

Brockton Fires in 2005

182 Total Fires — 108 Structures, 58 Vehicles & 16 Other Fires

The Brockton Fire Department reported 182 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2005. The 108 structure fires, 58 motor vehicle fires, two special outside fires, one brush fire, one outside rubbish fire, and 12 unclassified fires, caused three civilian deaths, six civilian injuries, four fire service injuries and an estimated dollar loss of \$1.7 million.

Brockton Woman Killed in Electrical Fire

- On July 11, 2005, at 4:12 a.m. the Brockton Fire Department was called to a fire in a single-family house caused by a 'pinched' electrical cord. The fire originated in an electrical appliance that was next to the stove on the countertop with the wire running down between the stove and a cabinet. The victim, an 83-year old woman, was attempting to escape when she was overcome by the heat and smoke. Detectors were present and operating. There were no other injuries associated with this fire. The fire caused an estimated \$55,000 worth of damage.

Brockton Woman Killed in Undetermined Fire

- On July 30, 2005 at 2:12 p.m., the Brockton Fire Department was called to a fatal fire in a two-family home of undetermined cause. The most likely cause was the improper disposal of smoking materials. The victim, a 74-year old physically disabled woman, was blocked from escaping and overcome by heat and smoke. She died from smoke inhalation. Smoke detectors were present and operating in the building. Damages from this fire were estimated to be \$75,000.

Woman Killed in Self-Immolation Attempt

- On November 8, 2005 at 2:35 a.m., the Brockton Fire Department was called to a fire in a street. Firefighters extinguished the fire with a booster line and determined that the object burning was a person. It was a successful attempt at self-immolation. A five-gallon can of gasoline in a nearby shopping cart was also burning. The victim, an unidentified woman, poured gasoline over herself and ignited it. She died from the burns and smoke inhalation.

Motor Vehicle Fires Increase Modestly

Total fires decreased by 12 from the 194 incidents reported in 2004. Reported structure fires decreased by five from the 113 reported during the previous year. Motor vehicle fires increased three from 55 the year before. Outside and other fires decreased by 10 from 26 in 2004.

BROCKTON FIRES FROM 2001 TO 2005

	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2001	270	142	121	7	46	10	35	1
2002	214	123	76	15	14	7	7	0
2003	213	137	68	8	13	11	2	0
2004	194	113	55	26	8	6	2	0
2005	182	108	58	16	8	4	4	2

Over 2/3 of Building Fires in Homes

The 108 structure fires that occurred in Brockton in 2005 can be broken down by fixed property use as follows: 84, or 78% of all structure fires, were in residential properties; five fires occurred in mercantile or business properties; four fires occurred in public assembly properties; another four fires occurred in institutional facilities; three fires happened in storage facilities; another three fires happened in educational properties; and one fire occurred in each in an outbuilding and in an unclassified utility facility.

RESIDENTIAL FIRES**Residential Structure Fires Are Down**

There were 84 reported residential structure fires in Brockton in 2005. These 84 fires are a decrease of eight, or 9%, from the 92 residential structure fires reported in 2004.

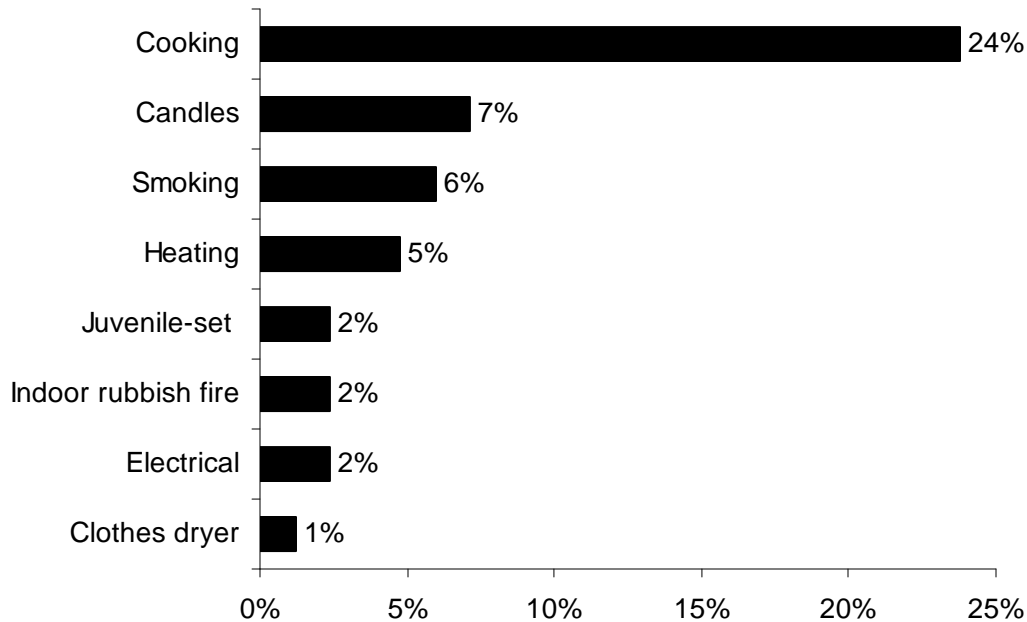
Apartments Accounted for 1/2 of Residential Structure Fires

The peak fixed property uses for residential structure fires were apartments, accounting for 50% of the residential structure fires in Brockton; 46% occurred in 1- or 2-family homes; 1% occurred in boarding houses; 1% occurred in hotels or motels; and another 1% occurred in a dormitory.

Unattended Cooking Leading Cause of Residential Fires

The leading cause of residential structure fires in Brockton was unattended cooking and other unsafe cooking practices, accounting for 24% of these fires. Seven percent (7%) of these fires were caused by candles. Smoking accounted for 6% of the fires in residential occupancies. Heating caused 5% of these fires. Indoor rubbish fires accounted for 4% of these fires. Juvenile-set fires, indoor rubbish fires and electrical problems caused 1% of the residential fires in Brockton in 2005. Clothes dryers were responsible for 1% of these fires.

2005 Leading Causes of Fires in Brockton Homes



10% of Residential Structure Fires Are Confined to Non-Combustible Containers¹

Eight (8), or 10% of all residential structure fires were confined to non-combustible containers in 2005. Four (4), or 5% of all residential structure fires reported in 2005, were cooking fires contained to a non-combustible container. A chimney fire confined to the chimney accounted for 1% of Brockton's residential fires. One (1), or 1%, of these fires was a rubbish fire contained to a non-combustible container. Another fire (1%) was a reported fuel burner or boiler malfunction. And another fire (1%) was confined to a commercial compactor.

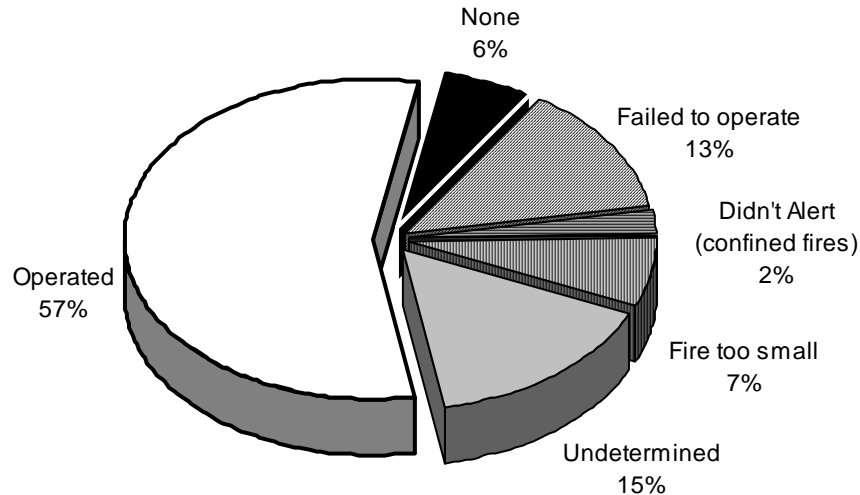
Detectors Alerted Occupants in 56% of Fires

Smoke or heat detectors operated and alerted the occupants in 47, or 56%, of the residential structure fires. In 2% of these fires², the detectors did not alert the occupants. Detectors were present but did not operate in 13% of these incidents. In 6% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 7% of the residential fires. Smoke detector performance was undetermined in 13 incidents, or 15% of Brockton's residential structure fires.

¹ In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing to Ignition, Cause of Ignition, and Equipment Involved In Ignition. These incidents are not included in the analysis of these fields.

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

Detector Status in Brockton Residential Structure Fires 2005



VACANT BUILDINGS

3% of Structure Fires Occurred in Vacant Buildings

Brockton reported seven fires that occurred in buildings that were vacant, under construction or demolition³. This represented 3% of the total 108 structure fires reported to MFIRS in 2005. One residential board and care facility, one warehouse, and one outbuilding were reported as vacant structure fire incidents.

ARSONS

10 Total Arsons⁴

Ten (10), or 5%, of Brockton's 182 fires were considered intentionally set, or, for purposes of this analysis, arson. The four structure arsons, four motor vehicle arsons and two outside and other arsons caused one civilian death, one civilian injury and an estimated dollar loss of \$21,600.

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

⁴ In MFIRS v5 a fire is considered an arson if the Cause of Ignition = 1 (Intentional) and the Age of Person (Fire Module) is greater than 17 or if the field is blank; or if the Wildland Module is used, the Wildland Fire Cause = 7 (Incendiary) and the Age of the Person (Wildland Module) is greater than 17 or if the field is left blank.

Structure Arson Is Down

The total number of arsons increased by two from the eight reported in 2004. Reported structure arsons decreased by two from six the year before. Motor vehicle arsons increased by two from two in 2004. In 2005 there were two reported outside and other arson; none were reported in 2004.

ALL INCIDENTS**Fires Are 90% of All Reported Incidents to MFIRS**

In 2005, Brockton voluntarily reported 202 incidents to MFIRS. Of these 202 incidents, 20, or 10%, were non-fire incidents⁵. Over half (11) of these 20 non-fire calls were carbon monoxide calls. Fire departments are only required to report fires and explosions with a dollar loss or human casualty. The State Fire Marshal has requested reports on carbon monoxide calls as well.

Of these 20 non-fire incidents 11, or 7% of all reported incidents in 2005, were reported hazardous condition calls with no fire; two, or 1%, were severe weather or natural disaster calls; another two, or 1%, were overpressure, rupture explosions with no fire; one, or 1%, was a reported false alarm or false call; and another one was a rescue call, or 1%.

Brockton Received Aid in 5 Reported Incidents

In 2005, Brockton reported receiving mutual aid in five incidents, all of them fires. Brockton did not reported giving mutual aid to any other fire department.

⁵ In 2005, 2004 & 2003 Brockton reported their MFIRS reports to Office of the State Fire Marshal on paper forms. At the time only specific non-fire incidents from paper forms were being entered into MFIRS. In 2003, 11 of the 16 (69%) non-fire incidents were either carbon monoxide calls with carbon monoxide present or carbon monoxide calls with just a detector activation. In 2004, 7 of the 20 (35%) non-fire incidents were carbon monoxide calls. In 2005 11 of the 20 (55%) non-fire incidents were carbon monoxide calls.

Brockton**Population: 94,304****2.1 Fires/1,000 Population****Total Fires: 182 \$1,674,965**

Situation	Fires	% of Fires	Dollar Loss
Structure Fires	108	59%	\$1,622,100
Vehicle Fires	58	32%	46,415
Other Fires	16	9%	6,450

3 Civilian Deaths 16.48 Civilian Deaths per 1,000 fires

3 Fatal Fires 0.32 Civilian Deaths per 10,000 population

6 Civilian Injuries 4 Fire Service Injuries

Residential Structure Fires: 84**Residential Structure Fires Confined to Non-Combustible Containers: 8****Unconfined Residential Structure Fires: 76**

2 Civilian Deaths 5 Civilian Injuries 4 Fire Service Injuries

Occupancy	Fires	%	Detector Status	Fires	%
Apartments	42	50%	Operated	47	56%
1- & 2-Family homes	39	46%	Didn't operate	11	13%
Rooming houses	1	1%	None	5	6%
Hotel, motel	1	1%	Fire too small	6	7%
Residential board & care	1	1%	Didn't Alert (confined)	2	2%
			Undetermined	13	15%

Area of Origin⁶	%	Heat Source	%	%Unconfined⁷
Kitchen	30%	Heat from powered eq.	27%	30%
Bedroom	13%	Radiated heat from op. eq.	17%	18%
Living room	5%	Candle	7%	8%
Exterior balcony, unencl. porch	4%	Arcing	5%	5%
Substructure area or crawl space	4%	Cigarette	4%	4%
Laundry room	4%	Lighter	2%	3%

⁶ This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

⁷ These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Heat Source from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires, but is sometimes voluntarily reported.

Item First Ignited⁸	%	Factor Contrib. to Ignition %	%Unconfined⁹
Cooking materials	21%	None	98%
Elec. wire, cable insulation	15%	Playing with heat source	1%
Structural member, framing	8%		
Bedding	5%		
Exterior side wall covering	5%		

Equipment¹⁰	%	Cause of Ignition	%	%Unconfined¹¹
None	52%	Unintentional	49%	55%
Cooking equipment	17%	Failure of eq./heat source	18%	20%
HVAC, other	2%	Cause under investigation	15%	17%
Chimney or flue	1%	Undetermined	2%	3%
Boiler, furnace, cent. heat unit	1%	Act of Nature	2%	3%
Extension cord	1%			
Power cord, plug, attached	1%			

All Reported Incidents	# of Incidents	% of Incidents
Fires	182	90%
Hazardous conditions (no fire)	14	7%
Severe weather & natural disaster calls	2	1%
Overpressure, rupture explosion (no fire)	2	1%
Rescue & EMS incidents	1	1%
False alarms & false calls	1	1%

⁸ This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

⁹ 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.

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

¹¹ These figures were calculated only from those incidents, which were coded as Unconfined fires (Incident Types 111-112 or 120-129). The USFA & NFPA do not recommend inferring codes for Cause of Ignition from the fires contained to non-combustible containers (Incident Types 113 – 118). This field does not need to be completed for confined fires.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	12	8	4	0
February	16	11	4	1
March	17	10	5	2
April	19	11	6	2
May	14	6	8	0
June	19	10	9	0
July	18	11	4	3
August	12	8	3	1
September	9	4	4	1
October	15	12	3	0
November	12	6	3	3
December	19	11	5	3

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	20	14	5	1
Monday	27	13	13	1
Tuesday	30	18	8	4
Wednesday	23	8	12	3
Thursday	25	16	7	2
Friday	30	21	8	1
Saturday	27	18	5	4

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	18	12	6	1
04:01 - 08:00	19	10	9	0
08:01 - 12:00	22	11	7	1
12:01 - 16:00	39	23	15	4
16:01 - 20:00	52	33	12	6
20:01 - 24:00	32	19	13	4

Motor Vehicle Fires

Total: 58

Automobiles: 54 (93%)

4 (7%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 10

Dollar loss: \$21,600

0.1 Arson Fires/1,000 Population

Situation	Arsons	% Situation	% Arson	Dollar Loss
Structure Arsons	4	4%	40%	\$1,600
Vehicle Arsons	4	7%	40%	20,000
Other Arsons	2	13%	20%	0

One Civilian death

One Civilian Injury

0.04 Structure arsons/1,000 population

0.04 Motor Vehicle arsons/1,000 population

0.02 Other arsons/1,000 population

Peak Times of Day for:

Structure Arsons	#	%	Vehicle Arsons	#	%
00:01 - 04:00	2	50%	00:01 - 04:00	1	25%
04:01 - 08:00	2	50%	08:01 - 12:00	1	25%
			16:01 - 20:00	1	25%
			20:01 - 00:00	1	25%

Outside & Other Arsons

00:01 - 04:00	1	50%
20:01 - 00:00	1	50%

Peak Fixed Property Uses for Structure Arsons	#	%
Hospitals	2	50%
Convenience store	1	25%
Warehouse	1	25%