

NO: **R181**

COUNCIL DATE: **July 23, 2012**

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **July 18, 2012**

FROM: **Fire Chief**

FILE: **7320-20**

SUBJECT: **HomeSafe Program in Surrey**

RECOMMENDATION

The Fire Services Department recommends that Council receive this report as information.

INTENT

The purpose of this report is to provide information about the progress of and future direction of the HomeSafe program and other next step initiatives to reduce fire related injuries, deaths and property losses in the City of Surrey.

BACKGROUND

Surrey Fire Services has used a data-driven, research-based approach to drive down residential fires in Surrey. The *HomeSafe* program is one of the initiatives that have assisted in achieving this positive outcome. It involves on-duty firefighters going door-to-door in the City's highest fire-risk neighbourhoods to distribute fire prevention information, check for that smoke alarms are working and install smoke alarms at no cost to the homeowner where required. Based on statistics over its first two years, the program has resulted in a reduction in the rate of residential fires in the highest risk homes in the City by almost two-thirds and has prevented an estimated \$1.26 million in fire losses. In addition, when fires did occur in homes that had been visited under the program, the probability of smoke alarms having been activated by the fire was increased and the related fires were smaller and caused less damage.

Research and Best Practices

The *HomeSafe* Program emanated from a study of international best practices in fire safety home visits. From the early 1990s, the effectiveness of public fire education has demonstrated positive public safety results. For example the document *Proving Fire Education Works*, written by Philip Schaeffer, Charles Jennings and colleagues from the TriData Corporation in 1990, analyzed 77 public education strategies including school-based programs, comprehensive community-wide programs, programs targeting a specific cause of fire or audience, juvenile fire-setter programs, smoke detector programs, and national strategies. All 77 initiatives demonstrated positive impact in some form.

More recently, a TriData (2009) review of best practices in residential fire prevention highlighted the impact of home visitation programs in the UK that targeted fire safety inspections and risk reduction and emphasized the importance of working smoke alarms. Similar initiatives are becoming a crucial component of Canadian residential fire-prevention efforts and are often implemented by either community-based volunteers or through local fire departments.

Home visits focused on fire safety typically include a check to confirm the presence and functionality of smoke alarms, development of fire escape plans, and public education on common causes of preventable house fires. Home visitation programs generally reduce the rate of fires and increased presence of working smoke alarms in the homes that are visited; however, these types of initiatives have lacked conclusive, formal evaluation and have oftentimes become victims of their own success, with funding and focus redirected after the problems are perceived to have been solved.

Surrey Fire Services undertook a review of Surrey fire data from 1988 to 2007. Analysis of nearly 5,000 structure fire incidents indicated the following trends for Surrey:

- Residential properties were involved in over 75% of structure fires;
- The incidence of fire increased when occupants smoked, were elderly, had a disability or had mental health or substance use issues; and
- Residential structure fires tended to be clustered geographically and tended to be correlated with certain types of dwelling use, on sources of ignition (e.g., cooking, open flames) and on the lack of functioning smoke alarms.

With data from the review in hand, Surrey Fire Services created the *HomeSafe* program: a custom fire-education program that targeted those neighbourhoods that had a high incidence of residential fires.

How Home Safe Works

HomeSafe leverages local fire data and fire education best practices to target residential fires in neighbourhoods that have the greatest risk of fire. Risk in this case is determined based on the distribution of recent fires across the City, combined with the rate of high-risk residents (as a consequence of factors such as age, family structure, and lifestyle) in a neighbourhood. The aim of the Program is to reduce both the frequency and severity of residential fires.

The high-risk zones are located throughout the City, and each of Surrey's 17 fire halls is involved visiting and distributing information to a list of addresses. The Program is implemented coincidentally across the City in a two-week period, during which each Fire Hall delivers an average of 2,600 information packages. In undertaking the deliveries, uniformed firefighters go door-to-door in targeted neighbourhoods to educate residents of each residence about fire safety, provide an information package to the residents and check to determine whether the smoke alarm in each residence is working and if it is not, to install at no cost to the resident a new smoke alarm. The information that is provided to the residents covers a range of fire prevention topics, including:

- Smoke alarms – purpose, types, locations, strategies and maintenance;
- Home fire escape plans – need and purpose, the realities of fire, what to do in case of fire, individuals and locations with the greatest fire risks;

- Children and fire – their curiosity about fire, parenting strategies to prevent fire-setting by children, safe use of fire with children, and setting a good example;
- Senior fire safety – fire survival and prevention strategies, home fire escape plans, and what to do in case of fire; and
- Kitchen fire safety – prevention strategies, what to do in case of a kitchen fire, ignition sources, how to respond to burns and burning clothing, and children in the kitchen.

The package includes a letter from the Fire Chief that outlines the purpose of the initiative and reinforces the offer of a free home safety inspection and of the installation of a new smoke alarm.

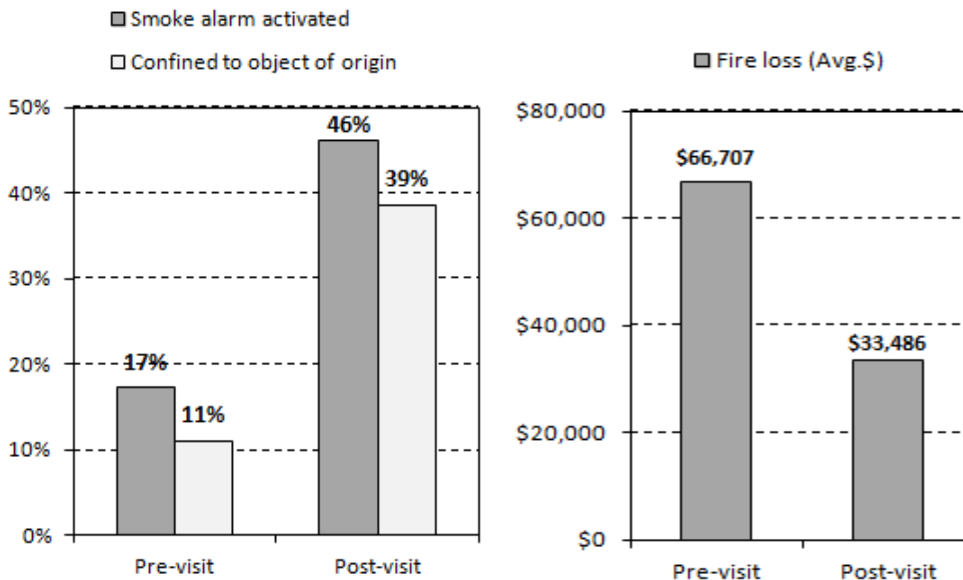
Costs for the first two years of the program are approximately \$63,000. On-duty career firefighters deliver the information as part of their routine duties and donations from community partners have helped minimize the hard costs, which are approximately \$3 per visited household.

Evaluation Results

Surrey Fire Services has evaluated the results of the first two years of the *HomeSafe* program. In its first two years the program reached 18,473 addresses, representing about 14% of all grade-entry homes in Surrey (i.e., excluding apartments). A statistical analysis revealed that there was a 64% reduction in the annual rate of fires in homes that were visited under the *HomeSafe* program relative to a comparable control group of homes.

The *HomeSafe* results are also encouraging when the 13 fires that did occur in houses that were visited are examined:

- Smoke alarms were activated in 46.2% of cases, compared to 17.2% in fires in the same areas prior to the intervention – a 169% increase;
- 38.6% of fires were confined to the object of origin, compared to 11% prior to the intervention – a 251% increase; and
- An average loss of \$33,486 per fire compared to \$66,707 per fire prior to the intervention – a 50% decrease, despite the fact that the average property value in the target areas had grown from \$380,000 to \$405,000.

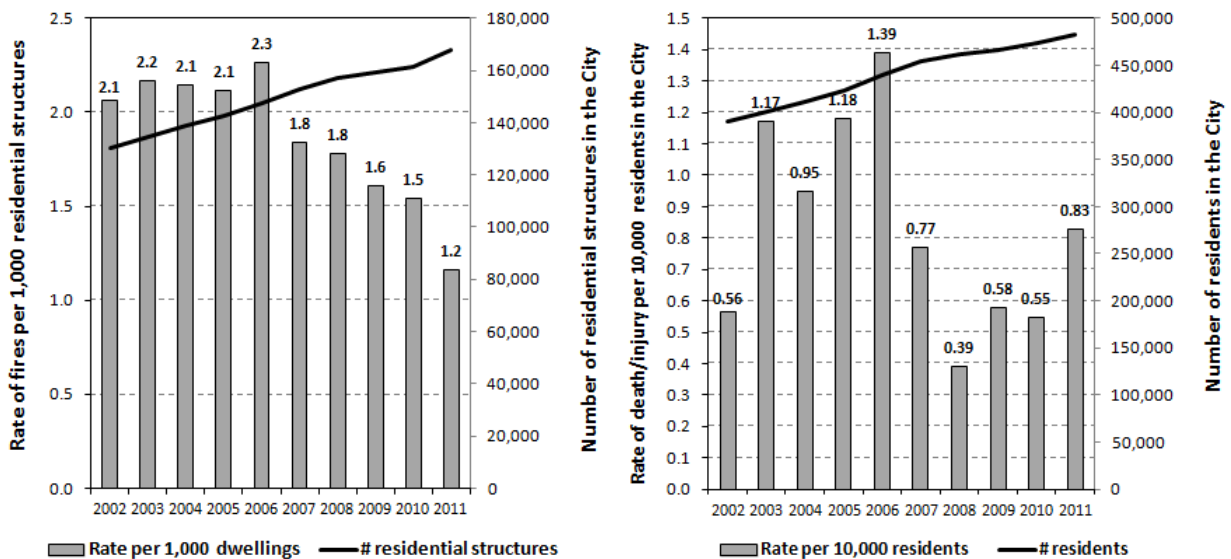


By extrapolating the findings, it is estimated that *HomeSafe* has saved \$1.26 million in damages and losses in its first two years (i.e., \$28,252 × 13 for fires that did occur, and 13.4 × \$66,707 for fires that did not occur, assuming a constant annual rate of fires).

The detailed findings of the formal evaluation of the first two years of *HomeSafe* have recently been published in the international “*Journal of Safety Research*”.

HomeSafe as Part of a Broader Fire-Prevention Strategy in Surrey

The Surrey Fire Service is undertaking a broader range of activities beyond *HomeSafe* to reduce fires in the City, including aggressively boarding up vacant buildings, electrical fire safety inspections at residences that are considered to be at risk in relation to electrical consumption, a targeted cooking-fire awareness campaign, and community forum work with elderly residents. As a consequence of these programs, and despite a 14% increase in the number of residential structures and an 18% increase in population since 2006, the city has observed a 49% decline in the rate of residential fires per 1,000 dwellings and a 40% reduction in the rate of fire-related casualties per 10,000 residents.



Regional Influence

Recent research has indicated working smoke alarms in every household would eliminate approximately 69 fire-related fatalities annually across Canada. As part of a national injury reduction taskforce initiative being led by the Canadian Royal College of Physicians and Surgeons, the Fire Chiefs’ Association of BC (FCABC) is seeking to achieve the goal of having a working smoke alarm in every home.

To this end, on March 22, 2012, BC Minister of Justice and Attorney General Shirley Bond launched a campaign in partnership with the President of the FCABC intended to ensure every home in BC has a working smoke alarm. To date, campaign announcements on this movement have occurred in three municipalities in British Columbia: the first being Surrey, where the campaign was first launched; the second in Victoria on the steps of the Legislature where donations by Kidde Canada (5,000 free smoke alarms donated for high risk residents in BC) and Black Press Media (a commitment of \$350,000 in media advertising across their publications)

were and where Minister Bond proclaimed October 12, 2012 as Provincial Smoke Alarm Day; and most recently in West Kelowna where Premier Christie Clark announced her commitment to the program and the tie of the initiative with the Provincial government's 'Family's First' agenda, as well as a partnership with BC Hydro who will reach out and remind their customers to install and test their smoke alarms. At the West Kelowna event, the Mayor of West Kelowna announced their Fire Department's commitment to test and replace smoke alarms across his community.

Continued efforts to sustain momentum by the BC Minister of Justice and Attorney General Shirley Bond are resulting in requests to have additional launches in other communities across BC. City of Surrey Fire Services intends to continue to encourage new corporate partners to become involved in the initiative.

Led by representatives from the City of Surrey Fire Service, the FCABC is intending to apply for a grant to map the entire province based on the highest risk members in communities and to supply communities across BC with the necessary resources to launch the program in each community.

SUSTAINABILITY CONSIDERATIONS

Moving Forward in a Sustainable Manner

HomeSafe has proven to be an effective approach that maximizes the efficiency of the firefighter effort involved with the delivery of fire-prevention public education. It directly contrasts more traditional fire-prevention education campaigns, which commonly involve broad-brush efforts across wide geographic areas and do not target specific problem areas or groups. This lack of focus not only dilutes any positive effects away from the areas/individuals in greatest need, but makes it difficult to evaluate the impact. None of these limitations apply to the *HomeSafe* methodology. There are no other equivalent programs to *HomeSafe* in North America, and no equivalent evaluation process has been undertaken anywhere in the world.

With its evidence-based approach to fire prevention, Surrey is bucking the regional and provincial trend of increasing numbers of residential fires. To date, more than 40,000 homes have received *HomeSafe* visits and the following are being planned to augment the positive results that have been achieved to date:

- Identification of the highest risk members of the community through closer examination of the links between fire and the age, cognitive/physical ability, other impairment and socio-economic condition of individuals;
- Identification of risks based on dwelling-unit type;
- Monitoring to ensure the program continues to target the community's highest risk areas, and
- Additional research of best practices to enhance the program's process, content and delivery, including the potential use of telemarketing to distribute safety information.

The City of Surrey Fire Service is also undertaking the following:

- hosting the Injury Action Forum on October 12, 2012 in Surrey;
- creating fire-risk awareness through advertisements in bus shelters and billboards across the City of Surrey; and
- leveraging interagency partnerships to raise awareness on the proper testing and installation of smoke alarms (e.g. Meals on Wheels, social services, libraries, RCMP etc).

CONCLUSION

In much the same way as the public accepts and values the fact that seatbelts must be worn in vehicles on every journey for safety reasons and that every new generation of children should be vaccinated for safety reasons, continuing funding and focus is necessary to build public awareness about the critical role that smoke alarms play in home safety. The Surrey Fire Services Department has developed and is developing sustainable fire prevention strategies that work in partnership with other service providers including health care providers, the local insurance industry, hydro providers, library services, and the RCMP.

One initiative of Surrey Fire Services that has proven to be very successful in reducing fires and fire losses is the *HomeSafe* program. HomeSafe will continue as an important initiative of Fire Services while other evidence-based prevention initiatives are being developed for future implementation all with the objective of ensuring that the City's residents live in a safe environment.

A handwritten signature in blue ink, appearing to read 'Len Garis', with a small horizontal line at the end.

Len Garis
Fire Chief

LG/jg

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