

Brockton Fires in 2012

505 Total Fires — 201 Structures, 41 Vehicles & 263 Other Fires

The Brockton Fire Department reported 505 fires to the Massachusetts Fire Incident Reporting System (MFIRS) in 2012. The 201 structure fires, 41 motor vehicle fires, 104 brush fires, 70 outside rubbish fires, 60 special outside fires, two cultivated crop or vegetation fires; and 27 unclassified fires caused 16 civilian injuries, eight firefighter injuries and an estimated dollar loss of \$2 million. There were no fire deaths in Brockton in 2012.

Outside Fires Up in 2012

Total fires increased by 53 from the 452 incidents reported in 2011. Reported structure fires were down 23 from the 224 reported during the previous year. Motor vehicle fires decreased by 14 from 55 the year before. Outside and other fires increased by 90 from the 173 reported in 2011.

BROCKTON FIRES FROM 2008 TO 2012

	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Total Arsons	Structure Arsons	Vehicle Arsons	Other Arsons
2008	197	142	36	19	12	9	1	2
2009 ¹	199	138	35	26	17	11	5	1
2010 ²	375	181	41	153	23	8	3	12
2011	452	224	55	173	41	9	3	29
2012	505	201	41	263	57	17	3	37

BUILDING FIRES

There were 197 building fires of different types in Brockton in 2012. These 197 building fires accounted for 98% of all the structure fires in Brockton.

85% of Building Fires in Homes

The 197 building fires that occurred in Brockton in 2012 can be broken down by fixed property use as follows: 168, or 85% of all building fires, were in residential properties; nine happened in mercantile or business properties; six fires occurred in institutional facilities; five fires happened in public assembly buildings; four fires happened at educational facilities; two fires happened in storage facilities; another two fires occurred at a manufacturing facility; and one fire happened at an industrial facility.

¹ July 2009 fires not included.

² 2010 is the first year that Brockton reported all of their fire incidents electronically in the version 5 format. This included all fires not just the fires mandated by statute. This is the main reason for the large increase in outside fires and subsequently total fires.

RESIDENTIAL FIRES

Residential Building Fires Down

There were 168 reported residential building fires in Brockton in 2012. These 168 fires are a decrease of 29 from the 197 reported residential building fires reported in 2011.

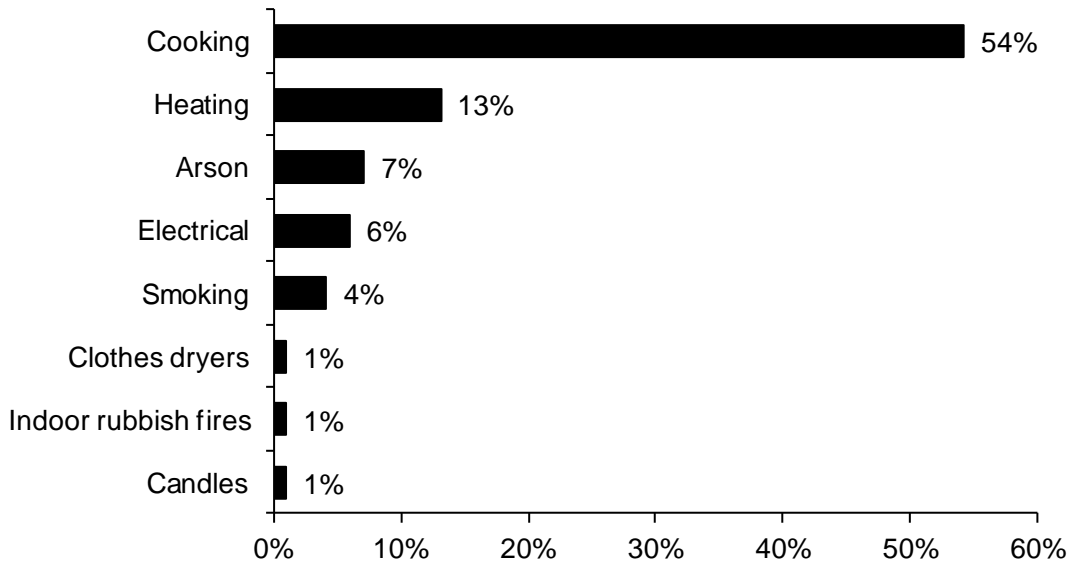
Apartments Accounted for 55% of Residential Building Fires

The peak fixed property uses for residential building fires in Brockton were apartments, accounting for 55% of the building fires; 42% occurred in 1- or 2-family homes; and 1% each happened in hotels or motels and dormitories and in residential board and care facilities. Another 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 54% of these fires. Heating fires caused 13% of these fires. Arson caused 7%, and electrical problems caused 6% of these fires. Smoking was the cause of 4% of Brockton’s residential fires. Clothes dryers, indoor rubbish fires and candles each caused 1% of fires in Brockton’s residential occupancies in 2012.

2012 Leading Causes of Fires in Brockton Homes



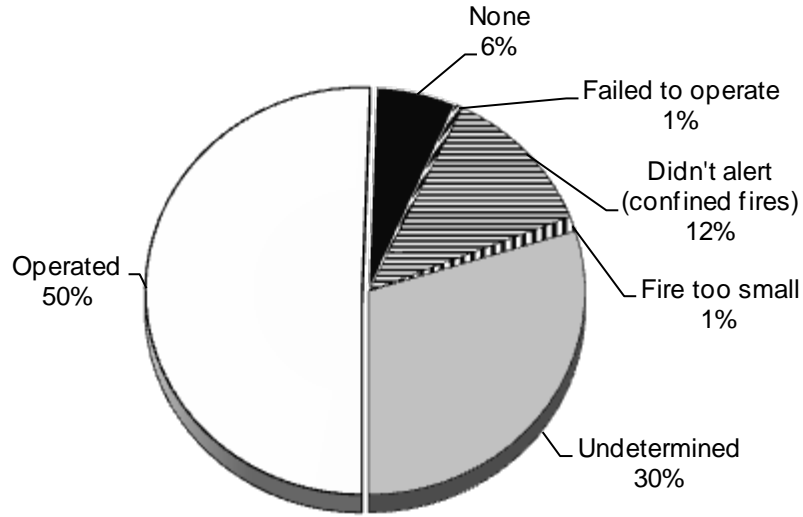
60% of Residential Building Fires Are Confined to Non-Combustible Containers³

One hundred (100), or 60% of all residential building fires were confined to non-combustible containers in 2012. Seventy-nine (79), or 47%, of all residential building fires reported in 2012 were cooking fires contained to a non-combustible container. Eighteen (18), or 11%, were fires confined to a fuel burner or boiler malfunction. Two (2), or 1%, were confined indoor rubbish fires. One (1) fire, or 1%, was reported to have been contained to a chimney or flue.

Detectors Worked in 1/2 of Fires

Smoke or heat detectors operated and alerted the occupants in 85, or 50%, of the residential building fires. In 12% of these fires⁴, the detectors did not alert the occupants. Detectors were present but did not operate in 1% of these incidents. In 6% of these fires, no detectors were present at all. The fire was too small to trigger the detector in 1% of these fires. Smoke detector performance was undetermined in 50 incidents, or 30%, of Brockton’s residential building fires.

Detector Status in Brockton's Residential Fires 2012



1 Detector Failed Missing a Battery

One (1) detector failed to operate because of a missing battery.

³ 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.

⁴ These represent confined fires where it was reported that the detector did not alert the occupants.

VACANT BUILDINGS

3% of Building Fires Occurred in Vacant Buildings

Brockton reported six fires that occurred in buildings that were vacant, under construction or under demolition. This represented 3% of the total 197 building fires reported to MFIRS in 2012. Two (2) apartment buildings, two one- or two-family homes, one industrial facility and one manufacturing facility were reported as vacant building fire incidents.

JUVENILE-SET FIRES

No Juvenile-set Fires in 2012

Brockton did not report any juvenile-set fires in 2012.

ARSONS

57 Arsons - 17 Structure, 3 Motor Vehicle and 37 Outside & Other

Fifty-seven (57), or 11%, of Brockton's 505 fires were considered intentionally set, or, for purposes of this analysis, arson. There were 17 structure arsons, three motor vehicle arsons and 37 outside and other arsons.

All Arsons Up in 2012

The total number of arsons increased by 16 from the 41 reported in 2011. Reported structure arsons increased by eight from the nine reported in 2011. Motor vehicle arsons remained the same with three reported in both 2011 and 2012. Outside and other arsons increased by eight from the 29 reported the previous year.

94 Fires Reported as Undetermined or Still Under Investigation

In 2012, Brockton reported 94 fires under investigation or cause undetermined after investigation. Eighty-one (81), or 86%, of these fires were reported to be undetermined after investigation. The other 13, or 14%, were still under investigation.

Sixteen (16), or 17%, of these 94 fires were structure fires. Fourteen (14), or 15% were motor vehicle fires; and 64, or 68%, 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 for 2012.

ALL INCIDENTS

Rescue & EMS Incidents Are Almost 3/4 of All Reported Incidents⁵

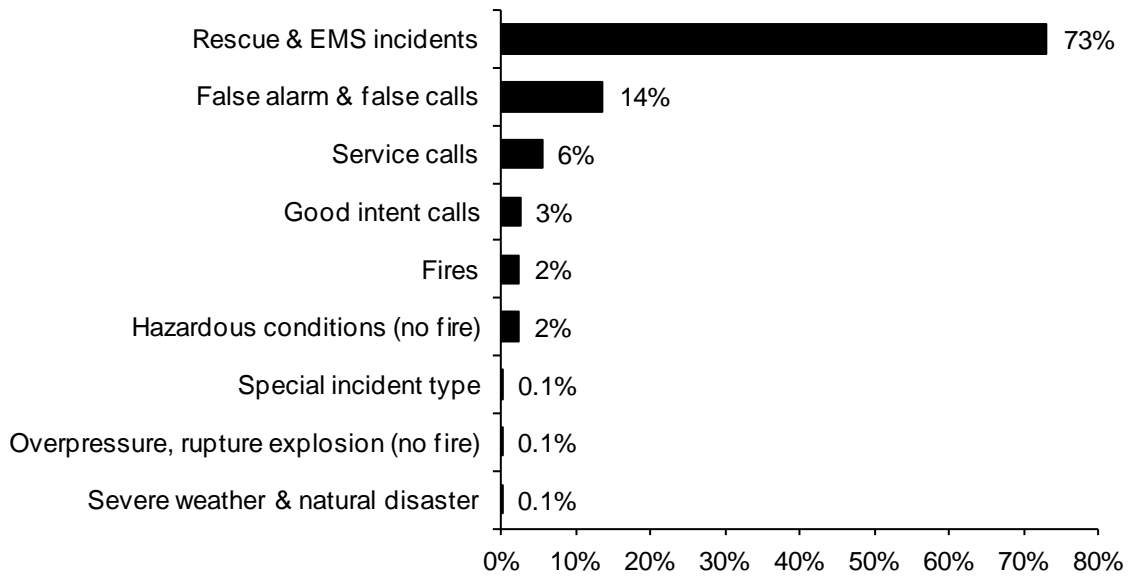
In 2012, Brockton voluntarily reported 20,569 incidents to MFIRS. Of these 20,569 incidents, 20,057, or 98% were non-fire incidents.

⁵ Brockton started to report all of their incidents in August of 2010. 2011 is the first year that Brockton reported all of their incidents for the entire year.

Of these 20,057 non-fire incidents 15,036, or 73%, of all reported incidents in 2012 were reported rescue and emergency medical services (EMS) calls; 2,805, or 14%, were reported false alarm or false calls; 1,137 incidents, or 6%, were service calls; 528, or 3%, were good intent calls; 502, or 2%, were reported hazardous condition calls with no fire; 21, or 0.1%, were special incident types; 15, or 0.1%, were overpressure, rupture or explosions with no fire calls; and 13, or 0.1%, were severe weather or natural disaster calls.

In 2012, Brockton reported 512 fires⁶, accounting for 2% of all reported incidents.

2012 Incidents by Incident Type



Brockton Gave Mutual Aid in 21 Reported Incidents

In 2012, Brockton reported coming to the aid of other fire departments 21 times. Seven (7), or 33%, were for fires; six, or 29%, were for service calls; five, or 24%, of these calls were rescue or EMS calls; one, or 5%, was a good intent call; and the other call, or 5%, was a special incident type.

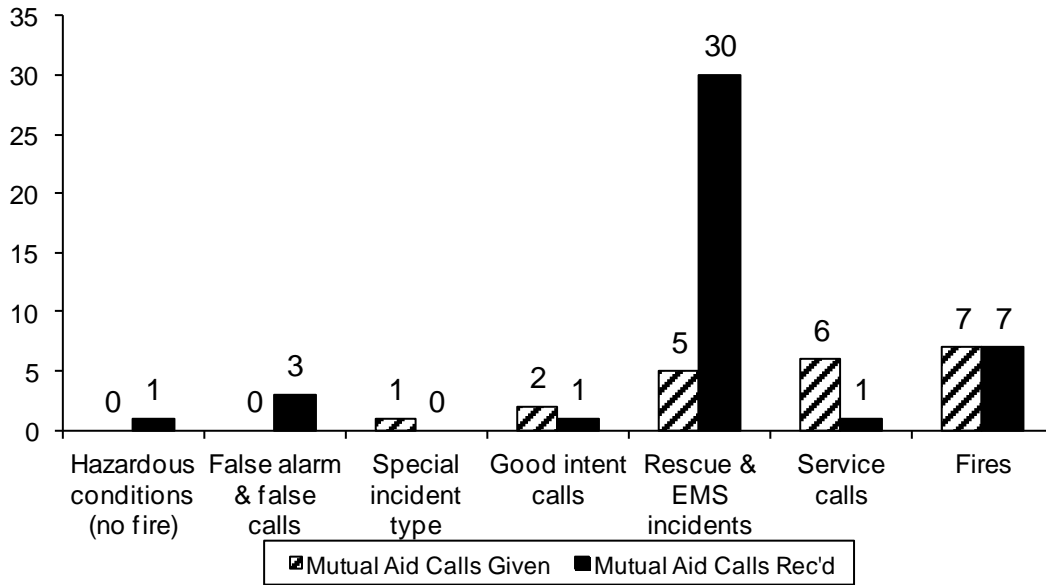
Brockton Received Mutual Aid in 43 Incidents

In 2012, surrounding fire departments gave aid to Brockton during 43 incidents. Thirty (30), or 70%, were for rescue or EMS incidents, seven, or 16%, of these incidents were for fires; three, or 7%, were false alarms; one, or 2%, was for a service call; another one, or 2%, was for a hazardous condition with no ensuing fire; and one, or 2% was for a good intent call.

⁶ This includes fires that Brockton responded to as mutual aid calls outside of their jurisdiction.

The following chart compares the number of calls the Brockton Fire Department gave mutual aid to a neighboring community compared to the number of calls where a neighboring community assisted Brockton. In 2012 Brockton received aid from other fire departments twice as much as they were asked for it.

Brockton's Mutual Aid Calls in 2012



Brockton

Population: 93,810

5.4 Fires/1,000 Population

Total Fires:	505		\$1,999,462
Situation	Fires	% of Fires	Dollar Loss
Structure Fires	201	40%	\$1,892,212
Vehicle Fires	41	8%	84,700
Other Fires	263	52%	22,550

16 Civilian Injuries 8 Fire Service Injuries

Building Fires: 197

Residential Structure Fires: 168

Residential Structure Fires Confined to Non-Combustible Containers: 100

Unconfined Residential Structure Fires: 68

13 Civilian Injuries 7 Fire Service Injuries

Occupancy	Fires	%	Detector Status	Fires	%
Apartments	92	55%	Operated	85	50%
1- & 2-Family homes	70	42%	Didn't operate	1	1%
Dormitories	2	1%	None	10	6%
Hotels/motels	2	1%	Fire too small	2	1%
Residential board & care	1	1%	Didn't Alert (confined)	20	12%
			Undetermined	50	30%

Area of Origin⁷	%	Heat Source	%	%Unconfined⁸
Kitchen	57%	Heat from operating equip.	6%	15%
Heating room or area	11%	Arcing	5%	13%
Bedroom	7%	Cigarette	4%	10%
Wall surface, exterior	3%	Hot or smoldering object	3%	7%
Bathroom	2%			
Exterior balcony/unencl. porch	2%			

⁷ This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

⁸ 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 Ignited⁹	%	Factor Contrib. to Ignition	%	%Unconfined¹⁰
Cooking materials	50%	Short circuit arc, worn insul.	1%	3%
Flammable or combustible liq.	11%	Abandoned materials	1%	1%
Structural member, framing	5%	Too close to combustibles	1%	1%
		Elec. failure/malfunction	1%	1%
		Equip. not operated properly	1%	1%

Equipment¹¹	%	Cause of Ignition	%	%Unconfined¹²
Cooking equipment	55%	Unintentional	23%	56%
None	24%	Intentional	6%	17%
Boiler, furnace, cent. heat. unit	11%	Failure of eq./heat source	4%	10%
Clothes dryer	1%	Act of Nature	0%	0%
Electrical wiring, other	1%	Undetermined	3%	7%
		Cause Under Investigation	4%	10%

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

Alerted Occupants	58%
Didn't Alert Occupants	20%
Undetermined	22%

All Reported Incidents	# of Incidents	% of Incidents
Rescue & EMS incidents	15,036	73%
False alarms & false calls	2,805	14%
Service calls	1,137	6%
Good intent calls	528	3%
Fires ¹³	512	2%
Hazardous conditions (no fire)	502	2%
Special incident type calls	21	0.1%
Overpressure rupture, explosion or overheat calls (no fire)	15	0.1%
Severe weather & natural disaster calls	13	0.1%

⁹ This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

¹⁰ 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.

¹¹ This field does not need to be completed for confined fires. Certain codes are inferred from the Incident Type.

¹² 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.

¹³ This figure contains the fire that Brockton gave mutual aid to in another jurisdiction.

Month	Total Fires	Structure Fires	Vehicle Fires	Other Fires
January	27	15	3	9
February	39	25	3	11
March	50	18	7	25
April	90	22	0	68
May	37	11	2	24
June	42	18	3	21
July	51	15	8	28
August	45	18	3	24
September	28	12	2	14
October	33	18	1	14
November	39	16	4	19
December	24	13	5	6

Day	Total Fires	Structure Fires	Vehicle Fires	Other Fires
Sunday	83	32	8	43
Monday	69	25	5	39
Tuesday	78	34	5	39
Wednesday	68	28	6	34
Thursday	71	27	7	37
Friday	66	30	4	32
Saturday	70	25	6	39

Time	Total Fires	Structure Fires	Vehicle Fires	Other Fires
00:01 - 04:00	34	19	6	9
04:01 - 08:00	45	16	9	20
08:01 - 12:00	62	30	5	27
12:01 - 16:00	138	54	7	77
16:01 - 20:00	135	54	9	72
20:01 - 24:00	91	28	5	58

Motor Vehicle Fires

Total: 41

Automobiles: 37 (90%)

3 (8%) of the automobile fires considered intentionally set.

Arson Fires

Total Arsons: 57

Dollar loss: \$152,900

0.61 Arson Fires/1,000 Population

Situation	Arsons	% Situation	% Arson	Dollar Loss
Structure Arsons	17	8%	30%	\$151,600
Vehicle Arsons	3	7%	5%	1,000
Other Arsons	37	14%	65%	300

0.18 Structure arsons/1,000 population

0.03 Vehicle arsons/1,000 population

0.39 Other arsons/1,000 population

Peak Times of Day for:

Structure Arsons	#	%	Vehicle Arsons	#	%
12:01 - 16:00	4	24%	00:01 - 04:00	2	67%
08:01 - 12:00	3	18%	04:01 - 08:00	1	33%
16:01 - 20:00	3	18%			
20:01 - 00:00	3	18%			

Other Arsons	#	%
20:01 - 00:00	12	32%
16:01 - 20:00	11	30%
12:01 - 16:00	9	24%

Peak Fixed Property Uses for Structure Arsons	#	%
1- or 2-Family homes	8	47%
Apartments	3	18%
High/junior high/middle school	2	12%
Hotel/motel	1	6%
Elementary school	1	6%
Department or discount store	1	6%
Church, mosque, synagogue	1	6%