Hon. Todd Stone,
Minister of Transportation
and Infrastructure
Room 306
Parliament Buildings
Victoria, BC
V8V 1X4

January 24, 2014

Honorable Minister,

Re: Safety and Speed Review

At the BC Injury Research and Prevention Unit (BCIRPU), it is our mission to reduce injuries and death in BC. While the number of injuries and deaths from crashes has declined in recent years, motor vehicle collisions remain the leading cause of unintentional injury death across all ages in BC. As we must continue efforts to reduce the number of crashes, we welcome the opportunity to influence and improve safety on our roads. As such, we would like to offer some information about the research evidence demonstrating the relationship between speed, and road injuries and fatalities that we believe would be valuable for your Safety and Speed Review of BC rural highways.

A seminal review of road speed limit increases in Israel revealed that, when speed limits were increased from 90 to 100 km/hour, the fatality rate rose by 2.5 deaths per 100 serious casualties[1]. Importantly, the increase in road deaths persisted for the six-year period of the study despite significant improvements in road design, vehicle safety, mandatory seat belt and child restraint use, together with other important safety initiatives. Opponents to stricter speed regulation often cite improvements in safety and design as a justification for the increased speed limits.

This is an important study to understand when considering the potential negative impact of increasing speed limits by just 10 km/hour in BC might be expected to have. Each year in BC, there are an average 6,500 hospitalizations as a result of serious injury from transport related incidents. In addition, an average of 430 people die, of which 165 deaths are related to speed. Extrapolating from this study, a simple increase of 2.5% in traffic fatalities in BC would equate to an additional 11 deaths each year. Worse, at 6,500 serious casualties per year from transport related incidents, an increase of 2.5 deaths per 100 serious casualties would equate to an additional 162.5 deaths per year as the potential result of increasing the speed limit in BC by just 10 kph.

[1] Friedman, LS, Barch, P, Richter ED (2007). *Raised Speed Limits, Case Fatality and Road Deaths: a six-year follow-up using ARIMA models.* Inj. Prev. June; 13(3): 156–161.

F508 – 4480 Oak Street
Vancouver, BC
Canada.
V6H 3V4

t. 604.875.3776
f. 604.875.3569
injuryresearch@cw.bc.ca
www.injuryresearch.bc.ca

While slower speeds may not substantively reduce the number of car crashes, they measurably reduce the severity of the injuries, and result in far fewer fatalities. Speed directly influences the severity of injury from a crash, and in turn the number of deaths. We would urge you to review the research by Elvik[2] that states:

> *"speed influences safety by giving road users less time to act and smaller margins of error, when a critical situation occurs. Although crash risk is influenced by many factors, speed is clearly one of them."*

Speed affects the stopping time and distance for motorists. When a motorist needs to stop immediately, s/he has a greater ability to stop in time when speed is lower. As well, in the event of a crash or collision, the impact will be reduced at slower speeds. The Elvik report states:

> *"A driver travelling at 80 km/h will be able to stop in time if there is an obstacle 70 meters away. A driver travelling at 100 km/hour will hit the obstacle at a speed of 67 km/hour."*

There is a clear relationship between speed and severity of injury. Accident analysis shows that the higher the impact speed, the greater the likelihood of severe and fatal injury. For car occupants in crashes with impact speeds of 80 kph (50 mph), the likelihood of death is 20 time higher than that of an impact speed of 32 kph (20 mph). This relationship is particularly critical for pedestrians in the path of speeding drivers. Firstly, at reduced speeds the driver is more likely to have sufficient time and distance to react and avoid the pedestrian. In the event that a pedestrian is stuck, then speed at impact is critical to the pedestrian's survival. Eight-five percent (85%) of pedestrians who are struck at 64 kph (40 mph) die, whereas only 5% of those struck at 32 kph (20 mph) die.

Speed limits should take into consideration not just how fast motorists want to travel, but how fast they are able to travel and still ensure the safest passage possible for themselves and other road users. Many drivers exceed speed limits without understanding or weighing the risks of injury or death to themselves or others on the road. It is the responsibility of the Ministry of Highways to establish and enforce speed limits that allow drivers to travel safely, while also reducing the risks of injury and death for all road users.

We appreciate the Ministry of Transportation work to ensure safety on our roads, and for engaging the public in this discussion. We urge you to consider the research evidence that clearly indicates increased injuries and deaths are the result of increased speed limits. Convenience for travelers and road users is important, but should not take precedence over safety when determining speed limits on BC roads.

[2] Elvik, R (2012). *Speed Limits, Enforcement and Health Consequences*. Annual Review of Public Health. Vol. 33: 225-238.

Thank you for the opportunity to voice our concerns, and to present an injury prevention and population health view on this matter. If you would like further information on our research, please do not hesitate to contact me.

Sincerely yours,

Dr. Ian Pike
Director, BC Injury Research and Prevention Unit
Associate Professor, Department of Pediatrics, Faculty of Medicine,
University of British Columbia
Associate Scientist, Child and Family Research Institute
Co-Executive Director, The Community Against Preventable Injuries