51                  |
| Middlesex           | 119          | 34               | 22             | 63           | 0               | 1                 | 0                   | 4                     | 939,625             |
| Nantucket           | 2            | 0                | 0              | 2            | 0               | 0                 | 0                   | 0                     | 0                   |
| Norfolk             | 65           | 7                | 3              | 55           | 1               | 0                 | 0                   | 0                     | 2,425,618           |
| Plymouth            | 98           | 19               | 11             | 68           | 1               | 8                 | 0                   | 2                     | 493,860             |
| Suffolk             | 156          | 42               | 16             | 98           | 0               | 0                 | 0                   | 1                     | 5,217,955           |
| Worcester           | 154          | 37               | 22             | 95           | 2               | 5                 | 0                   | 0                     | 479,750             |
| <b>Total</b>        | <b>979</b>   | <b>223</b>       | <b>125</b>     | <b>631</b>   | <b>7</b>        | <b>20</b>         | <b>0</b>            | <b>20</b>             | <b>\$12,378,234</b> |

<sup>52</sup> Dukes County fire departments reported another 18 fires after the 2011 database was closed for analysis: 12 structure fires, 1 motor vehicle fire and 7 outside & other fires.

<sup>53</sup> Dukes County fire departments reported 1 structure arson after the 2011 database was closed for analysis.

## 2011 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          | 900           | 4.2                  | 2           | 2.2                    | 0.09                   | 57           | 0.3                   |
| Berkshire            | 131,219          | 551           | 4.2                  | 2           | 3.6                    | 0.15                   | 26           | 0.2                   |
| Bristol              | 548,285          | 1,878         | 3.4                  | 6           | 3.2                    | 0.11                   | 99           | 0.2                   |
| Dukes <sup>54</sup>  | 16,535           | 2             | 0.1                  | 0           | 0.0                    | 0.00                   | 0            | 0.0                   |
| Essex                | 743,159          | 2,992         | 4.0                  | 10          | 3.3                    | 0.13                   | 106          | 0.1                   |
| Franklin             | 71,372           | 235           | 3.3                  | 0           | 0.0                    | 0.00                   | 13           | 0.2                   |
| Hampden              | 463,490          | 2,093         | 4.5                  | 9           | 4.3                    | 0.19                   | 56           | 0.1                   |
| Hampshire            | 158,080          | 452           | 2.9                  | 0           | 0.0                    | 0.00                   | 28           | 0.2                   |
| Middlesex            | 1,503,085        | 4,856         | 3.2                  | 10          | 2.1                    | 0.07                   | 119          | 0.1                   |
| Nantucket            | 10,172           | 48            | 4.7                  | 0           | 0.0                    | 0.00                   | 2            | 0.2                   |
| Norfolk              | 670,850          | 3,047         | 4.5                  | 3           | 1.0                    | 0.04                   | 65           | 0.1                   |
| Plymouth             | 494,919          | 1,796         | 3.6                  | 4           | 2.2                    | 0.08                   | 98           | 0.2                   |
| Suffolk              | 722,023          | 6,453         | 8.9                  | 3           | 0.5                    | 0.04                   | 156          | 0.2                   |
| Worcester            | 798,552          | 3,807         | 4.8                  | 5           | 1.3                    | 0.06                   | 154          | 0.2                   |
| <b>Massachusetts</b> | <b>6,547,629</b> | <b>29,110</b> | <b>4.4</b>           | <b>54</b>   | <b>1.9</b>             | <b>0.08</b>            | <b>979</b>   | <b>0.1</b>            |

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

<sup>54</sup> Dukes County reported 18 more fires after the 2011 database was closed for analysis with no injuries or deaths.



## 2011 Non-Fire Responses By County and By Incident Type

| County               | Total<br>Non-Fire<br>Responses | Overpressure<br>Rupt. & Explos.<br>(No-fire) | Rescue<br>EMS<br>Incidents | Hazardous<br>Conditions<br>(No-fire) | Service<br>Calls | Good<br>Intent<br>Calls | False<br>Alarm<br>Calls | Severe WX <sup>55</sup><br>& Natural<br>Disaster | Special<br>Incident<br>Type |
|----------------------|--------------------------------|--|----------------------------|--------------------------------------|------------------|-------------------------|-------------------------|--|-----------------------------|
| Barnstable           | 39,192                         | 63   | 26,904                     | 2,455                                | 2,891            | 1,464                   | 4,904                   | 353  | 158                         |
| Berkshire            | 12,078                         | 14   | 6,455                      | 1,035                                | 1,748            | 592                     | 1,991                   | 190  | 53                          |
| Bristol              | 48,646                         | 65   | 29,867                     | 2,998                                | 3,465            | 3,284                   | 8,553                   | 125  | 289                         |
| Dukes <sup>56</sup>  | 191                            | 1  | 10                         | 18                                   | 8                | 7                       | 146                     | 0  | 1                           |
| Essex                | 82,804                         | 105  | 46,128                     | 4,660                                | 11,113           | 4,905                   | 14,974                  | 215  | 704                         |
| Franklin             | 6,513                          | 18   | 3,191                      | 660                                  | 1,094            | 469                     | 820                     | 125  | 136                         |
| Hampden              | 43,966                         | 107  | 24,375                     | 2,694                                | 3,705            | 4,673                   | 7,980                   | 244  | 188                         |
| Hampshire            | 13,540                         | 40   | 8,117                      | 959                                  | 932              | 583                     | 2,682                   | 90   | 137                         |
| Middlesex            | 153,174                        | 156  | 84,475                     | 13,465                               | 15,256           | 8,678                   | 26,290                  | 431  | 4,451                       |
| Nantucket            | 2,385                          | 0  | 1,126                      | 233                                  | 162              | 68                      | 788                     | 6  | 2                           |
| Norfolk              | 81,981                         | 154  | 47,429                     | 7,862                                | 8,034            | 4,263                   | 12,159                  | 343  | 1,737                       |
| Plymouth             | 69,840                         | 118  | 43,581                     | 6,060                                | 6,072            | 4,485                   | 8,808                   | 411  | 305                         |
| Suffolk              | 87,048                         | 68   | 46,861                     | 6,046                                | 11,125           | 7,786                   | 14,748                  | 74   | 310                         |
| Worcester            | 79,743                         | 137  | 50,504                     | 5,695                                | 6,348            | 4,037                   | 11,619                  | 385  | 1,028                       |
| <b>Massachusetts</b> | <b>721,081</b>                 | <b>1,045</b>                                 | <b>419,025</b>             | <b>54,837</b>                        | <b>71,953</b>    | <b>45,291</b>           | <b>116,439</b>          | <b>2,992</b>                                     | <b>9,499</b>                |

<sup>55</sup> WX is the abbreviation for Weather.

<sup>56</sup> Tisbury is the only department to send us non-fire calls.