

CCMTA Road Safety research Report Series

Alcohol and Drug-Crash Problem in Canada 2013 Report

Prepared for the Canadian Council of Motor Transport Administrators
by the Traffic Injury Research Foundation of Canada

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ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash and drug-crash problems in Canada during 2013, trends in these problems, and comparisons between jurisdictions.

Information contained in this report was drawn from two national databases compiled and maintained by the Traffic Injury Research Foundation (TIRF) and funded jointly by the Public Health Agency of Canada and State Farm. One database contains information on persons fatally injured in motor vehicle crashes; the other has information on persons seriously injured in motor vehicle crashes.

This report is prepared on behalf of the Canadian Council of Motor Transport Administrators (CCMTA). It examines: data on alcohol in fatally injured drivers and pedestrians; the number and percent of people who died in alcohol-related crashes; alcohol involvement in those crashes in which someone was seriously injured but not killed; and data on drugs in fatally injured drivers.

Thus, in the report, various indicators are used to estimate the magnitude and extent of the alcohol-crash problem and drug-crash problem in Canada during 2013 as well as changes in these problems over the past few years. The indicators include:

- > the number and percent of people who were killed in crashes that involved alcohol;
- > the number and percent of fatally injured drivers who had been drinking;
- > the number and percent of fatally injured pedestrians who had been drinking;
- > the number and percent of drivers in serious injury crashes that involved alcohol; and,
- > the number and percent of fatally injured drivers who tested positive for drugs.

As well, these indicators are presented separately for each province and territory.

Finally, this report also examines the degree to which there has been a change in: (1) fatalities and serious injuries in collisions involving a drinking driver; and (2) the presence of drugs among fatally injured drivers. Analysis is provided for Canada and each province/territory. An average of data from 2011-2013 is compared to data from the 2006-2010 baseline period.

The opinions expressed in this report are those of the authors and do not necessarily represent the views or opinions of the reviewers, jurisdictions or CCMTA, who commissioned this report.

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1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash and drug-crash problems in Canada during 2013 as well as trends in these problems. It includes data on alcohol in fatally injured drivers and pedestrians as well as data on drugs in fatally injured drivers derived from the *Fatality Database*. For the past two and a half decades, the *Fatality Database*, developed and maintained by the Traffic Injury Research Foundation (TIRF), has provided objective data on alcohol use among persons fatally injured in motor vehicle crashes. Each year, TIRF compiles information from coroners' and medical examiners' files on the results of toxicological tests for alcohol and drugs in the blood of fatally injured drivers and pedestrians. Given a high testing rate for alcohol in all jurisdictions, particularly among fatally injured drivers, the *Fatality Database* has proven a valid and reliable source of descriptive data on the magnitude and characteristics of the alcohol-fatal crash problem, a means for monitoring changes/trends in the problem as well as a valuable tool for research on alcohol-impaired driving. Previously, funding for the maintenance of the *Fatality Database* and the publication of a related report, *The Alcohol-Crash Problem in Canada*, was co-funded by Transport Canada and the Canadian Council of Motor Transport Administrators (CCMTA). Presently, the data collection component of the *Fatality Database* is co-funded by the Public Health Agency of Canada and State Farm. Publication of this report is sponsored by the Canadian Council of Motor Transport Administrators (CCMTA).

This report also uses supplemental data obtained from police collision reports and coroner files to examine the number and percent of people who died in alcohol-related crashes and the number and percent of drivers testing positive for drugs in Canada. Thus, it extends the focus beyond fatally injured drivers to include all persons killed in road crashes, to provide a better indication of the magnitude and nature of the alcohol-crash problem and drug-crash problem.

This report also examines alcohol involvement in those crashes in which someone was seriously injured but not killed. For this purpose, relevant information is derived from a *Serious Injury Database* that is constructed and maintained by TIRF. Funding for the construction of the *Serious Injury Database* was initially provided by Transport Canada and CCMTA as part of a previous project. The continued support of the *Serious Injury Database* is provided by the Public Health Agency of Canada and State Farm. Since few drivers involved in serious injury crashes are tested for alcohol, a surrogate or indirect measure is used to assess the incidence of alcohol involvement in these crashes.

The report is divided into the following fifteen sections:

Section 2.0 briefly describes the sources of the data – the *Fatality Database* and *Serious Injury Database* – and the various indicators of the alcohol-crash problem and drug-crash problem used in this report.

Section 3.0 provides descriptive data on the incidence of alcohol involvement in fatal and serious injury crashes and drug involvement in fatal crashes in Canada during 2013, trends in these problems, and comparisons of the problems between jurisdictions.

In subsequent sections (**4.0 through 16.0**), descriptive data on alcohol involvement in fatal and serious injury crashes and drug use by fatally injured drivers in each province and territory are summarized. Trends in the problem and comparisons between the 2011-2013 period and the 2006-2010 baseline period are also examined. Caution should be exercised in interpreting some of the numbers and percentages in Sections 4.0 through 16.0 as some of the subgroups examined are small in number.

2.0 DATA SOURCES AND INDICATORS OF THE ALCOHOL-CRASH PROBLEM

Information contained in this report was drawn from two national databases compiled and maintained by TIRF and funded jointly by the Public Health Agency of Canada and State Farm. One database contains information on persons fatally injured in motor vehicle crashes; the other has information on persons seriously injured in motor vehicle crashes. These two sources of information are described in this section of the report.

The section also describes the various indicators that are used to estimate the magnitude and extent of the alcohol-fatal, alcohol-serious injury and drug-fatal crash problems in Canada during 2013 as well as changes in the problem over the past few years. The indicators include:

- > the number and percent of people who were killed in crashes that involved alcohol;
- > the number and percent of fatally injured drivers who had been drinking;
- > the number and percent of fatally injured pedestrians who had been drinking;
- > the number and percent of drivers in serious injury crashes that involved alcohol; and,
- > the number and percent of fatally injured drivers who tested positive for drugs.

2.1 Sources of the data

Two national databases were used to generate the statistics for this report – the *Fatality Database* and the *Serious Injury Database*. The *Fatality Database* was initially developed in the early 1970s to provide a comprehensive source of objective data on alcohol use among persons fatally injured in motor vehicle crashes occurring on and off public highways in Canada. It is historically intact from 1973 to 2011, inclusive, for seven provinces – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Prince Edward Island. Beginning with 1987, data are available from all jurisdictions in Canada.

The *Serious Injury Database* was initially constructed in the mid-1990s to examine the incidence of alcohol in crashes that involve a serious injury – i.e., a crash that resulted in a person being admitted to a hospital. It was originally used as a means to assess the extent to which the federal-provincial/territorial *Strategy to Reduce Impaired Driving* initiatives (*STRID 2001, STRID 2010 and now STRID 2015*) achieved a reduction in alcohol-related serious injury crashes. Since 1995, relevant information on crashes that involve serious injury has been assembled from all jurisdictions in Canada.

2.1.1 The *Fatality Database*. The *Fatality Database* consists of case files (records) of persons fatally injured in motor vehicle crashes. Two sources of information provide data for most case files: (1) police reports on fatal motor vehicle collisions and (2) coroners and medical examiners reports. In general, both sources must be accessed to obtain complete data on victims, crashes, vehicles, and toxicology.

Police-reported data include characteristics of the victim (age and sex, position in the vehicle – driver, passenger) and details of the crash (type of vehicle(s) and collision, time, date). Objective, toxicological data on alcohol and drug use among victims are obtained from files in coroners' and medical examiners' offices. The alcohol and drug data are the results of chemical tests, performed on body fluid samples (typically blood) by recognized forensic laboratories or other facilities. Uniform and rigorous testing procedures in each jurisdiction ensure reliable and accurate data on the prior use of alcohol and drugs by victims of motor vehicle collisions. As will be discussed in a subsequent section, there is a high rate of testing for alcohol in most jurisdictions, especially among drivers fatally injured in motor vehicle collisions.

Details of the method used to access and collect relevant police-reported and coroner/medical examiner data on persons fatally injured in motor vehicle collisions as well as the approach used to create case files for the *Fatality Database* are contained in previous annual reports in this series (e.g., see Mayhew et al. 1999). The sections below provide a definition of a motor vehicle fatality, describe the number and type of victim contained in the *Fatality Database*, and discuss the testing rates for alcohol overall in Canada as well as in each jurisdiction.

Motor vehicle fatality. A motor vehicle fatality is defined in the data capture procedures, and in this report, as any person dying within 30 days as a result of injuries sustained in a collision on a public roadway involving at least one highway vehicle. Public roadways include provincial highways and municipal roads but exclude private property, Crown land, military bases, and roads administered by First Nations. Automobiles, light trucks, vans, heavy trucks, tractor-trailers, buses, emergency vehicles, and motorhomes are considered to be highway vehicles. Even if a fatal collision takes place on a public roadway, the fatality is not included in this year's report unless at least one highway vehicle is involved. Thus, if the fatality results from a single-vehicle collision on a public roadway that involves a snowmobile, all-terrain vehicle or dirtbike, it is not included in this report.

In previous years, this report included as fatalities those persons who died within 12 months of a collision that occurred either on or off public roadways. Fatalities included persons killed in collisions involving either highway vehicles or off-road vehicles (e.g., snowmobiles, all-terrain vehicles, farm tractors, dirtbikes, and construction equipment).

It should be noted that out of 2,007 persons who died within 12 months due to injuries sustained in a collision in Canada that occurred on public roadways involving at least one highway vehicle, 1,687 (or 84.1%) died within 30 days of the collision. The fatality data for 2013 as well as the historical data reported in Sections 2 thru 16 include those persons dying within 30 days of the collision on a public roadway involving at least one highway vehicle.

Number of fatalities: Official sources compared to the *Fatality Database*. The *Fatality Database* contains information on 1,687 persons fatally injured in motor vehicle collisions in Canada during 2013 (excluding British Columbia). In previous reports, TIRF included fatality data for persons dying within 12 months (365 days) of the collision. In order to facilitate comparisons between fatality data that TIRF collects for the *Fatality Database* with those data which are reported by transportation agencies, this report analyses

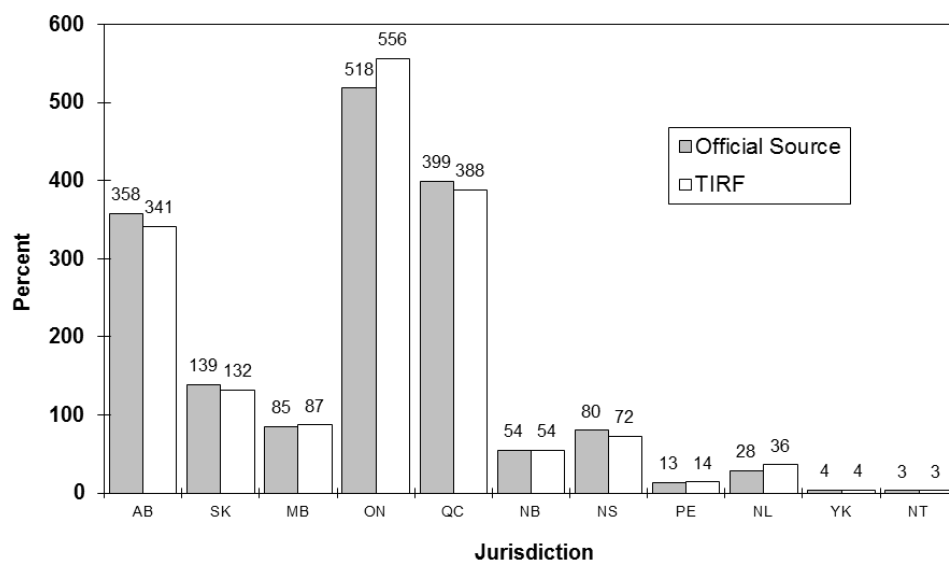
fatality data for those persons who died within 30 days of collisions which occur on public roadways that involve at least one principal highway vehicle.

Nonetheless, some differences may persist in the number of cases reported in the *Fatality Database* as opposed to those reported by the transportation agencies. Fatalities that may not be captured by transportation agencies yet found in the *Fatality Database* include the following:

- > Victims involved in a collision in one jurisdiction that die in another jurisdiction;
- > Victims involved in a collision in one year that die in the subsequent year (e.g., collide in 2012, die in 2013), provided that the date of death is within 30 days of the collision; and,
- > Victims identified by the coroner/medical examiner that were coded as an injury or omitted from transportation agency databases (procedures for data collection available to coroners and medical examiners can be more robust and conducive to avoiding the underreporting of crashes).

Figure 2-1 provides a comparison of the number of traffic fatalities reported by transportation agencies with the number of motor vehicle fatalities occurring within 30 days on public roadways that are included in the *Fatality Database* for 2013. For most of the jurisdictions, the number of cases in the TIRF database closely corresponds with those officially reported by transportation agencies. *Data shown exclude British Columbia, whose 2013 fatality data were not available at the time of the publication of this report.*

Figure 2-1
Number of Fatalities Reported by Official Sources and TIRF Fatality Database: 2013



Type of victim. The *Fatality Database* contains information on three types of victims fatally injured in motor vehicle crashes – drivers/riders, passengers, and pedestrians who died within 30 days of a collision on public

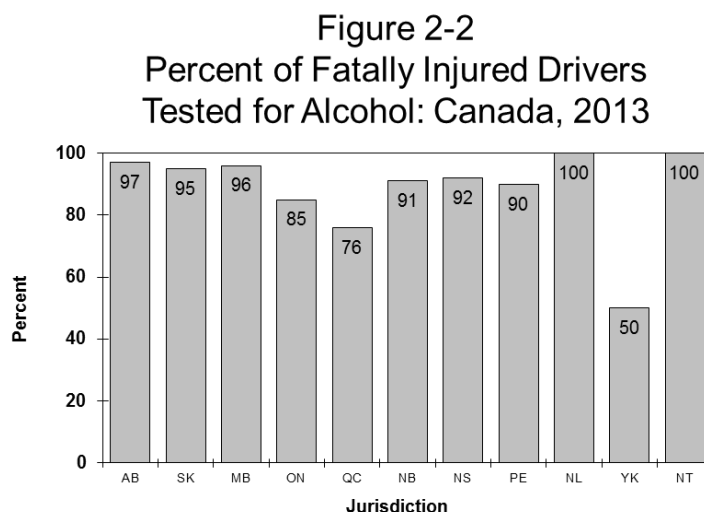
roadways. Drivers include operators of all types of highway vehicles. Similarly, passengers include occupants of highway vehicles who were not operating these vehicles. And, finally, pedestrians are those individuals travelling on foot that were struck and fatally injured by a highway vehicle.

In Canada during 2013, almost 2 out of every 3 fatalities were operators of motor vehicles (65.5%); 19.9% were passengers; and 14.2% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern.

Testing rates for alcohol. The inclusion of objective data on the presence of alcohol among traffic victims represents an important feature of the *Fatality Database*. The value of this information depends greatly on the frequency with which tests for the presence of alcohol are performed on the body fluids of victims.

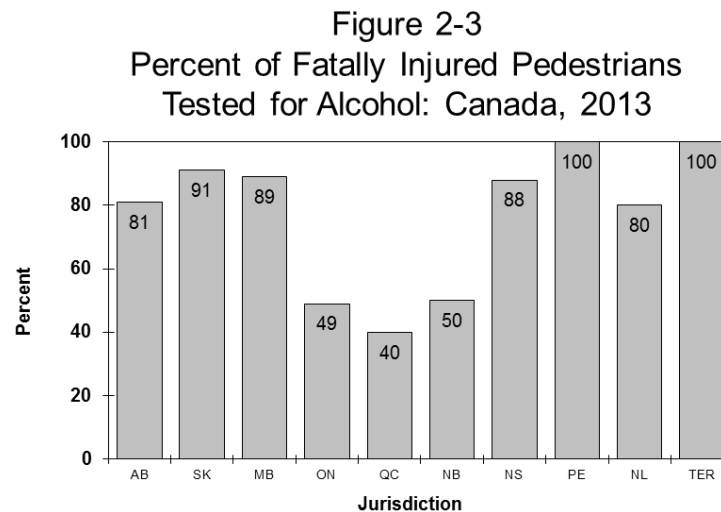
Among fatally injured victims who died within 30 days of the crash on public roadways in Canada during 2013, fatally injured drivers were tested most frequently (85.9%), followed by pedestrians (58.6%) and passengers (31.7%). The testing rate among fatally injured pedestrians and passengers increases slightly if victims under the age of 16, who are less often tested, are excluded (60.3% and 33.0%, respectively).

The rate of testing for alcohol varies not only as a function of the type of victim but by jurisdiction as well. This is illustrated graphically in Figure 2-2, which shows the rate of testing for alcohol among fatally injured drivers of highway vehicles who died within 30 days of the crash in the various jurisdictions.



Most jurisdictions test over 80.0% of the driver fatalities. In some jurisdictions, there is clearly room for improvement – the testing rates need to be increased to enhance the reliability and utility of the information. In those jurisdictions with a high rate of testing for fatally injured drivers, there are various reasons why tests are not done on some drivers. This occurs, for example, when the victim survived the initial crash and died much later – the alcohol results at that time would be of little value. Or, if extensive transfusions were given to the victim prior to death, there is little point in taking a blood sample for an alcohol test. And, if the victim were incinerated in a vehicle fire, or massive injuries resulted in exsanguination (i.e., excessive loss of blood), body fluids may not be available for testing.

Figure 2-3 shows the rate of testing for alcohol among fatally injured pedestrians in the various jurisdictions. Given that there was a very small combined number of fatally injured pedestrians in the territories in 2013, data on fatally injured pedestrians in the Yukon, the Northwest Territories, and Nunavut have been regrouped into “Territories” for this figure. As can be seen, there is considerable variation in the rate of testing – from 40.0% in Quebec to 100.0% in Prince Edward Island and the Territories.



2.1.2 The Serious Injury Database. The Serious Injury Database contains information on persons seriously injured in crashes and on all drivers involved in these crashes, whether the driver was injured or not. The data come from motor vehicle crash reports completed by investigating police officers. The information compiled for each seriously injured person and crash-involved driver includes: personal characteristics (age and sex); factors contributing to the crash, including police-reported alcohol involvement; type of vehicle driven/occupied (e.g., automobile, truck/van, motorcycle) and the details of the crash (time, date, type of collision – multiple vehicle/single vehicle).

To construct the database, annual motor vehicle collision data are obtained from each jurisdiction in Canada. These data are either provided to TIRF by the relevant agency in the jurisdiction or, in some cases, provided to TIRF by Transport Canada who received the collision data from the jurisdiction. Relevant information on collisions in which someone was seriously injured is extracted from the provincial/territorial data files and then aggregated into the national *Serious Injury Database*.

The Serious Injury Database provides data from 1996 to 2013 for most jurisdictions. Only since 1998 in the Yukon and 2005 in British Columbia have investigating officers been able to record on the police report form whether the crash involved a serious injury or, at the person level, the severity of the injury a person sustained in the crash. Accordingly, it was not possible to identify persons who sustained a serious injury or drivers involved in serious injury crashes in those jurisdictions prior to the dates indicated. For this reason, the Canadian trend data presented in Section 3.6.4 include only data from 2005 to 2013. However, for other jurisdictions, trend data are available since 1996.

In the case of Nunavut (20.7%), British Columbia (20.6%), and the Northwest Territories (5.9%), some injury severities are recorded as “unspecified”, so the number of drivers in serious injury crashes used in this report for these three jurisdictions might be underestimated.

The sections below provide a definition of a serious injury crash, describe the number and type of cases contained in the *Serious Injury Database*, and discuss the use of a surrogate or indirect measure to assess alcohol involvement in these crashes.

Serious injury. A serious injury crash is one that resulted in at least one person being admitted to a hospital. The serious injury may have been sustained by a driver, passenger or pedestrian involved in the crash (i.e., the driver involved in a serious injury crash may not have been the person seriously injured).

Number of cases. In Canada during 2013, 10,215 persons were seriously injured in motor vehicle crashes; 13,569 drivers were involved in these crashes. These numbers for Canada exclude New Brunswick because data on serious injury cases for this jurisdiction were not available at the time this report was being prepared.

Table 2-1 shows the number of drivers involved in serious injury crashes for each province and territory. Alberta accounts for the largest number of the drivers involved in serious injury crashes (3,607 drivers or 29.4% of the “national” total); Nunavut accounts for the lowest number of drivers in such crashes, 2 drivers (or 0.0% of all drivers).

**Table 2-1
Number and Percent of Drivers Involved in Serious
Injury Crashes in Each Jurisdiction: Canada, 2013**

Jurisdiction	Number of Drivers	% of Total
British Columbia	1,878	15.3
Alberta	3,607	29.4
Saskatchewan	507	4.1
Manitoba	398	3.2
Ontario	3,135	25.6
Quebec	2,205	18.0
New Brunswick*		
Nova Scotia	285	2.3
Prince Edward Island	53	0.4
Newfoundland and Labrador	151	1.2
Yukon Territory	23	0.2
Northwest Territories	16	0.1
Nunavut	2	0.0
TOTAL	12,260	100.0

* Data not available at time of publication.

Type of cases. The *Serious Injury Database* includes information on persons who sustained a serious injury in a motor vehicle crash and information on all drivers involved in these crashes. Drivers include operators of all types of highway vehicles. It should be noted that analysis of the vehicle occupied by drivers in Canada involved in serious injury crashes in 2013 excludes Quebec. Since March 2010, Quebec has regrouped automobiles and light trucks into a single category in its collision data. Of all the drivers involved in serious injury crashes: almost half were automobile drivers (48.6%); over one-third were truck/van drivers (37.6%);

8.9% were motorcycle riders; 3.6% were tractor-trailer drivers; and 1.3% were drivers of other types of highway vehicles (e.g., buses, emergency vehicles).

A surrogate measure of alcohol involvement. Drivers in serious injury crashes are seldom tested for alcohol. The investigating police officer may, however, indicate the condition of each of the drivers involved in the crash (e.g., whether or not they had been drinking), or in the case of Quebec, if alcohol was “a probable cause” in the crash. Unfortunately, a judgement by police about the drivers’ use of alcohol is not always made. In addition, the investigating police officer may determine that some other factor – e.g., driver fatigue, medical or physical defect – would more accurately describe the condition of the driver. Thus, relying exclusively on police-reported alcohol involvement may underestimate the magnitude of the alcohol-related serious injury crash problem.

To overcome this data limitation, a surrogate or indirect measure of alcohol involvement is used in this report. A description of this surrogate measure is provided in the next section.

2.2 Indicators of the problem

The indicators used to describe the magnitude and nature of the alcohol-related fatal and serious injury crash problem include:

- > the number and percent of people who are killed in alcohol-related crashes;
- > the number and percent of fatally injured drivers who had been drinking or were legally impaired;
- > the number and percent of pedestrians who had been drinking; and,
- > the number and percent of drivers in serious injury crashes that involved alcohol.

In addition, the following indicator is used to describe the magnitude and nature of the drug-crash problem:

- > the number and percent of fatally injured drivers who tested positive for drugs.

Each of these indicators of the problem is described briefly below.

2.2.1 The number and percent of people killed in alcohol-related crashes. For each person killed in a motor vehicle crash, it was possible to determine if alcohol was a factor in the crash. A motor vehicle fatality was considered to be alcohol-related if there was at least one drinking driver or drinking pedestrian in the fatal crash.

To determine if alcohol was involved in the fatal crash, information on the BAC of fatally injured drivers and pedestrians from the *Fatality Database* was supplemented with any other evidence of alcohol in the fatal crash identified from either the coroner’s report or from the police collision report – e.g., the police reported that a driver or pedestrian in the fatal crash had consumed alcohol. The review of coroner files and police reports provided information on the presence of alcohol among drivers who died but were not chemically tested for alcohol; drivers who survived (virtually all of whom are not tested), and pedestrians who were not tested.

For Canada and each of its jurisdictions, this report describes characteristics and trends in the number of deaths in crashes involving a drinking driver. This particular indicator only considers a fatality to be alcohol-related if at least one driver (either killed or surviving) had been drinking. In addition, only fatalities occurring on public roadways are included. Furthermore, at least one of the vehicles involved must be a highway vehicle (e.g., automobile, truck, van, motorcycle, tractor trailer, etc.).

Among the people who died in motor vehicles crashes on public roadways within 30 days of the collision that involved at least one highway vehicle, it was possible to determine if a drinking driver had been involved in 94.2% of the cases.

2.2.2 The number and percent of fatally injured drivers who had been drinking. The magnitude of the alcohol-fatal crash problem is usually stated in terms of the number and percent of fatally injured drivers who tested positive for alcohol. As mentioned previously, this indicator of the problem is useful because of its validity and because the requisite data have been routinely compiled each year as part of the *Fatality Database* project.

The indicator is a highly valid and reliable measure of the problem because a high percentage of drivers of highway vehicles who are killed in crashes are tested for the presence of alcohol. Similar to previous years, there was a high testing rate in Canada during 2013, with 87.2% of fatally injured drivers of highway vehicles who die within 30 days of the crash being tested for alcohol.

In previous versions of this report, some trend tables and figures dealing with alcohol use among fatally injured drivers of highway vehicles included data on drivers dying within 12 months of the collision or those who died within six hours of the collision. In addition, some of the drivers included in these analyses may have been involved in collisions which did not occur on public roadways (Brown et al. 2015). However, in this report, data on alcohol use among fatally injured drivers is limited to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways. Highway vehicles include automobiles, vans, light trucks, motorcycles, heavy trucks, tractor trailers, buses, and emergency vehicles.

2.2.3 The number and percent of fatally injured pedestrians who had been drinking. Drinking pedestrians not just drinking drivers contribute to the overall magnitude of the alcohol-fatal crash problem each year in Canada. This occurs because walking on or beside the highways after drinking is extremely risky. Accordingly, this report uses information from the *Fatality Database* to examine the number and percent of fatally injured drinking pedestrians. This is possible because testing for alcohol, especially among those over 16 years of age is reasonably high – 65.5% overall, which increases to 68.6% if victims under the age of 16 are excluded.

Descriptive data on fatally injured drinking pedestrians are provided in the Canada section (3.0) but not in the provincial/territorial sections (4.0 through 16.0) of the report. The number of fatally injured pedestrians in most jurisdictions is relatively small, so detailed results for these jurisdictions would not be reliable. Jurisdictional results are also not reported to protect privacy. However, data on the overall incidence of fatally injured drinking pedestrians in each jurisdiction are presented in the Canada section of the report (3.3).

2.2.4 The number and percent of drivers in serious injury crashes that involved alcohol. The extent to which alcohol is involved in serious injury crashes is not well documented and, consequently, poorly understood for two primary reasons. First, drivers involved in such crashes are seldom tested for the presence of alcohol. Second, investigating police officers do not always report the presence of alcohol in these crashes – see Mayhew et al. (1997) for a discussion of the limitations of information on alcohol involvement contained in police collision reports.

For these reasons, a surrogate or indirect measure of the alcohol-related serious injury crash problem has been used. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night, from 9:00 pm to 6:00 am (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

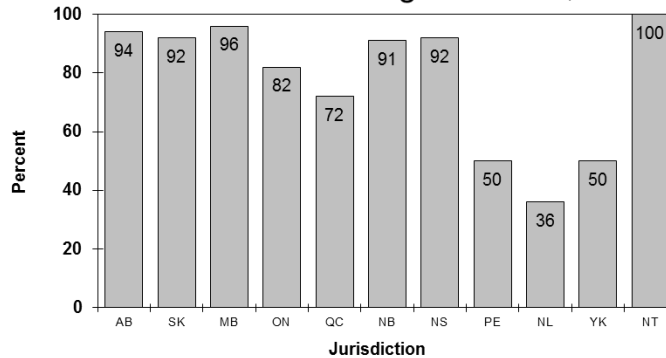
Surrogate measures have been shown to correlate strongly with more direct measures of the alcohol-crash problem – e.g., the number of drinking driver fatalities as determined by chemical tests in blood – and provide a reasonably reliable estimate of trends in alcohol-related serious injury crashes. Such measures, however, have limited validity – i.e., not all drinking drivers are identified – so this measure likely provides a “conservative” estimate of the magnitude of the problem (see Mayhew et al. 1997).

2.2.5 The number and percent of fatally injured drivers who tested positive for drugs. The magnitude of the drug-fatal crash problem is usually stated in terms of the number and percent of fatally injured drivers who tested positive for drugs. Although data from the coroners and medical examiners are the best source of data for drug impaired driving among fatally injured drivers, there is more variability in testing rates and reporting practices than there is for alcohol use. For example, these agencies have, at times, tested different proportions of fatally injured drivers and/or tested for different numbers of drugs. Caution should be exercised when comparing drug use among fatally injured drivers across different years or jurisdictions as well as interpreting national results. However, this indicator of the problem has become more valid as more historical data on drug use have been compiled in TIRF’s *Fatality Database*.

Data on drug use among fatally injured drivers is limited to drivers of highway vehicles who died within 30 days of collisions which occurred on public roadways. The indicator is a relatively reliable measure of the problem as a growing percentage of drivers who are killed in crashes are tested for the presence of drugs – i.e., similar to previous years, there was a high testing rate in Canada during 2013, with 82.9% of fatally injured drivers of highway vehicles being tested for drugs.

The rate of testing for drugs varies by jurisdiction. Figure 2-4 shows the rate of testing for drugs among fatally injured drivers in the various jurisdictions. Testing rates vary from 36.4% in Newfoundland and Labrador to 100.0% in the Northwest Territories.

Figure 2-4
Percent of Fatally Injured Drivers of Highway
Vehicles Tested for Drugs: Canada, 2013



Not only does the Fatality Database capture information on whether or not a driver tests positive for drugs. Data are also collected to indicate the type of drug or drugs that are found in the blood sample of a fatally injured driver. These drugs can include illicit, prescription, and over-the-counter drugs as many different types of drugs adversely affect driving performance.

Drug Evaluation Classification (DEC) programs, used by police services throughout North America categorize drugs into the various groups on the basis of common signs and symptoms exhibited by persons using these drugs (Jonah, 2012). This report uses these categories which are:

- > Cannabis;
- > Central nervous system depressants (e.g., benzodiazepines and antihistamines);
- > Central nervous system stimulants such as cocaine, amphetamine, methamphetamine, and ecstasy (MDMA);
- > Hallucinogens (e.g., LSD, magic mushrooms);
- > Dissociative anesthetics such as ketamine and phencyclidine (PCP);
- > Narcotic analgesics (e.g., morphine, heroin, methadone, codeine, oxycodone); and,
- > Inhalants (e.g., toluene, gasoline, cleaning solvents).

In Section 3.5 and corresponding sections for each jurisdiction, tables are provided to show how many fatally injured drivers of highway vehicles who died on public roadways within 30 days of the collision tested positive for each of the afore-mentioned drug categories.

3.0 CANADA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Canada. It describes data on:

- > people who were killed in alcohol-related crashes (Section 3.1);
- > alcohol use among fatally injured drivers (Section 3.2);
- > alcohol use among fatally injured pedestrians (Section 3.3);
- > drivers involved in alcohol-related serious injury crashes (Section 3.4);
- > drug use among fatally injured drivers (Section 3.5); and,
- > trends in the alcohol-crash and drug-crash problems (Section 3.6).

3.1 Deaths in alcohol-related crashes

Table 3-1 presents information on people who died in alcohol-related crashes in Canada during 2013 for persons dying within 30 days of the collision. *At the time this report was being prepared, 2013 coroner data from British Columbia were not available. For this reason, 2013 data reported in this section excludes this jurisdiction. This report will be updated when these data become available.* Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities where sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, it can be seen that 145 people aged 16-19 were killed in motor vehicle crashes in Canada during 2013. And, in 137 cases (94.5%) it was possible to determine if alcohol was a factor in the crash. The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 58 people aged 16-19 died in alcohol-related crashes in Canada during 2013. The next column expresses this as a percentage – i.e., 42.3% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 11.6% of all the people killed in alcohol-related crashes in Canada during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 1,687 persons died within 30 days of a motor vehicle crash in Canada during 2013. In 1,600 (94.8%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 497 (31.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (1,687 x .311) it can be estimated that *in Canada*

(excluding British Columbia) during 2013, 525 persons died in alcohol-related crashes within 30 days of the collision.

Table 3-1
Deaths in Alcohol-Related Crashes: Canada, 2013

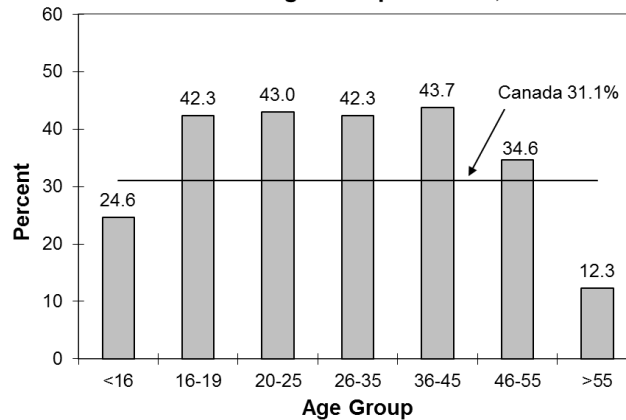
Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	63	57	90.5	14	24.6	2.8
16-19	145	137	94.5	58	42.3	11.6
20-25	243	237	97.5	102	43.0	20.5
26-35	247	234	94.7	99	42.3	19.9
36-45	208	197	94.7	86	43.7	17.3
46-55	227	217	95.6	75	34.6	15.1
>55	554	521	94.0	64	12.3	12.9
<u>Gender</u>						
Male	1127	1072	95.1	378	35.3	75.9
Female	560	528	94.3	120	22.7	24.1
<u>Victim Type</u>						
Driver/ Operator	1106	1061	95.9	331	31.2	66.5
Passenger	335	310	92.5	94	30.3	18.9
Pedestrian	239	223	93.3	71	31.8	14.3
Unknown	7	6	85.7	2	33.3	0.4
<u>Vehicle Occupied</u>						
Automobiles	766	728	95.0	240	33.0	48.2
Trucks/Vans	401	380	94.8	128	33.7	25.7
Motorcycles	170	167	98.2	41	24.6	8.2
Other Hwy Vehicles	43	41	95.3	2	4.9	0.4
Off-road Vehicles	68	61	89.7	16	26.2	3.2
(Pedestrians)	239	223	93.3	71	31.8	14.3
TOTAL	1687	1600	94.8	498	31.1	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

3.1.1 Victim age. Of all the people who died in alcohol-related crashes (see last column), 20.5% were aged 20-25; 19.9% were aged 26-35; 17.3% were aged 36-45; 15.1% were aged 46-55; 12.9% were over 55; and 11.6% were aged 16-19. The youngest (<16) group accounted for only 2.8% of all people who died in alcohol-related crashes.

Figure 3-1 shows the percent of alcohol-related deaths within each age group. The highest incidence of alcohol involvement occurred in the crashes in which persons aged 36-45 and 20-25 died (43.7% and 43.0%, respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities as only 24.6% of persons under 16 and 12.3% of persons over 55 years of age died in crashes involving alcohol.

Figure 3-1
Percent of Alcohol-Related Deaths
Within Each Age Group: Canada, 2013



3.1.2 Gender. Of all the people who died in alcohol-related crashes, 75.9% were males. The incidence of alcohol in crashes in which a male died (35.3%) was greater than the incidence of alcohol in crashes in which a female died (22.7%).

3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.5% were drivers/operators of a vehicle; 18.9% were passengers; and 14.3% were pedestrians. Within each of these victim types, there are some differences in alcohol involvement. Among the principal victim types, the highest incidence of alcohol involvement (31.8%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 31.2% of the crashes in which a driver/operator died and 30.3% of those in which a passenger died.

3.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost half (48.2%) were in an automobile; 25.7% were in a truck/van; 8.2% were on a motorcycle; 3.2% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 0.4% were occupants of other highway vehicles (e.g., bus, tractor trailer, emergency vehicle).

The incidence of alcohol involvement in which a truck/van occupant died was slightly greater than the incidence of alcohol in crashes in which an automobile occupant died (33.7% versus 33.0%). The incidence of alcohol involvement in which a motorcycle occupant died was 24.6%.

3.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Canada during 2013. *At the time this report was being prepared, 2013 coroner data from British Columbia were not available. For this reason, 2013 data reported in this section excludes this jurisdiction.* Table 3-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on

the results of the alcohol tests – this includes the percent of those tested who were positive for alcohol in each of five blood alcohol concentration (BAC) levels.

To illustrate, among 20-25 year olds there were 166 drivers killed during 2013; 151 of these fatally injured drivers (91.0%) were tested for alcohol. Of those who were tested, 57.0% showed no evidence of alcohol, 4.6% had BACs below 50 mg%, 2.0% had BACs from 50 to 80 mg%, 10.6% had BACs from 81 to 160 mg%, and 25.8% had BACs over 160 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Canada, 2013 (excluding British Columbia)

Category of Driver	Number of Drivers*	Drivers Tested		Zero	Percent of Tested Drivers with BACs of:			
		Number	% of total		1-49	50-80	81-160	>160
<u>Age</u>								
<16	2	2	100.0	100.0	0.0	0.0	0.0	0.0
16-19	74	70	94.6	60.0	11.4	8.6	12.9	7.1
20-25	166	151	91.0	57.0	4.6	2.0	10.6	25.8
26-35	168	153	91.1	63.4	4.6	2.6	5.9	23.5
36-45	148	141	95.3	58.2	2.8	1.4	11.3	26.2
46-55	163	139	85.3	64.0	5.8	2.2	5.0	23.0
>55	317	249	78.5	88.8	3.6	2.4	2.0	3.2
<u>Gender</u>								
Male	785	690	87.9	66.1	5.4	2.9	8.3	17.4
Female	253	215	85.0	75.8	2.8	1.9	2.3	17.2
<u>Vehicle Type</u>								
Automobile	568	490	86.3	68.4	5.1	2.7	7.3	16.5
Motorcycle	155	132	85.2	73.5	8.3	1.5	5.3	11.4
Tractor Trailer	26	24	92.3	91.7	4.2	0.0	0.0	4.2
Heavy Truck ¹	9	9	100.0	100.0	0.0	0.0	0.0	0.0
Van	63	57	90.5	66.7	0.0	5.3	8.8	19.3
Light Truck ²	210	188	89.5	60.1	3.2	3.2	7.4	26.1
Other Truck ³	2	2	100.0	100.0	0.0	0.0	0.0	0.0
Other Hwy. Vehicle ⁴	5	3	60.0	100.0	0.0	0.0	0.0	0.0
<u>Collision Type</u>								
Single-Vehicle	442	391	88.5	45.8	4.9	3.6	13.6	32.2
Multiple-Vehicle	596	514	86.2	85.6	4.7	1.9	1.8	6.0
TOTAL	1038	905	87.2	68.4	4.8	2.7	6.9	17.3

* Drivers dying within 30 days in crashes on public roadways.

¹ Trucks over 4500 kg.

² e.g., pickup trucks.

³ Motorhomes, utility vehicles, plows and trucks of unknown type.

⁴ Emergency vehicles and buses.

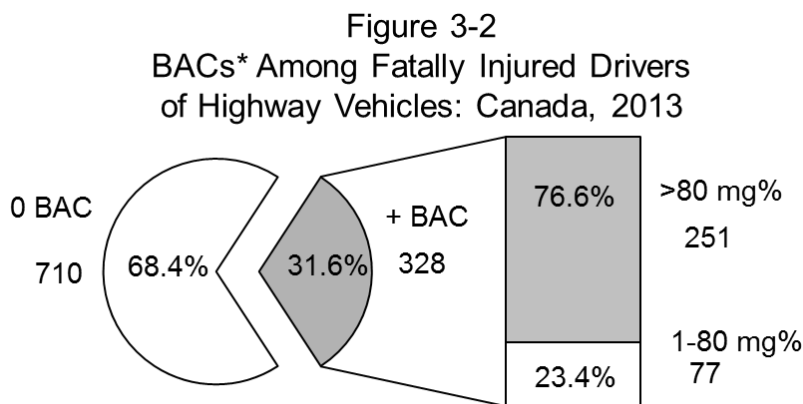
Note: The vehicle types that appear in the shaded area correspond to the truck/van category used in the jurisdictional sections of this report.

The main findings are shown by the totals at the bottom of the table. As can be seen, there were 1,038 drivers fatally injured in traffic crashes in Canada during 2013. The overall rate of testing for alcohol in drivers was 87.2%, slightly higher than the rate in 2012 (85.2%). Among tested drivers in Canada:

- > 68.4% showed no evidence of alcohol as 31.6% had been drinking;
- > 4.8% had BACs from 1-49 mg%;
- > 2.7% had BACs from 50-80 mg%;
- > 6.9% had BACs from 81 to 160 mg%; and,
- > 17.3% had BACs over 160 mg%.

Thus, 31.6% of fatally injured drivers in Canada had been drinking and 76.6% of fatally injured drinking drivers had BACs over 80 mg%.

In Figure 3-2, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 328 of 1,038 drivers (31.6%) have a positive BAC. And among fatally injured drinking drivers, 251 (76.6%) have BACs over 80 mg%.



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

3.2.1 Age differences. Figures 3-3 and 3-4 summarize the data from Table 3-2 for the various age groups. Figure 3-3 shows the percent of all drinking drivers accounted for by each age group. The bar on the left shows the percent of all fatally injured drivers with any evidence of alcohol accounted for by each age group. On the right is shown the percent of “legally impaired drivers” – BACs over 80 mg% – accounted for by each age group. Drivers under 16 are not included because very few of them had been drinking.

Of all the fatally injured drinking drivers, 22.7% were aged 20-25; 20.6% were aged 36-45; 19.6% were aged 26-35; and 17.5% were aged 46-55. Those aged 16-19 and over 55 each accounted for only 9.8% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.1% were aged 20-25; 24.2% were aged 36-45; 20.5% were aged 26-35; 17.8% were aged 46-55; and 6.4% were aged 16-19. Those aged over 55 accounted for only 5.9% of fatally injured drivers who were over the legal limit.

Figure 3-3
Percent of All Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Each Age Group: Canada, 2013

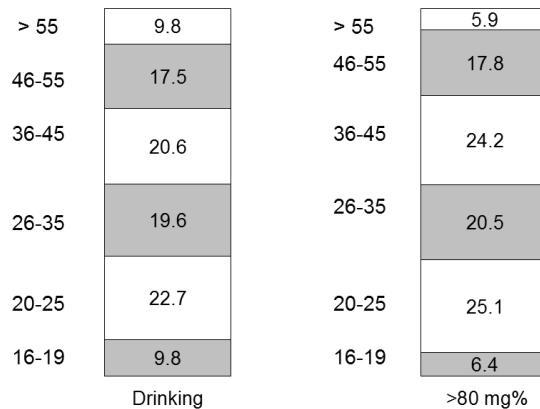
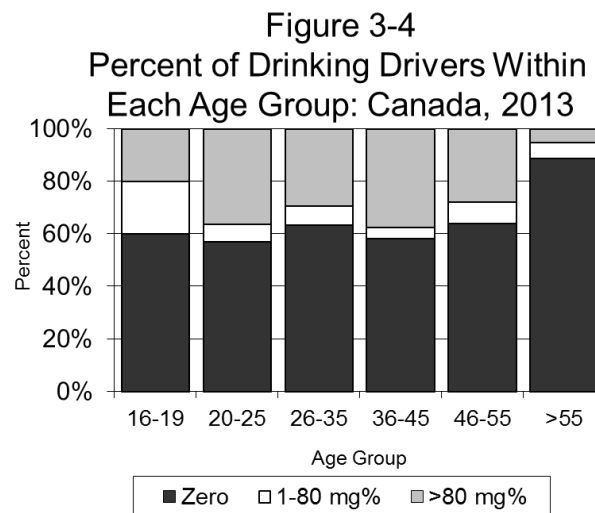


Figure 3-4 presents the information in a slightly different manner. For each age group, the percentage of drivers who were sober (zero BAC) is shown by the lower, black portion of the bar; the percent who tested positive for alcohol but whose BAC was below the legal limit (1-80 mg%) is shown by the white section in the middle, and the percent with BACs over the legal limit (>80 mg%) is shown by the upper, grey part of the bar.



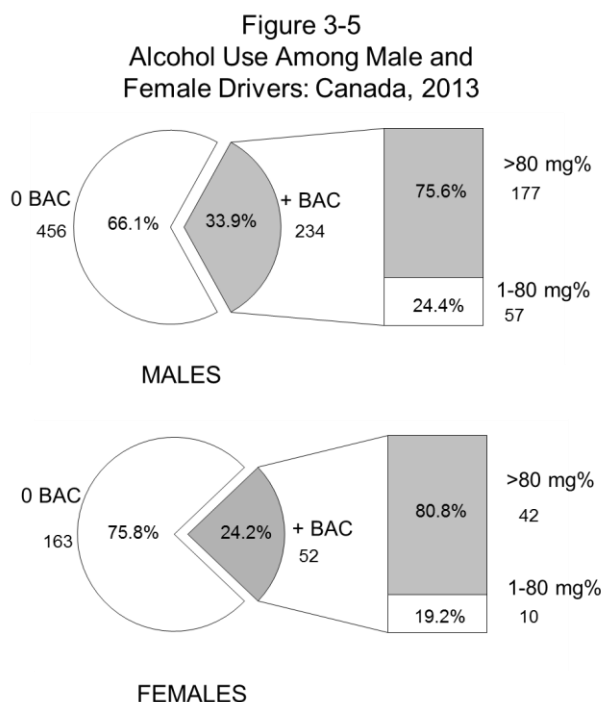
Fatally injured drivers age 20-25 were the most likely to have been drinking – 43.0% of drivers in this age group had been drinking. By contrast, only 11.2% of tested drivers over age 55 had been drinking.

3.2.2 Gender differences. Males dominate the picture – they account for 81.8% of all the fatally injured drivers who had been drinking and 80.8% of all of the fatally injured drivers who were legally impaired. Males dominate the picture largely because they account for 75.6% of the drivers who are killed (785 of the 1,038 fatalities are males).

A comparison in the prevalence of alcohol use among male and female fatally injured drivers is shown in Figure 3-5. The pie chart shows within each gender, the percent who were sober (i.e., 0 BAC) and positive

for alcohol (+ BAC). The bar to the right of the pie chart shows the distribution of alcohol levels found among those who were drinking – the percent who had alcohol levels above and below the legal limit. Percentages are given inside the figures; the absolute number of cases is shown adjacent to the figure.

Fatally injured male drivers were more likely to have been drinking than female drivers (33.9% and 24.2%, respectively). And, most of the male and female drivers who were drinking had BACs over the legal limit (75.6% and 80.8%, respectively).



3.2.3 Vehicle differences. Table 3-3 shows the number and percent of drinking and legally impaired drivers accounted for by drivers of different types of highway vehicles. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 54.2% were automobile drivers; 26.2% were light truck drivers; 12.2% were motorcycle riders; 6.6% were van drivers; and 0.7% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 53.4% were automobile drivers; 28.8% were light truck drivers; 10.0% were motorcycle riders; 7.3% were van drivers; and 0.5% were tractor-trailer drivers.

Table 3-3
Number and Percent of Fatally Injured Drinking and Legally Impaired Drivers
Accounted for by Drivers* of Different Vehicle Types: Canada, 2013

Vehicle Type	Number of Drinking Drivers	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	155	54.2	117	53.4
Motorcycle	35	12.2	22	10.0
Tractor-Trailer	2	0.7	1	0.5
Heavy Truck ¹	0	0.0	0	0.0
Van	19	6.6	16	7.3
Light Truck ²	75	26.2	63	28.8
TOTAL	286	100.0	219	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors and other non-highway vehicles.

¹ Trucks over 4500 kg.

² e.g., pickup trucks.

Figures 3-6a, 3-6b and 3-6c summarize the results of alcohol tests for drivers fatally injured in 2013 according to the type of vehicle being operated: automobile drivers and drivers of vans (Figure 3-6a); motorcycle riders and drivers of light trucks (Figure 3-6b); and drivers of heavy trucks and tractor-trailers (Figure 3-6c). A common format is used in all cases. The pie chart shows the number and percent of drivers who were sober as well as the number and percent of drivers who had been drinking. The bar chart displays the BAC distribution among those who tested positive for alcohol.

Among fatally injured automobile drivers, 31.6% had been drinking. Of those who were drinking, the vast majority (75.4%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 33.3% had been drinking and most (84.2%) of these had BACs over the legal limit. Among motorcycle riders, 26.5% had been drinking and 62.9% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 39.9% had been drinking and 84.0% of these had illegal BACs. Heavy truck and tractor-trailer drivers have a much lower frequency of alcohol involvement. Indeed, 0.0% of heavy truck drivers and 8.3% of tractor-trailer drivers had been drinking. Among those fatally injured tractor-trailer drivers who had been drinking, 50.0% had BACs over the legal limit. Given that the number of fatally injured drivers of tractor-trailers and heavy trucks is small, BAC results should be treated with caution.

Figure 3-6a
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2013

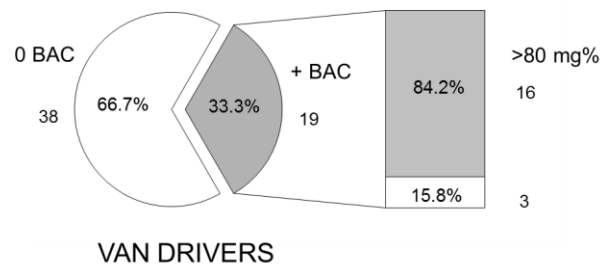
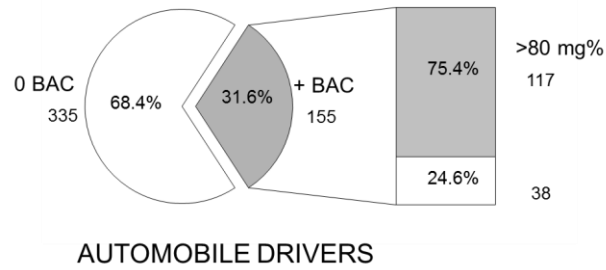


Figure 3-6b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2013

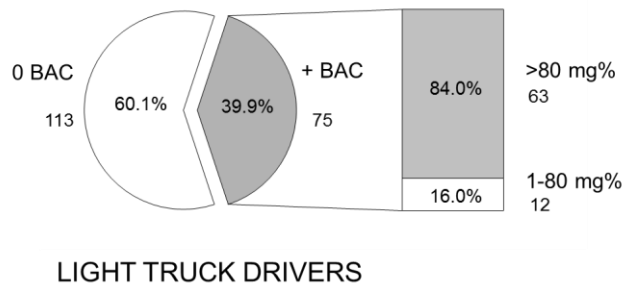
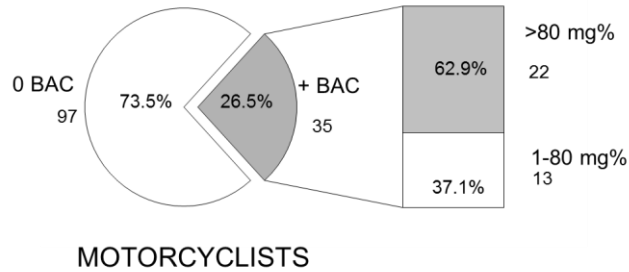
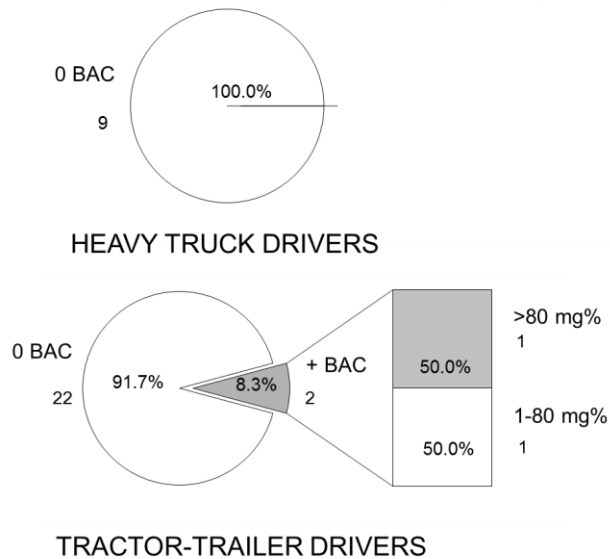


Figure 3-6c
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2013



Figures 3-6d and 3-6e present similar information on the incidence of drinking among drivers operating recreational vehicles who died within 30 days in collisions which occurred on public roadways (results for these vehicle types are not included in Tables 3-2 or 3-3). Given that there are relatively few operators of recreational vehicles who were fatally injured in collisions on public roadways (most notably snowmobilers and off-road vehicle operators), the following figures should be treated with caution.

As can be seen, the lowest incidence of drinking was found among bicyclists as only 17.1% of fatally injured bicyclists had been drinking at the time of the collision. Among those bicyclists who had been drinking, 100.0% had BACs over the legal limit. Among snowmobile drivers, 80.0% had been drinking and 50.0% had BACs over the legal limit. Operators of off-road vehicles (ATVs, dirt bikes, etc.) were less likely than snowmobile drivers to have been drinking (20.0%) and 0.0% of these drinking drivers had BACs over the legal limit.

Figure 3-6d
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2013

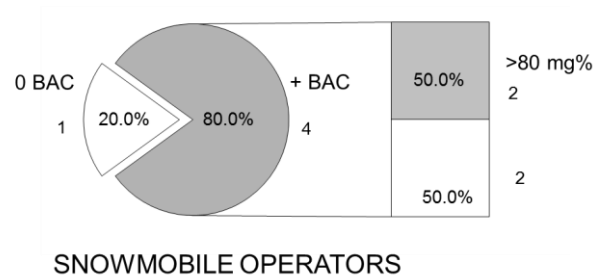
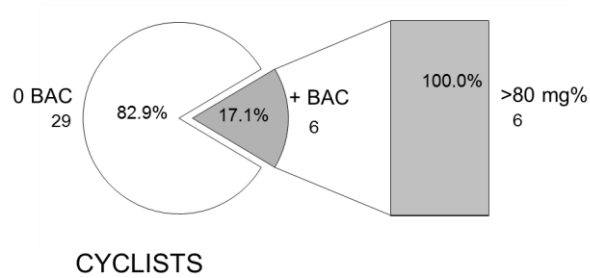
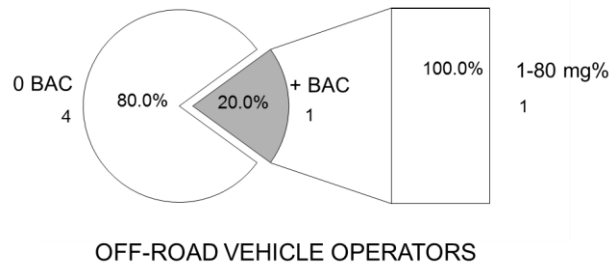


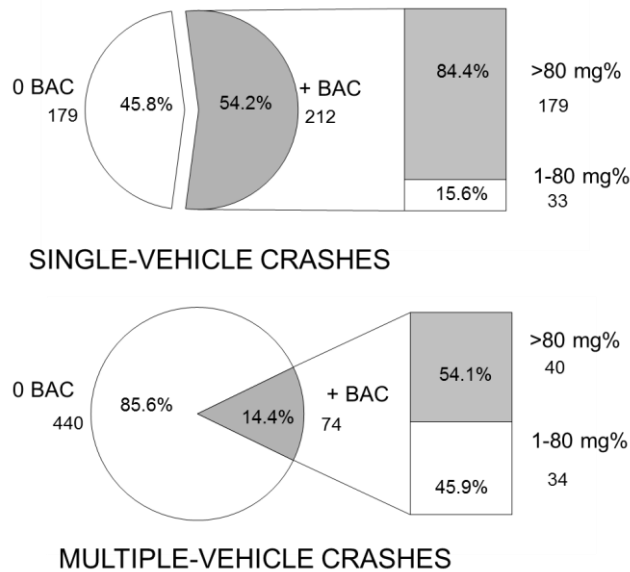
Figure 3-6e
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2013



3.2.4 Collision differences. Less than half of all drivers killed (442 out of 1,038, or 42.6%) were involved in single-vehicle collisions but these crashes accounted for approximately three-quarters of the drivers who had been drinking or were legally impaired (74.1% and 81.7%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. As shown in Figure 3-7, over half of the drivers involved in single-vehicle crashes (54.2%) tested positive for alcohol, compared to only 14.4% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (84.4%). Among drinking drivers in multiple-vehicle crashes, 54.1% had BACs over the legal limit.

Figure 3-7
Alcohol Use Among Drivers by
Type of Collision: Canada, 2013



3.3 Alcohol in fatally injured pedestrians

This section presents information on the presence of alcohol among pedestrians fatally injured as a result of being hit by a motor vehicle in Canada during 2013. *At the time this report was being prepared, 2013 coroner data from British Columbia were not available. For this reason, 2013 data reported in this section excludes this jurisdiction.* Table 3-4 shows the information by age group, gender and jurisdiction. The first column in the table shows the number of pedestrians killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – this includes the percent of those tested who were positive for alcohol in each of five BAC levels.

During 2013, as shown by the totals at the bottom of the table, there were 239 pedestrians fatally injured; 140 (58.6%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- > 64.3% showed no evidence of alcohol as 35.7% had been drinking;
- > 2.1% had BACs below 50 mg%;
- > 0.7% had BACs from 50 to 80 mg%;
- > 9.3% had BACs from 81 to 160%; and
- > 23.6% had BACs over 160 mg%.

Thus, 35.7% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2013*

Category of Pedestrian	Number of Pedestrians	Pedestrians Tested		Percent of Tested Pedestrians with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
<u>Age</u>								
<16	15	5	33.3	80.0	0.0	0.0	0.0	20.0
16-19	20	16	80.0	62.5	6.3	0.0	12.5	18.8
20-25	16	12	75.0	58.3	0.0	0.0	25.0	16.7
26-35	23	17	73.9	23.5	0.0	0.0	23.5	52.9
36-45	19	15	78.9	40.0	0.0	0.0	6.7	53.3
46-55	27	21	77.8	66.7	0.0	0.0	9.5	23.8
>55	119	54	45.4	83.3	3.7	1.9	1.9	9.3
<u>Gender</u>								
Male	128	82	64.1	56.1	2.4	1.2	13.4	26.8
Female	111	58	52.3	75.9	1.7	0.0	3.4	19.0
<u>Jurisdiction**</u>								
Alberta	42	34	81.0	52.9	2.9	0.0	11.8	32.4
Saskatchewan	11	10	90.9	50.0	0.0	0.0	20.0	30.0
Manitoba	9	8	88.9	87.5	0.0	0.0	0.0	12.5
Ontario	104	51	49.0	70.6	3.9	0.0	7.8	17.6
Quebec	53	21	39.6	66.7	0.0	0.0	4.8	28.6
New Brunswick	4	2	50.0	100.0	0.0	0.0	0.0	0.0
Nova Scotia	8	7	87.5	57.1	0.0	14.3	14.3	14.3
Prince Edward Island	2	2	100.0	50.0	0.0	0.0	50.0	0.0
Newfoundland/Labrador	5	4	80.0	75.0	0.0	0.0	0.0	25.0
TOTAL	239	140	58.6	64.3	2.1	0.7	9.3	23.6

* Excluding British Columbia.

** Data from the territories (Yukon, Northwest Territories, Nunavut) have been excluded due to the small combined number of cases from these jurisdictions.

3.3.1 Age difference. Of all the fatally injured pedestrians, almost half (49.8%) were over 55 years of age (119 of the 239 pedestrian fatalities). The oldest pedestrians, however, accounted for a much smaller portion of the drinking pedestrians and those with BACs over 80 mg%. This is illustrated in Figure 3-8. The figure shows the percent of all drinking pedestrians accounted for by each age group. The bar on the left shows the percent of all fatally injured pedestrians with any evidence of alcohol accounted for by each age group. On the right is shown the percent of pedestrians with BACs over 80 mg% accounted for by each age group. Of all the fatally injured drinking pedestrians, 26.5% were aged 26-35; 18.4% were aged 36-45 and over 55; 14.3% were aged 46-55; 12.2% were aged 16-19; and 10.2% were aged 20-25.

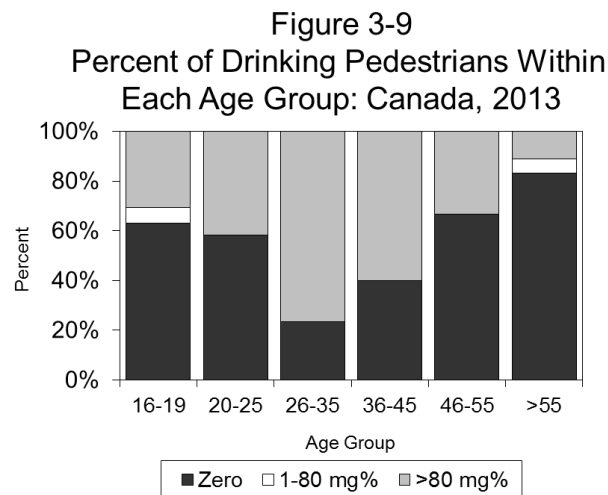
Of all the fatally injured pedestrians with BACs over 80 mg%, 28.9% were aged 26-35; 20.0% were aged 36-45; 15.6% were aged 46-55; 13.3% were over 55; and 11.1% were 16-19 and 20-25.

Figure 3-8
Percent of All Fatally Injured Drinking and Legally Impaired
Pedestrians Accounted for by Each Age Group: Canada, 2013

> 55	18.4	> 55	13.3
46-55	14.3	46-55	15.6
36-45	18.4	36-45	20.0
26-35	26.5	26-35	28.9
20-25	10.2	20-25	11.1
16-19	12.2	16-19	11.1
	Drinking		>80 mg%

Figure 3-9 presents the information in a slightly different manner. For each age group, the percent of pedestrians who were sober (zero BAC) is shown by the lower, dark portion of the bar; the percent who tested positive for alcohol but whose BAC was less than or equal to 80 mg% is shown by the white section in the middle, and the percent with BACs over 80 mg% is shown by the upper, grey part of the bar.

Fatally injured pedestrians age 26-35 were the most likely to have been drinking – 76.5% of pedestrians in this age group had been drinking. By contrast, only 16.7% of tested pedestrians over age 55 had been drinking.



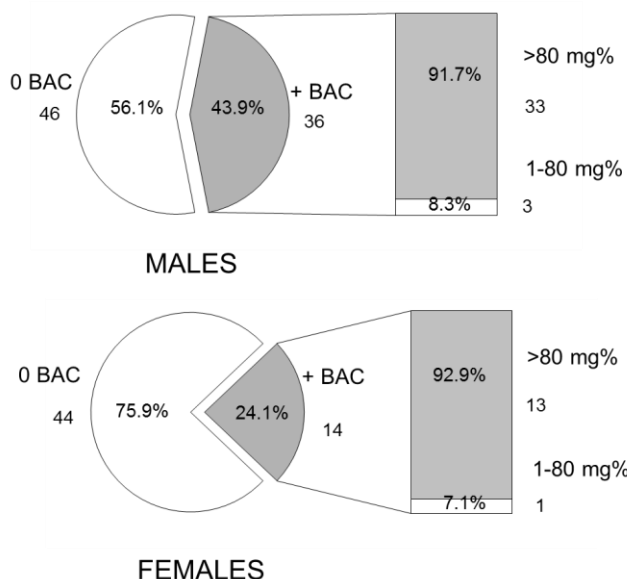
3.3.2 Gender differences. Males account for 72.0% of all the fatally injured pedestrians who had been drinking, and 71.7% of all of the fatally injured pedestrians who had BACs over 80 mg%. Males dominate the picture because they account for 53.6% of the pedestrians who are killed (128 of the 239 fatalities are male).

Figure 3-10 summarizes the findings for alcohol use among fatally injured male and female pedestrians. The pie chart shows the proportion of those pedestrians who were sober (0 BAC) and those positive for alcohol

(+ BAC). The bar to the right of the pie chart shows the distribution of alcohol levels found among those who had been drinking; the percent who had BACs above and below 80 mg%. Percentages are given inside the figures; the absolute number of cases is shown adjacent to the figure.

Among fatally injured male pedestrians, 43.9% had been drinking and 91.7% of these pedestrians had BACs over 80 mg%. Among fatally injured female pedestrians, 24.1% had been drinking and 92.9% had BACs over 80 mg%.

Figure 3-10
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2013



3.3.3 Jurisdictional differences. Given that there was a very small combined number of fatally injured pedestrians in the territories in 2013, data on fatally injured pedestrians in the Yukon, the Northwest Territories, and Nunavut have not been included in this analysis. Of all the fatally injured pedestrians, 43.5% were killed in Ontario, 22.2% were killed in Quebec, and 17.6% were killed in Alberta. Alberta accounted for 32.0%, Ontario accounted for 30.0%, and Quebec accounted for 14.0% of the fatally injured drinking pedestrians. Among fatally injured pedestrians with BACs over 80 mg%, 32.6% were from Alberta, 28.3% were from Ontario, and 15.2% were from Quebec. It should be noted that the figures for drinking and legally impaired pedestrians in Quebec are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in this jurisdiction – e.g., only 39.6% of pedestrians fatally injured in Quebec were tested, compared to 100.0% in Prince Edward Island, 90.9% in Saskatchewan, and 88.9% in Manitoba.

As shown in Table 3-4, the highest incidence of alcohol in fatally injured pedestrians, however, was in Saskatchewan and Prince Edward Island (50.0%). The lowest incidence of alcohol in fatally injured pedestrians was in New Brunswick (0.0%) and Manitoba (12.5%).

3.4 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Canada, excluding New Brunswick, because data from this jurisdiction were not available at the time this report was being prepared. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle, at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., they noted that at least one drinking driver was involved in the crash.

The results are shown in Table 3-5 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 12,260 drivers were involved in crashes in which someone was seriously injured. Among these, 15.9% were alcohol-related crashes.

Table 3-5
Drivers of Highway Vehicles in Alcohol-Related Serious Injury Crashes: Canada, 2013*

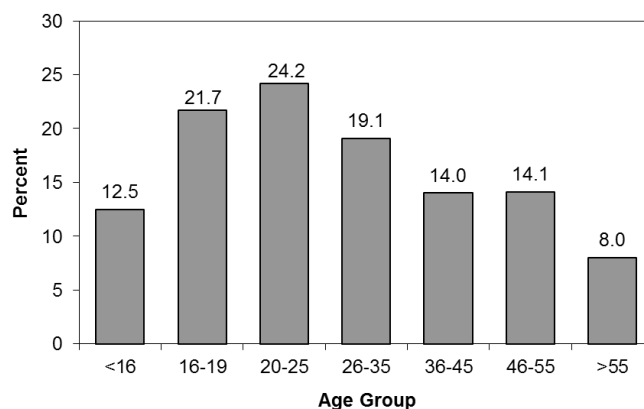
Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	32	4	12.5	0.2
16-19	815	177	21.7	9.1
20-25	1693	410	24.2	21.1
26-35	2300	440	19.1	22.6
36-45	2029	285	14.0	14.6
46-55	2111	297	14.1	15.3
>55	2702	217	8.0	11.1
unknown	578	117	20.2	6.0
<u>Gender</u>				
Male	8247	1417	17.2	72.8
Female	3737	464	12.4	23.8
unknown	276	66	23.9	3.4
<u>Vehicle Type**</u>				
Auto	4885	806	16.5	50.3
Truck/Van	3781	658	17.4	41.1
Motorcycle	895	93	10.4	5.8
Tractor Trailer	360	30	8.3	1.9
Other Hwy. Vehicle	134	15	11.2	0.9
<u>Collision Type</u>				
Single-Vehicle	3867	1317	34.1	67.6
Multiple-Vehicle	8393	630	7.5	32.4
TOTAL	12260	1947	15.9	100.0

* Excluding data from New Brunswick.

** Vehicle type section excludes Quebec since this jurisdiction has grouped automobiles and light trucks together in its collision data since March 2010.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.6% were aged 26-35; 21.1% were aged 20-25; and 15.3% were aged 46-55. Drivers under the age of 16 accounted for only 0.2% of all those involved in alcohol-related crashes. Figure 3-11 shows for each age group the percent of drivers who were in a serious injury crash that involved alcohol. The highest incidence of alcohol involvement was found for drivers aged 20-25 (24.2%). The lowest incidence of involvement in alcohol-related crashes was found for the youngest and oldest age groups of drivers as 12.5% of drivers under 16 and 8.0% of drivers over 55 were in a serious injury crash that involved alcohol.

Figure 3-11
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2013



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 72.8% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (17.2% and 12.4%, respectively).

3.4.3 Type of vehicle driven. The numbers and percentages in the vehicle type section exclude Quebec since this jurisdiction has grouped automobiles and light trucks together in its collision data since March 2010. Of all the drivers involved in alcohol-related serious injury crashes, 50.3% were automobile drivers and 41.1% were truck/van drivers.

Over one out of six serious injury crashes involving truck/van drivers were alcohol related (17.4%). The percentage of involvement in alcohol-related serious injury crashes was 16.5% for automobile drivers, 11.2% for drivers of other highway vehicles, 10.4% for motorcycle riders, and 8.3% for tractor-trailer drivers.

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 67.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes (34.1%) compared to only 7.5% for drivers involved in multiple-vehicle crashes.

3.5 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Canada during 2013. *At the time this report was being prepared, 2013 coroner data from British Columbia were not available. For this reason, 2013 data reported in this section excludes this jurisdiction. A*

comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 3-6 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple). The data are presented for drivers of the highway vehicles (i.e., automobiles, trucks, vans, motorcycles, tractor-trailers) who died within 30 days in collisions which occurred on public roadways.

The first column in the table shows the number of drivers killed. The next two columns show the number and percent of these victims who were tested for drugs. The remaining columns provide information on the results of the drug tests – this includes the number and percent of those tested who were positive for drugs.

As can be seen, in 2013, 82.9% of fatally injured drivers in Canada were tested for drug use. Among fatally injured tested drivers, 383 out of 860 (44.5%) were positive for drugs.

Table 3-6
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Canada, 2013 (Excluding British Columbia)

Category of Driver	Number of Drivers*	Drivers Tested		Positive for Drugs	
		Number	% of total	Number	% of total
<u>Age</u>					
<16	2	2	100.0	1	50.0
16-19	74	69	93.2	31	44.9
20-25	166	147	88.6	69	46.9
26-35	168	143	85.1	72	50.3
36-45	148	139	93.9	66	47.5
46-55	163	131	80.4	59	45.0
>55	317	229	72.2	85	37.1
<u>Gender</u>					
Male	785	656	83.6	292	44.5
Female	253	204	80.6	91	44.6
<u>Vehicle Type</u>					
Automobile	568	459	80.8	200	43.6
Motorcycle	155	128	82.6	54	42.2
Tractor Trailer	26	22	84.6	5	22.7
Heavy Truck ¹	9	9	100.0	7	77.8
Van	63	57	90.5	27	47.4
Light Truck ²	210	180	85.7	89	49.4
Other Truck ³	2	2	100.0	1	50.0
Other Hwy. Vehicle ⁴	5	3	60.0	0	0.0
<u>Collision Type</u>					
Single-Vehicle	442	363	82.1	175	48.2
Multiple-Vehicle	596	497	83.4	208	41.9
TOTAL	1038	860	82.9	383	44.5

* Drivers dying within 30 days in crashes on public roadways.

¹ Trucks over 4500 kg.

² e.g., pickup trucks.

³ Motorhomes, utility vehicles, plows and trucks of unknown type.

⁴ Emergency vehicles and buses.

Note: The vehicle types that appear in the shaded area correspond to the truck/van category used in the jurisdictional sections of this report.

3.5.1 Age differences. Fatally injured drivers aged 26-35 were the most likely to have been positive for drugs – 50.3% of drivers in this age group tested positive for drugs. By contrast, 37.1% of drivers over 55 tested positive for drugs.

3.5.2 Gender differences. Males dominate the picture as they account for 76.2% of all the fatally injured drivers who tested positive for drugs. Males dominate the picture largely because they account for 75.6% of the drivers who are killed (785 of the 1,038 fatalities are males). Fatally injured female drivers were slightly more likely to have been positive for drugs than male drivers (44.6% and 44.5%, respectively).

3.5.3 Vehicle differences. Within each of the vehicle types, 77.8% of fatally injured heavy truck drivers, 50.0% of other truck drivers, 49.4% of light truck drivers, 47.4% of van drivers, 43.6% of automobile drivers, and 42.2% of motorcyclists tested positive for drugs. The lowest percentage of drivers testing positive for drugs were other highway vehicle drivers (0.0%) and tractor trailer drivers (22.2%).

3.5.4 Collision differences. Almost half of the drivers who were killed in single-vehicle collisions (48.2%) tested positive for drugs compared to 41.9% of those involved in multiple vehicle crashes.

3.5.5 Categories of drugs detected. In Table 3-7, the categories of drugs found among fatally injured drivers testing positive for drugs is shown. A brief description of the different drug categories is provided in Section 2.2.5. Among the 383 fatally injured drivers who tested positive for drugs, 49.1% tested positive for cannabis. Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (35.8%), CNS stimulants (26.9%), narcotic analgesics (20.4%), dissociative anesthetics (2.1%), and hallucinogens (1.0%).

Table 3-7
Drug Use Among Fatally Injured Drivers of Highway
Vehicles: Canada, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
1038	860	(82.9)	383	(44.5)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	188	(49.1)
CNS Depressants	137	(35.8)
CNS Stimulants	103	(26.9)
Narcotic Analgesics	78	(20.4)
Dissociative Anesthetics	8	(2.1)
Hallucinogens	4	(1.0)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

3.6 Trends in alcohol and drug-impaired driving

The previous sections examined four indicators of the alcohol-crash problem: the number and percent of people who died in crashes that involved alcohol; the number and percent of fatally injured drivers who had been drinking; the number and percent of fatally injured pedestrians who had been drinking; and the number and percent of drivers in serious injury crashes that involved alcohol. The drug use among fatally

injured drivers indicator was also examined. This section examines changes in these four indicators of the alcohol-crash problem and one indicator of the drug-crash problem. Findings for these indicators of the alcohol-crash problem and drug-crash problem in the 2011-2013 period are compared with those taken from the 2006-2010 baseline period.

3.6.1 Deaths in alcohol-related crashes: 1996-2013. As mentioned earlier in Section 3.1, at the time this report was being prepared, 2013 coroner data from British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Table 3-8 and Figure 3-12 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 3.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 876 in 1996 to 583 in 2009. The number of deaths rose to 614 in 2010, decreased to 549 in 2011, rose slightly to 562 in 2012, and dropped to a low of 475 in 2013. The percentage of alcohol-related fatalities generally decreased from 34.5% in 1996 to 28.9% in 2005, eventually rose to 34.0% in 2010, and decreased to a low of 28.2% in 2013.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 663 fatalities involving a drinking driver and they accounted for 33.0% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 9.4% from 33.0% in the baseline period (2006-2010) to 29.9% in the 2011-2013 period. And in terms of the number of persons killed in crashes involving a drinking driver, there has been a 20.2% decrease from an average of 663 in the baseline period (2006-2010) to 529 in the 2011-2013 period.

Table 3-8
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: Canada, 1996-2013***

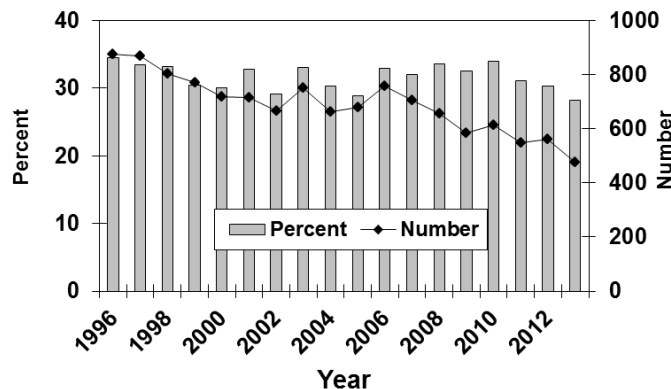
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	2540	876	34.5
1997	2603	871	33.5
1998	2415	803	33.3
1999	2534	771	30.4
2000	2390	716	30.0
2001	2185	718	32.9
2002	2293	667	29.1
2003	2272	752	33.1
2004	2184	662	30.3
2005	2358	682	28.9
2006	2303	758	32.9
2007	2205	705	32.0
2008	1952	656	33.6
2009	1791	583	32.6
2010	1806	614	34.0
2011	1765	549	31.1
2012	1854	562	30.3
2013	1687	475	28.2
2006-2010 baseline	2011	663	33.0
2011-2013 period	1769	529	29.9

* Numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** Persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

*** Excludes British Columbia.

Figure 3-12
Number and Percent of Deaths Involving
a Drinking Driver: Canada, 1996-2013



3.6.2 Alcohol use among fatally injured drivers: 1996-2013. As mentioned earlier in Section 3.2, at the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. *For*

this reason, trend data reported in this section excludes this jurisdiction. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996 to 2013 are shown in Table 3-9.

Trends are illustrated in Figure 3-13 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol – represented by the white area; (2) had BACs below the legal limit – shown by the light grey area; and (3) had BACs over the legal limit – the dark grey area.

The number of fatally injured drivers with BACs over the legal limit (> 80 mg%) generally declined from 387 to 309 between 1996 and 2004, rose to 356 in 2005, and eventually fell to a low of 219 in 2013. The percent of fatally injured drivers with BACs over the legal limit generally decreased from 33.2% to 27.0% between 1996 and 2002, eventually rose to 31.8% in 2009, and decreased to a low of 24.2% in 2013.

By contrast, the number of fatally injured drivers with zero BACs has fluctuated over this 18-year period, from 592 in 2010 to a high of 846 in 1999. In 2013, there were 619 fatally injured drivers with zero BACs. The percent of fatally injured drivers with zero BACs generally increased from 59.9% to 67.9% between 1996 and 1999, remained stable until 2007, decreased to 62.3% in 2008, and eventually rose to 68.4% in 2013.

The number of fatally injured drivers with BACs between 1-80 mg% generally declined from 80 to 66 between 1996 and 2001, rose to 82 in 2006, decreased to 45 in 2012, and rose again to 67 in 2013. The percent of fatally injured drivers with BACs between 1 and 80 mg% rose from 6.9% to 7.3% between 1996 and 1997, generally dropped to 5.6% in 2005, and eventually rose to its highest level in 2013 (7.4%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 3-9, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 7.2% (from 62.9% to 67.4%). Among drivers with BACs from 1-80 mg%, there was a 9.2% decrease (from 6.5% to 5.9%). And among those with BACs over 80 mg%, there was a 12.7% decrease (from 30.6% to 26.7%).

Table 3-9

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Canada, 1996-2013*

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	1394	1166	83.6	699	59.9	80	6.9	387	33.2
1997	1460	1203	82.4	755	62.8	88	7.3	360	29.9
1998	1385	1164	84.0	716	61.5	71	6.1	377	32.4
1999	1474	1246	84.5	846	67.9	71	5.7	329	26.4
2000	1391	1179	84.8	769	65.2	75	6.4	335	28.4
2001	1319	1136	86.1	718	63.2	66	5.8	352	31.0
2002	1365	1181	86.5	791	67.0	71	6.0	319	27.0
2003	1366	1185	86.7	732	61.8	70	5.9	383	32.3
2004	1293	1114	86.2	735	66.0	70	6.3	309	27.7
2005	1426	1213	85.1	789	65.0	68	5.6	356	29.3
2006	1402	1194	85.2	764	64.0	82	6.9	348	29.1
2007	1346	1148	85.3	725	63.2	81	7.1	342	29.8
2008	1239	1091	88.1	680	62.3	67	6.1	344	31.5
2009	1127	948	84.1	594	62.7	53	5.6	301	31.8
2010	1104	948	85.9	592	62.4	60	6.3	296	31.2
2011	1081	905	83.7	603	66.6	53	5.9	249	27.5
2012	1132	964	85.2	647	67.1	45	4.7	272	28.2
2013	1038	905	87.2	619	68.4	67	7.4	219	24.2
2006-2010 baseline	1244	1066	(85.7)	671	(62.9)	69	(6.5)	326	(30.6)
2011-2013 period	1084	925	(85.3)	623	(67.4)	55	(5.9)	247	(26.7)

* Excludes British Columbia.

Figure 3-13
Trends in Alcohol Use Among Driver
Fatalities: Canada, 1996-2013

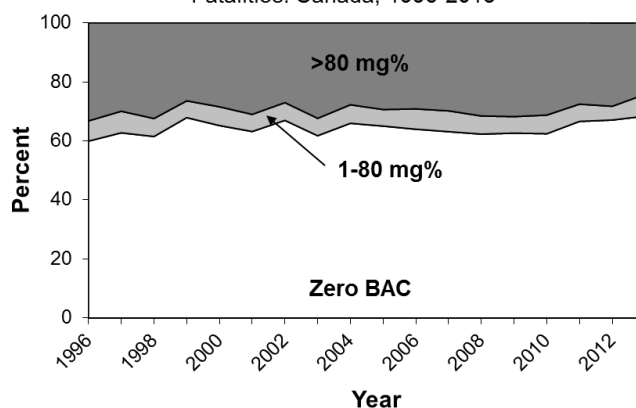


Table 3-10 and Figure 3-14 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 3-2). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 3-10, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 37.1%. In the 2011-2013 period, 32.7% of fatally injured drivers tested positive for alcohol, an 11.9% decrease from the baseline period.

Table 3-10
Alcohol Use* Among Fatally Injured Drivers** of Highway Vehicles:
Canada, 1996-2013***

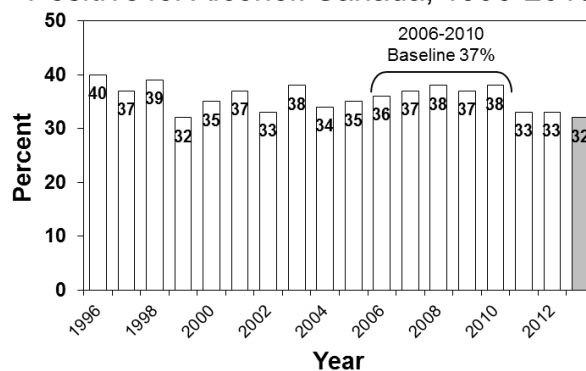
Year	Number of Drivers	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	1394	836	(60.0)	558	(40.0)
1997	1460	916	(62.7)	544	(37.3)
1998	1385	852	(61.5)	533	(38.5)
1999	1476	1001	(67.8)	475	(32.2)
2000	1392	907	(65.2)	485	(34.8)
2001	1319	834	(63.2)	485	(36.8)
2002	1365	914	(67.0)	451	(33.0)
2003	1366	844	(61.8)	522	(38.2)
2004	1294	854	(66.0)	440	(34.0)
2005	1426	928	(65.1)	498	(34.9)
2006	1402	897	(64.0)	505	(36.0)
2007	1346	850	(63.2)	496	(36.8)
2008	1239	772	(62.3)	467	(37.7)
2009	1127	706	(62.6)	421	(37.4)
2010	1104	689	(62.4)	415	(37.6)
2011	1081	720	(66.6)	361	(33.4)
2012	1132	761	(67.2)	371	(32.8)
2013	1038	710	(68.4)	328	(31.6)
2006-2010 baseline	1244	783	(62.9)	461	(37.1)
2011-2013 period	1084	730	(67.3)	354	(32.7)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

*** Excludes British Columbia.

Figure 3-14
Percent of Fatally Injured Drivers
Positive for Alcohol: Canada, 1996-2013



3.6.3 Fatally injured pedestrians: 1996-2013. As mentioned earlier in Section 3.3, at the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Data on alcohol use among fatally injured pedestrians over the 18-year period from 1996 to 2013 are shown in Table 3-11. Trends are illustrated in Figure 3-15 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of alcohol – represented by the white area; (2) had BACs below the legal limit – shown by the light grey area; and (3) had BACs over 80 mg% – the dark grey area.

The number of fatally injured pedestrians with a BAC over 80 mg% generally declined from a high of 75 in 1996 to a low of 41 in 2008, gradually rose to 62 in 2012, and decreased again to 46 in 2013. The percent of fatally injured pedestrians with a BAC over 80 mg% generally rose from 33.8% in 1996 to 38.6% in 2001, decreased to a low of 28.6% in 2002, peaked at 40.0% in 2009, and decreased again to 32.9% in 2013.

The number of fatally injured pedestrians with no evidence of alcohol generally decreased from 140 to 75 between 1996 and 2009, rose to 110 in 2012, and decreased again to 90 in 2013. The percent of fatally injured pedestrians with zero BACs has ranged from about 50% to 60% over this 18-year period. In 1996, 63.1% of fatally injured pedestrians showed no evidence of alcohol compared to 64.3% in 2013.

The number of fatally injured pedestrians with BACs between 1-80 mg% fluctuated over this 18-year period from 16 in 1997 to a low of four in 2010, rose to 13 in 2011, and decreased again to four in 2013. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 2.3% in 2005 and 8.3% in 2009 and 2011, before declining again to 2.9% in 2013.

When compared to the 2006-2010 baseline period shown at the bottom of Table 3-11, the percentage of fatally injured pedestrians with zero BACs in the 2011-2013 period increased by 7.4% (from 56.6% to 60.8%). Among pedestrians with BACs from 1-80 mg%, there was a 22.7% decrease (from 6.6% to 5.1%). And among those with BACs over 80 mg%, there was a 7.1% decrease (from 36.8% to 34.2%).

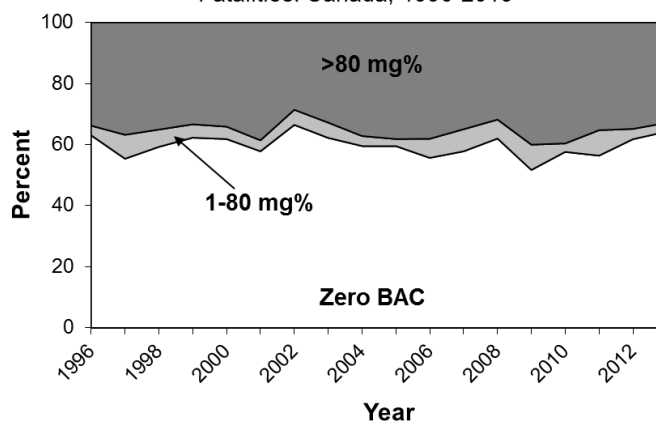
Table 3-11
Alcohol Use Among Fatally Injured Pedestrians*:
Canada**, 1996-2013

Year	Number of Pedestrians	Pedestrians Tested		Pedestrians Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	375	222	59.2	140	63.1	7	3.2	75	33.8
1997	343	204	59.5	113	55.4	16	7.8	75	36.8
1998	323	194	60.1	115	59.3	11	5.7	68	35.1
1999	317	183	57.7	114	62.3	8	4.4	61	33.3
2000	293	173	59.0	107	61.8	7	4.0	59	34.1
2001	261	166	63.6	96	57.8	6	3.6	64	38.6
2002	284	182	64.1	121	66.5	9	4.9	52	28.6
2003	295	180	61.0	112	62.2	9	5.0	59	32.8
2004	259	183	70.7	109	59.6	6	3.3	68	37.2
2005	263	173	65.8	103	59.5	4	2.3	66	38.2
2006	280	176	62.9	98	55.7	11	6.3	67	38.1
2007	258	166	64.3	96	57.8	12	7.2	58	34.9
2008	221	129	58.4	80	62.0	8	6.2	41	31.8
2009	235	145	61.7	75	51.7	12	8.3	58	40.0
2010	223	144	64.6	83	57.6	4	2.8	57	39.6
2011	256	156	60.9	88	56.4	13	8.3	55	35.3
2012	251	178	70.9	110	61.8	6	3.4	62	34.8
2013	239	140	58.6	90	64.3	4	2.9	46	32.9
2006-2010 baseline	243	152	(62.6)	86	(56.6)	10	(6.6)	56	(36.8)
2011-2013 period	249	158	(63.5)	96	(60.8)	8	(5.1)	54	(34.2)

* Dying within 30 days in collisions which occurred on public roadways.

** Excludes British Columbia

Figure 3-15
Trends in Alcohol Use Among Pedestrian
Fatalities: Canada, 1996-2013



3.6.4 Drivers in serious injury crashes: 2005-2013. Table 3-12 and Figure 3-16 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. For most jurisdictions, serious injury collision data are available as early as 1996. However, these data were not available for British Columbia until 2005 and the Yukon until 1998. Thus, in order to provide data for the greatest number of cases, the data shown in this table cover the 2005-2013 period. However, there are still some jurisdictions that did not have data available at the time this report was being prepared. These jurisdictions include New Brunswick (2013), Newfoundland and Labrador (2009-2011), and Nunavut (2011). Thus Table 3-12 and Figure 3-16 exclude these three jurisdictions.

As can be seen, the incidence of alcohol-involvement in serious crashes has generally declined. Between 2005 and 2006 the number of drivers of highway vehicles in serious injury crashes that involved alcohol rose from 3,387 to 3,508. This number gradually decreased to 2,081 in 2011, rose slightly to 2,100 in 2012, and decreased again to 1,920 in 2013. The percentage of drivers of highway vehicles in serious injury crashes involving alcohol rose from 19.4% in 2005 to 20.7% in 2007 before generally decreasing to 15.9% in 2013. In the baseline period (2006-2010), an average of 20.1% of drivers in serious injury crashes were in alcohol-involved crashes. In the 2011-2013 period, the incidence of drivers in alcohol-involved crashes was 16.8%, a 16.4% decrease.

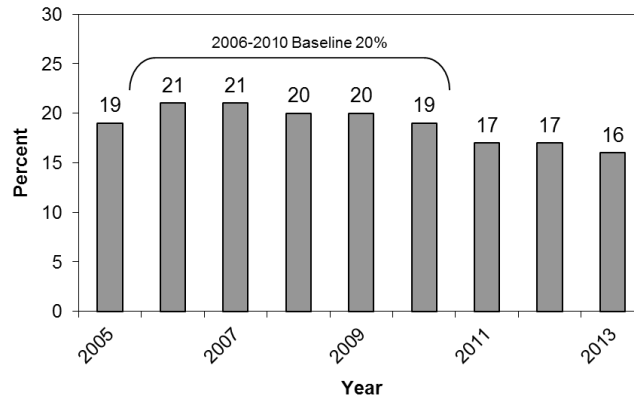
Table 3-12
Number and Percent of All Drivers in Serious Injury Crashes*
that Involved Alcohol: Canada, 2005-2013**

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
2005	17439	3387	(19.4)
2006	17073	3508	(20.5)
2007	15659	3236	(20.7)
2008	14420	2871	(19.9)
2009	13185	2663	(20.2)
2010	13058	2452	(18.8)
2011	11940	2081	(17.4)
2012	12230	2100	(17.2)
2013	12107	1920	(15.9)
2006-2010 baseline	14679	2946	(20.1)
2011-2013 period	12092	2034	(16.8)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

** Excludes data from New Brunswick, Newfoundland and Labrador and Nunavut.

Figure 3-16
Percent of Drivers of Highway Vehicles in Serious Injury
Crashes that Involved Alcohol: Canada, 2005-2013



3.6.5 Drug use among fatally injured drivers: 2000-2013. As mentioned earlier in Section 3.5, at the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Data on drug use among fatally injured drivers of highway vehicles over the 14-year period from 2000 to 2013 are shown in Table 3-13. Trends are illustrated in Figure 3-17 which shows changes in the percent of fatally injured drivers who tested positive for drugs.

Unlike trends in the number of fatally injured drivers testing positive for alcohol, the corresponding trends in the number of drivers testing positive for drugs is more difficult to analyse since testing rates for drugs are less consistent than those for alcohol. For example, in 2000, only 37.0% of fatally injured drivers were tested for drugs compared to 82.9% in 2013.

The percent of fatally injured drivers testing positive for drugs rose from 34.4% in 2000 to 41.4% in 2002, stabilized at 36.8% in 2010, and reached its highest level (44.5%) in 2013.

During the baseline period (2006-2010), an average of 36.3% of fatally injured drivers tested positive for drugs. In the 2011-2013 period, the incidence of fatally injured drivers testing positive for drugs rose to 41.6%, a 14.6% increase.

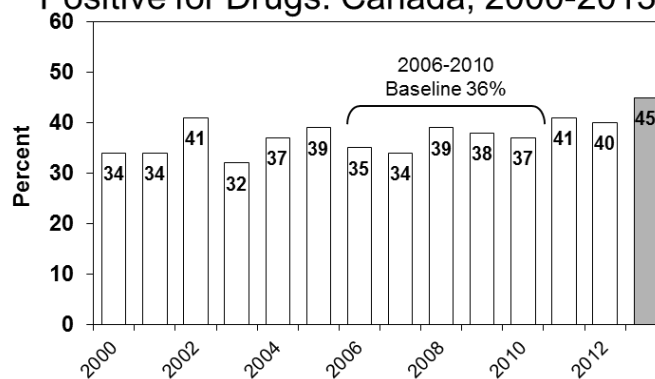
Table 3-13
Drug Use Among Fatally Injured Drivers* of Highway Vehicles:
Canada**, 2000-2013

YEAR	Number of Drivers	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	1391	515	37.0	338	65.6	177	34.4
2001	1319	556	42.2	365	65.6	191	34.4
2002	1365	618	45.3	362	58.6	256	41.4
2003	1366	621	45.5	424	68.3	197	31.7
2004	1293	502	38.8	318	63.3	184	36.7
2005	1426	634	44.5	386	60.9	248	39.1
2006	1402	823	58.7	535	65.0	288	35.0
2007	1346	836	62.1	553	66.1	283	33.9
2008	1239	711	57.4	437	61.5	274	38.5
2009	1127	603	53.5	374	62.0	229	38.0
2010	1104	623	56.4	394	63.2	229	36.8
2011	1081	799	73.9	474	59.3	325	40.7
2012	1132	884	78.1	534	60.4	350	39.6
2013	1038	860	82.9	477	55.5	383	44.5
2006-2010 baseline	1244	719	57.8	458	63.7	261	36.3
2011-2013 period	1084	848	78.2	495	58.4	353	41.6

** Dying within 30 days in collisions which occurred on public roadways.

* Excludes British Columbia.

Figure 3-17
Percent of Fatally Injured Drivers
Positive for Drugs: Canada, 2000-2013



3.7 Comparisons of Alcohol and Drug Indicators Between Jurisdictions

This section provides a comparison between jurisdictions of the prevalence of alcohol and drug use among fatally injured drivers and alcohol involvement among drivers in serious injury collisions. Analysis in this section differs from that earlier in Section 3 in that it not only presents data for Canada as a whole, but data for each of the jurisdictions. This enables one to compare data between jurisdictions or to compare an individual jurisdiction's data with the national average. This section includes analysis of:

- > Alcohol and drug use among fatally injured drivers in 2013; and,
- > Trends in alcohol and drug use.

Please note that, similar to the rest of Section 3, fatality data for Canada do not include British Columbia since 2011 to 2013 coroner data were not available at the time of publication. Thus, Canadian fatality data excludes British Columbia.

3.7.1 Alcohol and drug use among fatally injured drivers in 2013. Alcohol and drug use among fatally injured drivers is shown separately, and together, for Canada and each of its jurisdictions for 2013 in Table 3-14 and Figure 3-18. The table presents data on the number and percent of fatally injured drivers of highway vehicles that tested positive for alcohol and drugs. In addition, Table 3-14 shows the number and percentage of drivers who tested positive for both alcohol and drugs. These data are similar to those used to create Table 3-2 and 3-7. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers is substantially smaller than those for other jurisdictions.

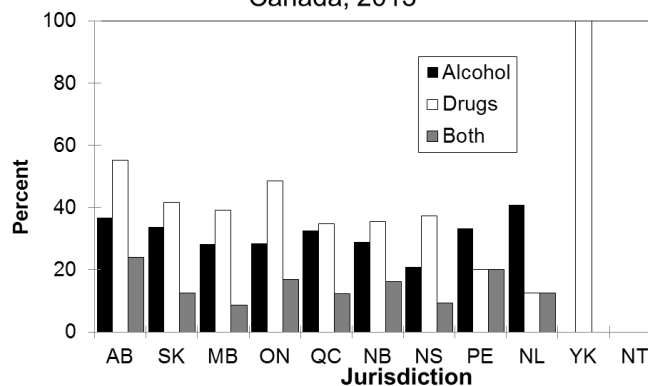
Table 3-14
Alcohol and Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Canada, 2013

Juris	Drivers Killed*	Tested for Alcohol			Tested for Drugs			Tested for Both	
		Drivers Tested**	Zero BAC	Positive BAC	Drivers Tested**	Negative	Positive	Drivers Tested	Positive for Both
AB	217	210 (96.8)	133 (63.3)	77 (36.7)	203 (93.5)	91 (44.8)	112 (55.2)	203 (96.8)	49 (24.1)
SK	78	74 (94.9)	49 (66.2)	25 (33.8)	72 (92.3)	42 (58.3)	30 (41.7)	72 (92.3)	9 (12.5)
MB	48	46 (95.8)	33 (71.7)	13 (28.3)	46 (95.8)	28 (60.9)	18 (39.1)	46 (95.8)	4 (8.7)
ON	322	274 (85.1)	196 (71.5)	78 (28.5)	264 (82.0)	136 (51.5)	128 (48.5)	260 (81.0)	44 (16.9)
QC	257	194 (75.5)	131 (67.5)	63 (32.5)	186 (72.4)	121 (65.1)	65 (34.9)	186 (72.4)	23 (12.4)
NB	34	31 (91.2)	22 (71.0)	9 (29.0)	31 (91.2)	20 (64.5)	11 (35.5)	31 (91.2)	5 (16.1)
NS	47	43 (91.5)	34 (79.1)	9 (20.9)	43 (91.5)	27 (62.8)	16 (37.2)	43 (91.5)	4 (9.3)
PE	10	9 (90.0)	6 (66.7)	3 (33.3)	5 (50.0)	4 (80.0)	1 (20.0)	5 (50.0)	1 (20.0)
NL	22	22 (100.0)	13 (59.1)	9 (40.9)	8 (36.4)	7 (87.5)	1 (12.5)	8 (36.4)	1 (12.5)
YK	2	1 (50.0)	1 (100.0)	0 (0.0)	1 (50.0)	0 (0.0)	1 (100.0)	1 (50.0)	0 (0.0)
NT	1	1 (100.0)	1 (100.0)	0 (0.0)	1 (100.0)	1 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)
NU	0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
CAN	1038	905 (87.2)	619 (68.4)	286 (31.6)	860 (82.9)	477 (55.5)	383 (44.5)	856 (82.5)	140 (16.4)

* Drivers dying within 30 days in crashes on public roadways.

** Represents number and percent tested of all drivers killed.

Figure 3-18
Percentage of Fatally Injured Drivers Testing Positive for
Alcohol, Drugs, and Both Substances by Jurisdiction:
Canada, 2013



In Canada in 2013, 87.2% of fatally injured drivers were tested for alcohol. Among these drivers, 31.6% had positive BACs. The testing rate for drug use among fatally injured drivers was somewhat lower (82.9%). And among these drivers, 44.5% tested positive for drugs. In Canada in 2013, 856 fatally injured drivers were tested for both alcohol and drugs. Among these drivers, 140 (16.4%) tested positive for both alcohol and drugs. The highest percentage of fatally injured drivers who tested positive for both alcohol and drugs (24.1%) was in Alberta.

3.7.2 Trends in alcohol and drug use. Comparisons for different indicators between the 2006-2010 baseline period and the most recent years of data collection (2011-2013) were made for Canada and each of its jurisdictions. Similar to fatality data in Section 3.7.1, fatality data for British Columbia are not available for 2011 to 2013. Thus, nationwide data exclude this jurisdiction for both the baseline period and the most recent years of data collection. The following indicators are reviewed:

- > Alcohol-related fatalities;
- > Alcohol use among fatally injured drivers;
- > Drivers in alcohol-related serious injury collisions; and,
- > Drug use among fatally injured drivers.

Table 3-15 shows the percentage of persons that died in alcohol-related collisions. Data for less populous jurisdictions should be treated with caution since the number of drivers involved in serious injury collisions is substantially smaller than those for other jurisdictions. More detailed data can be found in Section 3.6.1.

Table 3-15
Percent of Alcohol-Related Fatalities
Trends (2011/2013) vs. Baseline (2006-2010)

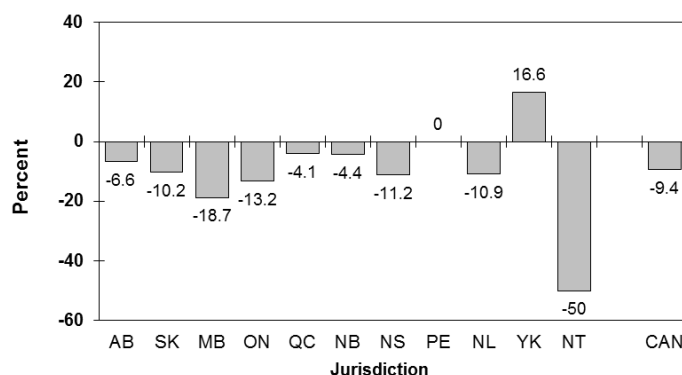
Juris	2006-2010 Baseline Average	2011	2012	2013	2011 to 2013 Average	Percent Differences		
						2013 vs. 2012	2013 vs. 2006-2010 Baseline	2011-2013 Avg. vs. 2006- 2010 Baseline
BC	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	39.4	35.3	37.0	37.8	36.8	2.2	-4.1	-6.6
SK	43.3	42.8	34.9	40.2	38.9	15.2	-7.2	-10.2
MB	42.7	37.6	40.6	26.4	34.7	-35.0	-38.2	-18.7
ON	28.7	24.9	26.3	23.6	24.9	-10.3	-17.8	-13.2
QC	26.6	29.0	25.0	22.2	25.5	-11.2	-16.5	-4.1
NB	36.0	34.8	36.5	29.6	34.4	-18.9	-17.8	-4.4
NS	31.3	28.8	29.1	23.6	27.8	-18.9	-24.6	-11.2
PE	50.0	55.6	72.7	28.6	50.0	-60.7	-42.8	0.0
NL	39.4	39.5	25.8	38.9	35.1	50.8	-1.3	-10.9
YK	42.9	33.3	50.0	25.0	50.0	-50.0	-41.7	16.6
NT	50.0	-	50.0	0.0	25.0	-100.0	-100.0	-50.0
NU	0.0	0.0	0.0	-	0.0	-	-	0.0
CAN*	33.0	31.1	30.3	28.2	29.9	-6.9	-14.5	-9.4

* Canada totals exclude BC.

During the 2006-2010 baseline period, an average of 33.0% of fatalities in Canada were alcohol-related, ranging from 0.0% in Nunavut to 50.0% in Prince Edward Island and the Northwest Territories. During the 2011-2013 period, an average of 29.9% of fatalities in Canada were alcohol-related. Nunavut did not report any alcohol-related fatalities during this three-year period. On the other hand, 50.0% of fatalities in Prince Edward Island and the Yukon were alcohol-related from 2011 to 2013.

Figure 3-19 shows the changes in the percentage of fatalities that were alcohol-related in the 2011-2013 period compared to the 2006-2010 baseline period. In Canada, there was a 9.4% decrease in the percentage of fatalities that were alcohol-related between the 2011-2013 period (29.9%) and the 2006-2010 baseline period (33.0%). In nine of the jurisdictions that were reviewed, there was a decrease in the percentage of persons who died in alcohol-related collisions. The most pronounced decreases in the 2011-2013 period compared to the 2006-2010 baseline period occurred in the Northwest Territories (50.0%) and Manitoba (18.7%). The only jurisdiction where there was an increase in the percentage of fatalities that were alcohol-related was the Yukon (16.6%).

Figure 3-19
Change in the Percentage of Alcohol-Related
Fatalities Between 2011-2013 and 2006-2010



The percentage of fatally injured drivers who tested positive for alcohol for Canada and its jurisdictions is shown in Table 3-16. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers of highway vehicles is quite small when compared to corresponding numbers from other jurisdictions. And in Nunavut, there were no fatally injured drivers of highway vehicles during neither the 2006-2010 baseline period nor the 2011-2013 period. More detailed data on alcohol use among fatally injured drivers can be found in Section 3.6.2.

An average of 37.1% of fatally injured drivers tested positive for alcohol during the 2006-2010 baseline period, ranging from 30.7% in Ontario to 77.2% in the Northwest Territories. During the 2011-2013 period, 32.6% of fatally injured drivers in Canada tested positive for alcohol, ranging from 0.0% in the Northwest Territories to 55.6% in Prince Edward Island.

There was a 12.1% decrease in the percentage of fatally injured drivers who tested positive for alcohol in the 2011-2013 period (32.6%) when compared to the 2006-2010 baseline period (37.1%). Figure 3-20 shows that Prince Edward Island was the only jurisdiction where there was an increase (25.2%) in the percentage of fatally injured drivers who tested positive for alcohol in the 2011-2013 period (55.6%) compared to the 2006-2010 baseline period (44.4%). In the remaining jurisdictions, there were decreases in the percentage of fatally injured drivers testing positive for alcohol in 2011-2013 compared to the 2006-2010 baseline period.

Table 3-16
Percent of Fatally Injured Drivers Positive for Alcohol
Trends (2011/2013) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2011 to 2013 Average	Percent Differences		
						2013 vs. 2012	2013 vs. 2006-2010 Baseline	2011-2013 Avg. vs. 2006- 2010 Baseline
BC	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	39.9	31.8	33.0	36.7	34.2	11.2	-8.0	-14.3
SK	42.2	42.5	31.5	33.8	37.0	7.3	-19.9	-12.3
MB	45.3	26.8	49.0	28.3	35.3	-42.2	-37.5	-22.1
ON	30.7	28.4	30.8	28.5	29.2	-7.5	-7.2	-4.9
QC	38.4	38.3	33.7	32.5	34.7	-3.6	-15.4	-9.6
NB	42.9	32.5	33.3	29.0	31.4	-12.9	-32.4	-26.8
NS	34.1	38.2	25.9	20.9	27.3	-19.3	-38.7	-19.9
PE	44.4	63.6	80.0	33.3	55.6	-58.4	-25.0	25.2
NL	47.4	20.0	30.4	40.9	30.4	34.5	-13.7	-35.9
YK	50.0	40.0	0.0	0.0	33.3	-	-	-33.4
NT	77.2	-	-	0.0	0.0	-	-	-
NU	-	-	-	-	-	-	-	-
CAN*	37.1	33.4	32.9	31.6	32.6	-4.0	-14.8	-12.1

* Canada totals exclude BC.

Figure 3-20
Change in the Percentage of Fatally Injured Drivers Testing
Positive for Alcohol Between 2011-2013 and 2006-2010

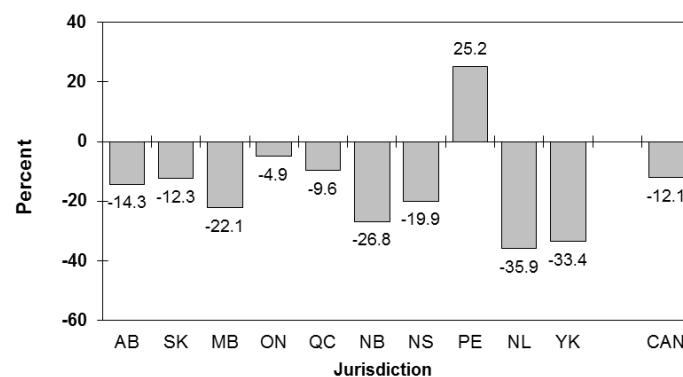


Table 3-17 shows the percentage of drivers that were involved in alcohol-related serious injury collisions. Totals for Canada exclude New Brunswick, Newfoundland and Labrador, and Nunavut since serious injury collision data for all three years between 2011 and 2013 were not available at the time of publication for these jurisdictions. Data for less populous jurisdictions should be treated with caution since the number of drivers involved in serious injury collisions is substantially smaller than those for other jurisdictions. Section 3.6.4 provides more detailed data on these drivers.

During the 2006-2010 baseline period, an average of 20.1% of drivers in Canada were involved in alcohol-related serious injury collisions, ranging from 16.9% in Ontario to 33.3% in the Northwest Territories and the Yukon. During the 2011-2013 period, an average of 16.8% of drivers in Canada were involved in alcohol-related serious injury collisions. In Manitoba, 13.1% of the drivers involved in serious injury collisions were in a crash that involved alcohol during this three-year period. On the other hand, 28.3% of drivers in Saskatchewan were involved in this type of crash from 2011 to 2013.

Table 3-17
Percent of Drivers in Alcohol-Related Serious Injury Collisions
Trends (2011/2013) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2011 to 2013 Average	Percent Differences		
						2013 vs. 2012	2013 vs. 2006-2010 Baseline	2011-2013 Avg. vs. 2006-2010 Baseline
BC	26.5	19.8	20.5	19.6	20.0	-4.4	-26.0	-24.5
AB	19.7	16.7	15.7	14.3	15.5	-8.9	-27.4	-21.3
SK	29.5	27.8	28.6	28.4	28.3	-0.7	-3.7	-4.1
MB	18.4	15.6	10.7	13.1	13.1	22.4	-28.8	-28.8
ON	16.9	15.4	15.0	13.6	14.6	-9.3	-19.5	-13.6
QC	17.8	17.4	18.0	15.6	17.0	-13.3	-12.4	-4.5
NB	25.6	27.4	24.8	N/A	31.4	-	-	-
NS	23.9	17.1	18.3	15.8	17.1	-13.7	-33.9	-28.5
PE	23.0	24.2	25.8	24.5	25.4	-5.0	6.5	10.4
NL	-	N/A	18.5	17.9	-	-3.2	-	-
YK	33.3	34.6	15.8	26.1	25.0	65.2	-21.6	-24.9
NT	33.3	0.0	0.0	37.5	22.2	-	12.6	-33.3
NU	0.0	N/A	0.0	0.0	0.0	0.0	0.0	-
CAN*	20.1	17.4	17.2	15.9	16.8	-7.6	-20.9	-16.4

* Canada totals exclude New Brunswick, Newfoundland and Labrador, and Nunavut.

There was a 16.4% decrease in the percentage of drivers who were involved in alcohol-related serious injury collisions in the 2011-2013 period (16.8%) when compared to the 2006-2010 baseline period (20.1%). Figure 3-21 shows that in nine of the ten jurisdictions that were reviewed, there was a decrease in the percentage of drivers who were involved in alcohol-related serious injury collisions. The most pronounced decreases in the 2011-2013 period compared to the 2006-2010 baseline period occurred in the Northwest Territories (33.3%), Manitoba (28.8%), and Nova Scotia (28.5%). The only jurisdiction where there was an increase in the percentage of drivers involved in alcohol-related serious injury collisions was Prince Edward Island (10.4%).

Figure 3-21
Change in the Percentage of Drivers in Alcohol-Related Serious Injury Collisions Between 2011-2013 and 2006-2010

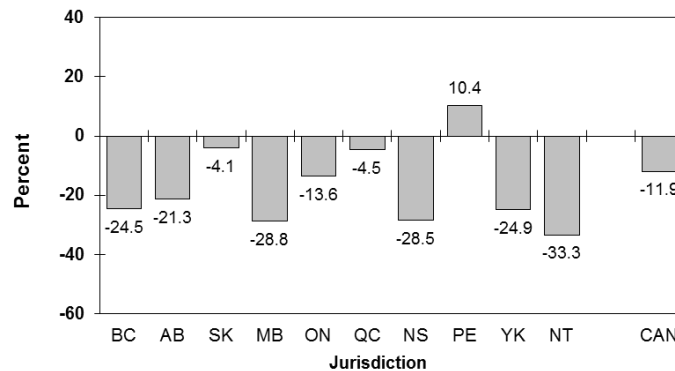


Table 3-18 shows the percentage of fatally injured drivers who tested positive for drugs, for Canada as a whole, and by jurisdiction. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers of highway vehicles is quite small when compared to corresponding numbers from other jurisdictions. And in Nunavut, there were no fatally injured drivers of highway vehicles who were tested for drugs between 2006 and 2013. Similar to Table 3-16, data for fatally injured drivers in British Columbia are not available from 2011 to 2013. In Section 3.6.5, more detailed data are available on drug use among fatally injured drivers.

As can be seen, during the 2006-2010 baseline period, an average of 36.3% of fatally injured tested drivers had positive results for drugs. This percentage was 28.6% in both Prince Edward Island and Newfoundland and Labrador. On the other hand, 50.0% of drivers in the Northwest Territories and 40.9% of fatally injured drivers in Ontario tested positive for drugs during the 2006-2010 baseline period. During the 2011-2013 period, 41.6% of fatally injured drivers in Canada tested positive for drugs, ranging from 0.0% in the Northwest Territories to 46.2% in Ontario.

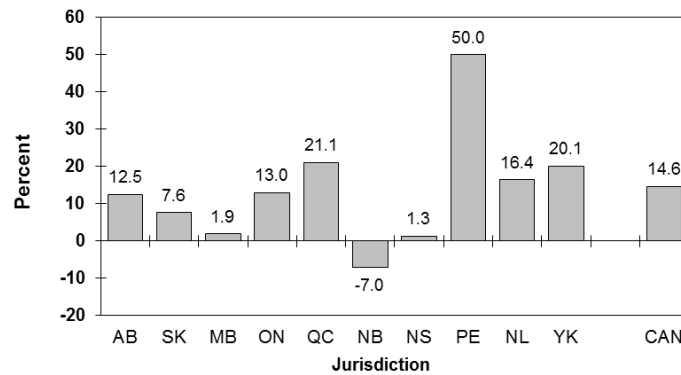
There was a 14.6% increase in the percentage of fatally injured drivers who tested positive for drugs in the 2011-2013 period (41.6%) when compared to the 2006-2010 baseline period (36.3%). In Figure 3-22, it can be seen that in nine of the 11 jurisdictions, there was an increase in the percentage of fatally injured drivers who tested positive for drugs. The most pronounced increase was in Prince Edward Island, where there was a 50.0% increase from those drivers who tested positive for drugs in 2011-2013 (42.9%) compared to the 2006-2010 baseline period (28.6%). Only in the Northwest Territories and New Brunswick were there decreases in the percentage of fatally injured drivers testing positive for drugs in 2011-2013 compared to the 2006-2010 baseline period. The percentage of fatally injured drivers in the Northwest Territories testing positive for drugs was 0.0% in the 2011-2013 period compared to 67.5% in the 2006-2010 baseline period. And there was a 7.0% decrease in New Brunswick between the 2011-2013 period (34.4%) compared to the 2006-2010 baseline period (37.0%).

Table 3-18
Percent of Fatally Injured Drivers Positive for Drugs
Trends (2011/2013) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2011 to 2013 Average	Percent Differences		
						2013 vs. 2012	2013 vs. 2006-2010 Baseline	2011-2013 Avg. vs. 2006- 2010 Baseline
BC	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	39.3	35.3	40.6	55.2	44.2	36.0	40.5	12.5
SK	36.7	42.5	36.1	41.7	39.5	15.5	13.6	7.6
MB	37.3	30.9	44.9	39.1	38.0	-12.9	4.8	1.9
ON	40.9	41.6	47.3	48.5	46.2	2.5	18.6	13.0
QC	30.3	44.6	30.5	34.9	36.7	14.4	15.2	21.1
NB	37.0	38.2	28.1	35.5	34.4	26.3	-4.1	-7.0
NS	39.0	45.5	37.7	37.2	39.5	-1.3	-4.6	1.3
PE	28.6	72.7	20.0	20.0	42.9	0.0	-30.1	50.0
NL	28.6	37.5	50.0	12.5	33.3	-75.0	-56.3	16.4
YK	33.3	33.3	0.0	100.0	40.0	-	200.3	20.1
NT	50.0	-	-	0.0	0.0	-	-	-
NU	-	-	-	-	-	-	-	-
CAN*	36.3	40.7	39.6	44.5	41.6	12.4	22.6	14.6

* Canada totals exclude BC.

Figure 3-22
Change in the Percentage of Fatally Injured Drivers Testing
Positive for Drugs Between 2011-2013 and 2006-2010



4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in British Columbia. It describes data on:

- > people who were killed in alcohol-related crashes (Section 4.1);
- > alcohol use among fatally injured drivers (Section 4.2);
- > drivers involved in alcohol-related serious injury crashes (Section 4.3);
- > drug use among fatally injured drivers (Section 4.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 4.5).

4.1 Deaths in alcohol-related crashes

Table 4-1 presents information on people who died in alcohol-related crashes in British Columbia during 2010 for persons dying within 30 days of the collision. *At the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, 24 people aged 16-19 were killed in motor vehicle crashes in British Columbia during 2010. And, in 23 cases (95.8%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 14 people aged 16-19 died in alcohol-related crashes in British Columbia during 2010. The next column expresses this as a percentage – i.e., 60.9% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 10.9% of all the people killed in alcohol-related crashes in British Columbia during 2010.

The totals at the bottom of the table provide a summary. As can be seen, 356 persons died within 30 days of a motor vehicle crash in British Columbia during 2010. In 336 (94.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 129 (38.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($356 \times .384$) it can be estimated that *in British Columbia during 2010, 137 persons died in alcohol-related crashes within 30 days of the collision.*

Table 4-1
Deaths in Alcohol-Related Crashes: British Columbia, 2010

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARD
<u>Age Group</u>						
<16	16	14	87.5	1	7.1	0.8
16-19	24	23	95.8	14	60.9	10.9
20-25	35	34	97.1	19	55.9	14.7
26-35	51	50	98.0	31	62.0	24.0
36-45	48	48	100.0	22	45.8	17.1
46-55	71	69	97.2	28	40.6	21.7
>55	111	98	88.3	14	14.3	10.9
<u>Gender</u>						
Male	232	221	95.3	91	41.2	70.5
Female	124	115	92.7	38	33.0	29.5
<u>Victim Type</u>						
Driver/ Operator	209	198	94.7	70	35.4	54.3
Passenger	92	86	93.5	37	43.0	28.7
Pedestrian	55	52	94.5	22	42.3	17.1
<u>Vehicle Occupied</u>						
Automobiles	152	142	93.4	59	41.5	45.7
Trucks/Vans	96	92	95.8	35	38.0	27.1
Motorcycles	36	35	97.2	11	31.4	8.5
Other Hwy Vehicles	10	10	100.0	1	10.0	0.8
Off-road Vehicles	7	5	71.4	1	20.0	0.8
(Pedestrians)	55	52	94.5	22	42.3	17.1
TOTAL	356	336	94.4	129	38.4	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

4.1.1 Victim age. Of all the people who died in alcohol-related crashes, 24.0% (see last column) were aged 26-35; 21.7% were aged 46-55; 17.1% were aged 36-45; 14.7% were aged 20-25; 10.9% were aged 16-19 and over age 55; and 0.8% were under age 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 and 16-19 died (62.0% and 60.9%, respectively). The lowest incidence of alcohol involvement was found among the oldest and youngest fatalities – 7.1% of persons under 16 and 14.3% of the fatalities over 55 years of age died in crashes involving alcohol.

4.1.2 Gender. Of all the people who died in alcohol-related crashes, 70.5% were males. The incidence of alcohol in crashes in which a male died (41.2%) was greater than the incidence of alcohol in crashes in which a female died (33.0%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 54.3% were drivers/operators of a vehicle; 28.7% were passengers; and 17.1% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (43.0%) occurred in the crashes in which a passenger died. Alcohol was involved in 42.3% of the crashes in which a pedestrian died and 35.4% of those in which a driver/operator died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 45.7% were in an automobile; 27.1% were in a truck/van; 8.5% were motorcyclists; and 0.8% were occupants of other highway vehicles and off-road vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or motorcyclist died (41.5% versus 38.0% and 31.4%). Among off-road vehicle occupants, 20.0% were in an alcohol-related crash.

4.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in British Columbia during 2010. *At the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* Table 4-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 12 drivers killed during 2010; 11 of these fatally injured drivers (91.7%) were tested for alcohol. Of those who were tested, three (27.3%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 4.9% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the 11 (27.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that all three of the drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 6.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. British Columbia had a high testing rate in 2010, with 86.7% of fatally injured drivers being tested for alcohol use.

In British Columbia, 34.7% had been drinking and 50 of 61 (82.0%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

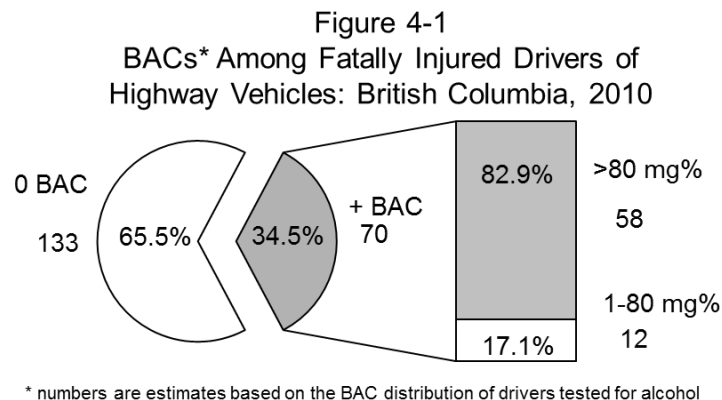
- > 65.3% had BACs of zero mg%;
- > 2.3% had BACs from 1-49 mg%;
- > 4.0% had BACs from 50-80 mg%
- > 6.8% had BACs from 81 to 160 mg%; and,
- > 21.6% had BACs over 160 mg%.

Table 4-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
British Columbia, 2010

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
<16	1	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	12	11	91.7	3	27.3	4.9	3	27.3	6.0
20-25	18	15	83.3	8	53.3	13.1	8	53.3	16.0
26-35	32	30	93.8	17	56.7	27.9	14	46.7	28.0
36-45	31	27	87.1	13	48.1	21.3	11	40.7	22.0
46-55	48	42	87.5	13	31.0	21.3	12	28.6	24.0
>55	61	50	82.0	7	14.0	11.5	2	4.0	4.0
<u>Gender</u>									
Male	155	132	85.2	47	35.6	77.0	38	28.8	76.0
Female	48	44	91.7	14	31.8	23.0	12	27.3	24.0
<u>Vehicle Type</u>									
Automobiles	98	89	90.8	31	34.8	50.8	25	28.1	50.0
Truck/Van	65	54	83.1	21	38.9	34.4	18	33.3	36.0
Motorcycles	32	26	81.3	8	30.8	13.1	6	23.1	12.0
Tractor Trailer	7	7	100.0	1	14.3	1.6	1	14.3	2.0
Other Hwy Veh	1	0	0.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single vehicle	111	93	83.8	49	52.7	80.3	43	46.2	86.0
Multiple vehicle	92	83	90.2	12	14.5	19.7	7	8.4	14.0
TOTAL	203	176	86.7	61	34.7	100.0	50	28.4	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 4-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 70 of 203 (34.5%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 58 (82.9%) have BACs over 80 mg%.



According to the British Columbia member jurisdiction of CCMTA, where information is presented on blood alcohol concentration (BAC) levels of deceased drivers (e.g., Figure 3-2 on page 17, Figure 4-1 on page 52 reflecting British Columbia data), the following must be taken into account:

BAC values presented in these figures only represent BAC values for deceased drivers exclusively and therefore represent only a subset of the BAC levels of drivers involved in motor vehicle crashes that cause deaths and injuries. For example, where a driver is assigned alcohol as a contributing factor to a crash and that driver survives that crash but, another road user is killed (pedestrian, cyclist or another driver or occupants of any vehicle), that driver's BAC level is not reflected in the figures shown above or the similar figures assembled for other Canadian provinces and territories. Furthermore, where a driver is assigned alcohol as a contributing factor to a crash and that driver survives that crash but are themselves injured or another road user is injured (pedestrian, cyclist or any driver or occupants of any vehicle involved in the crash), that driver's BAC level is again NOT reflected in the figures 3-2, 4-1, or the similar figures assembled for other Canadian provinces and territories. This is a major and prevailing limitation of these data and the BAC values represented herein. This means that the BAC levels reflected in these tables do not reflect the full range of BAC levels of drivers involved in serious crashes and should not be relied upon to draw conclusions about BAC levels and motor vehicle crash risk. In order to understand BAC levels and motor vehicle crash risk, a number of research studies exist to do that. Based on an extensive amount of research, there is overwhelming evidence that even BAC levels as low as .02 impair driving abilities and at .04 to .05 BAC there is a clear relationship between crash risk and alcohol (see Zador et al. 2000; Blomberg et al. 2009; Moskowitz et al. 2000).

4.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 27.9% were aged 26-35; 21.3% were aged 36-45 and 46-55; 13.1% were aged 20-25; 11.5% were over 55; and 4.9% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.0% were aged 26-35; 24.0% were aged 46-55; 22.0% were aged 36-45; 16.0% were aged 20-25; 6.0% were aged 16-19; and 4.0% were over age 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 26-35 were the most likely to have been drinking (56.7%). By contrast, the lone tested driver under 16 had not been drinking and only 14.0% of the tested drivers aged over 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 77.0% of all the fatally injured drivers who had been drinking, and 76.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (155 of the 203 fatalities or 76.4% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (35.6% and 31.8%, respectively). And, 80.9% of the male and 85.7% of the female drivers who were drinking had BACs over the legal limit.

4.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 50.8% were automobile drivers; 34.4% were truck/van drivers; 13.1% were motorcyclists; and 1.6% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were automobile drivers, 36.0% were truck/van drivers; 12.0% were motorcyclists; and 2.0% were tractor-trailer drivers.

Within each of the vehicle types, 38.9% of fatally injured drivers of truck/vans, 34.8% of automobile drivers, 30.8% of motorcyclists, and 14.3% of tractor-trailer drivers were found to have been drinking.

4.2.4 Collision differences. Just over half of the drivers killed (111 of the 203) were involved in single-vehicle collisions but these crashes accounted for four-fifths of the drivers who had been drinking or were legally impaired (80.3% and 86.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over half of the drivers involved in single-vehicle crashes (52.7%) tested positive for alcohol, compared to only 14.5% of those involved in multiple-vehicle collisions.

4.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in British Columbia. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 4-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 1,878 drivers were involved in crashes in which someone was seriously injured, and among these 19.6% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.5% were aged 26-35, 19.5% were aged 20-25; and 18.7% were aged 46-55. Drivers under 16 and 16-19 respectively accounted for only 0.3% and 5.4% of those involved in alcohol-related serious injury crashes.

Almost one-third (32.1%) of the drivers aged 20-25 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (9.4%).

4.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 72.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (20.9% and 16.8%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 49.3% were automobile drivers; 39.0% were truck/van drivers; 7.6% were motorcyclists; 2.7% were tractor-trailer drivers; and 1.4% were drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles (23.8%), compared to 22.4% for truck/van drivers; 20.0% for automobile drivers; and 13.7% for tractor-trailer drivers. Among motorcyclists, 12.2% were involved in alcohol-related crashes.

Table 4-3
Drivers* in Alcohol-Related Serious Injury Crashes:
British Columbia, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	2	1	50.0	0.3
16-19	113	20	17.7	5.4
20-25	224	72	32.1	19.5
26-35	328	94	28.7	25.5
36-45	325	58	17.8	15.7
46-55	338	69	20.4	18.7
>55	522	49	9.4	13.3
unknown	26	6	23.1	1.6
<u>Gender</u>				
Male	1279	267	20.9	72.4
Female	573	96	16.8	26.0
unknown	26	6	23.1	1.6
<u>Vehicle Type</u>				
Auto	911	182	20.0	49.3
Truck/Van	644	144	22.4	39.0
Motorcycle	229	28	12.2	7.6
Tractor Trailer	73	10	13.7	2.7
Other Hwy. Vehicle	21	5	23.8	1.4
<u>Collision Type</u>				
Single-Vehicle	715	229	32.0	62.1
Multiple-Vehicle	1163	140	12.0	37.9
TOTAL	1878	369	19.6	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

4.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 62.1% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.0% of these drivers, compared to only 12.0% for drivers involved in multiple-vehicle crashes.

4.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in British Columbia during 2010. *At the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 4-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, British Columbia had a high testing rate in 2010, with 82.8% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 70 out of 168 (41.7%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (50.0%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (41.4%), CNS stimulants (30.0%), narcotic analgesics (14.3%), and dissociative anesthetics (2.9%).

Table 4-4
Drug Use Among Fatally Injured Drivers of Highway
Vehicles: British Columbia, 2010

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
203	168	(82.8)	70	(41.7)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	35	(50.0)
CNS Depressants	29	(41.4)
CNS Stimulants	21	(30.0)
Narcotic Analgesics	10	(14.3)
Dissociative Anesthetics	2	(2.9)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

4.5 Trends in alcohol and drug-impaired driving

Sections 4.1 through 4.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 4.4 examined drug use among fatally injured drivers in 2010. This section examines changes in these four indicators over time.

4.5.1 Deaths in alcohol-related crashes: 1996-2010. As mentioned earlier in Section 4.1, at the time this report was being prepared, coroner data from 2011 to 2013 for British Columbia were not available. For this reason, 2010 data will be reported in this section. Table 4-5 and Figure 4-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2010. These results differ slightly from those in Section 4.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 206 to 131 between 1996 and 2003, increased to 161 in 2005, and eventually decreased to 119 in 2010. The percentage of alcohol-related fatalities in British Columbia generally decreased from 46.1% in 1996 to its lowest level in 2003 (29.6%), rose to 37.7% in 2005, and generally decreased to 33.4% in 2010.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 129 fatalities involving a drinking driver and they accounted for 34.2% of all fatalities.

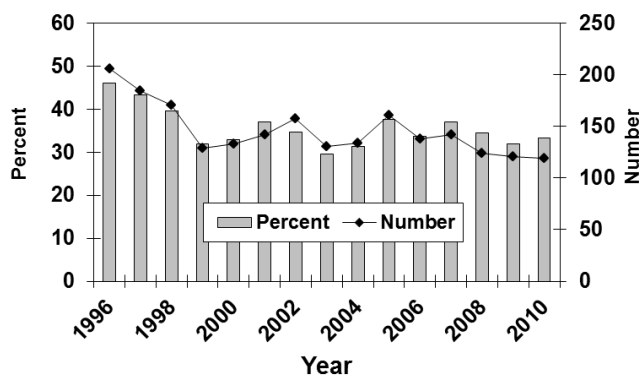
Table 4-5
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: British Columbia, 1996-2010

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	447	206	46.1
1997	426	185	43.4
1998	432	171	39.6
1999	403	129	32.0
2000	404	133	32.9
2001	384	142	37.0
2002	456	158	34.6
2003	442	131	29.6
2004	427	134	31.4
2005	427	161	37.7
2006	409	138	33.7
2007	383	142	37.1
2008	359	124	34.5
2009	379	121	31.9
2010	356	119	33.4
2006-2010 baseline	377	129	34.2

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 4-2
Number and Percent of Deaths Involving
a Drinking Driver: British Columbia, 1996-2010



4.5.2 Alcohol use among fatally injured drivers. As mentioned earlier in Section 4.2, at the time this report was being prepared, coroner data from British Columbia were not available from 2011 to 2013. For this reason, 1996-2010 data will be reported in this section in Table 4-6. Trends are illustrated in Figure 4-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol

(represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally decreased from 1996 (42.3%) to a low of 28.2% in 2004, rose to 37.0% in 2005, fluctuated until 2008, and decreased until 2010 (28.4%). The percent of fatally injured drivers with zero BACs increased from 1996 (50.0%) to 1999 (64.3%), remained relatively stable until 2006, declined in 2007 (55.0%), and peaked in 2010 (65.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% reached its highest level in 2004 (9.3%), dropped to its lowest mark in 2009 (3.8%), and rose again in 2010 (6.3%).

Table 4-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
British Columbia, 1996-2010

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	223	208	93.3	104	50.0	16	7.7	88	42.3
1997	236	208	88.1	106	51.0	14	6.7	88	42.3
1998	234	213	91.0	121	56.8	17	8.0	75	35.2
1999	227	210	92.5	135	64.3	12	5.7	63	30.0
2000	238	217	91.2	133	61.3	12	5.5	72	33.2
2001	229	196	85.6	114	58.2	11	5.6	71	36.2
2002	279	236	84.6	135	57.2	15	6.4	86	36.4
2003	217	179	82.5	112	62.6	10	5.6	57	31.8
2004	264	227	86.0	142	62.6	21	9.3	64	28.2
2005	265	230	86.8	132	57.4	13	5.7	85	37.0
2006	239	214	89.5	129	60.3	16	7.5	69	32.2
2007	243	222	91.4	122	55.0	19	8.6	81	36.5
2008	218	195	89.4	113	57.9	10	5.1	72	36.9
2009	231	209	90.5	136	65.1	8	3.8	65	31.1
2010	203	176	86.7	115	65.3	11	6.3	50	28.4
2006-2010 baseline	227	203	(89.4)	123	(60.6)	13	(6.4)	67	(33.0)

* Dying within 30 days in collisions which occurred on public roadways.

During the 2006-2010 baseline period, the percentage of fatally injured drivers was 60.6% for drivers with zero BACs, 6.4% for drivers with BACs from 1-80 mg%, and 33.0% for drivers with BACs over 80 mg%.

Figure 4-3
Trends in Alcohol Use Among Driver
Fatalities: British Columbia, 1996-2010

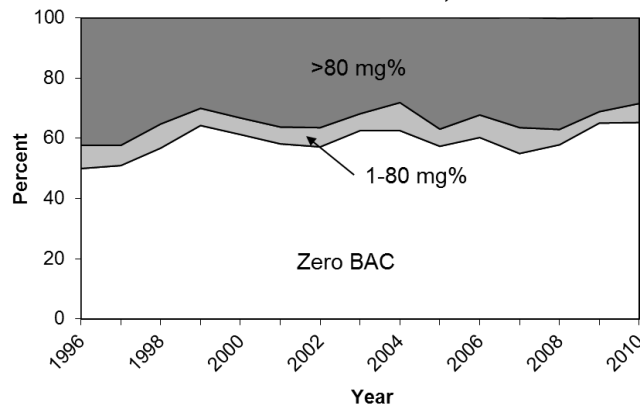


Table 4-7 and Figure 4-4 also show data on alcohol use among fatally injured drivers from 1996 to 2010. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 4-1). Second, drivers are grouped in only two BAC categories: zero and positive.

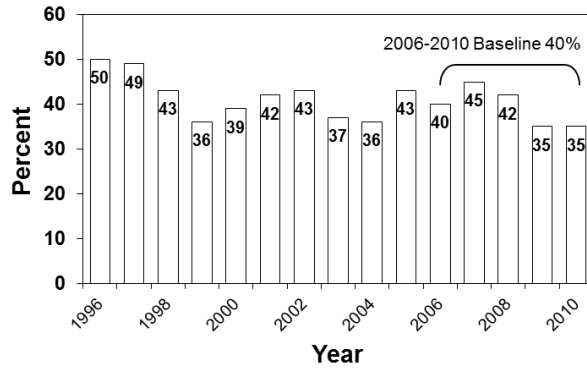
As can be seen at the bottom of Table 4-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 39.6%.

Table 4-7
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles*:
British Columbia, 1996-2010

Year	Number of Drivers	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	223	111	(49.8)	112	(50.2)
1997	236	120	(50.8)	116	(49.2)
1998	234	133	(56.8)	101	(43.2)
1999	227	146	(64.3)	81	(35.7)
2000	238	146	(61.3)	92	(38.7)
2001	229	133	(58.1)	96	(41.9)
2002	279	160	(57.3)	119	(42.7)
2003	217	136	(62.7)	81	(37.3)
2004	264	165	(62.5)	99	(37.5)
2005	265	152	(57.4)	113	(42.6)
2006	239	144	(60.3)	95	(39.7)
2007	243	134	(55.1)	109	(44.9)
2008	218	126	(57.8)	92	(42.2)
2009	231	150	(64.9)	81	(35.1)
2010	203	133	(65.5)	70	(34.5)
2006-2010 baseline	227	137	(60.4)	90	(39.6)

* numbers are estimates based on the BAC distribution of drivers tested for alcohol

Figure 4-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: British Columbia, 1996-2010



4.5.3 Drivers in serious injury crashes. In British Columbia, data are only available since 2005 to indicate the degree of injury severity for collision victims. Thus trend tables in this section include data from 2005 to 2013, as opposed to the 1996-2013 period reported for serious injury collisions in most other jurisdictions. Table 4-8 and Figure 4-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has increased slightly over this nine-year period. Between 2005 and 2009 the percentage of drivers in serious injury crashes that involved alcohol fluctuated, decreased to 19.8% in 2011, rose to 20.5% in 2012, and decreased again to 19.6% in 2013.

As shown in Table 4-8, in the baseline period (2006-2010), an average of 26.5% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2013 period, the incidence of drivers in alcohol-involved serious injury crashes declined to 20.0%, a 24.5% decrease.

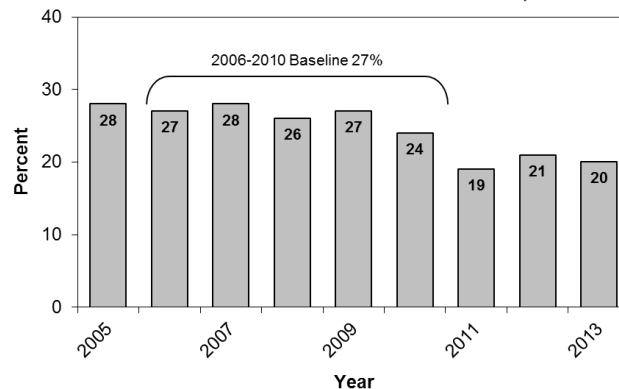
Table 4-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: British Columbia, 2005-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
2005	2655	730	(27.5)
2006	2653	716	(27.0)
2007	2630	723	(27.5)
2008	2397	633	(26.4)
2009	2195	597	(27.2)
2010	2072	494	(23.8)
2011	1837	363	(19.8)
2012	2046	419	(20.5)
2013	1878	369	(19.6)
2006-2010 baseline	2389	633	(26.5)
2011-2013 period	1920	384	(20.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 4-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: British Columbia, 2005-2013



4.5.4 Drug use among fatally injured drivers. Table 4-9 and Figure 4-6 show data on drug use among fatally injured drivers of highway vehicles over an 11-year period (2000-2010). At the time of publication, drug use data among fatally injured drivers in British Columbia from 2011 to 2013 was not yet available. Similar to Table 4-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

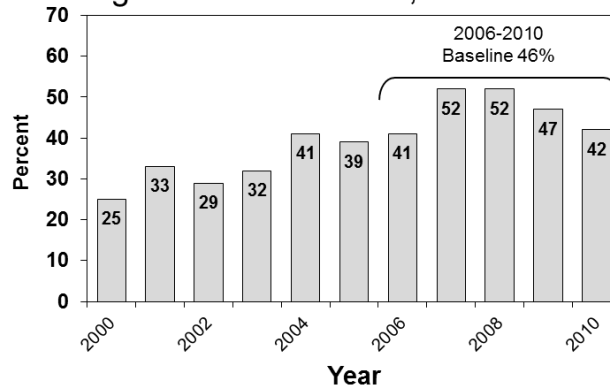
As can be seen at the bottom of Table 4-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 46.6%. In 2010, 41.7% of fatally injured drivers tested positive for drugs.

Table 4-9
Drug Use Among Fatally Injured Drivers* of Highway Vehicles:
British Columbia, 2000-2010

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	238	136	57.1	102	75.0	34	25.0
2001	229	135	59.0	91	67.4	44	32.6
2002	279	135	48.4	96	71.1	39	28.9
2003	217	121	55.8	82	67.8	39	32.2
2004	264	207	78.4	123	59.4	84	40.6
2005	265	205	77.4	125	61.0	80	39.0
2006	239	198	82.8	117	59.1	81	40.9
2007	243	197	81.1	95	48.2	102	51.8
2008	218	186	85.3	90	48.4	96	51.6
2009	231	198	85.7	106	53.5	92	46.5
2010	203	168	82.8	98	58.3	70	41.7
2006-2010 baseline	227	189	83.3	101	53.4	88	46.6

* Dying within 30 days in collisions which occurred on public roadways.

Figure 4-6
Percent of Fatally Injured Drivers Positive for
Drugs: British Columbia, 2000-2010



5.0 ALBERTA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Alberta during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 5.1);
- > alcohol use among fatally injured drivers (Section 5.2);
- > drivers involved in alcohol-related serious injury crashes (Section 5.3);
- > drug use among fatally injured drivers (Section 5.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 5.5).

5.1 Deaths in alcohol-related crashes

Table 5-1 presents information on people who died in alcohol-related crashes in Alberta during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, 28 people aged 16-19 were killed in motor vehicle crashes in Alberta during 2013. And, in 25 cases (89.3%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 13 people aged 16-19 died in alcohol-related crashes in Alberta during 2013. The next column expresses this as a percentage – i.e., 52.0% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 9.9% of all the people killed in alcohol-related crashes in Alberta during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 341 persons died within 30 days of a motor vehicle crash in Alberta during 2013. In 322 (94.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 131 (40.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($341 \times .407$) it can be estimated that *in Alberta during 2013, 139 persons died in alcohol-related crashes within 30 days of the collision.*

5.1.1 Victim age. Of all the people who died in alcohol-related crashes, 25.2% (see last column) were aged 26-35; 22.9% were aged 20-25; 15.3% were aged 36-45 and 46-55; 9.9% were aged 16-19; 7.6% were over age 55; and 3.8% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 died (62.3%). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 12.3% of persons over 55 and 29.4% of the fatalities under age 16 died in crashes involving alcohol.

Table 5-1
Deaths in Alcohol-Related Crashes: Alberta, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	18	17	94.4	5	29.4	3.8
16-19	28	25	89.3	13	52.0	9.9
20-25	62	61	98.4	30	49.2	22.9
26-35	57	53	93.0	33	62.3	25.2
36-45	40	38	95.0	20	52.6	15.3
46-55	52	47	90.4	20	42.6	15.3
>55	84	81	96.4	10	12.3	7.6
<u>Gender</u>						
Male	236	227	96.2	95	41.9	72.5
Female	105	95	90.5	36	37.9	27.5
<u>Victim Type</u>						
Driver/ Operator	223	215	96.4	82	38.1	62.6
Passenger	73	66	90.4	28	42.4	21.4
Pedestrian	42	39	92.9	19	48.7	14.5
Unknown	3	2	66.7	2	100.0	1.5
<u>Vehicle Occupied</u>						
Automobiles	107	104	97.2	45	43.3	34.4
Trucks/Vans	142	131	92.3	54	41.2	41.2
Motorcycles	39	39	100.0	10	25.6	7.6
Other Hwy Vehicles	5	5	100.0	2	40.0	1.5
Off-road Vehicles	6	4	66.7	1	25.0	0.8
(Pedestrians)	42	39	92.9	19	48.7	14.5
TOTAL	341	322	94.4	131	40.7	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

5.1.2 Gender. Of all the people who died in alcohol-related crashes, 72.5% were males. The incidence of alcohol in crashes in which a male died (41.9%) was greater than the incidence of alcohol in crashes in which a female died (37.9%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 62.6% were drivers/operators of a vehicle; 21.4% were passengers; 14.5% were pedestrians; and 1.5% were victims with an unknown position.

Within each of the principal victim types, the highest incidence of alcohol involvement (48.7%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 42.4% of the crashes in which a passenger died and 38.1% of those in which a driver/operator died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 41.2% were in a truck/van; 34.4% were in an automobile; 7.6% were motorcyclists; 1.5% were occupants of other highway vehicles; and 0.8% were off-road vehicle occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or motorcyclist died (43.2% versus 41.2% and 25.6%). Among fatally injured occupants of other highway vehicles, 40.0% were involved in an alcohol-related crash.

5.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Alberta during 2013. Table 5-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 14 drivers killed during 2013; 14 of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (42.9%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 7.8% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the 14 (7.1%) fatally injured 16-19 year olds who were tested for alcohol had a BAC in excess of 80 mg%. This means that one of the six drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. As can be seen, 16-19 year old drivers accounted for 1.8% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2013, with 96.8% of fatally injured drivers being tested for alcohol use.

In Alberta, 36.7% had been drinking and 56 of 77 (72.7%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 63.3% had BACs of zero mg%;
- > 6.7% had BACs from 1-49 mg%;
- > 3.3% had BACs from 50-80 mg%
- > 6.2% had BACs from 81 to 160 mg%; and,
- > 20.5% had BACs over 160 mg%.

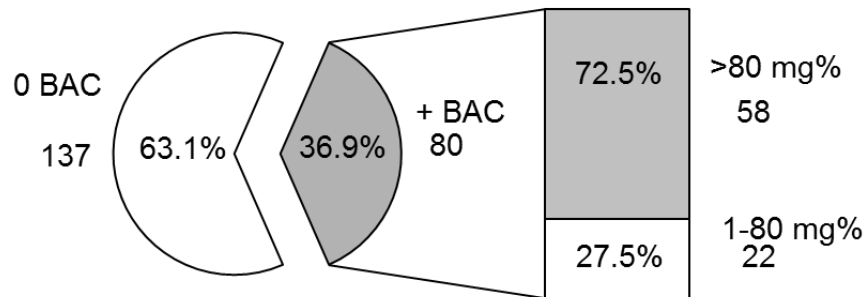
Table 5-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Alberta, 2013

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
<16	1	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	14	14	100.0	6	42.9	7.8	1	7.1	1.8
20-25	43	41	95.3	20	48.8	26.0	19	46.3	33.9
26-35	40	38	95.0	17	44.7	22.1	13	34.2	23.2
36-45	30	29	96.7	13	44.8	16.9	10	34.5	17.9
46-55	40	38	95.0	15	39.5	19.5	10	26.3	17.9
>55	49	49	100.0	6	12.2	7.8	3	6.1	5.4
<u>Gender</u>									
Male	167	161	96.4	61	37.9	79.2	46	28.6	82.1
Female	50	49	98.0	16	32.7	20.8	10	20.4	17.9
<u>Vehicle Type</u>									
Automobiles	72	70	97.2	24	34.3	31.2	15	21.4	26.8
Truck/Van	105	100	95.2	43	43.0	55.8	35	35.0	62.5
Motorcycles	36	36	100.0	8	22.2	10.4	5	13.9	8.9
Tractor Trailer	4	4	100.0	2	50.0	2.6	1	25.0	1.8
<u>Collision Type</u>									
Single vehicle	78	77	98.7	47	61.0	61.0	41	53.2	73.2
Multiple vehicle	139	133	95.7	30	22.6	39.0	15	11.3	26.8
TOTAL	217	210	96.8	77	36.7	100.0	56	26.7	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 5-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 80 of 217 (36.9%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 58 (72.5%) have BACs over 80 mg%.

Figure 5-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Alberta, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

5.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 26.0% were aged 20-25; 22.1% were aged 26-35; 19.5% were aged 46-55; 16.9% were aged 36-45; and 7.8% were aged 16-19 and over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 33.9% were aged 20-25; 23.2% were aged 26-35; 17.9% were aged 36-45 and 46-55; 5.4% were over 55; and 1.8% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-25 were the most likely to have been drinking (48.8%). By contrast, only 12.2% of the tested drivers over age 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 79.2% of all the fatally injured drivers who had been drinking, and 82.1% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (167 of the 217 or 77.0% of the fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (37.9% and 32.7%, respectively). And, 75.4% of the male and 62.5% of the female drivers who were drinking had BACs over the legal limit.

5.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 55.8% were truck/van drivers; 31.2% were automobile drivers; 10.4% were motorcyclists and 2.6% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 62.5% were truck/van drivers; 26.8% were automobile drivers; 8.9% were motorcyclists and 1.8% were tractor-trailer drivers.

Within each of the vehicle types, 50.0% of fatally injured tractor-trailer drivers; 43.0% of truck/van drivers, 34.3% of automobile drivers, and 22.2% of motorcyclists had been drinking.

5.2.4 Collision differences. Less than two-fifths of the drivers killed (78 of the 217) were involved in single-vehicle collisions but these crashes accounted for a majority of the drivers who had been drinking or were legally impaired (61.0% and 73.2%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over three-fifths of the drivers involved in single-vehicle crashes (61.0%) tested positive for alcohol, compared to only 22.6% of those involved in multiple-vehicle collisions.

5.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Alberta. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 5-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 3,607 drivers were involved in crashes in which someone was seriously injured, and among these 14.3% were alcohol-related crashes.

Table 5-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Alberta, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	7	1	14.3	0.2
16-19	270	57	21.1	11.1
20-25	538	105	19.5	20.4
26-35	783	125	16.0	24.3
36-45	648	76	11.7	14.8
46-55	606	77	12.7	15.0
>55	698	52	7.4	10.1
unknown	57	22	38.6	4.3
<u>Gender</u>				
Male	2412	370	15.3	71.8
Female	1150	129	11.2	25.0
unknown	45	16	35.6	3.1
<u>Vehicle Type</u>				
Auto	1267	186	14.7	36.1
Truck/Van	1934	291	15.0	56.5
Motorcycle	235	24	10.2	4.7
Tractor Trailer	133	11	8.3	2.1
Other Hwy. Vehicle	38	3	7.9	0.6
<u>Collision Type</u>				
Single-Vehicle	985	341	34.6	66.2
Multiple-Vehicle	2622	174	6.6	33.8
TOTAL	3607	515	14.3	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.3% were aged 26-35, 20.4% were aged 20-25; and 15.0% were aged 46-55. Drivers under 16 and over 55 accounted for only 0.2% and 10.1%, respectively, of those involved in alcohol-related serious injury crashes.

One-fifth of the drivers aged 16-19 were involved in alcohol-related serious injury crashes (21.1%). The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (7.4%).

5.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.8% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.3% and 11.2, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 56.5% were truck/van drivers; 36.1% were automobile drivers; 4.7% were motorcyclists; 2.1% were tractor-trailer drivers; and 0.6% were drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers as 15.0% of these drivers were in crashes that involved alcohol, compared to 14.7% for automobile drivers; 10.2% for motorcyclists; and 8.3% for tractor-trailer drivers. Among drivers of other highway vehicles, 7.9% were involved in alcohol-related crashes.

5.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 66.2% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 34.6% of these drivers, compared to only 6.6% for drivers involved in multiple-vehicle crashes.

5.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Alberta during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 5-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Alberta had a high testing rate in 2013, with 93.5% of fatally injured drivers being tested for drug use.

Table 5-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: Alberta, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
217	203	(93.5)	112	(55.2)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	51	(45.5)
CNS Depressants	45	(40.2)
CNS Stimulants	31	(27.7)
Narcotic Analgesics	23	(20.5)
Dissociative Anesthetics	1	(0.9)
Hallucinogens	1	(0.9)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

Among fatally injured tested drivers, 112 out of 203 (55.2%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (45.5%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (40.2%), CNS stimulants (27.7%), narcotic analgesics (20.5%), dissociative anesthetics (0.9%), and hallucinogens (0.9%).

5.5 Trends in alcohol and drug-impaired driving

Sections 5.1 through 5.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 5.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

5.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 5-5 and Figure 5-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 5.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

Table 5-5
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Alberta, 1996-2013

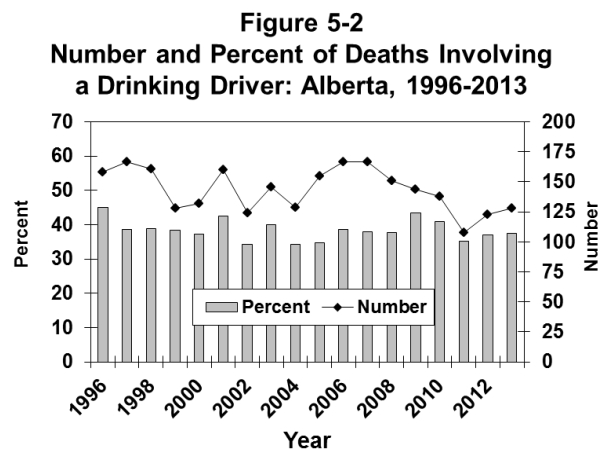
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	350	158	45.1
1997	432	167	38.7
1998	415	161	38.8
1999	334	128	38.3
2000	354	132	37.3
2001	376	160	42.6
2002	363	124	34.2
2003	365	146	40.0
2004	376	129	34.3
2005	445	155	34.8
2006	433	167	38.6
2007	441	167	37.9
2008	399	151	37.8
2009	332	144	43.4
2010	337	138	40.9
2011	306	108	35.3
2012	332	123	37.0
2013	341	129	37.8
2006-2010 baseline	388	153	39.4
2011-2013 period	326	120	36.8

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally decreased from a high of 167 in 1997 to 124 in 2002. The number rose again to 167 in 2006, dropped to a low of 108 in 2011, and rose again to 128 in 2013. The percentage of alcohol-related fatalities generally decreased from a high of 45.1% in 1996 to a low of 34.2% in 2002, eventually rose to 43.4% in 2009; decreased 35.3% in 2011, and rose again to 37.8% in 2013.

As shown at the bottom of the table, during the 2006-2010 baseline period, there was an average of 153 fatalities involving a drinking driver and they accounted for 39.4% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 6.6% from 39.4% in the baseline period (2006-2010) to 36.8% in the 2011-2013 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 21.6% decrease from an average of 153 in the 2006-2010 baseline period to 120 in the 2011-2013 period.



5.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 5-6. Trends are illustrated in Figure 5-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit was relatively stable from 1996 (30.3%) to 2008 (33.2%), rose to 35.5% in 2009, decreased to 24.6% in 2011, rose in 2012 (30.6%), and decreased again in 2013 (26.7%). The percent of fatally injured drivers with zero BACs was also stable from 1996 to 2003, rose in 2004 (67.1%), decreased in 2007 (59.4%), peaked in 2011 (68.2%), and decreased until 2013 (63.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% was 6.9% in 1996, remained stable until 2008 (5.7%), rose until 2010 (8.5%), decreased to its lowest level in 2012 (2.4%), and peaked in 2013 (10.0%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 5-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 9.4% (from 60.1% to 69.5%).

Among drivers with BACs from 1-80 mg%, there was a 3.2% increase (from 6.3% to 6.5%). And among those with BACs over 80 mg%, there was a 17.9% decrease (from 33.6% to 27.6%).

Table 5-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Alberta, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	200	188	94.0	118	62.8	13	6.9	57	30.3
1997	252	241	95.6	162	67.2	12	5.0	67	27.8
1998	243	232	95.5	143	61.6	19	8.2	70	30.2
1999	208	204	98.1	136	66.7	9	4.4	59	28.9
2000	196	193	98.5	123	63.7	12	6.2	58	30.1
2001	222	217	97.7	132	60.8	10	4.6	75	34.6
2002	222	215	96.8	140	65.1	16	7.4	59	27.4
2003	225	216	96.0	133	61.6	13	6.0	70	32.4
2004	220	212	96.4	142	67.0	9	4.2	61	28.8
2005	272	259	95.2	160	61.8	12	4.6	87	33.6
2006	274	266	97.1	163	61.3	15	5.6	88	33.1
2007	262	251	95.8	149	59.4	13	5.2	89	35.5
2008	271	262	96.7	160	61.1	15	5.7	87	33.2
2009	207	200	96.6	117	58.5	12	6.0	71	35.5
2010	215	211	98.1	127	60.2	18	8.5	66	31.3
2011	186	179	96.2	122	68.2	13	7.3	44	24.6
2012	216	209	96.8	140	67.0	5	2.4	64	30.6
2013	217	210	96.8	133	63.3	21	10.0	56	26.7
2006-2010 baseline	246	238	(96.7)	143	(60.1)	15	(6.3)	80	(33.6)
2011-2013 period	206	199	(96.6)	131	(65.8)	13	(6.5)	55	(27.6)

* Dying within 30 days in collisions which occurred on public roadways.

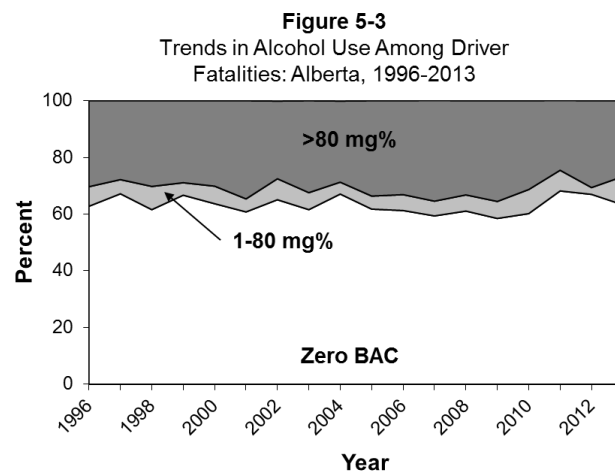


Table 5-7 and Figure 5-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 5-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 5-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 39.8%. In the 2011-2013 period, 34.0% of fatally injured drivers tested positive for alcohol, a 14.6% decrease from the baseline period.

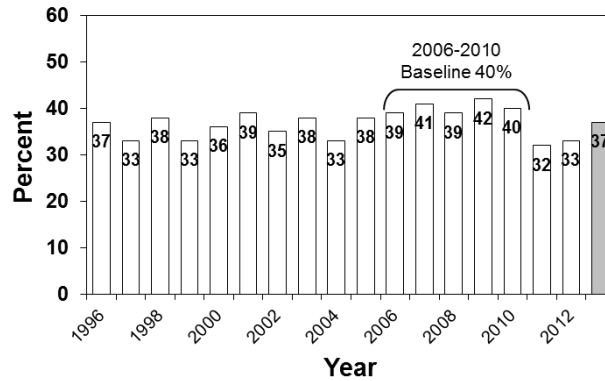
Table 5-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Alberta, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	200	126	(63.0)	74	(37.0)
1997	252	169	(67.1)	83	(32.9)
1998	243	150	(61.7)	93	(38.3)
1999	208	139	(66.8)	69	(33.2)
2000	196	125	(63.8)	71	(36.2)
2001	222	135	(60.8)	87	(39.2)
2002	222	145	(65.3)	77	(34.7)
2003	225	139	(61.8)	86	(38.2)
2004	220	147	(66.8)	73	(33.2)
2005	272	168	(61.8)	104	(38.2)
2006	274	168	(61.3)	106	(38.7)
2007	262	156	(59.5)	106	(40.5)
2008	271	165	(60.9)	106	(39.1)
2009	207	121	(58.5)	86	(41.5)
2010	215	129	(60.0)	86	(40.0)
2011	186	127	(68.3)	59	(31.7)
2012	216	145	(67.1)	71	(32.9)
2013	217	137	(63.1)	80	(36.9)
2006-2010 baseline	246	148	(60.2)	98	(39.8)
2011-2013 period	206	136	(66.0)	70	(34.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 5-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Alberta, 1996-2013



5.5.3 Drivers in serious injury crashes. Table 5-8 and Figure 5-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. From 1996 to 1997, the percentage of drivers in serious injury crashes that involved alcohol rose from 20.6% to a high of 25.5%, generally decreased until 2003 (20.3%), rose to 21.8% in 2006, and decreased until 2013 (14.3%).

As shown in Table 5-8, in the baseline period (2006-2010) an average of 19.7% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2013 period, the incidence of drivers in alcohol-involved crashes decreased to 15.5%, a 21.3% decrease.

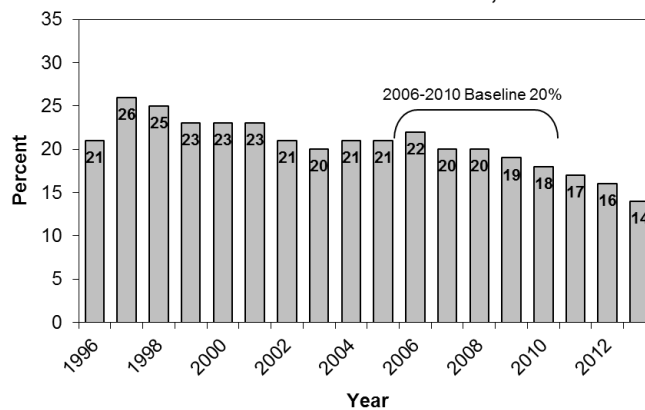
Table 5-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Alberta, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	3023	622	(20.6)
1997	2938	749	(25.5)
1998	3332	821	(24.6)
1999	3178	742	(23.3)
2000	3269	741	(22.7)
2001	3534	817	(23.1)
2002	3777	784	(20.8)
2003	3587	727	(20.3)
2004	3641	755	(20.7)
2005	3826	788	(20.6)
2006	4382	954	(21.8)
2007	3967	795	(20.0)
2008	3776	737	(19.5)
2009	3537	660	(18.7)
2010	3564	641	(18.0)
2011	3024	504	(16.7)
2012	3129	492	(15.7)
2013	3607	515	(14.3)
2006-2010 baseline	3845	757	(19.7)
2011-2013 period	3253	504	(15.5)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 5-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Alberta, 1996-2013



5.5.4 Drug use among fatally injured drivers. Table 5-9 and Figure 5-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 5-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

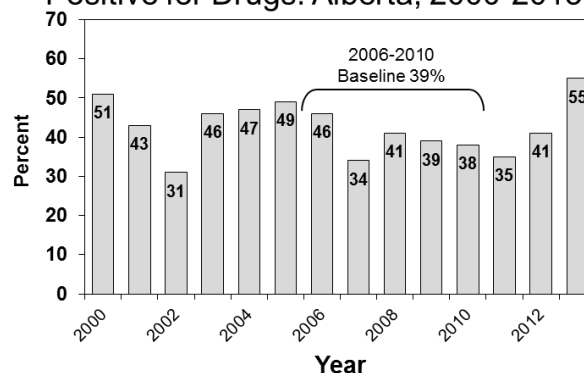
As can be seen at the bottom of Table 5-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 39.3%. The percentage of fatally injured drivers testing positive for drugs was 35.3% in 2011, 40.6% in 2012, and 55.2% in 2013. From 2011 to 2013, the average percentage of fatally injured drivers testing positive for drugs was 44.2%, a 12.5% increase from the baseline period.

Table 5-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Alberta, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	196	43	21.9	21	48.8	22	51.2
2001	222	35	15.8	20	57.1	15	42.9
2002	222	49	22.1	34	69.4	15	30.6
2003	225	50	22.2	27	54.0	23	46.0
2004	220	34	15.5	18	52.9	16	47.1
2005	272	53	19.5	27	50.9	26	49.1
2006	274	181	66.1	97	53.6	84	46.4
2007	262	223	85.1	147	65.9	76	34.1
2008	271	238	87.8	141	59.2	97	40.8
2009	207	186	89.9	113	60.8	73	39.2
2010	215	202	94.0	126	62.4	76	37.6
2011	186	170	91.4	110	64.7	60	35.3
2012	216	197	91.2	117	59.4	80	40.6
2013	217	203	93.5	91	44.8	112	55.2
2006-2010 baseline	246	206	83.7	125	60.7	81	39.3
2011-2013 period	206	190	92.2	106	55.8	84	44.2

* Dying within 30 days in collisions which occurred on public roadways.

Figure 5-6
Percent of Fatally Injured Drivers
Positive for Drugs: Alberta, 2000-2013



6.0 SASKATCHEWAN

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Saskatchewan during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 6.1);
- > alcohol use among fatally injured drivers (Section 6.2);
- > drivers involved in alcohol-related serious injury crashes (Section 6.3);
- > drug use among fatally injured drivers (Section 6.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 6.5).

6.1 Deaths in alcohol-related crashes

Table 6-1 presents information on people who died in alcohol-related crashes in Saskatchewan during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, it can be seen that 14 people aged 16-19 were killed in motor vehicle crashes in Saskatchewan during 2013. And, in all 14 cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were eight people aged 16-19 who died in alcohol-related crashes in Saskatchewan during 2013. The next column expresses this as a percentage – i.e., 57.1% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 14.3% of all the people killed in alcohol-related crashes in Saskatchewan during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 132 persons died within 30 days of a motor vehicle crash in Saskatchewan during 2013. In 129 (97.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 56 (43.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($132 \times .434$) it can be estimated that *in Saskatchewan during 2013, 57 persons died in alcohol-related crashes within 30 days of the collision.*

Table 6-1
Deaths in Alcohol-Related Crashes: Saskatchewan, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	9	9	100.0	4	44.4	7.1
16-19	14	14	100.0	8	57.1	14.3
20-25	22	21	95.5	13	61.9	23.2
26-35	18	18	100.0	8	44.4	14.3
36-45	18	18	100.0	10	55.6	17.9
46-55	13	12	92.3	6	50.0	10.7
>55	38	37	97.4	7	18.9	12.5
<u>Gender</u>						
Male	86	83	96.5	40	48.2	71.4
Female	46	46	100.0	16	34.8	28.6
<u>Victim Type</u>						
Driver/ Operator	78	76	97.4	30	39.5	53.6
Passenger	43	42	97.7	19	45.2	33.9
Pedestrian	11	11	100.0	7	63.6	12.5
<u>Vehicle Occupied</u>						
Automobiles	56	55	98.2	27	49.1	48.2
Trucks/Vans	57	55	96.5	19	34.5	33.9
Motorcycles	6	6	100.0	3	50.0	5.4
Other Hwy Vehicles	2	2	100.0	0	0.0	0.0
(Pedestrians)	11	11	100.0	7	63.6	12.5
TOTAL	132	129	97.7	56	43.4	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 23.2% (see last column) were aged 20-25; 17.9% were aged 36-45; 14.3% were aged 16-19 and 26-35; 12.5% were aged over 55; 10.7% were aged 46-55; and 7.1% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 died (61.9%). The lowest incidence of alcohol involvement was found among the oldest fatalities – 18.9% of the fatalities over 55 years of age died in crashes involving alcohol.

6.1.2 Gender. Of all the people who died in alcohol-related crashes, 71.4% were males. The incidence of alcohol in crashes in which a male died (48.2%) was greater than the incidence of alcohol in crashes in which a female died (34.8%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 53.6% were drivers/operators of a vehicle; 33.9% were passengers; and 12.5% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (63.6%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 45.2% of the crashes in which a passenger died and 39.5% of those in which a driver/operator died.

6.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 48.2% were automobile occupants; 33.9% were truck/van occupants; and 5.4% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a motorcyclist died (50.0%) was greater than the incidence of alcohol crashes in which an automobile or truck/van occupant died (49.1% and 34.5%, respectively).

6.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Saskatchewan during 2013. Table 6-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-25 year olds there were 14 drivers killed during 2013; 12 of these fatally injured drivers (85.7%) were tested for alcohol. Of those who were tested, six (50.0%) were positive for alcohol. This means that fatally injured drinking drivers aged 20-25 accounted for 24.0% of all drinking drivers who were killed.

Table 6-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Saskatchewan, 2013

Category of Driver	Number of Drivers*	Drivers No.	Tested % of total	Positive BAC			BAC >80 mg%		
				No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
16-19	9	9	100.0	3	33.3	12.0	1	11.1	5.6
20-25	14	12	85.7	6	50.0	24.0	6	50.0	33.3
26-35	9	9	100.0	2	22.2	8.0	2	22.2	11.1
36-45	14	13	92.9	7	53.8	28.0	6	46.2	33.3
46-55	9	9	100.0	4	44.4	16.0	3	33.3	16.7
>55	23	22	95.7	3	13.6	12.0	0	0.0	0.0
<u>Gender</u>									
Male	60	56	93.3	20	35.7	80.0	15	26.8	83.3
Female	18	18	100.0	5	27.8	20.0	3	16.7	16.7
<u>Vehicle Type</u>									
Automobiles	35	33	94.3	12	36.4	48.0	8	24.2	44.4
Truck/Van	36	35	97.2	10	28.6	40.0	8	22.9	44.4
Motorcycles	5	4	80.0	3	75.0	12.0	2	50.0	11.1
Tractor Trailer	2	2	100.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single vehicle	31	30	96.8	20	66.7	80.0	17	56.7	94.4
Multiple vehicle	47	44	93.6	5	11.4	20.0	1	2.3	5.6
TOTAL	78	74	94.9	25	33.8	100.0	18	24.3	100.0

* Drivers dying within 30 days in crashes on public roadways.

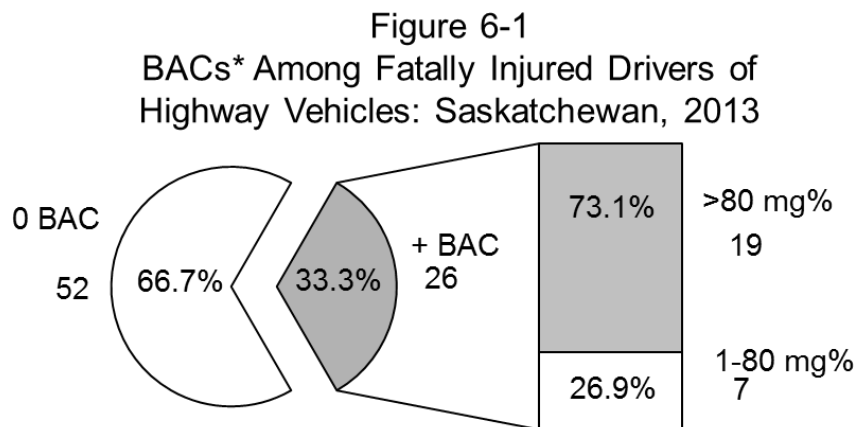
Then, in the final three columns, it can be seen that six of the 12 (50.0%) fatally injured drivers aged 20-25 who were tested for alcohol had BACs in excess of 80 mg%. This means that all six drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 20-25 accounted for 33.3% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Saskatchewan had a very high testing rate in 2013, with 94.9% of fatally injured drivers being tested for alcohol use.

In Saskatchewan, 33.8% had been drinking and 18 of 25 (72.0%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 66.2% had BACs of zero mg%;
- > 5.4% had BACs from 1-49 mg%;
- > 4.1% had BACs from 50-80 mg%
- > 6.8% had BACs from 81 to 160 mg%; and,
- > 17.6% had BACs over 160 mg%.

In Figure 6-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 26 of 78 (33.3%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 19 (73.1%) have BACs over 80 mg%.



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

6.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 28.0% were aged 36-45; 24.0% were aged 20-25; 16.0% were aged 46-55; 12.0% were aged 16-19 and over 55; and 8.0% were aged 26-35.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 33.3% were aged 20-25 and 36-45; 16.7% were aged 46-55; 11.1% were aged 26-35; and 5.6% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 36-45 were the most likely to have been drinking (53.8%). By contrast, only 13.6% of the tested drivers over age 55 had been drinking.

6.2.2 Gender differences. Males dominate the picture – they account for 80.0% of all the fatally injured drivers who had been drinking, and 83.3% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (60 of the 78 drivers are males). Fatally injured male drivers were more likely to have been drinking than female drivers (35.7% and 27.8%, respectively). And, 75.0% of the male and 60.0% of the female drivers who were drinking had BACs over the legal limit.

6.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 48.0% were automobile drivers; 40.0% were truck/van drivers; and 12.0% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 44.4% were automobile drivers and truck/van drivers; and 11.1% were motorcyclists.

Within each of the vehicle types, 75.0% of motorcyclists, 36.4% of automobile drivers, and 28.6% of truck/van drivers were found to have been drinking. Neither of the tractor-trailer drivers had been drinking.

6.2.4 Collision differences. Less than two-fifths of the drivers killed (31 of the 78) were involved in single-vehicle collisions but these crashes accounted for four-fifths of the drivers who had been drinking or were legally impaired (80.0% and 94.4%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two-thirds of the drivers involved in single-vehicle crashes (66.7%) tested positive for alcohol, compared to only 11.4% of those involved in multiple-vehicle collisions.

6.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Saskatchewan. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 6-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 507 drivers were involved in crashes in which someone was seriously injured, and among these 28.4% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.0% were aged 20-25, 20.1% were aged 26-35; and 16.0% were aged 36-45. Drivers under 16 and over 55 accounted for only 0.0% and 6.9% respectively of those involved in alcohol-related serious injury crashes.

Two-fifths of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (41.4%). The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16 and over 55 (0.0% and 10.5%, respectively).

Table 6-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Saskatchewan, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	2	0	0.0	0.0
16-19	48	16	33.3	11.1
20-25	87	36	41.4	25.0
26-35	102	29	28.4	20.1
36-45	72	23	31.9	16.0
46-55	76	19	25.0	13.2
>55	95	10	10.5	6.9
unknown	25	11	44.0	7.6
<u>Gender</u>				
Male	344	97	28.2	67.4
Female	139	36	25.9	25.0
unknown	24	11	45.8	7.6
<u>Vehicle Type</u>				
Auto	177	55	31.1	38.2
Truck/Van	250	79	31.6	54.9
Motorcycle	42	5	11.9	3.5
Tractor Trailer	33	5	15.2	3.5
Other Hwy. Vehicle	5	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	180	83	46.1	57.6
Multiple-Vehicle	327	61	18.7	42.4
TOTAL	507	144	28.4	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 67.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.2% and 25.9%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 54.9% were truck/van drivers; 38.2% were automobile drivers; and 3.5% were motorcyclists and tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 31.6% of these drivers were in crashes that involved alcohol, compared to 31.1% for automobile drivers; 15.2% for tractor-trailer drivers; and 11.9% for motorcyclists.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 57.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes

was also found among drivers in single-vehicle crashes – 46.1% of these drivers, compared to only 18.7% for drivers involved in multiple-vehicle crashes.

6.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Saskatchewan during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 6-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Saskatchewan had a high testing rate in 2013, with 92.3% of fatally injured drivers being tested for drug use.

Table 6-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: Saskatchewan, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
78	72	(92.3)	30	(41.7)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Narcotic Analgesics	12	(40.0)
CNS Depressants	12	(40.0)
Cannabis	7	(23.3)
CNS Stimulants	6	(20.0)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

Among fatally injured tested drivers, 30 out of 72 (41.7%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was narcotic analgesics and CNS depressants (40.0% each). Other categories of drugs found in fatally injured drivers testing positive for drugs were cannabis (23.3%) and CNS stimulants (20.0%).

6.5 Trends in alcohol and drug-impaired driving

Sections 6.1 through 6.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that

involved alcohol. Section 6.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

6.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 6-5 and Figure 6-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 6.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

Table 6-5
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Saskatchewan, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	126	51	40.5
1997	154	54	35.1
1998	146	61	41.8
1999	177	78	44.1
2000	142	49	34.5
2001	145	69	47.6
2002	130	45	34.6
2003	136	54	39.7
2004	121	44	36.4
2005	144	46	31.9
2006	123	49	39.8
2007	131	54	41.2
2008	144	73	50.7
2009	154	63	40.9
2010	155	68	43.9
2011	145	62	42.8
2012	169	59	34.9
2013	132	53	40.2
2006-2010 baseline	141	61	43.3
2011-2013 period	149	58	38.9

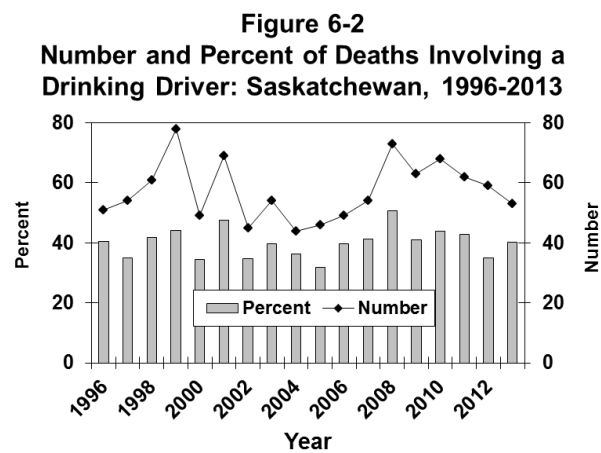
* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver rose from 51 in 1996 to a high of 78 in 1999, generally decreased to a low of 44 in 2004, increased to 73 in 2008, decreased to 63 in 2009, rose to 68 in 2010, and decreased again to 53 in 2013. The percentage of alcohol-related fatalities generally increased from 40.5% in 1996 to 47.6% in 2001, dropped to a low of 31.9% in 2005, peaked at 50.7% in 2008, generally decreased to 34.9% in 2012, and rose again to 40.2% in 2013.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 61 fatalities involving a drinking driver and they accounted for 43.3% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 10.2% from 43.3% in the baseline period (2006-2010) to 38.9% in the 2011-2013 period. And, in terms of the number of persons killed in crashes involving a

drinking driver, there has been a 4.9% decrease from an average of 61 in the baseline period (2006-2010) to 58 in the 2011-2013 period.



6.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 6-6. Trends are illustrated in Figure 6-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1996 (30.8%) until 2008 (44.7%), and generally decreased until 2013 (24.3%). The percent of fatally injured drivers with zero BACs decreased from 1996 (63.1%) to 2001 (50.0%), generally rose until 2006 (63.8%), declined until 2008 (48.7%), rose in 2012 (68.5%), and decreased again in 2013 (66.2%). The percent of fatally injured drivers with BACs from 1-80 mg% decreased from 1996 (6.2%) to its lowest mark in 1998 (1.3%), fluctuated until 2010 (5.9%), declined until 2012 (4.5%), and peaked in 2013 (9.5%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 6-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 9.0% (from 57.8% to 63.0%). Among drivers with BACs from 1-80 mg%, there was a 3.3% increase (from 6.0% to 6.2%). And among those with BACs over 80 mg%, there was a 14.4% decrease (from 36.1% to 30.9%).

Table 6-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Saskatchewan, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	69	65	94.2	41	63.1	4	6.2	20	30.8
1997	72	63	87.5	42	66.7	5	7.9	16	25.4
1998	83	77	92.8	49	63.6	1	1.3	27	35.1
1999	93	85	91.4	47	55.3	8	9.4	30	35.3
2000	81	70	86.4	45	64.3	2	2.9	23	32.9
2001	91	80	87.9	40	50.0	7	8.8	33	41.3
2002	71	58	81.7	31	53.4	4	6.9	23	39.7
2003	89	84	94.4	51	60.7	3	3.6	30	35.7
2004	66	58	87.9	32	55.2	4	6.9	22	37.9
2005	80	67	83.8	40	59.7	4	6.0	23	34.3
2006	81	69	85.2	44	63.8	6	8.7	19	27.5
2007	93	87	93.5	54	62.1	5	5.7	28	32.2
2008	83	76	91.6	37	48.7	5	6.6	34	44.7
2009	101	96	95.0	55	57.3	5	5.2	36	37.5
2010	92	85	92.4	49	57.6	5	5.9	31	36.5
2011	86	79	91.9	44	55.7	4	5.1	31	39.2
2012	95	89	93.7	61	68.5	4	4.5	24	27.0
2013	78	74	94.9	49	66.2	7	9.5	18	24.3
2006-2010 baseline	90	83	(92.2)	48	(57.8)	5	(6.0)	30	(36.1)
2011-2013 period	86	81	(94.2)	51	(63.0)	5	(6.2)	25	(30.9)

* Dying within 30 days in collisions which occurred on public roadways.

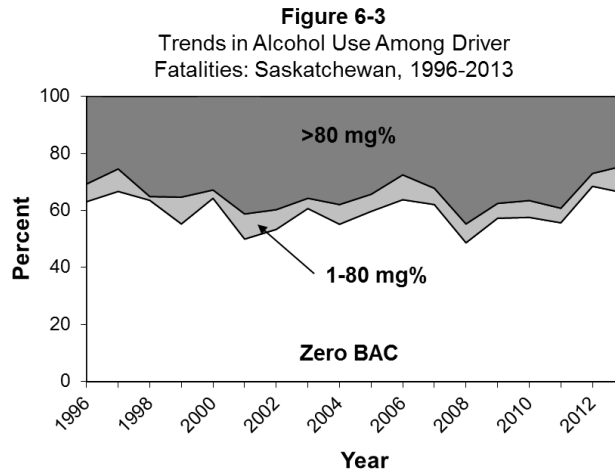


Table 6-7 and Figure 6-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 6-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 6-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 42.2%. In the 2011-2013 period, 36.0% of fatally injured drivers tested positive for alcohol, a 14.7% decrease from the baseline period.

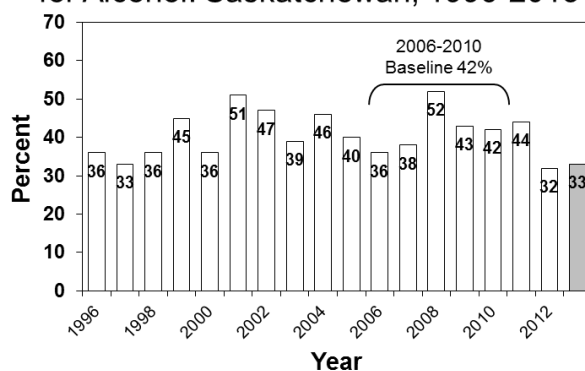
Table 6-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Saskatchewan, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	69	44	(63.8)	25	(36.2)
1997	72	48	(66.7)	24	(33.3)
1998	83	53	(63.9)	30	(36.1)
1999	93	51	(54.8)	42	(45.2)
2000	81	52	(64.2)	29	(35.8)
2001	91	45	(49.5)	46	(50.5)
2002	71	38	(53.5)	33	(46.5)
2003	89	54	(60.7)	35	(39.3)
2004	66	36	(54.5)	30	(45.5)
2005	80	48	(60.0)	32	(40.0)
2006	81	52	(64.2)	29	(35.8)
2007	93	58	(62.4)	35	(37.6)
2008	83	40	(48.2)	43	(51.8)
2009	101	58	(57.4)	43	(42.6)
2010	92	53	(57.6)	39	(42.4)
2011	86	48	(55.8)	38	(44.2)
2012	95	65	(68.4)	30	(31.6)
2013	78	52	(66.7)	26	(33.3)
2006-2010 baseline	90	52	(57.8)	38	(42.2)
2011-2013 period	86	55	(64.0)	31	(36.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 6-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Saskatchewan, 1996-2013



6.5.3 Drivers in serious injury crashes. Table 6-8 and Figure 6-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2008, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 25.6% to a high of 33.2% in 2008, decreased to 27.7% in 2009, and remained relatively stable until 2013 (28.4%).

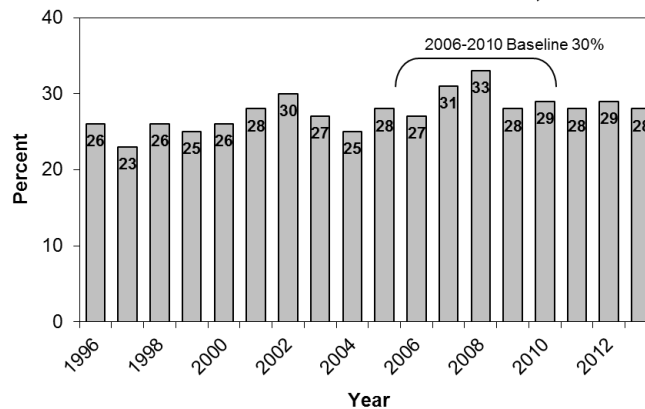
In the baseline period (2006-2010), an average of 29.5% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-involved crashes declined to 28.3%, a 4.1% decrease from the baseline period.

Table 6-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Saskatchewan, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	656	168	(25.6)
1997	843	197	(23.4)
1998	703	185	(26.3)
1999	757	195	(25.8)
2000	693	183	(26.4)
2001	583	164	(28.1)
2002	599	177	(29.5)
2003	667	177	(26.5)
2004	606	154	(25.4)
2005	443	122	(27.5)
2006	507	136	(26.8)
2007	492	151	(30.7)
2008	542	180	(33.2)
2009	528	146	(27.7)
2010	492	142	(28.9)
2011	460	128	(27.8)
2012	451	129	(28.6)
2013	507	144	(28.4)
2006-2010 baseline	512	151	(29.5)
2011-2013 period	473	134	(28.3)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 6-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Saskatchewan, 1996-2013



6.5.4 Drug use among fatally injured drivers. Table 6-9 and Figure 6-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 6-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

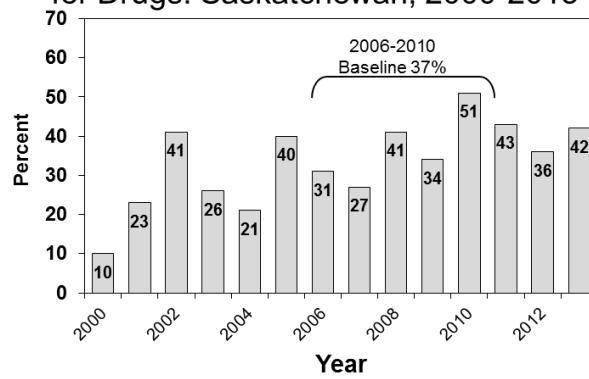
As can be seen at the bottom of Table 6-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 36.7%. The percentage of fatally injured drivers testing positive for drugs was 42.5% in 2011, 36.1% in 2012, and 41.7% in 2013. From 2011 to 2013, the average percentage of fatally injured drivers testing positive for drugs was 39.5%, a 7.6% increase from the baseline period.

Table 6-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Saskatchewan, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs	
				Negative : (% Tested)	Positive : (% Tested)
2000	81	63	77.8	57	90.5
2001	91	73	80.2	56	76.7
2002	71	54	76.1	32	59.3
2003	89	82	92.1	61	74.4
2004	66	52	78.8	41	78.8
2005	80	63	78.8	38	60.3
2006	81	67	82.7	46	68.7
2007	93	84	90.3	61	72.6
2008	83	74	89.2	44	59.5
2009	101	92	91.1	61	66.3
2010	92	79	85.9	39	49.4
2011	86	73	84.9	42	57.5
2012	95	83	87.4	53	63.9
2013	78	72	92.3	42	58.3
2006-2010 baseline	90	79	87.8	50	63.3
2011-2013 period	86	76	88.4	46	60.5

* Dying within 30 days in collisions which occurred on public roadways.

Figure 6-6
Percent of Fatally Injured Drivers Positive
for Drugs: Saskatchewan, 2000-2013



7.0 MANITOBA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Manitoba during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 7.1);
- > alcohol use among fatally injured drivers (Section 7.2);
- > drivers involved in alcohol-related serious injury crashes (Section 7.3);
- > drug use among fatally injured drivers (Section 7.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 7.5).

7.1 Deaths in alcohol-related crashes

Table 7-1 presents information on people who died in alcohol-related crashes in Manitoba during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, it can be seen that among persons dying within 30 days of the collision, 11 people aged 26-35 were killed in motor vehicle crashes in Manitoba during 2013. And, in 11 cases (100.0%) it was possible to determine if alcohol was a factor in the crash. The next column shows the number of people killed in crashes that were known to be alcohol-involved. Four people aged 26-35 died in alcohol-related crashes in Manitoba during 2013. The next column expresses this as a percentage – i.e., 36.4% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 16.0% of all the people killed in alcohol-related crashes in Manitoba during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 87 persons died within 30 days of a motor vehicle crash in Manitoba during 2013. In 86 (98.9%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 25 (29.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($87 \times .291$) it can be estimated that *in Manitoba during 2013, 25 persons died in alcohol-related crashes within 30 days of the collision.*

Table 7-1
Deaths in Alcohol-Related Crashes: Manitoba, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	7	7	100.0	1	14.3	4.0
16-19	10	10	100.0	3	30.0	12.0
20-25	15	14	93.3	4	28.6	16.0
26-35	11	11	100.0	4	36.4	16.0
36-45	9	9	100.0	4	44.4	16.0
46-55	11	11	100.0	5	45.5	20.0
>55	24	24	100.0	4	16.7	16.0
<u>Gender</u>						
Male	54	53	98.1	16	30.2	64.0
Female	33	33	100.0	9	27.3	36.0
<u>Victim Type</u>						
Driver/ Operator	52	51	98.1	16	31.4	64.0
Passenger	26	26	100.0	7	26.9	28.0
Pedestrian	9	9	100.0	2	22.2	8.0
<u>Vehicle Occupied</u>						
Automobiles	44	44	100.0	12	27.3	48.0
Trucks/Vans	24	23	95.8	8	34.8	32.0
Motorcycles	5	5	100.0	1	20.0	4.0
Other Hwy Vehicles	1	1	100.0	0	0.0	0.0
Off-Road Vehicles	4	4	100.0	2	50.0	8.0
(Pedestrians)	9	9	100.0	2	22.2	8.0
TOTAL	87	86	98.9	25	29.1	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

7.1.1 Victim age. Of all the people who died in alcohol-related crashes, 20.0% (see last column) were aged 46-55; 16.0% were aged 20-25, 26-35, 36-45, and over 55; 12.0% were aged 16-19; and 4.0% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 46-55 and 36-45 died (45.5% and 44.4%, respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities as only 14.3% of fatalities among those under 16 and 16.7% of the fatalities over 55 years of age died in crashes involving alcohol.

7.1.2 Gender. Of all the people who died in alcohol-related crashes, 64.0% were males. The incidence of alcohol in crashes in which a male died (30.2%) was greater than the incidence of alcohol in crashes in which a female died (27.3%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 64.0% were drivers/operators of a vehicle; 28.0% were passengers; and 8.0% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (31.4%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 26.9% of the crashes in which a passenger died and 22.2% of those in which a pedestrian died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 48.0% were automobile occupants; 32.0% were truck/van occupants; 8.0% were occupants of off-road vehicles; and 4.0% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died (50.0%) was greater than the incidence of alcohol in crashes in which a truck/van occupant, automobile occupant, or motorcyclist died (34.8%, 27.3%, and 20.0%, respectively).

7.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Manitoba during 2013. Table 7-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among those aged 16-19 there were four drivers killed during 2013; all four of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (25.0%) was positive for alcohol. This means fatally injured drinking drivers aged 16-19 accounted for 7.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one (25.0%) fatally injured driver aged 16-19 who was tested for alcohol had a BAC in excess of 80 mg%. This means that one driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 16-19 accounted for 10.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Manitoba had a very high testing rate in 2013, with 95.8% of fatally injured drivers being tested for alcohol use.

In Manitoba, 28.3% had been drinking and 10 of 13 (76.9%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 71.7% had BACs of zero mg%;
- > 2.2% had BACs from 1-49 mg%;
- > 4.3% had BACs from 50-80 mg%
- > 6.5% had BACs from 81 to 160 mg%; and,
- > 15.2% had BACs over 160 mg%.

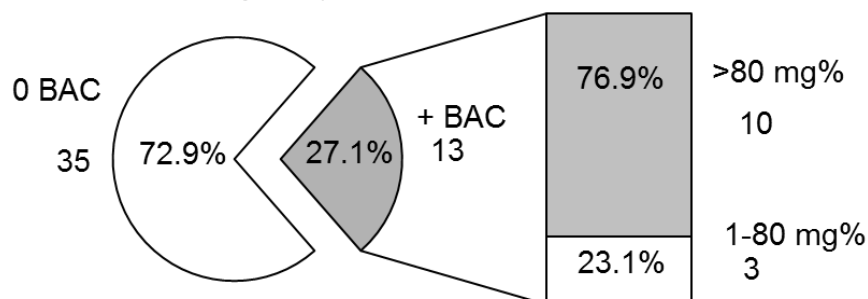
Table 7-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 2013

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	4	4	100.0	1	25.0	7.7	1	25.0	10.0
20-25	10	10	100.0	2	20.0	15.4	2	20.0	20.0
26-35	7	7	100.0	3	42.9	23.1	1	14.3	10.0
36-45	4	4	100.0	3	75.0	23.1	3	75.0	30.0
46-55	7	7	100.0	2	28.6	15.4	2	28.6	20.0
>55	16	14	87.5	2	14.3	15.4	1	7.1	10.0
Gender									
Male	34	33	97.1	10	30.3	76.9	7	21.2	70.0
Female	14	13	92.9	3	23.1	23.1	3	23.1	30.0
Vehicle Type									
Automobiles	26	25	96.2	6	24.0	46.2	4	16.0	40.0
Truck/Van	17	16	94.1	6	37.5	46.2	5	31.3	50.0
Motorcycles	4	4	100.0	1	25.0	7.7	1	25.0	10.0
Tractor Trailer	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	19	19	100.0	12	63.2	92.3	10	52.6	100.0
Multiple vehicle	29	27	93.1	1	3.7	7.7	0	0.0	0.0
TOTAL	48	46	95.8	13	28.3	100.0	10	21.7	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 7-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 13 of 48 (27.1%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 10 (76.9%) have BACs over 80 mg%.

Figure 7-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Manitoba, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

7.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 23.1% were aged 26-35 and 36-45; 15.4% were aged 20-25, 46-55 and over 55; and 7.7% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 30.0% were aged 36-45; 20.0% were aged 20-25 and 46-55; and 10.0% were aged 16-19, 26-35, and over 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 36-45 were the most likely to have been drinking (75.0%). By contrast, 14.3% of the tested drivers over age 55 had been drinking.

7.2.2 Gender differences. Males dominate the picture as they account for 76.9% of all the fatally injured drivers who had been drinking and 70.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for 34 of the 48 drivers (70.8%) who are killed. Fatally injured male drivers were more likely to have been drinking than female drivers (30.3% and 23.1%, respectively). And, 70.0% of the male drivers and 100.0% of the female drivers who were drinking had BACs over the legal limit.

7.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), automobile drivers and truck/van drivers each accounted for 46.2% of the total and 7.7% were motorcyclists. Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were truck/van drivers, 40.0% were automobile drivers, and 10.0% were motorcyclists.

Within each of the vehicle types, 37.5% of fatally injured truck/van drivers, 25.0% of motorcyclists, and 24.0% of automobile drivers had been drinking.

7.2.4 Collision differences. Less than half of the drivers killed (19 of the 48) were involved in single-vehicle collisions but these crashes accounted for a vast majority of the drivers who had been drinking or were legally impaired (92.3% and 100.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over three-fifths of the drivers involved in single-vehicle crashes (63.2%) tested positive for alcohol compared to only 3.7% of those involved in multiple-vehicle collisions.

7.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Manitoba. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 7-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 398 drivers were involved in crashes in which someone was seriously injured, and among these 13.1% were alcohol-related crashes.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 32.7% were aged 20-25; 19.2% were aged 46-55; 15.4% were aged 26-35; and 13.5% were aged 36-45 and over 55. Drivers aged 16-19 accounted for 5.8% of those involved in alcohol-related serious injury crashes.

Almost one-third of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (29.8%). The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (6.0%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 61.5% were males. However, the incidence of involvement in alcohol-related serious injury crashes was slightly greater for females than for males (13.9% and 12.6%).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 59.6% were automobile drivers; 32.7% were truck/van drivers; and 7.7% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists (18.2%) compared to 13.1% for automobile drivers; and 12.9% for truck/van drivers.

Table 7-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Manitoba, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
16-19	25	3	12.0	5.8
20-25	57	17	29.8	32.7
26-35	76	8	10.5	15.4
36-45	61	7	11.5	13.5
46-55	61	10	16.4	19.2
>55	116	7	6.0	13.5
unknown	2	0	0.0	0.0
<u>Gender</u>				
Male	253	32	12.6	61.5
Female	144	20	13.9	38.5
unknown	1	0	0.0	0.0
<u>Vehicle Type</u>				
Auto	236	31	13.1	59.6
Truck/Van	132	17	12.9	32.7
Motorcycle	22	4	18.2	7.7
Other Hwy. Vehicle	8	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	137	42	30.7	80.8
Multiple-Vehicle	261	10	3.8	19.2
TOTAL	398	52	13.1	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 80.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes

was also found among drivers in single-vehicle crashes – 30.7% of these drivers, compared to only 3.8% for drivers involved in multiple-vehicle crashes.

7.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Manitoba during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 7-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Manitoba had a very high testing rate in 2013, with 95.8% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 18 out of 46 (39.1%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was CNS depressants (50.0%). Other categories of drugs found in fatally injured drivers testing positive for drugs were narcotic analgesics (33.3%), and CNS stimulants (22.2%).

Table 7-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: Manitoba, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
48	46	(95.8)	18	(39.1)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
CNS Depressants	9	(50.0)
Narcotic Analgesics	6	(33.3)
CNS Stimulants	4	(22.2)
Cannabis	0	(0.0)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

7.5 Trends in alcohol and drug-impaired driving

Sections 7.1 through 7.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 7.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

7.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 7-5 and Figure 7-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 7.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 36 to 29 between 1996 and 2001. The number of alcohol-related fatalities increased to 45 in 2007, decreased to 34 in 2009, rose to 41 in 2011, and decreased to a low of 23 in 2013. The percentage of alcohol-related fatalities generally decreased from 37.9% in 1996 to 28.0% in 2005, peaked in 2008 (56.4%), and eventually decreased to its lowest level in 2013 (26.4%).

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 41 fatalities involving a drinking driver and they accounted for 42.7% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 18.7% from 42.7% in the baseline period (2006-2010) to 34.7% in the 2011-2013 period. In terms of the number of persons killed in crashes involving a drinking driver, there was a 17.1% decrease from an average of 41 in the baseline period (2006-2010) to 34 in the 2011-2013 period.

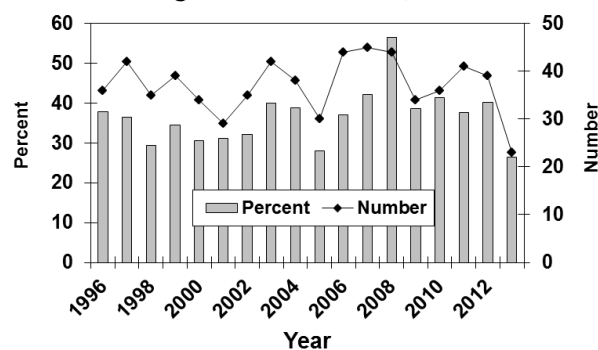
Table 7-5
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: Manitoba, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	95	36	37.9
1997	115	42	36.5
1998	119	35	29.4
1999	113	39	34.5
2000	111	34	30.6
2001	94	29	30.9
2002	109	35	32.1
2003	105	42	40.0
2004	98	38	38.8
2005	107	30	28.0
2006	119	44	37.0
2007	107	45	42.1
2008	78	44	56.4
2009	88	34	38.6
2010	87	36	41.4
2011	109	41	37.6
2012	97	39	40.2
2013	87	23	26.4
2006-2010 baseline	96	41	42.7
2011-2013 period	98	34	34.7

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 7-2
Number and Percent of Deaths Involving
a Drinking Driver: Manitoba, 1996-2013



7.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 7-6. Trends are illustrated in Figure 7-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of

highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (50.0%) to 22.6% in 2005, increased until 2008 (44.2%), fluctuated until 2012 (34.7%), and decreased again in 2013 (21.7%). The percent of fatally injured drivers with zero BACs generally increased from 43.2% in 1996 to its highest level in 2005 (75.5%), decreased to a low of 37.2% in 2008, fluctuated until 2012 (51.0%), and rose again in 2013 (71.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 2008 (18.6%), dropped to 7.1% in 2011, rose in 2012 (14.3%), and decreased again in 2013 (6.5%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 7-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 18.3% (from 54.7% to 71.7%). Among drivers with BACs from 1-80 mg%, there was a 4.3% increase (from 9.4% to 13.7%) and among those with BACs over 80 mg%, there was a 28.8% decrease (from 35.8% to 25.5%).

Table 7-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	48	44	91.7	19	43.2	3	6.8	22	50.0
1997	61	55	90.2	34	61.8	5	9.1	16	29.1
1998	63	63	100.0	42	66.7	3	4.8	18	28.6
1999	57	55	96.5	37	67.3	3	5.5	15	27.3
2000	64	62	96.9	39	62.9	4	6.5	19	30.6
2001	62	57	91.9	36	63.2	1	1.8	20	35.1
2002	57	55	96.5	35	63.6	3	5.5	17	30.9
2003	61	57	93.4	27	47.4	5	8.8	25	43.9
2004	55	50	90.9	30	60.0	3	6.0	17	34.0
2005	54	53	98.1	40	75.5	1	1.9	12	22.6
2006	67	64	95.5	39	60.9	3	4.7	22	34.4
2007	65	61	93.8	34	55.7	2	3.3	25	41.0
2008	45	43	95.6	16	37.2	8	18.6	19	44.2
2009	59	53	89.8	32	60.4	8	15.1	13	24.5
2010	44	41	93.2	23	56.1	4	9.8	14	34.1
2011	58	56	96.6	41	73.2	4	7.1	11	19.6
2012	52	49	94.2	25	51.0	7	14.3	17	34.7
2013	48	46	95.8	33	71.7	3	6.5	10	21.7
2006-2010 baseline	56	53	(94.6)	29	(54.7)	5	(9.4)	19	(35.8)
2011-2013 period	53	51	(96.2)	33	(64.7)	5	(9.8)	13	(25.5)

* Dying within 30 days in collisions which occurred on public roadways.

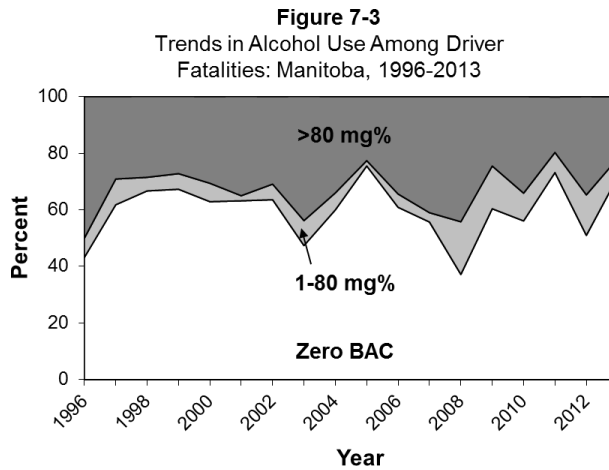


Table 7-7 and Figure 7-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 7-1). Second, drivers are grouped in only two BAC categories: zero and positive.

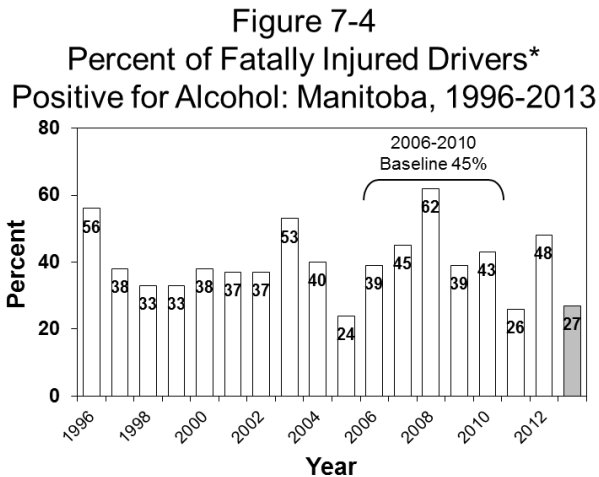
As can be seen at the bottom of Table 7-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 44.6%. In the 2011-2013 period, 34.0% of fatally injured drivers tested positive for alcohol, a 23.8% decrease from the baseline period.

Table 7-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	48	21	(43.8)	27	(56.3)
1997	61	38	(62.3)	23	(37.7)
1998	63	42	(66.7)	21	(33.3)
1999	57	38	(66.7)	19	(33.3)
2000	64	40	(62.5)	24	(37.5)
2001	62	39	(62.9)	23	(37.1)
2002	57	36	(63.2)	21	(36.8)
2003	61	29	(47.5)	32	(52.5)
2004	55	33	(60.0)	22	(40.0)
2005	54	41	(75.9)	13	(24.1)
2006	67	41	(61.2)	26	(38.8)
2007	65	36	(55.4)	29	(44.6)
2008	45	17	(37.8)	28	(62.2)
2009	59	36	(61.0)	23	(39.0)
2010	44	25	(56.8)	19	(43.2)
2011	58	43	(74.1)	15	(25.9)
2012	52	27	(51.9)	25	(48.1)
2013	48	35	(72.9)	13	(27.1)
2006-2010 baseline	56	31	(55.4)	25	(44.6)
2011-2013 period	53	35	(66.0)	18	(34.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.



7.5.3 Drivers in serious injury crashes. Table 7-8 and Figure 7-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 21.6% to a high of 25.7%, generally decreased to a low of 10.7% in 2012, and rose again in 2013 (13.1%).

In the baseline period (2006-2010), an average of 18.4% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-involved crashes declined to 13.1%, a 28.8% decrease from the baseline period.

Table 7-8

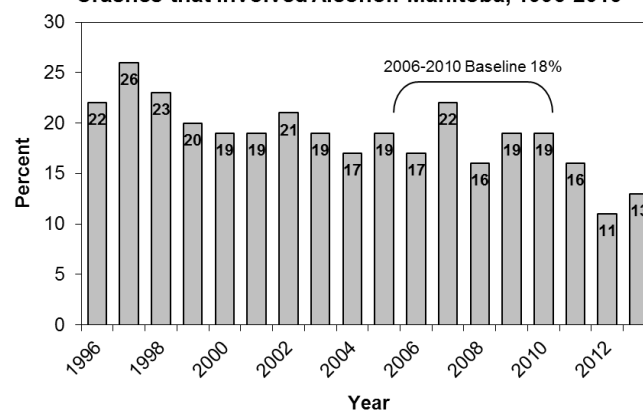
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Manitoba, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	804	174	(21.6)
1997	630	162	(25.7)
1998	657	151	(23.0)
1999	595	120	(20.2)
2000	587	110	(18.7)
2001	597	115	(19.3)
2002	525	108	(20.6)
2003	532	102	(19.2)
2004	550	95	(17.3)
2005	482	92	(19.1)
2006	526	91	(17.3)
2007	467	103	(22.1)
2008	437	68	(15.6)
2009	452	85	(18.8)
2010	341	63	(18.5)
2011	403	63	(15.6)
2012	438	47	(10.7)
2013	398	52	(13.1)
2006-2010 baseline	445	82	(18.4)
2011-2013 period	413	54	(13.1)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 7-5

Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Manitoba, 1996-2013



7.5.4 Drug use among fatally injured drivers. Table 7-9 and Figure 7-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 7-6, these results are

based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

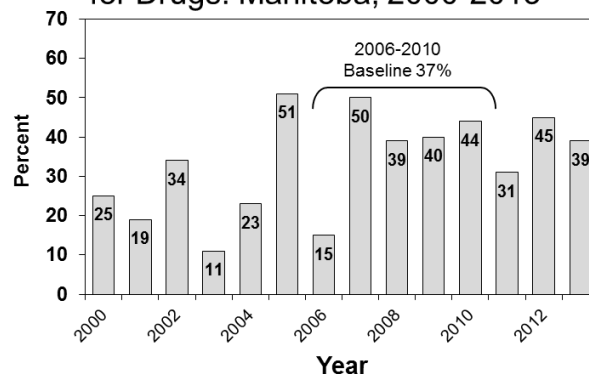
As can be seen at the bottom of Table 7-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 37.3%. In the 2011-2013 period, 38.0% of fatally injured drivers tested positive for drugs, a 1.9% increase from the baseline period.

Table 7-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	64	59	92.2	44	74.6	15	25.4
2001	62	54	87.1	44	81.5	10	18.5
2002	57	53	93.0	35	66.0	18	34.0
2003	61	56	91.8	50	89.3	6	10.7
2004	55	48	87.3	37	77.1	11	22.9
2005	54	51	94.4	25	49.0	26	51.0
2006	67	62	92.5	53	85.5	9	14.5
2007	65	60	92.3	30	50.0	30	50.0
2008	45	41	91.1	25	61.0	16	39.0
2009	59	53	89.8	32	60.4	21	39.6
2010	44	41	93.2	23	56.1	18	43.9
2011	58	55	94.8	38	69.1	17	30.9
2012	52	49	94.2	27	55.1	22	44.9
2013	48	46	95.8	28	60.9	18	39.1
2006-2010 baseline	56	51	91.1	32	62.7	19	37.3
2011-2013 period	53	50	94.3	31	62.0	19	38.0

* Dying within 30 days in collisions which occurred on public roadways.

Figure 7-6
Percent of Fatally Injured Drivers Positive
for Drugs: Manitoba, 2000-2013



8.0 ONTARIO

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Ontario during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 8.1);
- > alcohol use among fatally injured drivers (Section 8.2);
- > drivers involved in alcohol-related serious injury crashes (Section 8.3);
- > drug use among fatally injured drivers (Section 8.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 8.5).

8.1 Deaths in alcohol-related crashes

Table 8-1 presents information on people who died in alcohol-related crashes in Ontario during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, 41 people aged 16-19 were killed in motor vehicle crashes in Ontario during 2013. And, in 40 cases (97.6%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 14 people aged 16-19 died in alcohol-related crashes in Ontario during 2013. The next column expresses this as a percentage – i.e., 35.0% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 9.7% of all the people killed in alcohol-related crashes in Ontario during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 556 persons died within 30 days of a motor vehicle crash in Ontario during 2013. In 530 (95.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 144 (27.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($556 \times .272$) it can be estimated that *in Ontario during 2013, 151 persons died in alcohol-related crashes within 30 days of the collision.*

Table 8-1
Deaths in Alcohol-Related Crashes: Ontario, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARD
<u>Age Group</u>						
<16	11	10	90.9	1	10.0	0.7
16-19	41	40	97.6	14	35.0	9.7
20-25	74	72	97.3	31	43.1	21.5
26-35	78	73	93.6	24	32.9	16.7
36-45	77	75	97.4	26	34.7	18.1
46-55	78	77	98.7	24	31.2	16.7
>55	197	183	92.9	24	13.1	16.7
<u>Gender</u>						
Male	367	349	95.1	108	30.9	75.0
Female	189	181	95.8	36	19.9	25.0
<u>Victim Type</u>						
Driver/ Operator	352	345	98.0	101	29.3	70.1
Passenger	96	87	90.6	16	18.4	11.1
Pedestrian	104	94	90.4	27	28.7	18.8
Unknown	4	4	100.0	0	0.0	0.0
<u>Vehicle Occupied</u>						
Automobiles	264	254	96.2	75	29.5	52.1
Trucks/Vans	85	81	95.3	22	27.2	15.3
Motorcycles	52	52	100.0	12	23.1	8.3
Other Hwy Vehicles	22	20	90.9	0	0.0	0.0
Off-road Vehicles	29	29	100.0	8	27.6	5.6
(Pedestrians)	104	94	90.4	27	28.7	18.8
TOTAL	556	530	95.3	144	27.2	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

8.1.1 Victim age. Of all the people who died in alcohol-related crashes, 21.5% (see last column) were aged 20-25; 18.1% were aged 36-45; 16.7% were aged 26-35, 46-55 and over 55; 9.7% were aged 16-19; and 0.7% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 and 16-19 died (43.1% and 35.0% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 10.0% of persons under 16 and 13.1% of the fatalities over 55 years of age died in crashes involving alcohol.

8.1.2 Gender. Of all the people who died in alcohol-related crashes, 75.0% were males. The incidence of alcohol in crashes in which a male died (30.9%) was greater than the incidence of alcohol in crashes in which a female died (19.9%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 70.1% were driver/operators of a vehicle; 18.8% were pedestrians; and 11.1% were passengers.

Within each of the victim types, the highest incidence of alcohol involvement (29.3%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 28.7% of the crashes in which a pedestrian died and 18.4% of the crashes in which a passenger died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 52.1% were automobile occupants; 15.3% were truck/van occupants; 8.3% were motorcyclists; and 5.6% were off-road vehicle occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or motorcyclist died (29.5% versus 27.2% and 23.1%). Among off-road vehicle occupants, 27.6% were involved in an alcohol-related crash.

8.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Ontario during 2013. Table 8-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-25 year olds there were 47 drivers killed during 2013; 43 of these fatally injured drivers (91.5%) were tested for alcohol. Of those who were tested, 18 (41.9%) were positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 23.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that 13 of the 43 (30.2%) fatally injured 20-25 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that 13 of the 18 drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 20-25 year old drivers accounted for 20.6% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2013, with 85.1% of fatally injured drivers being tested for alcohol use.

In Ontario, 28.5% had been drinking and 63 of 78 (80.8%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 71.5% had BACs of zero mg%;
- > 2.9% had BACs from 1-49 mg%;
- > 2.6% had BACs from 50-80 mg%
- > 7.3% had BACs from 81 to 160 mg%; and,

- > 15.7% had BACs over 160 mg%.

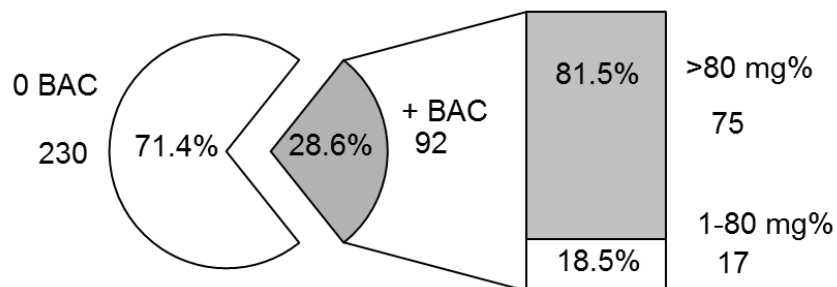
Table 8-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Ontario, 2013

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
<16	1	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	19	18	94.7	8	44.4	10.3	7	38.9	11.1
20-25	47	43	91.5	18	41.9	23.1	13	30.2	20.6
26-35	49	45	91.8	13	28.9	16.7	10	22.2	15.9
36-45	53	50	94.3	18	36.0	23.1	16	32.0	25.4
46-55	54	46	85.2	15	32.6	19.2	14	30.4	22.2
>55	99	71	71.7	6	8.5	7.7	3	4.2	4.8
<u>Gender</u>									
Male	247	209	84.6	61	29.2	78.2	46	22.0	73.0
Female	75	65	86.7	17	26.2	21.8	17	26.2	27.0
<u>Vehicle Type</u>									
Automobiles	199	170	85.4	51	30.0	65.4	41	24.1	65.1
Truck/Van	61	51	83.6	16	31.4	20.5	16	31.4	25.4
Motorcycles	49	44	89.8	11	25.0	14.1	6	13.6	9.5
Tractor Trailer	9	7	77.8	0	0.0	0.0	0	0.0	0.0
Other Hwy. Vehicle	4	2	50.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single vehicle	143	123	86.0	63	51.2	80.8	53	43.1	84.1
Multiple vehicle	179	151	84.4	15	9.9	19.2	10	6.6	15.9
TOTAL	322	274	85.1	78	28.5	100.0	63	23.0	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 8-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 92 of 322 (28.6%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 75 (81.5%) have BACs over 80 mg%.

Figure 8-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Ontario, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

8.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 23.1% were aged 20-25 and 36-45; 19.2% were aged 46-55; 16.7% were aged 26-35; 10.3% were aged 16-19; and 7.7% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.4% were aged 36-45; 22.0% were aged 46-55; 20.6% were aged 20-25; 15.9% were aged 26-35; 11.1% were aged 16-19; and 4.8% were over age 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 16-19 were the most likely to have been drinking (44.4%). By contrast, only 8.5% of the tested drivers aged over 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture as they account for 78.2% of all the fatally injured drivers who had been drinking and 73.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (247 of the 322 drivers are males). Fatally injured male drivers were more likely to have been drinking than female drivers (29.2% and 26.2%, respectively). And, 75.4% of the male and 100.0% of the female drivers who were drinking had BACs over the legal limit.

8.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 65.4% were automobile drivers; 20.5% were truck/van drivers; and 14.1% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 65.1% were automobile drivers, 25.4% were truck/van drivers; and 9.5% were motorcyclists.

Within each of the vehicle types, 31.4% of truck/van drivers, 30.0% of fatally injured automobile drivers, and 25.0% of motorcyclists had been drinking. None of the fatally injured drivers of tractor trailers or other highway vehicles had been drinking.

8.2.4 Collision differences. Less than half of the drivers killed (143 of the 322) were involved in single-vehicle collisions but these crashes accounted for over four-fifths of the drivers who had been drinking or were legally impaired (80.8% and 84.1%, respectively).

The reason for this apparent disparity is because alcohol is over represented in single-vehicle crashes. Half of the drivers involved in single-vehicle crashes (51.2%) tested positive for alcohol, compared to only 9.9% of those involved in multiple-vehicle collisions.

8.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Ontario. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 8-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 3,135 drivers were involved in crashes in which someone was seriously injured, and among these 13.6% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.8% were aged 20-25; 22.6% were aged 26-35, and 15.1% were aged 36-45. Drivers under 16 accounted for 0.2% and drivers aged 16-19 accounted for only 7.5% of those involved in alcohol-related serious injury crashes.

One-third of the drivers under 16 years of age (33.3%) and 22.0% of drivers aged 20-25 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (8.3%).

**Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes:
Ontario, 2013**

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	3	1	33.3	0.2
16-19	195	32	16.4	7.5
20-25	441	97	22.0	22.8
26-35	586	96	16.4	22.6
36-45	534	64	12.0	15.1
46-55	602	58	9.6	13.6
>55	744	62	8.3	14.6
unknown	30	15	50.0	3.5
<u>Gender</u>				
Male	2148	331	15.4	77.9
Female	981	92	9.4	21.6
unknown	6	2	33.3	0.5
<u>Vehicle Type</u>				
Auto	2028	297	14.6	69.9
Truck/Van	641	90	14.0	21.2
Motorcycle	304	28	9.2	6.6
Tractor Trailer	112	3	2.7	0.7
Other Hwy. Vehicle	50	7	14.0	1.6
<u>Collision Type</u>				
Single-Vehicle	925	305	33.0	71.8
Multiple-Vehicle	2210	120	5.4	28.2
TOTAL	3135	425	13.6	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 77.9% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.4% and 9.4%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 69.9% were automobile drivers; 21.2% were truck/van drivers; 6.6% were motorcyclists; 1.6% were drivers of other highway vehicles; and 0.7% were tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 14.6% of these drivers were in crashes that involved alcohol, compared to 14.0% of truck/van drivers and drivers of other highway vehicles; and 9.2% of motorcyclists. Among tractor-trailer drivers, 2.7% were involved in alcohol-related crashes.

8.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 71.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 33.0% of these drivers, compared to only 5.4% for drivers involved in multiple-vehicle crashes.

8.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Ontario during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 8-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Ontario had a high testing rate in 2013, with 82.0% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 128 out of 264 (48.5%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (58.6%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (33.6%), CNS stimulants (24.2%), narcotic analgesics (17.2%), and dissociative anesthetics (3.1%).

Table 8-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: Ontario, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
322	264	(82.0)	128	(48.5)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	75	(58.6)
CNS Depressants	43	(33.6)
CNS Stimulants	31	(24.2)
Narcotic Analgesics	22	(17.2)
Dissociative Anesthetics	4	(3.1)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

8.5 Trends in alcohol and drug-impaired driving

Sections 8.1 through 8.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 8.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

8.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 8-5 and Figure 8-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 8.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 293 to 163 between 1996 and 2009. The number of deaths rose to 179 in 2010, decreased to 137 in 2011, rose to 168 in 2012, and decreased to a low of 131 in 2013. The percentage of alcohol-related fatalities generally declined from 32.4% in 1996 to 26.1% in 2002, remained relatively stable until 2010 (29.2%), fluctuated until 2012, and fell to a low of 23.6% in 2013.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 196 fatalities involving a drinking driver and they accounted for 28.7% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver decreased by 13.2% from 28.7% in the baseline period (2006-2010) to 24.9% in the 2011-2013 period. And, in terms of the number of persons killed in crashes

involving a drinking driver, there has been a 26.0% decrease from an average of 196 in the baseline period (2006-2010) to 145 in the 2011-2013 period.

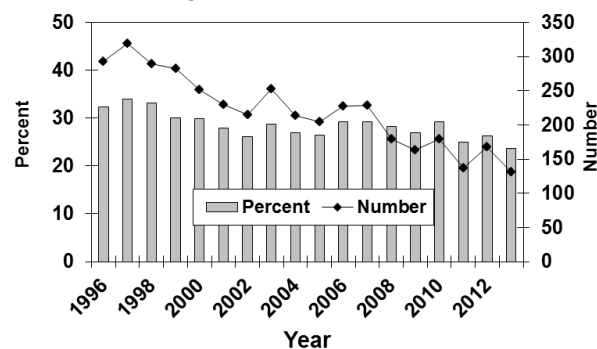
Table 8-5
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: Ontario, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	903	293	32.4
1997	941	319	33.9
1998	872	289	33.1
1999	940	282	30.0
2000	843	252	29.9
2001	822	230	28.0
2002	823	215	26.1
2003	883	253	28.7
2004	793	214	27.0
2005	777	205	26.4
2006	782	228	29.2
2007	783	229	29.2
2008	637	180	28.3
2009	603	163	27.0
2010	612	179	29.2
2011	550	137	24.9
2012	640	168	26.3
2013	556	131	23.6
2006-2010 baseline	683	196	28.7
2011-2013 period	582	145	24.9

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 8-2
Number and Percent of Deaths Involving
a Drinking Driver: Ontario, 1996-2013



8.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 8-6. Trends are illustrated in Figure 8-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (28.7%) to 2008 (21.7%), rose until 2010 (27.8%), and fluctuated until 2013 (23.0%). The percent of fatally injured drivers with zero BACs generally increased from 1996 (63.1%) to its highest level in 2008 (73.6%), fluctuated until 2012 (69.2%), and increased again in 2013 (71.5%). The percent of fatally injured drivers with BACs decreased from 8.1% in 1996 to 4.2% in 2001, generally increased until 2007 (8.0%), decreased until 2009 (4.3%), and fluctuated until 2013 (5.5%).

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 2.2% (from 69.3% to 70.8%). Among drivers with BACs from 1-80 mg%, there was a 14.5% decrease (from 6.2% to 5.3%). Among drivers with BACs over 80 mg%, there was a 2.4% decrease (from 24.5% to 23.9%).

Table 8-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Ontario, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	475	407	85.7	257	63.1	33	8.1	117	28.7
1997	550	450	81.8	290	64.4	34	7.6	126	28.0
1998	484	413	85.3	266	64.4	27	6.5	120	29.1
1999	547	467	85.4	330	70.7	25	5.4	112	24.0
2000	494	422	85.4	289	68.5	31	7.3	102	24.2
2001	484	429	88.6	302	70.4	18	4.2	109	25.4
2002	480	430	89.6	315	73.3	22	5.1	93	21.6
2003	500	446	89.2	306	68.6	25	5.6	115	25.8
2004	483	444	91.9	312	70.3	26	5.9	106	23.9
2005	461	408	88.5	287	70.3	20	4.9	101	24.8
2006	446	390	87.4	265	67.9	30	7.7	95	24.4
2007	473	425	89.9	292	68.7	34	8.0	99	23.3
2008	400	345	86.3	254	73.6	16	4.6	75	21.7
2009	350	293	83.7	206	70.3	13	4.4	74	25.3
2010	371	320	86.3	215	67.2	16	5.0	89	27.8
2011	319	275	86.2	197	71.6	16	5.8	62	22.5
2012	354	305	86.2	211	69.2	15	4.9	79	25.9
2013	322	274	85.1	196	71.5	15	5.5	63	23.0
2006-2010 baseline	408	355	(87.0)	246	(69.3)	22	(6.2)	87	(24.5)
2011-2013 period	332	284	(85.5)	201	(70.8)	15	(5.3)	68	(23.9)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 8-3
Trends in Alcohol Use Among Driver
Fatalities: Ontario, 1996-2013

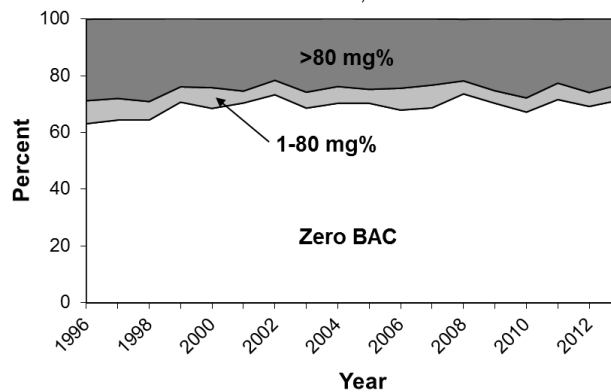


Table 8-7 and Figure 8-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 8-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 8-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 30.6%. In the 2011-2013 period, 29.2% of fatally injured drivers tested positive for alcohol, a 4.6% decrease from the baseline period.

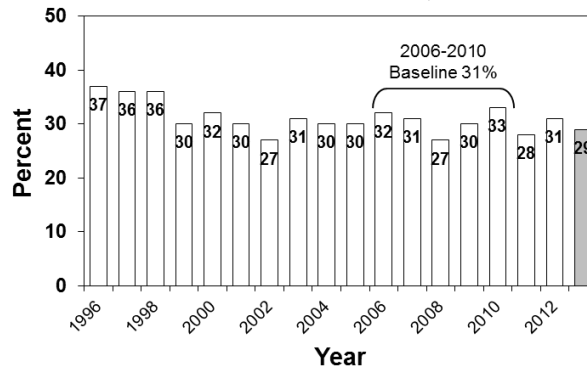
Table 8-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Ontario, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	475	300	(63.2)	175	(36.8)
1997	550	354	(64.4)	196	(35.6)
1998	484	312	(64.5)	172	(35.5)
1999	547	385	(70.4)	162	(29.6)
2000	494	338	(68.4)	156	(31.6)
2001	484	341	(70.5)	143	(29.5)
2002	480	352	(73.3)	128	(26.7)
2003	500	343	(68.6)	157	(31.4)
2004	483	339	(70.2)	144	(29.8)
2005	461	324	(70.3)	137	(29.7)
2006	446	303	(67.9)	143	(32.1)
2007	473	325	(68.7)	148	(31.3)
2008	400	294	(73.5)	106	(26.5)
2009	350	246	(70.3)	104	(29.7)
2010	371	249	(67.1)	122	(32.9)
2011	319	229	(71.8)	90	(28.2)
2012	354	245	(69.2)	109	(30.8)
2013	322	230	(71.4)	92	(28.6)
2006-2010 baseline	408	283	(69.4)	125	(30.6)
2011-2013 period	332	235	(70.8)	97	(29.2)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 8-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Ontario, 1996-2013



8.5.3 Drivers in serious injury crashes. Table 8-8 and Figure 8-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2010, the percentage of all drivers in serious injury crashes that involved alcohol generally decreased from 22.1% to 14.5%, rose in 2012 (15.4%), and decreased again in 2013 (13.6%).

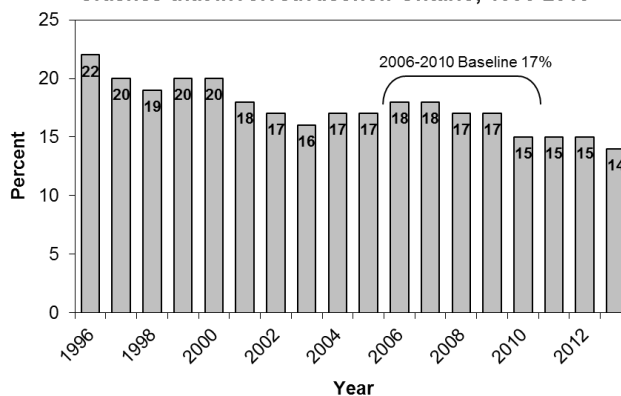
In the baseline period (2006-2010), an average of 16.9% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-involved crashes declined to 14.7%, a 13.0% decrease from the baseline period.

Table 8-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Ontario, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	6003	1326	(22.1)
1997	5442	1106	(20.3)
1998	5402	1026	(19.0)
1999	5486	1088	(19.8)
2000	5126	1030	(20.1)
2001	5199	916	(17.6)
2002	5468	939	(17.2)
2003	5086	829	(16.3)
2004	4568	787	(17.2)
2005	4724	783	(16.6)
2006	4155	759	(18.3)
2007	4312	763	(17.7)
2008	3949	654	(16.6)
2009	3306	556	(16.8)
2010	3292	477	(14.5)
2011	3243	499	(15.4)
2012	3262	489	(15.0)
2013	3135	425	(13.6)
2006-2010 baseline	3803	642	(16.9)
2011-2013 period	3213	471	(14.7)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 8-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Ontario, 1996-2013



8.5.4 Drug use among fatally injured drivers. Table 8-9 and Figure 8-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 8-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

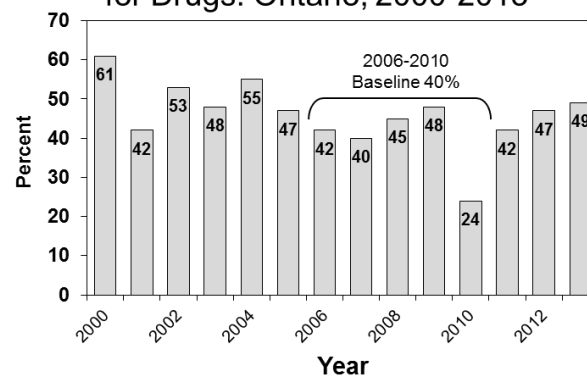
As can be seen at the bottom of Table 8-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 40.9%. In the 2011-2013 period, 46.2% of fatally injured drivers tested positive for drugs, a 13.0% increase from the baseline period.

Table 8-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Ontario, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	494	69	14.0	27	39.1	42	60.9
2001	484	93	19.2	54	58.1	39	41.9
2002	480	100	20.8	47	47.0	53	53.0
2003	500	113	22.6	59	52.2	54	47.8
2004	483	114	23.6	51	44.7	63	55.3
2005	461	144	31.2	76	52.8	68	47.2
2006	446	154	34.5	89	57.8	65	42.2
2007	473	173	36.6	104	60.1	69	39.9
2008	400	42	10.5	23	54.8	19	45.2
2009	350	29	8.3	15	51.7	14	48.3
2010	371	41	11.1	31	75.6	10	24.4
2011	319	226	70.8	132	58.4	94	41.6
2012	354	262	74.0	138	52.7	124	47.3
2013	322	264	82.0	136	51.5	128	48.5
2006-2010 baseline	408	88	21.6	52	59.1	36	40.9
2011-2013 period	332	251	75.6	135	53.8	116	46.2

* Dying within 30 days in collisions which occurred on public roadways.

Figure 8-6
Percent of Fatally Injured Drivers Positive
for Drugs: Ontario, 2000-2013



9.0 QUEBEC

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Quebec during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 9.1);
- > alcohol use among fatally injured drivers (Section 9.2);
- > drivers involved in alcohol-related serious injury crashes (Section 9.3);
- > drug use among fatally injured drivers (Section 9.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 9.5).

9.1 Deaths in alcohol-related crashes

Table 9-1 presents information on people who died in alcohol-related crashes in Quebec during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, 62 people aged 26-35 were killed in motor vehicle crashes in Quebec during 2013. And, in 59 cases (95.2%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 22 people aged 26-35 died in alcohol-related crashes in Quebec during 2013. The next column expresses this as a percentage – i.e., 37.3% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 25.3% of all the people killed in alcohol-related crashes in Quebec during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 388 persons died within 30 days of a motor vehicle crash in Quebec during 2013. In 360 (92.8%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 87 (24.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($388 \times .242$) it can be estimated that *in Quebec during 2013, 94 persons died in alcohol-related crashes within 30 days of the collision.*

9.1.1 Victim age. Of all the people who died in alcohol-related crashes, 25.3% (see last column) were aged 26-35; 18.4% were aged 20-25; 17.2% were aged 46-55; 16.1% were over 55; 12.6% were aged 36-45; 8.0% were aged 16-19; and 2.3% were under age 16.

Table 9-1
Deaths in Alcohol-Related Crashes: Quebec, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	14	11	78.6	2	18.2	2.3
16-19	30	26	86.7	7	26.9	8.0
20-25	48	47	97.9	16	34.0	18.4
26-35	62	59	95.2	22	37.3	25.3
36-45	38	33	86.8	11	33.3	12.6
46-55	49	47	95.9	15	31.9	17.2
>55	147	137	93.2	14	10.2	16.1
<u>Gender</u>						
Male	255	238	93.3	72	30.3	82.8
Female	133	122	91.7	15	12.3	17.2
<u>Victim Type</u>						
Driver/ Operator	281	260	92.5	68	26.2	78.2
Passenger	54	49	90.7	11	22.4	12.6
Pedestrian	53	51	96.2	8	15.7	9.2
<u>Vehicle Occupied</u>						
Automobiles	200	184	92.0	53	28.8	60.9
Trucks/Vans	54	52	96.3	14	26.9	16.1
Motorcycles	45	42	93.3	8	19.0	9.2
Other Hwy Vehicles	11	11	100.0	0	0.0	0.0
Off-road Vehicles	25	20	80.0	4	20.0	4.6
(Pedestrians)	53	51	96.2	8	15.7	9.2
TOTAL	388	360	92.8	87	24.2	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 26-35 and 20-25 died (37.3% and 34.0% respectively). The lowest incidence of alcohol involvement was found among the oldest and youngest fatalities as 10.2% of persons over 55 and 18.2% of persons under 16 years of age died in crashes involving alcohol.

9.1.2 Gender. Of all the people who died in alcohol-related crashes, 82.8% were males. The incidence of alcohol in crashes in which a male died (30.3%) was greater than the incidence of alcohol in crashes in which a female died (12.3%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 78.2% were drivers/operators of a vehicle; 12.6% were passengers; and 9.2% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (26.2%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 22.4% of the crashes in which a passenger died and 15.7% of those in which a pedestrian died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 60.9% were in an automobile; 16.1% were truck/van occupants; 9.2% were motorcyclists; and 4.6% were off-road vehicle occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant died (28.8% versus 26.9%). Among off-road vehicle occupants, 20.0% died in an alcohol-related crash compared to 19.0% of motorcyclists.

9.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Quebec during 2013. Table 9-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 18 drivers killed during 2013; 15 of these fatally injured drivers (83.3%) were tested for alcohol. Of those who were tested, four (26.7%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 6.3% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the 15 (13.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that two out of four drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 3.8% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Quebec had an average testing rate in 2013, with 75.5% of fatally injured drivers being tested for alcohol use.

In Quebec, 32.5% had been drinking and 52 of 63 (82.5%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 67.5% had BACs of zero mg%;
- > 4.1% had BACs from 1-49 mg%;
- > 1.5% had BACs from 50-80 mg%
- > 7.2% had BACs from 81 to 160 mg%; and,
- > 19.6% had BACs over 160 mg%.

Table 9-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 2013

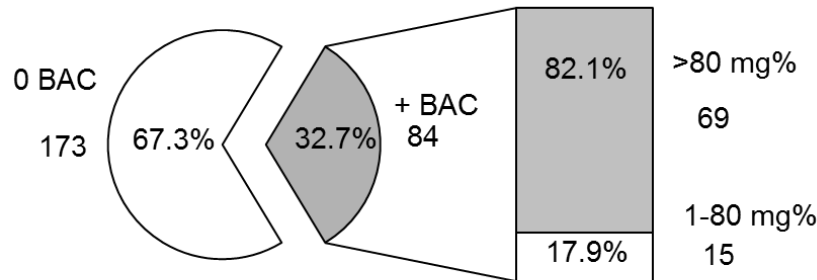
Quebec, 2013

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
16-19	18	15	83.3	4	26.7	6.3	2	13.3	3.8
20-25	38	32	84.2	14	43.8	22.2	12	37.5	23.1
26-35	48	39	81.3	15	38.5	23.8	15	38.5	28.8
36-45	29	27	93.1	8	29.6	12.7	8	29.6	15.4
46-55	34	25	73.5	13	52.0	20.6	9	36.0	17.3
>55	90	56	62.2	9	16.1	14.3	6	10.7	11.5
<u>Gender</u>									
Male	190	150	78.9	54	36.0	85.7	45	30.0	86.5
Female	67	44	65.7	9	20.5	14.3	7	15.9	13.5
<u>Vehicle Type</u>									
Automobiles	164	123	75.0	42	34.1	66.7	35	28.5	67.3
Truck/Van	43	34	79.1	13	38.2	20.6	11	32.4	21.2
Motorcycles	40	27	67.5	8	29.6	12.7	6	22.2	11.5
Tractor Trailer	9	9	100.0	0	0.0	0.0	0	0.0	0.0
Other Hwy. Veh.	1	1	100.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single vehicle	107	85	79.4	45	52.9	71.4	39	45.9	75.0
Multiple vehicle	150	109	72.7	18	16.5	28.6	13	11.9	25.0
TOTAL	257	194	75.5	63	32.5	100.0	52	26.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 9-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 84 of 257 (32.7%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 69 (82.1%) have BACs over 80 mg%.

Figure 9-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Quebec, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

9.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with positive BAC), 23.8% were aged 26-35; 22.2% were aged 20-25; 20.6% were aged 46-55; 14.3% were over 55; 12.7% were aged 36-45; and 6.3% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.8% were aged 26-35; 23.1% were aged 20-25; 17.3% were aged 46-55; 15.4% were aged 36-45; 11.5% were over 55; and 3.8% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 46-55 and 20-25 were the most likely to have been drinking (52.0% and 43.8%, respectively). By contrast, only 16.1% of the tested drivers over 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture as they account for 85.7% of all the fatally injured drivers who had been drinking and 86.5% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (190 of the 257 fatalities or 73.9% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (36.0% and 20.5%, respectively). And, 83.3% of the male and 77.8% of the female drivers who were drinking had BACs over the legal limit.

9.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were automobile drivers; 20.6% were truck/van drivers; and 12.7% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 67.3% were automobile drivers; 21.2% were truck/van drivers; and 11.5% were motorcyclists.

Within each of the vehicle types, 38.2% of fatally injured truck/van drivers, 34.1% of automobile drivers, and 29.6% of motorcyclists had been drinking. None of the fatally injured drivers of tractor-trailers or other highway vehicles had been drinking.

9.2.4 Collision differences. Less than half of the drivers killed (107 of the 257) were involved in single-vehicle collisions but these crashes accounted for almost three-quarters of the drivers who had been drinking or were legally impaired (71.4% and 75.0%, respectively). The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over half of the drivers involved in single-vehicle crashes (52.9%) tested positive for alcohol, compared to only 16.5% of those involved in multiple-vehicle collisions.

9.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Quebec. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 9-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown by the totals at the bottom of the table, 2,205 drivers were involved in crashes in which someone was seriously injured, and among these 15.6% were alcohol-related crashes.

9.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 19.7% were aged 20-25 and 26-35; and 13.6% were aged 46-55. Drivers under 16 accounted for only 0.3% of those involved in alcohol-related serious injury crashes.

Over one-quarter of the drivers aged 16-19 were involved in alcohol-related serious injury crashes (29.1%). The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16 and over 55 (5.9%).

9.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 73.6% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (17.1% and 11.3%, respectively).

**Table 9-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Quebec, 2013**

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	17	1	5.9	0.3
16-19	127	37	29.1	10.7
20-25	285	68	23.9	19.7
26-35	351	68	19.4	19.7
36-45	315	46	14.6	13.3
46-55	335	47	14.0	13.6
>55	391	23	5.9	6.7
unknown	384	55	14.3	15.9
<u>Gender</u>				
Male	1483	254	17.1	73.6
Female	601	68	11.3	19.7
unknown	121	23	19.0	6.7
<u>Vehicle Type</u>				
Auto and Truck/Van**	1854	311	16.8	90.1
Motorcycle	234	20	8.5	5.8
Tractor-Trailer	71	8	11.3	2.3
Other Hwy. Vehicle	46	6	13.0	1.7
<u>Collision Type</u>				
Single-Vehicle	705	247	35.0	71.6
Multiple-Vehicle	1500	98	6.5	28.4
TOTAL	2205	345	15.6	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

** Automobiles and light trucks have been regrouped in collision data as of March 2010.

9.3.3 Type of vehicle driven. Drivers of automobiles and light trucks have been merged in this table as Quebec has regrouped these vehicle types into one category in its collision data since March 2010. Of all the drivers involved in alcohol-related serious injury crashes, 90.1% were automobile-truck/van drivers; 5.8% were motorcyclists; 2.3% were tractor-trailer drivers; and 1.7% were drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile-truck/van drivers – 16.8% of these drivers were in crashes that involved alcohol, compared to 13.0% for drivers of other highway vehicles and 11.3% for tractor-trailer drivers. Among motorcyclists, 8.5% were involved in alcohol-related crashes.

9.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 71.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 35.0% of these drivers, compared to only 6.5% for drivers involved in multiple-vehicle crashes.

9.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Quebec during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 9-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5).

The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Quebec had an average testing rate in 2013, with 72.4% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 65 out of 186 (34.9%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (50.8%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS stimulants (38.5%), CNS depressants (35.4%), narcotic analgesics (15.4%), dissociative anesthetics (4.6%), and hallucinogens (3.1%).

Table 9-4
Drug Use Among Fatally Injured Drivers of
Highway Vehicles: Quebec, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
257	186	(72.4)	65	(34.9)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	33	(50.8)
CNS Stimulants	25	(38.5)
CNS Depressants	23	(35.4)
Narcotic Analgesics	10	(15.4)
Dissociative Anesthetics	3	(4.6)
Hallucinogens	2	(3.1)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

9.5 Trends in alcohol and drug-impaired driving

Sections 9.1 through 9.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 9.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

9.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 9-5 and Figure 9-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 9.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 236 to 109 between 1996 and 2007, increased to 129 in 2008, decreased to 109 in 2009, rose to 132 in 2011, and decreased again to a low of 87 in 2013. The percentage of alcohol-related fatalities fluctuated between 1996 and 2002, rose to 30.1% in 2003, generally decreased to 21.9% in 2007, rose to 29.0% in 2011, and decreased again to 22.4% in 2013.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 127 fatalities involving a drinking driver and they accounted for 26.6% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 3.4% from 26.6% in the baseline period (2006-2010) to 25.7% in the 2011-2013 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 14.2% decrease from an average of 127 in the baseline period (2006-2010) to 109 in the 2011-2013 period.

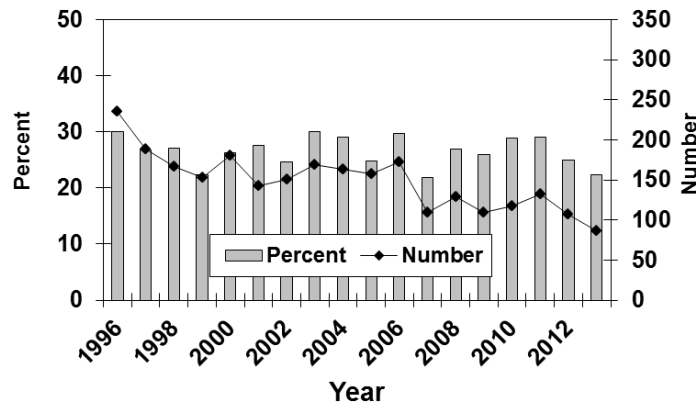
Table 9-5
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: Quebec, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	785	236	30.1
1997	707	189	26.7
1998	616	167	27.1
1999	682	153	22.4
2000	687	181	26.3
2001	519	143	27.6
2002	611	151	24.7
2003	562	169	30.1
2004	562	163	29.0
2005	638	158	24.8
2006	583	173	29.7
2007	497	109	21.9
2008	478	129	27.0
2009	421	109	25.9
2010	405	117	28.9
2011	455	132	29.0
2012	428	107	25.0
2013	388	87	22.4
2006-2010 baseline	477	127	26.6
2011-2013 period	424	109	25.7

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 9-2
Number and Percent of Deaths Involving
a Drinking Driver: Quebec, 1996-2013



9.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 9-6. Trends are illustrated in Figure 9-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (37.2%) to its lowest point in 1999 (22.0%), rose to 38.7% in 2003, fluctuated until 2008, and gradually decreased to 26.8% in 2013. The percent of fatally injured drivers with zero BACs generally increased from 1996 (57.3%) to 1999 (71.9%), fluctuated until 2010 (62.9%), and generally rose until 2013 (67.5%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 2004 (9.1%), eventually fell to 4.7% in 2012, and increased again in 2013 (5.7%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 9-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 6.0% (from 61.6% to 65.3%). Among drivers with BACs from 1-80 mg%, there was a 22.7% decrease (from 6.6% to 5.1%). And among those with BACs over 80 mg%, there was a 6.9% decrease (from 31.8% to 29.6%).

Table 9-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	454	344	75.8	197	57.3	19	5.5	128	37.2
1997	390	275	70.5	160	58.2	19	6.9	96	34.9
1998	368	262	71.2	152	58.0	15	5.7	95	36.3
1999	411	313	76.2	225	71.9	19	6.1	69	22.0
2000	407	311	76.4	199	64.0	23	7.4	89	28.6
2001	326	240	73.6	148	61.7	18	7.5	74	30.8
2002	394	300	76.1	199	66.3	14	4.7	87	29.0
2003	352	253	71.9	140	55.3	15	5.9	98	38.7
2004	346	242	69.9	145	59.9	22	9.1	75	31.0
2005	419	300	71.6	191	63.7	20	6.7	89	29.7
2006	379	266	70.2	162	60.9	23	8.6	81	30.5
2007	321	207	64.5	139	67.1	12	5.8	56	27.1
2008	304	236	77.6	140	59.3	13	5.5	83	35.2
2009	274	180	65.7	105	58.3	12	6.7	63	35.0
2010	255	167	65.5	105	62.9	11	6.6	51	30.5
2011	300	201	67.0	124	61.7	11	5.5	66	32.8
2012	286	193	67.5	128	66.3	9	4.7	56	29.0
2013	257	194	75.5	131	67.5	11	5.7	52	26.8
2006-2010 baseline	307	211	(68.7)	130	(61.6)	14	(6.6)	67	(31.8)
2011-2013 period	281	196	(69.8)	128	(65.3)	10	(5.1)	58	(29.6)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 9-3
Trends in Alcohol Use Among Driver
Fatalities: Quebec, 1996-2013

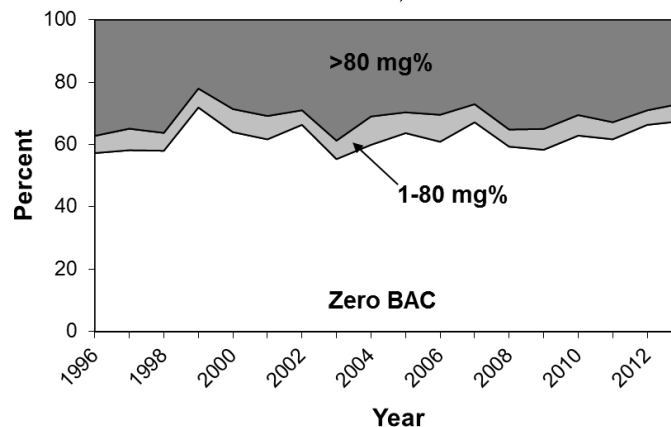


Table 9-7 and Figure 9-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above

for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 9-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 9-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 38.1%. In the 2011-2013 period, 34.9% of fatally injured drivers tested positive for alcohol, an 8.4% decrease from the baseline period.

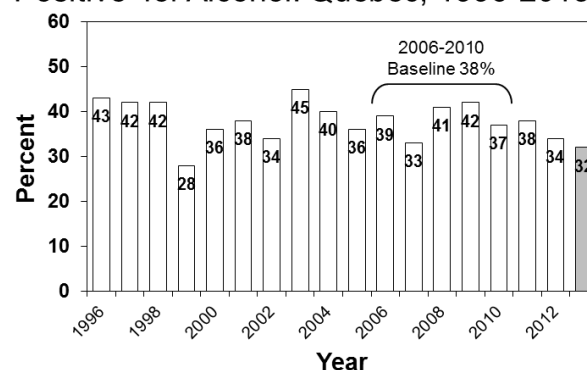
Table 9-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	454	260	(57.3)	194	(42.7)
1997	390	227	(58.2)	163	(41.8)
1998	368	213	(57.9)	155	(42.1)
1999	411	295	(71.8)	116	(28.2)
2000	407	260	(63.9)	147	(36.1)
2001	326	201	(61.7)	125	(38.3)
2002	394	261	(66.2)	133	(33.8)
2003	352	195	(55.4)	157	(44.6)
2004	346	207	(59.8)	139	(40.2)
2005	419	267	(63.7)	152	(36.3)
2006	379	231	(60.9)	148	(39.1)
2007	321	216	(67.3)	105	(32.7)
2008	304	180	(59.2)	124	(40.8)
2009	274	160	(58.4)	114	(41.6)
2010	255	160	(62.7)	95	(37.3)
2011	300	185	(61.7)	115	(38.3)
2012	286	190	(66.4)	96	(33.6)
2013	257	174	(67.7)	83	(32.3)
2006-2010 baseline	307	190	(61.9)	117	(38.1)
2011-2013 period	281	183	(65.1)	98	(34.9)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 9-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Quebec, 1996-2013



9.5.3 Drivers in serious injury crashes. Table 9-8 and Figure 9-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997, the percentage of all drivers in serious injury crashes that involved alcohol generally decreased from 18.9% to 15.3%, rose to 18.8% in 2009, and eventually decreased to 15.6% in 2013.

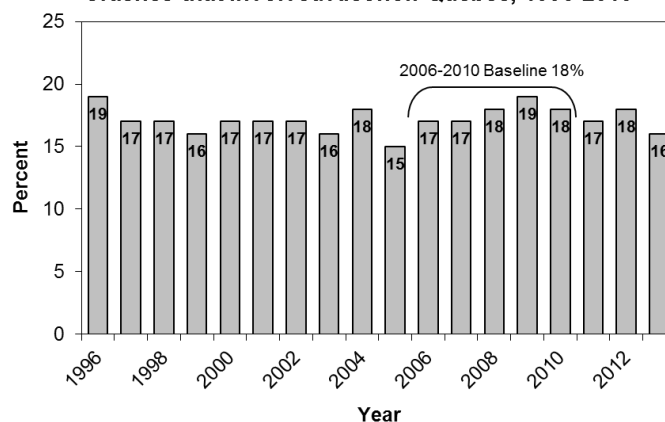
In the baseline period (2006-2010), an average of 17.8% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-involved crashes declined to 17.0%, a 4.5% decrease from the baseline period.

Table 9-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Quebec, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	5382	1018	(18.9)
1997	5146	871	(16.9)
1998	4782	800	(16.7)
1999	4557	740	(16.2)
2000	4455	750	(16.8)
2001	4179	699	(16.7)
2002	4323	746	(17.3)
2003	4386	679	(15.5)
2004	4337	761	(17.5)
2005	4856	745	(15.3)
2006	4404	741	(16.8)
2007	3350	584	(17.4)
2008	2812	508	(18.1)
2009	2740	515	(18.8)
2010	2895	531	(18.3)
2011	2543	443	(17.4)
2012	2507	451	(18.0)
2013	2218	345	(15.6)
2006-2010 baseline	3240	576	(17.8)
2011-2013 period	2423	413	(17.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 9-5
Percent of Drivers of Highway Vehicles in Serious Injury
Crashes that Involved Alcohol: Quebec, 1996-2013



9.5.4 Drug use among fatally injured drivers. Table 9-9 and Figure 9-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 9-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

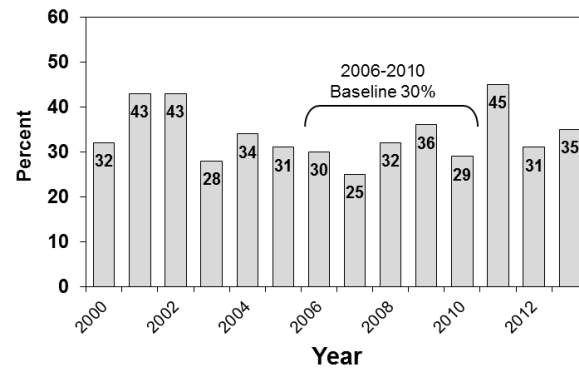
As can be seen at the bottom of Table 9-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 30.3%. In the 2011-2013 period, 36.7% of fatally injured drivers tested positive for drugs, a 21.1% increase from the baseline period.

Table 9-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	407	189	46.4	128	67.7	61	32.3
2001	326	210	64.4	120	57.1	90	42.9
2002	394	256	65.0	145	56.6	111	43.4
2003	352	211	59.9	153	72.5	58	27.5
2004	346	167	48.3	110	65.9	57	34.1
2005	419	219	52.3	152	69.4	67	30.6
2006	379	244	64.4	170	69.7	74	30.3
2007	321	197	61.4	147	74.6	50	25.4
2008	304	216	71.1	147	68.1	69	31.9
2009	274	135	49.3	86	63.7	49	36.3
2010	255	151	59.2	107	70.9	44	29.1
2011	300	186	62.0	103	55.4	83	44.6
2012	286	190	66.4	132	69.5	58	30.5
2013	257	186	72.4	121	65.1	65	34.9
2006-2010 baseline	307	188	61.2	131	69.7	57	30.3
2011-2013 period	281	188	66.9	119	63.3	69	36.7

* Dying within 30 days in collisions which occurred on public roadways.

Figure 9-6
Percent of Fatally Injured Drivers
Positive for Drugs: Quebec, 2000-2013



10.0 NEW BRUNSWICK

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in New Brunswick during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 10.1);
- > alcohol use among fatally injured drivers (Section 10.2);
- > drivers involved in alcohol-related serious injury crashes (Section 10.3);
- > drug use among fatally injured drivers (Section 10.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 10.5).

10.1 Deaths in alcohol-related crashes

Table 10-1 presents information on people who died in alcohol-related crashes in New Brunswick during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, eight people aged 16-19 were killed in motor vehicle crashes in New Brunswick during 2013. And, in all eight cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were seven people aged 16-19 who died in alcohol-related crashes in New Brunswick during 2013. The next column expresses this as a percentage – i.e., 87.5% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 43.8% of all the people killed in alcohol-related crashes in New Brunswick during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 54 persons died within 30 days of a motor vehicle crash in New Brunswick during 2013. In 52 (96.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 16 (30.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (54 x .308) it can be estimated that *in New Brunswick during 2013, 17 persons died in alcohol-related crashes within 30 days of the collision.*

Table 10-1
Deaths in Alcohol-Related Crashes: New Brunswick, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
16-19	8	8	100.0	7	87.5	43.8
20-25	10	10	100.0	3	30.0	18.8
26-35	7	7	100.0	1	14.3	6.3
36-45	7	7	100.0	4	57.1	25.0
46-55	6	5	83.3	1	20.0	6.3
>55	16	15	93.8	0	0.0	0.0
<u>Gender</u>						
Male	36	35	97.2	15	42.9	93.8
Female	18	17	94.4	1	5.9	6.3
<u>Victim Type</u>						
Driver/ Operator	35	33	94.3	10	30.3	62.5
Passenger	15	15	100.0	5	33.3	31.3
Pedestrian	4	4	100.0	1	25.0	6.3
<u>Vehicle Occupied</u>						
Automobiles	33	31	93.9	11	35.5	68.8
Trucks/Vans	10	10	100.0	2	20.0	12.5
Motorcycles	6	6	100.0	2	33.3	12.5
Off-road Vehicles	1	1	100.0	0	0.0	0.0
(Pedestrians)	4	4	100.0	1	25.0	6.3
TOTAL	54	52	96.3	16	30.8	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

10.1.1 Victim age. Of all the people who died in alcohol-related crashes, 43.8% (see last column) were aged 16-19; 25.0% were aged 36-45; 18.8% were aged 20-25; and 6.3% were aged 26-35 and 46-55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 16-19 died (87.5%). The lowest incidence of alcohol involvement was found among fatalities over 55 – 0.0% of persons over 55 died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 93.8% were males. The incidence of alcohol in crashes in which a male died (42.9%) was greater than the incidence of alcohol in crashes in which a female died (5.9%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 62.5% were drivers/operators of a vehicle; 31.3% were passengers; and 6.3% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (33.3%) occurred in the crashes in which a passenger died. Alcohol was involved in 30.3% of the crashes in which a driver/operator died and 25.0% of those in which a pedestrian died.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 68.8% were automobile occupants; and 12.5% were truck/van occupants and motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant died (35.5% versus

20.0%). Among motorcyclists and off-road vehicle occupants, 33.3% and 0.0% died in alcohol-related crashes, respectively.

10.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in New Brunswick during 2013. Table 10-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 36-45 year olds there were six drivers killed during 2013; all six of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, three (50.0%) were positive for alcohol. This means that fatally injured drinking drivers aged 36-45 accounted for 33.3% of all drinking drivers who were killed.

Table 10-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
New Brunswick, 2013

NEW DRINKING, 2010

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
<26**	9	9	100.0	5	55.6	55.6	2	22.2	40.0
26-35	5	5	100.0	1	20.0	11.1	0	0.0	0.0
36-45	6	6	100.0	3	50.0	33.3	3	50.0	60.0
46-55	5	3	60.0	0	0.0	0.0	0	0.0	0.0
>55	9	8	88.9	0	0.0	0.0	0	0.0	0.0
<u>Gender</u>									
Male	24	23	95.8	9	39.1	100.0	5	21.7	100.0
Female	10	8	80.0	0	0.0	0.0	0	0.0	0.0
<u>Vehicle Type</u>									
Automobiles	24	22	91.7	7	31.8	77.8	3	13.6	60.0
Truck/Van	5	5	100.0	1	20.0	11.1	1	20.0	20.0
Motorcycles	5	4	80.0	1	25.0	11.1	1	25.0	20.0
<u>Collision Type</u>									
Single vehicle	16	13	81.3	8	61.5	88.9	5	38.5	100.0
Multiple vehicle	18	18	100.0	1	5.6	11.1	0	0.0	0.0
TOTAL	34	31	91.2	9	29.0	100.0	5	16.1	100.0

* Drivers dying within 30 days in crashes on public roadways.

** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.

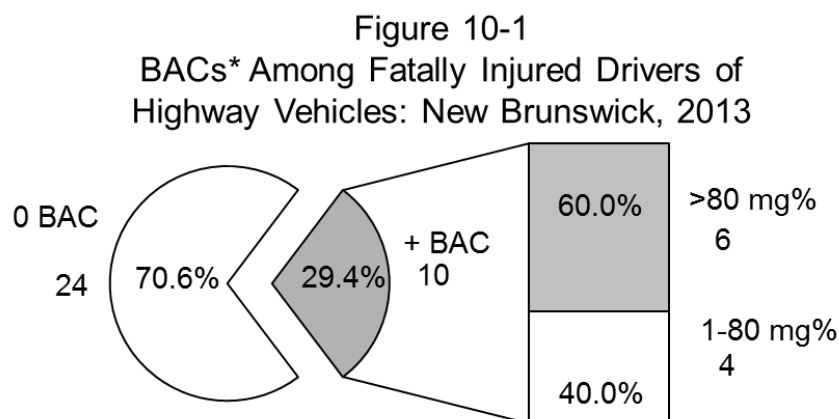
Then, in the final three columns, it can be seen that three of the six (50.0%) fatally injured 36-45 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that all three drivers who tested positive for alcohol had BACs above the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 36-45 year old drivers accounted for 60.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. New Brunswick had a very high testing rate in 2013, with 91.2% of fatally injured drivers being tested for alcohol use.

In New Brunswick, 29.0% had been drinking and five of nine (55.6%) fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 71.0% had BACs of zero mg%;
- > 9.7% had BACs from 1-49 mg%;
- > 3.2% had BACs from 50-80 mg%
- > 6.5% had BACs from 81 to 160 mg%; and,
- > 9.7% had BACs over 160 mg%.

In Figure 10-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 10 of 34 (29.4%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, six (60.0%) have BACs over 80 mg%.



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

10.2.1 Age differences. Drivers aged 16-19 and 20-25 have been regrouped (under 26 age group) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with positive BAC), 55.6% were under age 26; 33.3% were aged 36-45; and 11.1% were aged 26-35.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were aged 36-45 and 40.0% were aged under 26.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers under age 26 were the most likely to have been drinking (55.6%). By contrast, 0.0% of the tested drivers aged 46-55 and over 55 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 100.0% of the fatally injured drivers who had been drinking and those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (24 of the 34 fatalities or 70.6% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (39.1% and 0.0%, respectively). And, 55.6% of the male drivers and 0.0% of the female drivers who were drinking had BACs over the legal limit.

10.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 77.8% were automobile drivers; and 11.1% each were truck/van drivers and motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were automobile drivers, and 20.0% each were truck/van drivers and motorcyclists.

Within each of the vehicle types, 31.8% of fatally injured automobile drivers, 25.0% of motorcyclists and 20.0% of truck/van drivers had been drinking.

10.2.4 Collision differences. Less than half of the drivers killed (16 of the 34) were involved in single-vehicle collisions but these crashes accounted for almost all of the drivers who had been drinking or were legally impaired (88.9% and 100.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over three-fifths of the drivers involved in single-vehicle crashes (61.5%) tested positive for alcohol, compared to 5.6% of those involved in multiple-vehicle collisions.

10.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2012 in New Brunswick. *At the time this report was being prepared, collision data from 2013 for New Brunswick were not available. For this reason, 2012 data will be reported in this section.* A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 10-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 230 drivers were involved in crashes in which someone was seriously injured, and among these 24.8% were involved in alcohol-related crashes.

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.8% were aged 20-25 and 26-35; and 17.5% were aged 36-45. Drivers under 16 and aged 16-19 respectively accounted for only 0.0% and 7.0% of those involved in alcohol-related serious injury crashes.

Almost half of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (48.3%). The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16 and over 55 (0.0% and 9.6%, respectively).

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 80.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (27.5% and 18.3%, respectively).

Table 10-3
Drivers* in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2012

New Brunswick, 2012				
Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	1	0	0.0	0.0
16-19	14	4	28.6	7.0
20-25	27	13	48.1	22.8
26-35	35	13	37.1	22.8
36-45	36	10	27.8	17.5
46-55	40	9	22.5	15.8
>55	73	7	9.6	12.3
unknown	4	1	25.0	1.8
<u>Gender</u>				
Male	167	46	27.5	80.7
Female	60	11	18.3	19.3
unknown	3	0	0.0	0.0
<u>Vehicle Type</u>				
Auto	123	33	26.8	57.9
Truck/Van	71	19	26.8	33.3
Motorcycle	29	4	13.8	7.0
Tractor-Trailer	5	1	20.0	1.8
Other Hwy. Vehicle	2	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	105	45	42.9	78.9
Multiple-Vehicle	125	12	9.6	21.1
TOTAL	230	57	24.8	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.9% were automobile drivers; 33.3% were truck/van drivers; 7.0% were motorcyclists; and 1.8% were tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile and truck/van drivers – 26.8% of these drivers were in crashes that involved alcohol, compared to 20.0% for tractor-trailer drivers and 13.8% for motorcyclists.

10.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 78.9% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 42.9% of these drivers, compared to only 9.6% for drivers involved in multiple-vehicle crashes.

10.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in New Brunswick during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 10-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, New Brunswick had a high testing rate in 2013, with 91.2% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 11 out of 34 (35.5%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (63.6%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants and CNS stimulants (27.3% each), and narcotic analgesics (9.1%).

Table 10-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: New Brunswick, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
34	31	(91.2)	11	(35.5)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	7	(63.6)
CNS Depressants	3	(27.3)
CNS Stimulants	3	(27.3)
Narcotic Analgesics	1	(9.1)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

10.5 Trends in alcohol and drug-impaired driving

Sections 10.1 through 10.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 10.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

10.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 10-5 and Figure 10-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 10.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 33 in 1996 to 25 in 2008, peaked at 39 in 2010, and fell to a low of 16 in 2013. The percentage of alcohol-related fatalities generally decreased from 34.4% in 1996 to its lowest level in 2000 (26.9%), peaked at 41.1% in 2010, and generally decreased until 2013 (29.6%).

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 31 fatalities involving a drinking driver and they accounted for 36.0% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 4.4% from 36.0% in the baseline period (2006-2010) to 34.4% in the 2011-2013 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 32.3% decrease from an average of 31 in the baseline period (2006-2010) to 21 in the 2011-2013 period.

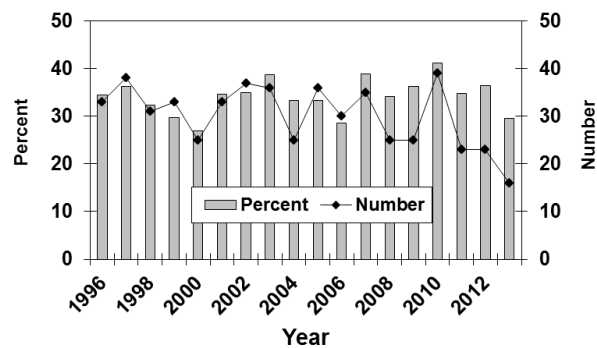
Table 10-5
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: New Brunswick, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	96	33	34.4
1997	105	38	36.2
1998	96	31	32.3
1999	111	33	29.7
2000	93	25	26.9
2001	95	33	34.7
2002	106	37	34.9
2003	93	36	38.7
2004	75	25	33.3
2005	108	36	33.3
2006	105	30	28.6
2007	90	35	38.9
2008	73	25	34.2
2009	69	25	36.2
2010	95	39	41.1
2011	66	23	34.8
2012	63	23	36.5
2013	54	16	29.6
2006-2010 baseline	86	31	36.0
2011-2013 period	61	21	34.4

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 10-2
Number and Percent of Deaths Involving a
Drinking Driver: New Brunswick, 1996-2013



10.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 10-6. Trends are illustrated in Figure 10-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

Table 10-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
New Brunswick, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	56	48	85.7	30	62.5	4	8.3	14	29.2
1997	58	52	89.7	30	57.7	4	7.7	18	34.6
1998	57	50	87.7	29	58.0	2	4.0	19	38.0
1999	60	49	81.7	32	65.3	2	4.1	15	30.6
2000	51	40	78.4	24	60.0	2	5.0	14	35.0
2001	56	43	76.8	20	46.5	5	11.6	18	41.9
2002	61	49	80.3	30	61.2	2	4.1	17	34.7
2003	59	53	89.8	31	58.5	4	7.5	18	34.0
2004	42	37	88.1	25	67.6	2	5.4	10	27.0
2005	60	54	90.0	35	64.8	3	5.6	16	29.6
2006	65	58	89.2	39	67.2	3	5.2	16	27.6
2007	50	45	90.0	23	51.1	5	11.1	17	37.8
2008	41	38	92.7	20	52.6	2	5.3	16	42.1
2009	48	46	95.8	28	60.9	2	4.3	16	34.8
2010	60	57	95.0	29	50.9	2	3.5	26	45.6
2011	45	40	88.9	27	67.5	1	2.5	12	30.0
2012	39	36	92.3	24	66.7	1	2.8	11	30.6
2013	34	31	91.2	22	71.0	4	12.9	5	16.1
2006-2010 baseline	53	49	(92.5)	28	(57.1)	3	(6.1)	18	(36.7)
2011-2013 period	39	35	(89.7)	24	(68.6)	2	(5.7)	9	(25.7)

* Dying within 30 days in collisions which occurred on public roadways.

As can be seen, the percentage of fatally injured drivers with BACs over the legal limit fluctuated, peaking in 2010 (45.6%) and generally decreasing until 2013 (16.1%). The percent of fatally injured drivers with zero BACs generally decreased from 1996 (62.5%) to 2001 (46.5%), generally increased until 2006 (67.2%), eventually decreased in 2010 (50.9%), and peaked in 2013 (71.0%). The percent of fatally injured drivers with BACs between 1 and 80 mg% generally rose from 1996 (8.3%) until 2001 (11.6%), fluctuated until 2007 (11.1%), declined until 2011 (2.5%), and peaked in 2013 (12.9%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 10-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 20.1% (from 57.1% to 68.6%). Among drivers with BACs from 1-80 mg%, there was a 6.6% decrease (from 6.1% to 5.7%). And among drivers with BACs over 80 mg%, there was a 30.0% decrease (from 36.7% to 25.7%).

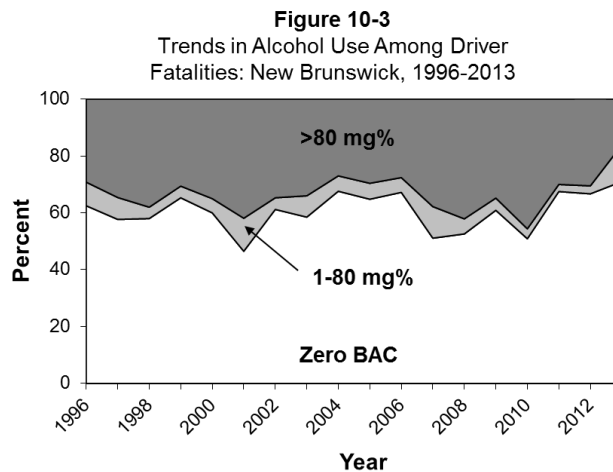


Table 10-7 and Figure 10-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 10-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 10-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 43.4%. In the 2011-2013 period, 33.4% of fatally injured drivers tested positive for alcohol, a 23.3% decrease from the baseline period.

Table 10-7

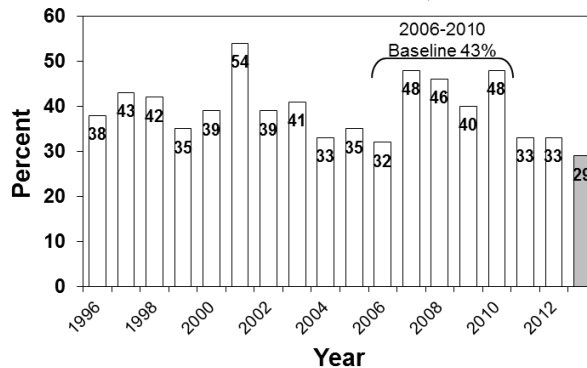
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
New Brunswick, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	56	35	(62.5)	21	(37.5)
1997	58	33	(56.9)	25	(43.1)
1998	57	33	(57.9)	24	(42.1)
1999	60	39	(65.0)	21	(35.0)
2000	51	31	(60.8)	20	(39.2)
2001	56	26	(46.4)	30	(53.6)
2002	61	37	(60.7)	24	(39.3)
2003	59	35	(59.3)	24	(40.7)
2004	42	28	(66.7)	14	(33.3)
2005	60	39	(65.0)	21	(35.0)
2006	65	44	(67.7)	21	(32.3)
2007	50	26	(52.0)	24	(48.0)
2008	41	22	(53.7)	19	(46.3)
2009	48	29	(60.4)	19	(39.6)
2010	60	31	(51.7)	29	(48.3)
2011	45	30	(66.7)	15	(33.3)
2012	39	26	(66.7)	13	(33.3)
2013	34	24	(70.6)	10	(29.4)
2006-2010 baseline	53	30	(56.6)	23	(43.4)
2011-2013 period	39	26	(66.7)	13	(33.3)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 10-4
Percent of Fatally Injured Drivers* Positive for Alcohol: New Brunswick, 1996-2013



10.5.3 Drivers in serious injury crashes. Table 10-8 and Figure 10-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. As mentioned in Section 10.3, collision data from 2013 for New Brunswick were not available at the time this report was being prepared. For this reason, this sub-section will only report upon data from 1996 to 2012. From 1996 to 2001, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 24.5% to a high of 27.8%. Since then, the incidence declined until 2005 (23.8%), rose in 2010 (27.5%), and decreased until 2012 (24.8%).

In the baseline period (2006-2010), an average of 25.6% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2012 period, the percentage of drivers in serious injury crashes involving alcohol was 26.4%, resulting in a 3.1% increase.

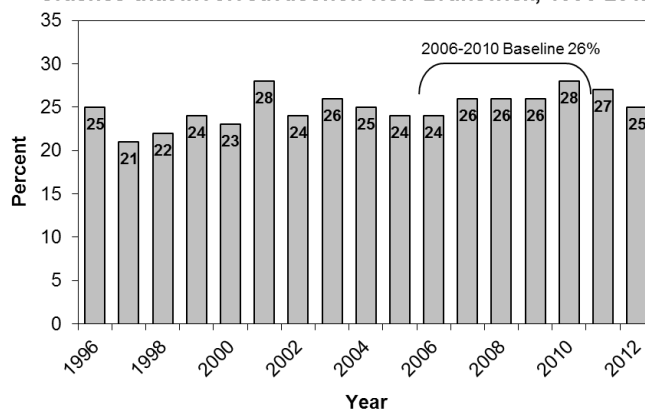
Table 10-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: New Brunswick, 1996-2012

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	597	146	(24.5)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)
2001	511	142	(27.8)
2002	439	105	(23.9)
2003	426	110	(25.8)
2004	425	108	(25.4)
2005	429	102	(23.8)
2006	369	89	(24.1)
2007	327	85	(26.0)
2008	302	78	(25.8)
2009	313	80	(25.6)
2010	309	85	(27.5)
2011	277	76	(27.4)
2012	230	57	(24.8)
2006-2010 baseline	324	83	(25.6)
2011-2012 period	254	67	(26.4)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 10-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: New Brunswick, 1996-2012



10.5.4 Drug use among fatally injured drivers. Table 10-9 and Figure 10-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 10-6, these

results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

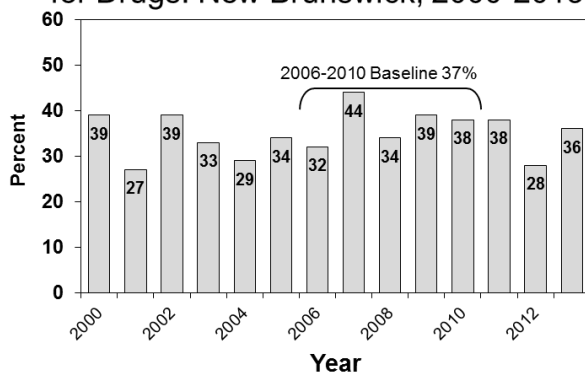
As can be seen at the bottom of Table 10-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 37.0%. In the 2011-2013 period, an average of 34.4% of fatally injured drivers tested positive for drugs, a 7.0% decrease from the baseline period.

Table 10-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
New Brunswick, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative : (% Tested)	Positive	(% Tested)	
2000	51	39	76.5	24	61.5	15	38.5
2001	56	37	66.1	27	73.0	10	27.0
2002	61	44	72.1	27	61.4	17	38.6
2003	59	52	88.1	35	67.3	17	32.7
2004	42	35	83.3	25	71.4	10	28.6
2005	60	50	83.3	33	66.0	17	34.0
2006	65	56	86.2	38	67.9	18	32.1
2007	50	43	86.0	24	55.8	19	44.2
2008	41	35	85.4	23	65.7	12	34.3
2009	48	44	91.7	27	61.4	17	38.6
2010	60	56	93.3	35	62.5	21	37.5
2011	45	34	75.6	21	61.8	13	38.2
2012	39	32	82.1	23	71.9	9	28.1
2013	34	31	91.2	20	64.5	11	35.5
2006-2010 baseline	53	46	86.8	29	63.0	17	37.0
2011-2013 period	39	32	82.1	21	65.6	11	34.4

* Dying within 30 days in collisions which occurred on public roadways.

Figure 10-6
Percent of Fatally Injured Drivers Positive
for Drugs: New Brunswick, 2000-2013



11.0 NOVA SCOTIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Nova Scotia during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 11.1);
- > alcohol use among fatally injured drivers (Section 11.2);
- > drivers involved in alcohol-related serious injury crashes (Section 11.3);
- > drug use among fatally injured drivers (Section 11.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 11.5).

11.1 Deaths in alcohol-related crashes

Table 11-1 presents information on people who died in alcohol-related crashes in Nova Scotia during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, nine people aged 16-19 were killed in motor vehicle crashes in Nova Scotia during 2013. And, in all nine cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were four people aged 16-19 who died in alcohol-related crashes in Nova Scotia during 2013. The next column expresses this as a percentage – i.e., 44.4% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 20.0% of all the people killed in alcohol-related crashes in Nova Scotia during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 72 persons died within 30 days of a motor vehicle crash in Nova Scotia during 2013. In 70 (97.2%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 20 (28.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($72 \times .286$) it can be estimated that *in Nova Scotia during 2013, 21 persons died in alcohol-related crashes within 30 days of the collision.*

Table 11-1
Deaths in Alcohol-Related Crashes: Nova Scotia, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	3	3	100.0	1	33.3	5.0
16-19	9	9	100.0	4	44.4	20.0
20-25	9	9	100.0	4	44.4	20.0
26-35	6	6	100.0	2	33.3	10.0
36-45	11	11	100.0	6	54.5	30.0
46-55	9	9	100.0	0	0.0	0.0
>55	25	23	92.0	3	13.0	15.0
<u>Gender</u>						
Male	54	53	98.1	16	30.2	80.0
Female	18	17	94.4	4	23.5	20.0
<u>Victim Type</u>						
Driver/ Operator	49	48	98.0	10	20.8	50.0
Passenger	15	15	100.0	6	40.0	30.0
Pedestrian	8	7	87.5	4	57.1	20.0
<u>Vehicle Occupied</u>						
Automobiles	34	33	97.1	10	30.3	50.0
Trucks/Vans	18	18	100.0	4	22.2	20.0
Motorcycles	10	10	100.0	1	10.0	5.0
Off-road Vehicles	2	2	100.0	1	50.0	5.0
(Pedestrians)	8	7	87.5	4	57.1	20.0
TOTAL	72	70	97.2	20	28.6	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

11.1.1 Victim age. Of all the people who died in alcohol-related crashes, 30.0% (see last column) were aged 36-45; 20.0% were aged 16-19 and 20-25; 15.0% were over 55; 10.0% were aged 26-35; and 5.0% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 36-45 died (54.5%). The lowest incidence of alcohol involvement was found among those aged 46-55 (0.0%).

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.0% were males. The incidence of alcohol in crashes in which a male died (30.2%) was greater than the incidence of alcohol in crashes in which a female died (23.5%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 50.0% were drivers/operators of a vehicle; 30.0% were passengers; and 20.0% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (57.1%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 40.0% of the crashes in which a passenger died and 20.8% of those in which a driver/operator died.

11.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 50.0% were in an automobile; 20.0% were truck/van occupants; and 5.0% were off-road vehicle occupants and motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or motorcyclist died (30.3% versus 22.2% and 10.0%).

The number of fatalities in each of the other types of vehicles is too small to produce reliable estimates of alcohol-involvement.

11.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Nova Scotia during 2013. Table 11-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-25 year olds there were five drivers killed during 2013; all five of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (20.0%) was positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 11.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the five (20.0%) fatally injured 20-25 year olds who were tested for alcohol had BACs in excess of 80 mg%. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 20-25 year old drivers accounted for 16.7% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Nova Scotia had a very high testing rate in 2013, with 91.5% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 20.9% had been drinking and six of nine (66.7%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 79.1% had BACs of zero mg%
- > 7.0% had BACs from 1-49 mg%;
- > 0.0% had BACs from 50-80 mg%
- > 4.7% had BACs from 81 to 160 mg%; and,
- > 9.3% had BACs over 160 mg%.

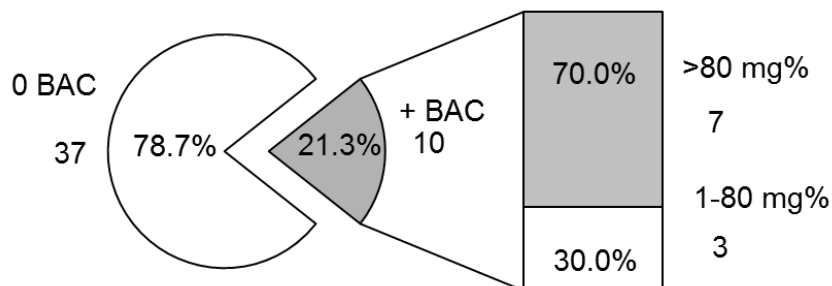
Table 11-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 2013

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	5	5	100.0	2	40.0	22.2	1	20.0	16.7
20-25	5	5	100.0	1	20.0	11.1	1	20.0	16.7
26-35	4	4	100.0	1	25.0	11.1	0	0.0	0.0
36-45	8	8	100.0	4	50.0	44.4	4	50.0	66.7
46-55	8	6	75.0	0	0.0	0.0	0	0.0	0.0
>55	17	15	88.2	1	6.7	11.1	0	0.0	0.0
Gender									
Male	37	34	91.9	8	23.5	88.9	5	14.7	83.3
Female	10	9	90.0	1	11.1	11.1	1	11.1	16.7
Vehicle Type									
Automobiles	28	27	96.4	6	22.2	66.7	5	18.5	83.3
Truck/Van	9	8	88.9	2	25.0	22.2	1	12.5	16.7
Motorcycles	10	8	80.0	1	12.5	11.1	0	0.0	0.0
Collision Type									
Single vehicle	26	23	88.5	7	30.4	77.8	6	26.1	100.0
Multiple vehicle	21	20	95.2	2	10.0	22.2	0	0.0	0.0
TOTAL	47	43	91.5	9	20.9	100.0	6	14.0	100.0

* Drivers dying within 30 days in crashes on public roadways.

The BAC distribution for fatally injured drivers is shown in Figure 11-1. In this figure 10 of 47 (21.3%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, seven (70.0%) have BACs over 80 mg%.

Figure 11-1
BACs* Among Fatally Injured Drivers of
Highway Vehicles: Nova Scotia, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

11.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 44.4% were aged 36-45; 22.2% were aged 16-19; and 11.1% were aged 20-25, 26-35 and over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 66.7% were aged 36-45; and 16.7% were aged 16-19 and 20-25.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 36-45 were the most likely to have been drinking (50.0%). By contrast, 0.0% of the tested drivers aged 46-55 had been drinking.

11.2.2 Gender differences. Males dominate the picture – they account for 88.9% of all of the fatally injured drivers who had been drinking and 83.3% of those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (37 of the 47 fatalities or 78.7% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (23.5% and 11.1%, respectively). And 62.5% of the male drivers and 100.0% of the female drivers who were drinking had BACs over the legal limit.

11.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were automobile drivers; 22.2% were truck/van drivers; and 11.1% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 83.3% were automobile drivers and 16.7% were truck/van drivers.

Within each of the vehicle types, 25.0% of fatally injured truck/van drivers, 22.2% of automobile drivers; and 12.5% of motorcyclists were found to have been drinking.

11.2.4 Collision differences. Just over half of the drivers killed (26 of the 47) were involved in single-vehicle collisions but these crashes accounted for 77.8% of the drivers who had been drinking and 100.0% of the drivers who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost one-third of the drivers involved in single-vehicle crashes (30.4%) tested positive for alcohol, compared to 10.0% of those involved in multiple-vehicle collisions.

11.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Nova Scotia. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 11-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 285 drivers were involved in crashes in which someone was seriously injured, and among these 15.8% were alcohol-related crashes.

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.4% were aged 26-35; 17.8% were aged 20-25; 15.6% were aged 36-45 and 46-55; 13.3% were over 55; and 11.1% were aged 16-19.

Over one-quarter of the drivers aged 16-19 and 26-35 were involved in alcohol-related serious injury crashes (27.8% and 26.2%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 and over 55 (0.0 and 7.7%, respectively).

Table 11-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Nova Scotia, 2013

Nova Score, 2019

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	1	0	0.0	0.0
16-19	18	5	27.8	11.1
20-25	40	8	20.0	17.8
26-35	42	11	26.2	24.4
36-45	44	7	15.9	15.6
46-55	55	7	12.7	15.6
>55	78	6	7.7	13.3
unknown	7	1	14.3	2.2
<u>Gender</u>				
Male	195	34	17.4	75.6
Female	83	10	12.0	22.2
unknown	7	1	14.3	2.2
<u>Vehicle Type</u>				
Auto	149	29	19.5	64.4
Truck/Van	92	13	14.1	28.9
Motorcycle	32	3	9.4	6.7
Tractor-Trailer	5	0	0.0	0.0
Other Hwy. Vehicle	7	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	108	34	31.5	75.6
Multiple-Vehicle	177	11	6.2	24.4
TOTAL	285	45	15.8	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

11.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.6% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (17.4% and 12.0%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 64.4% were automobile drivers; 28.9% were truck/van drivers; and 6.7% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 19.5% of these drivers were in crashes that involved alcohol, compared to 14.1% for truck/van drivers; and 9.4% for motorcyclists. Among both tractor-trailer drivers and drivers of other highway vehicles, 0.0% were involved in alcohol-related crashes.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 75.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 31.5% of these drivers, compared to only 6.2% for drivers involved in multiple-vehicle crashes.

11.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Nova Scotia during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 11-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Nova Scotia had a very high testing rate in 2013, with 91.5% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 16 out of 43 (37.2%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (81.3%). Other categories of drugs found in fatally injured drivers testing positive for drugs were narcotic analgesics (18.8%), CNS depressants (12.5%), and CNS stimulants and hallucinogens (6.3% each).

Table 11-4
Drug Use Among Fatally Injured Drivers* of
Highway Vehicles: Nova Scotia, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
47	43	(91.5)	16	(37.2)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	13	(81.3)
Narcotic Analgesics	3	(18.8)
CNS Depressants	2	(12.5)
CNS Stimulants	1	(6.3)
Hallucinogens	1	(6.3)
Dissociative Anesthetics	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

11.5 Trends in alcohol and drug-impaired driving

Sections 11.1 through 11.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol (within 30 days of the collision); (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 11.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

11.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 11-5 and Figure 11-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 11.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 39 in 1996 to 22 in 2004, increased to 35 in 2007, and generally decreased to 17 in 2013. The percentage of alcohol-related fatalities rose from 34.8% in 1996 to 43.4% in 1998, generally decreased to a low of 21.5% in 2008, increased to 37.3% in 2009, and decreased again to 23.6% in 2013.

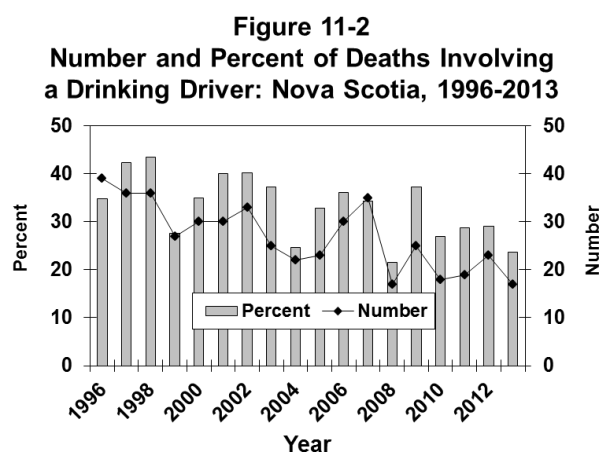
Table 11-5
Number* and Percent of Motor Vehicle Deaths Involving**
a Drinking Driver: Nova Scotia, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	112	39	34.8
1997	85	36	42.4
1998	83	36	43.4
1999	98	27	27.6
2000	86	30	34.9
2001	75	30	40.0
2002	82	33	40.2
2003	67	25	37.3
2004	89	22	24.7
2005	70	23	32.9
2006	83	30	36.1
2007	102	35	34.3
2008	79	17	21.5
2009	67	25	37.3
2010	67	18	26.9
2011	66	19	28.8
2012	79	23	29.1
2013	72	17	23.6
2006-2010 baseline	80	25	31.3
2011-2013 period	72	20	27.8

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 25 fatalities involving a drinking driver and they accounted for 31.3% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 11.2% from 31.3% in the baseline period (2006-2010) to 27.8% in the 2011-2013 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 20.0% decrease from an average of 25 in the baseline period (2006-2010) to 20 in the 2011-2013 period.



11.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 11-6. Trends are illustrated in Figure 11-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1998 (52.6%), generally decreased until 2004 (18.4%), fluctuated until 2009 (39.5%), and generally decreased until 2013 (14.0%). The percent of fatally injured drivers with zero BACs generally increased from 1996 (56.1%) until 2004 (76.3%), fluctuated until 2009 (58.1%), and reached its highest level in 2013 (79.1%). The percent of fatally injured drivers with BACs between 1 and 80 mg% generally increased from 1996 (4.9%) to its highest level in 2002 (22.2%), decreased in 2003 (2.3%), remained relatively stable until 2012 (1.9%), and rose in 2013 (7.0%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 11-6, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 10.3% (from 65.9% to 72.7%). Among drivers with BACs from 1-80 mg%, there was no change (from 4.5% to 4.5%). And among drivers with BACs over 80 mg%, there was a 23.1% decrease (from 29.5% to 22.7%).

Table 11-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	57	41	71.9	23	56.1	2	4.9	16	39.0
1997	46	38	82.6	21	55.3	4	10.5	13	34.2
1998	51	38	74.5	17	44.7	1	2.6	20	52.6
1999	59	40	67.8	24	60.0	3	7.5	13	32.5
2000	56	45	80.4	22	48.9	1	2.2	22	48.9
2001	52	46	88.5	25	54.3	4	8.7	17	37.0
2002	40	36	90.0	16	44.4	8	22.2	12	33.3
2003	47	44	93.6	26	59.1	1	2.3	17	38.6
2004	44	38	86.4	29	76.3	2	5.3	7	18.4
2005	41	40	97.6	21	52.5	3	7.5	16	40.0
2006	46	41	89.1	27	65.9	2	4.9	12	29.3
2007	54	47	87.0	29	61.7	4	8.5	14	29.8
2008	54	51	94.4	40	78.4	2	3.9	9	17.6
2009	47	43	91.5	25	58.1	1	2.3	17	39.5
2010	40	40	100.0	26	65.0	3	7.5	11	27.5
2011	41	34	82.9	21	61.8	2	5.9	11	32.4
2012	59	54	91.5	40	74.1	1	1.9	13	24.1
2013	47	43	91.5	34	79.1	3	7.0	6	14.0
2006-2010 baseline	48	44	(91.7)	29	(65.9)	2	(4.5)	13	(29.5)
2011-2013 period	49	44	(89.8)	32	(72.7)	2	(4.5)	10	(22.7)

* Dying within 30 days in collisions which occurred on public roadways.

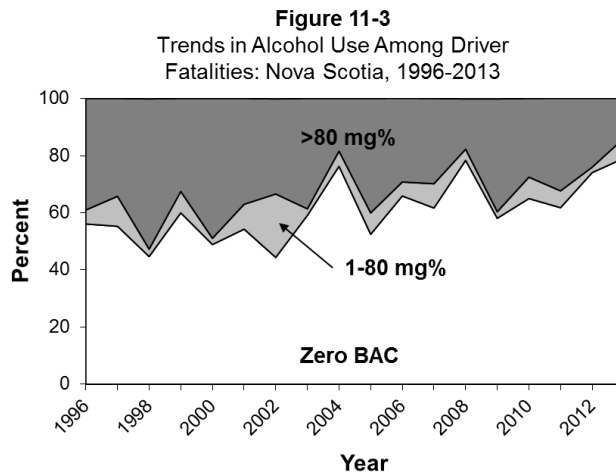


Table 11-7 and Figure 11-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 11-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 11-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 35.4%. In the 2011-2013 period, 28.6% of fatally injured drivers tested positive for alcohol, a 19.2% decrease from the baseline period.

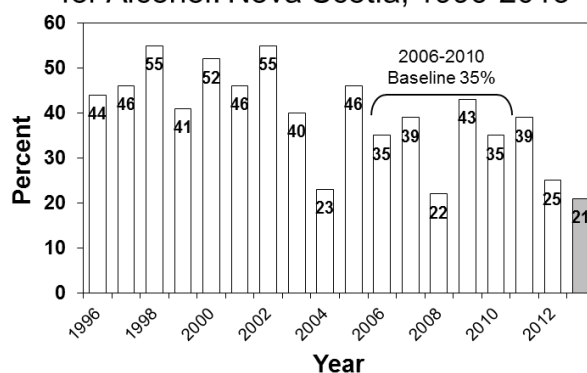
Table 11-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	57	32	(56.1)	25	(43.9)
1997	46	25	(54.3)	21	(45.7)
1998	51	23	(45.1)	28	(54.9)
1999	59	35	(59.3)	24	(40.7)
2000	56	27	(48.2)	29	(51.8)
2001	52	28	(53.8)	24	(46.2)
2002	40	18	(45.0)	22	(55.0)
2003	47	28	(59.6)	19	(40.4)
2004	44	34	(77.3)	10	(22.7)
2005	41	22	(53.7)	19	(46.3)
2006	46	30	(65.2)	16	(34.8)
2007	54	33	(61.1)	21	(38.9)
2008	54	42	(77.8)	12	(22.2)
2009	47	27	(57.4)	20	(42.6)
2010	40	26	(65.0)	14	(35.0)
2011	41	25	(61.0)	16	(39.0)
2012	59	44	(74.6)	15	(25.4)
2013	47	37	(78.7)	10	(21.3)
2006-2010 baseline	48	31	(64.6)	17	(35.4)
2011-2013 period	49	35	(71.4)	14	(28.6)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 11-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Nova Scotia, 1996-2013



11.5.3 Drivers in serious injury crashes. Table 11-8 and Figure 11-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. From 1996 to 1998, the percentage of drivers in serious injury crashes that involved alcohol decreased from 24.9% to 20.4%, generally increased to 26.2% in 2007, decreased to 20.0% in 2008, rose to 25.8% in 2010, and decreased to a low of 15.8% in 2013.

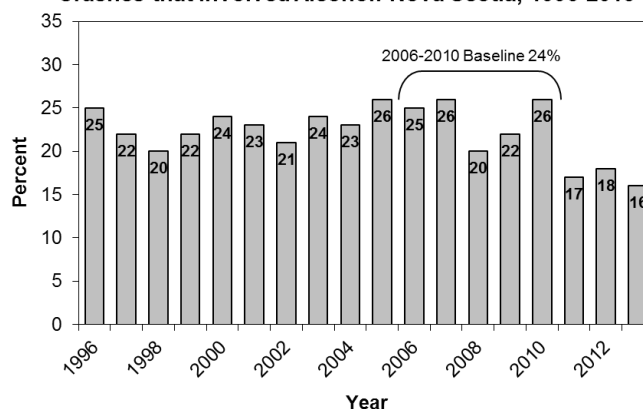
As shown Table 11-8, in the baseline period (2006-2010) an average of 23.9% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2013 period, the incidence of drivers in alcohol-involved crashes decreased to 17.1%, a 28.5% decrease.

Table 11-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Nova Scotia, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	458	114	(24.9)
1997	458	102	(22.3)
1998	427	87	(20.4)
1999	577	125	(21.7)
2000	390	92	(23.6)
2001	400	93	(23.3)
2002	383	81	(21.1)
2003	332	78	(23.5)
2004	351	81	(23.1)
2005	330	86	(26.1)
2006	333	83	(24.9)
2007	336	88	(26.2)
2008	290	58	(20.0)
2009	332	73	(22.0)
2010	299	77	(25.8)
2011	345	59	(17.1)
2012	355	65	(18.3)
2013	285	45	(15.8)
2006-2010 baseline	318	76	(23.9)
2011-2013 period	328	56	(17.1)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 11-5
Percent of Drivers of Highway Vehicles in Serious Injury
Crashes that Involved Alcohol: Nova Scotia, 1996-2013



11.5.4 Drug use among fatally injured drivers. Table 11-9 and Figure 11-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 11-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

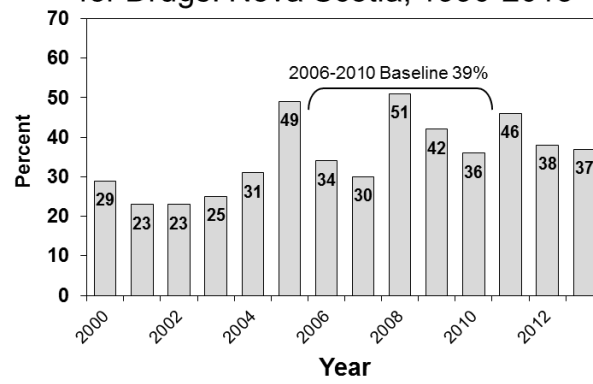
As can be seen at the bottom of Table 11-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 39.0%. In the 2011-2013 period, 39.5% of fatally injured drivers tested positive for drugs, a 1.3% increase from the baseline period.

Table 11-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative : (% Tested)	Positive	(% Tested)	
2000	56	35	62.5	25	71.4	10	28.6
2001	52	40	76.9	31	77.5	9	22.5
2002	40	35	87.5	27	77.1	8	22.9
2003	47	40	85.1	30	75.0	10	25.0
2004	44	32	72.7	22	68.8	10	31.3
2005	41	35	85.4	18	51.4	17	48.6
2006	46	35	76.1	23	65.7	12	34.3
2007	54	44	81.5	31	70.5	13	29.5
2008	54	43	79.6	21	48.8	22	51.2
2009	47	43	91.5	25	58.1	18	41.9
2010	40	39	97.5	25	64.1	14	35.9
2011	41	33	80.5	18	54.5	15	45.5
2012	59	53	89.8	33	62.3	20	37.7
2013	47	43	91.5	27	62.8	16	37.2
2006-2010 baseline	48	41	85.4	25	61.0	16	39.0
2011-2013 period	49	43	87.8	26	60.5	17	39.5

* Dying within 30 days in collisions which occurred on public roadways.

Figure 11-6
Percent of Fatally Injured Drivers Positive
for Drugs: Nova Scotia, 1990-2013



12.0 PRINCE EDWARD ISLAND

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Prince Edward Island during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 12.1);
- > alcohol use among fatally injured drivers (Section 12.2);
- > drivers involved in alcohol-related serious injury crashes (Section 12.3);
- > drug use among fatally injured drivers (Section 12.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 12.5).

12.1 Deaths in alcohol-related crashes

Table 12-1 presents information on people who died in alcohol-related crashes in Prince Edward Island during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, five people aged 46-55 were killed in motor vehicle crashes in Prince Edward Island during 2013. And, in all five cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, two people aged 46-55 died in alcohol-related crashes in Prince Edward Island during 2013. The next column expresses this as a percentage – i.e., 40.0% of those aged 46-55 who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among those aged 46-55 represents 40.0% of all the people killed in alcohol-related crashes in Prince Edward Island during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 14 persons died within 30 days of a motor vehicle crash in Prince Edward Island during 2013. In 13 (92.9%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, five (38.5%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($14 \times .385$) it can be estimated that *in Prince Edward Island during 2013, five persons died in alcohol-related crashes within 30 days of the collision.*

12.1.1 Victim age. Persons aged 20-25, 26-35, and 36-45 have been placed into a broader age group (20-45) to ensure that individuals cannot be identified. Of all the people who died in alcohol-related crashes, 40.0% (see last column) were 20-45 and 46-55 while 20.0% were aged over 55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-45 died (66.7%). The lowest incidence of alcohol involvement was found among persons aged over 55 as 20.0% of persons in this age group died in crashes involving alcohol.

Table 12-1
Deaths in Alcohol-Related Crashes: Prince Edward Island, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
20-45**	3	3	100.0	2	66.7	40.0
46-55	5	5	100.0	2	40.0	40.0
>55	6	5	83.3	1	20.0	20.0
<u>Gender</u>						
Male	9	8	88.9	4	50.0	80.0
Female	5	5	100.0	1	20.0	20.0
<u>Victim Type</u>						
Driver/ Operator	10	9	90.0	3	33.3	60.0
Passenger	2	2	100.0	1	50.0	20.0
Pedestrian	2	2	100.0	1	50.0	20.0
<u>Vehicle Occupied</u>						
Automobiles	7	6	85.7	2	33.3	40.0
Trucks/Vans	1	1	100.0	0	0.0	0.0
Motorcycles	4	4	100.0	2	50.0	40.0
(Pedestrians)	2	2	100.0	1	50.0	20.0
TOTAL	14	13	92.9	5	38.5	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

** Persons in three age groups have been aggregated to ensure that an individual will not be identified.

12.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.0% were males. The incidence of alcohol in crashes in which a male died (50.0%) was greater than the incidence of alcohol in crashes in which a female died (20.0%).

12.1.3 Victim type. Of all the people who died in alcohol-related crashes, 60.0% were drivers/operators of a vehicle; and 20.0% were passengers and pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (50.0%) occurred in the crashes in which a passenger or pedestrian died. Alcohol was involved in 33.3% of the crashes in which a driver/operator died.

12.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 40.0% each were automobile occupants and motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a motorcyclist died (50.0%) was greater than the incidence of alcohol in crashes in which an automobile occupant died (33.3%).

12.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Prince Edward Island during 2013. Table 12-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among those over 55 years of age there were four drivers killed during 2013; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (25.0%) was positive for alcohol. This means that fatally injured drinking drivers over age 55 accounted for 33.3% of all drinking drivers who were killed.

Table 12-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 2013

Prince Edward Island, 2013									
Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
20-25	1	0	0.0	0	0.0	0.0	0	0.0	0.0
26-55**	5	5	100.0	2	40.0	66.7	2	40.0	100.0
>55	4	4	100.0	1	25.0	33.3	0	0.0	0.0
<u>Gender</u>									
Male	8	7	87.5	3	42.9	100.0	2	28.6	100.0
Female	2	2	100.0	0	0.0	0.0	0	0.0	0.0
<u>Vehicle Type</u>									
Automobiles	6	6	100.0	2	33.3	66.7	2	33.3	100.0
Truck/Van	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Motorcycles	3	2	66.7	1	50.0	33.3	0	0.0	0.0
<u>Collision Type</u>									
Single vehicle	5	5	100.0	2	40.0	66.7	2	40.0	100.0
Multiple vehicle	5	4	80.0	1	25.0	33.3	0	0.0	0.0
TOTAL	10	9	90.0	3	33.3	100.0	2	22.2	100.0

* Drivers dying within 30 days in crashes on public roadways.

** Drivers in multiple age groups have been aggregated to ensure that an individual will not be identified.

Then, in the final three columns, it can be seen that none of the fatally injured drivers (0.0%) over age 55 who were tested for alcohol had BACs in excess of 80 mg%. This means that the lone driver who was

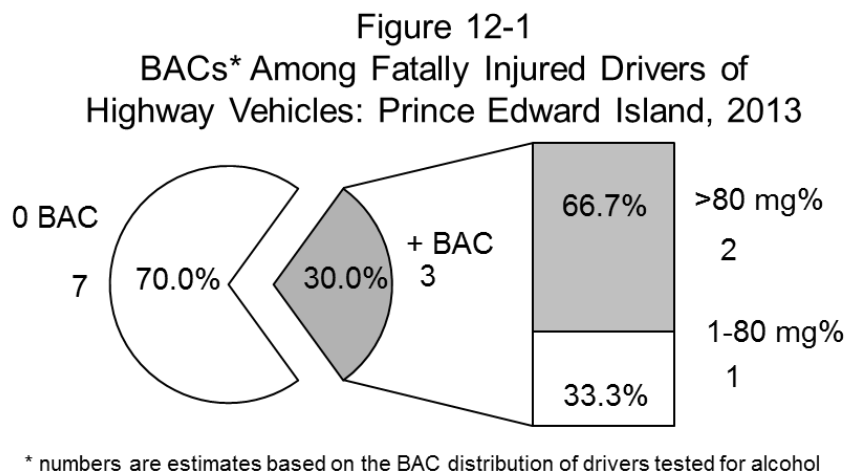
positive for alcohol did not have a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. As can be seen, drivers over age 55 accounted for 0.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Prince Edward Island had a high testing rate in 2013, with 90.0% of fatally injured drivers being tested for alcohol use.

In Prince Edward Island, 33.3% had been drinking and two out of three (66.7%) of the fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 66.7% had BACs of zero mg%;
- > 11.1% had BACs from 1-49 mg%;
- > 0.0% had BACs from 50-80 mg%;
- > 11.1% had BACs from 81-160 mg%; and,
- > 11.1% had BACs over 160 mg%.

The BAC distribution for fatally injured drivers is shown in Figure 12-1. As can be seen, three of 10 (30.0%) fatally injured drivers have positive BACs. And among fatally injured drinking drivers, two (66.7%) have BACs over 80 mg%.



12.2.1 Age differences. Drivers aged 26-35, 36-45 and 46-55 have been regrouped (26-55 age group) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were aged 26-55 and 33.3% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 100.0% were aged 26-55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured tested drivers aged 26-55 were the most likely to have been drinking (40.0%). One-third (33.3%) of the drivers over age 55 had been drinking.

12.2.2 Gender differences. Males dominate the picture as they account for 100.0% of all the fatally injured drivers who had been drinking and those that were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (eight of the 10 fatalities or 80.0% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (42.9% and 0.0%, respectively). And, 66.7% of the male drivers who were drinking had BACs over the legal limit.

12.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were automobile drivers and 33.3% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 100.0% were automobile drivers.

Within each of the vehicle types, 50.0% of motorcyclists and 33.3% of automobile drivers had been drinking. The lone fatally injured truck/van driver had not been drinking.

12.2.4 Collision differences. Five of 10 drivers killed (50.0%) were involved in single-vehicle collisions and these crashes accounted for 66.7% of the drivers who had been drinking as well as 100.0% those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two-fifths of the drivers involved in single-vehicle crashes (40.0%) tested positive for alcohol, compared to 25.0% of those involved in multiple-vehicle collisions.

12.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Prince Edward Island. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 12-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 53 drivers were involved in crashes in which someone was seriously injured, and among these 24.5% were alcohol-related crashes.

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 30.8% were aged 46-55; 23.1% were over age 55; 15.4% were aged 16-19 and 36-45; and 7.7% were aged 20-25 and 26-35.

Half of the drivers aged 46-55 were involved in alcohol-related serious injury crashes (50.0%). The lowest incidence of involvement in alcohol-related crashes was found for those aged 26-35 (14.3%).

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 76.9% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (29.4% and 15.8%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 69.2% were automobile drivers; 23.1% were truck/van drivers; and 7.7% were tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for tractor-trailer drivers (50.0%) compared to 42.9% for truck/van drivers. Among automobile drivers, 24.3% were involved in alcohol-related crashes.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 53.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 38.9% of these drivers, compared to only 17.1% for drivers involved in multiple-vehicle crashes.

Table 12-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
16-19	8	2	25.0	15.4
20-25	5	1	20.0	7.7
26-35	7	1	14.3	7.7
36-45	9	2	22.2	15.4
46-55	8	4	50.0	30.8
>55	16	3	18.8	23.1
<u>Gender</u>				
Male	34	10	29.4	76.9
Female	19	3	15.8	23.1
<u>Vehicle Type</u>				
Auto	37	9	24.3	69.2
Truck/Van	7	3	42.9	23.1
Motorcycle	7	0	0.0	0.0
Tractor-Trailer	2	1	50.0	7.7
<u>Collision Type</u>				
Single-Vehicle	18	7	38.9	53.8
Multiple-Vehicle	35	6	17.1	46.2
TOTAL	53	13	24.5	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

12.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Prince Edward Island during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 12-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Prince Edward Island had a low testing rate in 2013, with 50.0% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, one out of five (20.0%) were positive for drugs. The most common categories of drugs found within drivers testing positive for drug use was cannabis and CNS stimulants (100.0%).

Tableau 12-4
Consommation de drogues des conducteurs* mortellement
blessés de véhicules routiers : île-du-Prince-Édouard, 2013

Fréquence de consommation de drogues

Nombre de conducteurs	Conducteurs soumis au test de dépistage		Résultats positifs	
	Nombre	% du total	Nombre	% du nombre soumis au test
10	5	(50.0)	1	(20.0)

Catégories de drogues décelées chez les conducteurs ayant eu des résultats positifs

Catégorie	Résultats positifs par catégorie	
	Nombre de conducteurs	% des conducteurs ayant eu des résultats positifs**
Cannabis	1	(100.0)
Stimulants du SNC	1	(100.0)
Analgésiques narcotiques	0	(0.0)
Dépresseurs du SNC	0	(0.0)
Hallucinogènes	0	(0.0)
Anesthésiques dissociatifs	0	(0.0)
Inhalants	0	(0.0)

* Conducteurs décédés dans les 30 jours suivant une collision routière.

** L'addition des pourcentages ne donne pas 100 % parce que l'échantillon sanguin de certains conducteurs révélait la présence de plusieurs catégories de drogues.

12.5 Trends in alcohol and drug-impaired driving

Sections 12.1 through 12.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol (within 30 days of the collision); (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 12.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

12.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 12-5 and Figure 12-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 12.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally increased from four to a high of 14 between 1996 and 2006. This number decreased to a low of one in 2010, rose to 10 in 2011, and decreased again to four in 2013. The percentage of alcohol-related fatalities generally increased from 26.7% in 1996 to 61.5% in 2003, remained stable until 2009, fell to a low of 11.1% in 2010, peaked at 72.7% in 2012, and decreased again in 2013 (28.6%).

As shown at the bottom of the table, during the 2006-2010 baseline period, there was an average of seven fatalities involving a drinking driver and they accounted for 50.0% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver did not change from 50.0% in the baseline period (2006-2010) to 50.0% in the 2011-2013 period. Also, in terms of the number of persons killed in crashes involving a drinking driver, there was no change from an average of seven in the baseline period (2006-2010) to seven in the 2011-2013 period.

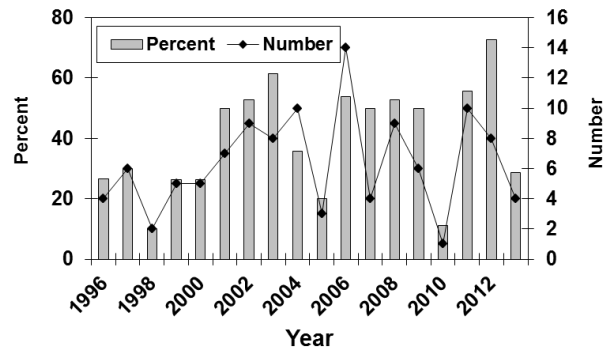
Table 12-5
Number* and Percent of Motor Vehicle Deaths Involving a**
Drinking Driver: Prince Edward Island, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	15	4	26.7
1997	20	6	30.0
1998	20	2	10.0
1999	19	5	26.3
2000	19	5	26.3
2001	14	7	50.0
2002	17	9	52.9
2003	13	8	61.5
2004	28	10	35.7
2005	15	3	20.0
2006	26	14	53.8
2007	8	4	50.0
2008	17	9	52.9
2009	12	6	50.0
2010	9	1	11.1
2011	18	10	55.6
2012	11	8	72.7
2013	14	4	28.6
2006-2010 baseline	14	7	50.0
2011-2013 period	14	7	50.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 12-2
Number and Percent of Deaths Involving a
Drinking Driver: Prince Edward Island, 1996-2013



12.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 12-6. Trends are illustrated in Figure 12-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1996 (18.2%) to 2001 (40.0%), peaked in 2007 (75.0%), decreased in 2010 (0.0%), rose in 2011 (45.5%), and decreased until 2013 (22.2%). The percent of fatally injured drivers with zero BACs was generally stable from 1996 (72.7%) until 2006 (75.0%), dropped in 2007 (25.0%), rose in 2010 (83.3%), decreased to its lowest point in 2012 (20.0%), and rose again in 2013 (66.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% reached 22.2% in 1997, fell to 0.0% in both 1998 to 2002 and 2005 to 2009, peaked in 2012 (40.0%), and decreased again in 2013 (11.1%).

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period decreased by 20.1% (from 55.6% to 44.4%). Among drivers with BACs from 1-80 mg%, there was an increase from 0.0% to 22.0%. Among drivers with BACs over 80 mg%, there was a 25.0% decrease from 44.4% in the baseline period to 33.3% in the 2011-2013 period.

Table 12-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	11	11	100.0	8	72.7	1	9.1	2	18.2
1997	10	9	90.0	5	55.6	2	22.2	2	22.2
1998	11	8	72.7	7	87.5	0	0.0	1	12.5
1999	10	7	70.0	5	71.4	0	0.0	2	28.6
2000	12	9	75.0	6	66.7	0	0.0	3	33.3
2001	5	5	100.0	3	60.0	0	0.0	2	40.0
2002	10	10	100.0	6	60.0	0	0.0	4	40.0
2003	8	7	87.5	4	57.1	1	14.3	2	28.6
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	13	8	61.5	5	62.5	0	0.0	3	37.5
2006	13	12	92.3	9	75.0	0	0.0	3	25.0
2007	4	4	100.0	1	25.0	0	0.0	3	75.0
2008	12	12	100.0	4	33.3	0	0.0	8	66.7
2009	10	10	100.0	5	50.0	0	0.0	5	50.0
2010	6	6	100.0	5	83.3	1	16.7	0	0.0
2011	11	11	100.0	4	36.4	2	18.2	5	45.5
2012	5	5	100.0	1	20.0	2	40.0	2	40.0
2013	10	9	90.0	6	66.7	1	11.1	2	22.2
2006-2010 baseline	9	9	(100.0)	5	(55.6)	0	(0.0)	4	(44.4)
2011-2013 period	9	9	(100.0)	4	(44.4)	2	(22.2)	3	(33.3)

* Dying within 30 days in collisions which occurred on public roadways.

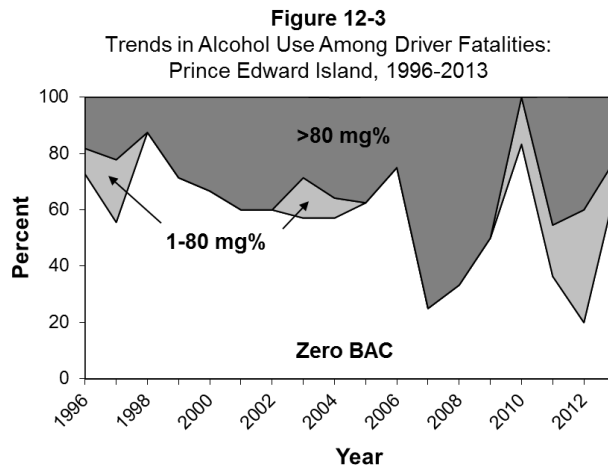


Table 12-7 and Figure 12-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 12-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 12-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 44.4%. In the 2011-2013 period, 55.6% of fatally injured drivers tested positive for alcohol, a 25.2% increase from the baseline period.

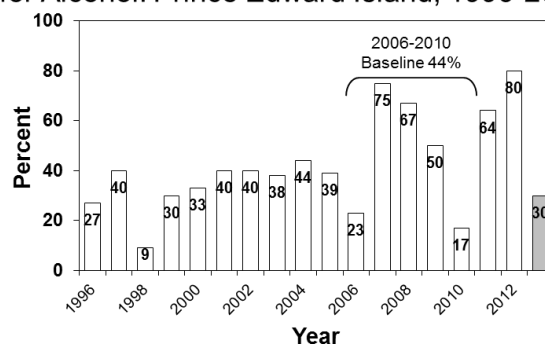
Table 12-7
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 1996-2013

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	11	8	(72.7)	3	(27.3)
1997	10	6	(60.0)	4	(40.0)
1998	11	10	(90.9)	1	(9.1)
1999	10	7	(70.0)	3	(30.0)
2000	12	8	(66.7)	4	(33.3)
2001	5	3	(60.0)	2	(40.0)
2002	10	6	(60.0)	4	(40.0)
2003	8	5	(62.5)	3	(37.5)
2004	16	9	(56.3)	7	(43.8)
2005	13	8	(61.5)	5	(38.5)
2006	13	10	(76.9)	3	(23.1)
2007	4	1	(25.0)	3	(75.0)
2008	12	4	(33.3)	8	(66.7)
2009	10	5	(50.0)	5	(50.0)
2010	6	5	(83.3)	1	(16.7)
2011	11	4	(36.4)	7	(63.6)
2012	5	1	(20.0)	4	(80.0)
2013	10	7	(70.0)	3	(30.0)
2006-2010 baseline	9	5	(55.6)	4	(44.4)
2011-2013 period	9	4	(44.4)	5	(55.6)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 12-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Prince Edward Island, 1996-2013



12.5.3 Drivers in serious injury crashes. Table 12-8 and Figure 12-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2003 the percentage of drivers in serious injury crashes that involved alcohol generally decreased from 29.7% to a low of 16.2%, peaked in 2009 (31.0%), decreased to 19.7% in 2010, and stabilized from 2011 to 2013 (24.5%).

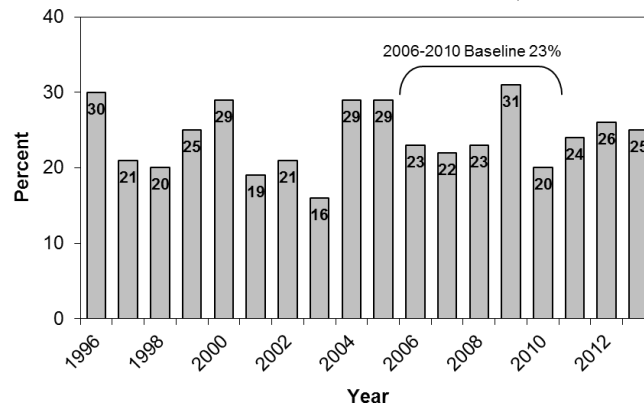
As shown in Table 12-8, in the baseline period (2006-2010) an average of 23.0% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2013 period, the incidence of drivers in alcohol-involved crashes rose to 25.4%, a 10.4% increase.

Table 12-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Prince Edward Island, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	74	22	(29.7)
1997	102	21	(20.6)
1998	108	22	(20.4)
1999	130	33	(25.4)
2000	110	32	(29.1)
2001	83	16	(19.3)
2002	80	17	(21.3)
2003	111	18	(16.2)
2004	92	27	(29.3)
2005	66	19	(28.8)
2006	77	18	(23.4)
2007	68	15	(22.1)
2008	35	8	(22.9)
2009	58	18	(31.0)
2010	66	13	(19.7)
2011	62	15	(24.2)
2012	62	16	(25.8)
2013	53	13	(24.5)
2006-2010 baseline	61	14	(23.0)
2011-2013 period	59	15	(25.4)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 12-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes
that Involved Alcohol: Prince Edward Island, 1996-2013



12.5.4 Drug use among fatally injured drivers. Table 12-9 and Figure 12-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 12-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

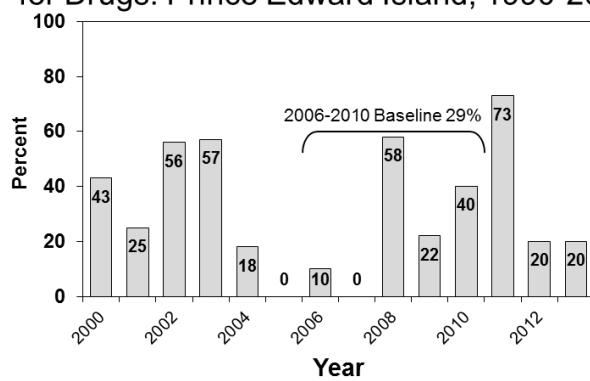
As can be seen at the bottom of Table 12-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 28.6%. In the 2011-2013 period, 42.9% of fatally injured drivers tested positive for drugs, a 50.0% increase from the baseline period.

Table 12-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	12	7	58.3	4	57.1	3	42.9
2001	5	4	80.0	3	75.0	1	25.0
2002	10	9	90.0	4	44.4	5	55.6
2003	8	7	87.5	3	42.9	4	57.1
2004	16	11	68.8	9	81.8	2	18.2
2005	13	8	61.5	8	100.0	0	0.0
2006	13	10	76.9	9	90.0	1	10.0
2007	4	3	75.0	3	100.0	0	0.0
2008	12	12	100.0	5	41.7	7	58.3
2009	10	9	90.0	7	77.8	2	22.2
2010	6	5	83.3	3	60.0	2	40.0
2011	11	11	100.0	3	27.3	8	72.7
2012	5	5	100.0	4	80.0	1	20.0
2013	10	5	50.0	4	80.0	1	20.0
2006-2010 baseline	9	7	77.8	5	71.4	2	28.6
2011-2013 period	9	7	77.8	4	57.1	3	42.9

* Dying within 30 days in collisions which occurred on public roadways.

Figure 12-6
Percent of Fatally Injured Drivers Positive
for Drugs: Prince Edward Island, 1990-2013



13.0 NEWFOUNDLAND AND LABRADOR

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Newfoundland and Labrador during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 13.1);
- > alcohol use among fatally injured drivers (Section 13.2);
- > drivers involved in alcohol-related serious injury crashes (Section 13.3);
- > drug use among fatally injured drivers (Section 13.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 13.5).

13.1 Deaths in alcohol-related crashes

Table 13-1 presents information on people who died in alcohol-related crashes in Newfoundland and Labrador during 2013. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, seven people aged 26-35 were killed in motor vehicle crashes in Newfoundland and Labrador during 2013. And, in six cases (85.7%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, four people aged 26-35 died in alcohol-related crashes in Newfoundland and Labrador during 2013. The next column expresses this as a percentage – i.e., 66.7% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 33.3% of all the people killed in alcohol-related crashes in Newfoundland and Labrador during 2013.

The totals at the bottom of the table provide a summary. As can be seen, 36 persons died within 30 days of a motor vehicle crash in Newfoundland and Labrador during 2013. In 31 (86.1%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 12 (38.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($36 \times .387$) it can be estimated that *in Newfoundland and Labrador during 2013, 14 persons died in alcohol-related crashes within 30 days of the collision.*

13.1.1 Victim age. Of all the people who died in alcohol-related crashes, 33.3% (see last column) were aged 26-35; 25.0% were aged 46-55; 16.7% were aged 16-19; and 8.3% were aged 20-25, 46-55, and over 55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 36-45 died (75.0%). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 0.0% of persons under age 16 and 8.3% of persons over age 55 died in crashes involving alcohol.

Table 13-1
Deaths in Alcohol-Related Crashes: Newfoundland and Labrador, 2013

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
<u>Age Group</u>						
<16	1	0	0.0	0	0.0	0.0
16-19	4	4	100.0	2	50.0	16.7
20-25	2	2	100.0	1	50.0	8.3
26-35	7	6	85.7	4	66.7	33.3
36-45	6	4	66.7	3	75.0	25.0
46-55	3	3	100.0	1	33.3	8.3
>55	13	12	92.3	1	8.3	8.3
<u>Gender</u>						
Male	25	21	84.0	10	47.6	83.3
Female	11	10	90.9	2	20.0	16.7
<u>Victim Type</u>						
Driver/ Operator	23	21	91.3	10	47.6	83.3
Passenger	8	5	62.5	1	20.0	8.3
Pedestrian	5	5	100.0	1	20.0	8.3
<u>Vehicle Occupied</u>						
Automobiles	20	16	80.0	5	31.3	41.7
Trucks/Vans	8	7	87.5	4	57.1	33.3
Other Vehicles**	3	3	100.0	2	66.7	16.7
(Pedestrians)	5	5	100.0	1	20.0	8.3
TOTAL	36	31	86.1	12	38.7	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

** Motorcyclists and off-road vehicle occupants have been aggregated to ensure that an individual will not be identified.

13.1.2 Gender. Of all the people who died in alcohol-related crashes, 83.3% were males. The incidence of alcohol in crashes in which a male died (47.6%) was greater than the incidence of alcohol in crashes in which a female died (20.0%).

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 83.3% were drivers/operators of a vehicle and 8.3% were passengers and pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (47.6%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 20.0% of the crashes in which a passenger or pedestrian died.

13.1.4 Type of vehicle occupied. Motorcyclists and off-road vehicle occupants have been regrouped into 'other vehicles' to ensure that individuals cannot be identified. Of all the people who died in alcohol-related crashes, 41.7% were automobile occupants; 33.3% were truck/van occupants; and 16.7% were occupants of other vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which an occupant of another vehicle died (66.7%) was greater than the incidence of alcohol in crashes in which a truck/van occupant died (57.1%). Among automobile occupants, 31.3% died in an alcohol-related collision.

13.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Newfoundland and Labrador during 2013. Table 13-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among drivers aged 46-55 there were two drivers killed during 2013; both of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (50.0%) was positive for alcohol. This means that fatally injured drinking drivers aged 46-55 accounted for 11.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the two (50.0%) fatally injured drivers aged 46-55 who were tested for alcohol had a BAC in excess of 80 mg%. This means that the driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 46-55 accounted for 14.3% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Newfoundland and Labrador had a very high testing rate in 2013, with 100.0% of fatally injured drivers being tested for alcohol use.

In Newfoundland and Labrador, 40.9% had been drinking and seven out of nine (77.8%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- > 59.1% had BACs of zero mg%;
- > 4.5% had BACs from 1-49 mg%;
- > 4.5% had BACs from 50-80 mg%;
- > 9.1% had BACs from 81 to 160 mg%; and,
- > 22.7% had BACs over 160 mg%.

Table 13-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 2013

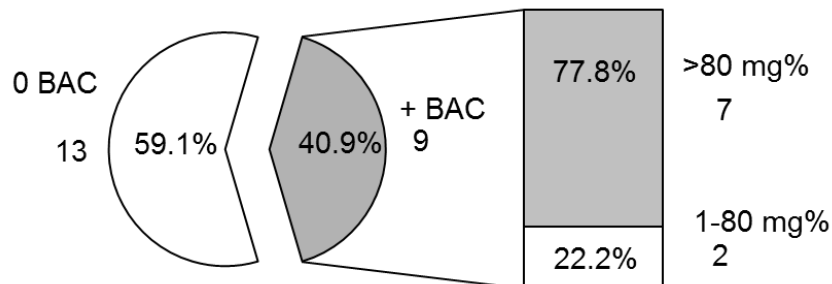
Category of Driver	Number of Drivers*	Drivers		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
<u>Age Group</u>									
16-19	3	3	100.0	2	66.7	22.2	0	0.0	0.0
20-35**	6	6	100.0	4	66.7	44.4	4	66.7	57.1
36-45	3	3	100.0	2	66.7	22.2	2	66.7	28.6
46-55	2	2	100.0	1	50.0	11.1	1	50.0	14.3
>55	8	8	100.0	0	0.0	0.0	0	0.0	0.0
<u>Gender</u>									
Male	15	15	100.0	8	53.3	88.9	6	40.0	85.7
Female	7	7	100.0	1	14.3	11.1	1	14.3	14.3
<u>Vehicle Type</u>									
Automobiles	14	14	100.0	5	35.7	55.6	4	28.6	57.1
Truck/Van	6	6	100.0	3	50.0	33.3	2	33.3	28.6
Motorcycles	2	2	100.0	1	50.0	11.1	1	50.0	14.3
<u>Collision Type</u>									
Single vehicle	15	15	100.0	8	53.3	88.9	6	40.0	85.7
Multiple vehicle	7	7	100.0	1	14.3	11.1	1	14.3	14.3
TOTAL	22	22	100.0	9	40.9	100.0	7	31.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.

The BAC distribution for fatally injured drivers is shown in Figure 13-1. In this figure nine of 22 (40.9%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, seven (77.8%) have BACs over 80 mg%.

Figure 13-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: Newfoundland and Labrador, 2013



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

13.2.1 Age differences. Drivers aged 20-25 and 26-35 have been regrouped (20-35 age group) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 44.4% were aged 20-35; 22.2% were aged 16-19 and 36-45; and 11.1% were aged 46-55. Of all the

fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 57.1% were aged 20-35; 28.6% were aged 36-45; and 14.3% were aged 46-55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 16-19, 20-35 and 36-45 were the most likely to have been drinking (66.7%). By contrast, 0.0% of fatally injured drivers over age 55 had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for 88.9% of the fatally injured drivers who had been drinking and 85.7% of those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (15 of the 22 fatalities or 68.2% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (53.3% and 14.3%, respectively). And, 75.0% of male and 100.0% of female drivers who were drinking had BACs over the legal limit.

13.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 55.6% were automobile drivers; 33.3% were truck/van drivers; and 11.1% were motorcyclists. Among fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 57.1% were automobile drivers, 28.6% were truck/van drivers; and 14.3% were motorcyclists.

Within each of the vehicle types, 50.0% of fatally injured truck/van drivers and motorcyclists were found to have been drinking, compared to 35.7% of fatally injured automobile drivers.

13.2.4 Collision differences. Two-thirds of the drivers killed (15 of the 22) were involved in single-vehicle collisions yet these crashes accounted for 88.9% of drivers who had been drinking and 85.7% of those who were legally impaired.

The reason for this apparent disparity is because alcohol is usually overrepresented in single-vehicle crashes. Half of the drivers involved in single-vehicle crashes (53.3%) tested positive for alcohol, compared to 14.3% of those involved in multiple-vehicle collisions.

13.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in Newfoundland and Labrador. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 13-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 151 drivers were involved in crashes in which someone was seriously injured, and among these 17.9% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 18.5% were aged 26-35 and over 55, and 14.8% were aged 20-25. Drivers aged 36-45 accounted for 3.7% of those involved in alcohol-related serious injury crashes.

One-third of the drivers aged 16-19 were involved in alcohol-related serious injury crashes (33.3%). The lowest incidence of involvement in alcohol-related crashes was found for those aged 36-45 (5.9%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 63.0% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (23.3% and 9.4%, respectively).

Table 13-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Newfoundland and Labrador, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
16-19	6	2	33.3	7.4
20-25	13	4	30.8	14.8
26-35	16	5	31.3	18.5
36-45	17	1	5.9	3.7
46-55	19	3	15.8	11.1
>55	33	5	15.2	18.5
Unknown	47	7	14.9	25.9
<u>Gender</u>				
Male	73	17	23.3	63.0
Female	32	3	9.4	11.1
unknown	46	7	15.2	25.9
<u>Vehicle Type</u>				
Auto	72	13	18.1	48.1
Truck/Van	56	13	23.2	48.1
Motorcycle	17	1	5.9	3.7
Tractor-Trailer	1	0	0.0	0.0
Other Hwy. Vehicle	5	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	70	24	34.3	88.9
Multiple-Vehicle	81	3	3.7	11.1
TOTAL	151	27	17.9	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 48.1% were automobile drivers and truck/van drivers; and 3.7% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers (23.2%), compared to 18.1% for automobile drivers; and 5.9% for motorcyclists.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 88.9% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes (34.3%) compared to 3.7% for drivers involved in multiple-vehicle crashes.

13.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Newfoundland and Labrador during 2013. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-14 on p. 42. Table 13-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Newfoundland and Labrador had a low testing rate in 2013, with 36.4% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, one out of eight (12.5%) were positive for drugs. The most common categories of drugs found within drivers testing positive for drug use were cannabis and CNS stimulants (100.0% each).

Table 13-4
Drug Use Among Fatally Injured Drivers* of Highway
Vehicles: Newfoundland and Labrador, 2013

Prevalence of Drug Use				
Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
22	8	(36.4)	1	(12.5)

Categories of Drugs Found Among Drivers Testing Positive		
Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	1	(100.0)
CNS Stimulants	1	(100.0)
Narcotic Analgesics	0	(0.0)
CNS Depressants	0	(0.0)
Hallucinogens	0	(0.0)
Dissociative Anesthetics	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.

** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

13.5 Trends in alcohol and drug-impaired driving

Sections 13.1 through 13.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 13.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

13.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 13-5 and Figure 13-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 13.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the table and the figure, the number of deaths in crashes that involved a drinking driver was 17 in 1996, decreased to four in 2000, peaked at 21 in 2008, fluctuated until 2012, and rose again to 14 in 2013. Between 1996 and 2000, the percentage of alcohol-related fatalities generally decreased from 39.5% to a low of 8.9%, peaked at 58.3% in 2008, decreased to 18.8% in 2009, and reached 38.9% in 2013.

Table 13-5
Number* and Percent of Motor Vehicle Deaths Involving a**
Drinking Driver: Newfoundland and Labrador, 1996-2013

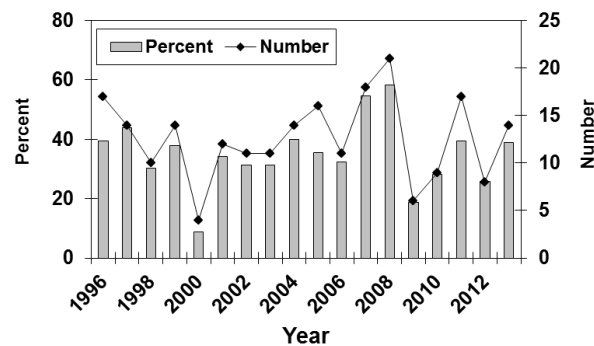
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	43	17	39.5
1997	32	14	43.8
1998	33	10	30.3
1999	37	14	37.8
2000	45	4	8.9
2001	35	12	34.3
2002	35	11	31.4
2003	35	11	31.4
2004	35	14	40.0
2005	45	16	35.6
2006	34	11	32.4
2007	33	18	54.5
2008	36	21	58.3
2009	32	6	18.8
2010	32	9	28.1
2011	43	17	39.5
2012	31	8	25.8
2013	36	14	38.9
2006-2010 baseline	33	13	39.4
2011-2013 period	37	13	35.1

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 13 fatalities involving a drinking driver and they accounted for 39.4% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 10.9% from 39.4% in the baseline period (2006-2010) to 35.1% in the 2011-2013 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been no change from an average of 13 in the baseline period (2006-2010) to 13 in the 2011-2013 period.

Figure 13-2
Number and Percent of Deaths Involving a Drinking
Driver: Newfoundland and Labrador, 1996-2013



13.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 18-year period from 1996-2013 are shown in Table 13-6. Trends are illustrated in Figure 13-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percentage of fatally injured drivers with BACs over the legal limit decreased from 1996 (50.0%) to 1998 (31.3%), peaked in 1999 (57.1%), fell to a low in 2009 (14.3%), and generally increased until 2013 (31.8%). The percent of fatally injured drivers with zero BACs increased from 1996 (41.7%) until 2000 (85.7%), fell to a low in 2007 (13.3%), rose until 2009 (85.7%), and decreased until 2013 (59.1%). The percentage of fatally injured drivers with BACs from 1-80 mg% was 8.3% in 1996, peaked in 2007 (40.0%), decreased to 0.0% from 2009 until 2011, and rose to 9.1% in 2013.

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2013 period increased by 32.3% (from 52.6% to 69.6%). Among drivers with BACs from 1-80 mg%, there was a 59.0% decrease (from 10.5% to 4.3%). And among drivers with BACs over 80 mg%, there was a 29.1% decrease (from 36.8% to 26.1%).

Table 13-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 1996-2013

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	17	12	70.6	5	41.7	1	8.3	6	50.0
1997	17	17	100.0	8	47.1	3	17.6	6	35.3
1998	19	16	84.2	9	56.3	2	12.5	5	31.3
1999	18	14	77.8	5	35.7	1	7.1	8	57.1
2000	24	21	87.5	18	85.7	0	0.0	3	14.3
2001	17	15	88.2	8	53.3	3	20.0	4	26.7
2002	20	18	90.0	12	66.7	2	11.1	4	22.2
2003	18	18	100.0	11	61.1	3	16.7	4	22.2
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	18	16	88.9	7	43.8	4	25.0	5	31.3
2006	22	19	86.4	13	68.4	0	0.0	6	31.6
2007	18	15	83.3	2	13.3	6	40.0	7	46.7
2008	23	22	95.7	6	27.3	6	27.3	10	45.5
2009	23	21	91.3	18	85.7	0	0.0	3	14.3
2010	18	18	100.0	12	66.7	0	0.0	6	33.3
2011	29	25	86.2	20	80.0	0	0.0	5	20.0
2012	25	23	92.0	16	69.6	1	4.3	6	26.1
2013	22	22	100.0	13	59.1	2	9.1	7	31.8
2006-2010 baseline	21	19	(90.5)	10	(52.6)	2	(10.5)	7	(36.8)
2011-2013 period	25	23	(92.0)	16	(69.6)	1	(4.3)	6	(26.1)

* Dying within 30 days in collisions which occurred on public roadways.

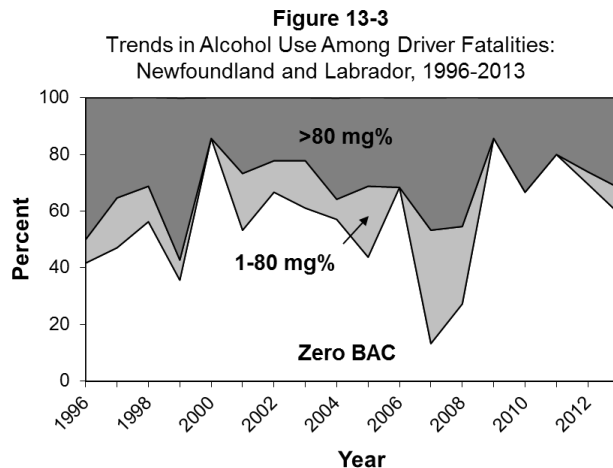


Table 13-7 and Figure 13-4 also show data on alcohol use among fatally injured drivers from 1996 to 2013. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 13-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 13-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 47.6%. In the 2011-2013 period, 28.0% of fatally injured drivers tested positive for alcohol, a 41.2% decrease from the baseline period.

Table 13-7

Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 1996-2013

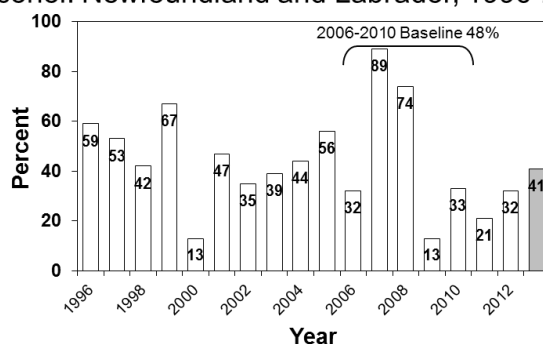
Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	17	7	(41.2)	10	(58.8)
1997	17	8	(47.1)	9	(52.9)
1998	19	11	(57.9)	8	(42.1)
1999	18	6	(33.3)	12	(66.7)
2000	24	21	(87.5)	3	(12.5)
2001	17	9	(52.9)	8	(47.1)
2002	20	13	(65.0)	7	(35.0)
2003	18	11	(61.1)	7	(38.9)
2004	16	9	(56.3)	7	(43.8)
2005	18	8	(44.4)	10	(55.6)
2006	22	15	(68.2)	7	(31.8)
2007	18	2	(11.1)	16	(88.9)
2008	23	6	(26.1)	17	(73.9)
2009	23	20	(87.0)	3	(13.0)
2010	18	12	(66.7)	6	(33.3)
2011	29	23	(79.3)	6	(20.7)
2012	25	17	(68.0)	8	(32.0)
2013	22	13	(59.1)	9	(40.9)
2006-2010 baseline	21	11	(52.4)	10	(47.6)
2011-2013 period	25	18	(72.0)	7	(28.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 13-4

Percent of Fatally Injured Drivers* Positive for Alcohol: Newfoundland and Labrador, 1996-2013



13.5.3 Drivers in serious injury crashes. Collision data from 2009 to 2011 for Newfoundland and Labrador were not available at the time this report was being prepared. For this reason, the comparative baseline in the serious-injury trend tables and figures in this sub-section will only report data from 2006 to 2008. These data will be compared with the 2012-2013 period. Table 13-8 and Figure 13-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. The percentage of drivers in serious-injury crashes that involved alcohol generally increased from 1996 (20.9%) to 1999 (25.2%), dropped to a low of 15.7% in 2000, generally rose to 23.3% in 2004, remained relatively stable until 2008 (21.7%), and decreased to 17.9% in 2013.

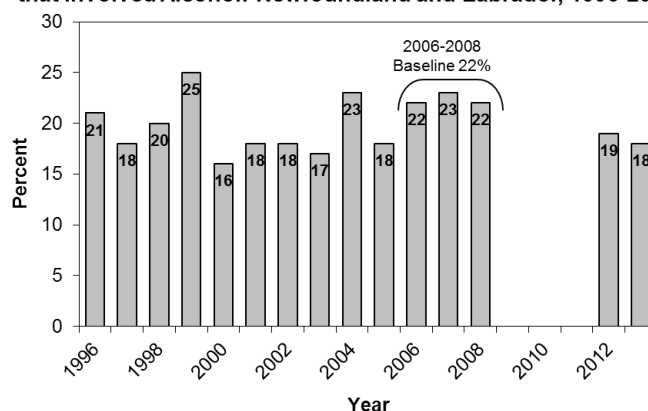
As shown in Table 13-8, in the baseline period (2006-2008), an average of 22.3% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2012-2013 period, the incidence of drivers in alcohol-involved crashes was 18.2%, representing an 18.4% decrease.

Table 13-8
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Newfoundland and Labrador, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)
2001	223	40	(17.9)
2002	191	34	(17.8)
2003	197	34	(17.3)
2004	163	38	(23.3)
2005	136	25	(18.4)
2006	131	29	(22.1)
2007	129	29	(22.5)
2008	129	28	(21.7)
2009			
2010			
2011			
2012	156	29	(18.6)
2013	151	27	(17.9)
2006-2008 baseline	130	29	(22.3)
2012-2013 period	154	28	(18.2)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 13-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes
that Involved Alcohol: Newfoundland and Labrador, 1996-2013



13.5.4 Drug use among fatally injured drivers. Table 13-9 and Figure 13-6 show data on drug use among fatally injured drivers of highway vehicles over a 14-year period (2000-2013). Similar to Table 13-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

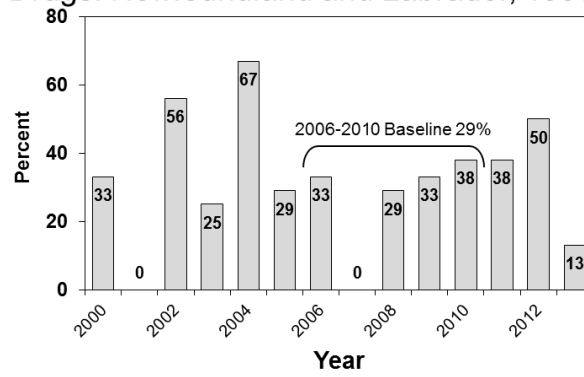
As can be seen at the bottom of Table 13-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 28.6%. The percentage of fatally injured drivers testing positive for drugs was 37.5% in 2011, 50.0% in 2012, and 12.5% in 2013. From 2011 to 2013, the average percentage of fatally injured drivers testing positive for drugs was 33.3%, a 16.4% increase from the baseline period.

Table 13-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 2000-2013

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	24	6	25.0	4	66.7	2	33.3
2001	17	6	35.3	6	100.0	0	0.0
2002	20	9	45.0	4	44.4	5	55.6
2003	18	4	22.2	3	75.0	1	25.0
2004	16	6	37.5	2	33.3	4	66.7
2005	18	7	38.9	5	71.4	2	28.6
2006	22	9	40.9	6	66.7	3	33.3
2007	18	4	22.2	4	100.0	0	0.0
2008	23	7	30.4	5	71.4	2	28.6
2009	23	9	39.1	6	66.7	3	33.3
2010	18	8	44.4	5	62.5	3	37.5
2011	29	8	27.6	5	62.5	3	37.5
2012	25	12	48.0	6	50.0	6	50.0
2013	22	8	36.4	7	87.5	1	12.5
2006-2010 baseline	21	7	33.3	5	71.4	2	28.6
2011-2013 period	25	9	36.0	6	66.7	3	33.3

* Dying within 30 days in collisions which occurred on public roadways.

Figure 13-6
Percent of Fatally Injured Drivers Positive for
Drugs: Newfoundland and Labrador, 1990-2013



14.0 YUKON

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in the Yukon during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 14.1);
- > alcohol use among fatally injured drivers (Section 14.2);
- > drivers involved in alcohol-related serious injury crashes (Section 14.3);
- > drug use among fatally injured drivers (Section 14.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 14.5).

Detailed results are not provided in Sections 14.1, 14.2 and 14.4 because the small number of deaths in alcohol-related crashes – only one – and drivers fatally injured – only two – makes the results unreliable.

14.1 Deaths in alcohol-related crashes

This section specifically reports upon persons who died within 30 days of a motor vehicle collision which occurred on a public road that involved at least one highway vehicle. A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.

During 2013, four persons died in motor vehicle crashes in the Yukon. And, in all of these cases (100.0%), it was possible to determine if alcohol was a factor in the crash. Of these cases, one (25.0%) involved alcohol.

14.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in the Yukon during 2013. It reports upon drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The Yukon had only two fatally injured drivers in 2013. One of these drivers (50.0%) was tested for alcohol and had a negative BAC.

14.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in the Yukon. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 14-1 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol are shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 23 drivers were involved in crashes in which someone was seriously injured, and among these 26.1% were alcohol-related crashes.

Table 14-1
Drivers* in Alcohol-Related Serious Injury Crashes:
Yukon, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
16-19	3	2	66.7	33.3
20-25	2	1	50.0	16.7
26-35	2	0	0.0	0.0
36-45	2	1	50.0	16.7
46-55	8	2	25.0	33.3
>55	6	0	0.0	0.0
<u>Gender</u>				
Male	16	4	25.0	66.7
Female	7	2	28.6	33.3
<u>Vehicle Type</u>				
Auto	6	3	50.0	50.0
Truck/Van	10	3	30.0	50.0
Motorcycle	6	0	0.0	0.0
Tractor Trailer	1	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	13	2	15.4	33.3
Multiple-Vehicle	10	4	40.0	66.7
TOTAL	23	6	26.1	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

14.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 33.3% were aged 16-19 and 46-55; and 16.7% were aged 20-25 and 36-45.

Within each of the age groups, 66.7% of the drivers aged 16-19 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those aged 26-35 and over 55 (0.0%).

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were males. However, the incidence of involvement in alcohol-related serious injury crashes was greater for females than for males (28.6% and 25.0%, respectively).

14.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% each were automobile drivers and truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 50.0% of these drivers were in crashes that involved alcohol, compared to 30.0% for truck/van drivers and 0.0% for motorcyclists and tractor-trailer drivers.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 33.3% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was found among drivers in multiple-vehicle crashes (40.0%), compared to 15.4% for drivers involved in single-vehicle crashes.

14.4 Drug use among fatally injured drivers

The Yukon had only two fatally injured drivers of highway vehicles in 2013. One driver (50.0%) was tested for drugs and had a positive result.

14.5 Trends in alcohol and drug-impaired driving

Sections 14.1 through 14.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol (within 30 days of the collision); (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 14.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

14.5.1 Deaths in alcohol-related crashes: 1996-2013. Table 14-2 and Figure 14-1 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2013. These results differ slightly from those in Section 14.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally increased from four to seven between 1996 and 1998, fell to zero in 2001, rose to six in 2002, and generally decreased to one in 2012 and 2013. The percentage of alcohol-related fatalities generally decreased from 66.7% in 1996 to 0.0% in 2001, peaked in 2010 (75.0%), and decreased to 25.0% in 2013.

It can be seen that during the 2006-2010 baseline period that there was an average of three fatalities involving a drinking driver and they accounted for 42.9% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 41.7% from 42.9% in the baseline period (2006-2010) to 25.0% in the 2011-2013 period. In terms of the number of persons killed in crashes involving a drinking driver, there was a 66.7% decrease from an average of three in the baseline period (2006-2010) to one in the 2011-2013 period.

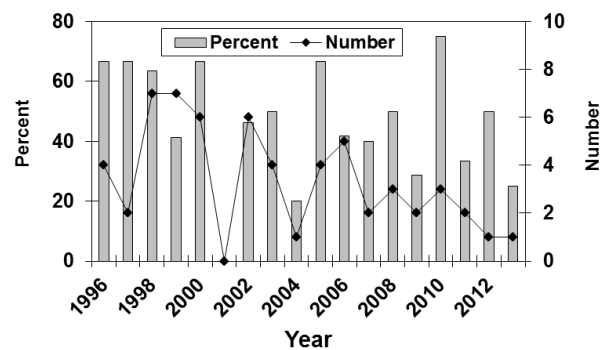
Table 14-2
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Yukon, 1996-2013

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	6	4	66.7
1997	3	2	66.7
1998	11	7	63.6
1999	17	7	41.2
2000	9	6	66.7
2001	4	0	0.0
2002	13	6	46.2
2003	8	4	50.0
2004	5	1	20.0
2005	6	4	66.7
2006	12	5	41.7
2007	5	2	40.0
2008	6	3	50.0
2009	7	2	28.6
2010	4	3	75.0
2011	6	2	33.3
2012	2	1	50.0
2013	4	1	25.0
2006-2010 baseline	7	3	42.9
2011-2013 period	4	1	25.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 14-1
Number and Percent of Deaths Involving
a Drinking Driver: Yukon, 1996-2013



14.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., two fatally injured drivers in 2013 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.5.3 Drivers in serious injury crashes. In the Yukon, data are only available since 1998 to indicate the degree of injury severity for collision victims. Thus trend tables in this section include data from 1998 to 2013, as opposed to the 1996-2013 period reported for serious injury collisions in most other jurisdictions. Table 14-3 and Figure 14-2 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1998 (40.0%) and 2003 (24.1%) the percentage of all drivers in injury crashes that involved alcohol fluctuated, peaked in 2005 (51.2%), dropped to a low of 15.8% in 2012, and rose again in 2013 (26.1%).

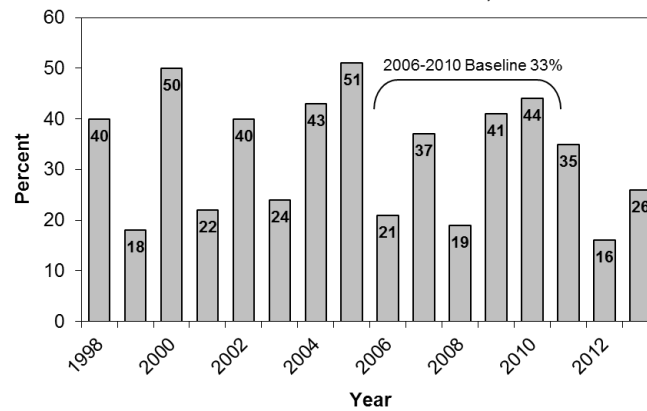
As shown in Table 14-3, in the baseline period (2006-2010), an average of 33.3% of drivers in injury crashes were in an alcohol-involved crash. In the 2011-2013 period, the incidence of drivers in alcohol-involved crashes was 26.1%, representing a 21.6% decrease.

Table 14-3
Number and Percent of Drivers of Highway Vehicles in Serious
Injury Crashes* that Involved Alcohol: Yukon, 1998-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1998	35	14	(40.0)
1999	57	10	(17.5)
2000	34	17	(50.0)
2001	36	8	(22.2)
2002	43	17	(39.5)
2003	29	7	(24.1)
2004	21	9	(42.9)
2005	41	21	(51.2)
2006	29	6	(20.7)
2007	27	10	(37.0)
2008	27	5	(18.5)
2009	27	11	(40.7)
2010	25	11	(44.0)
2011	26	9	(34.6)
2012	19	3	(15.8)
2013	23	6	(26.1)
2006-2010 baseline	27	9	(33.3)
2011-2013 period	23	6	(26.1)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 14-2
Percent of Drivers of Highway Vehicles in Serious Injury
Crashes that Involved Alcohol: Yukon, 1998-2013



14.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., two fatally injured drivers in 2013 – any trends would be unreliable, and therefore, are not presented in tables and figures.

15.0 NORTHWEST TERRITORIES

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in the Northwest Territories during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 15.1);
- > alcohol use among fatally injured drivers (Section 15.2);
- > drivers involved in alcohol-related serious injury crashes (Section 15.3);
- > drug use among fatally injured drivers (Section 15.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 15.5).

Detailed results are not provided in Sections 15.1, 15.2 and 15.4 because the small number of deaths – only two – and drivers fatally injured – none – makes the results unreliable.

15.1 Deaths in alcohol-related crashes

This section specifically reports upon persons who died within 30 days of a motor vehicle collision which occurred on a public road that involved at least one highway vehicle. A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.

During 2013, three persons died in motor vehicle crashes in the Northwest Territories. And, in all of these cases (100.0%), it was possible to determine if alcohol was a factor in the crash. Of these cases, one (33.3%) involved alcohol.

15.2 Alcohol use among fatally injured drivers

The Northwest Territories had one fatally injured driver in 2013. The driver was tested for alcohol and had a negative BAC.

15.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2013 in the Northwest Territories. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 15-1 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 16 drivers were involved in crashes in which someone was seriously injured, and among these one (37.5%) was an alcohol-related crash.

Table 15-1
Drivers* in Alcohol-Related Serious Injury Crashes:
Northwest Territories, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
16-25**	3	2	66.7	33.3
26-35	7	3	42.9	50.0
36-45	1	0	0.0	0.0
46-55	3	1	33.3	16.7
>55	2	0	0.0	0.0
<u>Gender</u>				
Male	8	1	12.5	16.7
Female	8	5	62.5	83.3
<u>Vehicle Type</u>				
Auto	2	1	50.0	16.7
Truck/Van	13	5	38.5	83.3
Motorcycle	1	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	9	3	33.3	50.0
Multiple-Vehicle	7	3	42.9	50.0
TOTAL	16	6	37.5	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

** Drivers in multiple age groups have been aggregated to ensure that an individual will not be identified.

15.3.1 Driver age. Drivers aged 16-19 and 20-25 have been regrouped (16-25 age group) to ensure that individuals cannot be identified. Among drivers aged 16-25, 66.7% were involved in an alcohol related crash, compared to 42.9% of drivers aged 26-35, and 33.3% of drivers aged 46-55. Among drivers aged 36-45 and over 55, none (0.0%) were involved in alcohol-related serious injury crashes.

15.3.2 Driver gender. Among female drivers, 62.5% were involved in an alcohol-related serious injury crash compared to 12.5% of male drivers.

15.3.3 Type of vehicle driven. Among automobile drivers, 50.0% were involved in serious injury crashes involving alcohol compared to 38.5% of truck/van drivers and 0.0% of motorcyclists.

15.3.4 Type of collision. Among drivers involved in multiple-vehicle serious injury crashes, 42.9% were in a crash which involved alcohol compared to 33.3% of drivers involved in single-vehicle serious injury crashes.

15.4 Drug use among fatally injured drivers

The Northwest Territories one fatally injured driver in 2013. The driver was tested for drugs and the results were negative.

15.5 Trends in alcohol and drug-impaired driving

Sections 15.1 through 15.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol (within 30 days of the collision); (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 15.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

15.5.1 Deaths in alcohol-related crashes: 1996-2013. Due to the small number of fatalities in crashes on public roadways involving highway vehicles (e.g., three in 2013) any trends would be unreliable, and therefore are not reported.

15.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., one fatally injured driver in 2013 – any trends would be unreliable, and therefore are not reported.

15.5.3 Drivers in serious injury crashes. Table 15-2 and Figure 15-1 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2000 the percentage of all drivers in serious injury crashes that involved alcohol generally increased from 35.7% to its highest level (66.7%), fluctuated until 2010, decreased to 0.0% in 2011 and 2012, and rose again in 2013 (37.5%).

In the baseline period (2006-2010), an average of 33.3% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-involved crashes declined to 22.2%, a 33.3% decrease from the baseline period.

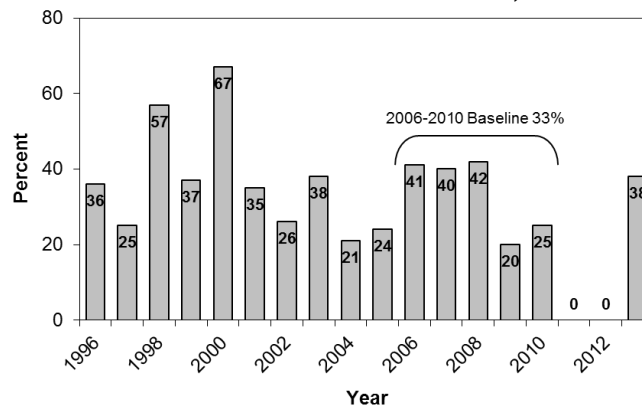
Table 15-2

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Northwest Territories, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	14	5	(35.7)
1997	12	3	(25.0)
1998	14	8	(57.1)
1999	19	7	(36.8)
2000	6	4	(66.7)
2001	20	7	(35.0)
2002	19	5	(26.3)
2003	16	6	(37.5)
2004	14	3	(21.4)
2005	21	5	(23.8)
2006	17	7	(41.2)
2007	10	4	(40.0)
2008	12	5	(41.7)
2009	10	2	(20.0)
2010	12	3	(25.0)
2011	3	0	(0.0)
2012	8	0	(0.0)
2013	16	6	(37.5)
2006-2010 baseline	12	4	(33.3)
2011-2013 period	9	2	(22.2)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 15-1
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Northwest Territories, 1996-2013



15.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., one fatally injured driver in 2013 – any trends would be unreliable, and therefore are not reported.

16.0 NUNAVUT

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Nunavut during 2013. It describes data on:

- > people who were killed in alcohol-related crashes (Section 16.1);
- > alcohol use among fatally injured drivers (Section 16.2);
- > drivers involved in alcohol-related serious injury crashes (Section 16.3);
- > drug use among fatally injured drivers (Section 16.4); and,
- > trends in the alcohol-crash and drug-crash problems (Section 16.5).

Detailed results are not provided in Sections 16.1, 16.2 and 16.4 because the small number of deaths and drivers fatally injured – none – makes the results unreliable.

16.1 Deaths in alcohol-related crashes

A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash. During 2013, there were no fatally injured victims of motor vehicle collisions which occurred on public roadways.

16.2 Alcohol in fatally injured drivers

Nunavut had no fatally injured drivers of highway vehicles in 2013.

16.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2013 in Nunavut. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 16-1 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown by the totals at the bottom of the table, two drivers were involved in crashes in which someone was seriously injured, neither of these were alcohol-related crashes. Due to the small number of cases, further analysis of drivers involved in serious injury crashes should be treated with caution.

Table 16-1
Drivers in Alcohol-Related Serious Injury Crashes:
Nunavut, 2013

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
36-45	1	0	0.0	0.0
>55	1	0	0.0	0.0
<u>Gender</u>				
Male	2	0	0.0	0.0
<u>Vehicle Type</u>				
Truck/Van	2	0	0.0	0.0
<u>Collision Type</u>				
Single-Vehicle	2	0	0.0	0.0
TOTAL	2	0	0.0	0.0

* These numbers are slightly underestimated since 20.7% of injuries are recorded as unspecified.

16.3.1 Driver age. Of all the drivers involved in serious injury crashes, one was aged 36-45 and the other was over 55. Neither driver was involved in an alcohol-related crash.

16.3.2 Driver gender. Both of the drivers involved in serious injury crashes were males and neither crash was alcohol-related.

16.3.3 Type of vehicle driven. Both the drivers involved in serious injury crashes were truck/van drivers in neither crash was alcohol-related.

16.3.4 Type of collision. Both drivers were involved in serious injury crashes, and neither crash was alcohol-related.

16.4 Drug use among fatally injured drivers

Nunavut had no fatally injured drivers of highway vehicles in 2013.

16.5 Trends in alcohol and drug-impaired driving

Sections 16.1 through 16.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol (within 30 days of the collision); (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 16.4 examined drug use among fatally injured drivers in 2013. This section examines changes in these four indicators over time.

16.5.1 Deaths in alcohol-related crashes: 1996-2013. Due to the small number of crashes on public roadways involving highway vehicles (e.g., no deaths in 2013) any trends would be unreliable, and therefore are not reported.

16.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., no fatally injured drivers in 2013 – any trends would be unreliable, and therefore are not reported.

16.5.3 Drivers in serious injury crashes. Table 16-2 and Figure 16-1 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997 the percentage of all drivers in serious injury crashes that involved alcohol decreased from 50.0% to 0.0%. Since then, the incidence peaked at 75.0% in 1998, generally decreased to 0.0% in 2005, rose to 33.3% in 2006 and 2007, and dropped again to 0.0% from 2008 to 2010. Serious injury collision data were not available in 2011. And in 2012 and 2013, none of the drivers involved in serious injury collisions were in an alcohol-related crash.

As shown in Table 16-2, in the baseline period (2006-2010) an average of 25.0% of drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2013, the average percentage of drivers in alcohol-related serious injury collisions was 0.0%.

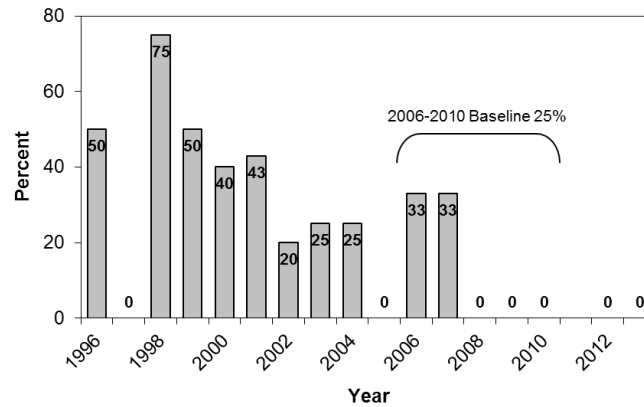
Table 16-2

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Nunavut, 1996-2013

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	2	1	(50.0)
1997	2	0	(0.0)
1998	4	3	(75.0)
1999	2	1	(50.0)
2000	5	2	(40.0)
2001	7	3	(42.9)
2002	5	1	(20.0)
2003	4	1	(25.0)
2004	4	1	(25.0)
2005	6	0	(0.0)
2006	9	3	(33.3)
2007	3	1	(33.3)
2008	2	0	(0.0)
2009	4	0	(0.0)
2010	1	0	(0.0)
2011			
2012	1	0	(0.0)
2013	2	0	(0.0)
2006-2010 baseline	4	1	(25.0)
2011-2013 period	2	0	(0.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 16-1
Percent of Drivers of Highway Vehicles in Serious Injury
Crashes that Involved Alcohol: Nunavut, 1996-2013



16.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., no fatally injured drivers in 2013 – any trends would be unreliable, and therefore are not reported.

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