

Sent: January-29-16 10:30 AM

To: McDonell, Paul

Cc: Clerks

Subject: Reflection for Pedestrian Safety - Photos depicting driver's vision at night - distance, time - comparison of dark clothes with quality reflective

Dear Mr. McDonell

I understand that you are the Chair of Burnaby's Traffic Safety Committee. Being a former firefighter for many years in Vancouver, you likely attended hundreds of pedestrian related road accidents, many of them at night. According to many veteran first responders, most of these pedestrian related accidents are preventable, especially if the pedestrian could be seen at night. We have a series of photos taken at night along with times to cover the various distances that may be of interest to you and your committee.

Every year, we have a number of pedestrian and other "non-professional road users" hit by vehicles in the dark. Pedestrians are more than likely to be amazed that the driver could not see them and drivers are often heard to comment that a pedestrian appeared out of "no where". Last Feb., we held a "Reflection for Pedestrian Safety" forum at our Hall in New West. As a result of that forum, late one August evening a professional photographer and I took a series of photos on a level stretch of road with a camera on the dash of the vehicle. We used a 2014 Ford Fusion that had the low beam headlights adjusted for height and alignment. We focused on a New West police officer dressed in his dark blue uniform standing beside another person wearing his reflective coat. Our distances were taken from 25 ft to 200 ft. at 25 ft. intervals and then at 400 ft. from where the driver sat. At 100 ft., the only part of the police officer we could see was about mid-calf and below or about 12 inches off the ground. A vehicle traveling at 50 kph, covers this distance in 2.19 sec. The person wearing the reflective coat could easily be seen up to 400 ft. If you looked at the photos very carefully, the last time you see the police officer is that of his shoes at 125 ft.

We are now aware that according to the Institute of Transportation Engineering "Transportation Engineering Handbook 5th Ed." that the average "Response Time" is 2.5 seconds. This includes "perception" and "reaction" times. Add to this the vehicle's mechanical reaction time of 0.1-0.3 sec. which means vehicle travel distance is increased. If you consider that an avg. vehicle mechanical time of 0.2 sec., the distance traveled by a vehicle going 50 kph in 2.7 sec. is 123 ft or 37.5 m, before any braking or other evasive action is considered. If the vehicle is traveling at 60 kph, then in 2.7 sec. it will travel 147.6 ft or 45 m. If the pedestrian has poor reaction time, the likelihood of calling 9-1-1 at night increases by the microsecond.

In the 2012 City of Vancouver Pedestrian Safety Study, they determined that the weighted average cost per pedestrian accident was \$234,000. This includes costs associated with police, fire & rescue, ambulance, hospital emergency & regular care, rehab, insurance, legal costs, lost income and various other items. In speaking with members of the legal profession, they indicate that these weighted average costs could be used throughout the province and, likely, for most places across Canada, and that figure is probably rising. This does not include time off work and the fractured after effects for both the victim and the driver and their families.

As you can understand, each pedestrian accident costs the City of Burnaby thousands of dollars with police and fire & rescue personnel and equipment time. For every pedestrian death in the Lower Mainland, there are about 35 pedestrians injured. All municipalities would like to reduce their costs associated with preventable accidents. As you can see from the attached, Greater Stockholm with 2.2 million people, has an average of 8.9 pedestrian deaths per year which is 40% of the fatal pedestrian accidents (26.6) of Greater Vancouver, with a population of 2.5 million. Stockholm, at 59 degree latitude, is darker longer than Vancouver from Sept. through to Mar. and they also have an avg. of 15 days of snow and fog per month for 6 months compared to Vancouver's 3-4 days per month.

We have learned from Transport Canada that they are one of the lead agencies in Canada for the UN's Decade of Action for Road Safety 2011 - 2020. Public Health Agency Canada is the lead agency with the World Health Organization who initiated the 10 year study (1997 - 2006) which determined that 1.3 million people are killed on the roads annually and many times that are injured. It was the WHO that pushed the UN in 2010 to declare the edict. We believe that it was Canada's UN Ambassador who signed on for us in 2010.

I have been working with the City of New Westminster with respect to reflection for pedestrian safety. We are making a submission to Council in Feb. for a resolution on reflective clothing and products & accessories which we hope they will pass. Mayor Côté has said that he would like to take this to the Metro Vancouver Mayors meeting in April or May and then to the UBCM in Sept. The resolution calls for the federal and provincial Ministers of Transport to become the lead agency in working with CSA to create reflective standards for pedestrians and other "non-professional road users" for clothing as well as products & accessories, similar to, or exceeding, present Europe standards. In 1999, Europe established EN 1150 for standards for reflective clothing for "non-professional vulnerable road users" and in 2001, they also established EN 13356 for reflective products and accessories. I believe that their minimum requirement is that they can be seen from about 125 m or 410 ft. in the dark from low beam headlights. (With EN 13356 they have a minimum of 400 CIL, which, in English, is Coefficient of Luminous Intensity.) A vehicle traveling at 50 kph would take 9.0 seconds to travel 410 ft. or 125 m, ample time for the driver to take evasive action safely.

Quality reflective clothing and products & accessories can be a small, yet integral part of the spectrum for reducing pedestrian and non-professional road users accidents. Developing reflective standards in Canada for these categories will allow purchasers and the public minimum criteria that will ensure their safety at night.

Look forward to your response. Regards, Vic Leach, Reflection for Pedestrian Safety Coordinator, Sapperton OA Pensioners Assoc., New Westminster T: [604](tel:604-522-0280) - 522-0280

<u>City</u>	<u>Population</u>	<u>Pedestrian Deaths Per Yr.Avg.</u>	<u>Pedestrian Injuries Per Yr.Avg.</u>	<u>Latitude</u>	<u>Winter Hrs. of Darkness</u>	<u>Days of Snow/Fog per Mo.</u>	<u>Pedestrian Reflectors Locations Available</u>	<u>Standard Quality</u>
Greater Stockholm Sweden	2.2 million	8.9	547	59°	18-19 Dec. 22	15 Nov.-Apr.	Many	EN 13356
Greater Vancouver Canada	2.5 million	26.6	1,064	50°	14-15 Dec. 21	4-5 Nov.-Mar.	Few	No
Sweden	9.5 million	50	3,040	55.3-69.1°	17-24 Dec. 22	15 Nov.-Apr.	Many	EN 13356
British Columbia	4.5 million	58	2,320	49-60°	14-20 Dec. 21	4-5 Nov.-Mar.	Few	No

Note: In Sweden, a “serious” injury is considered to be when the injury is determined to be greater than 1%.

In 1997 the Swedish parliament wrote into law a "Vision Zero" plan, promising to eliminate road fatalities and injuries altogether. Other places, such as New York City are now trying to copy its success.

Greater Stockholm pedestrian data from Swedish Transport Agency for 2003-2014. Sweden pedestrian stat from WHO report of Global Status Report on Road Safety 2013
Greater Vancouver & BC stats from ICBC 2009-2013.

2011 - 2020 - UN Declares “Decade of Action for Road Safety” - 2010 Canada signs on with UN. WHO estimates 170,000 pedestrians killed yearly in road accidents.

Reflective material & products for: **clothing** (hats, jackets, shirts, coats, pants, shoes, gloves); **wheeled goods** (walkers, wheel chairs, scooters, baby carriages and strollers, bikes, skate boards); **rain gear** (hats, coats, jackets, umbrellas); **pet gear** (leashes, collars, jackets); and accessories (brooches, multi-use shopping bags)