BAC to the Future

Modernizing the Criminal Drinking-Driving Threshold

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SECTION I: INTRODUCTION

The first *Criminal Code* drinking and driving provisions were enacted in 1921 when it became a summary conviction offence for anyone to drive a motor vehicle or automobile "while intoxicated".[1] The statutory provisions evolved over the next several decades to reflect the experience with this new offence. For example, the offence was expanded in 1925 to include "care or control",[2] and subsequently was made a hybrid (indictable or summary) offence in 1930.[3] Because of differing judicial interpretations of "intoxicated"[4] and in an effort to stem the growing menace of alcohol-related crashes, the parallel offence of "impaired driving" was added in 1951.[5]

When that new offence was introduced, Parliament also added a provision making the results of a chemical analysis of an accused's "blood, urine, breath, or other bodily substance" admissible to assist in determining whether the accused was impaired or intoxicated.[6] However, an accused was not required to provide a sample, and his or her refusal to do so was inadmissible.[7] Not surprisingly, this first tentative step to enlist testing technology in prosecuting offences tended to be effective with only ill-informed or overly optimistic accuseds.

As the scientific validity of the "breathalyzer" technology gained wider acceptance, reliance on breath testing became integral in the battle against alcohol-related driving. In 1970, a *Code* amendment authorized police to demand breath samples from suspected impaired drivers and made it an offence for suspects to refuse.[8] The amendment also created a *Criminal Code* "*per se*" offence, with a conviction depending solely on an accused driver having a blood-alcohol concentration (BAC) over .08%. The BAC offence soon became the primary tool for prosecuting alcohol-impaired drivers, eliminating the need for subjective assessments of an accused's impairment.

Parliament established the .08% BAC threshold based on studies that we now know considerably underestimated the relative risks of fatal crashes at lower BAC levels.[9] Moreover, research before, and to a far greater extent since, 1970 has established that driving-related skills are significantly impaired at BAC levels well below .08%.[10] Finally, although the statutory threshold is .08%, suspects are rarely charged unless their BAC is at least .10%.[11]

The substantial body of evidence accumulated since the creation of the .08% offence establishes that it is time for further evolution in the *Code* provisions. This article highlights the Canadian and international research that collectively demonstrates the need for, and the wisdom of, creating a *Criminal Code* .05% BAC impaired driving offence.

SECTION II: THE PROBLEM

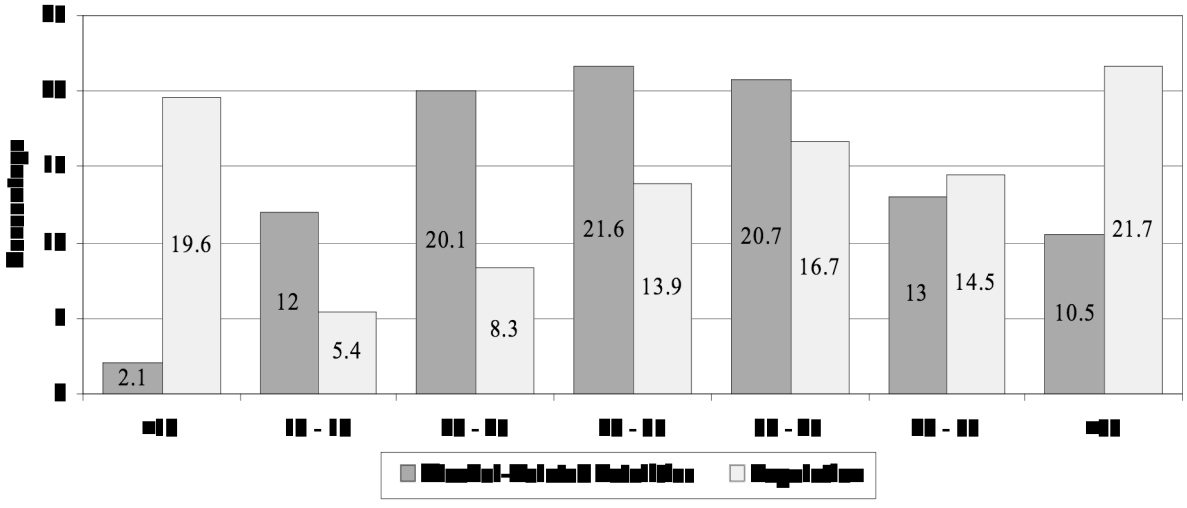
The current *Criminal Code* BAC limit of .08%[12] allows individuals to drive after consuming a large quantity of alcohol. Given the margin of error accepted by our courts, most police will not lay criminal charges unless a driver's evidentiary BAC readings are .10% or higher.[13] Thus, an average 200-pound man can drink over six bottles of regular beer (12 ounces at 5% alcohol by volume) in two hours, on an empty stomach, and then drive largely immune from criminal sanction.[14] Indeed, it is unlikely that he would even be charged.

The current .08% BAC limit is simply not having a sufficient impact on reducing impaired driving. Millions of Canadians continue to drink and then drive, with predictably tragic results.[15] Despite the progress made since the early 1980s, impaired driving remains Canada's single largest criminal cause of death,[16] claiming more than twice as many lives per year as all types of homicide combined.[17]

In 2003, alcohol-related traffic crashes were conservatively estimated to have resulted in 1,143 deaths, 67,423 injuries and 146,684 property-damage-only crashes (involving 222,960 damaged vehicles).[18] The total financial and social costs of these losses were estimated to be as high as $9.96 billion.[19]

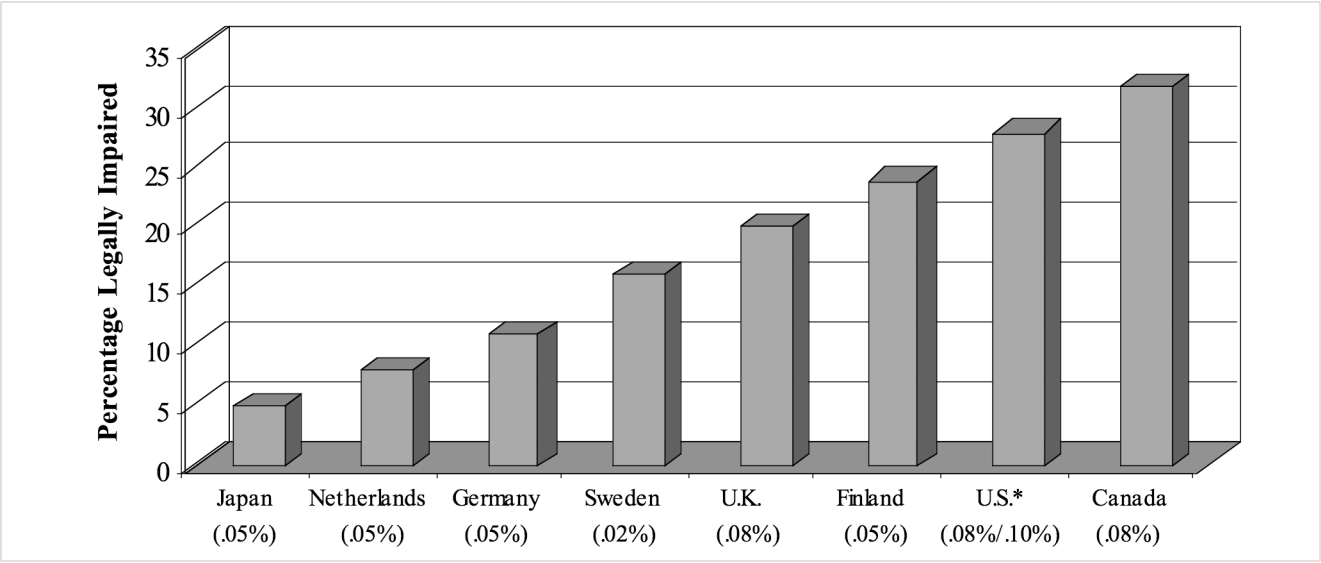
Unfortunately, young people are dramatically over-represented in alcohol-related traffic deaths and injuries. In 2003, as illustrated below, 16-19 year olds represented only 5.4% of the population, but 12% of the alcohol-related traffic fatalities. Similarly, 20-25 year olds represented only 8.3% of the population, but 20.1% of the alcohol-related fatalities. There are virtually identical patterns of youth over-representation in alcohol-related serious injury crashes.[20]

Figure 1: Percentage of Alcohol-Related Traffic Deaths and Population, by Age Group: Canada, 2003[21]



As the following Figure illustrates, Canada lags far behind many comparable democracies in reducing the role of alcohol in traffic deaths and injuries,[22] even though most of these countries have far higher rates of per capita alcohol consumption.[23] For example, while Germans consumed 64% more alcohol per capita than Canadians in 1998,[24] Transport Canada reported that only 11% of Germany's fatally-injured drivers were legally impaired, as defined by having a BAC of .05% or higher. In contrast, 32% of Canada's fatally-injured drivers were legally impaired, as defined by having a BAC of .08% or higher.[25]

Figure 2: Legal Impairment Among Fatally-Injured Drivers in 1997-1998, by Country and BAC Limit[26]



*The authors of the report indicated that the criminal BAC limit was .08% in 15 American states and .10% in 33 states.

These and many other countries[27] have succeeded to a far greater extent in inducing their populations to separate drinking from driving. Their laws seem to be deterring impaired driving and protecting the public, whereas the Canadian law appears to be deterring the police[28] and protecting impaired drivers from criminal sanction.[29]

SECTION III: THE RATIONALE FOR A .05% BAC CRIMINAL OFFENCE

(a) The Effects of Low Doses of Alcohol on Driving

Laboratory, driving simulator and closed-access roadway studies over the last 50 years have established that even small amounts of alcohol adversely affect driving skills and performance.[30] For example, a relatively recent review of 109 studies "found strong evidence that impairment of some driving-related skills begins with any departure from a zero BAC".[31] Moreover, the authors indicated that the skills and abilities considered most important for driving were among the most sensitive to alcohol. These included vision, vigilance, tracking, psychomotor skills, information processing, and performing div-ided attention tasks.[32]

Similar conclusions were reached in a 2000 National Highway Traffic Safety Administration study of 168 subjects of different ages and drinking patterns.[33] The subjects were required to perform divided attention and driving simulator tasks involving 14 separate measures at various BACs. The study found that more than half of the subjects were impaired in all but 2 of the 14 response measures at a BAC of .04%.[34] The authors' major conclusion was that "a majority of the driving population is impaired in some important measures at BACs as low as 0.02%".[35]

Similarly, the authors of a 2004 study stated that, as the research has become more sophisticated, it has become evident that significant impairment of driving skills occurs even at BACs of .02% and below.[36] They concluded that there is "no evidence of a threshold blood alcohol concentration (BAC) below which impairment does not occur, and there is no defined category of drivers who will not be impaired by alcohol."[37]

Despite this substantial body of uncontested research, the federal *Criminal Code* permits individuals to drive with BACs that are triple or more the level at which their driving skills and performance are significantly compromised.

(b) The Relative Risk of an Alcohol-Related Fatal Crash

Given the adverse effects of even small amounts of alcohol on key driving skills and abilities, it is not surprising that the relative risks of a fatal crash rise sharply at BACs well below .10%. Although early studies established that a driver's risk of a crash increases with his or her BAC,[38] they significantly underestimated the relative risks at all BAC levels.

A leading American study reported in 2000 that "each 0.02 percentage point increase in the BAC of a driver with a non-zero BAC more than doubled the risk of receiving a fatal injury in a single vehicle crash among male drivers 16-20 and nearly doubled the comparable risk among other driver groups".[39] As Figure 3 illustrates, the authors indicated that drivers with BACs above .05%, particularly those in the .08% to .099% range, are at dramatically increased risks relative to their counterparts who have not been drinking.[40] These findings are consistent with those of other American and Canadian studies.[41]

Figure 3: Relative Risk of a Fatal Single-Vehicle Crash for Males at Various BACs[42]

Age	.02% - .049%	.05% - .079%	.08% - .099%	.10% - .149%	.15%+
16 – 20	5	17	52	241	15,560
21 – 34	3	7	13	37	573
35+	3	6	11	29	382

Research also establishes that the relative risks of fatal crash per trip are much higher for occasional drinkers than for regular drinkers at the same BAC. For example, an American report indicated that, compared to their sober counterparts, drivers at the relatively modest BAC of .06% increase their risk of a fatal crash by nearly 700% for those who drink on an annual basis, 425% for those who drink monthly,

and 50% for those who drink daily.[43] It is likely that the relative risks for infrequent drinkers are even more disproportionate at the high BAC levels typically associated with serious traffic crashes. This research challenges the emphasis that has been placed on the role of "hard-core" drinking drivers in impaired traffic fatalities, relative to the stereotypical "social" drinkers who only occasionally drink immoderately.[44]

The most recent American studies, based on improved epidemiological methods, have found that the relative risks begin to increase at lower BACs and rise more sharply than prior studies indicated. For example, two recent studies note that the failure to factor in the high rates of alcohol consumption among hit-and-run drivers and among potential subjects who refused to participate in testing or questionnaires has resulted in significantly underestimating the alcohol-related relative risks of crash.[45]

Thus, research has established that the relative risk of a fatal crash at BACs above .05% are far greater than what Parliamentarians believed when they enacted the current *Criminal Code* .08% BAC limit in 1970.[46]

(c) The Impact of Lower BAC Laws

The international trend has been to reduce BAC limits for driving. As outlined below, almost every jurisdiction that has reduced permissible BAC limits has experienced significant traffic safety benefits. Advantages have been observed whether the lower limit was administrative or criminal,[47] and whether it applied to the general driving population, novice and young drivers, and impaired driving offenders.

(i) Lowering the criminal BAC limit from .10% to .08% in the United States: The introduction of a .08% criminal limit in various American states has resulted in significant reductions in alcohol-related traffic deaths.[48] One study compared six states that lowered their criminal limit to .08% in 1993 and 1994 to six nearby states that retained a .10% limit. The authors reported a 6% greater relative decline in the percentage of fatally-injured impaired drivers in the .08% states.[49] A 2000 study of key alcohol safety laws throughout the United States estimated that the jurisdictions that introduced the .08% BAC laws achieved a 7.8% reduction in fatalities among drivers with BACs of .01% to .09% and an 8% reduction among drivers with BACs above .10%.[50]

A 2001 meta-analysis of various impaired driving interventions found that the .08% laws resulted in a 7% median reduction in alcohol-related crash deaths.[51] The authors concluded that the studies provide "strong evidence" of the effectiveness of these laws, which was the highest level of confidence assigned to the interventions assessed in the study.[52] Finally, a 2005 comprehensive review of the 19 jurisdictions that had introduced .08% laws from 1982 until 2000 found a decline of 14.8% in the rate of drinking drivers in fatal crashes after the limit was introduced. The authors estimated that, had there been .08% laws throughout the United States in 2000, an additional 947 lives could have been saved that year.[53]

(ii) The international experience with BACs of .05% or lower: Most of the developed world now have administrative or criminal BAC limits of .05% or lower for the general driving population.[54] Research in various countries indicates that the introduction of these limits reduces alcohol-related traffic crashes and deaths. For example, a long-term study of the 1974 .05% BAC law in the

Netherlands suggested that the lower limit had contributed to a sustained decline in the total number of drinking drivers.[55] In Belgium, where the BAC limit was reduced to .05% in 1994, there was a 10% decrease in traffic fatalities in 1995 and a further 11% decrease in 1996.[56] Similar positive research results have been reported from Austria,[57] France[58] and Japan.[59] However, the most comprehensive research has been undertaken in Sweden and Australia.

Although Sweden enacted a .05% BAC limit in the 1950s, its .02% limit, introduced in 1990, resulted in further traffic safety benefits. A 1997 study reported that, in the six years after the enactment of the .02% limit, there was a 9.7% reduction in fatal crashes, an 11% reduction in single-vehicle crashes and a 7.5% reduction in all crashes.[60] The authors noted that the clearest effects occurred in fatal and single-vehicle crashes, the categories of crashes in which alcohol is most likely to be involved. These results were supported by a 2000 study, which estimated that the .02% BAC limit resulted in an approximately 10% decrease in fatal crashes and a 12% decrease in serious personal injury crashes.[61]

A 1997 Australian study, which analyzed traffic data for periods ranging from 13 to 17 years, indicated that those states that had reduced their BAC limit from .08% to .05% experienced positive results.[62] For example, after Queensland reduced its BAC limit to .05%, there was a 14% reduction in serious collisions and an 18% reduction in fatal collisions. These results were not confounded by the effects of random breath testing, as it was not introduced in Queensland until eight years later.[63] Similarly, the .05% BAC restriction in New South Wales was estimated to have reduced serious collisions by 7%, fatal collisions by 8%, and single-vehicle nighttime collisions by 11%.[64] Other studies have reported positive effects of introducing a .05% BAC limit in South Australia[65] and the Australian Capital Territory.[66]

(iii) Lower limits for young and beginning drivers: The zero and low administrative limits that have been enacted for young and beginning drivers have consistently been shown to significantly reduce alcohol-related deaths among these affected drivers. A study of American states that introduced these limits for young drivers between 1983 and 1992 found a 16% decrease in single-vehicle nighttime fatal crashes among this constituency, while such crashes in "control" states increased by 1%.[67] The largest improvement, a 22% decrease in these crashes, occurred in states that had implemented a zero BAC limit.[68] The positive impact of zero and low BAC restrictions has been confirmed in more recent American studies[69] and a 2001 meta-analysis, which reviewed four American and two Australian studies.[70]

These results are consistent with the research in those Canadian jurisdictions that have introduced zero BAC restrictions as part of their graduated licensing programs. For example, an Ontario survey of licensed high school students conducted before and after the introduction of graduated licensing found a 25% reduction in the number of males who reported driving after drinking any alcohol.[71] Moreover, a recent evaluation of Ontario's graduated licensing program attributed a 27% decrease in alcohol-related collisions to the zero BAC restriction.[72]

(iv) Other research: Studies have established that Maine's .05%[73] and subsequently-introduced zero BAC limit[74] for impaired driving offenders contributed to reduction in their involvement in both fatal crashes in general and alcohol-related crashes in particular.

Research indicates that lower BAC limits may also positively change public attitudes about drinking and driving,[75] and make drivers more conscious of their drinking and the need to plan alternative transportation.[76] Research from Australia,[77] Sweden,[78] the United States[79] and other countries indicates that the lowering of the BAC limit for the general driving population decreases impaired driving and related crashes among both moderate and heavy drinkers. As we shall discuss, this evidence contradicts the contention that the introduction of lower BAC limits has no impact on hard-core drinking drivers.

Finally, studies on the potential impact of introducing a .05% *Criminal Code* offence in Canada concluded that it would likely have significant traffic safety benefits. For example, a 1998 study estimated that such a measure would reduce total traffic fatalities by 6% to 18%, thereby saving approximately 188 to 551 lives per year.[80] Similarly, a 2004 study stated that "the overwhelming evidence from the scientific community supports the conclusion that lowering BAC limits is effective in reducing alcohol-related traffic fatalities."[81]

SECTION IV: ANSWERING THE CRITICS

This section responds to the arguments that the alcohol industry[82] and others[83] have raised in opposition to introducing a .05% BAC *Criminal Code* offence. These arguments are largely drawn from the submissions to, and report of,[84] the House of Commons Standing Committee on Justice and Human rights, which rejected proposals to introduce a .05% BAC offence in 1999.

(a) "There is no agreement on lower BAC limits."

Exactly the opposite is true. International medical and traffic safety research spanning five decades has established that key driving-related skills and driving performance are adversely affected at BACs below .05%. For example, as early as 1960, a British Medical Association report stated that a .05% BAC is the highest level "that can be accepted as entirely consistent with the safety of other road users."[85] There is a parallel body of unchallenged research on the increased relative risks of a fatal crash at BACs above .05%. These risks are considerable at BACs of .08% to .099%, a range that is realistically immune from sanction under the current *Criminal Code*.

Virtually all of the leading medical, accident prevention, and traffic safety organizations around the world support a BAC driving limit at or below .05%. These include: the World, American, British, and Canadian Medical Associations; the World Health Organization; the Association for the Advancement of Automotive Medicine; the International Transportation Safety Association; the European Transport Safety Council; the Royal Society for Prevention of Accidents; the Australian Transport Safety Bureau; the Canadian Public Health Association; and the Centre for Addiction and Mental Health.[86]

Moreover, as outlined above, the overwhelming weight of scientific evidence indicates that lowering BAC limits significantly reduces alcohol-related traffic crashes and deaths. As the following figure illustrates, most developed countries now have BACs at or below 0.05%.

Figure 4: BAC Limits for Driving Worldwide*[87]

BAC	Countries
0	Armenia, Azerbaijan, Bahrain, Croatia, Czech Republic, Ethiopia, Hungary, Jordan, Nepal, Pakistan, Romania, Saudi Arabia, Slovak Republic, and United Arab Emirates.
.01% – .04%	Albania, Algeria, China, Estonia, Georgia, India, Japan, Lithuania, Moldova, Mongolia, Norway, Poland, Russia, Sweden, and Turkmenistan.
.05%	Argentina, Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cambodia, Costa Rica, Denmark, El Salvador, Estonia, Finland, France, Germany, Greece, Iceland, Israel, Italy, Kyrgyzstan, Latvia, Macedonia, Monaco, the Netherlands, Peru, Philippines, Portugal, Serbia, Slovenia, South Africa, South Korea, Spain, Switzerland, Taiwan, Thailand, Turkey, and Venezuela.
.06% – .07%	Bolivia, Ecuador, and Honduras.
.08%	Botswana, Brazil, Canada, Ghana, Guatemala, Ireland, Jamaica, Kenya, Luxembourg, Malaysia, Malta, Mexico, New Zealand, Nicaragua, Paraguay, Singapore, Uganda, United Kingdom, United States, and Zimbabwe.

*There are inconsistencies in the reported BAC limits for some countries.

(b) "A .05% BAC Offence would criminalize social drinking."

A .05% limit would not interfere with what most Canadians consider to be social drinking. First, it takes more than a drink or two for the average person to reach a BAC of .05%. Second, given the margin of error currently accepted by our courts, the police would not likely lay a .05% charge unless a suspect's evidentiary BAC readings were .07% or higher.[88] As Figure 5 indicates, an average male and female would have to consume a considerable amount of alcohol to reach a .07% BAC.[89]

Third, consistent with the methodology adopted by the leading authorities on calculating BACs,[90] the approach adopted in the following Figure significantly overestimates the evidentiary BACs of average males and females. For example, it was assumed that the individuals were drinking on an empty stomach, which maximizes their peak BACs.[91] Moreover, a relatively conservative metabolism rate of a .015% decline in BAC per hour was used.[92] Finally, the Figure does not take into account that the police may not stop the driver immediately after his or her last drink, or that it takes considerable time to question drivers, perform the roadside breath test, transport them to the station, give them a reasonable opportunity to consult a lawyer, and then perform the two evidentiary breath tests.[93] In most cases, the driver's BAC would have already fallen from its peak level prior to evidentiary breath testing.[94] Consequently, the following Figure should be seen as significantly understating the number of drinks that suspects can consume prior to being charged with a .05% or .08% BAC offence.

Figure 5: BACs in Relation to Time, Weight, Gender and Standard Canadian Drinks*

Males

Standard Drinks	2 hours			3 hours			4 hours		
	170 lbs	185 lbs	200 lbs	170 lbs	185 lbs	200 lbs	170 lbs	185 lbs	200 lbs
2	.0185%	.0146%	.0112%	.0035%	.000%	.000%	.000%	.000%	.000%
3	.0428%	.0369%	.0319%	.0278%	.0219%	.0169%	.0128%	.0069%	.0019%
4	.0671%	.0592%	.0525%	.0521%	.0442%	.0375%	.0371%	.0292%	.0225%
5	**.0913%**	**.0815%**	**.0731%**	**.0763%**	.0665%	.0581%	.0613%	.0515%	.0431%
6	**.1156%**	**.1038%**	**.0937%**	**.1006%**	**.0888%**	**.0787%**	**.0856%**	**.0738%**	**.0637%**
7	**.1398%**	**.1261%**	**.1144%**	**.1248%**	**.1111%**	**.0994%**	**.1098%**	**.0961%**	**.0844%**
8	**.1641%**	**.1484%**	**.1350%**	**.1491%**	**.1334%**	**.1200%**	**.1341%**	**.1184%**	**.1050%**

Females

Standard Drinks	2 hours			3 hours			4 hours		
	120 lbs	130 lbs	140 lbs	120 lbs	130 lbs	140 lbs	120 lbs	130 lbs	140 lbs
2	.0514%	.0451%	.0398%	.0364%	.0301%	.0248%	.0214%	.0151%	.0098%
3	**.0921%**	**.0827%**	**.0746%**	**.0771%**	.0677%	.0596%	.0621%	.0527%	.0446%
4	**.1328%**	**.1202%**	**.1095%**	**.1178%**	**.1052%**	**.0945%**	**.1028%**	**.0902%**	**.0795%**
5	**.1734%**	**.1578%**	**.1444%**	**.1584%**	**.1428%**	**.1294%**	**.1434%**	**.1278%**	**.1144%**
6	**.2141%**	**.1953%**	**.1793%**	**.1991%**	**.1803%**	**.1643%**	**.1841%**	**.1653%**	**.1493%**
7	**.2548%**	**.2329%**	**.2141%**	**.2398%**	**.2179%**	**.1991%**	**.2248%**	**.2029%**	**.1841%**

	Likely criminal threshold under the proposed .05% law.
	Likely criminal threshold under the current .08% law.

* Based on a standard drink containing 13.46 grams of alcohol, and a metabolism rate for an average moderate drinker of a .015% decrease in BAC per hour.

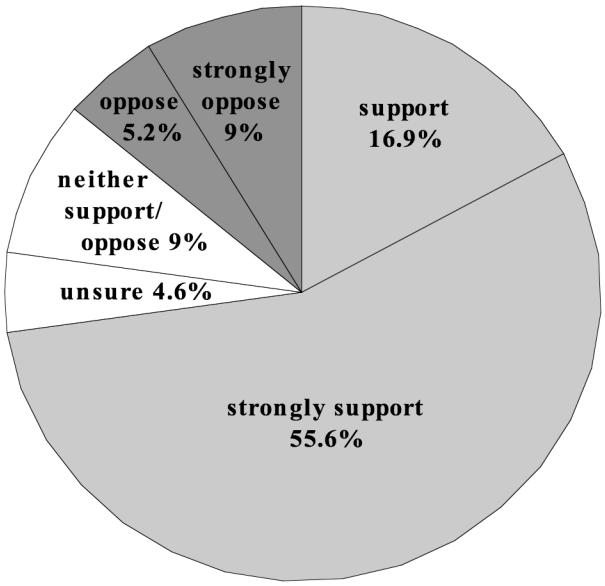
(c) "A .05% BAC limit would decrease public support for impaired driving laws."

In fact, national surveys conducted in 1997, 2001, 2002, and 2003 found that most Canadians supported or strongly supported a *Criminal Code* .05% BAC limit for driving.[95] Consistent with American research,[96] a 2002 Canadian survey found that public support for a lower BAC limit increases when people are informed of the amount of alcohol that the current law allows drivers to consume.[97]

Public support for a lower *Criminal Code* limit continues to increase.[98] In the most recent survey, released in November 2005, the current .08% limit was explained to participants in terms of the number of drinks that an average 200-pound man and 140-pound woman could consume in two hours, on an empty stomach, without being criminally charged.[99] As Figure 5 illustrates, over 72% of the participants supported or strongly supported introducing a lower *Criminal Code* BAC limit. Although there was greater support among women and those 60 years of age and older, there was substantial majority support for a lower *Criminal Code* BAC limit across gender, age and geographical regions of Canada.[100] It is

interesting to note that, when specifically asked, 51.6% of the participants stated that even a .05% BAC *Criminal Code* limit was too high.[101]

Figure 6: Public Support for Reducing the Criminal BAC Limit



(d) "Canada's impaired driving problem is largely attributable to 'hard-core' drinking drivers, and they are undeterrable."

The alcohol industry and others have repeatedly claimed that the impaired driving problem is largely attributable to hard-core drinking drivers (i.e., those who frequently drive with BACS above .15%), who are undeterrable.[102] This claim is flawed on several counts.[103] First, approximately 40% of alcohol-positive fatally-injured drivers have BACs below .15%, and this figure has remained stable in Canada since at least 1987.[104] Second, a majority of the fatally-injured drivers with BACs in excess of .15% appear to be occasional binge drinkers, not individuals who routinely drive with BACs at this level. One of the few studies of drinking histories found that only 32% of fatally-injured drivers with BACs of .15% and above were described as frequently driving at that level.[105] In the words of another author, "It seems likely…that some fatally injured drivers with BACs of 0.10-0.14 percent are problem, or hard core, drinkers and that many with BACs of 0.15 percent or higher are not."[106]

Third, studies have indicated that lower BAC limits reduce impaired driving at all BAC levels. For example, when Sweden introduced its .02% BAC limit, the sharpest declines occurred in the percentage of offenders at the highest BAC levels.[107] When the Australian Capital Territory lowered its BAC limit from .08% to .05%, the greatest reductions in impaired driving and related crashes occurred at BACs above .15%. The number of drivers per 10,000 roadside screening tests with BACs between .15% and .199% fell by 34%. There was also a 58% decrease in the number of drivers with BACs of .20% and above.[108] Similarly, the crash involvement of drivers with BACs between .15% and .199% and drivers with BACs of .20% and above fell by 31% and 46%, respectively.[109]

The American research on the .08% laws also supports the conclusion that lower BAC limits reduce both impaired driving and crash involvement across the full range of BACs.[110] For example, the authors of a

2004 American study note that all categories of illegal BACs have declined substantially since 1982, even those in the .25% BAC range. They specifically reject the claims that hard-core drinking drivers are becoming a larger part of the problem or that these drivers are any more resistant to changing their behaviour than other drinking drivers.[111]

(e) "A .05% BAC limit would unduly burden the police and courts, and generate unacceptable costs."

While a .05% BAC limit would theoretically make more drivers liable to prosecution, the law would likely have a significant deterrent effect and thereby reduce the number of potential offenders. The American states that have lowered their criminal BAC limits from .10% to .08% have not reported being over-burdened.[112] Nor is there evidence of such concerns in Europe or Australia,[113] where a number of jurisdictions have had .05% BAC limits for 20 years or more.

Critics concerned about increased costs assume that a .05% BAC limit would have no impact on the prevalence of impaired driving. Nor do they consider the potential cost savings to Canadians resulting from reductions in impaired driving crashes, injuries and deaths.

A Stanford University study of New York State's proposed .08% law estimated that it would increase enforcement costs by $80 million (U.S.) in the first ten years.[114] However, it also found that the law would save between $9 and $11.4 billion in insurance, legal, and workplace costs, property damages, emergency services, and other expenditures during this same period. Thus, the additional enforcement costs constituted less than 1% of the most conservative estimate of the law's economic benefits.

(f) "A *Criminal Code* .05% offence is unnecessary, because such conduct is already prohibited under provincial and territorial law."

With the exception of Québec, all of the provinces and territories do have some form of short-term roadside licence suspension legislation for BAC levels below the criminal threshold. In six jurisdictions, the suspension is triggered by a BAC threshold of .05% and in the remaining six, slightly different criteria apply.[115] In most jurisdictions, the suspension is 24 hours in duration.[116] However, unlike the .05% laws in most other countries, the provincial and territorial legislation does not create any offence or carry any fine or other penalty. In most provinces and territories, the roadside suspensions are not officially recorded and have no long-term licensing consequences. For most drivers, the suspension merely results in having to park the vehicle or allow a sober, licensed passenger to drive.

The provincial and territorial roadside suspension legislation is simply not comparable to a *Criminal Code* .05% offence. As will be discussed, those who violate the proposed *Criminal Code* offence would be guilty of a federal summary conviction offence, and subject to a mandatory fine and federal driving prohibition. Except for offenders who do not re-offend, the driver will have a permanent federal criminal record, with its attendant civil disabilities and stigma. The proposed *Criminal Code* .05% offence would apply uniformly throughout Canada, and have a far greater deterrent impact than the existing patchwork of provincial and territorial short-term roadside suspensions.

SECTION V: THE ELEMENTS OF A WORKABLE CRIMINAL OFFENCE

The *Criminal Code* should be amended to create a new summary conviction offence for driving with a BAC above .05%. The new offence would complement the existing *Criminal Code* impaired driving offences, and be compatible with the current provincial and territorial short-term roadside licence suspension legislation. Similarly, the current *Criminal Code* provisions relating to demanding breath and blood samples, the consequences of refusing such demands, and the admissibility of the test results would apply to the proposed .05% BAC offence.

In addition to the BAC limit itself, the .05% BAC offence would differ from the existing .08% BAC offence in three significant ways.

Ticketing Provisions: The .05% BAC offence would contain ticketing provisions that currently have no equivalent in the *Criminal Code*. A ticket differs from the existing methods of initiating a charge against an accused and compelling his or her appearance. The proposed ticketing provisions would give the accused the option to plead guilty and pay the required fine without having to appear in court.

There are several advantages to this unique process. For accuseds who choose to plead guilty, the ticket provides an efficient and inexpensive method of dealing with the charge against them. It allows them to resolve the matter within weeks, begin serving their driving prohibition and get on with their lives, rather than having the charge hanging over them for months. Similarly, there is a significantly reduced administrative burden on the police, the Crown, and other justice officials compared to the conventional processing of a charge through the courts.

The ticket would explain the consequences of both a guilty plea and the resulting conviction. Thus, the accused would be informed of the obligation to pay the fine, the automatic federal driving prohibition, and the fact that driving while prohibited constitutes a separate *Criminal Code* offence. Finally, the ticket would set out the process for contesting the charge. If an accused chose not to plead guilty, the ticket would be treated similarly to an Appearance Notice issued under the current *Criminal Code* provisions. The case would then proceed like any other federal summary conviction offence.

Lesser Penalties: In keeping with the reduced risks created by a lower level of intoxication, the penalties for the .05% offence would be less onerous than those for the .08% offence. A first .05% conviction would be punishable by a $300 fine and a 45-day federal driving prohibition. Subsequent offences would be subject to a $600 fine and a 90-day federal driving prohibition. The offence would be the only one in the *Code* for which imprisonment is not a sentencing option.

The proposed fines would be stipulated as the minimum penalties for several reasons. First, unlike existing provincial ticketing legislation, the *Criminal Code* has no provision for "set" fines. Thus, providing a specified minimum would establish the fine that the police would use in ticketing an accused. Second, as with the current .08% offence, designating a

minimum fine for the .05% offence would generally preclude the offender from qualifying for a conditional discharge.[117] Third, the minimum fine removes any wishful thinking on an accused's part that the fine might be reduced if he or she takes the matter to court.

For sentencing purposes, a conviction for the .05% offence would count as a previous conviction in relation to a subsequent charge for any of the current drinking-driving offences, including "refusal to provide a sample". Conversely, a conviction for any of those offences will count as a previous conviction in relation to a subsequent charge for a .05% offence.

Automatic Conviction Removal: The proposed .05% BAC offence would be subject to special criminal record provisions. Offenders who did not have a subsequent *Criminal Code* impaired driving conviction within two years would be deemed not to have a criminal record for the .05% BAC offence and the information relating to it would automatically be destroyed. Consequently, an accused would have no incentive to go to trial simply to avoid having a permanent criminal record.

Given the automatic criminal record destruction provisions, it is important for both the justice system and offenders that they be accurately identified. Accordingly, despite being only a summary conviction offence,[118] it would be brought within the *Identification of Criminals Act*[119] to require the accused to submit to fingerprinting and photographing.

In summary, the proposed .05% BAC offence is designed to deter impaired driving without being unduly punitive or creating unacceptable burdens on the police and the courts. Moreover, the option of pleading guilty without having to go to court may discourage accuseds from needlessly challenging the charges.

On November 22, 2005, Senator M. LeBreton introduced Bill S-47 to create a .05% *Criminal Code* BAC offence as outlined above. Although the Bill was warmly received at first reading, the subsequent dissolution of Parliament a week later terminated any further consideration.

SECTION VI: CONCLUSION

The current .08% BAC *Criminal Code* offence shields from criminal liability drivers who have consumed large amounts of alcohol, and exposes both them and sober, responsible road users to significant risks. The overwhelming weight of evidence indicates that a .05% BAC *Criminal Code* offence would significantly reduce impaired driving crashes, injuries and deaths. The proposed .05% law is designed to maximize the deterrent impact of the law, minimize the administrative burden on the criminal justice system, and appropriately sanction offenders.

ENDNOTES*

* The following abbreviations have been used in the endnotes: International Council on Alcohol, Drugs and Traffic Safety (ICADTS); Mothers Against Drunk Driving (MADD); National Highway Traffic Safety Administration (NHTSA); Société de l'assurance automobile du Québec (SAAQ); and Traffic Injury Research Foundation (TIRF).

[1] *An Act to amend the Criminal Code*, S.C. 1921, c. 25, s. 3. See *Criminal Code*, R.S.C. 1927, c. 36, s. 285(4).

[2] *An Act to amend the Criminal Code*, S.C. 1925, c. 38, s. 5.

[3] *An Act to amend the Criminal Code*, S.C. 1930, c. 11, s. 6.

[4] For example, in *R. v. Constable* (1936), 66 C.C.C. 206 (Alta. S.C., App. Div.) at 208, Harvey, C.J.A. indicated that saying that a driver was "under the influence of liquor ... is a different thing from saying that he was intoxicated". In contrast, Campbell, C.J.P.E.I. stated in *Giddings v. R.* (1947), 89 C.C.C. 346 (P.E.I. S.C.) at 348 "a driver who is to any degree under the influence of liquor comes within the definition".

[5] *An Act to amend the Criminal Code*, S.C. 1951, c. 47, s. 14(2). See *Criminal Code*, R.S.C. 1953-54, c. 51, s. 223.

[6] *Ibid*. at *Criminal Code*, s. 224(3).

[7] *Ibid*. at s. 224(4).

[8] *Criminal Law Amendment Act, 1968-69*, S.C. 1968-69, c. 38, s. 16.

[9] See the discussion, *infra*, in Section III under "(b) The Relative Risk of an Alcohol-Related Fatal Crash".

[10] See the discussion, *infra*, in Section III under "(a) The Effects of Low Doses of Alcohol on Driving".

[11] See the text, *infra*, at note 13.

[12] R.S.C. 1985, c. C-46, s. 253(b).

[13] B. Jonah *et al.*, "Front-line Police Officers' Practices, Perceptions and Attitudes About the Enforcement of Impaired Driving Laws in Canada" (1999) 31 Accid. Anal. and Prev. 421 at 429 [Jonah].

[14] See text *infra,* Figure 5: BACs for Males in Relation to Time, Weight and Standard Canadian Drinks; and R. Solomon and E. Chamberlain, "Calculating BACs for Dummies: The Real-World Significance of Canada's 0.08% Criminal BAC Limit for Driving" (2003) 8 Can. Crim. L.R. 219 [Solomon].

[15] In a 2005 national survey, 15% of drivers (an estimated 3.2 million Canadians) acknowledged driving after drinking at least once in the 30 days prior to the survey. Moreover, 6.7% of drivers (an estimated 1.5 million Canadians) reported driving at least once in the past year when they thought they were impaired. D. Beirness *et al*., *The Road Safety Monitor 2005: Drinking and Driving* (Ottawa: TIRF, 2005) at iii. Given the increased social stigma associated with drinking and driving, these figures may significantly underestimate the actual incidence of impaired driving.

[16] It was estimated that 1,257 Canadians were killed in alcohol and/or drug-related traffic crashes in 2003. See W. Mercer, *Estimating the Presence of Alcohol and Drug Impairment in Traffic Crashes and their Costs to Canadians: 1999 to 2003* (Vancouver: Applied Research and Evaluation Studies, 2005) at 10 [Mercer].

[17] In contrast to the 1,257 impaired traffic fatalities in 2003, there were 582 homicides in Canada. The term "homicide" includes the offences of murder, manslaughter and infanticide. Statistics Canada, "Homicides 2003" *The Daily* (September 29, 2004), online: <http://www.statcan.ca/Daily/English/040929/d040929a.htm>.

[18] Mercer, *supra* note 16 at 6. Mercer based his calculations on fatality statistics from TIRF. In turn, the TIRF data is based on coroners' reports of the BACs of fatally-injured drivers, as supplemented by police reports of alcohol involvement. However, there are limitations in this data which tend to significantly underestimate the role of alcohol. For example, if an impaired driver crashes into a vehicle, killing its sober driver and two occupants, it is only the dead driver's BAC that would be reported in the coroner's fatality data. Unless the police recorded the crash as being due to the surviving driver's impairment, all three deaths would be recorded as being non-alcohol related. Similar problems arise when intoxicated drivers survive crashes in which they kill sober passengers, pedestrians and bicyclists. Indeed, the organization that prepares the annual traffic fatality statistics has noted that the deaths caused by impaired drivers in these situations are often recorded as being non-alcohol related. H. Simpson, *Drinking-Driving in Canada: Does anyone really know how big the problem is?* (Ottawa: TIRF, 1997) at 53-56. See also E. Vingilis *et al.*, "Psychosocial Characteristics Of Alcohol-Involved And Non Alcohol-Involved Seriously Injured Drivers" (1994) 26(4) Accid. Anal. and Prev. 195 at 205; and R. Purssell *et al.*, "Proportion of injured alcohol-impaired drivers subsequently convicted of an impaired driving criminal code offence in British Columbia" (2004) 6(2) Canadian Journal of Emergency Medicine 80 at 86.

Moreover, Mercer's estimates do not include alcohol-related incidents involving aircraft, railway equipment, boats, jet skis, or other vessels. Nor does the 1,143 figure include traffic deaths that are solely attributable to drug impairment.

[19] Mercer, *ibid*. at 8.

[20] D. Mayhew, S. Brown and H. Simpson, *The Alcohol-Crash Problem in Canada: 2003* (Ottawa: TIRF, 2005) at 14 [Alcohol-Crash Problem 2003]; and Statistics Canada, *Table 051-0001 – Estimates of population by age group and sex, Canada, provinces and territories, annual (Persons)* (Ottawa: Statistics Canada, 2003).

[21] *Ibid.* This Figure is based on data from these two sources.

[22] Transport Canada, *Road Safety Forum: Beyond 2001*, CD-ROM: (Ottawa: Minister of Public Works and Government Services, 2001) [Transport Canada].

[23] Organization for Economic Co-operation and Development (OECD), *OECD Health Data 2005* (Paris: OECD, 2005), online: <http://www.oecd.org/document/16/0,2340,en_2649_34631_2085200_1_1_1_1,00.html>.

[24] World Health Organization, *Adult Per Capita Alcohol Consumption,* online: <http://www3.who.int/whosis/alcohol/alcohol_apc_data.cfm?path=whosis,alcohol,alcohol_apc,alcohol_apc_data&language=english>.

[25] Despite its relatively dismal record on impaired driving, Canada's federal government stated that its goal is to make "Canada's roads the safest in the world". Transport Canada, *Road Safety Vision 2010: 2001 Update* (Ottawa: Minister of Public Works and Government Services, 2002). It is unclear how the federal government can, in good faith, aspire to this noble goal, while ignoring the benefits of a 0.05% BAC limit.

[26] Transport Canada, *supra* note 22.

[27] An international comparison of laws and alcohol crash rates reported that Canada had the second highest rate of alcohol involvement in fatal crashes out of 15 countries. While such comparative data must be used with caution, it is clear that Canada has one of the highest rates of alcohol-related traffic fatalities among comparable democracies. K. Stewart *et al.*, "International Comparisons of Laws and Alcohol Crash Rates: Lessons Learned" in H. Laurell and F. Schlyter eds., CD-ROM: *Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety* (Stockholm: ICADTS, 2000).

[28] According to the police, the federal legislation has become increasingly time-consuming and unrewarding to enforce. In a national survey, 42% of Canadian police officers reported that they sometimes or frequently release impaired driving suspects with a short-term provincial suspension, rather than proceed with criminal charges. One-third of the officers indicated that they sometimes or frequently release the suspect without any sanction, and merely arrange for safe transportation home. Jonah, *supra* note 13 at 435 and 426.

Similarly, a survey of police in British Columbia reported that almost half of the officers simply refuse to lay *Criminal Code* impaired driving charges, even if they believe that the driver is impaired. Police Services Division, *Safe Roads, Safe Communities* (Victoria: Ministry of the Attorney General, Public Safety and Regulatory Branch, 2000) at B-4.

[29] This sense of frustration may help explain why the Canadian charge rate for impaired driving offences per 100,000 licensed drivers in 2003 was only 39% of the American rate. Transport Canada, *Canadian Motor Vehicle Traffic Collision Statistics, 2003* (Ottawa: Ministry of Transport, 2004), Cat. No. T45-3/2003; NHTSA, *Traffic Safety Facts, 2004 Data, Alcohol* (Washington, D.C.: NHTSA, 2005) at 2; and Statistics Canada, *Uniform Crime Reporting Survey* (Ottawa: Canadian Centre for Justice Statistics, 2005).

[30] For a general review, see E. Chamberlain and R. Solomon, "The Case for a 0.05% Criminal Law Blood Alcohol Concentration Limit For Driving" (2002) 8 (Supp. III) Injury Prevention iii1 at iii2–iii4 [Chamberlain]. See also H. Moskowitz, "Laboratory Studies of the Effects of Low BACs on Performance" in Committee on Alcohol, Other Drugs, and Transportation, Transportation Research Board, *Low Blood Alcohol Concentrations: Scientific and Policy Issues* (Washington, D.C.: National Research Centre, 2001) at 10; and M. Burns and D. Fiorentino, "The Effects of Low BACs on Driving Performance" in Committee on Alcohol, Other Drugs, and Transportation, Transportation Research Board, *Low Blood Alcohol Concentrations: Scientific and Policy Issues* (Washington, D.C.: National Research Centre, 2001) 21.

[31] H. Moskowitz and D. Fiorentino, *A Review of the Literature on the Effects of Low Doses of Alcohol on Driving-Related Skills* (Washington, D.C.: NHTSA, 2000) at 14.

[32] *Ibid.* See also A. Liguori *et al.*, "Alcohol Effects on Mood, Equilibrium, and Simulated Driving" (1999) 23(5) Alcoholism: Clinical and Experimental Research 815 at 820, who note that alcohol "doses that neither influence certain mood states nor impair simple psychomotor tasks nonetheless do impair equilibrium and complex psychomotor tasks, such as automobile driving".

[33] H. Moskowitz *et al.*, *Driver Characteristics and Impairment at Various BACs* (Washington, D.C.: NHTSA, 2000).

[34] *Ibid.* at 16, Figure 2.

[35] *Ibid.* at 23.

[36] E. Ogden and H. Moskowitz, "Effects of Alcohol and Other Drugs on Driver Performance" (2004) 5 Traffic Injury Prevention 185.

[37] *Ibid.*

[38] R. Borkenstein *et al.*, *The Role of the Drinking Driver in Traffic Accidents* (Bloomington: Indiana University of Police Administration, 1964) [*Grand Rapids Study*]; M. Perrine, J. Waller and L. Harris, *Alcohol and Highway Safety: Behavioural and Medical Aspects* (Washington, D.C.: Department of Transportation, 1971) [*Vermont Study*]; and A. McLean, O. Holubowycz and B. Sandow, *Alcohol and Crashes: Identification of Relevant Factors in this Association* (Adelaide: Federal Office Road Safety, 1980) [*Adelaide Study*].

Each study examined the relative risks for drivers with various BACs, and each showed a correlation between the drivers' BAC and the relative risk of crash. Interestingly, because the studies used different definitions of crash, they also indicated that the relative risks increase with crash severity. The *Grand Rapids Study* examined crashes reported to the police, the *Adelaide Study* examined crashes to which an ambulance was called, and the *Vermont Study* examined fatal crashes. At BACs of .07% to .09%, for example, the studies showed accident involvement ratios of 1.77, 3.2 and 4.1, respectively. This pattern of increased relative risk with crash severity is consistent with the later studies.

[39] P. Zador, S. Krawchuk and R. Voas, "Alcohol-Related Relative Risk of Driver Fatalities and Driver Involvement in Fatal Crashes in Relationship to Driver Age and Gender: An Update Using 1996 Data" (2000) 61 J. Stud. Alcohol 387 at 391 [Zador].

[40] *Ibid.* at 392.

[41] See for example D. Preusser, "BAC and Fatal Crash Risk" in D. Mayhew and C. Dussault eds., CD-ROM: *Proceedings of the 16th International Conference on Alcohol, Drugs and Traffic Safety* (Montréal: SAAQ, 2002); D. Beirness and H. Simpson, *Study of the Profile of High-Risk Drivers* (Ottawa: Transport Canada, 1997) at 17-18; and D. Mayhew *et al.*, "Youth, Alcohol and Relative Risk of Crash Involvement" (1986) 18(4) Accid. Anal. and Prev. 273 at 282-83.

[42] Zador, *supra* note 39 at 392.

[43] M. Snyder, *Driving Under the Influence: A Report to Congress on Alcohol Limits* (Washington, D.C.: NHTSA, 1992) at 6-7 [Snyder]. See also P. Hurst, "Epidemiological Aspects of Alcohol in Driver Crashes and Citations" (1973) 5(3) Journal of Safety Research 130.

[44] See generally, E. Chamberlain and R. Solomon, "The tooth fairy, Santa Claus, and the hard core drinking driver" (2001) 7 Injury Prevention 272 [Chamberlain 2001]; and S. Baker *et al.*, "Drinking histories of fatally injured drivers" (2002) 8 Injury Prevention 221 [Baker].

[45] See both H. Moskowitz *et al.*, "Methodological Issues in Epidemiological Studies of Alcohol Crash Risk" and R. Compton *et al.*, "Crash Risk of Alcohol Impaired Driving" in D. Mayhew and C. Dussault eds., CD-ROM: *Proceedings of the 16th International Conference on Alcohol, Drugs and Traffic Safety* (Montréal: SAAQ, 2002).

[46] It appears that Canada's .08% limit was based, in part, on the 1964 *Grand Rapids Study*, *supra* note 38. As outlined in the text, this study significantly underestimated the relative risks of crash.

[47] Given the various types of BAC laws, care must be exercised in attempting to draw parallels from the international research. For analytical purposes, BAC laws may be divided into three broad types. The first are administrative BAC laws, the violation of which typically results in a licence suspension. Although the driver is sanctioned, he or she has not committed an offence, and there are generally no long-term licensing or other consequences. In Canada, the current provincial and territorial 12-24 hour administrative licence suspension laws would be among the least intrusive of this type of BAC law.

The second type of BAC law creates a regulatory offence, typically under the highway traffic or driver licensing legislation. The driver is usually subject to a fine and a modest licence suspension, and a record of the offence is maintained. Such offences, particularly if repeated or coupled with other driving infractions, can have significant licensing consequences, but they do not carry the social stigma or legal consequences of a criminal conviction.

The third type of BAC law creates a criminal offence. Although there is considerable variation in these laws, those who violate a criminal BAC limit will likely be subject to a substantial fine and licence suspension. Moreover, they may face incarceration if: their BACs are very high (typically, .15% or above); they cause a crash involving personal injury or death; or they have a prior impaired driving conviction. These offenders will also have what is generally referred to as a criminal record and will be subject to the various disabilities that this entails.

[48] See, for example, National Centre for Statistics and Analysis, Mathematical Analysis Division, *A Preliminary Assessment of the Impact of Lowering the Illegal BAC Per Se Limit to 0.08 in Five States* (Washington, D.C.: NHTSA, 1994); R. Hingson, T. Heeren and M. Winter, "Lowering State Legal Blood Alcohol Limits to 0.08%: The Effects on Fatal Motor Vehicle Crashes" (1996) 86 Am. J. of Public Health 1297; R. Apsler *et al.*, *The Effects of 0.08 BAC Laws* (Washington D.C.: NHTSA, 1999); and R. Voas, A. Tippetts and E. Taylor, "The Illinois .08 Law: An Evaluation" (2002) 33 Journal of Safety Research 73.

[49] R. Hingson, T. Heeren and M. Winter, "Effects of Recent 0.08% Legal Blood Alcohol Limits on Fatal Crash Involvement" (2000) 6 Injury Prevention 109.

[50] R. Voas, A. Tippetts and J. Fell, "The Relationship of Alcohol Safety Laws to Drinking Drivers in Fatal Crashes" (2000) 32 Accid. Anal. and Prev. 483 [Voas 2000].

[51] R. Shults *et al.*, "Reviews of Evidence Regarding Interventions to Reduce Alcohol-Impaired Driving" (2001) 21(4S) Am. J. Prev. Med. 66 at 69-71 [Shults]. See also J. Fell and R. Voas, *The Effectiveness of Reducing Illegal Blood Alcohol Concentration (BAC) Limits for Driving: Evidence for Lowering the Limit to .05% BAC in Canada* (Calverton,

Maryland: Pacific Institute for Research and Evaluation, 2003) at 7-17 [Fell and Voas 2003]; and D. Bernat, W. Dunsmuir and A. Wagenaar, "Effects of Lowering the Legal BAC to 0.08 on Single-Vehicle-Nighttime Fatal Traffic Crashes in 19 Jurisdictions" (2004) 36 Accid. Anal. and Prev. 1089.

[52] Shults, *ibid.*

[53] A. Tippetts *et al.*, "A Meta-Analysis of .08 BAC Laws in 19 Jurisdictions in the United States" (2005) 37 Accid. Anal. and Prev. 149 [Tippetts].

[54] See text *infra*, Figure 4: BAC Limits For Driving Worldwide.

[55] P. Noordzij, "Decline in drinking and driving in The Netherlands" in B. Sweedler ed., *The Nature of and the Reasons for the Worldwide Decline in Drinking and Driving*, *Transportation Research Board Circular No. 422* (Washington, D.C.: National Academy Press, 1994) 44.

[56] Institute of Alcohol Studies (IAS), *Drinking and Driving: IAS Fact Sheet* (St. Ives, England: IAS, 2000) at 10.

[57] G. Bartl and R. Esberger, "Effects of lowering the legal BAC-limit in Austria" in H. Laurell and F. Schlyter eds., CD-ROM: *Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety* (Stockholm: ICADTS, 2000).

[58] C. Mercier-Guyon, "Lowering the BAC limit to 0.05%: results of the French experience" (Paper presented at the Transportation Research Board 77th Annual Meeting, Washington, D.C., January 11-15, 1998).

[59] See, for example, E. Desapriya and N. Iwase, "Impact of Lowering the Illegal BAC Limit to .02 in Japan" in P. Williams and A. Clayton eds., CD-ROM: *Proceedings of the 17th International Conference on Alcohol, Drugs and Traffic Safety* (Glasgow: ICADTS, 2004).

[60] See, for example, T. Norström and H. Laurell, "Effects of lowering the legal BAC-limit in Sweden" in C. Mercier-Guyon ed., *Proceedings of the 14th International Conference on Alcohol, Drugs and Traffic Safety* (Annecy, France: Centre d'Études et de Recherche en Médecine du Trafic, 1997) 87 [Norström].

[61] B. Borschos, "An Evaluation of the Swedish Drunken Driving Legislation Implemented on February 1, 1994" in H. Laurell and F. Schlyter eds., CD-ROM: *Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety* (Stockholm: ICADTS, 2000).

[62] J. Henstridge, R. Homel and P. Mackay, *The Long-Term Effects of Random Breath Testing in Four Australian States: A Time Series Analysis* (Canberra: Federal Office of Road Safety, 1997).

[63] *Ibid.* at 113.

[64] *Ibid.*

[65] C. Kloeden and A. McLean, *Late Night Drunk Driving in Adelaide Two Years After the Introduction of the .05 Limit* (Adelaide: NHMRC Road Accident Research Unit, 1994).

[66] C. Brooks and D. Zaal, "Effects of a Reduced Alcohol Limit for Driving" in H.-D. Utzelmann, G. Berghaus and G. Kroj eds., *Proceedings of the 12th International Conference on Alcohol, Drugs and Traffic Safety* (Cologne: Verlag TÜV Rheinland, 1993) 1277 at 1280-1287 [Brooks].

[67] R. Hingson, T. Heeren and M. Winter, "Lower Legal Blood Alcohol Limits for Young Drivers" (1994) 19 Public Health Rep. 738.

[68] *Ibid.* at 741-42.

[69] C. Zwerling and M. Jones, "Evaluation of the Effectiveness of Low Blood Alcohol Concentration Laws for Younger Drivers" (1999) 16(1S) Am. J. Prev. Med. 76; J. Lacey, R. Jones and C. Wiliszkowski, *Zero Tolerance Laws for Youth: Four States Experience* (Washington, D.C.: NHTSA, 2000); and R. Voas, A. Tippetts and J. Fell, "Assessing the Effectiveness of Minimum Legal Drinking Age and Zero Tolerance Laws in the United States" (2003) 35(4) Accid. Anal. and Prev. 579.

[70] Shults, *supra* note 51 at 71-72. Positive results have also been achieved in the New Zealand program. See J. Langley, A. Wagenaar and D. Begg, "An Evaluation of the New Zealand Graduated Driver Licensing System" (1996) 28(2) Accid. Anal. and Prev. 139.

[71] R. Mann *et al.*, "Graduated Licensing in Ontario: Impact of the 0 BAL Provision on Adolescents' Drinking and Driving" in C. Mercier-Guyon ed., *Proceedings of the 14th International Conference on Alcohol, Drugs and Traffic Safety* (Annecy, France: Centre d'Études et de Recherche en Médecine du Trafic, 1997) 1055.

[72] P. Boase and L. Tasca, *Graduated Licensing System Evaluation: Interim Report '98* (Downsview, Ontario: Ministry of Transportation, 1998).

[73] R. Hingson, T. Heeren and M. Winter, "Effects of Maine's 0.05% Legal Blood Alcohol Level for Drivers with DWI Convictions" (1998) 113 Public Health Reports 440.

[74] R. Compton *et al.*, "Effectiveness of a Low BAC Limit for Drivers Convicted of DWI" in P. Williams and A. Clayton eds., CD-ROM: *Proceedings of the 17th International Conference on Alcohol, Drugs and Traffic Safety,* (Glasgow: ICADTS, 2004).

[75] M. Vollrath and H.-P. Krueger, "Long Term Changes in Driving Under the Influence of Alcohol and Attitudes Concerning DUI" in H. Laurell and F. Schlyter eds., CD-ROM: *Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety* (Stockholm: ICADTS, 2000).

[76] I. Bernhoft, "Effect of Lowering the Alcohol Limit in Denmark" in H. Laurell and F. Schlyter eds., CD-ROM: *Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety* (Stockholm: ICADTS, 2000); and W. Loxley, *et al.*, "Drinkers and their Driving: Compliance with Drinking-Driving Legislation in four Australian States" (1992) 53 J. Stud. Alcohol 420.

[77] Brooks, *supra* note 66.

[78] Norström *supra* note 60, at 91-93.

[79] Shults, *supra* note 51 at 71; Voas 2000, *supra* note 50 at 491; and Tippetts, *supra* note 53 at 160. Theses studies report decreases among drivers with BACs above and below .10%. Unfortunately, they do not provide a specific analysis of drivers with BACs above .15%.

[80] R. Mann, *et al*., *Assessing the Potential Impact of Lowering the Legal Blood Alcohol Limit to 50 mg.% in Canada* (Ottawa: Transport Canada, 1998) at 4.

[81] Fell and Voas 2003, *supra* note 51 at 27. For a detailed review of the research on lowering BAC limits, see Chamberlain, *supra* note 30 at iii5–iii10.

[82] The views of the alcohol and hospitality industries were reflected in their submissions to the Committee. See for example, The Association of Canadian Distillers, *Enhancing Impaired Driving Law in Canada: A Presentation to The Standing Committee On Justice and Human Rights* (Ottawa: The Association of Canadian Distillers, March 3, 1999); Brewers Association of Canada, *Brief To The Standing Committee On Justice And Human Rights Regarding Impaired Driving* (Ottawa: Brewers Association of Canada, March 3, 1999); and Hotel Association of Canada, *Brief To The Standing Committee On Justice And Human Rights Regarding Impaired Driving* (Ottawa: Hotel Association of Canada, March 3, 1999).

[83] TIRF was likely viewed as the most credible opponent of a *Criminal Code* .05% BAC offence. See TIRF, *Recommendations for Improving the Impact of Federal Impaired Driving Laws* (Ottawa: TIRF, February 1999). TIRF elaborated on its opposition to a .05% limit in *The Safety Impact of Lowering the BAC Limit For Drivers in Canada* (Ottawa: TIRF, 2002).

For a compelling and comprehensive criticism of the scientific merits of TIRF's 2002 report, see Fell and Voas 2003, *supra* note 51 at 1-2. Among other concerns, Fell and Voas note: the scientific community has concluded that lower BAC limits are effective, contrary to TIRF's conclusion; TIRF failed to note the U.S. Centers for Disease Control and Prevention's review of the American .08% laws and its conclusion that such laws reduce alcohol-related fatalities by 7%; TIRF's interpretation of the results of many studies was one-sided and contrary to the body of scientific opinion; TIRF failed to consider other good reasons and evidence for lowering the BAC limit in Canada; and TIRF ignored studies showing positive findings on lowering BAC limits that were available at the time it prepared its 2002 report.

Fell and Voas conclude at 27, that it "is not readily apparent why the TIRF report came to the conclusion that it did about lowering the limit to .05 in Canada. The overwhelming evidence from the scientific community supports the conclusion that lowering BAC limits is effective in reducing alcohol-related traffic fatalities."

[84] Canada, House of Commons Standing Committee on Justice and Human Rights, *Towards Eliminating Impaired Driving* (Ottawa: Publications Service, 1999) at 11-12, (Chair: J. Maloney, M.P.).

[85] Institute of Alcohol Studies (IAS), *Combating Drink Driving: Next Steps* (St. Ives: IAS, 1998) at 4, online: <http://www.ias.org.uk/iaspapers/drinkdriving_nextsteps.pdf>.

[86] Chamberlain, *supra* note 30 at iii10.

[87] The sources for Figure 4 were: International Center For Alcohol Policies (ICAP), *Blood Alcohol Concentration Limits Worldwide* (Washington, D.C.: ICAP, 2005); E. Wren, *Drunk Driving Blood Alcohol Limits Worldwide* (New York: Drive and Stay Alive, Inc., 2005); and Eurocare, *Drinking and Driving in Europe: A Report to the European Union* (St. Ives: Eurocare, 2003).

[88] As indicated earlier in the text, most police currently will not lay a .08% charge, unless a suspect's evidentiary BAC readings are .10% or higher. Jonah, *supra* note 13. Similarly, it is unlikely that police would lay a .05% charge unless a suspect's BAC readings are .07% or higher.

[89] For a detailed discussion of the calculations upon which the tables are based, see Solomon, *supra* note 14 at 229-233.

[90] See NHTSA, *Computing a BAC Estimate* (Washington, D.C.: NHTSA, 1994), online: <www.nhtsa.dot.gov./people/injury/alcohol/bacreport.html> [*Computing*]; and H. Fisher, R. Simpson and B. Kapur, "Calculation of Blood Alcohol Concentration (BAC) by Sex, Weight, Number of Drinks and Time" (1987) 78 Can. J. Pub. Health 300 [Fisher].

[91] If an individual eats before or while drinking, this slows down the rate at which alcohol is absorbed into his or her blood, thus lowering the individual's peak BAC. Fisher, *ibid.* at 302.

[92] We adopted the metabolism rate that H. Fisher, R. Simpson and B. Kapur used in their Canadian Journal of Public Health article, rather than the higher rate that the NHTSA uses. See Fisher, *ibid*. at 301; and *Computing, supra* note 90. Had we used the higher metabolism rate, the figures would have indicated that suspects could consume more alcohol before they would be at risk of a .05% or .08% BAC charge.

[93] Police in a national survey indicated that, on average, it takes just over 1½ hours to process a suspect to the point of completing the evidentiary breath tests. Jonah, *supra* note 13 at 430.

[94] A person's BAC typically peaks in less than 45 minutes after his or her last drink. A. Jones, "Status of Alcohol Absorption Among Drinking Drivers" (1990) 14 Journal of Analytical Toxicology 198. See also Fisher, *supra* note 90 at 301.

[95] See respectively, Compas Incorporated Multi-Audience Research, *Public Perceptions of Road Safety in Canada* (Ottawa: Compas Incorporated Multi-Audience Research, 1997); SES Canada Research Incorporated, *National Survey on Drinking*

and Driving Issues (Mississauga: MADD Canada, 2001) [SES 2001]; Goldfarb Consultants, *Getting to a .05% of BAC Limit: Public Opinion, Knowledge and Support* (Toronto: Goldfarb Consultants, 2002) at 29 [Goldfarb]; and SES Research Incorporated, *MADD (Canada) National Poll – May 2003* (Mississauga: MADD Canada, 2003) [SES 2003].

[96] Snyder, *supra* note 43 at G-8. The author also notes that, when asked to state the number of beers that they would personally be able to drink and still drive safely, only one-third of respondents gave an estimate that exceeded a .04% BAC. Finally, more than three-quarters agreed or strongly agreed with the statement that "[p]eople should not be allowed to drive if they have drunk any alcohol at all" (*ibid.* at 15 and 18).

[97] Goldfarb, *supra* note 95.

[98] For example, in the 2001 survey, 66% of participants supported or strongly supported a .05% *Criminal Code* limit, and 30% opposed or strongly opposed this measure. In the 2005 survey, 72.5% supported or strongly supported a .05% limit, and only 13.9% opposed or strongly opposed the measure. SES 2001, *supra* note 95; and SES Research Incorporated, *MADD (Canada) National Poll – November 2005* (Ottawa: SES, 2005) [SES 2005].

[99] SES 2005, *ibid.*

[100] *Ibid.*

[101] *Ibid.*

[102] See, for example, Century Council, *The National Hardcore Drunk Driver Project* (Washington, D.C.: Century Council, 1993); W. Latham III, *A Critical Review of Two NHTSA Studies* (Washington, D.C.: American Beverage Institute, 1997); S. Morrison, "Promoting responsible consumption" (1999) 13(1) On Tap 1; D. Beirness, D. Mayhew and H. Simpson, *DWI Repeat Offenders: A Review and Synthesis of the Literature* (Ottawa: Health Canada, 1997); and E. Therien "One for the road" *Globe and Mail* (18 January 2001), A19.

[103] For a detailed critique see Chamberlain 2001, *supra* note 44.

[104] A. Murie and R. Solomon, *The BACs of Dead, Alcohol-Positive Drivers in Canada from 1987 to 1999: What Do The Numbers Tell Us?* (Mississauga: MADD Canada, 2003), online: <http://www.madd.ca/english/research/stats.html>; and C. Bryant *et al*., *Alcohol, Trauma and Impaired Driving*, 3rd ed. (Mississauga: MADD Canada and Centre for Addiction and Mental Health, 2006) at 79.

[105] Baker, *supra* note 44 at 224.

[106] A. McCartt and A. Williams, "Characteristics of Fatally Injured Drivers with High Blood Alcohol Concentrations (BACs)" in P. Williams and A. Clayton eds., CD-ROM: *Proceedings of the 17th International Conference on Alcohol, Drugs and Traffic Safety* (Glasgow: ICADTS, 2004) [McCartt].

[107] Norström, *supra* note 60 at 91.

[108] Brooks, *supra* note 66 at 1280-1282.

[109] *Ibid.* at 1284-1285.

[110] For example, Shults, *supra* note 51 at 71 reported that the .08% limits reduced fatalities involving drivers with BACs of .10% or greater. Similarly, Voas 2000, *supra* note 50 at 490 stated that the .08% limit contributed to an 8% decrease in the number of fatally-injured drivers with BACs above .10%. Unfortunately, neither study provided a specific analysis of drivers with BACs above .15%. See also Tippetts, *supra* note 53 at 160.

[111] McCartt, *supra* note 106 at 5.

[112] See, for example, K. Hutt, *Setting Limits, Saving Lives: The Case for .08 BAC Laws* (Washington, D.C.: NHTSA, 2000) at 19; and R. Voas, A. Tippetts and E. Taylor, "The Illinois .08 Law: An Evaluation" (2002) 33 Journal of Safety Research 73.

[113] In fact, the introduction of a .05% BAC limit reportedly resulted in estimated financial savings of $76 million in New South Wales and $32 million in Queensland. P. Howat, D. Sleet and I. Smith, "Alcohol and driving: is the 0.05% blood alcohol concentration limit justified?" (1991) 10 Drug and Alcohol Review 151.

[114] D. Eisenberg, *Evaluating the Effectiveness of a 0.08% BAC Limit and Other Policies Related to Drunk Driving* (Stanford, California: Stanford Institute for Economic Policy Research, 2001) at 34-42.

[115] There is a patchwork of criteria governing the imposition of roadside suspensions. In Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, and Prince Edward Island, a suspension may be imposed if a driver's BAC is .05% or higher. In Saskatchewan, the threshold is a BAC in excess of .04%. In Alberta, British Columbia, the Northwest Territories, Nunavut, and the Yukon, the police may impose a suspension if they reasonably believe that a driver is impaired by alcohol or drugs. In cases of suspected alcohol impairment, the suspension must be terminated if the driver's BAC is below .05% in British Columbia, below .06% in the Northwest Territories and Nunavut, and below .08% in Alberta. For a review of the short-term roadside licence suspension legislation, see generally, R. Solomon, S. Pitel and L. Visser, *Rating the Provinces: The 2003 Report Card* (Mississauga: MADD Canada, 2003).

[116] However, the suspension may be as short as 4 hours in the Northwest Territories and Nunavut, and is 12 hours in Ontario. *Ibid.*

[117] Nevertheless, a conditional discharge may be available in certain provinces and territories under s. 255(5) of the *Criminal Code*.

[118] Under the current law, only indictable offences fall within the *Identification of Criminals Act*.

[119] R.S.C. 1970, c. I-1.