

Brockton Fires in 2008

197 Total Fires — 142 Structures, 36 Vehicles & 19 Other Fires

The Brockton Fire Department reported 197 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2008. The 142 structure fires, 36 motor vehicle fires, seven outside rubbish fires, six brush fires, four special outside fires; and two unclassified fires caused six civilian injuries, 15 firefighter injuries and an estimated dollar loss of \$4.6 million.

All Fires Down in 2008

Total fires decreased by 114 from the 311 incidents reported in 2007. Reported structure fires were down 69 from the 211 reported during the previous year. Motor vehicle fires decreased by 23 from 59 the year before. Outside and other fires decreased by 22 from the 41 reported in 2007.

BROCKTON FIRES FROM 2004 TO 2008

	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2004	194	113	55	26	0	6	2	0
2005	182	108	58	16	10	4	4	2
2006	163	124	24	15	12	7	4	1
2007	311	211	59	41	18	13	4	1
2008	197	142	36	19	13	9	1	3

BUILDING FIRES

There were 139 building fires of different types in Brockton in 2008. These 139 building fires accounted for 97.9% of all structure fires in Brockton.

83% of Building Fires in Homes

The 139 building fires that occurred in Brockton in 2008 can be broken down by fixed property use as follows: 115, or 83% of all building fires, were in residential properties; seven fires happened in storage facilities; five happened in mercantile or business properties; four fires occurred in institutional facilities; another four fires occurred in a manufacturing or processing facilities; two fires occurred in educational facilities; and another two fires occurred in public assembly properties.

RESIDENTIAL FIRES

Residential Building Fires Down

There were 115 reported residential building fires in Brockton in 2008. These 115 fires are a decrease of 62 from the 177 reported residential building fires reported in 2007.

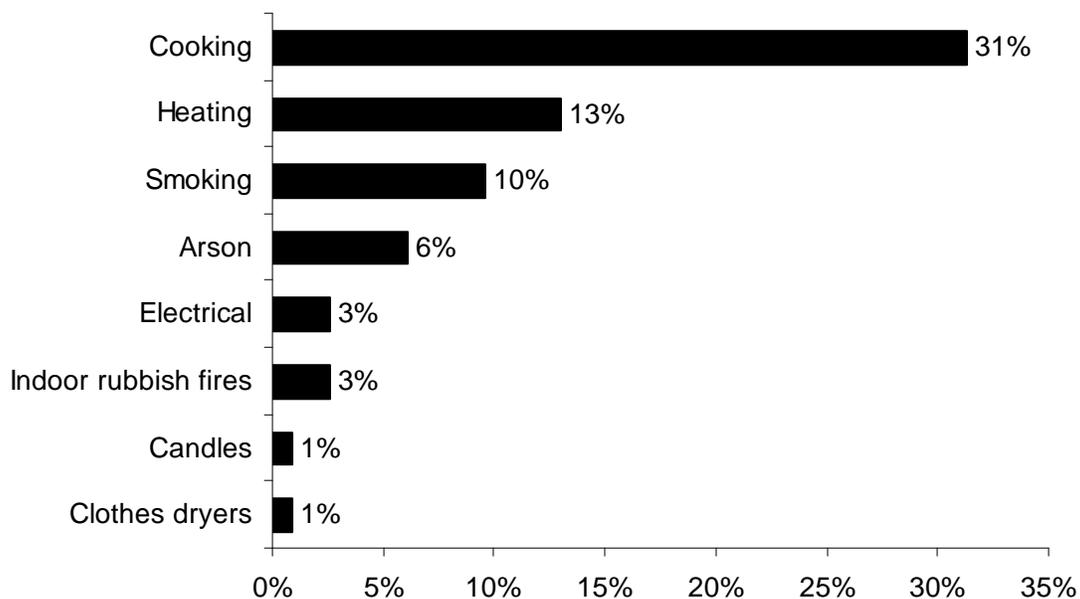
Apartments Accounted for Over 1/2 of Residential Building Fires

The peak fixed property uses for residential building fires were apartments, accounting for 53% of the building fires in Brockton; 41% occurred in 1- or 2-family homes; 2% each happened in rooming houses and hotels or motels; 1% each occurred in dormitories and residential board and care facilities; and 1% occurred in unclassified residences.

Unattended Cooking Leading Cause of Residential Fires

The leading cause of residential building fires in Brockton was unattended cooking and other unsafe cooking practices, accounting for 31% of these fires. Heating fires caused 13% of these fires. Smoking was the cause of 10% of Brockton's residential fires. Arsons caused 6% of these fires. Electrical problems and indoor rubbish fires each caused 3% of the fires. Candles and clothes dryers each caused 1% of the fires in Brockton's residential occupancies in 2008.

2008 Leading Causes of Fires in Brockton Homes



37% of Residential Building Fires Are Confined to Non-Combustible Containers¹

Forty-three (43), or 37% of all residential building fires were confined to non-combustible containers in 2008. Twenty-nine (29), or 25%, of all residential building fires reported in 2008 were cooking fires contained to a non-combustible container. Ten

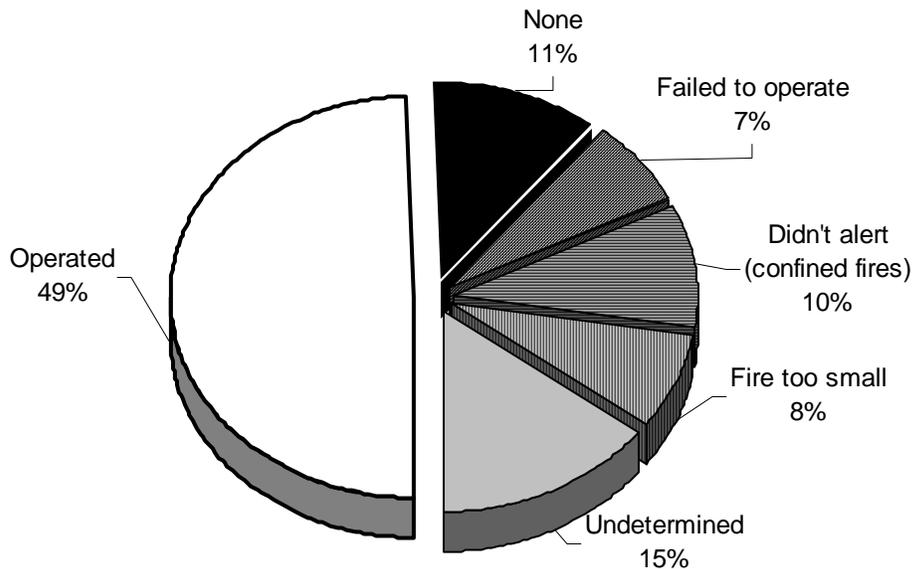
¹ In MFIRS v5 a fire in a building contained to a non-combustible container (Incident Type = 113-118) does not have to have a Fire Module completed. Therefore the following data fields do not need to be completed: Area of Origin, Detector Status, Item First Ignited, Heat Source, Factors Contributing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

(10), or 9%, were fires confined to a fuel burner or boiler malfunction. Two (2), or 2%, of these fires were rubbish fires contained to a non-combustible container. Another two fires, or 1%, were reported to have been contained to a chimney or flue.

Detectors Worked in Almost 1/2 of Fires

Smoke or heat detectors operated and alerted the occupants in 57, or 49%, of the residential building fires. In 10% of these fires², the detectors did not alert the occupants. Detectors were present but did not operate in 7% of these incidents. In 11% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 8% of these fires. Smoke detector performance was undetermined in 17 incidents, or 15% of Brockton’s residential building fires.

Detector Status in Brockton's Residential Fires 2008



Almost 2/3 of Detectors Failed Detectors From Missing or Dead Batteries

Of the eight fires where smoke detectors were present but failed to operate, three, or 38%, failed because they had a missing or disconnected batteries. Two (2), or 25%, failed because they had dead batteries. It was undetermined in three cases, or 38%, why the detector failed to operate.

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

VACANT BUILDINGS

8% of Building Fires Occurred in Vacant Buildings

Brockton reported 11 fires that occurred in buildings that were vacant, under construction or demolition³. This represented 8% of the total 139 building fires reported to MFIRS in 2008. Four (4) 1- or 2-family homes, one apartment building, one business office, one detached residential garage, one storage facility and one outbuilding or shed were reported as vacant building fire incidents.

JUVENILE-SET FIRES

No Juvenile-set Fires in 2008

There were no reported juvenile-set fires in Brockton in 2008.

ARSONS

12 Arsons⁴ - 9 Structure, 1 Motor Vehicle and 3 Outside & Other

Twelve (12), or 7%, of Brockton's 197 fires were considered intentionally set, or, for purposes of this analysis, arson. There were nine structure arsons, one motor vehicle arson and three outside and other arsons.

All Arsons Down in 2008

The total number of arsons decreased by five from the 18 reported in 2007. Reported structure arsons decreased by four from the 13 reported in 2007. Motor vehicle arsons decreased by three from the four reported in 2007. Outside and other arsons increased by two from one reported the year before.

63 Fires Reported as Undetermined or Still Under Investigation

In 2008, Brockton reported 63 fires under investigation or cause undetermined after investigation. Eleven (11), or 17%, of these fires were reported to be undetermined after investigation. The other 52, or 83%, were still under investigation.

Twenty-one (21), or 33%, of these 63 fires were structure fires. Nineteen (19), or 30% were motor vehicle fires; and 23, or 37%, were outside or other fires. Because so many fires or under investigation or undetermined after investigation, the true arson number might be actually higher in Brockton in 2008.

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.

ALL INCIDENTS

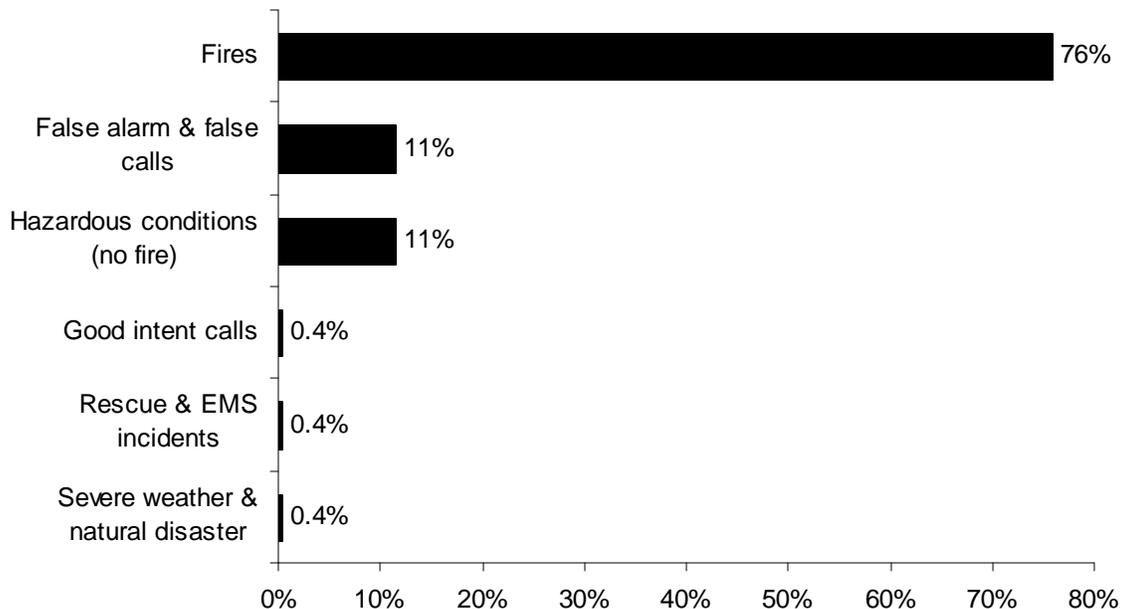
Fire Are Over 3/4 of All Reported Incidents

In 2008, Brockton voluntarily reported 261 incidents to MFIRS. Of these 261 incidents, 63, or 24% were non-fire incidents. Brockton mainly reports only fires to MFIRS, and thus the other 63 non-fire incidents reported to MFIRS for 2008 is only a small fraction of the non-fire calls to which the Brockton Fire Department responds.

Of these 63 non-fire incidents 30, or 11%, were reported hazardous condition calls with no fire; another 30, or 11%, were reported false alarm or false calls; one, or less than 1% of all reported incidents in 2008, were reported rescue and emergency medical services (EMS) calls; and one, or 0.4%, was a good intent call; and another incident, or less than 1%, was a severe weather call.

In 2008, Brockton reported 198 fires⁵, accounting for 76% of all reported incidents.

2008 Incidents by Incident Type



Brockton Gave Mutual Aid in 1 Reported Incident

In 2008, Brockton reported coming to the aid of other fire departments once. This was for a fire in Bridgewater.

Brockton Received Mutual Aid in 14 Incidents

In 2008, surrounding fire departments gave aid to Brockton during 14 incidents. All of these 14 incidents were for fires.

⁵ This includes fires that Brockton responded to as mutual aid calls outside of their jurisdiction.

Brockton**Population: 94,304****2.1 Fires/1,000 Population****Total Fires: 197 \$4,564,000**

Situation	Fires	% of Fires	Dollar Loss
Structure Fires	142	72%	\$4,494,325
Vehicle Fires	36	18%	66,600
Other Fires	19	10%	3,075

6 Civilian Injuries 15 Fire Service Injuries

Building Fires: 139**Residential Structure Fires: 115****Residential Structure Fires Confined to Non-Combustible Containers: 43****Unconfined Residential Structure Fires: 72**

17 Civilian Injuries 11 Fire Service Injuries

Occupancy	Fires	%	Detector Status	Fires	%
Apartments	61	53%	Operated	57	49%
1- & 2-Family homes	47	41%	Didn't operate	8	7%
Hotel/motel	2	2%	None	13	11%
Boarding houses	2	2%	Fire too small	9	8%
			Didn't Alert (confined)	11	10%
			Undetermined	17	15%

Area of Origin⁶	%	Heat Source	%	%Unconfined⁷
Kitchen	40%	Radiated heat from op. eq.	10%	17%
Heating room or area	9%	Cigarette	9%	14%
Living room	7%	Spark/ember/flame op. eq.	7%	11%
Exterior balcony/unencl. porch	6%	Arcing	6%	10%
Bed room	6%	Heat from operating equip.	4%	7%

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	29%	None	64%	%
Flammable or combustible liq.	9%	Misuse of material	1%	1%
Structural member, framing	9%	Worn out	1%	1%
Exterior sidewall covering	7%	Arc, spark from oper. equip.	1%	1%
Electrical wire, cable insulation	7%			

Equipment¹⁰	%	Cause of Ignition	%	%Unconfined¹¹
None	47%	Unintentional	31%	50%
Cooking equipment	30%	Intentional	6%	10%
Boiler, furnace, cent. heat. unit	9%	Failure of eq./heat source	15%	24%
Personal/household eq., other	2%	Cause Under Investigation	10%	17%
Heater	2%	Undetermined	0%	0%

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

Alerted Occupants	60%
Didn't Alert Occupants	26%
Undetermined	14%

All Reported Incidents	# of Incidents	% of Incidents
Fires ¹²	198	76%
Hazardous conditions (no fire)	30	11%
False alarms & false calls	30	11%
Rescue & EMS incidents	1	0.4%
Good intent calls	1	0.4%
Severe weather & natural disaster calls	1	0.4%

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.

¹² This figure contains the fire that Brockton gave mutual aid to in another jurisdiction.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	1	1	0	0
February	0	0	0	0
March	14	9	2	3
April	26	16	6	4
May	26	18	4	4
June	25	17	6	2
July	18	12	4	2
August	16	12	1	3
September	17	14	3	0
October	16	12	4	0
November	12	10	1	1
December	26	21	5	0

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	27	19	5	3
Monday	27	18	5	4
Tuesday	23	12	7	4
Wednesday	32	23	6	3
Thursday	26	19	5	2
Friday	32	27	5	0
Saturday	30	24	3	3

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	20	9	8	3
04:01 - 08:00	21	19	2	0
08:01 - 12:00	26	20	5	1
12:01 - 16:00	39	30	5	4
16:01 - 20:00	49	36	7	6
20:01 - 24:00	42	28	9	5

Motor Vehicle Fires

Total: 36

Automobiles: 33 (92%)

1 (3%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 12

Dollar loss: \$583,700

0.14 Arson Fires/1,000 Population

Situation	Arsons	% Situation	% Arson	Dollar Loss
Structure Arsons	9	6%	69%	\$581,700
Vehicle Arsons	1	3%	8%	0
Other Arsons	3	16%	23%	2,000

0.14 Structure arsons/1,000 population

0.01 Vehicle arsons/1,000 population

0.03 Other arsons/1,000 population

Peak Times of Day for:

Structure Arsons	#	%	Vehicle Arsons	#	%
12:01 - 16:00	3	33%	20:01 - 00:00	1	100%
20:01 - 00:00	3	33%			

Other Arsons	#	%
00:01 - 04:00	2	67%
12:01 - 16:00	1	33%

Peak Fixed Property Uses for Structure Arsons	#	%
Apartments	5	56%
1- or 2-Family homes	2	22%
Parking garage, detached residential	1	11%
Outbuilding or shed	1	11%