

Passive Alcohol Sensors: A Reasonable Canadian Compromise

madd 

**R. Solomon, Professor
E. Dumschat, J.D. Candidate, 2016
Faculty of Law, Western University
rsolomon@uwo.ca
September 14, 2015**

Introduction

Although there are tens of thousands of impaired drivers on Canadian roads each night, very few come to police attention.¹ Even if stopped at a sobriety checkpoint, the great majority of drinking drivers go undetected. The available data, albeit limited, suggest that approximately four to five million drivers are stopped each year at sobriety checkpoints and that fewer than 1% are subject to roadside breath testing² on an “approved screening device” (ASD).³ The police cannot be faulted for these low testing rates, given that they typically have less than a minute to observe each driver at a sobriety checkpoint⁴ and that they need to ensure that sober drivers are not unduly delayed. Rather, the testing rates can be traced to two major factors.

First, the Canadian police currently rely on their own unaided senses in determining if they have sufficient legal grounds to demand an ASD test. Research indicates that rates of breath testing and consequently detection of impaired drivers will remain low as long as the police use only their unaided senses. Second, under section 254(2)(b) of the *Criminal Code*, the police may only demand an ASD test from a driver who they have reasonable grounds to suspect has alcohol

¹ Survey data indicate that drivers who thought that they were legally impaired made approximately 10.2 million trips in the 12-month period prior to September 2006. W. Vanlaar *et al.*, *The Road Safety Monitor 2006: Drinking and Driving in Canada* (Ottawa: Traffic Injury Research Foundation (TIRF), 2006) at 7 (Vanlaar, 2006). The number of impaired driving trips in 2014 is likely similar, given the increase in the number of licensed drivers and the decline in the percentage of drivers who reported driving when they thought they were impaired. TIRF, *The Road Safety Monitor 2014: Drinking and Driving in Canada* (Ottawa: TIRF, 2014) at 3.

² R. Solomon *et al.*, “Predicting the Impact of Random Breath Testing on the Social Costs of Crashes, Police Resources, and Driver Inconvenience in Canada” (2011) 57:4 *Criminal Law Quarterly* 438 at 457-58 (Predicting the Impact). Presumably, the percentage of drivers tested would be even lower in regard to the millions of drivers that the police stop each year in the course of their routine patrol activities.

³ ASDs are small, hand-held breath testing machines that are typically carried in police patrol cars. The results of ASD tests are not admissible as evidence of the driver’s impairment or BAC in criminal proceedings. Rather, ASDs are used as a preliminary screening tool, which may provide the police with grounds for demanding breath tests on an “approved instrument” under section 254(3.3) of the *Criminal Code*, R.S.C. 1985, c. C-46.

Approved instruments are larger, more sophisticated machines that are kept at the police station or in specially equipped vans. The police can only demand breath tests on an approved instrument if they have reasonable grounds to believe that a driver has committed an impaired driving offence within the last three hours. Since ASDs are usually calibrated to register a “fail” starting at a BAC of .10%, a driver’s failed ASD test provides the police with reasonable grounds to believe that the driver has committed the federal impaired driving offence of driving with a BAC in excess of .08%. If the *Criminal Code*’s complex and stringent procedures are followed, readings from the approved instrument are admissible in evidence as proof of the driver’s BAC at the time of the offence, in the absence of evidence to the contrary. Consistent with their function, approved instruments are frequently referred to as “evidentiary breath testing machines.”

⁴ R. Voas, E. Romano & R. Peck, “Validity of the Passive Alcohol Sensor for Estimating BACs in DWI-Enforcement Operations” (2006) 67:5 *Journal of Studies on Alcohol* 714 at 714 (Voas, 2006).

in his or her body. The current law establishes what is referred to as a “selective breath testing” (SBT) program, because only drivers reasonably suspected of drinking can be tested.

The inability to effectively detect and prosecute impaired drivers in Canada limits the deterrent impact of the law. Millions of Canadians continue to drink and drive with little fear of being stopped and tested, let alone charged and convicted. Survey data and criminal justice statistics indicate that, on average, a person can drive impaired once a week for more than three years before being charged with an impaired driving offence, and for more than six years before being convicted.⁵ Other survey data indicate that the charge and conviction rates may be even lower.⁶

Faced with similar challenges, most developed and developing countries have implemented comprehensive random breath testing (RBT) programs.⁷ Most RBT is conducted at “organized” or “stationary” sobriety checkpoints at which every passing vehicle is stopped, unless doing so would result in undue wait times. The drivers are subject to a roadside screening test and the entire stop takes less than two minutes. In most jurisdictions, the police are also authorized to conduct “mobile RBT,” which is particularly important in rural areas, late at night or in other circumstances where low traffic volumes would not merit establishing an organized RBT checkpoint.⁸

Research indicates that comprehensive RBT programs increase the perceived and actual rates

⁵ The estimated 10.2 million alcohol-impaired driving trips made in 2006 resulted in only 60,978 individuals being charged, and only 33,003 individuals being convicted of an impaired driving offence in the 2006/07 reporting year. See respectively, Vanlaar, 2006, *supra* note 1 at 7; Statistics Canada, *CANSIM Table 252-0051, Incident-based crime statistics, by detailed violations, annual (number unless otherwise noted)* (Ottawa: Statistics Canada, 2015); Statistics Canada, *CANSIM Table 252-0053, Adult criminal courts, number of cases and charges by type of decision* (Ottawa: Statistics Canada, 2015); and Statistics Canada, *CANSIM Table 252-0064, Youth courts, number of cases and charges by type of decision* (Ottawa: Statistics Canada, 2015).

⁶ Another study using national survey data estimated that Canadian drivers made over 20 million trips within one hour of consuming two or more drinks in the past 12 months. D. Beirness & C. Davis, “Driving After Drinking in Canada: Findings from the Canadian Addiction Survey” (2007) 98:6 *Canadian Journal of Public Health* 476 at 477.

⁷ A 2008 study and earlier international reviews indicate that 46 of 56 countries (82%) had an RBT program established under national or, in a few cases, state/territorial legislation. See Worldwide Brewing Alliance, *2008 Drinking and Driving Report*, 8th ed. (London: Worldwide Brewing Alliance, 2009) at 13; K. Stewart, *On DWI Laws in Other Countries* (Washington, D.C.: National Highway Traffic Safety Administration (NHTSA), 2000) at 40-48, online: NHTSA <<http://www.nhtsa.gov/people/injury/research/pub/DWIothercountries/dwiothercountries.html>>; E. Townsend, F. Achterberg & T. Janitzek, *Traffic Law Enforcement Across the EU: An Overview* (Brussels: European Transport Safety Council (ETSC), 2006), online: ETSC <<http://www.etsc.eu/documents/ETS%20May%202006.pdf>>.

⁸ R. Solomon *et al.*, “The Case for Comprehensive Random Breath Testing Programs in Canada: Reviewing the Evidence and Challenges” (2011) 49:1 *Alberta Law Review* 37 at 49-51 (Solomon, 2011).

of apprehension, and result in dramatic and sustained reductions in impaired driving deaths and injuries.⁹ Indeed, RBT is generally acknowledged to be the single most cost-effective impaired driving countermeasure.¹⁰ For example, a 2004 New Zealand study reported cost-benefit ratios of 1:14 for RBT alone, 1:19 for RBT coupled with a media campaign, and 1:26 for RBT in conjunction with both a media campaign and “booze buses” (large, specially equipped vehicles used for on-site evidentiary breath testing, which are typically brightly coloured or otherwise distinctive to attract the attention of all nearby road users).¹¹

Despite its proven effectiveness and the unanimous recommendation of a House of Commons Standing Committee on Justice and Human Rights,¹² the current federal government, like its predecessors, has shown little interest in enacting RBT legislation. The limited impact of Canada’s current SBT programs stands in sharp contrast to the substantial traffic safety benefits that other countries have achieved by implementing RBT.

The federal government could narrow this gap by amending the *Criminal Code* to expressly authorize the police to use passive alcohol sensors (PASs), which are small alcohol-detecting devices, in impaired driving enforcement. This measure would be a reasonable compromise between Canada’s current SBT programs and the enactment of comprehensive RBT legislation.

⁹ For a review of the evidence on the effectiveness of RBT in Finland, Australia, New Zealand, and Ireland, see J. Dunbar, A. Penttila & J. Pikkariainen, “Drinking and Driving: Success of Random Breath Testing in Finland” (1987) 295:6590 *British Medical Journal* (Clinical Research Edition) 101 at 102; J. Henstridge, R. Homel & 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); T. Miller, M. Blewden & J. Zhang, “Cost savings from a sustained compulsory breath testing and media campaign in New Zealand” (2004) 36:5 *Accident Analysis & Prevention* 783 at 783 (Miller, 2004); D. Bedford, “Evidence Based Policy Works: It is Worth Fighting For” (Paper delivered at the Alcohol Action Ireland Conference, Royal College of Physicians of Ireland, 1 November 2012), online: National Documentation Centre on Drug Use, <<http://www.drugsandalcohol.ie/18742/>>; and T. O’Brien, “Irish road deaths ‘Fall By 42%,’” *Irish Times* (19 May 2010), online: *Irish Times* <<http://www.irishtimes.com/newspaper/breaking/2010/0519/breaking57.html>>. For a broader review of the research evidence, see Solomon, 2011, *ibid.* at 51-59.

¹⁰ See for example, R. Homel, “Random Breath Testing the Australian Way: A Model for the United States?” (1990) 14:1 *Alcohol Health and Research World* 70 at 70 (Homel, 1990); M. Mackay *et al.*, *Cost Effective EU Transport Safety Measures* (Brussels: ETSC, 2003) at 27, online: ETSC <<http://www.etsc.eu/documents/costeff.pdf>>; and M. Peden *et al.*, eds., *World report on road traffic injury prevention* (Geneva: World Health Organization (WHO), 2004) at 130, online: WHO <<http://whqlibdoc.who.int/publications/2004/9241562609.pdf>>, citing A. Eckhardt & E. Seitz, *Economic Elaboration of Safety Measures* (Berne: Swiss Council for Accident Prevention, 1998).

¹¹ Miller, 2004, *supra* note 9 at 783. In the authors’ words, the RBT program had “dramatic, sustained effects” that are “unusually high for highway safety measures.” *Ibid.* at 793. For an assessment of the potential cost-savings attributable to enacting comprehensive RBT programs in Canada, see Predicting the Impact, *supra* note 2.

¹² Canada, House of Commons Standing Committee on Justice and Human Rights, *Ending Alcohol-Impaired Driving: A Common Approach* (Ottawa: House of Commons Standing Committee on Justice and Human Rights, 2009) at 13-16 (House of Commons).

The Current SBT System

There are two main concerns with SBT checkpoints as they operate in Canada. First, the police rely on their own unaided senses in forming a “reasonable suspicion” that the driver has alcohol in his or her body. Unlike in some American states, police in Canada do not use PASs or similar technology at sobriety checkpoints. Rather, Canadian police rely on behavioural and sensory observations, including: the manner of driving; the odour of alcohol on the driver’s breath; a flushed face; a lack of co-ordination; bloodshot eyes; slurred or indistinct speech; and inappropriate responses to questions. These signs may be difficult to detect in the brief time that motorists are stopped at checkpoints. In addition, alcoholic beverages vary in the nature and intensity of their aroma, and police officers differ in their abilities to detect alcohol. Moreover, experienced drinkers may be able to conceal signs of intoxication or avoid raising police suspicions, and those who do not fit the impaired driver stereotype are less likely to be identified as being impaired.¹³

Researchers have questioned the deterrent impact of SBT checkpoints that rely exclusively on the officer’s subjective judgment as to whether breath testing is warranted.¹⁴ R. Homel, one of the world’s leading experts on SBT and RBT, has written that:

[M]any drivers ... play ‘breathalyzer roulette,’ perceiving [that] the odds of apprehension are slight and that they can conceal their drinking successfully. Consequently, any method of enforcement that relies on subjective judgments of impairment ... is unlikely to work over the long term simply because the perceived probability of apprehension cannot be maintained at a high level.¹⁵

He noted that even during a period of intensified SBT enforcement in Queensland, fewer than 1% of the drivers who were stopped were tested.¹⁶

Research indicates that the police, relying on their unaided senses, detect only a small percentage of drinking drivers at sobriety checkpoints. For example, a 1997 American study reported that the police missed almost 90% of those with BACs between 0.05% and 0.079%, and over 60% of drivers with BACs above 0.08%.¹⁷ In another American study, the police failed to

¹³ For example, studies have reported that women are routinely missed more often than men, young drivers are missed more often than older drivers, and drivers without passengers are missed more often than drivers with passengers. E. Vingilis, E. Adlaf & L. Chung, “Comparison of Age and Sex Characteristics of Police-Suspected Impaired Drivers and Roadside-Surveyed Impaired Drivers” (1982) 14:6 *Accident Analysis & Prevention* 425 at 429 (Vingilis, 1982); and J. Wells *et al.*, “Drinking Drivers Missed at Sobriety Checkpoints” (1997) 58:5 *Journal of Studies on Alcohol* 513 at 516 (Wells, 1997).

¹⁴ For a review of the early studies on SBT detection rates, see E. Vingilis & V. Vingilis, “The Importance of Roadside Screening for Impaired Drivers in Canada” (1987) 29 *Canadian Journal of Criminology* 17 at 22-25.

¹⁵ Homel, 1990, *supra* note 10 at 72.

¹⁶ *Ibid.*

¹⁷ Wells, 1997, *supra* note 13 at 516.

detect almost 75% of drivers with BACs between 0.05% and 0.099%, and approximately 45% of drivers with BACs of 0.10% or more.¹⁸

A 1982 Canadian study reported that approximately 95% of drivers with BACs above 0.08% were not detected during an urban sobriety checkpoint program.¹⁹ This is consistent with an earlier study in Alberta, which found that the police detected only about 8% of the drivers with BACs above 0.08% whom they had stopped and checked.²⁰ The impaired driving detection rates have likely increased somewhat since the 1980s. Nevertheless, in its 2009 report, the House of Commons Standing Committee on Justice and Human Rights stated that “the current methods of enforcing the law lead police officers to apprehend only a small percentage of impaired drivers, even at roadside traffic stops designed to detect impaired driving. This also does not speak well for the [deterrent] effect of Canada’s impaired driving laws.”²¹

The second major problem with Canadian SBT programs is that even if detected, many impaired drivers escape criminal liability. Section 254(2)(b) of the *Criminal Code* provides that the police may demand an ASD test from a driver if they have “reasonable grounds to suspect” that the driver has alcohol in his or her body. This phrase has both a subjective and objective element. The police must honestly believe that the driver has alcohol in his or her body and their belief must be objectively reasonable.²² In *R. v. Buffalo*, the court noted that the term “reasonable grounds to suspect” is the second least demanding evidentiary standard in Canadian criminal law, and has been equated to “a feeling or thought that something is true or probable.”²³ Similarly, the Supreme Court of Canada has stated that while reasonable grounds to suspect and reasonable and probable grounds to believe are both grounded in objective facts, a reasonable suspicion is a lower standard as it based on “a reasonable possibility, rather than [a] reasonable probability.”²⁴

¹⁸ S. Ferguson, J. Wells & A. Lund, “The Role of Passive Alcohol Sensors in Detecting Alcohol-Impaired Drivers at Sobriety Checkpoints” (1995) 11:1 *Alcohol, Drugs and Driving* 23 (Ferguson, 1995). An earlier American study reported that the police failed to detect 55% of drivers with BACs of 0.10% or more at sobriety checkpoints. I. Jones & A. Lund, “Detection of Alcohol-Impaired Drivers Using a Passive Alcohol Sensor” (1986) 14:2 *Journal of Police Science and Administration* 153 at 157 (Jones, 1986).

¹⁹ Vingilis, 1982, *supra* note 13 at 427.

²⁰ W. Picton, “Legislation to Allow the Safe Release of Potentially Unsafe Drinking Drivers” (1978) 40 *Criminal Reports New Series* 30 at 35.

²¹ House of Commons, *supra* note 12 at 13.

²² *R. v. Carroll*, 2011 BCPC 214 at para. 13; *R. v. Hnetka*, 2007 ABPC 197 at para. 15; and *R. v. Yates*, 2014 SKCA 52 at para. 33.

²³ 2009 ABPC 317 at para. 30. The court set out a continuum of evidentiary standards encompassing: suspicion (mere suspicion); reasonable suspicion; reasonable grounds to believe; *prima facie* case; proof on a balance of probabilities; proof beyond a reasonable doubt; and truth. *Ibid.* at para. 29.

²⁴ *R. v. Chehil*, 2013 SCC 49 at para. 27.

The police need not believe that the driver has committed any offence or that the driver is impaired or adversely affected by alcohol.²⁵ The officer's suspicion may be based on direct or circumstantial evidence.²⁶ Moreover, the officer's reasonable suspicion "need only relate to the existence of alcohol" in the driver's body, and not any threshold amount.²⁷ Thus, the *Criminal Code* standard for demanding an ASD test is not particularly onerous. Yet, the courts have often failed to interpret and apply it in this manner. In many cases, the courts have demanded a standard of proof that is inconsistent with the *Criminal Code* requirements and/or given little weight to police evidence.

Some courts have held that an admission of alcohol consumption and the odour of alcohol on the driver's breath did not provide the officer with a reasonable suspicion that the driver had alcohol in his or her body. For example in *R. v. Smith*, the accused's vehicle was weaving within the lane and crossed onto the gravel shoulder twice, and the accused acknowledged that he had been drinking earlier in the day. The officer detected a strong odour of alcohol on the accused's breath and noted that his eyes were red and glassy. At that point, the officer demanded that the accused submit to an ASD test. Nonetheless, according to the judge, the officer had not directed his mind to whether there were reasonable grounds to suspect that the accused had alcohol in his body. The judge concluded that the officer did not have sufficient grounds for demanding an ASD test and granted the accused's application to exclude the test results.²⁸

Other courts have held that the smell of alcohol emanating from the accused's body, coupled with other evidence of recent consumption, did not provide grounds for an ASD test. For example in *R. v. Webster*, the accused was driving extremely slowly and swerved across the centre line three times. When the accused approached the police car, the officer detected the odour of alcohol emanating from the accused's body. The officer directed the accused to stand at the curb and then demanded an ASD test. The judge noted that the accused had not admitted to drinking and that the officer could not specify whether the odour came from the accused's mouth or from some other part of his body. The judge ruled that the officer did not have a reasonable suspicion that the accused had alcohol in his body and excluded the ASD results.²⁹

Similarly, it has been held that an odour of alcohol coming from the vehicle in combination with related evidence of alcohol consumption was insufficient to provide grounds for an ASD test. In *R. v. Carroll* for example, a strong odour of alcohol emanated from the car and a two-litre

²⁵ *R. v. Gilroy*, 1987 ABCA 185, leave to appeal ref'd. [1988] S.C.C.A. No. 12 at para. 8; and *R. v. Flight*, 2014 ABCA 185 at para. 52 (*Flight*).

²⁶ *R. v. Buffalo*, *supra* note 23 at 9.

²⁷ *R. v. Lindsay* (1999), 134 C.C.C. (3d) 159 (Ont. C.A.) at para. 2; *R. v. Thomas*, 2008 ABQB 610 at para. 20; and *Flight*, *supra* note 25 at para. 52.

²⁸ [1997] O.J. No. 3677 (Prov. Div.). See also *R. v. Hendel*, [1997] O.J. No. 2849 (Gen. Div.); and *R. v. Fetterley*, [2004] B.C.J. No. 1859 (Prov. Ct.).

²⁹ 2004 BCPC 70.

bottle of alcoholic cider was found on the front passenger seat. The accused was alone in the car and admitted to consuming alcohol four hours earlier. The judge criticized the officer for not further investigating the source of the odour. The judge held that the officer did not have reasonable grounds to suspect that the accused had alcohol in her body and excluded the ASD results.³⁰

In fairness, not all judges adopt the questionable standards of proof reflected in the preceding cases. Still, the police generally require the driver to admit to recent alcohol consumption, a strong odour of alcohol on the driver's breath, clear behavioural or physical signs of recent consumption, and/or evidence of driving in an impaired manner.³¹

Moreover, defence counsel often aggressively challenge the officer's basis for demanding an ASD test.³² If the court finds that there were insufficient grounds to demand an ASD test, its results and that of any subsequent evidentiary breath tests will be excluded from evidence.³³ In

³⁰ *R. v. Carroll*, *supra* note 22 at para. 13. See also *R. v. Sood*, 2005 ABPC 201. Furthermore, some courts have excluded ASD results partially based on the officer's inability to adduce evidence of an odour of alcohol on the driver's breath, even though there was other evidence of alcohol consumption. *R. v. Staples*, 2011 ONCJ 141; and *R. v. Mowat*, 2010 BCPC 430.

³¹ For a review of the factors determining whether an officer has reasonable grounds to suspect that a driver has alcohol in his or her body, see *R. v. Hansen*, 2010 ABPC 195 at para. 30. The judge emphasized that each case is "fact driven," prior to making the following observations. First, the smell of alcohol on the driver's breath in itself provides sufficient grounds for an ASD test. Second, the smell of alcohol emanating from inside the vehicle, may or may not constitute sufficient grounds when combined with other evidence, such as the manner of driving, an admission of alcohol consumption, and behavioural or observational indicia of impairment. Third, a driver's admission of alcohol consumption may or may not alone be sufficient, when there is no evidence of an odour of alcohol or of other indicia of impairment. Fourth, an admission of prior alcohol consumption in itself constitutes sufficient grounds for an ASD, but only if there is evidence that the alcohol was consumed shortly before the driver was stopped. Fifth, all of the circumstances of the case must be examined in their totality. It should be noted that the judge in *Hansen* refers to indicia of impairment, even though section 254(2)(b) only requires reasonable grounds to suspect that the driver has any alcohol in his or her body.

³² These challenges appear to figure prominently in acquittals. R. Robertson, W. Vanlaar & H. Simpson, *National Survey of Crown Prosecutors and Defence Counsel on Impaired Driving* (Ottawa: TIRF, 2009) at 68. The authors reported that 37% of Crown prosecutors and 43% of defence counsel agreed that improper procedures by arresting officers "always or often" result in an acquittal. More specifically, 8% of Crown prosecutors and 22% of defence counsel stated that the lack of reasonable grounds to suspect that the driver has alcohol in his or her body "always or often" results in an acquittal. Unfortunately, the survey question used by the authors is open to differing interpretations.

³³ On June 16, 2015, the federal government introduced Bill C-73, *Dangerous and Impaired Driving Act*, 2nd Sess., 41st Parl., 2015, cl. 5 (first reading 16 June 2015). Among other things, the Bill states that each of the following factors, in and of itself, constitutes reasonable grounds to suspect that a driver has alcohol in his or her body: the erratic movement of the vehicle; the driver's admission of alcohol consumption; the odour of alcohol on the driver's breath; the odour of alcohol emanating from the vehicle; and the driver's involvement in a crash resulting in bodily harm or death to another person.

the end result, the charges against the driver will almost always be dropped.

The enforcement challenges related to demands for ASD tests have likely contributed to the growing reluctance of police to lay *Criminal Code* impaired driving charges. In a national survey, 30% of the officers reported that impaired drivers are sometimes or frequently let off with a short-term provincial licence suspension, rather than being charged criminally. Twenty-nine percent of the officers reported that they sometimes or frequently took no legal action against impaired drivers. Instead, the officers arranged for the impaired driver to be taken home by taxi or a sober licensed passenger, or took other similar steps to safeguard them.³⁴ Similarly, a police survey in British Columbia indicated that almost half of the officers refused to lay *Criminal Code* charges, even if they concluded that the driver was legally impaired.³⁵ This *de facto* decriminalization helps to explain why Canada's 2013 charge rate for federal impaired driving offences per 100,000 licensed drivers was less than 40% of the American rate.³⁶

Passive Alcohol Sensors

In the United States, PASs were often shaped as a baton or fitted into the end of a specially-designed police flashlight or clipboard. Unlike ASDs, PASs are classified as “passive” instruments because they do not require the driver to perform any act, such as blowing into a mouthpiece. PASs detect the presence and approximate amount of alcohol in a driver's exhaled breath by sampling the ambient air near his or her mouth. For optimum results, the PAS should be held six inches from the driver's mouth when he or she is speaking.³⁷ The device will provide

However, Bill C-73 was introduced several days before the parliamentary session ended and consequently died on the order papers. The timing of the Bill appears to have been driven by political factors related to the early calling of the October federal election. If these provisions were enacted, proclaimed in force and upheld under the *Canadian Charter of Rights and Freedoms*, Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11 (*Charter*), they would significantly broaden the grounds upon which the police could demand that drivers submit to ASD testing.

³⁴ B. Jonah *et al.*, “Front-line Police Officers' Practices, Perceptions and Attitudes About the Enforcement of Impaired Driving Laws in Canada” (1999) 31:5 *Accident Analysis & Prevention* 421 at 426.

³⁵ Police Services Division, *Safe Roads, Safe Communities* (Victoria: Ministry of the Attorney General, Public Safety and Regulatory Branch, 2000) at B-4.

³⁶ U.S. Department of Justice, Federal Bureau of Investigation (FBI), *Crime in the United States 2013* (November 2014), online: FBI <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/tables/table-29/table_29_estimated_number_of_arrests_united_states_2013.xls>; U.S. Department of Transportation, Office of Highway Policy Information, *Highway Statistics 2013* (Washington, D.C.: U.S. Department of Transportation, 2015) at DL-1C; Statistics Canada, *CANSIM Table 252-0051: Incident-based crime statistics, by detailed violations annual (number)* (Ottawa: Statistics Canada, 2015); and Transport Canada, *Canadian Motor Vehicle Traffic Collision Statistics: 2013* (Ottawa: Transport Canada, 2015) at 5.

³⁷ A. Farina, *Laboratory Evaluation of Two Passive Sensor Devices* (Washington, D.C.: U.S. Department of Transportation, 1988) at 5 (Farina, 1988). If the PAS is held further away, it will likely

a reading even if the driver is not speaking, but in these circumstances the reading will likely underestimate the driver's BAC.

The device contains a pump that draws in an air sample over a sensor that reacts to alcohol and registers a reading within a matter of seconds.³⁸ The models used by many American police provide an estimate of the driver's BAC. One model displays the driver's estimated BAC on a bar graph, with three colours corresponding to no-to-little alcohol, a moderate amount of alcohol or a substantial amount of alcohol.³⁹ Other PAS models do not provide an estimate of the amount of alcohol, but simply indicate whether alcohol is present above a low pre-set level, such as a 0.02% BAC.

Although developed in the early 1980s, American police forces only began using PASs on a regular basis in the early 1990s. The police use PASs in their initial screening of drivers to supplement their observations in determining if there is sufficient cause to demand further testing. In Canada, a positive PAS test would provide the police with reasonable grounds to suspect that the driver has alcohol in his or her body and thus authority under section 254(2) of the *Criminal Code* to demand that the driver submit to an ASD test or a standard field sobriety test (SFST).

Small handheld devices have recently been introduced that include both a PAS and ASD function. When the PAS mode is activated, the device draws in a sample of the ambient air, which is analyzed to determine whether alcohol is present above a low pre-set level. If the PAS test is positive, the officer can switch to the ASD mode and demand that the driver provide a breath sample. If the driver registers a fail on the ASD test, the officer would then have grounds to demand that the driver submit to evidentiary breath testing on an "approved instrument." These new machines permit officers to carry only one handheld device, and yet conduct the two distinct tests. Provided that the PAS test precedes the ASD testing, the use of these devices should pose no new legal challenges.⁴⁰

(a) Concerns with PASs

It had been argued that PASs could provide a false positive reading by reacting to substances other than alcohol. Some earlier PASs did not accurately distinguish between alcohol and other compounds in the ambient air, such as cigarette smoke.⁴¹ However, this problem was addressed

underestimate the driver's BAC. *Ibid.*; and Jones, 1986, *supra* note 18 at 158.

³⁸ Jones, 1986, *ibid.* at 159.

³⁹ For example, one PAS model has green bars indicating a BAC of 0.00% to 0.05%, yellow bars corresponding to a BAC of 0.05% to 0.16%, and red bars corresponding to a BAC of 0.16% or higher. The colours appear in varying shades, which become darker as the driver's BAC increases. Farina, 1988, *supra* note 37 at 11.

⁴⁰ See for example, Alcohol Countermeasure Systems (ACS), Alert J5: Professional breath alcohol tester and printer, online: ACS <<http://acs-corp.com/products/law-enforcement/alert-j5/>>.

⁴¹ R. Voas, "Laboratory and field tests of a passive alcohol sensing system" (1983) 4:3 Abstracts and

in the 1980s, and the current PASs react almost exclusively to alcohol.⁴² Thus, a positive reading on a PAS indicates that alcohol is present and that the source is most likely the driver.

PASs will react to alcohol in the air sample drawn in, whether the source is the driver, an intoxicated passenger, or alcohol that has been spilled in the car. However, the likelihood of a PAS registering alcohol from sources other than the driver is very small. First, the sensor works best when held six inches from the driver's mouth, making it unlikely that alcohol from another source would be detected.⁴³ Second, the greater the distance between the sensor and the source of the alcohol, the more diffused the alcohol will be in the ambient air. Thus, even if alcohol from a source other than the driver were detected, the resulting reading is unlikely to be high enough to trigger a demand for further testing. Third, the concern about alcohol from a source other than the driver is equally applicable to current Canadian enforcement practices. An officer who detects the odour of alcohol coming from inside a vehicle cannot necessarily identify its source. However, as will be discussed, research indicates that police using PASs are better at detecting alcohol and determining its source than police using only their unaided senses.

It must be emphasized that PASs need not be foolproof. Section 254(2) only requires that an officer have reasonable grounds to suspect that the driver has alcohol in his or her body. Moreover, PASs would be used in Canada as a preliminary screening tool that may lead to a demand for the driver to submit to an ASD test or SFST. In turn, a failed ASD test or SFST only provides grounds for evidentiary breath testing. Thus, the PAS, ASD and SFST results are not admissible in evidence at trial, and are not used to determine guilt or innocence.

(b) Benefits of PASs

American laboratory and field tests have demonstrated that, when properly used, PASs accurately detect the presence of alcohol and provide a reasonably accurate estimate of the driver's BAC. A laboratory study demonstrated that one PAS model accurately assessed drivers with BACs of 0.05% or higher as being in this target range 77% of the time, and was 100% accurate in identifying drivers who had BACs below 0.05% as being below this target range.⁴⁴ A roadside study reported that PASs were more than 80% accurate in assessing drivers to have a BAC of 0.10% or more, with a false positive rate of less than 4%.⁴⁵ Generally, as the driver's

Reviews in Alcohol and Driving 3 (Voas, 1983); and Jones, 1986, *supra* note 18 at 158.

⁴² Jones, 1986, *ibid.* at 154. See for example PAS Systems International, *Passive Alcohol Sensors* (2015), online: PAS Systems International <<https://pasintl.com/passive-alcohol-sensors.html>>.

⁴³ Farina, 1988, *supra* note 37 at 4.

⁴⁴ *Ibid.* at 5.

⁴⁵ R. Foss, R. Voas & D. Beirness, "Using a Passive Alcohol Sensor to Detect Legally Intoxicated Drivers" (1993) 83:4 *American Journal of Public Health* 556 at 558 (Foss, 1993). The authors also reported that PASs were 93% accurate in detecting drivers who have a BAC above 0.02%, with only a 3% false positive rate.

BAC increases, the sensor's ability to detect the presence of alcohol increases.⁴⁶ Other studies have reported similar accuracy rates for PASs.⁴⁷

Research indicates that the use of PASs significantly increases impaired driving detection rates. One study indicated that compared to conventional sobriety checkpoints, those using PASs had an 88% higher detection rate for drivers with BACs of 0.05% to 0.099% (24% vs. 45%). Similarly, the detection rates at sobriety checkpoints using PASs were 51% higher (45% vs. 68%) for drivers with BACs of 0.10% or above.⁴⁸ A more recent study reported that PAS use increased checkpoint detection rates from 26% to 39% for drivers with BACs between 0.05% and 0.099%, and increased rates from 55% to 71% for drivers with BACs of 0.10% or above.⁴⁹ The authors of a 2006 review stated the police use of PASs at checkpoints increased impaired driving arrest rates by approximately 50%.⁵⁰

In addition to increasing impaired driving detection rates at sobriety checkpoints, the use of PASs reduced the number of sober drivers mistakenly required to undergo further testing.⁵¹ Each false positive assessment was reported to tie up an officer for approximately 15 minutes, thereby decreasing the number of drivers who could be screened at the checkpoint.⁵²

(c) The Use of PASs in Canada

As indicated, PASs would be used as an enforcement tool for the initial screening of drivers, with a positive result providing grounds for further preliminary breath testing. Given the very limited role of PASs, they should not be required to meet the rigorous standards required of ASDs or approved instruments. Like the vast majority of other devices used in law enforcement, such as flashlights, cameras and tape recorders, PASs could be put into use without prior approval of the Alcohol Test Committee or a similar agency.

There is currently nothing preventing Canadian police from using PASs. Nevertheless, *Criminal Code* amendments expressly authorizing the police to use PASs would be beneficial. First, it would create a national standard, thereby reducing the confusion that would otherwise arise from having 13 different provincial and territorial enforcement powers and practices. Second, the police are more likely to use PASs if they are given express statutory authority to do so. Third, the publicity surrounding the introduction of a national PAS program, together with the knowledge that the police are using more sophisticated detection methods, would increase the

⁴⁶ Voas, 2006, *supra* note 4 at 718.

⁴⁷ Foss, 1993, *supra* note 45 at 557.

⁴⁸ Jones, 1986, *supra* note 18 at 157.

⁴⁹ Ferguson, 1995, *supra* note 18.

⁵⁰ Voas, 2006, *supra* note 4 at 714.

⁵¹ Jones, 1986, *supra* note 18 at 159.

⁵² Voas, 2006, *supra* note 4 at 720.

perceived risk of apprehension and thus the deterrent impact of the impaired driving law.⁵³ Finally, as indicated below, enacting express statutory authority would make PAS legislation more difficult to challenge under the *Canadian Charter of Rights and Freedoms* (*Charter*).

(d) PASs and Section 8 of the *Charter*

The most rigorous challenges to PAS use would likely be brought under section 8, which provides that “[e]veryone has the right to be secure against unreasonable search or seizure.” Although undertaking a comprehensive *Charter* analysis is beyond the scope of this paper, several factors suggest that PAS use would not constitute an unreasonable search or seizure.

The Supreme Court of Canada has stated that an unreasonable search occurs when the state’s activity intrudes upon an individual’s reasonable expectation of privacy and diminishes that expectation.⁵⁴ The Canadian courts have consistently recognized that driving is a licensed and heavily regulated activity occurring on public roads and that, as a result, a driver’s expectation of privacy may be negated or significantly curtailed.⁵⁵ For example, in *R. v. Hufsky*, the Supreme Court of Canada stated that “the demand by the police officer ... that the appellant surrender his driver’s licence and insurance card for inspection did not constitute a “search” within the meaning of section 8 because it did not constitute an intrusion on a reasonable expectation of privacy.”⁵⁶

Similarly, it may be argued that the use of a PAS does not constitute a search, because drivers have no expectation of privacy in regard to the ambient air in the vehicle. The courts have recognized that the police have common law⁵⁷ and, in most provinces, express statutory authority,⁵⁸ not only to inspect a driver’s documents but also to stop vehicles at random and question drivers about their vehicles, driving and sobriety.⁵⁹ In fulfilling their duties, the police are entitled to rely upon what they see, hear and smell in determining if there are grounds for

⁵³ *Ibid.*

⁵⁴ *R. v. Evans*, [1996] 1 S.C.R. 8 at para. 11.

⁵⁵ See for example, *R. v. Wise*, [1992] 1 SCR 527 at 533-34. In *R. v. Smith*, (1996), 28 O.R. (3d) 75 (C.A.) at 94, the Court recognized, albeit in regard to a *Charter* challenge under section 7, that the expectation of privacy must be assessed in regard to the nature of the activity. In the Court’s words: “Driving is a heavily regulated activity. ... The police’s goal is to catch the drinking driver at the roadside and not at the scene of the accident. Drivers expect to be stopped and questioned by the police concerning matters relating to the operation of their vehicles. That expectation is part and parcel of the privilege of operating a motor vehicle.”

⁵⁶ [1988] 1 S.C.R. 621 at para. 23.

⁵⁷ *R. v. Dedman*, [1985] 2 S.C.R. 2 at paras. 32-36; and *R. v. Orbanski*; *R. v. Elias*, 2005 SCC 3 at paras. 35-45 (*Orbanski*).

⁵⁸ See for example, *Ontario Highway Traffic Act*, R.S.O. 1990, c. H.8, ss. 216(1), 33(1)-(3), and 48(1); and *British Columbia Motor Vehicle Act*, R.S.B.C. 1996, c. 318, ss. 73(1)-(2) and 71.

⁵⁹ *Orbanski*, *supra* note 57 at para. 41.

undertaking further investigation or an ASD test or SFST. PASs act as an “artificial nose,” aiding the police in the already legitimate process of observing drivers for signs of alcohol consumption.⁶⁰ The prevailing view in the United States, namely that PASs do not constitute a search under the Fourth Amendment, is based upon similar reasoning.⁶¹

Alternatively, even if classified as a search in Canada, the use of a PAS should not be held to violate section 8 of the *Charter*. Since PAS testing would constitute a “warrantless search,” it would need to be justified in accordance with the test that the Supreme Court of Canada established in *R. v. Collins*.⁶² In this case, the court stated that a warrantless search would not violate section 8 if the search was authorized by law, the law itself was reasonable, and the search was conducted in a reasonable manner.

The first requirement in *Collins* would be met if the *Criminal Code* was amended to give the police express statutory authority to undertake PAS testing. The third requirement typically addresses how the police conduct the search in the particular case and thus cannot be analyzed in abstract. Therefore, the main debate will centre on the second requirement in *Collins*, namely the reasonableness of the law itself.

As indicated, the courts have consistently recognized that driving is associated with a diminished expectation of privacy. In *R. v. Wise*, the Court framed the issue in the following terms:

For the safety of all, it is essential that drivers be tested before receiving their licence; that RIDE programs be instituted to discourage the drinking driver; that the speed of vehicles be supervised and that the mechanical fitness of vehicles be inspected. These inspections and tests and this supervision do not constitute unreasonable breaches of basic civil liberties. Rather, they are common sense rules that exist for the protection of society as a whole. Reasonable surveillance and supervision of vehicles and their drivers are essential. Without them, motor vehicles inevitably become instruments of crippling injury, death and destruction.

⁶⁰ The use of a PAS, like the use of a flashlight, binoculars or car headlights, simply enhances the officer’s observational abilities.

⁶¹ See J. Manak, “Constitutional Aspects of the Use of Passive Alcohol Screening Devices as Law Enforcement Tools for DWI Enforcement” (Winter, 1986) 19:3 *The Prosecutor* 29; and M. Fields & A. Hricko, “Passive Alcohol Sensors – Constitutional Implications” (Summer, 1986) 20:1 *The Prosecutor* 45. These authors concluded: that the use of a PAS does not constitute a search; and that, even if it did, the courts would find the search to be reasonable and thereby not contrary to the Fourth Amendment. See also K. Han, “The Technological Sniffing Out of Constitutional Rights: Assessing the Constitutionality of the Passive Alcohol Sensor III” (2000-2001) 9 *Journal of Law and Policy* 835; and M. Costantino, “Electronic Sniffers’ Place: The Use of Electronic Sniffers Under the Search and Seizure Clause of the Fourth Amendment” (2010) 2 *Charlotte Law Review* 333. In fairness, while both of these authors state that PAS use would be found to be constitutional under current American law, Han is critical of the underlying case law.

⁶² [1987] 1 S.C.R. 265 at 278.

Society then requires and expects protection from drunken drivers, speeding drivers and dangerous drivers. A reasonable level of surveillance of each and every motor vehicle is readily accepted, indeed demanded, by society to obtain this protection. All this is set out to emphasize that, although there remains an expectation of privacy in automobile travel, it is markedly decreased relative to the expectation of privacy in one's home or office.⁶³

In our view, PAS testing should be viewed as reasonable under section 8, given the reduced expectation of privacy inherent in driving, the minimally intrusive nature of PAS testing and its potential for significantly decreasing impaired driving deaths and injuries. The use of PASs is far less intrusive than the accepted screening procedures routinely used at Canadian airports, and at many courts and other government facilities, where every passenger or entrant is required to pass through a metal detector and submit to having his or her luggage and person searched. For example, 124.5 million passengers “enplaned and deplaned” in 2014,⁶⁴ where they may have been required to: take off their shoes, belt and jewelry; be scanned for weapons; be swabbed for explosive residue; empty their pockets into a tray; have their carry-on possessions inspected; and submit to a thorough pat down search.⁶⁵ Most people would likely find these procedures more intrusive and stigmatizing than being subject to a PAS test while sitting in their car, like every other driver passing through the sobriety checkpoint.

The Canadian courts have never held such random intrusions or those routinely imposed on anyone entering their courtrooms to violate the *Charter*. For example, in upholding mandatory screening of court entrants, the Court of Appeal in *R. v. Campanella* stated: “The current system makes for a safer and more reassuring environment. The means chosen are non-intrusive and bear no stigma. A requirement for prior authorization based on reasonable and probable grounds would not be feasible. The law is neither vague nor over-reaching. It is constitutional.”⁶⁶

⁶³ *Supra* note 55 at 533-34.

⁶⁴ Transport Canada, *Transportation in Canada: 2014, Overview Report* (Ottawa: Transport Canada, 2015) at 9.

⁶⁵ In addition, the tens of millions of returning Canadians and international visitors crossing into Canada by land, rail or sea each year may be subject to these same screening and search procedures. Statistics Canada, *CANSIM Table 427-0001, Number of international travellers entering or returning to Canada, by type of transport, annual (persons)* (Ottawa: Statistics Canada, 2015).

As P. Hogg, Canada's leading constitutional scholar, noted: “the concerns about safety that prompt these procedures are well understood by travelers, and so far as I know they have never been challenged.” *Constitutional Law of Canada*, 5th ed. (Toronto: Thomson Reuters, (2007), ch. 48 at 37.

⁶⁶ (2005), 75 O.R. (3d) 342 at para. 26, citing *R. v. Lindsay* (2001), 158 Man. R. (2d) 176 (Q.B.) at para. 58, aff'd. (2004), 187 Man. R. (2d) 236 (C.A.) at para. 18.

It is doubtful that everyone shares the Court of Appeal's view that having to submit to a public search of their person and property entails no stigma. In any event, given that the police use of a PAS is likely to go unnoticed by drivers, their passengers and passersby, it is substantially more innocuous than court screening.

The Court did not cite any specific incidents, statistics or studies, but simply commented: “It is notorious that, unfortunately, there have been serious incidents of violence in the courthouses of this province by the use of weapons that have been brought into the courthouse.”⁶⁷ The Court’s failure to demand any evidence to justify searching court entrants when acting to protect its safety, stands in sharp contrast to what is demanded of the police when acting to safeguard road users.

Far more Canadians are killed in alcohol-related crashes every year than by terrorists on airplanes, travellers at the border, or entrants to the courts and other government buildings. Impairment-related crashes remain the number one criminal cause of death in Canada, claiming almost twice as many lives per year as all categories of homicide combined.⁶⁸ While comparative data must be used with caution, Canada’s impaired driving record is very poor relative to that of other developed democracies.⁶⁹

In our view, the Court of Appeal’s justification for upholding court screening would apply with far greater force to PAS legislation. Like airport, customs and court screening procedures, the use of a PAS is consistent with the *Charter*, given the diminished expectation of privacy associated with driving and the state interest in protecting all road users.⁷⁰

Conclusion

PASs provide an easy, reliable and non-intrusive method of efficiently screening large numbers of drivers with minimal delay. The use of PASs would speed up the roadside processing of drivers by reducing the police need to question drivers, inspect their licence and other documents, closely observe them for visible signs of impairment, and attempt to detect the odour

⁶⁷ *Ibid.* at para. 18.

⁶⁸ T. Mahony, *Homicide in Canada, 2010* (Ottawa: Statistics Canada, 2011) at 1; and S. Pitel & R. Solomon, *Estimating the Number and Cost of Impairment-Related Traffic Crashes in Canada 1999 - 2010* (Oakville: MADD Canada, 2013) at 3.

⁶⁹ For example, an international review of 15 countries published in 2000 reported that Canada had the second highest rate of alcohol involvement in fatal crashes. K. Stewart *et al.*, “International Comparison of Laws and Alcohol Crash Rates: Lessons Learned” in H. Laurell & F. Schlyter, eds., *Alcohol, Drugs and Traffic Safety — T2000: Proceedings of the 15th International Conference on Alcohol, Drugs, and Traffic Safety*, Stockholm, Sweden, May 22-26, 2000, CD-ROM: (Stockholm: International Council on Alcohol, Drugs, and Traffic Safety, 2000). See also Transport Canada, *Canada’s Road Safety Targets to 2010* (Ottawa: Minister of Public Works and Government Services, 2001) at 7, online: Transport Canada <http://www.tc.gc.ca/media/documents/roadsafety/CRS_Target.pdf>.

⁷⁰ A Canadian study concluded that comprehensive RBT legislation would not violate the *Charter*, and this conclusion was affirmed by P. Hogg. See Solomon, 2011, *supra* note 8 at 60-77; and P. Hogg, *Memorandum: Constitutional Power over Random Breath Testing* (4 August 2010) submitted to W. Kauffeldt, Chair of the Board, MADD Canada. Given that the use of a PAS is far less intrusive than RBT, it too should be held to be compatible with the *Charter*.

of alcohol on their breath.⁷¹ Fewer sober drivers would be mistakenly detained at sobriety checkpoints for further testing. Most importantly, the introduction of PASs would increase the effectiveness and deterrent impact of sobriety checkpoints, which are a key component of impaired driving enforcement in Canada.

⁷¹ This process has been described as “an elaborate charade involving licenses and equipment, all the time ‘sniffing the air’ for signs of alcohol.” R. Homel, “Random Breath Testing and Random Stopping Programs in Australia” in R. Wilson & R. Mann, eds., *Drinking and Driving: Advances in Research and Prevention* (New York: Guilford Press, 1990) 159 at 186.