



Op-Ed

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I write on behalf of BC's public health physicians who responded to the call for submissions to the BC Safety and Speed Review. It is with concern that we greet the recent announcement of higher speed limits on a number of BC's provincial highways.

Between 2008 and 2012, one thousand six hundred and fifty four British Columbians lost their lives on BC's roads.¹ According to Road Safety BC (formerly the Office of the Superintendent of Motor Vehicles) 35% of these fatalities involved speed as a factor. The largest number of fatalities was recorded from the roads in the Southern Interior, which makes up part of the Interior Health Authority, which also has the highest crash fatality rate per 100,000 population. One half of these were recorded on roads with a speed limit of 90kph or greater.² Thousands more British Columbians suffered life-changing injuries during this same period.¹

We welcome the safety measures that were announced - updates to winter tire legislation, wildlife warning systems, and variable speed limit signs. We applaud the roadside suspension program that saw crash fatalities due to drugs and alcohol fall in both 2011 and 2012. However, from a public health and safety perspective, the decision to increase speed limits ignores the preponderance of the evidence relating to speed and crashes and appears to be at variance with the statement that "safety is our number one priority".

1 British Columbia. Ministry of Justice: Office of the Superintendent of Motor Vehicles. *2008 to 2012 Motor Vehicle Fatalities in British Columbia: Statistics*. Victoria, BC. 2013.
<http://www.pssg.gov.bc.ca/osmv/shareddocs/MV-Fatal-Victims2008-2012.pdf>

2 Interior Health Authority. Office of the Senior Medical Health Officer. *Road Safety Report for the Interior Health Authority*. Kelowna, BC. 2013.
<https://www.interiorhealth.ca/AboutUs/Leadership/Documents/Road%20Safety%20Report%20for%20the%20IHA.pdf>.

There is in fact little controversy in the scientific literature on the association between speed, crashes, and related death.^{3,4,5,6} BC's own Road Safety Strategy emphasizes that speed increases both the likelihood of a crash and the likelihood of severe injury and death once a crash occurs.⁷ Speed decreases the amount of time a driver has to react, decreases manoeuvrability, increases stopping distances, and exponentially increases the force in a collision. Although all collisions are complex and are affected by many factors, the laws of physics are incontrovertible, and the consequences of speed are consistent across decades of research in numerous countries across all road types.

The repercussions of high-speed collisions are severe, and young people are particularly affected. They experience a disproportionate share of collisions and must carry any associated disability for the rest of their lives. Motor vehicle collisions are the leading cause of death among youth 15-25 years of age, with males outnumbering females 3 to 1.⁸ Young drivers have particular difficulty accurately judging travel time and distance, speed and stopping distances, and may not be able to navigate the same speeds as more experienced drivers do. In recent years, over 40% of fatal crashes among young males were speed-related.⁹

Small increases in speed make a large difference, too. The risk of involvement in a crash that will result in an injury increases exponentially with the speed of the vehicle, doubling with each five kilometers per hour in travel speeds above 60km/h.¹⁰

Groups advocating for higher speed limits cite safety concerns regarding slow drivers and claim that higher speed limits will encourage everyone to drive at similar speeds. The claim that slow drivers are a source of collisions is based on flawed studies from 50 years ago, and is refuted in present research.^{3,6}

3 Elvik, Rune, Peter Christensen, and Astrid Amundsen. "Speed and road accidents." *An evaluation of the Power Model. TØI report 740* (2004): 2004.

4 Elvik, Rune. *The Power Model of the relationship between speed and road safety: update and new analyses*. No. 1034/2009. 2009.

5 Elvik, Rune. "A re-parameterisation of the Power Model of the relationship between the speed of traffic and the number of accidents and accident victims." *Accident Analysis & Prevention* 50 (2013): 854-860.

6 Aarts, Letty, and Ingrid Van Schagen. "Driving speed and the risk of road crashes: A review." *Accident Analysis & Prevention* 38, no. 2 (2006): 215-224.

7 British Columbia. Ministry of Justice: Office of the Superintendent of Motor Vehicles. *British Columbia Road Safety Strategy 2015 and Beyond*. Victoria, BC. 2013.
<http://www.pssg.gov.bc.ca/osmv/shareddocs/RoadSafetyStrategy.pdf>.

8 Statistics Canada. No date. *Table 102-0551. Deaths and mortality rate, by selected grouped causes, age group and sex, Canada, annual* (table). CANSIM (database). Last updated January 28, 2014.
http://cansim2.statcan.ca/cgi-win/cnsmcgi.exe?CANSIMFile=CII/CII_1_E.HTM&RootDir=CII/ (accessed July 9, 2014).

9 National Highway Traffic Safety Administration. *Fatality Analysis Reporting System (FARS) data query*. 2012. Last updated November 13, 2013. Retrieved July 9, 2014.

10 Kloeden, Craig Norman, Jack McLean, and Garique Francis Vladimir Glonek. *Reanalysis of travelling speed and the risk of crash involvement in Adelaide South Australia*. Australian Transport Safety Bureau, 2002.

BC's stated goal in its Road Safety Strategy is to work towards zero deaths and zero injuries on roads. We fear that these goals will not be met, and are concerned that progress might even be reversed by increasing current speed limits, even if this increase only applies to 14% of BC's highways. It is critical therefore, that the rates of serious injuries and deaths on these roads be monitored and compared with those prior to the increases. We recommend that this monitoring be reported annually through the Provincial Road Safety Steering Committee.

The public health community of BC is deeply concerned that these speed limit increases will undermine the measurable progress that BC has made in reducing road injuries and death. We sincerely hope our concern will turn out to be unwarranted.

Sincerely,

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Dr. Sandra Allison, Chief Medical Health Officer, Northern Health Authority
Dr. Andrew Larder, Senior Medical Health Officer, Interior Health Authority
Dr. Victoria Lee (for Dr Paul Van Buynder Chief Medical Health Officer), Fraser Health Authority
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