

Brockton Fires in 2007

311 Total Fires — 211 Structures, 59 Vehicles & 41 Other Fires

The Brockton Fire Department reported 311 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2007. The 211 structure fires, 59 motor vehicle fires, 13 outside rubbish fires, three brush fires, one special outside fire; one cultivated vegetation or crop fire; and 23 unclassified fires caused one civilian death, 20 civilian injuries, 13 firefighter injuries and an estimated dollar loss of \$2.7 million.

Disabled Brockton Woman Dies in Smoking Fire

- On December 5, 2007, at 2:36 p.m., the Brockton Fire Department was called to a fatal smoking fire in a single-family home. The victim, a 74-year old physically disabled man was smoking a cigarette in bed. The cigarette ignited his bedding. He was transported to a local hospital where he later died from his injuries. Two (2) civilians were injured in this fire; one while escaping, the other while trying to extinguish the fire. Four (4) police officers also suffered from smoke inhalation in attempting to rescue the victim. Detectors were present and alerted the other occupants of the home. Sprinklers were not present. Damages from the fire were estimated to be \$15,000.

All Fires Up in 2007

Total fires increased by 163 from the 148 incidents reported in 2006. Reported structure fires were up 124 from the 87 reported during the previous year. Motor vehicle fires increased by 24 from 35 the year before. Outside and other fires increased by 15 from the 26 reported in 2006.

BROCKTON FIRES FROM 2003 TO 2007

	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2003	213	137	68	8	14	11	2	1
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

BUILDING FIRES

There were 210 building fires of different types in Brockton in 2007. These 210 building fires accounted for 99.5% of all structure fires in Brockton.

84% of Building Fires in Homes

The 210 building fires that occurred in Brockton in 2007 can be broken down by fixed property use as follows: 177, or 84% of all building fires, were in residential properties; 14 happened in mercantile or business properties; eight fires occurred in public assembly properties; four fires occurred in educational facilities; three fires happened in storage

facilities; two fires occurred in a manufacturing or processing facilities; one fire occurred in an institutional facility; and; and two fires occurred in special properties.

RESIDENTIAL FIRES

Residential Building Fires Up

There were 177 reported residential building fires in Brockton in 2007. These 177 fires are an increase of 108 from the 69 reported residential building fires reported in 2006.

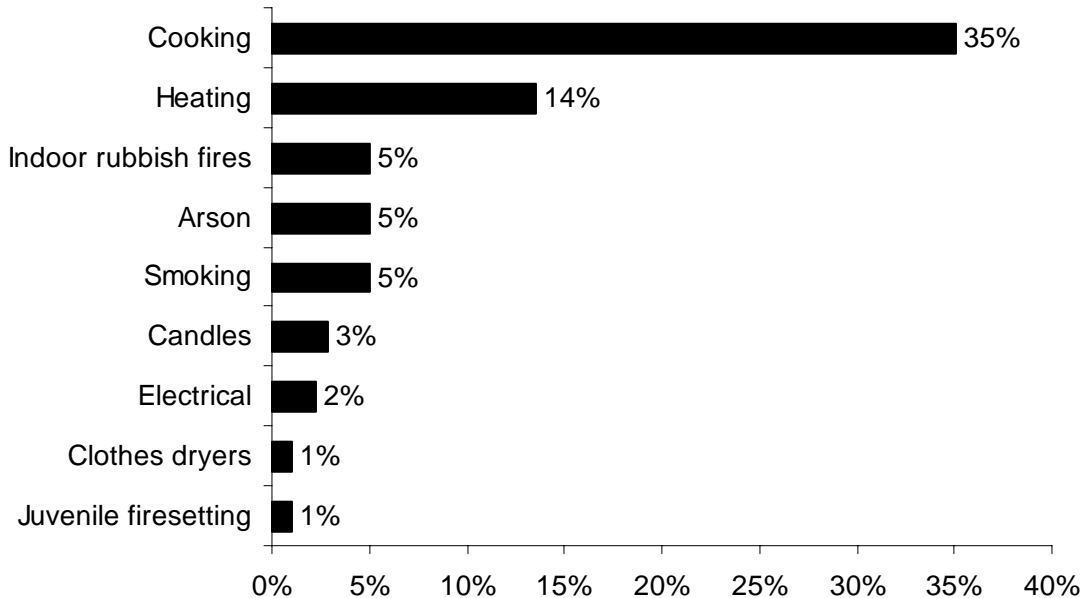
Apartments Accounted for Over 1/2 of Residential Building Fires

The peak fixed property uses for residential building fires were apartments, accounting for 51% of the building fires in Brockton; 45% occurred in 1- or 2-family homes; 2% occurred in dormitories; 1% happened in rooming houses; 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 35% of these fires. Heating fires caused 14% of these fires. Indoor rubbish fires, arsons and smoking were each the cause of 5% of Brockton’s residential fires. Candles caused 3% of these fires. Electrical problems caused 2% of the fires. Clothes dryers and juvenile-set fires each caused 1% of the fires in Brockton’s residential occupancies in 2007.

2007 Leading Causes of Fires in Brockton Homes



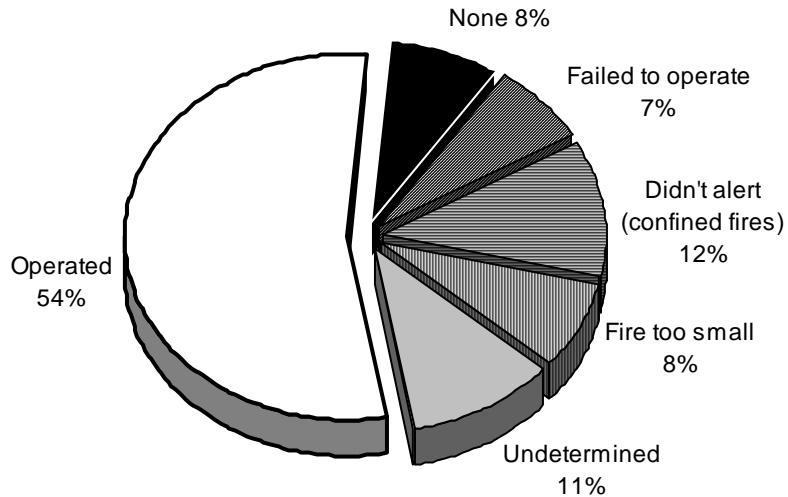
44% of Residential Building Fires Are Confined to Non-Combustible Containers¹

Seventy-seven (77), or 44% of all residential building fires were confined to non-combustible containers in 2007. Forty-seven (47), or 27%, of all residential building fires reported in 2007 were cooking fires contained to a non-combustible container. Eighteen (18), or 10%, were fires confined to a fuel burner or boiler malfunction. Eight (8), or 5%, of these fires were rubbish fires contained to a non-combustible container. Two fires, or 1%, were reported to have been contained to a chimney or flue. Two more fires, or 1%, were reported to have been contained to a commercial compactor.

Detectors Worked in Over 1/2 of Fires

Smoke or heat detectors operated and alerted the occupants in 96, or 54%, of the residential building fires. In 12% of these fires², the detectors did not alert the occupants. Detectors were present but did not operate in 7% of these incidents. In 8% 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 19 incidents, or 11% of Brockton's residential building fires.

Detector Status in Brockton's Residential Fires 2007



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.

Almost 1/3 of Detectors Failed Detectors From Missing Batteries

Of the 13 fires where smoke detectors were present but failed to operate, four, or 31%, failed because they had a missing or disconnected batteries. Three (3), or 23%, failed because the power was shut off or failed. A lack of maintenance caused one, or 8%, of these detectors to fail. It was undetermined in five cases, or 38%, why the detector failed to operate.

VACANT BUILDINGS**7% of Building Fires Occurred in Vacant Buildings**

Brockton reported 15 fires that occurred in buildings that were vacant, under construction or demolition³. This represented 7% of the total 210 building fires reported to MFIRS in 2007. Four (4) 1- or 2-family homes, four apartment buildings, one unclassified business, one country club clubhouse, one bar, one motor vehicle sales or service facility, one retail store, one storage facility and one outbuilding or protective shelter were reported as vacant building fire incidents.

ARSONS**18 Arsons⁴ - 13 Structure, 4 Motor Vehicle and 1 Outside & Other**

Eighteen (8), or 6%, of Brockton's 311 fires were considered intentionally set, or, for purposes of this analysis, arson. There were 13 structure arsons, four motor vehicle arsons and one outside and other arson.

All Arsons Up in 2007

The total number of arsons increased by 12 from the six reported in 2006. Reported structure arsons increased by seven from the six reported in 2006. Motor vehicle arsons increased by four from none reported in 2006. Outside and other arsons increased by one from none reported the year before.

74 Fires Reported as Undetermined or Still Under Investigation

In 2007, Brockton reported 74 fires under investigation or cause undetermined after investigation. Twenty-six (26), or 35%, of these fires were reported to be undetermined after investigation. The other 48, or 65%, were still under investigation.

Thirty-one (31), or 42%, of these 74 fires were structure fires. Thirty-seven (37), or 50% were motor vehicle fires; and six, or 8%, were outside or other fires. Because so many

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.

fires or under investigation or undetermined after investigation, the true arson number might be actually higher in Brockton in 2007.

ALL INCIDENTS

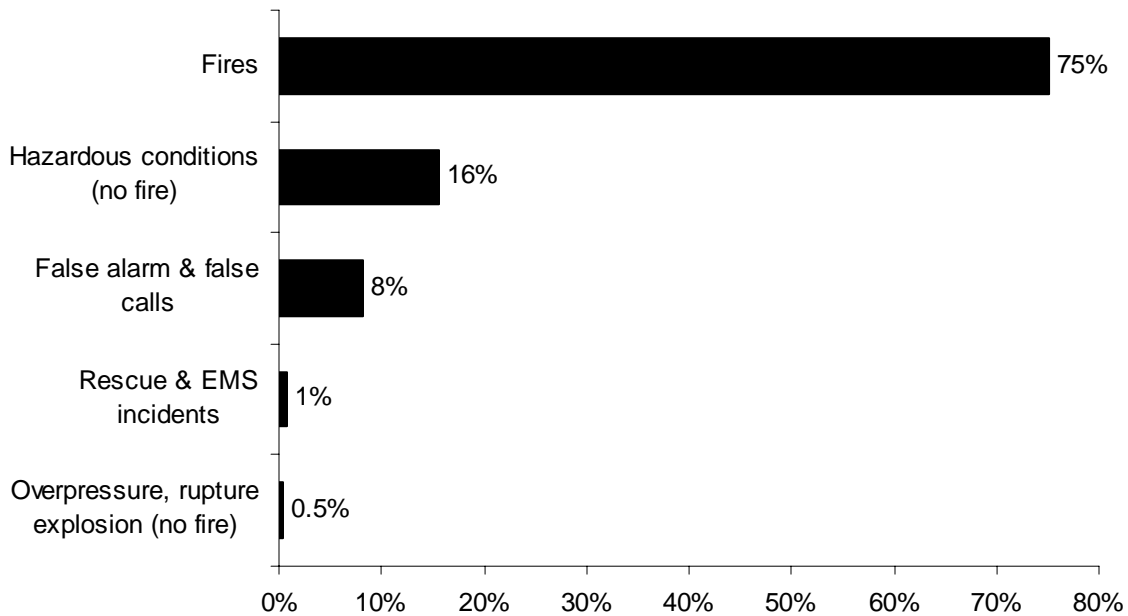
Fire Are 3/4 of All Reported Incidents

In 2007, Brockton voluntarily reported 417 incidents to MFIRS. Of these 417 incidents, 104, or 25% were non-fire incidents. Brockton mainly reports only fires to MFIRS, and thus the other 104 non-fire incidents reported to MFIRS for 2007 is only a small fraction of the non-fire calls that the Brockton Fire Department responds to.

Of these 104 non-fire incidents 65, or 16%, were reported hazardous condition calls with no fire; 34, or 8%, were reported false alarm or false calls; three, or 1% of all reported incidents in 2007, were reported rescue and emergency medical services (EMS) calls; and two, or 0.5%, were reported overpressure, rupture, explosion or overheat calls with no fire.

In 2007, Brockton reported 313 fires⁵, accounting for 75% of all reported incidents.

2007 Incidents by Incident Type



Brockton Gave Mutual Aid in 7 Reported Incidents

In 2007, Brockton reported coming to the aid of other fire departments twice. Both of these were for fires.

⁵ This includes the 2 fires that Brockton responded to as mutual aid calls outside of their jurisdiction.

Brockton Received Mutual Aid in 5 Incidents

In 2007, surrounding fire departments gave aid to Brockton during five incidents. All of these five incidents were for fires.

Brockton**Population: 94,304****3.3 Fires/1,000 Population****Total Fires: 311 \$2,709,360**

Situation	Fires	% of Fires	Dollar Loss
Structure Fires	211	68%	\$2,616,610
Vehicle Fires	59	19%	71,700
Other Fires	41	13%	21,050

1 Civilian Death 3.22 Civilian Deaths/1,000 Fires
 1 Fatal Fire 0.11 Civilian Deaths/10,000 Population
 20 Civilian Injuries 13 Fire Service Injuries

Building Fires: 210**Residential Structure Fires: 177****Residential Structure Fires Confined to Non-Combustible Containers: 77****Unconfined Residential Structure Fires: 100**

1 Civilian Death 17 Civilian Injuries 11 Fire Service Injuries

Occupancy	Fires	%	Detector Status	Fires	%
Apartments	91	51%	Operated	96	54%
1- & 2-Family homes	80	45%	Didn't operate	13	7%
Dormitories	3	2%	None	14	8%
Boarding houses	2	1%	Fire too small	14	8%
			Didn't Alert (confined)	21	12%
			Undetermined	19	11%

Area of Origin⁶	%	Heat Source	%	%Unconfined⁷
Kitchen	42%	Radiated heat from op. eq.	10%	17%
Bedroom	12%	Heat from operating equip.	9%	16%
Heating room or area	10%	Arcing	8%	14%
Living room	7%	Cigarette	4%	7%
Exterior balcony/unencl. porch	3%	Candle	3%	5%

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	33%	None	57%	96%
Flammable or combustible liq.	10%	Equipment unattended	1%	1%
Rubbish, trash, waste	9%	Short-circuit arc/mech. dam.	1%	1%
Structural member, framing	25%	Mech. failure/malfunction	1%	1%
Bedding	5%	Playing w/heat source	1%	1%

Equipment¹⁰	%	Cause of Ignition	%	%Unconfined¹¹
None	49%	Unintentional	29%	52%
Cooking equipment	31%	Intentional	5%	8%
Boiler, furnace, cent. heat. unit	10%	Failure of eq./heat source	11%	20%
Outlet, receptacle	1%	Cause Under Investigation	9%	16%
Clothes dryer	1%	Undetermined	2%	4%

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

Alerted Occupants	64%
Didn't Alert Occupants	27%
Undetermined	9%

All Reported Incidents	# of Incidents	% of Incidents
Fires ¹²	313	75%
Hazardous conditions (no fire)	65	16%
False alarms & false calls	34	8%
Rescue & EMS incidents	3	1%
Overpressure rupture, explosion or overheat calls (no fire)	2	0.5%

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 2 fires that Brockton gave mutual aid to in another jurisdiction.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	33	23	5	5
February	19	14	3	2
March	26	18	4	4
April	29	24	2	3
May	27	18	7	2
June	13	8	3	2
July	23	15	5	3
August	16	10	5	1
September	26	15	6	5
October	31	19	4	8
November	37	24	8	5
December	31	23	7	1

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	50	34	7	9
Monday	43	29	8	6
Tuesday	44	31	5	8
Wednesday	44	30	11	0
Thursday	38	29	9	3
Friday	47	27	13	7
Saturday	45	31	6	8

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	37	24	10	3
04:01 - 08:00	20	13	5	2
08:01 - 12:00	57	33	1	13
12:01 - 16:00	61	44	8	9
16:01 - 20:00	79	56	16	7
20:01 - 24:00	57	41	9	7

Motor Vehicle Fires

Total: 59

Automobiles: 44 (75%)

3 (7%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 19

Dollar loss: \$362,000

0.19 Arson Fires/1,000 Population

Situation	Arsons	% Situation	% Arson	Dollar Loss
Structure Arsons	13	6%	72%	\$355,500
Vehicle Arsons	1	7%	20%	6,500
Other Arsons	4	2%	6%	0

0.14 Structure arsons/1,000 population

0.04 Vehicle arsons/1,000 population

0.01 Other arsons/1,000 population

Peak Times of Day for:

Structure Arsons	#	%	Vehicle Arsons	#	%
20:01 - 00:00	5	38%	00:01 - 04:00	2	50%
12:01 - 16:00	3	23%			

Other Arsons	#	%
20:01 - 00:00	1	100%

Peak Fixed Property Uses for Structure Arsons	#	%
Apartments	5	38%
1- or 2-Family homes	3	23%
Playground	1	8%
High/junior high/middle school	1	8%
Club house associated with country club	1	8%
Motor vehicle or boat sales or service	1	8%
Storage, unclassified	1	8%