Police-reported arson and fire-related homicide in Canada

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Arson and fire-related homicide—fire crimes—are inherently dangerous and destructive, with the potential for major costs in terms of property loss, injuries and fatalities. From 2012 to 2021, Canadian police services reported nearly 95,000 incidents of arson, including 2,243 victims of violent arson. Many of these occurred either in open areas (43%) or in private dwellings (38%). Additionally, over a similar period, from 2011 to 2020, there were 301 victims of a homicide where fire was involved, either as the primary cause of death or as an accessory.

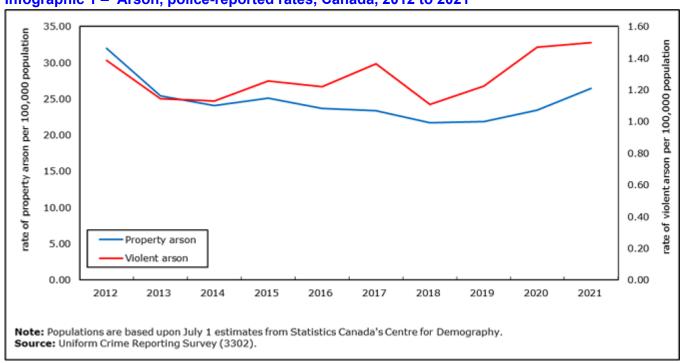
Along with being highly dangerous and destructive, criminal fire setting is somewhat unique in that it can destroy evidence, making investigating and solving these crimes more difficult. Therefore, understanding the characteristics of fire-related crimes—where they tend to occur and who is at risk—is important for law enforcement, fire investigators and the public to better ensure public safety.

Rates of police-reported arson are up since 2018

From 2012 to 2021, police services across Canada reported a total of 94,591 incidents of arson, which is the criminal act of intentionally or recklessly causing damage by fire or explosion to property. This was about 9,500 incidents of arson per year. The vast majority (95%) of them were for arson solely related to property (property arson), while the remaining 5% were for arson with a disregard for human life (violent arson).

Overall, from 2020 to 2021, the rate of arson increased by 12%, from 25 incidents per 100,000 population to 28 incidents per 100,000 population. More broadly, rates of both violent and property arson have been increasing since 2018. In prior years, violent arson typically fluctuated up and down year over year, while property arson had generally been declining. Compared with 2012, violent arson was up by 8% in 2021, while property arson was down by 17%.



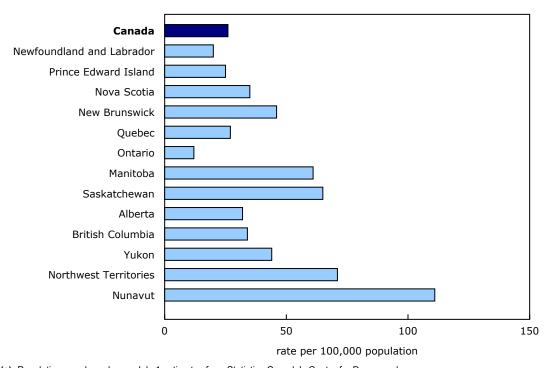


Among the provinces, rates of arson are highest in Saskatchewan, Manitoba and New Brunswick

Previous research has indicated that targeted fire prevention programs, such as ensuring homes have working smoke alarms, can improve fire safety across large areas. Therefore, understanding where arson incidents have been likely to occur can help to target intervention programs.

Among the provinces, Saskatchewan (65 incidents per 100,000 population), Manitoba (61 incidents) and New Brunswick (46 incidents) reported 10-year average rates nearly two and a half times higher than the national average of 26 incidents per 100,000 population. Ontario and Newfoundland and Labrador reported average rates lower than the national average.

Chart 1
Arson, police-reported average rates, by province and territory, 2012 to 2021



Note(s): Populations are based upon July 1 estimates from Statistics Canada's Centre for Demography. **Source(s):** Uniform Crime Reporting Survey (3302).

For detailed information on police-reported incidents of arson and incidents of other crimes, refer to table 35-10-0177-01.

Rates of arson are higher in the rural North than in the rural South or urban areas

For the 10-year period from 2012 to 2021, the rate of arson was 89.7 incidents per 100,000 population in the rural North, two and a half times higher than the rate in the rural South (36.1 incidents) and four times higher than that in urban areas (22.3 incidents).

More specifically, rates varied among Canada's major cities or census metropolitan areas (CMAs) in 2021. The highest rates of arson were reported in Regina (124 incidents per 100,000 population), Winnipeg (68 incidents) and Kelowna (66 incidents). The lowest rates of arson were reported in Barrie (5 incidents per 100,000 population), Toronto (7 incidents) and Peterborough (7 incidents).

From 2012 to 2021, Brantford, Winnipeg, Kelowna and Regina typically reported among the highest annual rates of total arson.

More than one-third of violent arson incidents involve multiple victims

From 2012 to 2021, police reported 2,243 victims of violent arson. More than one-third of violent arson incidents involved multiple victims. Among incidents of violent arson where at least one victim was known to police, 34% involved multiple victims. This includes 75 incidents that had five or more victims each, totalling 600 victims. In other words, 6% of unique incidents accounted for 27% of victims. Often, these incidents involve larger, shared dwellings such as an apartment building or a motel that are set on fire, affecting several people at once. This finding underscores the potentially devastating impacts of criminal fire setting.

Violent arson incidents are more likely to occur in private dwellings

From 2012 to 2021, violent arson incidents most often occurred in private dwellings (73%), while property arson typically occurred in open areas (45%; e.g., in the street, parks or playgrounds) and private dwellings (37%). This finding may be expected given the nature of these crimes. Among private dwellings targeted in arson incidents, most (66%) were single homes or houses, including row houses, followed by short- and long-term dwelling units (23%; e.g., hotels, motels or apartments), and private property structures (12%; e.g., garden sheds or detached garages).

According to the National Fire Information Database for the years 2005 to 2014, residential structure fire incidents accounted for approximately 29% of all fire incidents.

Arson is most likely to occur at night, on the weekend and during the spring or summer

Spatiotemporal factors are integral to fire investigations. Not only does the location of the fire matter, but temporal factors can assist both in investigating and reducing the risk for arson.

From 2012 to 2021, arson incidents were more likely to occur on weekends (32% happened on a Saturday or a Sunday) than on any individual weekday. They were also more likely to occur in the evening or at night, with close to two-thirds (62%) happening between 6:00 p.m. and 6:00 a.m.

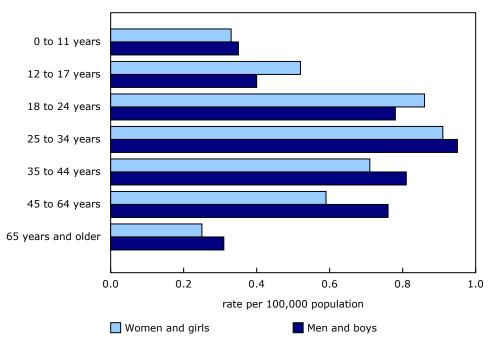
Like with other property crimes, arson incidents were also more likely to occur during the spring or summer months, with 60% happening from April to September. In comparison, unintentional residential fire-related deaths are more common in the winter. From 2012 to 2021, the four-month period from December to March saw over twice as many residential fire-related deaths as the four-month period from June to September.

Arson victims are more likely to be young adults, though older victims are more likely to sustain injuries

Among victims of violent arson from 2012 to 2021, 53% were men or boys and 47% were women or girls.

Victims' ages were similar across genders, with rates for women and men highest for those aged 18 to 44 years. More specifically, rates were highest for victims aged 25 to 34 years (0.93 victims per 100,000 population), followed by those aged 18 to 24 years (0.82 victims). The lowest rates were recorded for adults aged 65 years and older (0.28 victims) and for children aged 0 to 11 years (0.34 victims per 100,000 population).

Chart 2
Rate distribution of arson victims, by gender and age group, 2012 to 2021



Note(s): Populations are based upon July 1 estimates from Statistics Canada's Centre for Demography. **Source(s)**: Uniform Crime Reporting Survey (3302).

Overall, victims of violent arson were typically not injured (81%) or suffered minor injuries (15%). Major injuries or death were relatively uncommon (4%). Compared with all victims, victims aged 65 years and older were more likely to sustain minor injuries (38% versus 15%).

According to data from the Canadian Coroner and Medical Examiner Database, older people are more likely to die in unintentional (accidental) residential fires. In general, various factors, such as age and mobility, can affect an individual's ability to escape from a fire and avoid injury, whether it was set intentionally or accidentally.

Victims of violent arson who are women and girls are much more likely to have had a prior relationship with the accused

In violent arson incidents from 2012 to 2021, women and girls (41%) were nearly twice as likely to have a current or former familial or intimate relationship with the accused compared with men and boys (21%). From 2012 to 2021, police reported 239 women and girls who were victims of a violent arson incident where the accused was a current or former intimate partner.

In contrast, men and boys were more likely to have been victimized by a stranger (30% versus 23%) or by an acquaintance (50% versus 37%).

Most people accused of arson are younger men and boys

From 2012 to 2021, 20,683 individuals were accused of incidents of arson (violent or property). The majority (83%) of people accused of arson overall were men and boys.

Overall, the rate of men and boys (9.5 individuals accused per 100,000 population) accused of arson was nearly five times higher than the rate of women and girls (2.0 individuals).

Among men and boys, by far the highest rate of accused people was among those aged 12 to 17 years (44.2 individuals accused per 100,000 population), which was nearly two and a half times higher than the next highest age group, young men aged 18 to 24 years (18.1 individuals).

Over half of those accused of arson had prior contact with the police

Based on a linkage study linking incident and accused records, 11,288 people accused of at least one arson violation from 2012 to 2018 were identified. Among these people, 55% had been accused in at least one police-reported incident in the three years preceding their first arson. For those with prior police contact, 28% were accused in one prior incident, 38% were accused in from two to five incidents, and 34% were accused in six or more incidents.

Similarly, 64% of the people accused of arson in the linkage study came into contact with police again within the three years following their initial arson violation. Among these people, 24% were accused in one subsequent incident, 38% were accused in from two to five subsequent incidents, and 38% in six or more subsequent incidents.

Violent arson incidents are much more likely to be solved

From 2012 to 2021, most violent arson incidents were cleared by charge (70%), while the large majority of property arson incidents were not cleared, meaning they remained unsolved (85%). Equal proportions of violent and property arson incidents (5% each) were solved without laying a charge.

Just over three-quarters of fire-related homicides occur in a residence, with smoke inhalation or burns being the most common cause of death

A fire-related homicide is a homicide where fire was the primary cause of death or where fire was otherwise used as an accessory in the commission of the homicide—for example, to hide the body of a victim or to destroy other related evidence.

Police-reported data can be complemented by other sources of information. For example, the Canadian Coroner and Medical Examiner Database recently produced reports examining fire-related deaths in Canada, including the circumstances surrounding unintentional fire deaths and suicides. From 2011 to 2020, the majority (81%) of fire-related deaths investigated by coroners or medical examiners were classified as unintentional (accidents). Smaller proportions were classified as intentional, such as suicides (12%) and homicides (3%), or were undetermined (4%).

From 2011 to 2020, there were 301 fire-related homicides in Canada. These accounted for at least 5% of all homicides over that period. For 39% of fire-related homicides (111 victims), the primary cause of death was smoke inhalation or burns. For the other homicide victims, the fire was not the primary cause of death, but was involved in the incident—for example, to destroy a crime vehicle or other evidence. The causes of death for these other homicides included shooting (29%), stabbing (15%), and beating or blows (11%).

The majority (78%) of fire-related homicides occurred in a residential location, typically a single house or row house, or a dwelling unit. For homicides in non-residential locations, the majority occurred in open areas like in the street, parks or parking lots (62%), and in privately owned vehicles (26%).

Fire-related homicides involving gang activity typically involve a firearm, are more likely to occur in a non-residential location and are less likely to be solved

Overall, 57 fire-related homicides involving gang activity were identified from 2011 and 2020. Just over two-thirds (67%) of them involved a firearm as the primary cause of death, compared with 18% of non-gang-related homicides involving fire.

As a result, in these gang-related homicides, fire was often deployed for a reason other than to kill the victim. More specifically, in 47% of gang-related homicides involving fire, the location of the fire was different than the location of the homicide. For example, the victim's body was moved to another location where a fire was then set, or a fire was set away from the body, such as to destroy a vehicle. The location of the fire relative to the location of the homicide was unknown or not specified for 23% of the identified gang-related homicides.

Fire-related homicides involving gang activity occurred more often in a non-residential location (58%). Non-residential locations included, for example, private vehicles (14%); parking lots (12%); streets, roads or highways (12%); construction sites (7%); and open areas (5%).

Victims of fire-related homicide involving gang activity were predominantly men or boys (89%), compared with 56% of non-gang-related homicides involving fire. Additionally, victims of fire-related homicide involving gang activity were typically aged 18 to 44 years (75%).

Similarly, 96% of individuals accused of fire-related homicides involving gang activity were men or boys. Individuals accused in these homicides tended to be younger, with 76% aged 18 to 34 years.

Relative to identified non-gang-related homicides involving fire from 2011 to 2020, those that were gang-related were much less likely to be cleared (meaning solved). Three-quarters (75%) of fire-related homicides involving gang activity were not cleared, compared with less than one-fifth (17%) of fire-related homicides not involving gang activity.

The majority of victims of fire-related homicides not involving gang activity are men and boys, though a lower proportion relative to homicides in general

Of the 244 victims of fire-related homicides from 2011 to 2020 that were not gang-related, 136 were men or boys (56%) and 108 were women or girls (44%). By comparison, for all homicides in this period, 74% of victims were men or boys and 26% were women or girls.

Note to readers

Unless otherwise noted, percentage calculations exclude unknown or unreported data.

Arson data are drawn from the Uniform Crime Reporting (UCR) Survey, a census of all criminal incidents known to police services in Canada.

The option for police to code victims as "gender diverse" in the UCR Survey was implemented in 2018. In the context of the UCR Survey, "gender diverse" refers to a person who publicly expresses as neither exclusively man nor exclusively woman. Given that small counts of victims identified as being gender diverse may exist, the UCR Survey data available to the public has been recoded with these victims distributed in the "men" or "women" categories based on the regional distribution of victims' gender. This recoding ensures the protection of confidentiality and privacy of victims.

For more information on the UCR Survey, key terminology and definitions, see Police-reported crime statistics in Canada, 2021.

Fire-related homicide data are based on a combination of variables drawn from the Homicide Survey, which collects police-reported information on the characteristics of homicide incidents, victims and accused persons in Canada. Additionally, a qualitative review of homicide narratives was conducted to detect the presence of fire in relation to the homicide. Not all reported homicides include a written or detailed narrative. Data are based on the 2020 Homicide Survey database and may not necessarily match more recently published data.

For more information on the Homicide Survey, key terminology and definitions, see Homicide in Canada, 2020.

Table 1 Police-reported total arson, by census metropolitan area (CMA),^{1,2,3} 2012 to 2021

	2021	2021	2012 to 2021
	number	rate	average rate
CMA			
St. John's	19	9	8
Halifax	74	16	16
Moncton	44	26	39
Saint John	19	14	17
Saguenay	44	26	32
Québec	172	21	20
Sherbrooke	34	16	22
Trois-Rivières	45	28	33
Montréal	872	20	22
Gatineau ⁴	78	23	25
Ottawa ⁵	130	12	12
Kingston	27	16	15
Belleville ⁶	15	13	12
Peterborough	9	7	9
Toronto	431	7	9 7
Hamilton	186	24	22
St. Catharines–Niagara	46	9	18
Kitchener-Cambridge-Waterloo	113	18	19
Brantford	43	28	81
Guelph	15	10	15
London	183	33	21
Windsor	98	28	20
Barrie	14	5	6
Greater Sudbury	42	25	20
Thunder Bay	29	23	22
Winnipeg	569	68	55
Regina	327	124	64
Saskatoon	107	31	33
Lethbridge ⁶	49	38	18
Calgary	193	12	16
Edmonton	745	50	35
Kelowna	150	66	49
Abbotsford–Mission	93	45	29
Vancouver	1,029	37	31
Victoria	138	33	24
Canada	10,692	28	26

^{1.} A CMA consists of one or more neighbouring municipalities situated around a major urban core. A CMA must have a total population of at least 100,000 of which 50,000 or more live in the urban core. To be included in the CMA, other adjacent municipalities must have a high degree of integration with the central urban area, as measured by commuting flows derived from census data. A CMA typically comprises more than one police service.

Note(s): Counts are based on the most serious violation in the incident. One incident may involve multiple violations. Rates are calculated on the basis of 100,000 population. Populations are based upon July 1 estimates from Statistics Canada's Centre for Demography.

Source(s): Uniform Crime Reporting Survey (3302).

^{2.} CMA populations have been adjusted to follow policing boundaries.

^{3.} The Oshawa CMA is excluded from this table due to the incongruity between the police service jurisdictional boundaries and the CMA boundaries.

^{4.} Gatineau refers to the Quebec part of the Ottawa-Gatineau CMA.

^{5.} Ottawa refers to the Ontario part of the Ottawa-Gatineau CMA.

^{6.} As of the 2016 Census, Belleville and Lethbridge became CMAs. Therefore, the average rate of arson is calculated from 2016 to 2021.

Definitions, data sources and methods: survey numbers 3302 and 3315.

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; infostats@statcan.gc.ca) or Media Relations (statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca).