The Road Safety Monitor

Drinking and Driving
The Traffic Injury Research Foundation

The mission of the Traffic Injury Research Foundation (TIRF) is to reduce traffic-related deaths and injuries.

TIRF is a national, independent, charitable road safety institute. Since its inception in 1964, TIRF has become internationally recognized for its accomplishments in a wide range of subject areas related to identifying the causes of road crashes and developing programs and policies to effectively address them.
The Road Safety Monitor

Drinking and Driving

Douglas J. Beirness
Herb M. Simpson
Daniel R. Mayhew
Anita Pak
Financial support provided by:

Primary sponsors:

Transport Canada

Brewers Association of Canada

Secondary sponsors:

Royal & SunAlliance
Young Drivers of Canada

Additional support provided by:

Canada Safety Council
Lockheed Martin IMS

Printing and distribution made possible by a grant from the Insurance Corporation of British Columbia
# Table of Contents

Executive Summary ........................................................................................................ ii

The Road Safety Monitor ............................................................................................. 1
   Rationale .................................................................................................................. 1
   Structure .................................................................................................................. 1

Method ......................................................................................................................... 3

Drinking and Driving .................................................................................................... 4

Survey Results .............................................................................................................. 6
   Does the Public View Drinking and Driving as a Major Social Issue? .................... 6
   How Serious Does the Public Think the Problem Is? .............................................. 6
      Demographic differences ..................................................................................... 7
      Regional differences ............................................................................................ 8
   How Many Canadians Drive after Drinking? .......................................................... 8
   How Often Do Canadians Drive after Drinking? .................................................... 9
   Trends: Is the Problem Getting Better or Worse? ..................................................... 10
      Regional differences ............................................................................................ 12
   Who Drives after Drinking? .................................................................................... 13
      Gender ................................................................................................................ 13
      Age ..................................................................................................................... 13
      Other factors ....................................................................................................... 13
   Taking Action against Drinking and Driving .......................................................... 14
      Demographic differences ..................................................................................... 16
      Regional differences ............................................................................................ 16

Bibliography ................................................................................................................. 17
Executive Summary

♦ The Road Safety Monitor is an annual public opinion survey by the Traffic Injury Research Foundation (TIRF) that takes the pulse of the nation on key road safety issues by means of a comprehensive telephone survey of a random, representative sample of Canadian drivers.

♦ The results from this inaugural edition of the Road Safety Monitor are being released in a series of reports that cover several key issues – the present report focuses on drinking and driving.

♦ Results show that drinking and driving is the most important road safety issue for Canadians – 85% believe it is a serious problem.

♦ Drivers in the Atlantic provinces see drinking and driving as a less serious problem than do drivers in other regions of the country.

♦ 16.7% of drivers report driving a vehicle within two hours of consuming alcohol in the past 30 days. This means that 3.6 million Canadian drivers admit to driving after drinking at some time during the past 30 days.

♦ 7.3% of drivers say that they have driven at some time during the past year when they thought they were over the legal limit – i.e., thought they were impaired. This means that in the past year, 1.6 million Canadians drove when they thought they were impaired.

♦ It is estimated that there were over 5 million impaired driving trips in the past year. However, less than 5% of drivers account for 87% of all the impaired driving trips!

♦ Since 1998, there has been a 9% reduction in the proportion of drivers who report driving after drinking and a 16% decrease in the proportion of drivers who report driving when they thought they were over the legal limit.

♦ Ontario drivers are least likely to report driving after drinking. Drivers in British Columbia and the Prairie provinces are most likely to report doing so.

♦ Drivers age 19 to 24 are most likely to report driving after drinking (23%). About one in five drivers between the ages of 25 and 49 admit doing so. Less than 2% of the youngest group of drivers (age 16 to 18) report driving after drinking.

♦ Canadian drivers support initiatives to deal effectively with drinking and driving including: alcohol ignition interlocks, immediate impoundment of vehicles driven by impaired drivers, a zero BAC restriction for convicted offenders, and greater use of police spot checks.
The Road Safety Monitor

The Road Safety Monitor is an annual public opinion survey developed by the Traffic Injury Research Foundation (TIRF) to take the pulse of the nation on key road safety issues.

The survey examines:

♦ what Canadians see as priority road safety issues and how concerned they are about them;
♦ their views about how to deal with these problems;
♦ how they behave on the highways; and
♦ what they know and don’t know about safe driving practices.

Rationale

Information on public knowledge about road safety issues is valuable for determining the specific areas where awareness needs to be heightened and knowledge needs to be improved. Information on public attitudes toward road safety and information about driving habits and safety practices is valuable for guiding program development and policy decisions.

Annual monitoring in these areas permits an assessment of changes in knowledge and awareness as well as changes in safety practices and in the level of concern about persisting problems; it also helps identify new and emerging issues.

Structure

The TIRF Road Safety Monitor is designed to assess public opinion, awareness, knowledge and practices on a broad range of important traffic safety issues. It includes a core set of questions that will be asked each year to provide information on trends in
attitudes, opinions and behaviours. This will be supplemented by a set of questions that probe more deeply into special, topical and emerging issues.

The results from this inaugural edition of the TIRF Road Safety Monitor are being released in a series of reports that covers various topics – aggressive driving (October 2001), drinking and driving, driver distraction, general perceptions of road safety, and commercial vehicle operators. The present report focuses on drinking and driving.
Method

The TIRF Road Safety Monitor contains 99 items designed to probe the knowledge, attitudes, and concerns of Canadians with respect to a range of road safety issues and to obtain information on their driving practices. The use of a branching format and the procedure of randomly asking a selected number of alternatives in some items allowed the entire survey to be completed in approximately 20 minutes.

The survey was administered by telephone to a randomly selected sample of Canadian drivers. Opinion Search Inc. conducted the interviews in late March and early April, 2001. The final sample consisted of 1,207 completed interviews.

The data were weighted to ensure the results were representative of the national population. Based on a sample of this size, the results can be considered accurate within 2.8%, 19 times out of 20 (most conservative estimate).
**Drinkin and Driving**

**Background**

During the 1980s, public concern about drinking and driving reached unprecedented levels. In response to this concern, action was taken on many fronts. Education and awareness programs proliferated, laws were strengthened, and enforcement efforts became prominent and commonplace. Consistent with this heightened attention, significant and unparalleled decreases occurred in the magnitude of the problem. In particular, between 1981 and 1988, the prevalence of drivers on the road at night in Canada with blood alcohol concentrations (BACs) over the legal limit (i.e., 80 mg alcohol/100 ml blood) dropped by 33% (Mayhew et al. 1996a). This decrease in the number of impaired drivers on the road at night was associated with a substantial decline in the proportion of fatal crashes that involved alcohol. Between 1981 and 1988, the percent of fatally injured drivers with BACs in excess of the legal limit dropped by 27% (Mayhew et al. 1996b).

In the 1990s, although progress continued, it was much less dramatic. For example, the proportion of fatally injured drivers with BACs in excess of the legal limit dropped by only 10% between 1990 and 1998.

A major reason why the substantial declines of the 1980s were not replicated in the 1990s is that the characteristics of the problem had changed. It appears that the successful countermeasure programs implemented during the 1980s served to change the drinking and driving behaviour of responsible, social drinkers but these same measures had less impact on that group of heavier drinkers who frequently drive after drinking and often with high BACs (Simpson and Mayhew 1991). This “hard core” group of drinking drivers was relatively unaffected by general deterrence and it is this group that now accounts for a very significant part of the problem (Beirness et al. 1997; Simpson et al. 1996). As a consequence, continued gains in the magnitude of the

---

1 Data are from the TIRF National Fatality Database, which is supported by Transport Canada and the Canadian Council of Motor Transport Administrators.
problem have been more difficult to achieve. The importance of dealing effectively with this group to make further progress has been acknowledged by virtually every government agency and research organization in North America.

An additional explanation that has been offered for the slowing of progress in the 1990s is that the public has become increasingly complacent and indifferent. In some respects, the much-heralded decreases in the magnitude of the drinking-driving problem during the 1980s may have created the mistaken impression that it had been solved (Simpson 1993). This belief could lead to a waning of public concern about the problem, with an attendant reduction in government and personal action.

If the public has become complacent, it is not warranted, because the problem has not been solved. In 1999 (the most recent year for which data are available), 906 people were killed in Canada in road crashes that involved a driver who had been drinking. In addition, approximately 3,500 drivers were involved in alcohol-related serious injury crashes in Canada² (Mayhew et al. 2001).

If it is true that public concern has diminished, it has profound implications for the effectiveness of existing countermeasures as well as for the impact of new ones. Accordingly, it is timely to take the pulse of the nation on this most important traffic safety issue. This was a primary purpose of this section of the Road Safety Monitor, which was designed to assess:

- the level of public concern about drinking and driving;
- the drinking and driving practices of Canadians; and
- the level of public support for various countermeasure options.

² Excludes British Columbia.
Survey Results

Does the Public View Drinking and Driving as a Major Social Issue?

Suggestions that the public has become complacent about the problem of drinking and driving are unfounded! Canadians are more concerned about drinking and driving than a variety of other social issues, such as school violence, the state of the health care system, the amount of taxes they pay, and the safety of their drinking water. When asked to rate their level of concern about drinking and driving on a scale from 1 (not at all concerned) to 6 (extremely concerned), 83% of Canadians said they were very concerned or extremely concerned. Clearly, drinking and driving remains a social issue of considerable concern for Canadians.

How Serious Does the Public Think the Problem Is?

Not only are Canadians concerned about drinking and driving, they perceive it to be a very serious problem. When asked to rate the seriousness of drinking and driving on a scale from 1 (not a problem at all) to 6 (extremely serious problem), 85% think drinking and driving is a very serious or extremely serious problem.

Indeed, Canadians see drinking and driving as the most serious road safety issue facing them today. Figure 1 shows the average ratings of the perceived seriousness of a number of road safety issues – 1 represents “not a problem at all” and 6 represents “an extremely serious problem”. As can be seen, Canadians feel that drinking and driving is the most serious problem, topping the list of a variety of other road safety issues, such as aggressive drivers (see Road Safety Monitor: Aggressive Driving, October 2001),
sleepy drivers, the poor condition of roads, the number of large trucks on the roads, and tire defects.

**Figure 1: Perceived Seriousness of Traffic Safety Issues**

Demographic differences. Women are more inclined to see drinking and driving as a serious problem – 89% of women, compared to 80% of men, rate drinking and driving as a serious or extremely serious problem. Despite these differences, the vast majority of both men and women believe drinking and driving is an extremely serious problem.

Drivers age 25 to 34 are more likely than younger and older drivers to see drinking and driving as an extremely serious problem. It is interesting that this is the very age group that comprises a large portion of those involved in alcohol-related crashes; despite this, or because of it, they are also most likely to perceive drinking and driving as a serious problem.

---

3In reporting the findings of the survey, unless stated otherwise, only those differences found to be statistically significant (p<.10) are presented.
Regional differences. Although there is a general consensus in Canada that drinking and driving is a serious problem, there are differences across the country. Figure 2 shows the percent of drivers in each of five major regions of Canada who rate drinking and driving as an extremely serious problem. As can be seen, drivers in Atlantic Canada are less likely than drivers in the rest of Canada to perceive it as a serious problem – 63% of drivers in Atlantic Canada view drinking and driving as an extremely serious problem, compared to about 74% of drivers in the rest of Canada.

**Figure 2: Perceived Seriousness of Driving after Drinking According to Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent Who Rate Drinking-Driving as a Serious Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quebec</td>
<td>76.3</td>
</tr>
<tr>
<td>Prairies</td>
<td>74.4</td>
</tr>
<tr>
<td>Ontario</td>
<td>73.4</td>
</tr>
<tr>
<td>BC</td>
<td>73.1</td>
</tr>
<tr>
<td>Atlantic</td>
<td>63.5</td>
</tr>
</tbody>
</table>

**How Many Canadians Drive after Drinking?**

Most Canadians are extremely concerned about driving after drinking, but some still do it. When asked about their own personal practices, about one in six drivers (16.7%) indicate that they had driven a vehicle within two hours of consuming alcohol sometime during the past 30 days. Although this might be viewed as a relatively small proportion, when applied to the entire population of licensed drivers, it indicates that *3.6 million Canadians admit to driving after drinking in the past month*. In these terms, the behaviour is anything but uncommon.
More disconcerting is the fact that 7.3% of all drivers say they have driven at some time during the past year when they were probably over the legal limit. When applied to the population of licensed drivers in Canada, it means that approximately 1.6 million Canadians drove in the past year when they thought they were over the legal limit!

**How Often Do Canadians Drive after Drinking?**

Among those respondents who admit that during the past year they drove when they thought they were over the legal limit, 63% said they had done it more than once; 11% said they had done it four or more times. On this basis, it can be estimated that in the past year there were over 5 million trips during which people drove when they thought they had too much to drink.

Despite the considerable prevalence of the behaviour, a small minority of drivers accounts for most of the “impaired driving”. Indeed, less than 5% of licensed drivers account for 87% of all the “impaired” driving trips. This latter finding is consistent with a large body of research which has consistently shown that a small minority of individuals accounts for most of the impaired driving and most of the damage on the road (Beirness et al. 1997; Simpson and Mayhew 1991; Simpson et al. 1996; Sweedler 1995).

In summary:

- 1.6 million Canadians drove when they thought they were over the legal limit.
- There were 5 million such trips in the past year.
- 5% of drivers account for 87% of these trips.
**Regional differences.** Although drinking and driving is a nation-wide problem, the prevalence of the behaviour varies according to region. Figure 3 shows the percent of drivers, in five major regions of Canada, who report driving within two hours of consuming alcohol in the past 30 days. It is apparent that driving after drinking is reported considerably less often by drivers in Ontario and the Atlantic provinces than by drivers in the rest of Canada. Drivers in the Prairies and British Columbia are most likely to report driving after drinking.

**Figure 3: Self-reported Driving after Drinking According to Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairies</td>
<td>20.6</td>
</tr>
<tr>
<td>BC</td>
<td>20.3</td>
</tr>
<tr>
<td>Quebec</td>
<td>19.0</td>
</tr>
<tr>
<td>Atlantic</td>
<td>16.5</td>
</tr>
<tr>
<td>Ontario</td>
<td>14.3</td>
</tr>
</tbody>
</table>

**Trends: Is the Problem Getting Better or Worse?**

To determine the answer to this question, we turned to the results of the National Opinion Poll on Drinking and Driving conducted by TIRF in 1998 (Simpson et al. 1999). The same questions on driving after drinking behaviour were asked in both the National Opinion Poll and the Road Safety Monitor, so changes between 1998 and 2001 can be assessed.

The sample selection criteria for the National Opinion Poll on Drinking and Driving was slightly different from that of the Road Safety Monitor, so to ensure comparability, we included only licensed drivers 19 years of age and over to make these comparisons.
In 1998, the National Opinion Poll on Drinking and Driving found that 19.1% of Canadians had driven a vehicle within two hours of consuming alcohol. In 2001, the Road Safety Monitor found that 17.4% of Canadians had done so – a decrease of 9%. Although the change is in a positive direction, it is important to note that it is not statistically significant.

Similarly, in the National Opinion Poll on Drinking and Driving, 9.1% of licensed drivers age 19 and over admitted to driving when they thought they were over the legal limit. In the Road Safety Monitor, 7.6% of drivers of a similar age said they had done so in the past year – a 16% decrease. Again, although encouraging, the magnitude of the decrease is not statistically significant.

The apparent reductions in the prevalence of self-reported driving after drinking and “impaired” driving naturally lead to the conclusion that the magnitude of the drinking and driving problem must have diminished. However, as indicted previously, data from the TIRF National Fatality Database (Mayhew et al., 2000) show that the proportion of fatally injured drivers who had been drinking has not changed substantially over the past several years.

There are at least two possible explanations for the apparent inconsistency between the prevalence of driving after drinking and the magnitude of the alcohol-crash problem. One possibility is that as driving after drinking becomes increasingly socially unacceptable, people may be reluctant to profess engaging in the behaviour. Alternatively, those drivers who no longer engage in driving after drinking are most likely those at lowest risk of crash involvement. When they drove after drinking, they did so infrequently and/or at relatively low BACs. As a consequence, they have been removed from the population of drinking drivers but this has had only a marginal effect on the collision statistics because they are a very low-risk group. By contrast, those who persist in the behaviour are a high-risk subset of drinking drivers who engage in the behaviour frequently and often at high BACs. The behaviour of this hard core group of drinking drivers is difficult to change and they account for a substantial portion of the alcohol-crash problem.
Regional differences. Interestingly, whereas the overall trend in drinking and driving behaviour is down, this trend is not consistent across the country. Comparisons between the data from the National Opinion Poll on Drinking and Driving and the Road Safety Monitor reveal that some regions witnessed a decrease in self-reported driving after drinking, while others experienced an increase.

Figure 4 shows changes in the percent of drivers who report driving after drinking in each of the five major regions of Canada. In British Columbia, Quebec and the Atlantic region, drivers are more likely to report driving after drinking in 2001 than they were in 1998. None of these increases, however, was statistically significant. Despite the fact that there was an overall decrease in the proportion of drivers from the Prairies who reported driving after drinking, the highest rates of drinking and driving in Canada are still reported by drivers in the Prairie provinces.

Ontario recorded the largest decrease in the proportion of drivers who report driving after drinking – from 20.5% in 1998 to 14.3% in 2001. With this decrease, Ontario changed from having one of the highest rates of reported driving after drinking to the lowest.
Who Drives after Drinking?

**Gender.** Men are considerably more likely than women to engage in drinking and driving behaviour – 24.5% of men, compared to 9.9% of women report driving within two hours of consuming alcohol. In addition, whereas one in three male drinking drivers report doing so at least once per week, only one in ten female drinking drivers engage in the behaviour that often. A greater proportion of men than women report driving when they thought they were over the legal limit (15% compared to 4.2%, respectively).

**Age.** Young drivers are often targeted for drinking-driving educational and awareness programs. This focus often arises from a persistent misperception about youth, who are often seen as a major cause of drinking-driving collisions. However, it has been shown that young drivers are the least likely to drive after drinking, and the least likely to be involved in an alcohol-related collision (e.g., Mayhew et al. 1996a;b). Data from the Road Safety Monitor support this observation. Figure 5 shows the percent of drivers in seven age groups who report driving within two hours of consuming alcohol. Less than 2% of the drivers between 16 and 18 years of age report driving after drinking.

![Figure 5: Drinking and Driving According to Age Group](chart.png)
This is not to suggest that drinking and driving by young people should not be a concern. Research has shown that those young people who do drink and drive are at elevated risk of collision, even at low BACs (Mayhew et al. 1986; Zador 1991).

Drivers age 19 to 24 are most likely to report driving after drinking (23.2%). About 1 in 5 drivers in the three age groups between 25 and 49 years of age also report doing so. This drops to less than 1 in ten among drivers 60 years of age and over. These data indicate that drinking and driving spans all age groups but is least frequent among the youngest and oldest age groups of drivers.

**Other factors.** As might be expected, those who report driving after drinking report drinking more frequently and consuming larger quantities of alcohol when they do drink. In addition, drinking drivers are more likely to have received a traffic ticket, to be single, separated or divorced, and to have driven more kilometres in the past month.

**Taking Action against Drinking and Driving**

Canadians consider drinking and driving to be an extremely serious problem. At the same time, it is not uncommon, although it is important to remember that a very significant number of the drinking and driving trips each year are accounted for by a very small percentage of drivers. Therefore, it is informative to determine what actions Canadians support to control the problem.

Survey respondents were asked to indicate, on a scale of 1 (strongly disagree) to 6 (strongly agree), the extent to which they support a number of approaches to deal with drinking and driving. They were asked to indicate their level of support for four different tactics for dealing with drinking and driving – more police spot checks, immediate impoundment of the vehicles of drivers who fail a breath test, alcohol ignition interlocks for those convicted of a drinking and driving offence, and restricting convicted offenders to a zero BAC limit when they get their licences back. The results are shown in Figure 6.
Police spot checks have become a stable feature of enforcement efforts to deal with the drinking and driving problem. Interestingly, although most Canadians are familiar with spot checks, and two-thirds of drivers do support more spot checks for drinking drivers, this option received the lowest level of support among the four countermeasure options considered.

Restricting convicted drinking drivers to a zero BAC after they have completed their licence suspension received the highest level of support. Over 80% of drivers strongly endorse this option. Mandatory alcohol ignition interlocks for convicted drinking drivers is supported by about 79% of drivers. Immediate impoundment of the vehicles of drivers who fail a breath test finds support among 77% of survey respondents.

The pattern of results suggests that Canadian drivers are more willing to support countermeasure options intended to have an impact on those who are arrested for, or convicted of, an impaired driving offence than measures that could affect all drivers. Measures such as zero BAC for convicted offenders, interlocks, and immediate vehicle impoundment apply directly to those who have been arrested and/or convicted of a drinking and driving offence but have no impact at all on other road users. More frequent spot checks, however, increase the probability of even non-drinking drivers being stopped and questioned by the police.
Alternatively, or in addition, drivers may recognize that further reductions in the problem will only be realized by focussing on those drivers who persist in driving after drinking, particularly those who drive at high BACs.

**Demographic differences.** Support for the various countermeasure options differs according to the characteristics of drivers. In particular, support for all four is strongest among women and drivers 55 years of age and over. Canadians who report driving less are also more supportive of the various countermeasures. Not surprisingly, drinking drivers and those who have been issued a traffic ticket in the past twelve months are somewhat less supportive of the four countermeasure options.

**Regional differences.** Canadians from different regions of the country vary in their level of support for different tactics to deal with the drinking-driving problem. For example, drivers in Quebec are most supportive of the police doing more spot checks for drinking drivers – 64% strongly agreed. The lowest level of support for spot checks (less than 40% strongly agreed) is in British Columbia, where the police have been engaged in a very intensive spot check program for the past several years.

Overall, about two-thirds of drivers strongly agree with the mandatory use of alcohol interlocks by convicted impaired drivers to prevent the operation of the vehicle by a person who has consumed too much alcohol. The strongest support for alcohol interlock programs is found in Quebec (73% strongly agree) where an interlock program has been in operation for several years. The lowest level of support for interlocks is among drivers living west of Ontario. Even then, 56% of drivers on the Prairies and 60% in British Columbia strongly agree with the use of interlocks.

Support for the idea that convicted impaired drivers should be restricted to a zero BAC limit when they get their licences back is strongest in Quebec and British Columbia (77% and 73% strongly agree, respectively). The weakest support across Canada for this tactic is found in the Prairies (60% strongly agree).
Bibliography


