

## Burning Cars: Vehicle fires account for half of Surrey, B.C., calls

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Fifty per cent of fires attended by Surrey Fire Service between 1997 and 2003 involved a vehicle.

*Photo courtesy Surrey Fire Department*

A recent study in Surrey, British Columbia, has contradicted national research on vehicle fires, demonstrating the need for further research and investigation on this topic.

Completed in July by the Centre for Criminal Justice Research at the University College of the Fraser Valley's School of Criminology and Criminal Justice, the study was initiated by Surrey Fire Service after the discovery that the number of vehicles involved in fires in Surrey was unusually high compared to national research and common expectations.

Indeed, a staggering 50 per cent of all fires attended by Surrey Fire Service in the seven years between 1997 and 2003 involved a vehicle. Closer examination revealed that this figure was more than twice what would have been expected and what is reflected in national research. For example, the Council of Canadian Fire Marshals and Fire Commissioners reported in 2004 that vehicle fires accounted for just 21 per cent of calls received by Canadian fire departments in 2001.

Surrey's patterns also did not align with research showing a correlation between the incidence of vehicle fires and the time of day when vehicles are most in use, as was noted in the 2005 National Fire Protection Association report U.S. Vehicle Fire Trends and Patterns.

The database used for the analysis was provided by the Office of the Fire Commissioner for the province of British Columbia and contained information about the street location, date, time and place of each incident, as well as the type of vehicle and amount of loss involved.

Clearly, vehicle fires in Surrey are not occurring in a pattern consistent with vehicle use. Some 32 per cent occur between 11 p.m. and 3 a.m., and if this is added to the 18 per cent that occur between 3 a.m. and 7 a.m., it appears that half of all vehicle fires occur when vehicle use is undoubtedly at its lowest. This proved to be the case for each of the seven years considered.

It also turns out that the newest and most expensive vehicles catch fire between 11 p.m. and 3 a.m. Further, more newer and more expensive cars are catching fire between 3 a.m. and 7 a.m. than in the remaining time periods.

### **Location of Vehicle Fires**

Another surprise discovery was the presence of hotspots for vehicle fires in Surrey. The research showed that Surrey has several hotspot areas - none of which are either the city's most densely populated areas or areas with the highest traffic volumes.

Data currently does not exist to determine if Surrey's vehicle fire patterns reflect what is happening elsewhere in Canada. However, it is easy to suppose that a significant number of the Surrey incidents are cases of arson given the occurrence-hour blocks and supported by the 2005 NFPA report that found that intentionally set highway vehicle fires peak between midnight and 3 a.m.

Unfortunately, though, vehicle fires are not thoroughly investigated in Surrey or elsewhere, as noted in reports by the United States Homeland Security in 2002 and Federal Bureau of Investigation in 2001. No doubt, part of the reason for this is that arson is very difficult to prove.

Still, given the significant draw on fire department resources by vehicle fires - and the questions about existing research that arise from the Surrey study - the issue certainly deserves more serious attention. A case can clearly be made for fire departments across the country to employ crime analysts to conduct further research into this topic, beginning with the nature and extent of vehicle fires in their jurisdictions. Further research is a necessary starting point for Canadian communities to develop strategies to reduce vehicle fires and their associated financial and social burden.

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