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I thank the Standing committee on Transport, Infrastructure and Communities to allow the Canadian Association of Emergency Physicians (CAEP) to add our voice to the important topic of bus safety.

In April of 2018, the tragic event of the Humboldt Broncos bus accident greatly affected the province of Saskatchewan and the nation. The aftermath of this tragedy has affected many families and care providers who still struggle with the daily reminders of the event. The question of bus safety therefore is a pertinent one and it is important to investigate what modalities can be put in place to enhance the security of highway bound bus occupants.

School buses have been built and maintained for transporting children to school and events. Even though the number of highway accidents and fatalities are few, school buses were never designed for highway transport of this precious commodity.

A review of the literature identifies few studies that look into bus safety and even less that mirror the North American experience. Seat belts while driving at high way speeds are a recommendation of several articles.

Analysis has identified that when occupants of the buses use a proper seat belt system this could significantly increase occupant safety by reducing interaction with the interior and preventing ejection. (Albertsson and Falker, 2005). Other studies have also assumed the safety of seat belts in rollover accidents or highway speed events. The three-point restraint belt is the most often recommended to prevent ejection during rollover.

A bus rollover accident in the Ottawa area in 2003, led to several injuries and one fatality. Rollovers in the poorly padded interior of a school bus leave unrestrained children at risk of being hurled around the sharp-edged interior or ejected and therefore sustaining increased injuries.

Interior padding therefore has been recommended by several articles, citing areas between windows and on metal seats for increased cushioning, to distribute forces from the passenger's head and chest in the event of a rollover or collision.

There seems to be an association with frontal impact collisions at high speeds, and increased chance of rollover accidents when travelling at highway speeds. It is unclear what safeguards should be taken, such as reduced speeds, driving training, or increased vehicle safeguards.

School buses transport the most precious commodity in the country. In spite of a lack of robust evidence, recommendations for standards on bus crash worthiness, increased interior padding, and personal restraint devices make common sense. We recommend continuing studies on school bus safety to ensure decisions are sound and our children are protected.

Albertsson, P, Falkmer, T., 2005. *Is there a pattern in European bus and coach incidents? A literature analysis with special focus on injury causation and injury mechanisms.* Accident Analysis and Prevention 37 (2), 225-233

Respectfully Submitted,

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About CAEP

As the national voice of emergency medicine (EM), CAEP provides continuing medical education, advocates on behalf of emergency physicians and their patients, supports research and strengthens the EM community. In co-operation with other specialties and committees, CAEP also plays a vital role in the development of national standards and clinical guidelines.

CAEP keeps Canadian emergency physicians informed of developments in the clinical practice of EM and addresses political and societal changes, that affect the delivery of emergency health care.