



Ontario Association of Fire Chiefs

Position Paper: Residential Sprinklers

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INTRODUCTION

Fires burn quicker, hotter, faster and more toxic than ever before, requiring fire departments and the municipalities that employ them to rely on new technologies and protocols to successfully prevent and suppress blazes. And unfortunately, the average homeowner is unaware of how fast modern fires grow.

Working smoke alarms, combined with a residential sprinkler system, offer families the highest level of protection and the best opportunity for survival during a home fire. By responding to a fire while it is still small, sprinklers control the spread of deadly heat, flames and toxic smoke.

Ontario's fire service leaders are urging the provincial government to recognize the immense public and fire safety benefits of residential sprinklers by enacting legislation that would allow municipalities to mandate residential sprinklers in new homes.

BACKGROUND

According to a [2017 report](#) from the National Fire Protection Association (NFPA), when residential sprinklers and working smoke alarms are present, there is a 90 per cent reduction in fire deaths and fire-related injuries, and a 71 per cent reduction in property damage.

Further, the Report indicates that the average firefighter injury rate is nearly 80 per cent lower when fire sprinklers are present.

Additional NFPA research demonstrates how residential sprinkler systems improve the occupational health and safety for firefighters by limiting their exposure to cancer causing carcinogens, while also dramatically reducing the loss of life in residential fires.

Injuries and illnesses due to smoke inhalation or burns are reduced when fires are more quickly contained through the use of residential sprinklers. Ensuring the continued health and safety of our brave first responders should be of paramount importance to Ontario's government.

The treatment of burn injuries – whether for firefighters or fire victims – comes at a high cost for both the health care system and tax payers, too. This accounts for about \$118 million in direct costs and \$172 million in indirect costs, for a total of \$290 million annually across Canada, according to a 2014 report from Sunnybrook Hospital.

As well, Post-Traumatic Stress Disorder (PTSD) and other occupational stress injuries have become a growing concern for Ontario's first responders. By reducing the number of fire deaths and fire injuries, firefighters, paramedics, and police will be exposed to fewer traumatic experiences, potentially lessening the likelihood of developing mental health injuries.

The safety and economic benefits of residential sprinklers warrant serious consideration by the provincial government.

However, it's extremely important to recognize that mandating residential sprinklers does not replace the need for an appropriate municipal fire response, with properly staffed apparatus.



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Allowing municipalities to mandate residential sprinklers in new construction complements existing municipal fire safety programs.

The mandating of residential sprinklers does not replace the need for an effective fire response team. Sprinklers are designed to limit fire growth and allow time for residents to exit a building. The fire department is still required to extinguish the fire, and must have sufficient resources to do so. The fire service responds to a variety of natural and man-made emergencies that require sufficient response capability, as identified in the Municipal Risk Assessment. It will remain the responsibility of the municipal council to establish the level of service required to address the anticipated fire and emergency risk in its community.

The [Canadian Automatic Sprinkler Association](#) (CASA) also note an added benefit is that residential sprinklers are environmentally friendly.

They can reduce the amount of water run-off and pollution, reduce fire damage by up to 71 per cent, and reduce the amount of water used to fight a fire by as much as 91 per cent.

Backlash against residential sprinklers from home builders or developers and the general public is often rooted in misinformation about the effectiveness, use and aesthetics of the sprinkler systems.

Contrary to movies and television shows, sprinklers activate independently – unlike hard-wired and interconnected smoke alarms. If there is a fire, only the sprinkler closest to the flames will operate.

The [2017 NFPA study](#) previously mentioned showed that in about 90 per cent of home fires, only one sprinkler was necessary to control the fire. Smoke, cooking vapours or steam cannot cause the sprinklers to activate; sprinklers only operate in response to the high temperature of a fire.

Secondly, as stated by the [Home Fire Sprinkler Coalition](#), modern sprinkler systems offer sleek and discreet designs, so they fade into a home's décor. Most sprinkler manufacturers offer a wide variety of fire sprinkler designs, making it possible to install fire sprinklers in any type of new home. All residential fire sprinklers are much smaller and lower-profile than the types of sprinklers used in commercial properties. A typical residential sprinkler system operates off the household water main and uses piping installed behind walls and ceilings in finished areas.

Finally, sprinklers require very little maintenance. It is essential to keep the water valve turned on, so a simple visual inspection should be done routinely to ensure the valve is open. The inspection is a simple test that can be done by the homeowner or a fire sprinkler contractor.

Installing a residential fire sprinkler system is also eligible for a premium discount with some insurers – another advantage to homeowners.

Overall, residential sprinklers give occupants a distinct fire safety advantage.

RECOMMENDATION

With all these factors pointing toward the benefits and advantages of residential sprinklers, it is time for the Ontario government to mandate these life-saving systems to keep its constituents and first responders safe.