
CCMTA Road Safety Report Series

ALCOHOL-CRASH PROBLEM IN CANADA: 2007

Prepared For

Canadian Council of Motor Transport Administrators
Standing Committee on Road Safety Research and Policies

and

Transport Canada

By

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CANADIAN COUNCIL OF MOTOR TRANSPORT ADMINISTRATORS

The *Canadian Council of Motor Transport Administrators* is a non-profit organization comprising representatives of the provincial, territorial and federal governments of Canada which, through the collective consultative process, makes decisions on administration and operational matters dealing with licensing, registration and control of motor vehicle transportation and highway safety. It also includes associate members from the private sector and other government departments whose expertise and opinions are sought in the development of strategies and programs.

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- < The **Standing Committee on Compliance and Regulatory Affairs** is concerned with the compliance activities of programs related to commercial driver and vehicle requirements, transportation of dangerous goods and motor carrier operations in order to achieve standardized regulations and compliance programs in all jurisdictions.
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ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2007 as well as trends in the problem.

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

Thus, in the report, various indicators are used to estimate the magnitude and extent of the alcohol-crash problem in Canada during 2007 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; and
- > the number and percent of drivers in serious injury crashes that involved alcohol.

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

This report also examines progress in Canada and each province/territory, in meeting the STRID (Strategy to Reduce Impaired Driving) 2010 objective, to reduce by 40% the percent of fatalities and serious injuries involving a drinking driver by 2010. The 2007 data are compared to data from the 1996-2001 baseline period.

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1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2007 as well as trends in the problem. It includes data on alcohol in fatally injured drivers and pedestrians derived from the *Fatality Database*. For the past two and a half decades, the *Fatality Database*, developed and maintained by TIRF, has provided objective data on alcohol use among persons fatally injured in motor vehicle crashes. Each year, TIRF compiles information from coroner and medical examiners files on the results of toxicological tests for alcohol in the blood of fatally injured drivers (and pedestrians). Given a high testing rate 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. The *Fatality Database* is co-funded by the Canadian Council of Motor Transport Administrators (CCMTA) and Transport Canada.

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 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 drinking-driving problem.

This report goes beyond fatal crashes to examine 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*, constructed and maintained by TIRF, under a related project funded by Transport Canada and CCMTA. 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 focus on alcohol-related serious injury crashes underscores the fact that serious injury is too often a consequence of drinking and driving. It also recognizes that the federal/provincial/territorial *Strategy to Reduce Impaired Driving (STRID 2010)* seeks to reduce alcohol-related fatalities and serious injuries by 2010 by 40% compared to the 1996-2001 baseline period. Thus, this report includes information on both fatal and serious injury crashes to provide as comprehensive a picture as possible of the magnitude and nature of the alcohol-

crash problem in Canada during 2007, changes/trends in the problem, and progress in meeting the STRID 2010 objectives.

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 used in this report.

Section 3.0 provides descriptive data on the incidence of alcohol involvement in fatal and serious injury crashes in Canada during 2007 as well as trends in the problem.

In subsequent sections (**4.0 through 16.0**), descriptive data on alcohol involvement in fatal and serious injury crashes in each province and territory are summarized. Trends in the problem and progress in meeting the STRID 2010 objectives are also examined. Further information on STRID 2010 is contained on the CCMTA website at:

<http://www.ccmta.ca/english/committees/rsrp/strid/strid.cfm>

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 the Traffic Injury Research Foundation and funded jointly by Transport Canada and the CCMTA. 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 and -serious injury crash problem in Canada during 2007 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; and
- > the number and percent of drivers in serious injury crashes that involved alcohol.

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 2007, 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 hospital. It has been primarily used as a means to assess the extent to which the federal-provincial/territorial *Strategy to Reduce Impaired Driving (STRID 2001 and now STRID 2010)* have 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 use among victims are obtained from files in coroners' and medical examiners' offices. The alcohol 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 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.

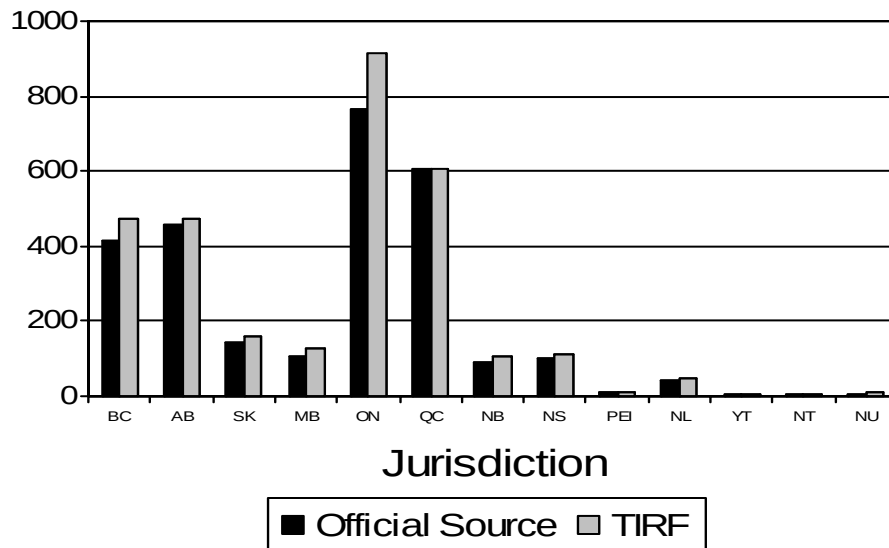
Details of the method used to access and collect relevant police-reported and coroner/medical examiner data on persons fatally injured in motor vehicle collisions as well as the approach used to create case files for the *Fatality Database* are contained in previous annual reports in this series (e.g., 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 12 months as a result of injuries sustained in a collision involving a motor vehicle. Since this definition of a motor vehicle fatality differs somewhat from those of some coroners/medical examiners and some provincial transportation agencies, the number of fatalities included in the *Fatality Database* may also differ slightly from those reported by official sources (see Mayhew et al. 1999 for a description of how these agencies define motor vehicle fatalities).

Number of fatalities: Official sources compared to the Fatality Database. The *Fatality Database* contains information on 3,045 persons fatally injured in motor vehicle collisions in Canada during 2007. This figure is higher than the number that would be obtained by adding together the fatalities officially reported in each jurisdiction in Canada. The

primary reason that the *Fatality Database* has more cases than the transportation agencies is that the *Database* typically includes victims of motor vehicle crashes that occurred off-road (e.g. ATV, snowmobile) and on private property (e.g., farm tractors, industrial motor vehicles) - cases which are not routinely contained in the files of transportation agencies.

Figure 2-1
Number of Fatalities Reported by Official
Sources and in Database: 2007



	Official Source	TIRF
BC	417	475
AB	458	471
SK	142	161
MB	109	126
ON	765	914
QC	608	604
NB	89	104
NS	99	114
PEI	9	9
NL	41	46
YT	5	5
NT	5	6
NU	6	10
Total	2753	3045

And, as mentioned previously, the definition of a motor vehicle fatality – i.e., length of time from crash to death – differs from those of the transportation agencies. Figure 2-1 and the data table provide a comparison of the number of traffic fatalities reported by transportation agencies with the number of motor vehicle fatalities included in the *Fatality Database* for 2007. For most of the jurisdictions, except for Quebec, the number of cases in the TIRF database is

higher than or the same as that officially reported by transportation agencies. In 2007, some victims identified by the Société de l'Assurance automobile du Québec (SAAQ) did not have corresponding coroner files.

Type of victim. The *Fatality Database* contains information on three types of victims fatally injured in motor vehicle crashes -- drivers/riders, passengers, and pedestrians. Drivers include operators of all types of vehicles, both on road -- automobiles, trucks/vans, motorcycles, bicycles -- and off-road -- all terrain vehicles, dirt bikes, snowmobiles, and farm tractors. Similarly, passengers include other vehicle occupants as well as persons riding on vehicles (motorcycles, bicycles, ATVs) but not driving or operating them. And, finally, pedestrians are those individuals travelling on foot who were struck and fatally injured by a motor vehicle.

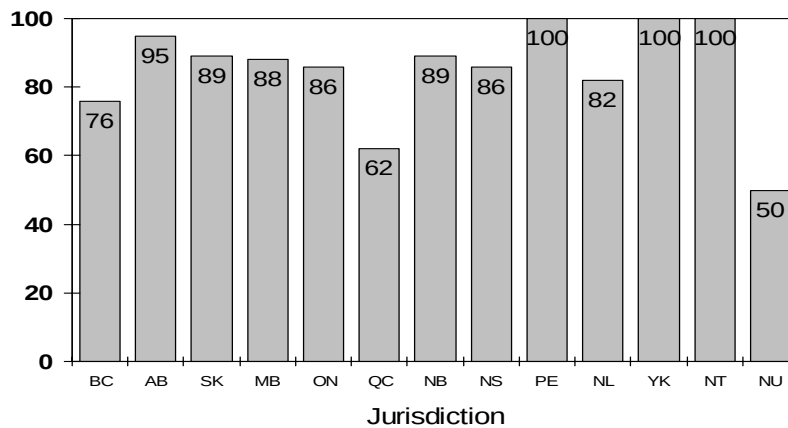
In Canada during 2007, almost 2 out of every 3 fatalities were operators of motor vehicles (63.5%); 21.6% were passengers; and 14.0% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern for traffic safety.

Testing rates for alcohol. The inclusion of objective data on the presence of alcohol among traffic victims represents the most 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.

In Canada during 2007, fatally injured drivers were tested most frequently (82.3%), followed by pedestrians (58.0%) and passengers (26.3%). 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 (61.0% and 27.8%, respectively). Testing rates also increase among fatally injured pedestrians if the analyses focus only on persons dying less than six hours after the crash (applying this restriction, the testing rate among pedestrians increases to 83.6%).

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 in the various jurisdictions.

Figure 2-2
Percent of Fatally Injured Drivers
Tested for Alcohol: Canada, 2007

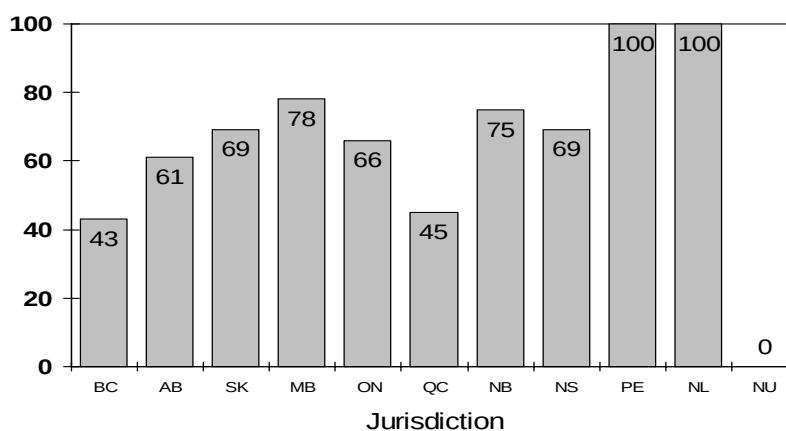


Most jurisdictions test over 80.0% of the driver fatalities. In some jurisdictions, there is clearly room for improvement -- the testing rates need to be increased to enhance the reliability and utility of the information. In those jurisdictions with a high rate of testing for fatally injured drivers, 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 (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. As can be seen, there is considerable variation in the rate of testing -- from 43.0% in British Columbia to 100.0% in Prince Edward Island and Newfoundland and Labrador.

2.1.2 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).

Figure 2-3
Percent of Fatally Injured Pedestrians
Tested for Alcohol: Canada, 2007



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*.

In the case of British Columbia, only since 2005 have investigating police officers recorded 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 sustain a serious injury or drivers involved in serious injury crashes in that province before 2005. For this reason, the Canadian trend data presented in Section 3.5.4 do not include data from British Columbia. However, in the British Columbia trend section of the report (Section 4.4.3), data are presented on drivers involved in alcohol-related injury crashes -- i.e., crashes that involve any severity of injury, from minimal to serious.

In the case of the Northwest Territories, Nunavut, and Manitoba, 3.8%, 18.1%, and 10.6% of injuries 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 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 2007, 13,814 persons were seriously injured in motor vehicle crashes; 17,299 drivers were involved in these crashes.

Table 2-1 shows the number of drivers for each province and territory. Ontario accounts for the largest number of the drivers involved in serious injury crashes (4,535 drivers or 26.2% of the “national” total); Nunavut accounts for the lowest number of drivers in such crashes, 15 drivers (or 0.1% of all drivers).

Table 2-1
Number and Percent of Drivers Involved in Serious Injury Crashes in Each Jurisdiction: Canada, 2007

Jurisdiction	Number of Drivers	% of Total
British Columbia	2,749	15.9
Alberta	4,139	23.9
Saskatchewan	519	3.0
Manitoba	486	2.8
Ontario	4,535	26.2
Quebec	3,828	22.1
New Brunswick	337	1.9
Nova Scotia	370	2.1
Prince Edward Island	75	0.4
Newfoundland and Labrador	201	1.2
Yukon Territory	28	0.2
Northwest Territories	17	0.1
Nunavut	15	0.1
TOTAL	17,299	100.0

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 vehicles: automobiles, trucks/vans, motorcycles, bicycles, all terrain vehicles, dirt bikes, and snowmobiles. Of all the drivers involved

in serious injury crashes: more than half were automobile drivers (51.8%); over one-quarter were truck/van drivers (29.5%); 7.7% were motorcycle riders; 5.6% were off-road vehicle drivers (e.g., snowmobiles, dirt bikes); 3.3% were tractor-trailer drivers; and 0.9% 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 would 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;
- > the number and percent of drivers in serious injury crashes that involved alcohol.

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 data 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.

Among all the people who died in motor vehicle crashes both on- and off-road in Canada during 2007, it was possible to determine if alcohol was a factor in the crash in 90.6% 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 were 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 almost all drivers who are killed in crashes are tested for the presence of alcohol – i.e., similar to previous years, there was a very high testing rate in Canada during 2007, with 84.4% of fatally injured drivers being tested for alcohol.

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 – 58.0% overall, which increases to 61.0% 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 objective 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).

3.0 CANADA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Canada during 2007. 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); and
- > trends in the alcohol-crash problem (Section 3.5).

3.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 3-1 presents information on people who died in alcohol-related crashes in Canada during 2007. 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 data 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, 283 people age 16-19 were killed in road crashes in Canada during 2007. And, in 272 of these cases (96.1%) 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, 123 people age 16-19 died in alcohol-related crashes in Canada during 2007. The next column expresses this as a percentage – e.g., 45.2% of the 16-19 year olds 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 12.0% of all the people killed in alcohol-related crashes in Canada during 2007.

Table 3-1
Deaths* in Alcohol-Related Crashes: Canada, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	151	117	77.5	16	13.7	1.6
16-19	283	272	96.1	123	45.2	12.0
20-25	463	443	95.7	233	52.6	22.8
26-35	457	423	92.6	209	49.4	20.5
36-45	422	392	92.9	162	41.3	15.9
46-55	466	423	90.8	156	36.9	15.3
>55	803	689	85.8	122	17.7	11.9
<u>Gender</u>						
Male	2200	2008	91.3	821	40.9	80.4
Female	845	751	88.9	200	26.6	19.6
<u>Type</u>						
Driver/Operator	1933	1815	93.9	686	37.8	67.2
Passenger	657	600	91.3	211	35.2	20.7
Pedestrian	426	337	79.1	119	35.3	11.7
Unknown	29	7	24.1	5	71.4	0.5
<u>Vehicle Occupied</u>						
Automobiles	1322	1237	93.6	446	36.1	43.7
Trucks/Vans	697	658	94.4	279	42.4	27.3
Motorcycles	222	215	96.8	57	26.5	5.6
Tractor Trailers	57	56	98.2	5	8.9	0.5
Other Hwy. Vehs.	14	13	92.9	0	0.0	0.0
Off-road Vehicles	282	241	85.5	113	46.9	11.1
(Pedestrians)	426	337	79.1	119	35.3	11.7
Unknown	25	2	8.0	2	100.0	0.2
TOTAL	3045	2759	90.6	1021	37.0	100.0

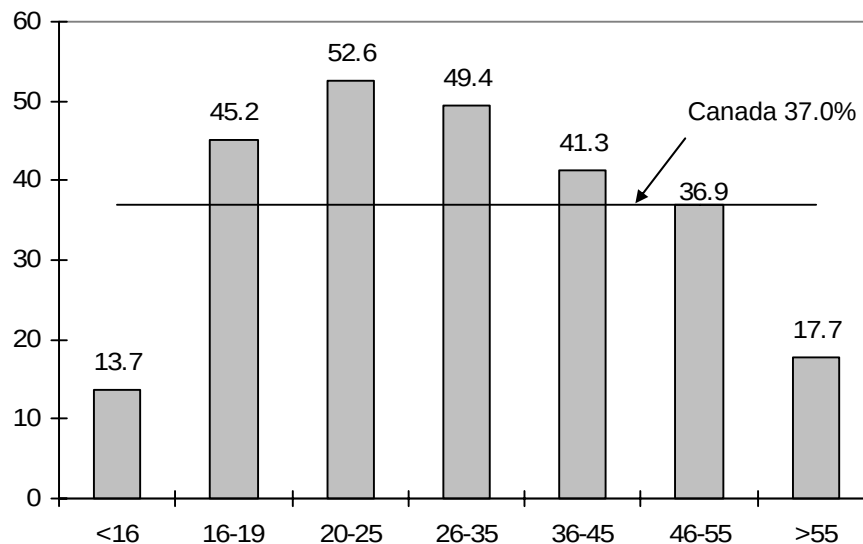
*persons dying within 12 months in collisions on and off public roadways

The totals at the bottom of the table provide a summary. As can be seen, 3,045 persons died in motor vehicle crashes in Canada during 2007. In 2,759 (90.6%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 1,021 (37.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($3,045 \times .37$) it can be estimated that *in Canada during 2007, 1,127 persons died in alcohol-related crashes.*

3.1.1 Victim age. Of all the people who died in alcohol-related crashes (see last column of Table 3-1), 22.8% were aged 20-25; 20.5% were aged 26-35; 15.9% were aged 36-45, 15.3% were aged 46-55, 12.0% were aged 16-19, and 11.9% were over 55. The youngest (<16) group accounted for only 1.6% 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 20-25 and 26-35 died (52.6% and 49.4% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 13.7% of persons under 16 and 17.7% of the fatalities over 55 years of age died in crashes involving alcohol.

Figure 3-1
Percent of Alcohol-Related Deaths
Within Each Age Group: Canada, 2007



3.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.4% were males. The incidence of alcohol in crashes in which a male died (40.9%) was greater than the incidence of alcohol in crashes in which a female died (26.6%).

3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 67.2% were drivers/operators of a vehicle; 20.7% were passengers; 11.7% were pedestrians; and 0.5% were victims whose position was unknown. Within each of these victim types, there are some differences in alcohol involvement. Among the principal victim types, the highest incidence of alcohol involvement (37.8%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 35.3% of the crashes in which a pedestrian died and in 35.2% of cases where a passenger died.

3.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over two-fifths (43.7%) were in an automobile; 27.3% were in a truck/van; 11.1% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 5.6% were on a motorcycle.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (42.4% versus 36.1%). The incidence of alcohol involvement in which a person on a motorcycle vehicle died was 26.5%. Alcohol was involved in 46.9% of the crashes in which a person on an off-road vehicle died.

3.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Canada during 2007. Table 3-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple). The data are presented for drivers of the principal types of vehicles (e.g., automobiles, trucks, vans, motorcycles, tractor-trailers).

The first data 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 16-19 year olds there were 143 drivers killed during 2007; 121 of these fatally injured drivers (84.6%) were tested for alcohol. Of those who were tested, 60.3% showed no evidence of alcohol, 5.8% had BACs (blood alcohol concentrations) below 50 mg%, 5.0% had BACs from 50 to 80 mg%, 9.1% had BACs from 81 to 160 mg%, and 19.8% had BACs over 160 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers: Canada, 2007

Category of Driver	Number of Drivers*	Drivers Tested		Percent of Tested Drivers with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<16	5	4	80.0	50.0	0.0	0.0	25.0	25.0
16-19	143	121	84.6	60.3	5.8	5.0	9.1	19.8
20-25	279	257	92.1	48.2	5.8	2.7	16.0	27.2
26-35	282	252	89.4	56.7	2.8	3.6	8.7	28.2
36-45	266	238	89.5	60.9	1.7	3.4	7.1	26.9
46-55	267	222	83.1	62.2	3.6	4.5	8.1	21.6
>55	423	312	73.8	78.5	6.7	0.6	2.9	11.2
Gender								
Male	1334	1131	84.8	59.5	4.8	3.3	8.8	23.7
Female	331	275	83.1	71.6	2.9	1.8	7.3	16.4
Vehicle Type								
Automobile	915	765	83.6	62.1	4.4	2.6	9.9	20.9
Motorcycle	203	162	79.8	68.5	4.9	6.2	8.7	11.7
Tractor Trailer	54	52	96.3	90.4	1.9	0.0	3.8	3.8
Heavy Truck ¹	17	15	88.2	86.7	6.7	0.0	0.0	6.7
Van	111	95	85.6	65.3	3.2	1.1	4.2	26.3
Light Truck ²	353	309	87.5	50.2	4.9	3.6	7.4	34.0
Other Truck ³	5	4	80.0	75.0	0.0	0.0	0.0	25.0
Other Hwy. Vehicle ⁴	7	4	57.1	100.0	0.0	0.0	0.0	0.0
Collision Type								
Single-Vehicle	764	684	89.5	42.4	5.3	3.7	12.1	36.5
Multiple-Vehicle	901	722	80.1	80.3	3.6	2.4	5.0	8.7
TOTAL	1665	1406	84.4	61.9	4.4	3.0	8.5	22.3

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

¹ Trucks over 4500 kg.

² e.g., pickup trucks.

³ Utility vehicles, plows and trucks of unknown type.

⁴ Emergency vehicles and buses.

The main findings are shown by the totals at the bottom of the table. As can be seen, there were 1,665 drivers fatally injured in traffic crashes in Canada during 2007. The overall rate of testing for alcohol in drivers was 84.4%, higher than the rate in 2006 – 83.7%.

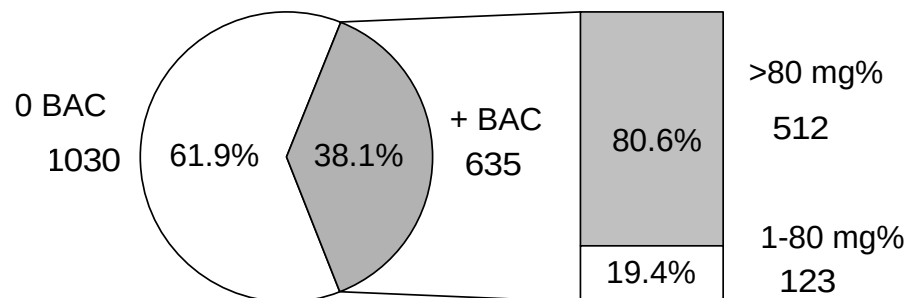
Among tested drivers in Canada:

- > 61.9% showed no evidence of alcohol – 38.1% had been drinking;
- > 4.4% had BACs from 1-49 mg%;
- > 3.0% had BACs from 50-80 mg%
- > 8.5% had BACs from 81 to 160 mg%; and,
- > 22.3% had BACs over 160 mg%.

Thus, 38.1% of fatally injured drivers in Canada had been drinking and most of these had illegal BACs – 80.6% of fatally injured drinking drivers had BACs >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, 635 of 1,665 drivers (38.1%) have a positive BAC. And among fatally injured drinking drivers, 512 (80.6%) have BACs over 80 mg%.

Figure 3-2
BACs Among Fatally Injured**
Drivers*: Canada, 2007

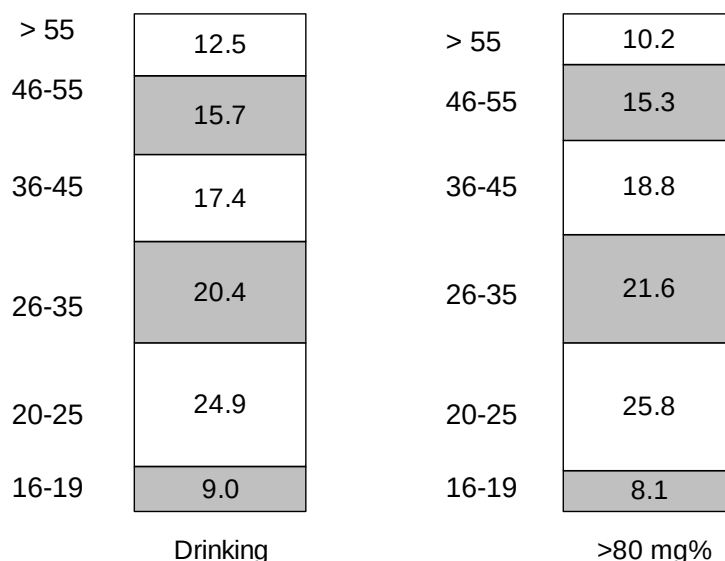


* excludes operators of bicycles, snowmobiles, farm tractors and other non-highway vehicles

** 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 “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.

Figure 3-3
Percent of All Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Each Age Group: Canada, 2007



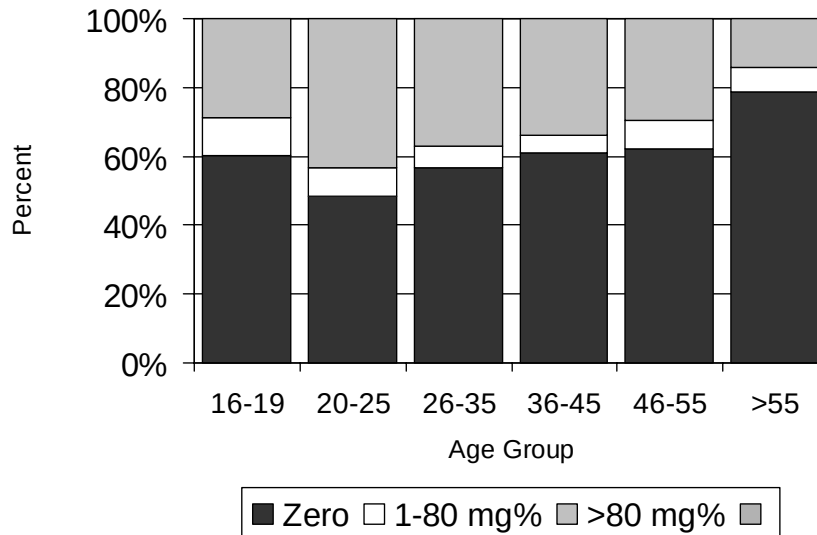
Of all the fatally injured drinking drivers, 24.9% were aged 20-25, 20.4% were aged 26-35, 17.4% were aged 36-45; 15.7% were aged 46-55; and 12.5% were over age 55. Those aged 16-19 accounted for only 9.0% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.8% were aged 20-25; 21.6% were aged 26-35; 18.8% were aged 36-45; 15.3% were aged 46-55; 10.2% were over age 55; and those aged 16-19 accounted for only 8.1% of fatally injured drivers who were over the legal limit.

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 were 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.

Within each of the age groups, fatally injured drivers age 20-25 and 26-35 were the most likely to have been drinking – 51.8% and 43.3% of drivers in these age groups had been drinking. By contrast, only 21.5% of tested drivers over age 55 had been drinking.

Figure 3-4
Percent of Drinking Drivers Within
Each Age Group: Canada, 2007

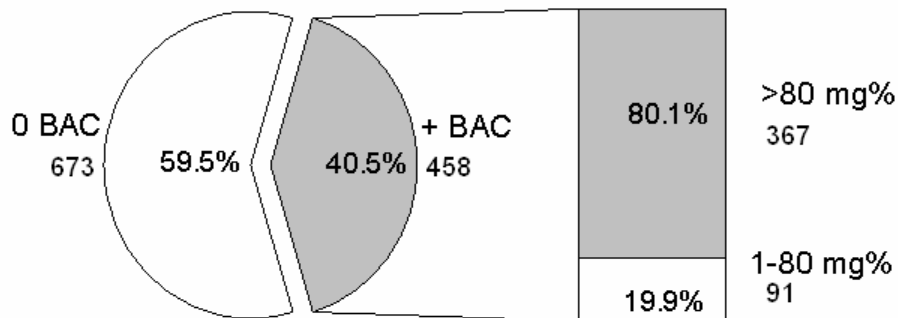


3.2.2 Gender differences. Males dominate the picture – they account for 85.4% of all the fatally injured drivers who had been drinking and 85.0% of all of the fatally injured drivers who were legally impaired. However, males dominate the picture largely because they account for 80.1% of the drivers who are killed (1,334 of the 1,665 fatalities are males).

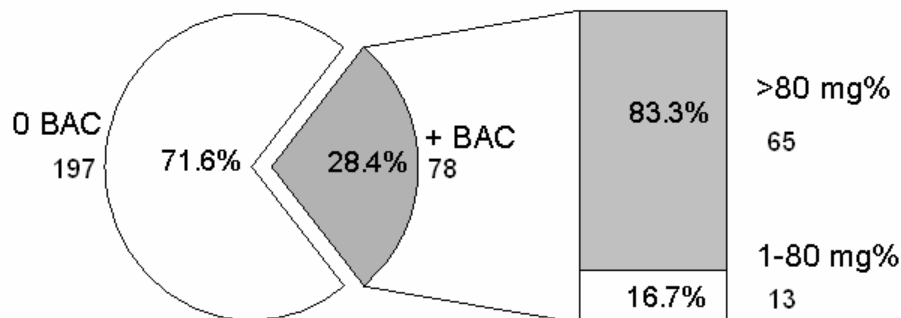
Drinking drivers are also much more prevalent among fatally injured males than females. These results are shown in Figure 3-5. The pie chart shows within each gender, the percent who were sober (i.e., 0 BAC) and positive for alcohol (+ BAC). The bar to the right of the pie chart shows the distribution 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 considerably more likely to have been drinking than female drivers (40.5% and 28.4%, respectively). And, most of the male and female drivers who were drinking had BACs over the legal limit (80.1% and 83.3%, respectively).

Figure 3-5
Alcohol Use Among Male and
Female Drivers: Canada, 2007



MALES



FEMALES

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 vehicles. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 54.1% were automobile drivers; 28.7% were light truck drivers; 9.5% were motorcycle riders; and 6.2% were van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 54.6% were automobile drivers; 29.6% were light truck drivers; 7.6% were motorcycle riders; and 6.7% were van drivers.

Figures 3-6a-c summarizes the results of alcohol tests for drivers fatally injured in 2007 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 were positive for alcohol.

Among fatally injured automobile drivers, 37.9% had been drinking. Of those who were drinking, the vast majority (81.4%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 34.7% had been drinking and most (87.9%) of these had BACs over the legal limit. Among motorcycle riders, 31.5% had been drinking and 64.7% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 49.8% had been drinking and 83.1% of these had illegal BACs. Heavy truck and tractor-trailer drivers have a much lower frequency of alcohol involvement. Indeed, only 13.3% of heavy truck drivers had been drinking. And, the lowest incidence of drinking is found among tractor-trailer drivers – only 9.6% had been drinking.

Table 3-3

Number and Percent of Fatally Injured Drinking and Legally Impaired Drivers
Accounted for by Drivers* of Different Vehicle Types: Canada, 2007

Vehicle Type	Number of Drinking Drivers	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	290	54.1	236	54.6
Motorcycle	51	9.5	33	7.6
Tractor-Trailer	5	0.9	4	0.9
Heavy Truck ¹	2	0.4	1	0.2
Van	33	6.2	29	6.7
Light Truck ²	154	28.7	128	29.6
Other Truck ³	1	0.2	1	0.2
TOTAL	536	100.0	432	100.0

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

¹ Trucks over 4500 kg.

² e.g., pickup trucks.

³ Utility vehicles, plows and trucks of unknown type.

Figure 3-6a
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2007

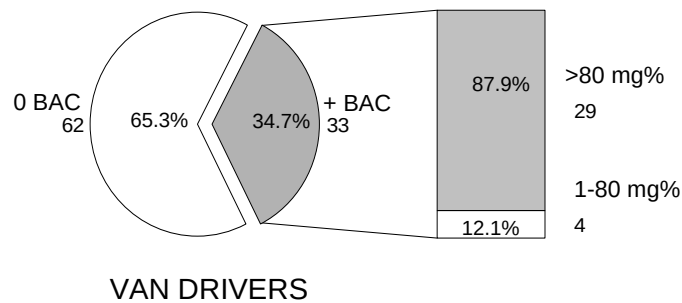
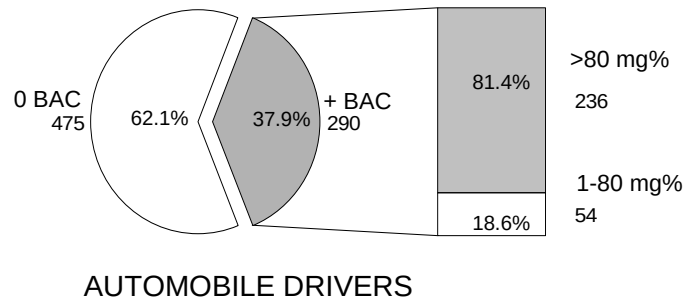


Figure 3-6b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2007

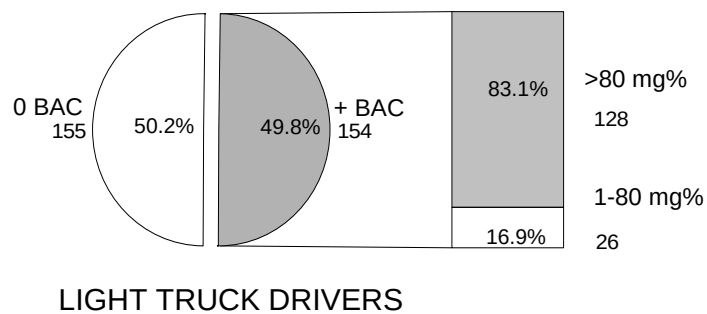
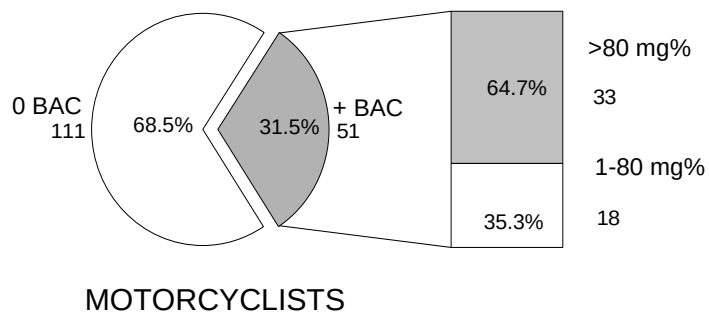
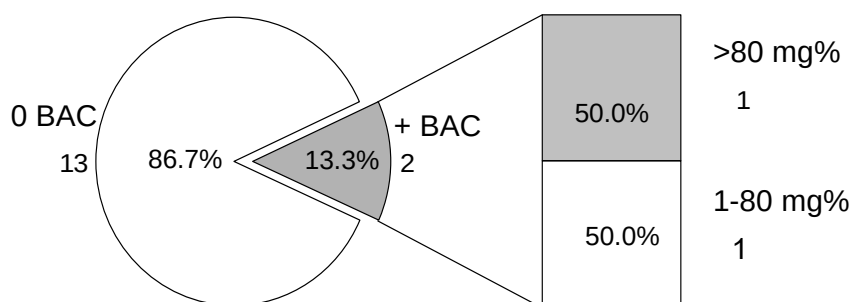
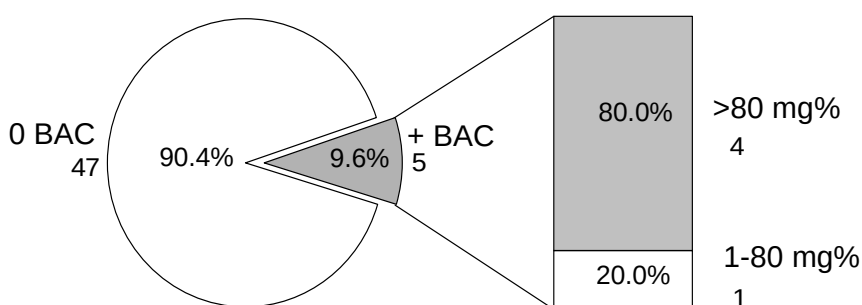


Figure 3-6c
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2007



HEAVY TRUCK DRIVERS



TRACTOR-TRAILER DRIVERS

Figure 3-6d-e presents similar information on the incidence of drinking among drivers operating recreational vehicles (results for this vehicle type are not included in Tables 3-2 or 3-3). As can be seen, the lowest incidence of drinking was found among bicyclists – only 28.6% of fatally injured bicyclists had been drinking at the time of the collision. Among those bicyclists who had been drinking, 60.0% had BACs over the legal limit. Among snowmobile drivers, 72.0% had been drinking, and 86.1% had BACs over the legal limit. Operators of off-road vehicles were slightly less likely than snowmobile drivers to have been drinking – 64.1% of them had been drinking and 80.0% of these drinking drivers had BACs over the legal limit.

Figure 3-6d
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2007

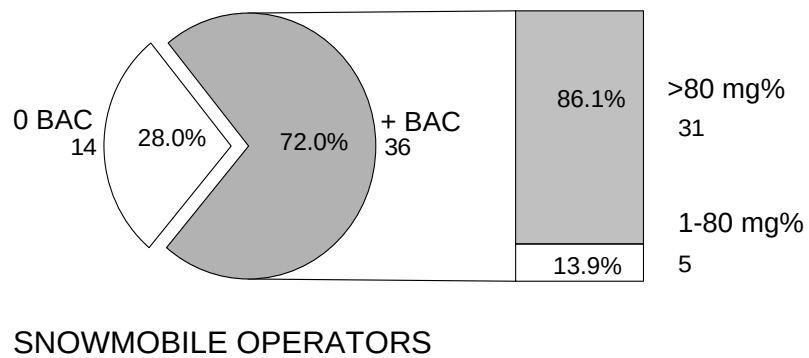
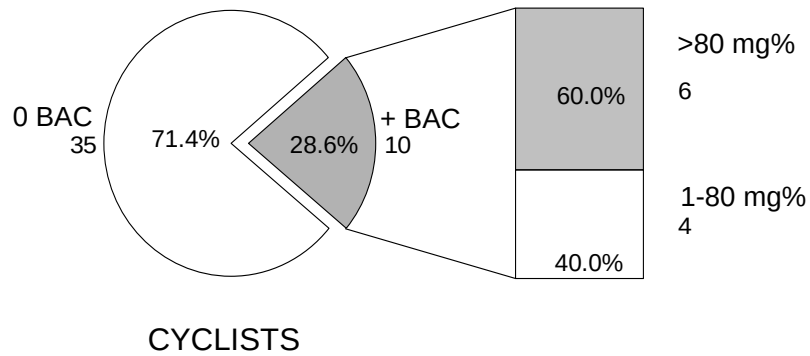
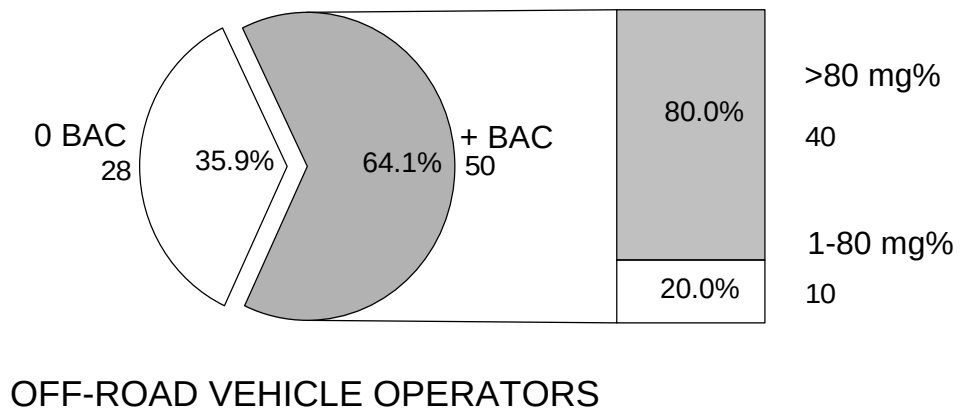


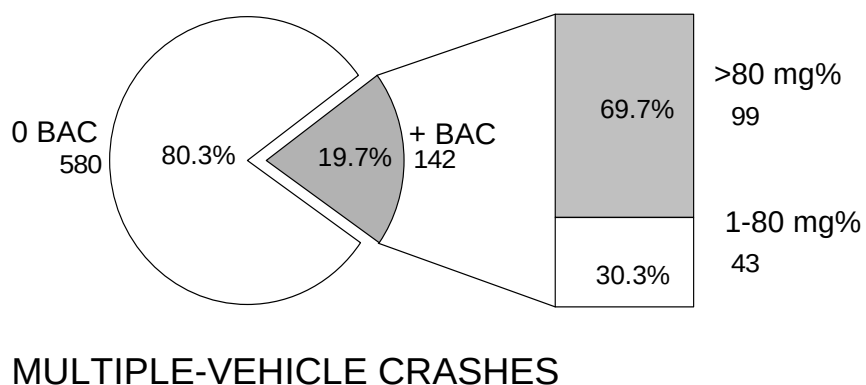
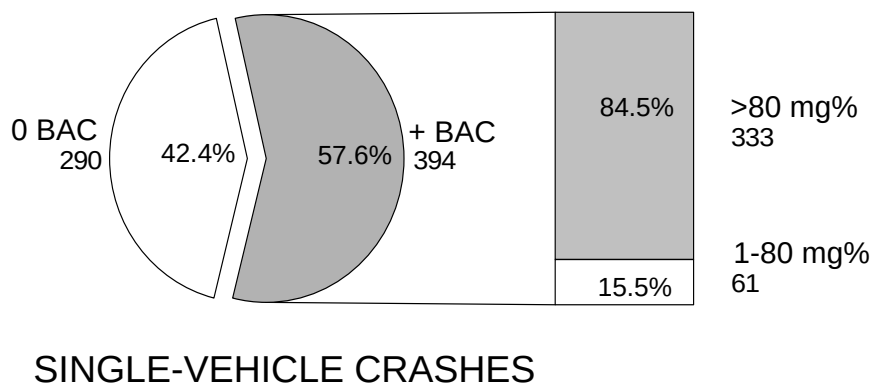
Figure 3-6e
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2007



3.2.4 Collision differences. Less than half of all drivers killed (45.9%) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (73.5% and 77.1%, 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 (57.6%) were positive for alcohol, compared to only 19.7% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (84.5%). By contrast, among drinking drivers in multiple-vehicle crashes, 69.7% had BACs over the legal limit.

Figure 3-7
Alcohol Use Among Drivers by
Type of Collision: Canada, 2007



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 2007. Table 3-4 shows the information by age group, gender and jurisdiction. The first data 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 blood alcohol concentration (BAC) levels.

During 2007, as shown by the totals at the bottom of the table, there were 426 pedestrians fatally injured; 247 (58.0%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- > 60.7% showed no evidence of alcohol – 39.3% had been drinking;
- > 2.4% had BACs below 50 mg%;
- > 4.5 had BACs from 50 to 80 mg%;
- > 6.5% had BACs from 81 to 160%; and
- > 25.9% had BACs over 160 mg%.

Thus, 39.3% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

3.3.1 Age differences. Of all the fatally injured pedestrians, over two-fifths (40.4%) were over 55 years of age (172 of the 426 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, 20.2% were aged 20-25, 19.1% were aged 46-55; 17.0% were aged 26-35 and 36-45; 14.9% were over 55; and 11.7% were age 16-19.

Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2007

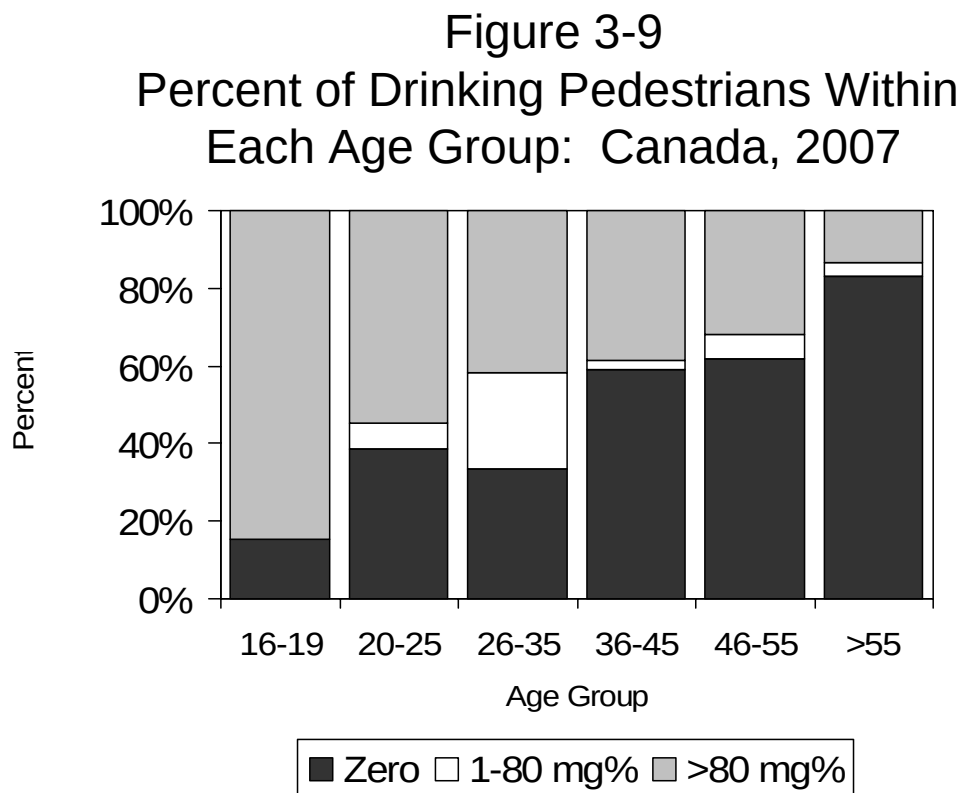
Category of Pedestrian	Number of Pedestrians	Pedestrians Tested		Percent of Tested Pedestrians with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<16	39	11	28.2	72.7	9.1	9.1	0.0	9.1
16-19	18	13	72.2	15.4	0.0	0.0	30.8	53.8
20-25	42	31	73.8	38.7	3.2	3.2	16.1	38.7
26-35	33	24	72.7	33.3	8.3	16.7	0.0	41.7
36-45	50	39	78.0	59.0	0.0	2.6	7.7	30.8
46-55	72	47	65.3	61.7	2.1	4.3	0.0	31.9
>55	172	82	47.7	82.9	1.2	2.4	4.9	8.5
Gender								
Male	284	173	60.9	53.8	2.3	4.6	6.9	32.4
Female	142	74	52.1	77.0	2.7	4.1	5.4	10.8
Jurisdiction								
British Columbia	82	35	42.7	77.1	0.0	5.7	2.9	14.3
Alberta	57	35	61.4	40.0	2.9	8.6	5.7	42.9
Saskatchewan	16	11	68.8	36.4	0.0	9.1	0.0	54.5
Manitoba	23	18	78.3	55.6	5.6	0.0	11.1	27.8
Ontario	131	87	66.4	63.2	3.4	2.3	5.7	25.3
Quebec	86	39	45.3	71.8	2.6	5.1	7.7	12.8
New Brunswick	12	9	75.0	44.4	0.0	0.0	33.3	22.2
Nova Scotia	13	9	69.2	55.6	0.0	11.1	0.0	33.3
Prince Edward Island	2	2	100.0	50.0	0.0	0.0	0.0	50.0
Nfld and Labrador	2	2	100.0	100.0	0.0	0.0	0.0	0.0
Nunavut	2	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	426	247	58.0	60.7	2.4	4.5	6.5	25.9

Figure 3-8
 Percent of All Fatally Injured Drinking and Legally Impaired Pedestrians Accounted for by Each Age Group: Canada, 2007

> 55	14.9	> 55	13.9
46-55	19.1	46-55	19.0
36-45	17.0	36-45	19.0
26-35	17.0	26-35	12.7
20-25	20.2	20-25	21.5
16-19	11.7	16-19	13.9
Drinking		>80 mg%	

Of all the fatally injured pedestrians with BACs over 80 mg%, 21.5% were aged 20-25; 19.0% were aged 36-45 and 46-55; 13.9% were aged 16-19 and over 55; and 12.7% were aged 26-35.

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 were positive for alcohol but whose BAC was below 81 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.

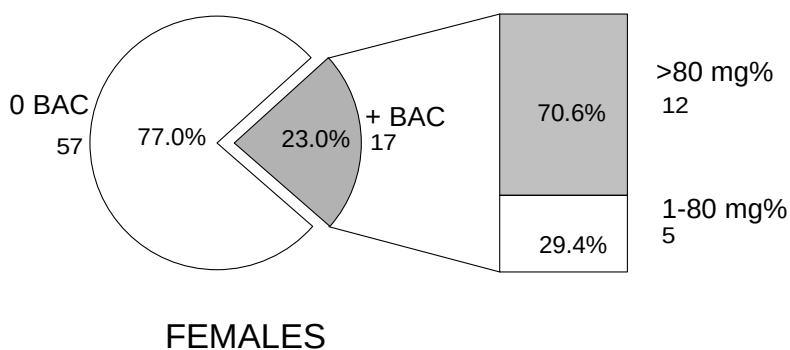
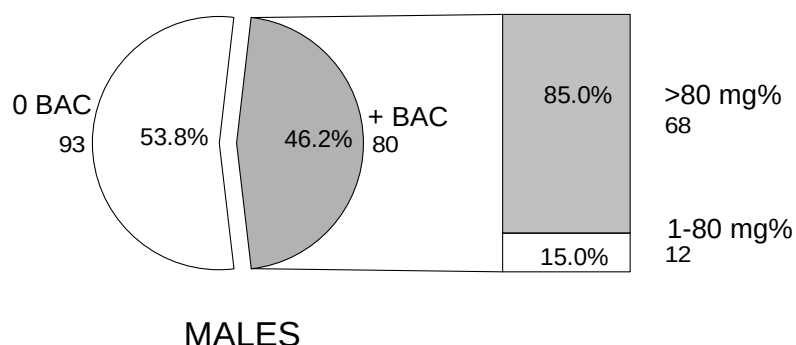


Within each of the age groups, fatally injured pedestrians age 16-19 were the most likely to have been drinking – 84.6% of pedestrians in this age group had been drinking. By contrast, only 17.1% of tested pedestrians over age 55 had been drinking.

3.3.2 Gender differences. Males account for over four-fifths (82.5%) of all the fatally injured pedestrians who had been drinking, and 85.0% of all of the fatally injured pedestrians who had BACs over 80 mg%. However, males dominate the picture because they account for 66.7% of the pedestrians who are killed (284 of the 426 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 (i.e., 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.

Figure 3-10
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2007



Among fatally injured male pedestrians, 46.2% had been drinking, and 85.0% of these pedestrians had BACs over 80 mg%. A slightly different picture emerges among fatally injured female pedestrians – only 23.0% had been drinking and 70.6% of these pedestrians had BACs over 80 mg%.

3.3.3 Jurisdictional differences. Of all the fatally injured pedestrians, 30.8% were killed in Ontario, 20.2% were killed in Quebec and 19.2% were killed in British Columbia. Ontario

accounted for 33.0% and Alberta accounted for 21.6% of the fatally injured drinking pedestrians. Ontario accounted for 33.8% and Alberta accounted for 21.3% of the fatally injured pedestrians with BACs over 80 mg%. It should be noted that the figures for drinking and legally impaired pedestrians in British Columbia and Quebec are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in these provinces – e.g., only 42.7% and 45.3%, respectively, of pedestrians fatally injured in British Columbia and Quebec were tested, compared to 100.0% in Prince Edward Island and Newfoundland and Labrador and 78.3% in Manitoba.

As shown in Table 3-4 (see page 28), the highest incidence of alcohol in fatally injured pedestrians, however, was in Saskatchewan – 63.6%. The lowest incidence of alcohol in fatally injured pedestrians was in Newfoundland and Labrador where 0.0% had been drinking. Some caution should be taken interpreting the BAC results for Newfoundland and Labrador because there were only two fatally injured pedestrians.

3.4 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 2007 in Canada. 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 data column shows the number of drivers 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.

Table 3-5
Drivers in Alcohol-Related Serious Injury Crashes:
Canada, 2007

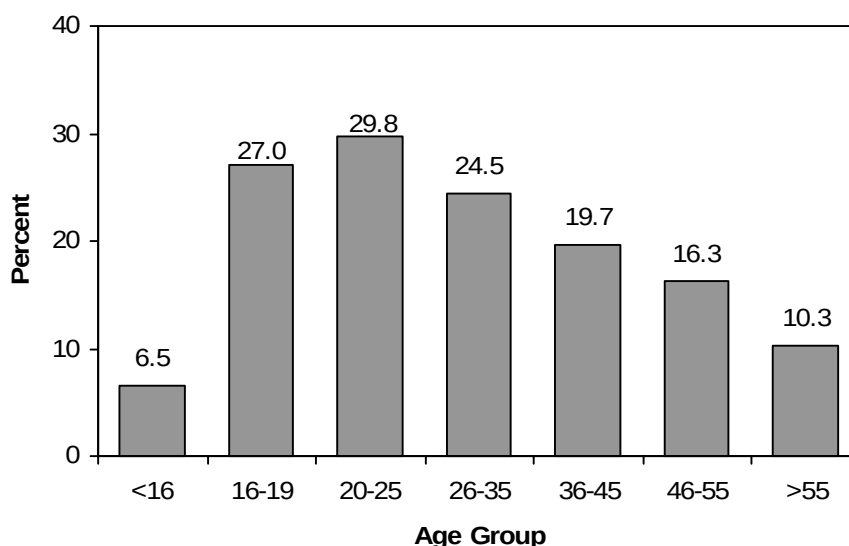
Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	170	11	6.5	0.3
16-19	1595	431	27.0	12.3
20-25	2591	773	29.8	22.0
26-35	3147	772	24.5	22.0
36-45	3132	618	19.7	17.6
46-55	2650	431	16.3	12.3
>55	2780	286	10.3	8.1
unknown	1234	188	15.2	5.4
Gender				
Male	12076	2738	22.7	78.0
Female	4720	661	14.0	18.8
unknown	503	111	22.1	3.2
Vehicle Type				
Auto	8956	1977	22.1	56.3
Truck/Van	5095	1044	20.5	29.7
Motorcycle	1334	230	17.2	6.6
Tractor Trailer	575	83	14.4	2.4
Other Hwy. Vehicle	158	17	10.8	0.5
Off-Road	962	133	13.8	3.8
Unknown	219	26	11.9	0.7
Collision Type				
Single-Vehicle	5870	2500	42.6	71.2
Multiple-Vehicle	11429	1010	8.8	28.8
TOTAL	17299	3510	20.3	100.0

As shown, by the totals at the bottom of the table, 17,299 drivers were involved in crashes in which someone was seriously injured. Among these, 20.3% were alcohol-related crashes.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.0% were aged 20-25 and 26-35; and 17.6% were aged 36-45. Drivers under the age of 16 accounted for only 0.3% 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 (29.8%). The lowest incidence of involvement in alcohol-related crashes was found for the youngest age group of drivers – those under age 16 (6.5%).

Figure 3-11
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2007



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 78.0% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (22.7% and 14.0%, respectively).

3.4.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 56.3% were automobile drivers; and 29.7% were truck/van drivers.

About one out of five of the serious injury crashes involving automobile drivers and truck/van drivers were alcohol related (22.1% and 20.5%, respectively) as were 17.2% of motorcycle riders. The lowest incidence of involvement in alcohol-related serious injury crashes was found among drivers of other highway vehicles (10.8%).

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 71.2% 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 – 42.6% of these drivers, compared to only 8.8% for drivers involved in multiple-vehicle crashes.

3.5 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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. This section examines changes in these four indicators of the problem. Canada's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

3.5.1 Deaths in alcohol-related crashes: 1995-2007. Table 3-6 and Figure 3-12 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those presented in Section 3.1 for two reasons.

Table 3-6

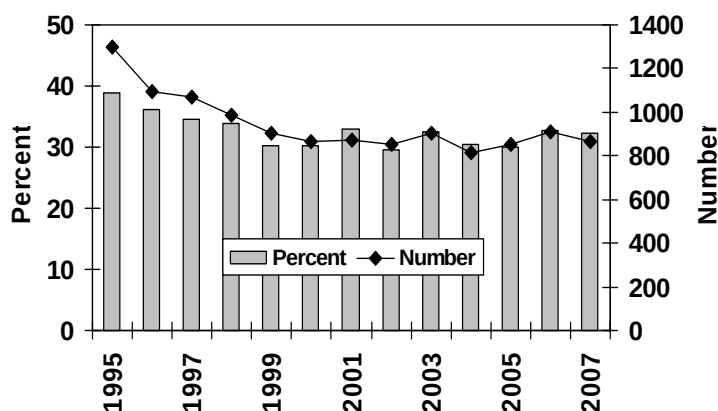
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Canada, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	3338	1296	38.8
1996	3031	1097	36.2
1997	3089	1070	34.6
1998	2909	986	33.9
1999	2986	906	30.3
2000	2865	864	30.2
2001	2645	874	33.0
2002	2867	850	29.6
2003	2782	902	32.4
2004	2673	815	30.5
2005	2845	851	29.9
2006	2771	907	32.7
2007	2668	863	32.3
1996-2001 baseline	2921	966	33.1

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

** only on public roadways involving principal vehicle types.

Figure 3-12
Number and Percent of Deaths Involving
a Drinking Driver: Canada, 1995-2007



First deaths that occur in *crashes that involve a drinking pedestrian are not classified as alcohol-related deaths*. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. *Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.*

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver dropped from 1,296 to 864 between 1995 and 2000, rose slightly to 874 deaths in 2001, declined to 850 in 2002, rose to 902 in 2003, fell to a low of 815 in 2004, rose to 907 in 2006, and declined again to 863 in 2007. The percentage of alcohol-related fatalities decreased from 38.8% in 1995 to 30.2% in 2000, increased to 33.0% in 2001, dropped to a low of 29.6% in 2002, rose to 32.4% in 2003, decreased to 29.9% in 2005, rose to 32.7% in 2006, and decreased again to 32.3% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 966 fatalities involving a drinking driver and they accounted for 33.1% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 2.4% from 33.1% in the baseline period (1996-2001) to 32.3% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 10.7% decrease from an average of 966 in the baseline period (1996-2001) to 863 in 2007.

3.5.2 Fatally injured drivers: 1987-2007. Data on alcohol use among fatally injured drivers over the 21-year period from 1987 to 2007 are shown in Table 3-7. 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%) declined from 742 to 409 between 1987 and 1999, rose to 445 in 2001, declined to 425 in 2002, rose to 450 in 2003, fell to a low of 384 in 2004, rose to 459 in 2005, and declined again to 432 in 2007. The percent of fatally injured drivers with BACs over the legal limit dropped from 43.1% to 27.1% between 1987 and 1999, rose to 32.1% in 2001, declined in 2002 (29.1%), rose to 32.0% in 2003, declined to 27.9% in 2004, rose to 31.0% in 2005, declined to 30.2% in 2006, and rose again to 30.7% in 2007.

Table 3-7

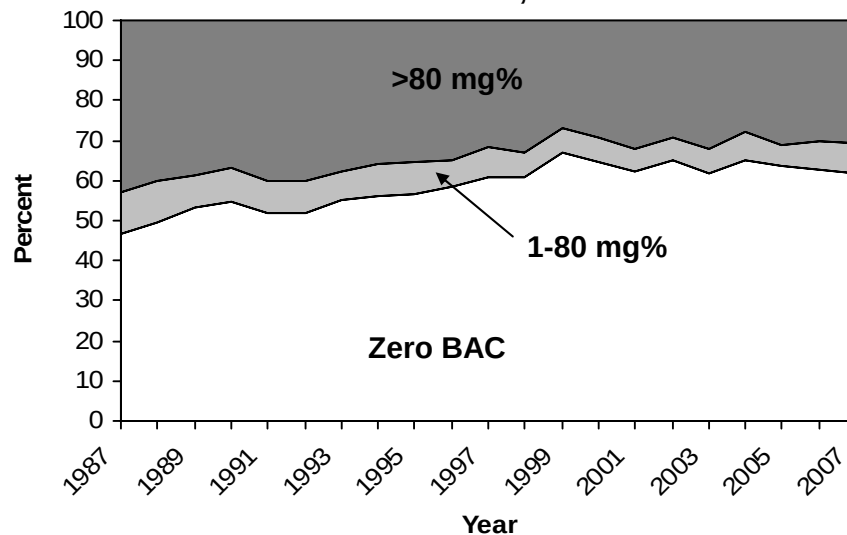
Alcohol Use Among Fatally Injured Drivers:
Canada, 1987-2007

Drivers Grouped by BAC (mg%)

YEAR	Number of Drivers	Number Tested	Percent Tested	Zero BAC		1-80 BAC		>80 BAC	
				No.	% Tested	No.	% Tested	No.	% Tested
1987	2250	1721	76.5	807	46.9	172	10.0	742	43.1
1988	2326	1796	77.2	887	49.4	186	10.4	723	40.3
1989	2384	1872	78.5	1002	53.5	143	7.6	727	38.8
1990	2181	1756	80.5	959	54.6	155	8.8	642	36.6
1991	2067	1635	79.1	850	52.0	127	7.8	658	40.2
1992	1981	1585	80.0	823	51.9	126	7.9	636	40.1
1993	2043	1677	82.1	928	55.3	115	6.9	634	37.8
1994	1886	1602	84.9	899	56.1	127	7.9	576	36.0
1995	1924	1617	84.0	915	56.6	129	8.0	573	35.4
1996	1728	1436	83.1	838	58.4	97	6.8	501	34.9
1997	1802	1475	81.9	899	60.9	108	7.3	468	31.7
1998	1714	1431	83.5	872	60.9	90	6.3	469	32.8
1999	1793	1508	84.1	1009	66.9	90	6.0	409	27.1
2000	1710	1440	84.2	928	64.4	90	6.3	422	29.3
2001	1645	1386	84.3	861	62.1	80	5.8	445	32.1
2002	1744	1460	83.7	949	65.0	86	5.9	425	29.1
2003	1671	1406	84.1	868	61.7	88	6.3	450	32.0
2004	1633	1378	84.4	900	65.3	94	6.8	384	27.9
2005	1784	1483	83.1	942	63.5	82	5.5	459	31.0
2006	1738	1455	83.7	915	62.9	100	6.9	440	30.2
2007	1665	1406	84.4	870	61.9	104	7.4	432	30.7
1996-2001 baseline	1732	1446	83.5	901	62.3	93	6.4	452	31.3

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

Figure 3-13
Trends in Alcohol Use Among Driver
Fatalities: Canada, 1987-2007



By contrast, the number of fatally injured drivers with zero BAC has fluctuated over this 21-year period, from a low of 807 in 1987 to a high of 1,009 in 1999. In 2007, there were 870 fatally injured drivers with zero BAC. The percent of fatally injured drivers with zero BAC increased from 46.9% to 66.9% between 1987 and 1999, decreased to 62.1% in 2001, rose to 65.0% in 2002, decreased to 61.7% in 2003, increased to 65.3% in 2004, and decreased again to 61.9% in 2007.

The number of fatally injured drivers with BACs between 1-80 mg% declined from 186 to 90 between 1988 and 1998, was constant until 2000, fell to 80 in 2001, rose to 94 in 2004, decreased to 82 in 2005, and rose again to 104 in 2007. The percent of fatally injured drivers with BACs between 1 and 80 mg% also dropped, from a high of 10.4% in 1988 to 5.8% in 2001, rose in 2004 (6.8%), fell to its lowest level in 2005 (5.5%), and rose again in 2007 (7.4%).

When compared to the 1996-2001 baseline period shown at the bottom of Table 3-7, the percentage of fatally injured drivers with zero BACs in 2007 decreased by 0.6% (from 62.3% to 61.9%). Among drivers with BACs from 1-80 mg%, there was a 15.6% increase (from 6.4% to 7.4%). And among those with BACs over 80 mg%, there was a 1.9% decrease (from 31.3% to 30.7%).

Table 3-8 and Figure 3-14 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for two reasons.

First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 3-8, the percentage of fatally injured drivers testing positive for alcohol from 1996-2001, the baseline period, is 37.7%. In 2007, 38.1% of fatally injured drivers tested positive for alcohol, which represents a 1.1% increase from the baseline period.

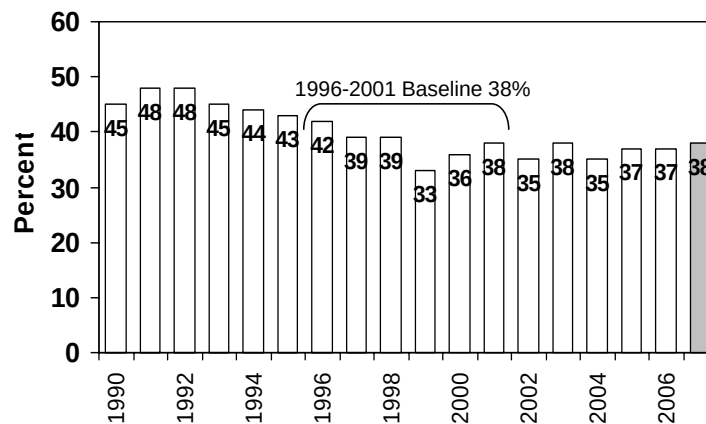
Table 3-8

Alcohol Use Among Fatally Injured Drivers*:
Canada, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	2181	1191	(54.6)	990	(45.4)
1991	2067	1075	(52.0)	992	(48.0)
1992	1981	1029	(51.9)	952	(48.1)
1993	2043	1131	(55.4)	912	(44.6)
1994	1886	1058	(56.1)	828	(43.9)
1995	1924	1089	(56.6)	835	(43.4)
1996	1728	1008	(58.3)	720	(41.7)
1997	1802	1098	(60.9)	704	(39.1)
1998	1714	1044	(60.9)	670	(39.1)
1999	1793	1200	(66.9)	593	(33.1)
2000	1710	1102	(64.4)	608	(35.6)
2001	1645	1022	(62.1)	623	(37.9)
2002	1744	1133	(65.0)	611	(35.0)
2003	1671	1032	(61.8)	639	(38.2)
2004	1633	1067	(65.3)	566	(34.7)
2005	1784	1133	(63.5)	651	(36.5)
2006	1738	1093	(62.9)	645	(37.1)
2007	1665	1030	(61.9)	635	(38.1)
1996-2001 baseline	1732	1079	(62.3)	653	(37.7)

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

Figure 3-14
Percent of Fatally Injured Drivers* Positive
for Alcohol: Canada, 1990-2007



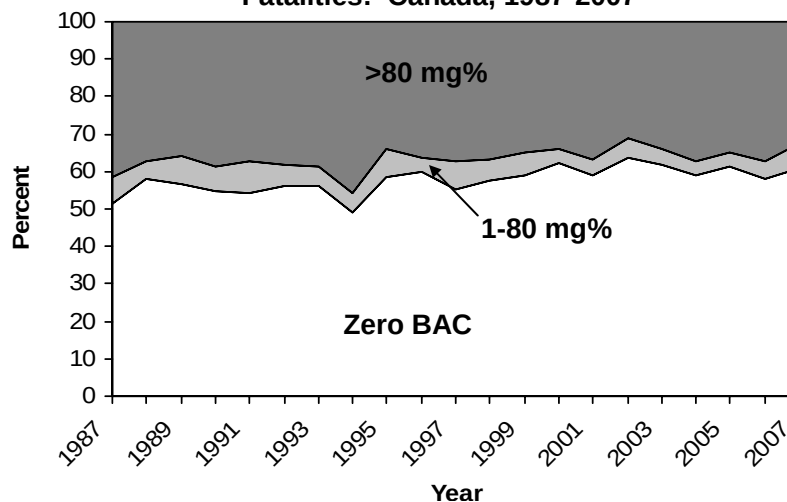
3.5.3 Fatally injured pedestrians: 1987-2007. Data on alcohol use among fatally injured pedestrians over the 21-year period from 1987 to 2007 are shown in Table 3-9. Trends are illustrated in Figure 3-15 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of 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.

Table 3-9

Alcohol Use Among Fatally Injured Pedestrians:
Canada, 1987-2007

YEAR	Number of Pedestrians	Number Tested	Percent Tested	Pedestrians Grouped by BAC (mg%)					
				Zero BAC		1-80 BAC		>80 BAC	
				No.	% Tested	No.	% Tested	No.	% Tested
1987	760	414	54.5	213	51.4	30	7.2	171	41.3
1988	748	358	47.9	208	58.1	17	4.7	133	37.2
1989	676	368	54.4	209	56.8	27	7.3	132	35.9
1990	683	356	52.1	195	54.8	23	6.5	138	38.8
1991	598	347	58.0	188	54.2	30	8.6	129	37.2
1992	522	296	56.7	166	56.1	17	5.7	113	38.2
1993	551	301	54.6	169	56.1	15	5.0	117	38.9
1994	517	295	57.1	145	49.2	15	5.1	135	45.8
1995	493	303	61.5	178	58.7	22	7.3	103	34.0
1996	548	325	59.3	194	59.7	13	4.0	118	36.3
1997	502	295	58.8	163	55.3	22	7.5	110	37.3
1998	498	303	60.8	174	57.4	18	5.9	111	36.6
1999	473	288	60.9	170	59.0	18	6.3	100	34.7
2000	420	245	58.3	153	62.4	9	3.7	83	33.9
2001	405	254	62.7	150	59.1	10	3.9	94	37.0
2002	399	239	59.9	152	63.6	13	5.4	74	31.0
2003	458	261	57.0	161	61.7	11	4.2	89	34.1
2004	416	248	59.6	146	58.9	10	4.0	92	37.1
2005	418	243	58.1	149	61.3	9	3.7	85	35.0
2006	417	248	59.5	144	58.1	12	4.8	92	37.1
2007	426	247	58.0	150	60.7	17	6.9	80	32.4

Figure 3-15
Trends in Alcohol Use Among Pedestrian
Fatalities: Canada, 1987-2007



The number of fatally injured pedestrians with a BAC over 80 mg% declined from a high of 171 in 1987 to 83 in 2000, rose to 94 in 2001, fell to a low of 74 in 2002, rose to 92 in 2004, decreased to 85 in 2005, rose to 92 in 2006, and decreased again to 80 in 2007. The percent of fatally injured pedestrians with a BAC over 80 mg% declined from 41.3 to 35.9% between 1987 and 1989, increased until 1994, fell in 2000 (33.9%), rose to 37.0% in 2001, dropped to its lowest level in 2002 (31.0%), rose to 37.1% in 2004, decreased to 35.0% in 2005, rose to 37.1% in 2006, and decreased to 32.4% in 2007.

The number of fatally injured pedestrians with no evidence of alcohol decreased from 213 to 145 between 1987 and 1994, increased to 194 in 1996, decreased to 150 in 2001, rose to 161 in 2003, decreased to 146 in 2004, rose slightly to 149 in 2005, decreased to 144 in 2006, and rose again to 150 in 2007. The percent of fatally injured pedestrians with zero BAC has ranged from about 50% to 60% over this 21-year period – 51.4% of fatally injured pedestrians showed no evidence of alcohol in 1987 compared to 60.7% in 2007.

The number of fatally injured pedestrians with BACs between 1-80 mg% has fluctuated over this 21-year period with 30 in 1987, nine in 2005, and rising to 17 in 2007. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 7.2% in 1987 and 3.7% in 2005, and then rising to 6.9% in 2007.

3.5.4 Drivers in serious injury crashes: 1995-2007. Table 3-10 and Figure 3-16 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those reported earlier in Section 3-4. British Columbia and the Yukon are excluded

from the Canada totals because relevant information on serious injury was not available for these jurisdictions in all of the years examined.

As can be seen, the incidence of alcohol-involvement in serious crashes has declined only slightly. Between 1995 and 2001 the number of drivers in serious injury crashes that involved alcohol declined from 4,106 to 3,164. This number increased in 2002 to 3,267, decreased to 2,917 in 2003, rose to 2,957 in 2004, decreased slightly to 2,919 in 2005, rose to 3,048 in 2006, and decreased to a low of 2,754 in 2007. The percentage of drivers in serious injury crashes that involved alcohol dropped from 21.3% to 17.7% between 1995 to 2003. The percentage rose to 18.6% in 2004, declined to 17.7% in 2005, rose to 19.1% in 2006, before decreasing slightly to 19.0% in 2007.

In the baseline period, an average of 19.9% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes declined to 19.0%, a decrease of 4.5%.

Table 3-11 and Figure 3-17 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those reported earlier in Section 3-4 for two reasons. First, British Columbia and the Yukon are excluded from the Canada totals because relevant information on serious injury was not available for these jurisdictions in all of the years examined. Second, certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles – are excluded.

As can be seen, the incidence of alcohol-involvement in serious crashes has declined only slightly. Between 1995 and 2003 the number of drivers in serious injury crashes that involved alcohol declined from 3,918 to 2,761. This number increased in 2004 to 2,810, decreased to 2,767 in 2005, rose to 2,910 in 2006, and dropped to a low of 2,618 in 2007. The percentage of drivers in serious injury crashes that involved alcohol dropped from 21.7% to 18.0% between 1995 and 2003. The percentage rose to 19.0% in 2004, declined to 18.1% in 2005, rose to 19.5% in 2006, and decreased slightly to 19.4% in 2007. In the baseline period (1996-2001), an average of 20.3% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes was 19.4%, a 4.4% decrease.

Table 3-10

Number and Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol¹: Canada², 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	19233	4106	(21.3)
1996	18174	3754	(20.7)
1997	17453	3506	(20.1)
1998	17405	3437	(19.7)
1999	17113	3368	(19.7)
2000	16466	3239	(19.7)
2001	16441	3164	(19.2)
2002	17328	3267	(18.9)
2003	16494	2917	(17.7)
2004	15909	2957	(18.6)
2005	16505	2919	(17.7)
2006	15947	3048	(19.1)
2007	14522	2754	(19.0)
1996-2001 baseline	17175	3411	(19.9)

¹ single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

² excludes drivers from British Columbia and the Yukon

Figure 3-16
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Canada, 1995-2007

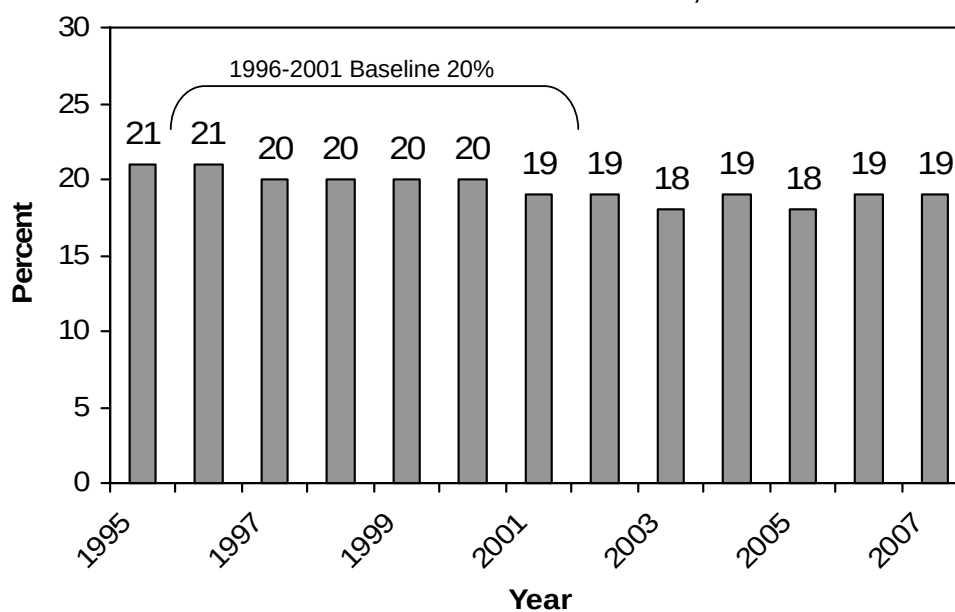


Table 3-11

Number and Percent of All Drivers¹ in Serious Injury Crashes
that Involved Alcohol²: Canada³, 1995-2007

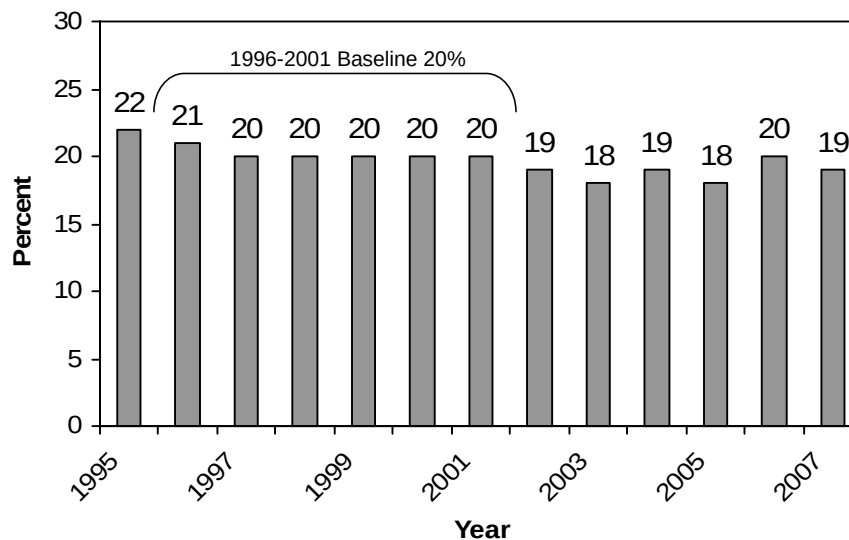
Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	18043	3918	(21.7)
1996	17309	3658	(21.1)
1997	16396	3375	(20.6)
1998	16214	3272	(20.2)
1999	16043	3233	(20.2)
2000	15383	3095	(20.1)
2001	15336	3012	(19.6)
2002	15809	2997	(19.0)
2003	15344	2761	(18.0)
2004	14751	2810	(19.0)
2005	15319	2767	(18.1)
2006	14910	2910	(19.5)
2007	13461	2618	(19.4)
1996-2001 baseline	16114	3274	(20.3)

¹ excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

² single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

³ excludes drivers from British Columbia and the Yukon

Figure 3-17
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Canada, 1995-2007



4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in British Columbia during 2007. 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); and
- > trends in the alcohol-crash problem (Section 4.4).

4.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 4-1 presents information on people who died in alcohol-related crashes in British Columbia during 2007. 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 data 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, 38 people age 16-19 were killed in motor vehicle crashes in British Columbia during 2007. And, in all 38 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, 16 people aged 16-19 died in alcohol-related crashes in British Columbia during 2007. The next column expresses this as a percentage – e.g., 42.1% 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 9.4% of all the people killed in alcohol-related crashes in British Columbia during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 475 persons died in motor vehicle crashes in British Columbia during 2007. In 437 (92.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 170 (38.9%) involved

alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($475 \times .389$) it can be estimated that *in British Columbia during 2007, 185 persons died in alcohol-related crashes.*

4.1.1 Victim age. Of all the people who died in alcohol-related crashes, 23.5% (see last column) were aged 20-25; 20.0% were aged 26-35 and 36-45; 15.3% were aged 46-55; 10.6% were over age 55; 9.4% were aged 16-19; and 1.2% were under age 16.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 and 20-25 died (58.6% and 57.1%, respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 15.4% of persons under 16 and 17.6% of the fatalities over 55 years of age died in crashes involving alcohol.

Table 4-1
Deaths* in Alcohol-Related Crashes: British Columbia, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	16	13	81.3	2	15.4	1.2
16-19	38	38	100.0	16	42.1	9.4
20-25	72	70	97.2	40	57.1	23.5
26-35	64	58	90.6	34	58.6	20.0
36-45	81	77	95.1	34	44.2	20.0
46-55	86	79	91.9	26	32.9	15.3
>55	118	102	86.4	18	17.6	10.6
<u>Gender</u>						
Male	334	303	90.7	130	42.9	76.5
Female	141	134	95.0	40	29.9	23.5
<u>Type</u>						
Driver/Operator	292	279	95.5	120	43.0	70.6
Passenger	91	87	95.6	33	37.9	19.4
Pedestrian	82	71	86.6	17	23.9	10.0
Unknown	10	0	0.0	0	0.0	0.0
<u>Vehicle Occupied</u>						
Automobiles	179	176	98.3	74	42.0	43.5
Trucks/Vans	114	108	94.7	53	49.1	31.2
Motorcycles	47	47	100.0	16	34.0	9.4
Other Hwy. Vehs.	7	7	100.0	0	0.0	0.0
Offroad Vehicles	38	28	73.7	10	35.7	5.9
(Pedestrians)	82	71	86.6	17	23.9	10.0
Unknown	8	0	0.0	0	0.0	0.0
TOTAL	475	437	92.0	170	38.9	100.0

*persons dying within 12 months in collisions on and off public roadways

4.1.2 Gender. Of all the people who died in alcohol-related crashes, 76.5% 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 (29.9%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 70.6% were drivers/operators of a vehicle; 19.4% were passengers; and 10.0% were pedestrians.

Within each of the principal victim types, the highest incidence of alcohol involvement (43.0%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 37.9% of the crashes in which a passenger died and 23.9% of those in which a pedestrian died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 43.5% were in an automobile; 31.2% were in a truck/van; 9.4% were motorcyclists; and 5.9% were off-road vehicle occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant or motorcyclist died (49.1% versus 42.0% and 34.0%). Among off-road vehicle occupants, 35.7% 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 2007. Table 4-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

The first data 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%.

Table 4-2
Alcohol Use Among Fatally Injured Drivers: British Columbia, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
16-19	19	17	89.5	5	29.4	4.8	5	29.4	5.9
20-25	47	43	91.5	26	60.5	25.0	24	55.8	28.2
26-35	38	37	97.4	21	56.8	20.2	16	43.2	18.8
36-45	49	46	93.9	22	47.8	21.2	19	41.3	22.4
46-55	50	43	86.0	18	41.9	17.3	13	30.2	15.3
>55	54	41	75.9	12	29.3	11.5	8	19.5	9.4
Gender									
Male	202	180	89.1	83	46.1	79.8	67	37.2	78.8
Female	55	47	85.5	21	44.7	20.2	18	38.3	21.2
Vehicle Type									
Automobile	125	110	88.0	49	44.5	47.1	42	38.2	49.4
Truck/Van	85	76	89.4	41	53.9	39.4	35	46.1	41.2
Motorcycle	43	38	88.4	14	36.8	13.5	8	21.1	9.4
Tractor Trailer	4	3	75.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	137	128	93.4	81	63.3	77.9	67	52.3	78.8
Multiple-Vehicle	120	99	82.5	23	23.2	22.1	18	18.2	21.2
TOTAL	257	227	88.3	104	45.8	100.0	85	37.4	100.0

To illustrate, among 16-19 year olds there were 19 drivers killed during 2007; 17 of these fatally injured drivers (89.5%) were tested for alcohol. Of those who were tested, five (29.4%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 4.8% of all drinking drivers who were killed.

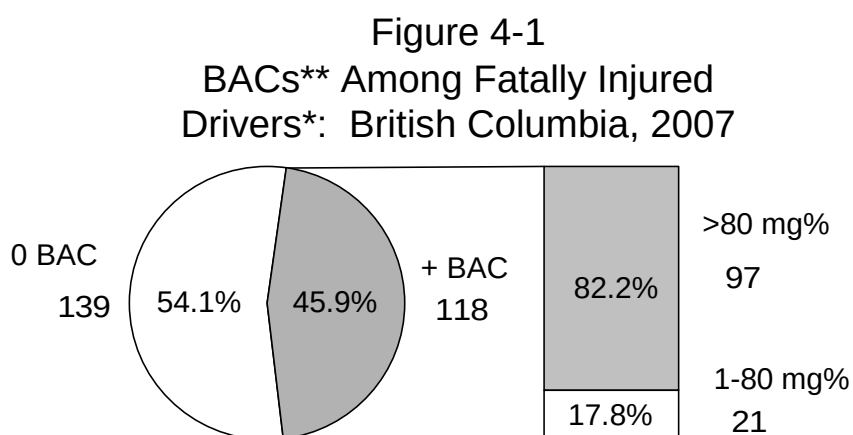
Then, in the final three columns, it can be seen that five of the 17 (29.4%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that all of the five drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses 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 5.9% 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 2007, with 88.3% of fatally injured drivers being tested for alcohol use.

In British Columbia, 45.8% had been drinking and most of these had illegal BACs – 81.7% of 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:

- > 4.8% had BACs from 1-49 mg%;
- > 3.5% had BACs from 50-80 mg%
- > 8.4% had BACs from 81 to 160 mg%; and,
- > 29.1% had BACs over 160 mg%.

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 118 of 257 (45.9%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 97 (82.2%) have BACs over 80 mg%.



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

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

4.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 25.0% were aged 20-25; 21.2% were aged 36-45; 20.2% were aged 26-35; 17.3% were aged 46-55; 11.3% were over 55; and 4.8% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.2% were aged 20-25; 22.4% were aged 36-45; 18.8% were aged 26-35; 15.3% were aged 46-55; 9.4% were over 55; and 5.9% were aged 16-19.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 60.5% of drivers in this age group had been drinking. By contrast, only 29.3% of the tested drivers aged over 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 79.8% of all the fatally injured drivers who had been drinking, and 78.8% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (202 of the 257 fatalities or 78.6% are males). Fatally injured male drivers were slightly more likely to have been drinking than female drivers (46.1% and 44.7%, respectively). And, 80.7% 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), 47.1% were automobile drivers; 39.4% were truck/van drivers; and 13.5% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 49.4% were automobile drivers, 41.2% were truck/van drivers; and 9.4% were motorcyclists.

Within each of the vehicle types, 53.9% of fatally injured drivers of truck/vans, 44.5% of automobile drivers, and 36.8% of motorcyclists were found to have been drinking. None of the drivers of tractor trailers had been drinking.

4.2.4 Collision differences. Slightly more than half of the drivers killed (137 of the 257) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (77.9% and 78.8%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost two-thirds of the drivers involved in single-vehicle crashes (63.3%) were positive for alcohol, compared to only 23.2% of those involved in multiple-vehicle collisions.

4.3 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 2007 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.

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 data column shows the number of drivers 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, 2,749 drivers were involved in crashes in which someone was seriously injured, and among these 27.1% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.7% were aged 20-25, 21.3% were aged 26-35; and 19.3% were aged 36-45. Drivers over 55 accounted for only 8.2% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, two-fifths of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (41.1%). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (9.5%).

Table 4-3
Drivers in Alcohol-Related Serious Injury Crashes:
British Columbia, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	21	2	9.5	0.3
16-19	227	78	34.4	10.5
20-25	411	169	41.1	22.7
26-35	514	159	30.9	21.3
36-45	538	144	26.8	19.3
46-55	452	95	21.0	12.7
>55	487	61	12.5	8.2
unknown	99	38	38.4	5.1
<u>Gender</u>				
Male	1901	566	29.8	75.9
Female	766	146	19.1	19.6
unknown	82	34	41.5	4.6
<u>Vehicle Type</u>				
Auto	1417	412	29.1	55.2
Truck/Van	861	244	28.3	32.7
Motorcycle	247	46	18.6	6.2
Tractor Trailer	95	21	22.1	2.8
Other Hwy. Vehicle	10	0	0.0	0.0
Off-Road	98	16	16.3	2.1
Unknown	21	7	33.3	0.9
<u>Collision Type</u>				
Single-Vehicle	1130	531	47.0	71.2
Multiple-Vehicle	1619	215	13.3	28.8
TOTAL	2749	746	27.1	100.0

4.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.9% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (29.8% and 19.1%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 55.2% were automobile drivers; 32.7% were truck/van drivers; 6.2% were motorcyclists; 2.8% were tractor trailer drivers; and 2.1% were off-road vehicle drivers. The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of automobiles – 29.1% of these drivers were in crashes that involved alcohol, compared to 28.3% for truck/van drivers, 22.1% for tractor trailer drivers; 18.6% for motorcyclists; and 16.3% for off-road vehicle drivers. Among drivers of other highway vehicles, 0.0% were involved in alcohol-related crashes.

4.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 71.2% 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 – 47.0% of these drivers, compared to only 13.3% for drivers involved in multiple-vehicle crashes.

4.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. British Columbia's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

4.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 4-4 and Figure 4-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 4.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 241 to a low of 130 between 1995 and 1999, rose to 160 in 2002, dropped to 134 in 2003, increased to 161 in 2005, decreased to 143 in 2006, and rose to 147 in 2007. The percentage of alcohol-related fatalities in British Columbia decreased from 47.6% in 1995 to 31.7% in 1999, rose to 36.6% in 2001, dropped to its lowest level in 2003 (29.5%), rose to 36.9% in 2005, decreased to 33.6% in 2006, and rose again in 2007 (35.8%).

Table 4-4

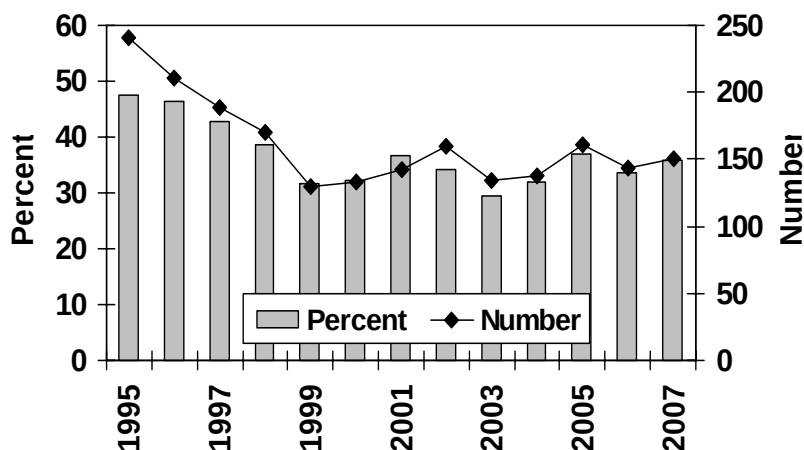
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: British Columbia, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	506	241	47.6
1996	455	211	46.4
1997	441	189	42.9
1998	440	171	38.9
1999	410	130	31.7
2000	413	133	32.2
2001	388	142	36.6
2002	469	160	34.1
2003	455	134	29.5
2004	433	138	31.9
2005	436	161	36.9
2006	426	143	33.6
2007	419	150	35.8
1996-2001 baseline	425	163	38.4

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

** only on public roadways involving principal vehicle types.

Figure 4-2
Number and Percent of Deaths Involving
a Drinking Driver: British Columbia, 1995-2007



As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 163 fatalities involving a drinking driver and they accounted for 38.4% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 6.8% from 38.4% in the baseline period (1996-2001) to 35.8% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 8.0% decrease from an average of 163 in the baseline period (1996-2001) to 150 in 2007.

4.4.2 *Fatally injured drivers:* Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 4-5. 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1989 (36.1%) to 1993 (50.4%), dropped in 2000 (32.2%), rose in 2001 (40.6%), dropped to a low of 29.2% in 2004, rose to 36.5% in 2005, decreased in 2006 (32.6%), and rose again in 2007 (38.8%). The percent of fatally injured drivers with zero BACs decreased from 1989 (55.0%) to 1992 (44.8%), peaked in 2000 (62.4%), declined in 2001 (53.5%), rose in 2004 (62.2%), declined in 2005 (57.7%), increased in 2006 (60.0%), and declined again in 2007 (52.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% was at its highest level in 1987 (10.2%), dropped to its lowest mark in 1991 (4.0%), increased in 1998 (7.8%), decreased in 2000 (5.4%), increased in 2001 (5.9%), decreased slightly in 2002 (5.8%), rose to 8.6% in 2004, decreased in 2005 (5.6%), and rose again in 2007 (8.5%).

When compared to the 1996-2001 baseline period shown at the bottom of Table 4-5, the percentage of fatally injured drinking drivers with zero BACs in 2007 decreased by 5.9% (from 56.0% to 52.7%). Among drivers with BACs from 1-80 mg%, there was a 30.8% increase (from 6.5% to 8.5%). And among drivers with BACs over 80 mg%, there was a 3.5% increase (from 37.5% to 38.8%).

Table 4-5
 Alcohol Use Among Fatally Injured Drivers:
 British Columbia, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Zero	Drivers Grouped by BAC (mg%)				
					(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	267	265	99.3	124	46.8	27	10.2	114	43.0
1988	284	270	95.1	138	51.1	22	8.1	110	40.7
1989	256	249	97.3	137	55.0	22	8.8	90	36.1
1990	288	282	97.9	146	51.8	27	9.6	109	38.7
1991	252	248	98.4	135	54.4	10	4.0	103	41.5
1992	233	223	95.7	100	44.8	15	6.7	108	48.4
1993	232	224	96.6	101	45.1	10	4.5	113	50.4
1994	260	252	96.9	138	54.8	21	8.3	93	36.9
1995	238	225	94.5	107	47.6	16	7.1	102	45.3
1996	202	197	97.5	98	49.7	13	6.6	86	43.7
1997	217	203	93.5	103	50.7	12	5.9	88	43.3
1998	211	204	96.7	118	57.8	16	7.8	70	34.3
1999	210	204	97.1	125	61.3	12	5.9	67	32.8
2000	218	205	94.0	128	62.4	11	5.4	66	32.2
2001	197	187	94.9	100	53.5	11	5.9	76	40.6
2002	255	224	87.8	130	58.0	13	5.8	81	36.2
2003	193	164	85.0	101	61.6	10	6.1	53	32.3
2004	241	209	86.7	130	62.2	18	8.6	61	29.2
2005	235	213	90.6	123	57.7	12	5.6	78	36.6
2006	198	190	96.0	114	60.0	14	7.4	62	32.6
2007	207	201	97.1	106	52.7	17	8.5	78	38.8
1996-2001 baseline	209	200	95.7	112	56.0	13	6.5	75	37.5

* dying in less than six hours.

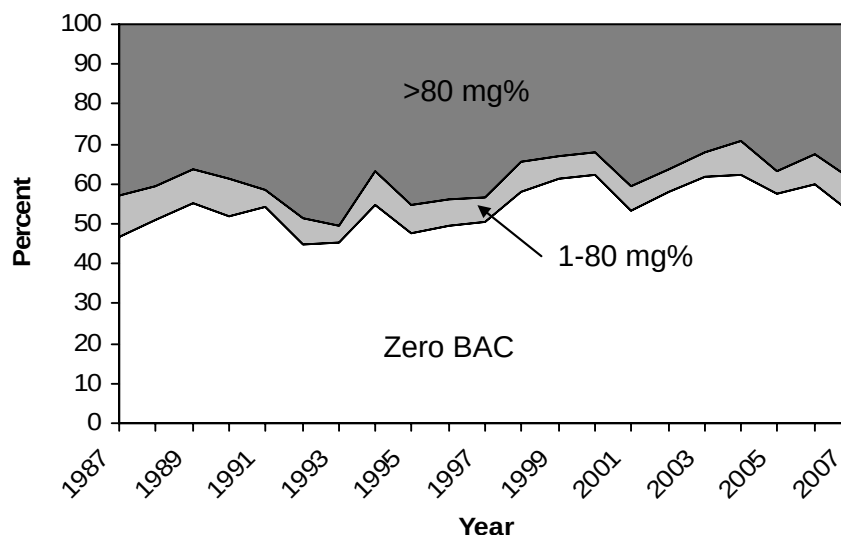
Figure 4-3
Trends in Alcohol Use Among Driver
Fatalities: British Columbia, 1987-2007


Table 4-6 and Figure 4-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive. As can be seen in Table 4-6, the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 43.5%. In 2007, 45.9% of fatally injured drivers tested positive for alcohol, a 5.5% increase from the baseline period.

4.4.3 Drivers in serious injury crashes: Tables and figures in this section show information on drivers involved in alcohol-related injury crashes and not those in alcohol-related serious injury crashes. Data on injury severity in crashes has only recently been reported in British Columbia so it is not possible to examine trends with this indicator. Table 4-7 and Figure 4-5 show information on drivers involved in alcohol-related injury crashes. As shown in Table 4-7, during the baseline period (1996-2001), an average of 13.4% of drivers in injury crashes were in an alcohol-involved crash. This compares to 14.1% in 2007, a 5.2% increase in the problem.

Table 4-8 and Figure 4-6 also show information on drivers involved in alcohol-related injury crashes. These results differ from those in Section 4.3 which reports drivers involved in alcohol-related serious injury crashes. These results also differ slightly from those found in table 4-7 and Figure 4-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in injury crashes has increased slightly over this 13-year period. Between 1995 and 1996 the percentage of driver in injury crashes that involved alcohol decreased slightly from 12.7% to 12.6%, before rising to 14.9% in 1999. In 2003, the incidence decreased to 13.5%, rose to 14.8% in 2005, decreased to 14.3% in 2006, and remained unchanged in 2007.

As shown in Table 4-8, in the baseline period (1996-2001), an average of 13.7% of drivers in injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved injury crashes rose to 14.3%, a 4.4% increase.

Table 4-6

Alcohol Use Among Fatally Injured Drivers*:
British Columbia, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	354	180	(50.8)	174	(49.2)
1991	302	168	(55.6)	134	(44.4)
1992	266	120	(45.1)	146	(54.9)
1993	272	128	(47.1)	144	(52.9)
1994	295	162	(54.9)	133	(45.1)
1995	287	140	(48.8)	147	(51.2)
1996	248	125	(50.4)	123	(49.6)
1997	255	132	(51.8)	123	(48.2)
1998	245	139	(56.7)	106	(43.3)
1999	241	151	(62.7)	90	(37.3)
2000	257	157	(61.1)	100	(38.9)
2001	241	134	(55.6)	107	(44.4)
2002	297	171	(57.6)	126	(42.4)
2003	242	150	(62.0)	92	(38.0)
2004	283	176	(62.2)	107	(37.8)
2005	288	168	(58.3)	120	(41.7)
2006	248	149	(60.1)	99	(39.9)
2007	257	139	(54.1)	118	(45.9)
1996-2001 baseline	248	140	(56.5)	108	(43.5)

* 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, 1990-2007

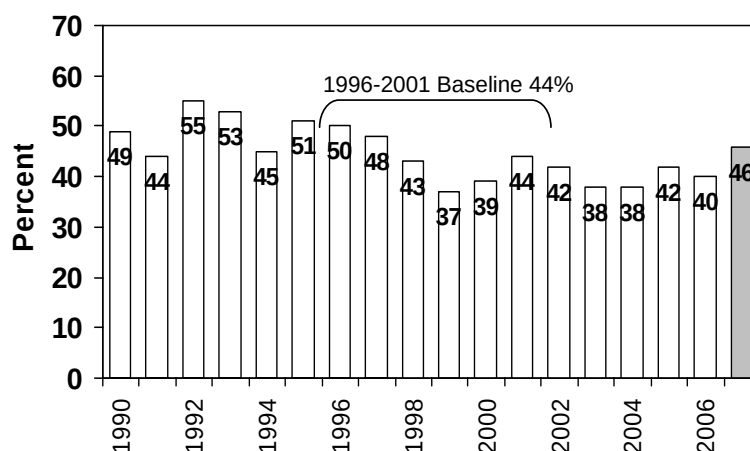


Table 4-7

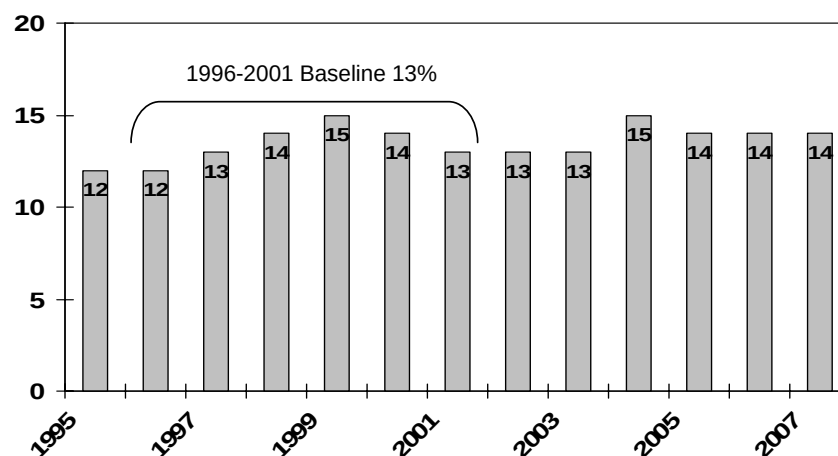
Number and Percent of All Drivers in Injury Crashes *
that Involved Alcohol: British Columbia, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	40723	5019	(12.3)
1996	36852	4534	(12.3)
1997	33285	4340	(13.0)
1998	32537	4560	(14.0)
1999	30168	4410	(14.6)
2000	32062	4483	(14.0)
2001	32105	4139	(12.9)
2002	32157	4218	(13.1)
2003	34031	4517	(13.3)
2004	33509	4847	(14.5)
2005	33505	4600	(13.7)
2006	32624	4477	(13.7)
2007	30568	4316	(14.1)
1996-2001 baseline	32835	4411	(13.4)

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

Figure 4-5

Percent of All Drivers in Injury Crashes that
Involved Alcohol*: British Columbia, 1995-2007



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

Table 4-8

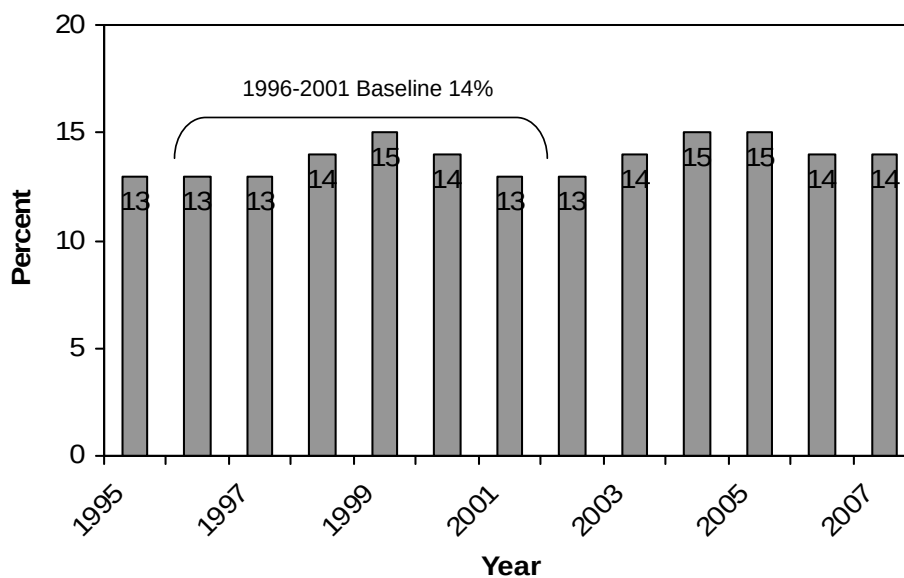
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: British Columbia, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	39140	4973	(12.7)
1996	35358	4460	(12.6)
1997	31844	4202	(13.2)
1998	31170	4447	(14.3)
1999	29157	4354	(14.9)
2000	30898	4392	(14.2)
2001	30900	4057	(13.1)
2002	31073	4141	(13.3)
2003	32808	4421	(13.5)
2004	32215	4730	(14.7)
2005	24659	3640	(14.8)
2006	26674	3821	(14.3)
2007	29401	4217	(14.3)
1996-2001 baseline	31555	4319	(13.7)

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

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

Figure 4-6
Percent of All Drivers in Injury Crashes that
Involved Alcohol: British Columbia, 1995-2007



5.0 ALBERTA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Alberta during 2007. 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); and
- > trends in the alcohol-crash problem (Section 5.4).

5.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 5-1 presents information on people who died in alcohol-related crashes in Alberta during 2007. 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 data 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, 38 people age 16-19 were killed in motor vehicle crashes in Alberta during 2007. And, in 37 cases (97.4%) 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, 26 people aged 16-19 died in alcohol-related crashes in Alberta during 2007. The next column expresses this as a percentage – e.g., 70.3% 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 13.7% of all the people killed in alcohol-related crashes in Alberta during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 471 persons died in motor vehicle crashes in Alberta during 2007. In 443 (94.1%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 190 (42.9%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities ($471 \times .429$) it can be estimated that *in Alberta during 2007, 202 persons died in alcohol-related crashes.*

5.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.8% (see last column) were aged 20-25; 20.5% were aged 26-35; 14.7% were aged 36-45; 13.7% were aged 16-19; 12.6% were aged 46-55, 10.0% were over age 55; and 1.6% were under 16.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 16-19 and 20-25 died (70.3% and 56.7%, respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 10% of persons under 16 and 21.6% of the fatalities over 55 years of age died in crashes involving alcohol.

Table 5-1
Deaths* in Alcohol-Related Crashes: Alberta, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	37	30	81.1	3	10.0	1.6
16-19	38	37	97.4	26	70.3	13.7
20-25	93	90	96.8	51	56.7	26.8
26-35	80	74	92.5	39	52.7	20.5
36-45	62	59	95.2	28	47.5	14.7
46-55	68	65	95.6	24	36.9	12.6
>55	93	88	94.6	19	21.6	10.0
<u>Gender</u>						
Male	353	330	93.5	152	46.1	80.0
Female	118	113	95.8	38	33.6	20.0
<u>Type</u>						
Driver/Operator	290	280	96.6	122	43.6	64.2
Passenger	117	112	95.7	45	40.2	23.7
Pedestrian	57	47	82.5	21	44.7	11.1
Unknown	7	4	57.1	2	50.0	1.1
<u>Vehicle Occupied</u>						
Automobiles	148	141	95.3	55	39.0	28.9
Trucks/Vans	192	185	96.4	89	48.1	46.8
Motorcycles	30	29	96.7	11	37.9	5.8
Other Hwy. Vehs.	21	19	90.5	3	15.8	1.6
Offroad Vehicles	23	22	95.7	11	50.0	5.8
(Pedestrians)	57	47	82.5	21	44.7	11.1
TOTAL	471	443	94.1	190	42.9	100.0

*persons dying within 12 months in collisions on and off public roadways

5.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.0% were males. The incidence of alcohol in crashes in which male died (46.1%) was greater than the incidence of alcohol in crashes in which a female died (33.6%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 64.2% were drivers/operators of a vehicle; 23.7% were passengers; 11.1% were pedestrians; and for 1.1% of the cases, the victim position was unknown.

Within each of the principal victim types, the highest incidence of alcohol involvement (44.7%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 43.6% of the crashes in which a driver/operator died and 40.2% of those in which a passenger died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 46.8% were in a truck/van; 28.9% were in an automobile; 5.8% were motorcyclists and off-road vehicle occupants; and 1.6% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant or motorcyclist died (48.1% versus 39.0% and 37.9%).

The number of fatalities in each of the other types of vehicles is too small to produce reliable estimates of alcohol-involvement.

5.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Alberta during 2007. Table 5-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

The first data 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%.

Table 5-2
Alcohol Use Among Fatally Injured Drivers: Alberta, 2007

Category of Driver	Number of Drivers	<u>Drivers Tested</u>		<u>Positive BAC</u>			<u>BAC > 80 mg%</u>		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
16-19	9	9	100.0	6	66.7	5.8	4	44.4	4.4
20-25	54	53	98.1	28	52.8	26.9	23	43.4	25.3
26-35	55	52	94.5	19	36.5	18.3	19	36.5	20.9
36-45	45	45	100.0	20	44.4	19.2	17	37.8	18.7
46-55	47	46	97.9	18	39.1	17.3	16	34.8	17.6
>55	58	50	86.2	13	26.0	12.5	12	24.0	13.2
<u>Gender</u>									
Male	220	209	95.0	90	43.1	86.5	79	37.8	86.8
Female	48	46	95.8	14	30.4	13.5	12	26.1	13.2
<u>Vehicle Type</u>									
Automobile	94	88	93.6	32	36.4	30.8	29	33.0	31.9
Truck/Van	127	124	97.6	58	46.8	55.8	54	43.5	59.3
Motorcycle	30	27	90.0	11	40.7	10.6	6	22.2	6.6
Tractor Trailer	16	16	100.0	3	18.8	2.9	2	12.5	2.2
Other Vehicle	1	0	0.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single-Vehicle	129	122	94.6	76	62.3	73.1	69	56.6	75.8
Multiple-Vehicle	139	133	95.7	28	21.1	26.9	22	16.5	24.2
TOTAL	268	255	95.1	104	40.8	100.0	91	35.7	100.0

To illustrate, among 16-19 year olds there were nine drivers killed during 2007; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (66.7%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 5.8% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that four of the nine (44.4%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that four of the six drivers who were 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 4.4% of all the drivers with BACs over the legal limit.

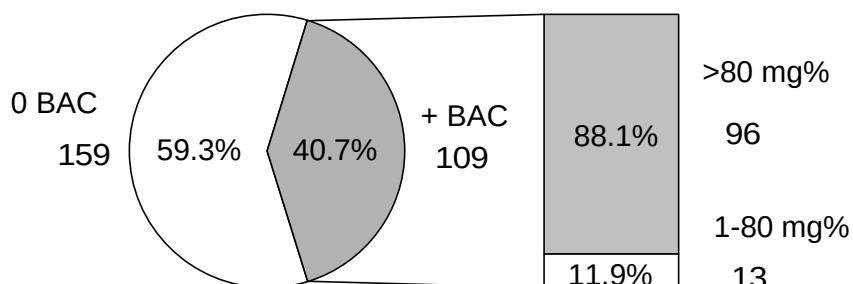
The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2007, with 95.1% of fatally injured drivers being tested for alcohol use.

In Alberta, 40.8% had been drinking and most of these had illegal BACs – 87.5% of 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:

- > 3.1% had BACs from 1-49 mg%;
- > 2.0% had BACs from 50-80 mg%
- > 9.4% had BACs from 81 to 160 mg%; and,
- > 26.3% had BACs over 160 mg%.

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, 109 of 268 (40.7%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 96 (88.1%) have BACs over 80 mg%.

Figure 5-1
BACs Among Fatally Injured Drivers*: Alberta, 2007**



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

** 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), 26.9% were aged 20-25; 19.2% were aged 36-45; 18.3% were aged 26-35; 17.3% were aged 46-55; 12.5% were over 55; and 5.8% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.3% were aged 20-25; 20.9% were aged 26-35; 18.7% were aged 36-45; 17.6% were aged 46-55; and 13.2% were over age 55. Of the fatally injured drivers who were over the legal limit, 4.4% were aged 16-19.

Within each of the age groups, fatally injured drivers aged 16-19 were the most likely to have been drinking – 66.7% of drivers in this age group had been drinking. By contrast, only 26.0% of the tested drivers aged over 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 86.5% of all the fatally injured drivers who had been drinking, and 86.8% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (220 of the 268 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (43.1% and 30.4%, respectively). And, 87.8% of the male and 85.7% 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; 30.8% were automobile drivers; 10.6% were motorcyclists; and 2.9% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 59.3% were truck/van drivers, 31.9% were automobile drivers; 6.6% were motorcyclists, and 2.2% were tractor trailer drivers.

Within each of the vehicle types, 46.8% of fatally injured drivers of truck/vans, 40.7% of motorcyclists, 36.4% of automobile drivers, and 18.8% of tractor trailer drivers had been drinking.

5.2.4 Collision differences. Less than half of the drivers killed (129 of the 268) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (73.1% and 75.8%, 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 (62.3%) were positive for alcohol, compared to only 21.1% of those involved in multiple-vehicle collisions.

5.3 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 2007 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.

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 data column shows the number of drivers 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, 4,139 drivers were involved in crashes in which someone was seriously injured, and among these 20.0% were alcohol-related crashes.

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.8% were aged 26-35, 23.4% were aged 20-25; and 16.1% were aged 36-45. Drivers under 16 and over 55 accounted for only 0.4% and 7.6% respectively of those involved in alcohol-related serious injury crashes.

Table 5-3
Drivers in Alcohol-Related Serious Injury Crashes:
Alberta, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	35	3	8.6	0.4
16-19	405	94	23.2	11.4
20-25	731	193	26.4	23.4
26-35	915	205	22.4	24.8
36-45	761	133	17.5	16.1
46-55	610	108	17.7	13.1
>55	593	63	10.6	7.6
unknown	89	27	30.3	3.3
Gender				
Male	2902	654	22.5	79.2
Female	1151	146	12.7	17.7
unknown	86	26	30.2	3.1
Vehicle Type				
Auto	1608	324	20.1	39.2
Truck/Van	1901	368	19.4	44.6
Motorcycle	286	76	26.6	9.2
Tractor Trailer	145	23	15.9	2.8
Other Hwy. Vehicle	27	4	14.8	0.5
Off-Road	160	28	17.5	3.4
Unknown	12	3	25.0	0.4
Collision Type				
Single-Vehicle	1429	620	43.4	75.1
Multiple-Vehicle	2710	206	7.6	24.9
TOTAL	4139	826	20.0	100.0

Within each of the age groups, one-quarter of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (26.4%). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (8.6%).

5.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 79.2% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (22.5% and 12.7%, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 44.6% were truck/van drivers; 39.2% were automobile drivers; and 9.2% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists – 26.6% of these drivers were in crashes that involved alcohol, compared to 20.1% for automobile drivers; 19.4% for truck/van drivers; 17.5% for off-road vehicle drivers; and 15.9% for tractor trailer drivers. Among other highway vehicle drivers, 14.8% were involved in alcohol-related crashes.

5.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 75.1% 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 – 43.4% of these drivers, compared to only 7.6% for drivers involved in multiple-vehicle crashes.

5.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Alberta's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

5.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 5-4 and Figure 5-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 5.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 5-4

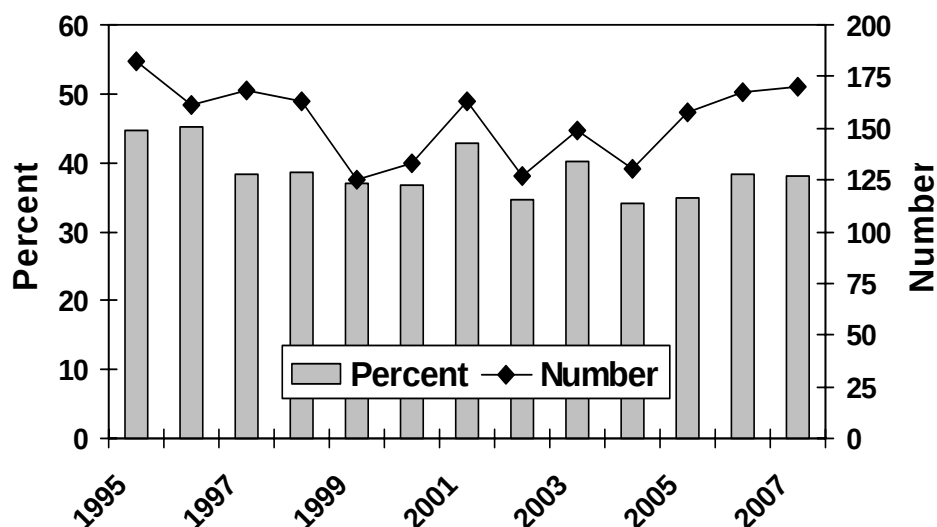
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Alberta, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	406	182	44.8
1996	357	161	45.1
1997	440	168	38.2
1998	422	163	38.6
1999	337	125	37.1
2000	362	133	36.7
2001	382	163	42.7
2002	368	127	34.5
2003	370	149	40.3
2004	382	130	34.0
2005	451	158	35.0
2006	436	167	38.3
2007	447	170	38.0
1996-2001 baseline	383	152	39.7

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

** only on public roadways involving principal vehicle types.

Figure 5-2
Number and Percent of Deaths Involving
a Drinking Driver: Alberta, 1995-2007



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 182 to 161 between 1995 and 1996. There was an increase to 168 alcohol-related fatalities in 1997, a decrease to a low of 125 in 1999, an increase to 163 in 2001, a decrease to 127 in 2002, an increase to 149 in 2003, a decrease to 130 in 2004, then an increase to 170 in 2007. The percentage of alcohol-related fatalities rose slightly from 44.8% in 1995 to a high of 45.1% in 1996. Since then, the percentage of alcohol-related fatalities in Alberta dropped to 36.7% in 2000, rose to 42.7% in 2001, decreased to 34.5% in 2002, rose to 40.3% in 2003, decreased to a low of 34.0% in 2004, rose to 38.3% in 2006, and decreased slightly to 38.0% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period, there was an average of 152 fatalities involving a drinking driver and they accounted for 39.7% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver decreased by 4.3% from 39.7% in the baseline period (1996-2001) to 38.0% in 2007. However, in terms of the number of persons killed in crashes involving a drinking driver, there has been an 11.8% increase from an average of 152 in the baseline period (1996-2001) to 170 in 2007.

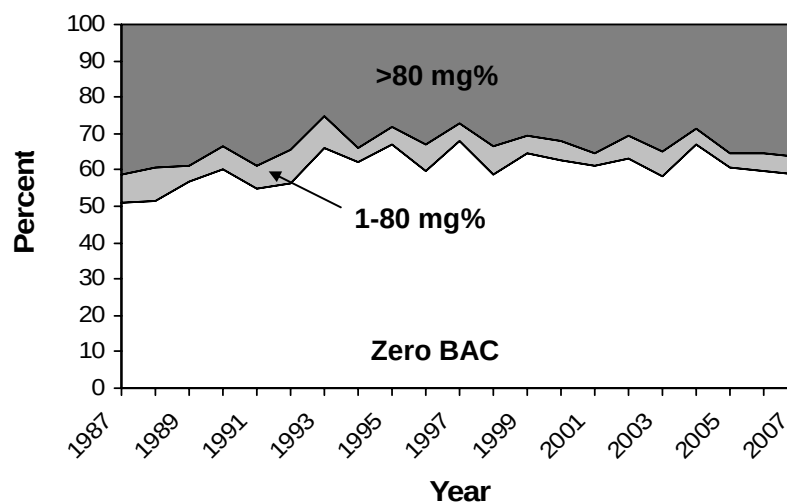
5.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 5-5. Trends are illustrated in Figure 5-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (41.1%) to 1999 (30.9%), rose in 2001 (35.6%), fell in 2002 (30.5%), rose in 2003 (34.8%), dropped in 2004 (28.5%), and rose to 36.4% in 2007. The percent of fatally injured drivers with zero BACs increased from 1987 (51.0%) to 1993 (66.1%), declined to 59.5% in 1996, peaked in 1997 (67.9%), stabilized between 1999 and 2002, fell to 58.2% in 2003, rose in 2004 (66.8%), and decreased to 58.9% in 2007. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1998 (9.3%), fell to its lowest mark in 2001 (3.1%), rose in 2003 (7.0%), decreased in 2005 (4.0%), rose in 2006 (4.8%), and remained at that level in 2007 (4.8%).

Table 5-5
 Alcohol Use Among Fatally Injured Drivers:
 Alberta, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	265	253	95.5	129	51.0	20	7.9	104	41.1
1988	236	215	91.1	111	51.6	20	9.3	84	39.1
1989	235	229	97.4	130	56.8	10	4.4	89	38.9
1990	195	189	96.9	114	60.3	12	6.3	63	33.3
1991	192	180	93.8	99	55.0	11	6.1	70	38.9
1992	171	165	96.5	93	56.4	15	9.1	57	34.5
1993	185	177	95.7	117	66.1	15	8.5	45	25.4
1994	194	189	97.4	117	61.9	8	4.2	64	33.9
1995	201	195	97.0	131	67.2	9	4.6	55	28.2
1996	170	168	98.8	100	59.5	13	7.7	55	32.7
1997	231	224	97.0	152	67.9	11	4.9	61	27.2
1998	206	200	97.1	117	58.5	16	8.0	67	33.5
1999	188	188	100.0	121	64.4	9	4.8	58	30.9
2000	175	173	98.9	108	62.4	10	5.8	55	31.8
2001	199	194	97.5	119	61.3	6	3.1	69	35.6
2002	199	197	99.0	124	62.9	13	6.6	60	30.5
2003	207	201	97.1	117	58.2	14	7.0	70	34.8
2004	197	193	98.0	129	66.8	9	4.7	55	28.5
2005	254	248	97.6	150	60.5	10	4.0	88	35.5
2006	252	248	98.4	148	59.7	12	4.8	88	35.5
2007	235	231	98.3	136	58.9	11	4.8	84	36.4
1996-2001 baseline	195	191	97.9	119	62.3	11	5.8	61	31.9

* dying in less than six hours.

Figure 5-3
 Trends in Alcohol Use Among Driver
 Fatalities: Alberta, 1987-2007


When compared to the 1996-2001 baseline period, the percentage of fatally injured drinking drivers with zero BACs in 2007 decreased by 5.5% (from 62.3% to 58.9%). Among drivers with BACs from 1-80 mg%, there was a 17.2% decrease (from 5.8% to 4.8%). Among drivers with BACs over 80 mg%, there was a 14.1% increase (from 31.9% to 36.4%).

Table 5-6 and Figure 5-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive. As can be seen in Table 5-6, the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 36.1%. In 2007, 40.7% of fatally injured drivers tested positive for alcohol, a 12.7% increase from the baseline period.

5.4.3 Drivers in serious injury crashes: Table 5-7 and Figure 5-5 show information on drivers involved in alcohol-related serious injury crashes. As shown in Table 5-7, during the baseline period (1996-2001), an average of 23.0% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 20.0% in 2007, a 13.0% decrease in the problem.

Table 5-8 and Figure 5-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 5.3 and in Table 5-7 and Figure 5-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has been relatively stable. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol dropped from 24.4% to 20.6%. In 1997 the incidence rose to 25.5%, dropped to 22.7% in 2000, rose slightly to 23.1% in 2001, dropped to 20.3% in 2003, rose to 20.7% in 2004, declined slightly to 20.6% in 2005, rose to 21.8% in 2006, and decreased again to 20.0% in 2007.

As shown Table 5-8, in the baseline period (1996-2001) an average of 23.3% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes decreased to 20.0%, a 14.2% decrease.

Table 5-6

Alcohol Use Among Fatally Injured Drivers*:
Alberta, 1990-2007

YEAR	Number of Drivers*	Zero	Drivers Grouped by BAC (mg%) (% Tested)	Positive	(% Tested)
1990	231	138	(59.7)	93	(40.3)
1991	225	126	(56.0)	99	(44.0)
1992	210	116	(55.2)	94	(44.8)
1993	216	141	(65.3)	75	(34.7)
1994	231	148	(64.1)	83	(35.9)
1995	225	148	(65.8)	77	(34.2)
1996	206	129	(62.6)	77	(37.4)
1997	257	174	(67.7)	83	(32.3)
1998	250	153	(61.2)	97	(38.8)
1999	215	142	(66.0)	73	(34.0)
2000	206	131	(63.6)	75	(36.4)
2001	228	138	(60.5)	90	(39.5)
2002	230	147	(63.9)	83	(36.1)
2003	238	144	(60.5)	94	(39.5)
2004	225	151	(67.1)	74	(32.9)
2005	288	173	(60.1)	115	(39.9)
2006	285	170	(59.6)	115	(40.4)
2007	268	159	(59.3)	109	(40.7)
1996-2001 baseline	227	145	(63.9)	82	(36.1)

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

Figure 5-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Alberta, 1990-2007

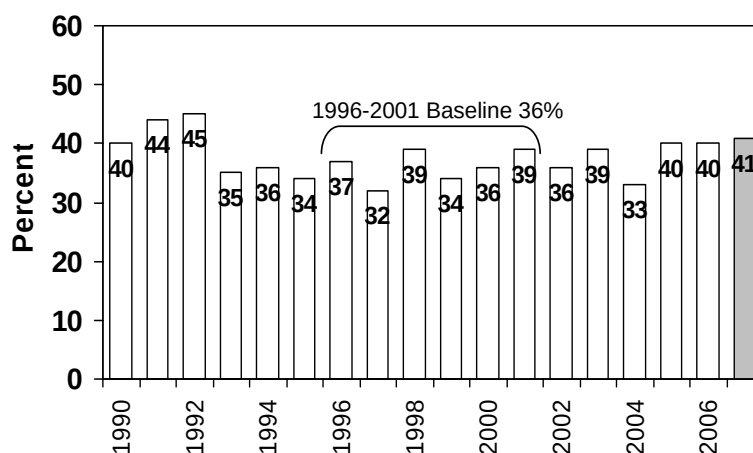


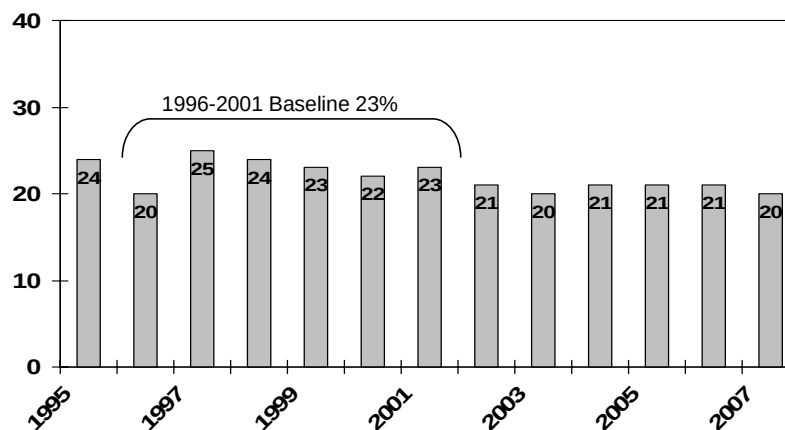
Table 5-7

Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Alberta, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	2762	669	(24.2)
1996	2964	603	(20.3)
1997	2970	741	(24.9)
1998	3454	843	(24.4)
1999	3298	755	(22.9)
2000	3408	760	(22.3)
2001	3670	851	(23.2)
2002	3899	811	(20.8)
2003	3768	758	(20.1)
2004	3845	792	(20.6)
2005	4024	829	(20.6)
2006	4588	981	(21.4)
2007	4139	826	(20.0)
1996-2001 baseline	3294	759	(23.0)

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

Figure 5-5
Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: Alberta, 1995-2007



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

Table 5-8

Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Alberta, 1995-2007

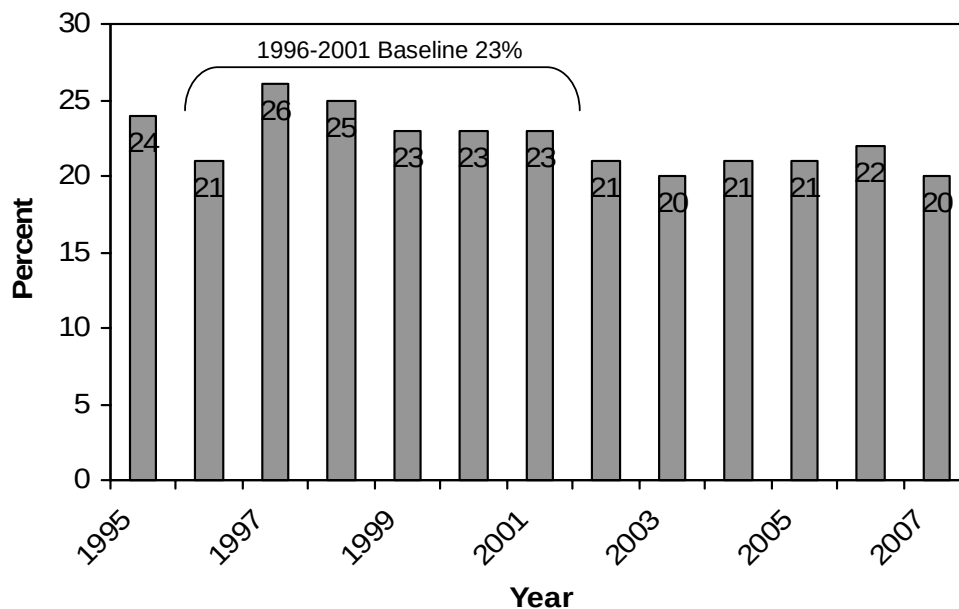
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	2692	656	(24.4)
1996	3023	622	(20.6)
1997	2938	749	(25.5)
1998	3332	821	(24.6)
1999	3178	742	(23.3)
2000	3269	741	(22.7)
2001	3534	817	(23.1)
2002	3777	784	(20.8)
2003	3587	727	(20.3)
2004	3641	755	(20.7)
2005	3826	788	(20.6)
2006	4382	954	(21.8)
2007	3967	795	(20.0)
1996-2001 baseline	3212	749	(23.3)

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

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

Figure 5-6

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Alberta, 1995-2007



6.0 SASKATCHEWAN

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Saskatchewan during 2007. 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); and
- > trends in the alcohol-crash problem (Section 6.4).

6.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 6-1 presents information on people who died in alcohol-related crashes in Saskatchewan during 2007. 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 data 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, 17 people age 16-19 were killed in motor vehicle crashes in Saskatchewan during 2007. And, in all 17 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, nine people aged 16-19 died in alcohol-related crashes in Saskatchewan during 2007. The next column expresses this as a percentage – e.g., 52.9% 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 12.7% of all the people killed in alcohol-related crashes in Saskatchewan during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 161 persons died in motor vehicle crashes in Saskatchewan during 2007. In 152 (94.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 71 (46.7%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities (161 x .467) it can be estimated that *in Saskatchewan during 2007, 75 persons died in alcohol-related crashes.*

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 21.1% (see last column) were aged 36-45; 18.3% were aged 26-35 and 46-55; 14.1% were aged 20-25; 12.7% were aged 16-19; 9.9% were over age 55; and 5.6% were under 16.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 36-45 and 20-25 died (65.2% and 58.8% respectively).

Table 6-1
Deaths* in Alcohol-Related Crashes: Saskatchewan, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	10	7	70.0	4	0.0	5.6
16-19	17	17	100.0	9	52.9	12.7
20-25	17	17	100.0	10	58.8	14.1
26-35	24	24	100.0	13	54.2	18.3
36-45	25	23	92.0	15	65.2	21.1
46-55	26	24	92.3	13	54.2	18.3
>55	42	40	95.2	7	17.5	9.9
<u>Gender</u>						
Male	119	113	95.0	56	49.6	78.9
Female	42	39	92.9	15	38.5	21.1
<u>Type</u>						
Driver/Operator	114	110	96.5	47	42.7	66.2
Passenger	29	28	96.6	13	46.4	18.3
Pedestrian	16	12	75.0	9	75.0	12.7
Unknown	2	2	100.0	2	100.0	2.8
<u>Vehicle Occupied</u>						
Automobiles	46	45	97.8	21	46.7	29.6
Trucks/Vans	67	66	98.5	32	48.5	45.1
Motorcycles	9	9	100.0	3	33.3	4.2
Other Hwy. Vehs.	4	4	100.0	0	0.0	0.0
Offroad Vehicles	19	16	84.2	6	37.5	8.5
(Pedestrians)	16	12	75.0	9	75.0	12.7
TOTAL	161	152	94.4	71	46.7	100.0

*persons dying within 12 months in collisions on and off public roadways

The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 0.0% of persons under 16 and 17.5% 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, 78.9% were males. The incidence of alcohol in crashes in which male died (49.6%) was greater than the incidence of alcohol in crashes in which a female died (38.5%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.2% were drivers/operators of a vehicle; 18.3% were passengers; 12.7% were pedestrians; and for 2.8% of the cases, the victim position was unknown.

Within each of the principal victim types, the highest incidence of alcohol involvement (75.0%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 46.4% of the crashes in which a passenger died and 42.7% 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, 45.1% were truck/van occupants; 29.6% were automobile occupants; 8.5% were off-road vehicle occupants; and 4.2% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol crashes in which an automobile occupant, off-road vehicle occupant or motorcyclist died (48.5% versus 46.7%, 37.5% and 33.3%).

6.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Saskatchewan during 2007. Table 6-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 6-2
Alcohol Use Among Fatally Injured Drivers: Saskatchewan, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
<20	12	12	100.0	5	41.7	14.7	4	33.3	13.8
20-25	10	10	100.0	5	50.0	14.7	4	40.0	13.8
26-35	16	16	100.0	7	43.8	20.6	6	37.5	20.7
36-45	15	15	100.0	7	46.7	20.6	6	40.0	20.7
46-55	16	12	75.0	6	50.0	17.6	5	41.7	17.2
>55	28	24	85.7	4	16.7	11.8	4	16.7	13.8
<u>Gender</u>									
Male	77	72	93.5	31	43.1	91.2	26	36.1	89.7
Female	20	17	85.0	3	17.6	8.8	3	17.6	10.3
<u>Vehicle Type</u>									
Automobile	38	34	89.5	12	35.3	35.3	9	26.5	31.0
Truck/Van	47	43	91.5	20	46.5	58.8	18	41.9	62.1
Motorcycle	8	8	100.0	2	25.0	5.9	2	25.0	6.9
Tractor Trailer	4	4	100.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single-Vehicle	42	39	92.9	25	64.1	73.5	22	56.4	75.9
Multiple-Vehicle	55	50	90.9	9	18.0	26.5	7	14.0	24.1
TOTAL	97	89	91.8	34	38.2	100.0	29	32.6	100.0

The first data 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 under 20 year olds there were 12 drivers killed during 2007; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, five (41.7%) were positive for alcohol. This means that fatally injured drinking drivers under 20 years of age accounted for 14.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that four of the 12 (33.3%) fatally injured drivers under 20 years of age who were tested for alcohol had BACs in excess of 80 mg%. This means

that four of the five drivers who were 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 under 20 years old accounted for 13.8% of all the drivers with BACs over the legal limit.

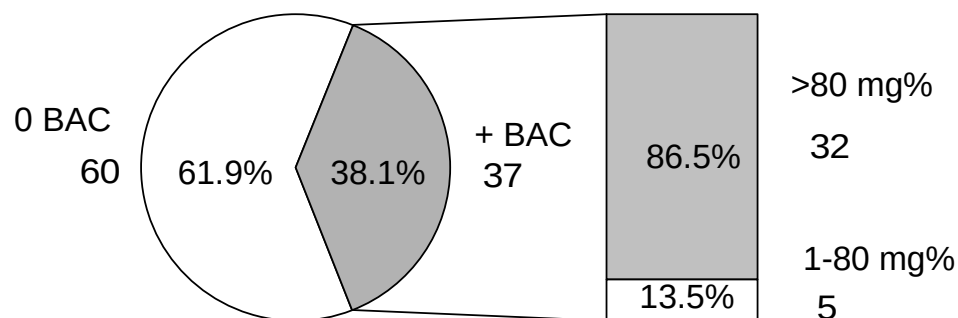
The main findings are shown by the totals at the bottom of the table. Saskatchewan had a very high testing rate in 2007, with 91.8% of fatally injured drivers being tested for alcohol use.

In Saskatchewan, 38.2% had been drinking and most of these had illegal BACs – 85.3% of 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:

- > 2.2% had BACs from 1-49 mg%;
- > 3.4% had BACs from 50-80 mg%
- > 4.5% had BACs from 81 to 160 mg%; and,
- > 28.1% 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 37 of 97 (38.1%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 32 (86.5%) have BACs over 80 mg%.

Figure 6-1
BACs Among Fatally Injured Drivers*: Saskatchewan, 2007**



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

** 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), 20.6% were aged 26-35 and 36-45; 17.6% were aged 46-55; 14.7% were under 20 and 20-25; and 11.8% were over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 20.7% were aged 26-35 and 36-45; 17.2% were aged 45-55; and 13.8% were aged under 20, 20-25 and over 55.

Within each of the age groups, fatally injured drivers age 20-25 and 46-55 were the most likely to have been drinking – 50.0% of drivers in this age group had been drinking. By contrast, only 16.7% of the tested drivers aged over 55 had been drinking.

6.2.2 Gender differences. Males dominate the picture – they account for 91.2% of all the fatally injured drivers who had been drinking, and 89.7% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (77 of the 97 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (43.1% and 17.6%, respectively). And, 83.9% of the male and 100.0% 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), 58.8% were truck/van drivers; 35.3% were automobile drivers; and 5.9% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 62.1% were truck/van drivers, 31.0% were automobile drivers; and 6.9% were motorcyclists.

Within each of the vehicle types, 46.5% of fatally injured drivers of truck/vans, 35.3% of automobile drivers and 25.0% of motorcyclists were found to have been drinking. None of the drivers of tractor trailers had been drinking.

6.2.4 Collision differences. Less than half of the drivers killed (42 of the 97) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (73.5% and 75.9%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost two-thirds of the drivers involved in single-vehicle crashes (64.1%) were positive for alcohol, compared to only 18.0% of those involved in multiple-vehicle collisions.

6.3 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 2007 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.

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 data column shows the number of drivers 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, 519 drivers were involved in crashes in which someone was seriously injured, and among these 30.6% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.8% were aged 20-25, 23.3% were aged 16-19; and 15.1% were aged 36-45. Drivers under 16 and aged 46-55 accounted for only 0.6% and 8.2% respectively of those involved in alcohol-related serious injury crashes.

Table 6-3
Drivers in Alcohol-Related Serious Injury Crashes:
Saskatchewan, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	6	1	16.7	0.6
16-19	77	37	48.1	23.3
20-25	78	41	52.6	25.8
26-35	78	22	28.2	13.8
36-45	94	24	25.5	15.1
46-55	78	13	16.7	8.2
>55	85	17	20.0	10.7
unknown	23	4	17.4	2.5
Gender				
Male	350	116	33.1	73.0
Female	146	39	26.7	24.5
unknown	23	4	17.4	2.5
Vehicle Type				
Auto	205	70	34.1	44.0
Truck/Van	229	79	34.5	49.7
Motorcycle	29	1	3.4	0.6
Tractor Trailer	27	1	3.7	0.6
Other Hwy. Vehicle	2	0	0.0	0.0
Off-Road	23	8	34.8	5.0
Unknown	4	0	0.0	0.0
Collision Type				
Single-Vehicle	201	109	54.2	68.6
Multiple-Vehicle	318	50	15.7	31.4
TOTAL	519	159	30.6	100.0

Within each of the age groups, over half of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (52.6%). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 and 46-55 (16.7%).

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 73.0% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (33.1% and 26.7%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 49.7% were truck/van drivers; and 44.0% were automobile drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of off-road vehicles – 34.8% of these drivers were in crashes that involved alcohol, compared to 34.5% for truck/van drivers, 34.1% for automobile drivers; 3.7% for tractor trailer drivers; and 3.4% for motorcycle riders.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 68.6% 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 – 54.2% of these drivers, compared to only 15.7% for drivers involved in multiple-vehicle crashes.

6.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Saskatchewan's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

6.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 6-4 and Figure 6-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 6.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 6-4

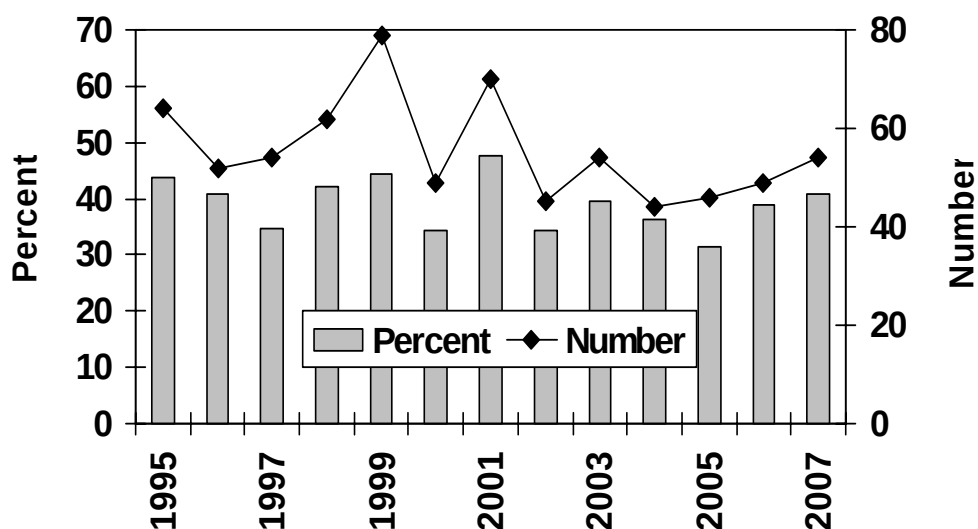
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Saskatchewan, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	146	64	43.8
1996	127	52	40.9
1997	155	54	34.8
1998	147	62	42.2
1999	178	79	44.4
2000	143	49	34.3
2001	147	70	47.6
2002	131	45	34.4
2003	137	55	40.1
2004	121	44	36.4
2005	147	46	31.3
2006	126	49	38.9
2007	132	54	40.9
1996-2001 baseline	150	61	40.7

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

** only on public roadways involving principal vehicle types.

Figure 6-2
Number and Percent of Deaths Involving
a Drinking Driver: Saskatchewan, 1995-2007



As shown in the table and figure, the number of deaths in crashes that involved a drinking driver dropped from 64 to 52 between 1995 and 1996. There was an increase to 79 alcohol-related fatalities in 1999, a decrease to 49 in 2000, an increase to 70 in 2001, a decrease to 45 in 2002, an increase to 55 in 2003, a decrease to a low of 44 in 2004, and then an increase to 54 in 2007. The percentage of alcohol-related fatalities decreased from 43.8% in 1995 to 34.8% in 1997. In 1999, the percentage of alcohol-related fatalities in Saskatchewan rose to 44.4%, decreased to a low of 34.3% in 2000, reached a high of 47.6% in 2001, decreased to 34.4% in 2002, rose to 40.1% in 2003, decreased to 31.3% in 2005, and rose again to 40.9% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 61 fatalities involving a drinking driver and they accounted for 40.7% of all fatalities. This means that the percent of fatalities involving a drinking driver increased by 0.5% from 40.7% in the baseline period (1996-2001) to 40.9% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been an 11.5% decrease from an average of 61 in the baseline period (1996-2001) to 54 in 2007.

6.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 6-5. 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 who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (52.9%) to 1997 (32.8%), increased in 1999 (36.9%), decreased in 2000 (31.3%), rose in 2001 (42.7%), decreased in 2006 (30.6%), and rose again in 2007 (32.5%). The percent of fatally injured drivers with zero BACs increased from 1987 (40.0%) to 1998 (61.6%), declined to 53.6% in 1999, peaked in 2000 (65.7%), declined in 2001 (50.0%), rose in 2003 (59.3%), declined in 2004 (56.7%), rose in 2005 (61.3%), decreased slightly in 2006 (61.1%), and rose again slightly in 2007 (61.4%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1991 (14.1%), dropped to its lowest mark in 1998 (1.4%), rose in 1999 (9.5%), decreased in 2000 (3.0%), increased in 2001 (7.3%), decreased in 2003 (3.7%), increased in 2004 (6.7%), decreased slightly in 2005 (6.5%), rose in 2006 (8.3%), and decreased again in 2007 (6.0%).

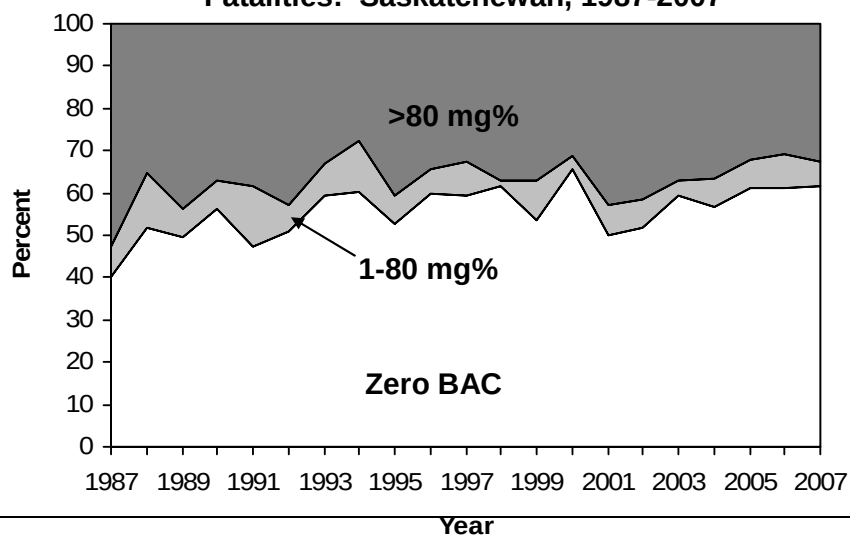
Table 6-5

Alcohol Use Among Fatally Injured Drivers:
Saskatchewan, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	94	85	90.4	34	40.0	6	7.1	45	52.9
1988	81	79	97.5	41	51.9	10	12.7	28	35.4
1989	110	103	93.6	51	49.5	7	6.8	45	43.7
1990	80	78	97.5	44	56.4	5	6.4	29	37.2
1991	83	78	94.0	37	47.4	11	14.1	30	38.5
1992	66	63	95.5	32	50.8	4	6.3	27	42.9
1993	80	79	98.8	47	59.5	6	7.6	26	32.9
1994	68	68	100.0	41	60.3	8	11.8	19	27.9
1995	77	76	98.7	40	52.6	5	6.6	31	40.8
1996	68	67	98.5	40	59.7	4	6.0	23	34.3
1997	65	64	98.5	38	59.4	5	7.8	21	32.8
1998	73	73	100.0	45	61.6	1	1.4	27	37.0
1999	86	84	97.7	45	53.6	8	9.5	31	36.9
2000	73	67	91.8	44	65.7	2	3.0	21	31.3
2001	88	82	93.2	41	50.0	6	7.3	35	42.7
2002	62	58	93.5	30	51.7	4	6.9	24	41.4
2003	84	81	96.4	48	59.3	3	3.7	30	37.0
2004	62	60	96.8	34	56.7	4	6.7	22	36.7
2005	70	62	88.6	38	61.3	4	6.5	20	32.3
2006	79	72	91.1	44	61.1	6	8.3	22	30.6
2007	86	83	96.5	51	61.4	5	6.0	27	32.5
1996-2001 baseline	76	73	(96.1)	42	(57.5)	5	(6.8)	26	(35.6)

* dying in less than six hours.

Figure 6-3
Trends in Alcohol Use Among Driver
Fatalities: Saskatchewan, 1987-2007



When compared to the 1996-2001 baseline period shown at the bottom of Table 6-5, the percentage of fatally injured drivers with zero BACs in 2007 increased by 6.8% (from 57.5% to 61.4%). Among drivers with BACs from 1-80 mg%, there was a 11.8% decrease (from 6.8% to 6.0%). And among those with BACs over 80 mg%, there was a 8.7% decrease (from 35.6% to 32.5%).

Table 6-6 and Figure 6-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 6-6, the percentage of fatally injured drivers testing positive for alcohol from 1996-2001, the baseline period, is 41.9%. In 2007, 38.1% of fatally injured drivers tested positive for alcohol, a 7.6% decrease from the baseline period.

6.4.3 Drivers in serious injury crashes: Table 6-7 and Figure 6-5 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 25.5% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 30.6% in 2007, a 20.0% increase in the problem.

Table 6-8 and Figure 6-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 6.3 and in Table 6-7 and Figure 6-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has increased gradually until 2002, declined until 2004, and generally increased in the past three years. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol rose only slightly from 25.0% to 25.6%. In 1997, the incidence dropped to 23.4%, rose to 26.3% in 1998, dropped to 25.8% in 1999, rose to 29.5% in 2002, dropped to 25.4% in 2004, rose to 27.5% in 2005, declined slightly to 26.8% in 2006, and peaked at 30.7% in 2007.

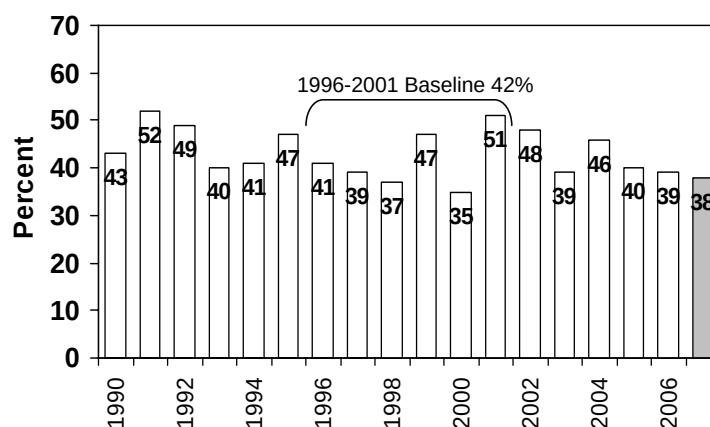
Table 6-6

Alcohol Use Among Fatally Injured Drivers*:
Saskatchewan, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	93	53	(57.0)	40	(43.0)
1991	88	42	(47.7)	46	(52.3)
1992	74	38	(51.4)	36	(48.6)
1993	90	54	(60.0)	36	(40.0)
1994	79	47	(59.5)	32	(40.5)
1995	81	43	(53.1)	38	(46.9)
1996	73	43	(58.9)	30	(41.1)
1997	78	48	(61.5)	30	(38.5)
1998	85	54	(63.5)	31	(36.5)
1999	96	51	(53.1)	45	(46.9)
2000	83	54	(65.1)	29	(34.9)
2001	99	49	(49.5)	50	(50.5)
2002	75	39	(52.0)	36	(48.0)
2003	92	56	(60.9)	36	(39.1)
2004	72	39	(54.2)	33	(45.8)
2005	82	49	(59.8)	33	(40.2)
2006	88	54	(61.4)	34	(38.6)
2007	97	60	(61.9)	37	(38.1)
1996-2001 baseline	86	50	(58.1)	36	(41.9)

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

Figure 6-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Saskatchewan, 1990-2007



In the baseline period (1996-2001), an average of 25.8% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes rose to 30.7%, a 19.0% increase.

Table 6-7

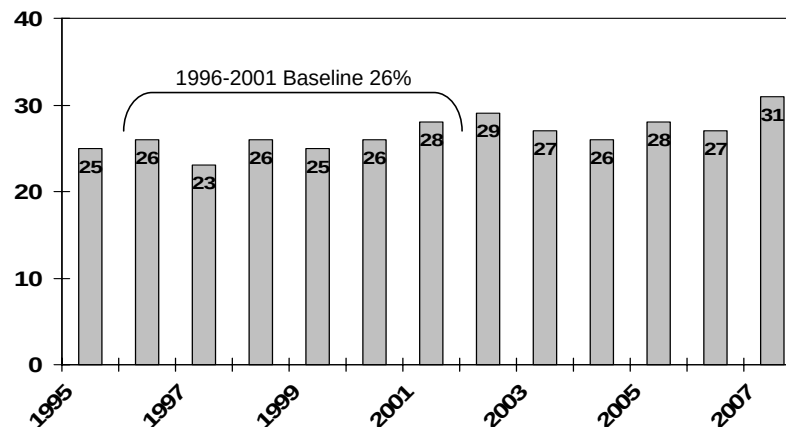
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Saskatchewan, 1995-2007

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	949	233	(24.6)
1996	700	180	(25.7)
1997	889	205	(23.1)
1998	744	192	(25.8)
1999	809	204	(25.2)
2000	734	193	(26.3)
2001	614	171	(27.9)
2002	634	184	(29.0)
2003	705	189	(26.8)
2004	639	163	(25.5)
2005	469	129	(27.5)
2006	540	145	(26.9)
2007	519	159	(30.6)
1996-2001 baseline	748	191	(25.5)

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

Figure 6-5

Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: Saskatchewan, 1995-2007



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

Table 6-8

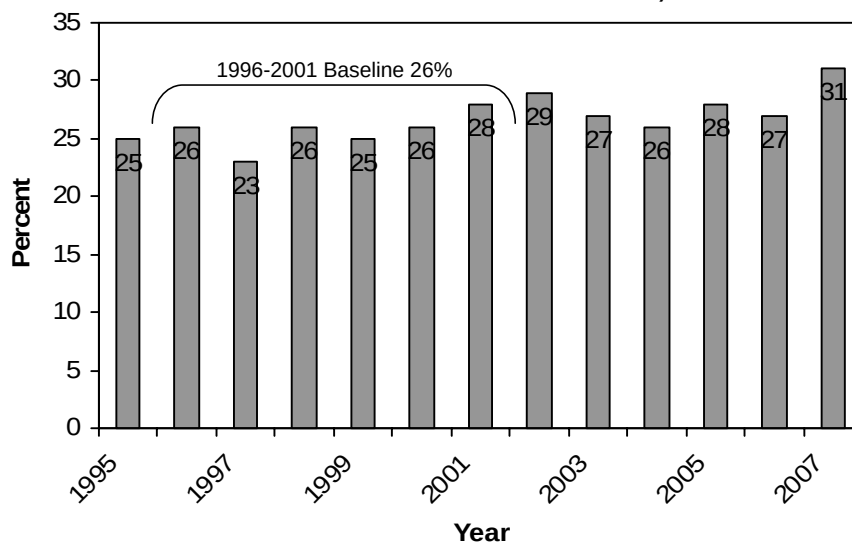
Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Saskatchewan, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	885	221	(25.0)
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)
1996-2001 baseline	706	182	(25.8)

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

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

Figure 6-6
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Saskatchewan, 1995-2007



7.0 MANITOBA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Manitoba during 2007. 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); and
- > trends in the alcohol-crash problem (Section 7.4).

7.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 7-1 presents information on people who died in alcohol-related crashes in Manitoba during 2007. 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 data 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, 13 people age 16-19 were killed in motor vehicle crashes in Manitoba during 2007. And, in 12 cases (92.3%) 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, six people aged 16-19 died in alcohol-related crashes in Manitoba during 2007. The next column expresses this as a percentage – e.g., 50.0% 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 11.8% of all the people killed in alcohol-related crashes in Manitoba during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 126 persons died in motor vehicle crashes in Manitoba during 2007. In 115 (91.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 51 (44.3%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities ($126 \times .443$) it can be estimated that *in Manitoba during 2007, 56 persons died in alcohol-related crashes.*

7.1.1 Victim age. Of all the people who died in alcohol-related crashes, 27.5% (see last column) were aged 20-25; 21.6% were aged 26-35; 19.6% were aged 36-45; 11.8% were aged 16-19; 9.8% were over age 55; 5.9% were aged 46-55; and 3.9% were under 16.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 and 36-45 died (78.6% and 55.6% respectively).

Table 7-1
Deaths* in Alcohol-Related Crashes: Manitoba, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	10	6	60.0	2	33.3	3.9
16-19	13	12	92.3	6	50.0	11.8
20-25	27	26	96.3	14	53.8	27.5
26-35	14	14	100.0	11	78.6	21.6
36-45	20	18	90.0	10	55.6	19.6
46-55	11	10	90.9	3	30.0	5.9
>55	31	29	93.5	5	17.2	9.8
<u>Gender</u>						
Male	83	75	90.4	36	48.0	70.6
Female	43	40	93.0	15	37.5	29.4
<u>Type</u>						
Driver/Operator	80	75	93.8	35	46.7	68.6
Passenger	23	22	95.7	8	36.4	15.7
Pedestrian	23	18	78.3	8	44.4	15.7
<u>Vehicle Occupied</u>						
Automobiles	50	49	98.0	19	38.8	37.3
Trucks/Vans	33	32	97.0	18	56.3	35.3
Motorcycles	2	2	100.0	1	50.0	2.0
Other Hwy. Vehs.	6	6	100.0	1	16.7	2.0
Offroad Vehicles	11	8	72.7	4	50.0	7.8
(Pedestrians)	23	18	78.3	8	44.4	15.7
Unknown	1	0	0.0	0	0.0	0.0
TOTAL	126	115	91.3	51	44.3	100.0

*persons dying within 12 months in collisions on and off public roadways

The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 33.3% of persons under 16 and only 17.2% 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, 70.6% were males. The incidence of alcohol in crashes in which male died (48.0%) was greater than the incidence of alcohol in crashes in which a female died (37.5%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 68.6% were drivers/operators of a vehicle; 15.7% were passengers and pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (46.7%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 44.4% of the crashes in which a pedestrian died and 36.4% of those in which a passenger died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 37.3% were in an automobile ; 35.3% were in a truck/van; 7.8% were off-road vehicle occupants; and 2.0% were motorcyclists and occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an off-road vehicle or automobile occupant died (56.3% versus 50.0% and 38.8%).

The number of fatalities in each of the other types of vehicles is too small to produce reliable estimates of alcohol-involvement.

7.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Manitoba during 2007. Table 7-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 7-2
Alcohol Use Among Fatally Injured Drivers: Manitoba, 2007

Category of Driver	Number of Drivers	<u>Drivers Tested</u>		<u>Positive BAC</u>			<u>BAC > 80 mg%</u>		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
<16	2	2	100.0	1	50.0	3.7	1	50.0	4.0
16-19	7	7	100.0	5	71.4	18.5	4	57.1	16.0
20-25	18	18	100.0	10	55.6	37.0	10	55.6	40.0
26-35	7	6	85.7	4	66.7	14.8	4	66.7	16.0
36-45	10	9	90.0	3	33.3	11.1	3	33.3	12.0
46-55	5	4	80.0	0	0.0	0.0	0	0.0	0.0
>55	20	16	80.0	4	25.0	14.8	3	18.8	12.0
<u>Gender</u>									
Male	50	44	88.0	22	50.0	81.5	20	45.5	80.0
Female	19	18	94.7	5	27.8	18.5	5	27.8	20.0
<u>Vehicle Type</u>									
Automobile	38	35	92.1	16	45.7	59.3	15	42.9	60.0
Truck/Van	24	21	87.5	9	42.9	33.3	8	38.1	32.0
Motorcycle	2	1	50.0	1	100.0	3.7	1	100.0	4.0
Tractor Trailer	5	5	100.0	1	20.0	3.7	1	20.0	4.0
<u>Collision Type</u>									
Single-Vehicle	33	32	97.0	22	68.8	81.5	21	65.6	84.0
Multiple-Vehicle	36	30	83.3	5	16.7	18.5	4	13.3	16.0
TOTAL	69	62	89.9	27	43.5	100.0	25	40.3	100.0

The first data 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 seven drivers killed during 2007; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, five (71.4%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 18.5% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that four of the seven (57.1%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that four of the five drivers who were 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 16.0% of all the drivers with BACs over the legal limit.

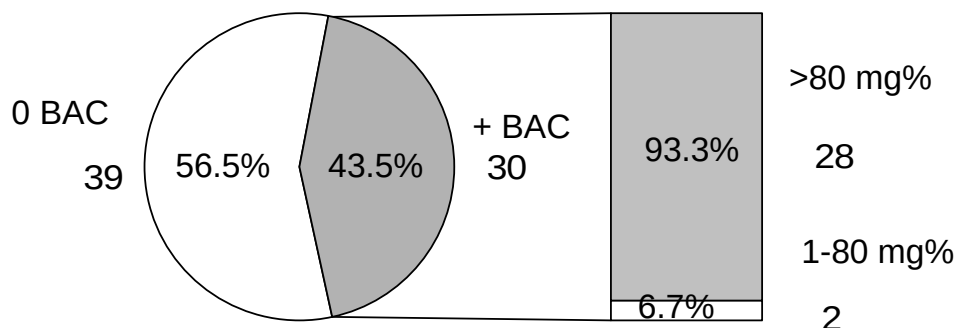
The main findings are shown by the totals at the bottom of the table. Manitoba had a high testing rate in 2007, with 89.9% of fatally injured drivers being tested for alcohol use.

In Manitoba, 43.5% had been drinking and most of these had illegal BACs – 92.6% of 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:

- > 1.6% had BACs from 1-49 mg%;
- > 1.6% had BACs from 50-80 mg%
- > 8.1% had BACs from 81 to 160 mg%; and,
- > 32.3% had BACs over 160 mg%.

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, 30 of 69 (43.5%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 28 (93.3%) have BACs over 80 mg%.

Figure 7-1
BACs Among Fatally Injured Drivers*: Manitoba, 2007**



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

** 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), 37.0% were aged 20-25; 18.5% were aged 16-19; 14.8% were aged 26-35 and over 55 years of age; 11.1% were aged 36-45; and 3.7% were under age 16.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 40.0% were aged 20-25; 16.0% were aged 26-35; 12.0% were aged 36-45 and over 55; and 4.0% were under age 16.

Within each of the age groups, fatally injured drivers age 16-19 were the most likely to have been drinking – 71.4% of drivers in this age group had been drinking. By contrast, 0.0% of the tested drivers aged 46-55 years of age had been drinking.

7.2.2 Gender differences. Males dominate the picture – they account for 81.5% of all the fatally injured drivers who had been drinking, and 80.0% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (50 of the 69 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (50.0% and 27.8%, respectively). And, 90.9% of the male 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), 59.3% were automobile drivers; 33.3% were truck/van drivers; and 3.7% were motorcyclists and tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were automobile drivers; 32.0% were truck/van drivers and 4.0% were motorcyclists and tractor trailer drivers.

Within each of the vehicle types, 100.0% of fatally injured motorcyclists, 45.7% of automobile drivers; 42.9% of truck/van drivers, and 20.0% of tractor trailer drivers had been drinking.

7.2.4 Collision differences. Less than half of the drivers killed (33 of the 69) were involved in single-vehicle collisions but these crashes accounted for most of the drivers who had been drinking or were legally impaired (68.8% and 84.0%, 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 (68.8%) were positive for alcohol, compared to only 16.7% of those involved in multiple-vehicle collisions.

7.3 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 2007 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.

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 data column shows the number of drivers 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, 486 drivers were involved in crashes in which someone was seriously injured, and among these 21.4% were alcohol-related crashes.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 36.5% were aged 26-35, 16.3% were aged 16-19; and 14.4% were aged 36-45. Drivers under 16 accounted for only 1.0% of those involved in alcohol-related serious injury crashes.

Table 7-3
Drivers in Alcohol-Related Serious Injury Crashes:
Manitoba, 2007

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
<u>Age</u>				
<16	10	1	10.0	1.0
16-19	50	17	34.0	16.3
20-25	62	12	19.4	11.5
26-35	96	38	39.6	36.5
36-45	70	15	21.4	14.4
46-55	71	11	15.5	10.6
>55	90	6	6.7	5.8
unknown	37	4	10.8	3.8
<u>Gender</u>				
Male	317	74	23.3	71.2
Female	152	29	19.1	27.9
unknown	17	1	5.9	1.0
<u>Vehicle Type</u>				
Auto	229	55	24.0	52.9
Truck/Van	161	32	19.9	30.8
Motorcycle	23	8	34.8	7.7
Tractor Trailer	54	8	14.8	7.7
Off-Road	19	1	5.3	1.0
<u>Collision Type</u>				
Single-Vehicle	207	92	44.4	88.5
Multiple-Vehicle	279	12	4.3	11.5
TOTAL	486	104	21.4	100.0

* These numbers are slightly underestimated because about 10.6% of all injuries are recorded as unspecified.

Within each of the age groups, two-fifths of the drivers aged 26-35 were involved in alcohol-related serious injury crashes (39.6%). The lowest incidence of involvement in alcohol-related crashes was found for those over age 55 (6.7%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.2% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (23.3% and 19.1%, respectively).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 52.9% were automobile drivers; 30.8% were truck/van drivers; and 7.7% were motorcyclists and tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists – 34.8% of these drivers were in crashes that involved alcohol, compared to 24.0% for automobile drivers, 19.9% for truck/van drivers, 14.8% for tractor trailer drivers; and 5.3% for off-road vehicle drivers.

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 88.5% 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 – 44.4% of these drivers, compared to only 4.4% for drivers involved in multiple-vehicle crashes.

7.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Manitoba's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

7.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 7-4 and Figure 7-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 7.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 7-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Manitoba, 1995-2007

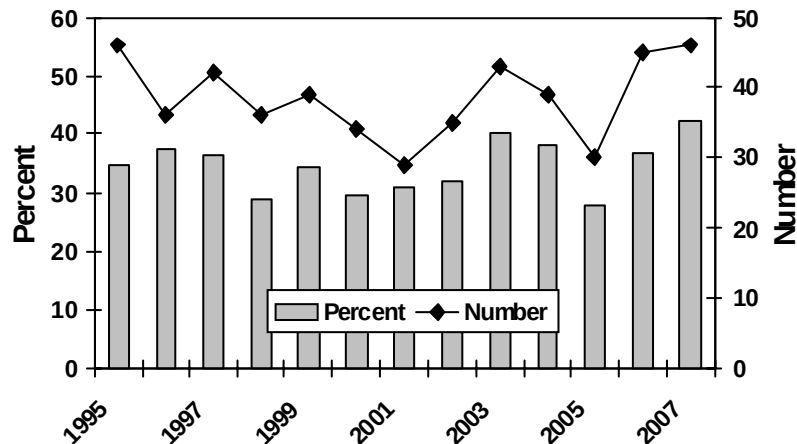
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	132	46	34.8
1996	96	36	37.5
1997	115	42	36.5
1998	124	36	29.0
1999	114	39	34.2
2000	115	34	29.6
2001	94	29	30.9
2002	110	35	31.8
2003	107	43	40.2
2004	102	39	38.2
2005	107	30	28.0
2006	123	45	36.6
2007	109	46	42.2
1996-2001 baseline	110	36	32.7

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

** only on public roadways involving principal vehicle types.

Figure 7-2

Number and Percent of Deaths Involving
a Drinking Driver: Manitoba, 1995-2007



As shown in the table and figure, the number of deaths in crashes that involved a drinking driver dropped 46 to 36 between 1995 and 1996. There was an increase to 42 alcohol-related fatalities in 1997, a decrease to 36 in 1998, an increase to 39 in 1999, a decrease to a low of 29 in 2001, an increase to 43 in 2003, a decrease to 30 in 2005, and then an increase to 46 in 2007. The percentage of alcohol-related fatalities increased from 34.8% in 1995 to 37.5% in 1996. In 1998, the percentage of alcohol-related fatalities in Manitoba decreased to 29.0%, rose to 34.2% in 1999, decreased to 29.6% in 2000, reached a high of 40.2% in 2003, decreased to a low of 28.0% in 2005, and rose again to 42.2% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 36 fatalities involving a drinking driver and they accounted for 32.7% of all fatalities. This means that the percent of fatalities involving a drinking driver increased by 29.1% from 32.7% in the baseline period (1996-2001) to 42.2% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 27.8% increase from an average of 36 in the baseline period (1996-2001) to 46 in 2007.

7.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 7-5. 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 who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (60.0%) to 1998 (28.8%), increased in 2001 (36.5%), decreased in 2002 (32.7%), rose in 2003 (41.5%), fell to a low of 18.8% in 2005, and rose again in 2007 (41.4%). The percent of fatally injured drivers with zero BACs increased from a low of 33.0% in 1987 to 65.4% in 1999, declined to 60.0% in 2000, rose in 2002 (63.5%), declined in 2003 (50.9%), rose to its highest level in 2005 (79.2%), and decreased in 2007 (55.2%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1994 (18.9%), dropped to 5.6% in 1998, rose in 2000 (7.3%), dropped to a low of 1.9% in 2001, increased in 2003 (7.5%), decreased in 2005 (2.1%), rose in 2006 (4.8%), and decreased again in 2007 (3.4%)

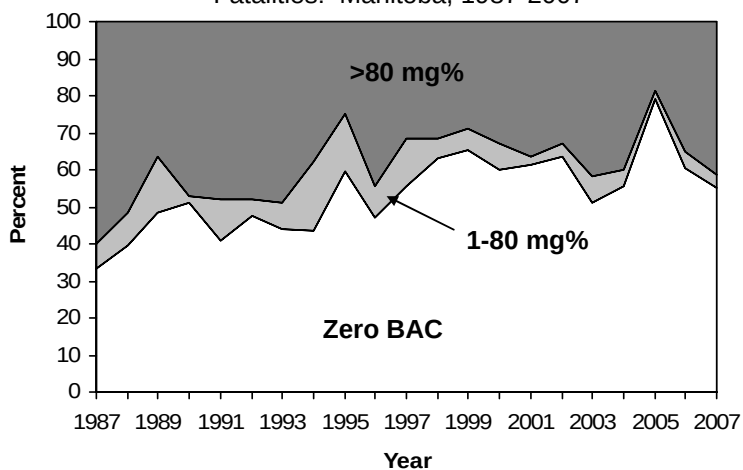
Table 7-5

Alcohol Use Among Fatally Injured Drivers:
Manitoba, 1987-2007

YEAR	Number of Drivers			Drivers Grouped by BAC (mg%)					
	Drivers*	Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	67	60	89.6	20	33.3	4	6.7	36	60.0
1988	64	58	90.6	23	39.7	5	8.6	30	51.7
1989	70	66	94.3	32	48.5	10	15.2	24	36.4
1990	54	49	90.7	25	51.0	1	2.0	23	46.9
1991	63	54	85.7	22	40.7	6	11.1	26	48.1
1992	50	44	88.0	21	47.7	2	4.5	21	47.7
1993	59	41	69.5	18	43.9	3	7.3	20	48.8
1994	57	53	93.0	23	43.4	10	18.9	20	37.7
1995	62	52	83.9	31	59.6	8	15.4	13	25.0
1996	37	36	97.3	17	47.2	3	8.3	16	44.4
1997	56	54	96.4	30	55.6	7	13.0	17	31.5
1998	54	54	100.0	34	63.0	3	5.6	17	31.5
1999	53	52	98.1	34	65.4	3	5.8	15	28.8
2000	56	55	98.2	33	60.0	4	7.3	18	32.7
2001	56	52	92.9	32	61.5	1	1.9	19	36.5
2002	54	52	96.3	33	63.5	2	3.8	17	32.7
2003	54	53	98.1	27	50.9	4	7.5	22	41.5
2004	48	45	93.8	25	55.6	2	4.4	18	40.0
2005	48	48	100.0	38	79.2	1	2.1	9	18.8
2006	63	63	100.0	38	60.3	3	4.8	22	34.9
2007	59	58	98.3	32	55.2	2	3.4	24	41.4
1996-2001 baseline	52	51	(98.1)	30	(58.8)	4	(7.8)	17	(33.3)

* dying in less than six hours.

Figure 7-3
Trends in Alcohol Use Among Driver
Fatalities: Manitoba, 1987-2007



When compared to the 1996-2001 baseline period shown at the bottom of Table 7-5, the percentage of fatally injured drivers with zero BACs in 2007 decreased by 6.1% (from 58.8% to 55.2%). Among drivers with BACs from 1-80 mg%, there was a 56.4% decrease (from 7.8% to 3.4%). And among those with BACs over 80 mg%, there was a 24.3% increase (from 33.3% to 41.4%).

Table 7-6 and Figure 7-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 7-6, the percentage of fatally injured drivers testing positive for alcohol from 1996-2001, the baseline period, is 40.3%. In 2007, 43.5% of fatally injured drivers tested positive for alcohol, a 7.9% increase from the baseline period.

7.4.3 Drivers in serious injury crashes: Table 7-7 and Figure 7-5 show information on drivers involved in alcohol-related serious injury crashes. As shown in Table 7-7, during the baseline period (1996-2001), an average of 21.3% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 21.4% in 2007, a 0.5% increase in the problem.

Table 7-8 and Figure 7-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 7.3 and in Table 7-7 and Figure 7-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has generally declined. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol decreased from 22.9% to 21.6%. In 1997, the incidence rose to 25.7%, dropped to 18.7% in 2000, rose to 20.6% in 2002, dropped to 17.3% in 2004, rose to 19.1% in 2005, decreased to 17.3% in 2006, and rose again to 22.1% in 2007.

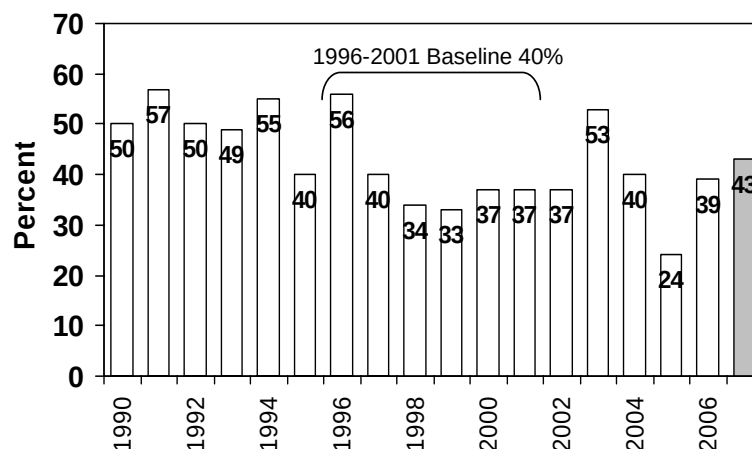
Table 7-6

Alcohol Use Among Fatally Injured Drivers*:
Manitoba, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	64	32	(50.0)	32	(50.0)
1991	72	31	(43.1)	41	(56.9)
1992	58	29	(50.0)	29	(50.0)
1993	68	35	(51.5)	33	(48.5)
1994	64	29	(45.3)	35	(54.7)
1995	70	42	(60.0)	28	(40.0)
1996	48	21	(43.8)	27	(56.3)
1997	65	39	(60.0)	26	(40.0)
1998	67	44	(65.7)	23	(34.3)
1999	60	40	(66.7)	20	(33.3)
2000	67	42	(62.7)	25	(37.3)
2001	62	39	(62.9)	23	(37.1)
2002	59	37	(62.7)	22	(37.3)
2003	62	29	(46.8)	33	(53.2)
2004	57	34	(59.6)	23	(40.4)
2005	55	42	(76.4)	13	(23.6)
2006	72	44	(61.1)	28	(38.9)
2007	69	39	(56.5)	30	(43.5)
1996-2001 baseline	62	37	(59.7)	25	(40.3)

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

Figure 7-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Manitoba, 1990-2007



As shown in Table 7-8, in the baseline period (1996-2001), an average of 21.6% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes rose to 22.1%, a 2.3% increase.

Table 7-7

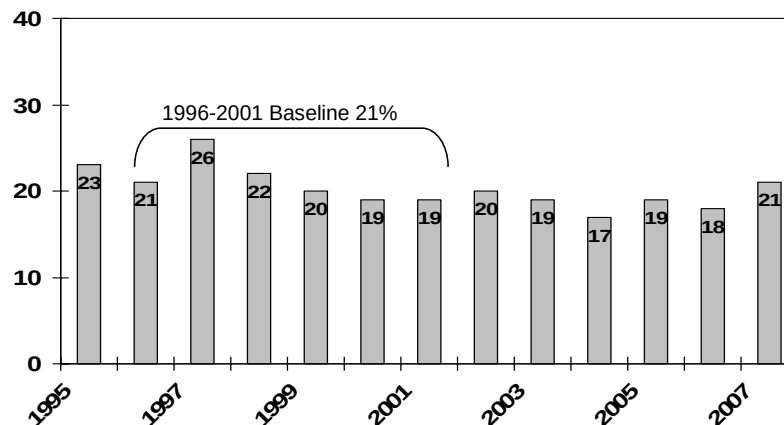
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Manitoba, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	771	175	(22.7)
1996	818	175	(21.4)
1997	650	168	(25.8)
1998	682	153	(22.4)
1999	619	123	(19.9)
2000	610	114	(18.7)
2001	622	116	(18.6)
2002	540	109	(20.2)
2003	546	103	(18.9)
2004	574	97	(16.9)
2005	511	97	(19.0)
2006	549	96	(17.5)
2007	486	104	(21.4)
1996-2001 baseline	667	142	(21.3)

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

Figure 7-5

Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: Manitoba, 1995-2007



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

Table 7-8

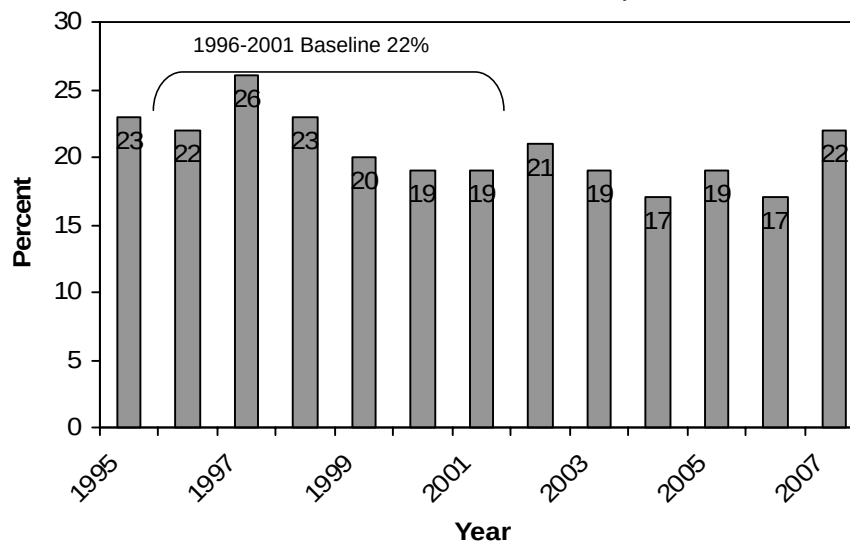
Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Manitoba, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	743	170	(22.9)
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)
1996-2001 baseline	645	139	(21.6)

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

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

Figure 7-6
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Manitoba, 1995-2007



8.0 ONTARIO

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Ontario during 2007. 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); and
- > trends in the alcohol-crash problem (Section 8.4).

8.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 8-1 presents information on people who died in alcohol-related crashes in Ontario during 2007. 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 data 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, 75 people age 16-19 were killed in motor vehicle crashes in Ontario during 2007. And, in 71 cases (94.7%) 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, 30 people aged 16-19 died in alcohol-related crashes in Ontario during 2007. The next column expresses this as a percentage – e.g., 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 10.7% of all the people killed in alcohol-related crashes in Ontario during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 914 persons died in motor vehicle crashes in Ontario during 2007. In 786 (86.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 281 (35.8%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities ($914 \times .358$) it can be estimated that *in Ontario during 2007, 327 persons died in alcohol-related crashes.*

8.1.1 Victim age. Of all the people who died in alcohol-related crashes, 19.9% (see last column) were aged 26-35; 18.9% were aged 20-25; 18.5% were aged 46-55; 16.7% were over 55; 14.2% were aged 36-45; 10.7% were aged 16-19; and 1.1% were under 16.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 and 26-35 died (46.5% and 44.0% respectively).

Table 8-1
Deaths* in Alcohol-Related Crashes: Ontario, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	35	26	74.3	3	11.5	1.1
16-19	75	71	94.7	30	42.3	10.7
20-25	124	114	91.9	53	46.5	18.9
26-35	141	126	89.4	56	44.4	19.9
36-45	117	106	90.6	40	37.7	14.2
46-55	145	124	85.5	52	41.9	18.5
>55	277	219	79.1	47	21.5	16.7
<u>Gender</u>						
Male	638	567	88.9	228	40.2	81.1
Female	276	219	79.3	53	24.2	18.9
<u>Type</u>						
Driver/Operator	571	516	90.4	184	35.7	65.5
Passenger	212	176	83.0	61	34.7	21.7
Pedestrian	131	94	71.8	36	38.3	12.8
<u>Vehicle Occupied</u>						
Automobiles	444	387	87.2	130	33.6	46.3
Trucks/Vans	175	158	90.3	56	35.4	19.9
Motorcycles	57	53	93.0	17	32.1	6.0
Other Hwy. Vehs.	24	24	100.0	1	4.2	0.4
Offroad Vehicles	75	64	85.3	39	60.9	13.9
(Pedestrians)	131	94	71.8	36	38.3	12.8
Unknown	8	6	75.0	2	0.0	0.0
TOTAL	914	786	86.0	281	35.8	100.0

*persons dying within 12 months in collisions on and off public roadways

The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 11.5% of persons under 16 and 21.5% 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, 81.1% were males. The incidence of alcohol in crashes in which male died (40.2%) was greater than the incidence of alcohol in crashes in which a female died (24.2%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.5% were driver/operators of a vehicle; 21.7% were passengers; and 12.8% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (38.3%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 35.7% of the crashes in which a driver/operator died and 34.7% of those in which a passenger died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 46.3% were in an automobile; 19.9% were in a truck/van; 13.9% were off-road vehicle occupants; 6.0% were motorcyclists; and 0.4% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant or motorcyclist died (35.4% versus 33.6% and 32.1%). Among off-road vehicle occupants, 60.9% were involved in an alcohol-related crash, compared to 4.2% of occupants of other highway vehicles.

8.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Ontario during 2007. Table 8-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 8-2
Alcohol Use Among Fatally Injured Drivers: Ontario, 2007

Category of Driver	Number of Drivers	<u>Drivers Tested</u>		<u>Positive BAC</u>			<u>BAC > 80 mg%</u>		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
<16	1	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	39	34	87.2	12	35.3	8.7	8	23.5	8.0
20-25	76	74	97.4	30	40.5	21.7	21	28.4	21.0
26-35	90	83	92.2	29	34.9	21.0	25	30.1	25.0
36-45	74	67	90.5	21	31.3	15.2	18	26.9	18.0
46-55	72	67	93.1	24	35.8	17.4	19	28.4	19.0
>55	146	111	76.0	22	19.8	15.9	9	8.1	9.0
<u>Gender</u>									
Male	397	352	88.7	120	34.1	87.0	85	24.1	85.0
Female	101	85	84.2	18	21.2	13.0	15	17.6	15.0
<u>Vehicle Type</u>									
Automobile	302	264	87.4	84	31.8	60.9	65	24.6	65.0
Truck/Van	122	104	85.2	38	36.5	27.5	24	23.1	24.0
Motorcycle	52	48	92.3	15	31.3	10.9	10	20.8	10.0
Tractor Trailer	18	18	100.0	1	5.6	0.7	1	5.6	1.0
Other Vehicle	4	3	75.0	0	0.0	0.0	0	0.0	0.0
<u>Collision Type</u>									
Single-Vehicle	211	188	89.1	93	49.5	67.4	75	39.9	75.0
Multiple-Vehicle	287	249	86.8	45	18.1	32.6	25	10.0	25.0
TOTAL	498	437	87.8	138	31.6	100.0	100	22.9	100.0

The first data 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 39 drivers killed during 2007; 34 of these fatally injured drivers (87.2%) were tested for alcohol. Of those who were tested, 12 (35.3%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 8.7% of all drinking drivers who were killed.

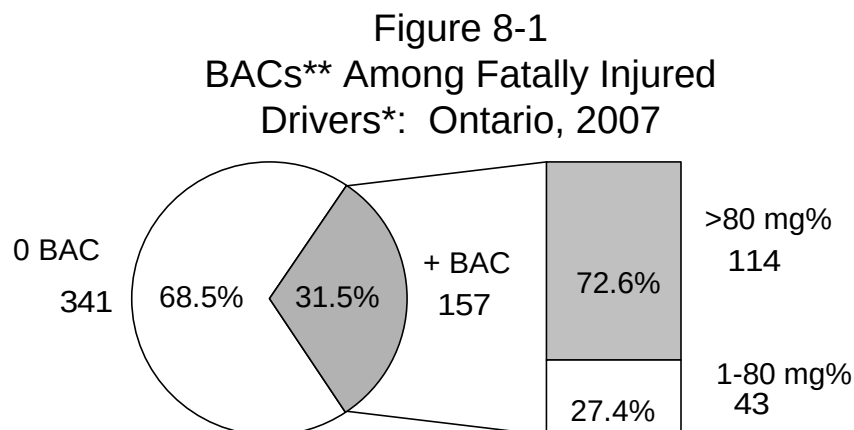
Then, in the final three columns, it can be seen that eight of the 34 (23.5%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that eight of the 12 drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses 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 8.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2007, with 87.8% of fatally injured drivers being tested for alcohol use.

In Ontario, 31.6% had been drinking and most of these had illegal BACs – 72.5% of 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:

- > 5.0% had BACs from 1-49 mg%;
- > 3.7% had BACs from 50-80 mg%
- > 5.0% had BACs from 81 to 160 mg%; and,
- > 17.8% had BACs over 160 mg%.

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, 157 of 498 (31.5%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 114 (72.6%) have BACs over 80 mg%.



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

** 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), 21.7% were aged 20-25; 21.0% were aged 26-35; 17.4% were aged 46-55; 15.9% were over age 55; 15.2% were aged 36-45; and 8.7% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.0% were aged 26-35; 21.0% were aged 20-25; 19.0% were aged 46-55; 18.0% were aged 36-45; 9.0% were over age 55; and 8.0% were aged 16-19.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 40.5% of drivers in this age group had been drinking. By contrast, only 19.8% of the tested drivers aged over 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture – they account for 87.0% of all the fatally injured drivers who had been drinking, and 85.0% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (397 of the 498 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (34.1% and 21.2%, respectively). And, 70.8% of the male and 83.3% 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), 60.9% were automobile drivers; 27.5% were truck/van drivers; 10.9% were motorcyclists; and 0.7% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 65.0% were automobile drivers, 24.0% were truck/van drivers; 10.0% were motorcyclists; and 1.0% were tractor trailer drivers.

Within each of the vehicle types, 36.5% of fatally injured truck/van drivers, 31.8% of automobile drivers, 31.3% of motorcyclists, and 5.6% of tractor trailer drivers had been drinking.

8.2.4 Collision differences. Less than half of the drivers killed (211 of the 498) were involved in single-vehicle collisions but these crashes accounted for over two-thirds of the drivers who had been drinking or were legally impaired (67.4% 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 (49.5%) were positive for alcohol, compared to only 18.1% of those involved in multiple-vehicle collisions.

8.3 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 2007 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.

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 data column shows the number of drivers 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, 4,535 drivers were involved in crashes in which someone was seriously injured, and among these 17.2% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.8% were aged 20-25, 20.8% were aged 36-45 and 19.9% were aged 26-35. Drivers under 16 and over 55 accounted for only 0.3% and 9.2%, respectively, of those involved in alcohol-related serious injury crashes.

Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes:
Ontario, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	7	2	28.6	0.3
16-19	337	82	24.3	10.5
20-25	663	170	25.6	21.8
26-35	762	155	20.3	19.9
36-45	938	162	17.3	20.8
46-55	777	104	13.4	13.4
>55	819	72	8.8	9.2
unknown	232	32	13.8	4.1
Gender				
Male	3274	632	19.3	81.1
Female	1261	147	11.7	18.9
Vehicle Type				
Auto	2766	532	19.2	68.3
Truck/Van	1020	156	15.3	20.0
Motorcycle	297	51	17.2	6.5
Tractor Trailer	155	17	11.0	2.2
Other Hwy. Vehicle	74	7	9.5	0.9
Off-Road	187	12	6.4	1.5
Unknown	36	4	11.1	0.5
Collision Type				
Single-Vehicle	1223	470	38.4	60.3
Multiple-Vehicle	3312	309	9.3	39.7
TOTAL	4535	779	17.2	100.0

Within each of the age groups, one-quarter of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (25.6%). The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (8.8%).

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 81.1% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (19.3% and 11.7%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 68.3% were automobile drivers; 20.0% were truck/van drivers; and 6.5% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 19.2% of these drivers were in crashes that involved alcohol, compared to 17.2% for motorcyclists; 15.3% for truck/van drivers; 11.0% for tractor trailer drivers; and 9.5% for other vehicle drivers. Among off-road vehicle drivers, 6.4% were involved in alcohol-related crashes.

8.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 60.3% 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 – 38.4% of these drivers, compared to only 9.3% for drivers involved in multiple-vehicle crashes.

8.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Ontario's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

8.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 8-4 and Figure 8-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 8.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 8-4

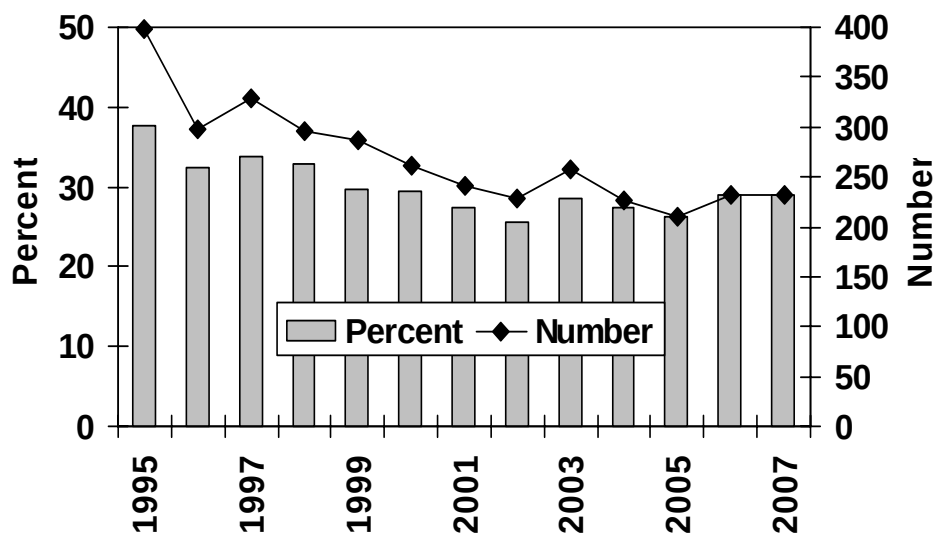
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Ontario, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	1059	398	37.6
1996	915	297	32.5
1997	969	328	33.8
1998	900	295	32.8
1999	966	287	29.7
2000	886	261	29.5
2001	878	241	27.4
2002	895	229	25.6
2003	903	258	28.6
2004	825	227	27.5
2005	802	210	26.2
2006	803	232	28.9
2007	804	232	28.9
1996-2001 baseline	919	285	31.0

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

** only on public roadways involving principal vehicle types.

Figure 8-2
Number and Percent of Deaths Involving
a Drinking Driver: Ontario, 1995-2007



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 398 to 297 between 1995 and 1996. There was an increase to 328 alcohol-related fatalities in 1997, a decrease to 229 in 2002, an increase to 258 in 2003, a decrease to a low of 210 in 2005, an increase to 232 in 2006, and no change in 2007. The percentage of alcohol-related fatalities declined from 37.6% in 1995 to 32.5% in 1996. Since then, the percentage of alcohol-related fatalities in Ontario rose to 33.8% in 1997, decreased to 25.6% in 2002, rose to 28.6% in 2003, decreased to 26.2% in 2005, rose to 28.9% in 2006, and remained at 28.9% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 285 fatalities involving a drinking driver and they accounted for 31.0% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver decreased by 6.8% from 31.0% in the baseline period (1996-2001) to 28.9% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 18.6% decrease from an average of 285 in the baseline period (1996-2001) to 232 in 2007.

8.4.2 *Fatally injured drivers:* Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 8-5. 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (39.6%) to 1999 (23.3%), rose in 2001 (25.8%), fell in 2002 (22.9%), rose in 2003 (25.7%), dropped in 2004 (24.2%), rose in 2005 (25.7%), before decreasing again in 2007 (23.2%). The percent of fatally injured drivers with zero BACs increased from 1987 (53.0%) to 1999 (71.3%), dropped in 2000 (69.0%), peaked in 2002 (72.2%), decreased in 2003 (68.4%), rose in 2004 (70.1%), decreased to 67.0% in 2006, and rose again in 2007 (68.4%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (12.5%), dropped to its lowest mark in 2001 (4.3%), rose in 2003 (5.9%), dropped in 2005 (4.8%), before rising again in 2007 (8.5%).

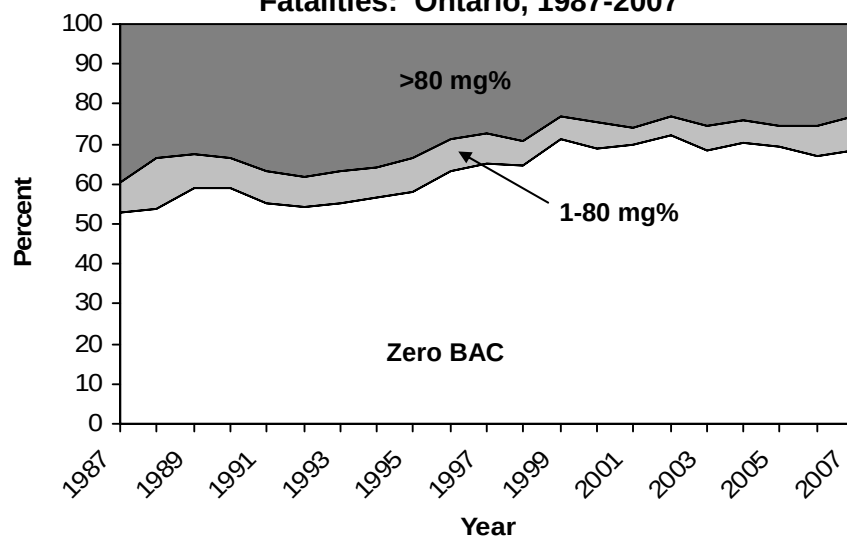
Table 8-5

Alcohol Use Among Fatally Injured Drivers:
Ontario, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	613	540	88.1	286	53.0	40	7.4	214	39.6
1988	555	521	93.9	281	53.9	65	12.5	175	33.6
1989	642	586	91.3	345	58.9	49	8.4	192	32.8
1990	545	486	89.2	287	59.1	37	7.6	162	33.3
1991	531	462	87.0	255	55.2	37	8.0	170	36.8
1992	538	473	87.9	256	54.1	37	7.8	180	38.1
1993	604	519	85.9	287	55.3	41	7.9	191	36.8
1994	548	508	92.7	287	56.5	38	7.5	183	36.0
1995	532	480	90.2	278	57.9	42	8.8	160	33.3
1996	424	402	94.8	255	63.4	32	8.0	115	28.6
1997	478	434	90.8	282	65.0	34	7.8	118	27.2
1998	427	399	93.4	257	64.4	26	6.5	116	29.1
1999	487	443	91.0	316	71.3	24	5.4	103	23.3
2000	418	406	97.1	280	69.0	27	6.7	99	24.4
2001	424	419	98.8	293	69.9	18	4.3	108	25.8
2002	418	407	97.4	294	72.2	20	4.9	93	22.9
2003	435	421	96.8	288	68.4	25	5.9	108	25.7
2004	427	422	98.8	296	70.1	24	5.7	102	24.2
2005	387	374	96.6	260	69.5	18	4.8	96	25.7
2006	384	370	96.4	248	67.0	28	7.6	94	25.4
2007	429	414	96.5	283	68.4	35	8.5	96	23.2
1996-2001 baseline	443	417	(94.1)	280	(67.1)	27	(6.5)	110	(26.4)

* dying in less than six hours.

Figure 8-3
Trends in Alcohol Use Among Driver
Fatalities: Ontario, 1987-2007



When compared to the 1996-2001 baseline period, the percentage of fatally injured drivers with zero BACs in 2007 increased by 1.9% (from 67.1% to 68.4%). Among drivers with BACs from 1-80 mg%, there was a 30.8% increase (from 6.5% to 8.5%). Among drivers with BACs over 80 mg%, there was a 12.1% decrease (from 26.4% to 23.2%).

Table 8-6 and Figure 8-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive. As can be seen in Table 8-6 the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 33.1%. In 2007, 31.5% of fatally injured drivers tested positive for alcohol, a 4.8% decrease from the baseline period.

8.4.3 Drivers in serious injury crashes: Table 8-7 and Figure 8-5 show information on drivers involved in alcohol-related serious injury crashes. As shown in Table 8-7, during the baseline period (1996-2001), an average of 19.5% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 17.2% in 2007, an 11.8% decrease in the problem.

Table 8-8 and Figure 8-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 8.3 and in Table 8-7 and Figure 8-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has been relatively stable. Between 1995 and 1998 the percentage of drivers in serious injury crashes that involved alcohol dropped from 22.9% to 19.0%. In 2000 the incidence rose to 20.1%, dropped to 16.3% in 2003, rose to 17.2% in 2004, dropped to 16.6% in 2005, rose to 18.3% in 2006, and decreased again to 17.7% in 2007.

As shown in Table 8-8, in the baseline period (1996-2001) an average of 19.9% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes dropped to 17.7%, an 11.1% decrease from the baseline period.

Table 8-6

Alcohol Use Among Fatally Injured Drivers*:
Ontario, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	656	388	(59.1)	268	(40.9)
1991	662	362	(54.7)	300	(45.3)
1992	678	364	(53.7)	314	(46.3)
1993	711	391	(55.0)	320	(45.0)
1994	628	354	(56.4)	274	(43.6)
1995	630	367	(58.3)	263	(41.7)
1996	523	330	(63.1)	193	(36.9)
1997	594	384	(64.6)	210	(35.4)
1998	523	337	(64.4)	186	(35.6)
1999	568	401	(70.6)	167	(29.4)
2000	517	354	(68.5)	163	(31.5)
2001	521	366	(70.2)	155	(29.8)
2002	518	378	(73.0)	140	(27.0)
2003	518	357	(68.9)	161	(31.1)
2004	503	352	(70.0)	151	(30.0)
2005	481	337	(70.1)	144	(29.9)
2006	462	314	(68.0)	148	(32.0)
2007	498	341	(68.5)	157	(31.5)
1996-2001 baseline	541	362	(66.9)	179	(33.1)

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

Figure 8-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Ontario, 1990-2007

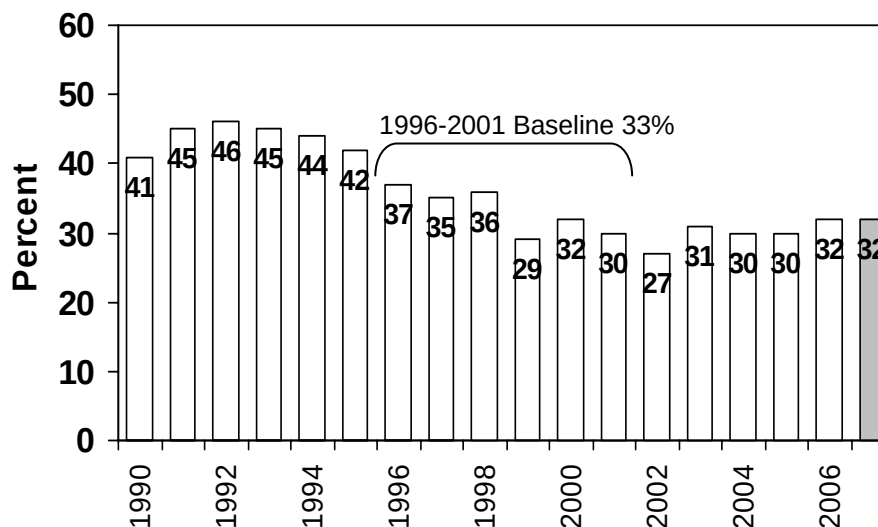


Table 8-7

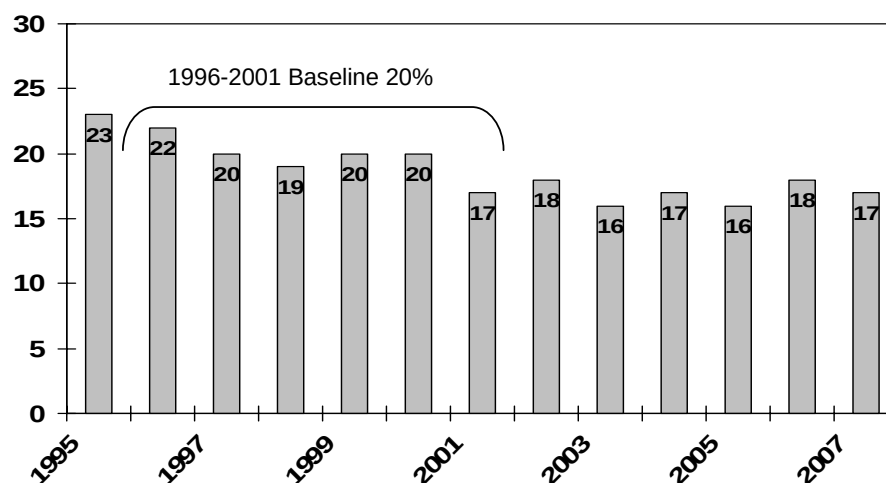
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Ontario, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	6800	1538	(22.6)
1996	6221	1355	(21.8)
1997	5673	1134	(20.0)
1998	5722	1074	(18.8)
1999	5692	1113	(19.6)
2000	5329	1047	(19.6)
2001	5435	934	(17.2)
2002	6165	1092	(17.7)
2003	5327	858	(16.1)
2004	4797	809	(16.9)
2005	4970	811	(16.3)
2006	4319	780	(18.1)
2007	4535	779	(17.2)
1996-2001 baseline	5679	1110	(19.5)

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

Figure 8-5

Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: Ontario, 1995-2007



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

Table 8-8

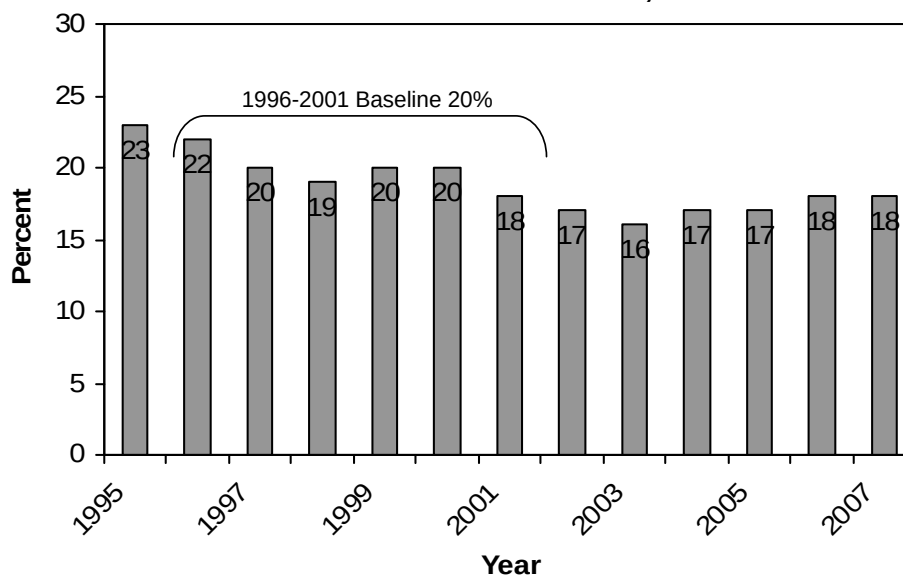
Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Ontario, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	6568	1504	(22.9)
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)
1996-2001 baseline	5443	1082	(19.9)

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

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

Figure 8-6
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Ontario, 1995-2007



9.0 QUEBEC

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Quebec during 2007. 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); and
- > trends in the alcohol-crash problem (Section 9.4).

9.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 9-1 presents information on people who died in alcohol-related crashes in Quebec during 2007. 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 data 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, 59 people age 16-19 were killed in motor vehicle crashes in Quebec during 2007. And, in 55 cases (93.2%) 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, 15 people aged 16-19 died in alcohol-related crashes in Quebec during 2007. The next column expresses this as a percentage – e.g., 27.3% 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 11.5% of all the people killed in alcohol-related crashes in Quebec during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 604 persons died in motor vehicle crashes in Quebec during 2007. In 542 (89.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 131 (24.2%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities (604 x .242) it can be estimated that *in Quebec during 2007, 146 persons died in alcohol-related crashes.*

9.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.7% (see last column) were aged 20-25; 23.7% were aged 26-35; 15.3% were aged 46-55; 13.0% were aged 36-45; 11.5% were aged 16-19; 9.2% were over age 55; and 0.8% under 16.

Table 9-1
Deaths* in Alcohol-Related Crashes: Quebec, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	21	15	71.4	1	6.7	0.8
16-19	59	55	93.2	15	27.3	11.5
20-25	85	81	95.3	35	43.2	26.7
26-35	91	85	93.4	31	36.5	23.7
36-45	79	72	91.1	17	23.6	13.0
46-55	103	94	91.3	20	21.3	15.3
>55	166	140	84.3	12	8.6	9.2
<u>Gender</u>						
Male	460	415	90.2	113	27.2	86.3
Female	144	127	88.2	18	14.2	13.7
<u>Type</u>						
Driver/Operator	411	383	93.2	98	25.6	74.8
Passenger	98	90	91.8	17	18.9	13.0
Pedestrian	86	69	80.2	16	23.2	12.2
Unknown	9	0	0.0	0	0.0	0.0
<u>Vehicle Occupied</u>						
Automobiles	311	294	94.5	82	27.9	62.6
Trucks/Vans	61	55	90.2	7	12.7	5.3
Motorcycles	60	58	96.7	5	8.6	3.8
Other Hwy. Vehs.	8	8	100.0	0	0.0	0.0
Offroad Vehicles	70	58	82.9	21	36.2	16.0
(Pedestrians)	86	69	80.2	16	23.2	12.2
Unknown	8	0	0.0	0	0.0	0.0
TOTAL	604	542	89.7	131	24.2	100.0

*persons dying within 12 months in collisions on and off public roadways

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 and 26-35 died (43.2% and 36.5% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 6.7% of persons under 16 and 8.6% of the fatalities over 55 years of age died in crashes involving alcohol.

9.1.2 Gender. Of all the people who died in alcohol-related crashes, 86.3% were males. The incidence of alcohol in crashes in which male died (27.2%) was greater than the incidence of alcohol in crashes in which a female died (14.2%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 74.8% were drivers/operators of a vehicle; 13.0% were passengers; and 12.2% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (25.6%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 23.2% of the crashes in which a pedestrian died and 18.9% of those in which a passenger died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 62.6% were in an automobile; 16.0% were off-road vehicle occupants; 5.3% were truck/van occupants; and 3.8% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant or truck/van occupant died (36.2% versus 27.9% and 12.7%).

9.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Quebec during 2007. Table 9-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 9-2
Alcohol Use Among Fatally Injured Drivers: Quebec, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
<16	1	0	0.0	0	0.0	0.0	0	0.0	0.0
16-19	40	26	65.0	6	23.1	8.7	5	19.2	8.8
20-25	49	35	71.4	19	54.3	27.5	17	48.6	29.8
26-35	57	39	68.4	17	43.6	24.6	11	28.2	19.3
36-45	53	39	73.6	11	28.2	15.9	11	28.2	19.3
46-55	63	39	61.9	11	28.2	15.9	9	23.1	15.8
>55	79	41	51.9	5	12.2	7.2	4	9.8	7.0
Gender									
Male	279	180	64.5	59	32.8	85.5	51	28.3	89.5
Female	63	39	61.9	10	25.6	14.5	6	15.4	10.5
Vehicle Type									
Automobile	236	160	67.8	59	36.9	85.5	48	30.0	84.2
Truck/Van	45	25	55.6	6	24.0	8.7	5	20.0	8.8
Motorcycle	53	28	52.8	4	14.3	5.8	4	14.3	7.0
Tractor Trailer	6	5	83.3	0	0.0	0.0	0	0.0	0.0
Other Vehicle	2	1	50.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	131	104	79.4	47	45.2	68.1	40	38.5	70.2
Multiple-Vehicle	210	115	54.8	22	19.1	31.9	17	14.8	29.8
Unknown	1	0	0.0	0	0.0	0.0	0	0.0	0.0
TOTAL	342	219	64.0	69	31.5	100.0	57	26.0	100.0

The first data 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 40 drivers killed during 2007; 26 of these fatally injured drivers (65.0%) were tested for alcohol. Of those who were tested, six (23.1%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 8.8% of all drinking drivers who were killed.

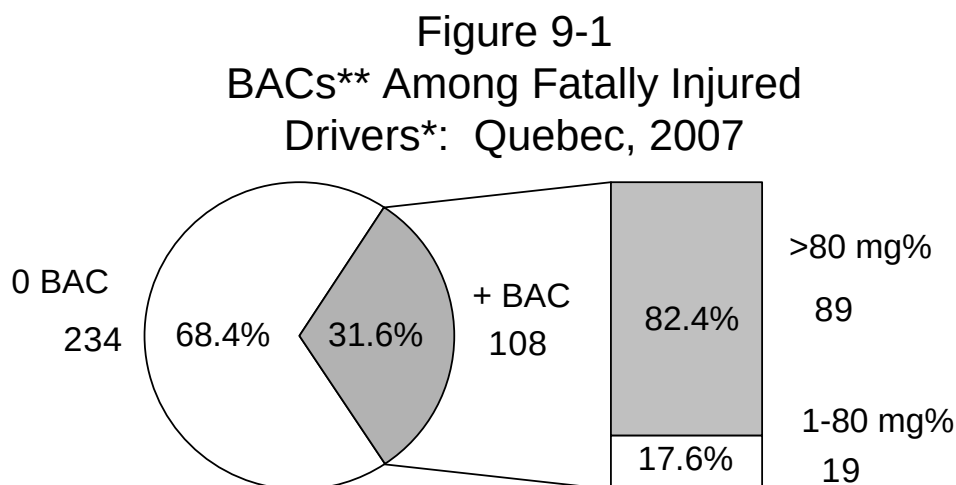
Then, in the final three columns, it can be seen that five of the 26 (19.2%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that five of the six drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses 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 8.8% 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 a low testing rate in 2007, with 64.0% of fatally injured drivers being tested for alcohol use.

In Quebec, 31.5% had been drinking and most of these had illegal BACs – 82.6% of 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:

- > 3.2% had BACs from 1-49 mg%;
- > 2.3% had BACs from 50-80 mg%
- > 12.8% had BACs from 81 to 160 mg%; and,
- > 13.2% had BACs over 160 mg%.

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, 108 of 342 (31.6%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 89 (82.4%) have BACs over 80 mg%.



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

** 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), 27.5% were aged 20-25; 24.6% were aged 26-35; 15.9% were aged 36-45 and 46-55; 8.7% were aged 16-19; and 7.2% were over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 29.8% were aged 20-25; 19.3% were aged 26-35 and 36-45; 15.8% were aged 46-55; 8.8% were aged 16-19; and 7.0% were over 55.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 54.3% of drivers in this age group had been drinking. By contrast, only 12.2% of the tested drivers aged over 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture – they account for 85.5% of all the fatally injured drivers who had been drinking, and 89.5% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (279 of the 342 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (32.8% and 25.6%, respectively). And, 86.4% of the male and 60.0% 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), 85.5% were automobile drivers; 8.7% were truck/van drivers; and 5.8% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 84.2% were automobile drivers; 8.8% were truck/van drivers; and 7.0% were motorcyclists.

Within each of the vehicle types, 36.9% of fatally injured automobile drivers, 24.0% of truck/van drivers, and 14.3% of motorcyclists were found to have been drinking. None of the drivers of tractor trailers had been drinking.

9.2.4 Collision differences. Less than two-fifths of the drivers killed (131 of the 342) were involved in single-vehicle collisions but these crashes accounted for two-thirds of the drivers who had been drinking or were legally impaired (68.1% and 70.2%, respectively). The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost half of the drivers involved in single-vehicle crashes (45.2%) were positive for alcohol, compared to only 19.1% of those involved in multiple-vehicle collisions.

9.3 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 2007 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.

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 data column shows the number of drivers 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, 3,828 drivers were involved in crashes in which someone was seriously injured, and among these 16.5% were alcohol-related crashes.

9.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.8% were aged 20-25, 20.4% were aged 26-35; and 16.7% were aged 36-45. Drivers under 16 accounted for only 0.3% of those involved in alcohol-related serious injury crashes.

Table 9-3
Drivers in Alcohol-Related Serious Injury Crashes:
Quebec, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	78	2	2.6	0.3
16-19	384	76	19.8	12.0
20-25	516	138	26.7	21.8
26-35	596	129	21.6	20.4
36-45	572	106	18.5	16.7
46-55	479	61	12.7	9.6
>55	495	47	9.5	7.4
unknown	708	74	10.5	11.7
Gender				
Male	2654	487	18.3	76.9
Female	1003	117	11.7	18.5
unknown	171	29	17.0	4.6
Vehicle Type				
Auto	2223	436	19.6	68.9
Truck/Van	663	98	14.8	15.5
Motorcycle	343	36	10.5	5.7
Tractor Trailer	82	9	11.0	1.4
Other Hwy. Vehicle	39	5	12.8	0.8
Off-Road	375	43	11.5	6.8
Unknown	103	6	5.8	0.9
Collision Type				
Single-Vehicle	1248	482	38.6	76.1
Multiple-Vehicle	2580	151	5.9	23.9
TOTAL	3828	633	16.5	100.0

Within each of the age groups, over a quarter of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (26.7%). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (2.6%).

9.3.2 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 (18.3% and 11.7%, respectively).

9.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 68.9% were automobile drivers; and 15.5% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of automobiles – 19.6% of these drivers were in crashes that involved alcohol, compared to 14.8% for drivers of truck/vans, 12.8% for drivers of other highway vehicles, 11.5% for drivers of off-road vehicles, and 11.0% for tractor trailer drivers. Among motorcyclists, 10.5% were involved in alcohol-related crashes.

9.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 76.1% 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 – 38.6% of these drivers, compared to only 5.9% for drivers involved in multiple-vehicle crashes.

9.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Quebec's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

9.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 9-4 and Figure 9-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 9.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 9-4

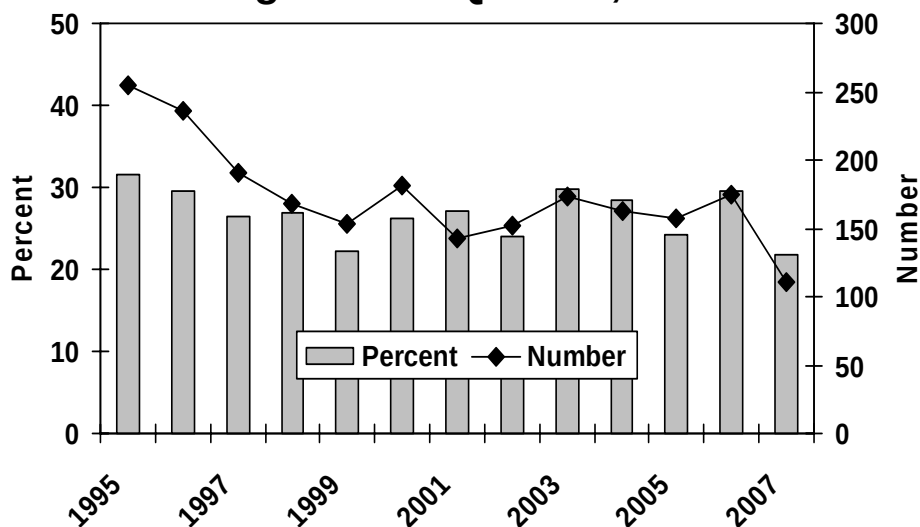
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Quebec, 1995-2007

Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	807	255	31.6
1996	797	236	29.6
1997	720	191	26.5
1998	628	168	26.8
1999	692	154	22.3
2000	691	182	26.3
2001	527	143	27.1
2002	631	152	24.1
2003	586	174	29.7
2004	574	163	28.4
2005	652	158	24.2
2006	592	175	29.6
2007	509	111	21.8
1996-2001 baseline	676	179	26.5

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

** only on public roadways involving principal vehicle types.

Figure 9-2
Number and Percent of Deaths Involving
a Drinking Driver: Quebec, 1995-2007



As shown in the table and figure, the number of deaths in crashes that involved a drinking driver dropped 255 to 154 between 1995 and 1999. There was an increase to 182 alcohol-related fatalities in 2000, a decrease to 143 in 2001, an increase to 174 in 2003, a decrease to 158 in 2005, an increase to 175 in 2006, and then a decrease to 111 in 2007. The percentage of alcohol-related fatalities decreased from 31.6% in 1995 to 26.5% in 1997. In 1998, the percentage of alcohol-related fatalities in Quebec rose slightly to 26.8%, decreased 22.3% in 1999, reached 27.1% in 2001, decreased to 24.1% in 2002, rose to 29.7% in 2003, decreased to 24.2% in 2005, rose to 29.6% in 2006, and decreased to a low of 21.8% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 179 fatalities involving a drinking driver and they accounted for 26.5% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 17.7% from 26.5% in the baseline period (1996-2001) to 21.8% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 38.0% decrease from an average of 179 in the baseline period (1996-2001) to 111 in 2007.

9.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 9-5. 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).

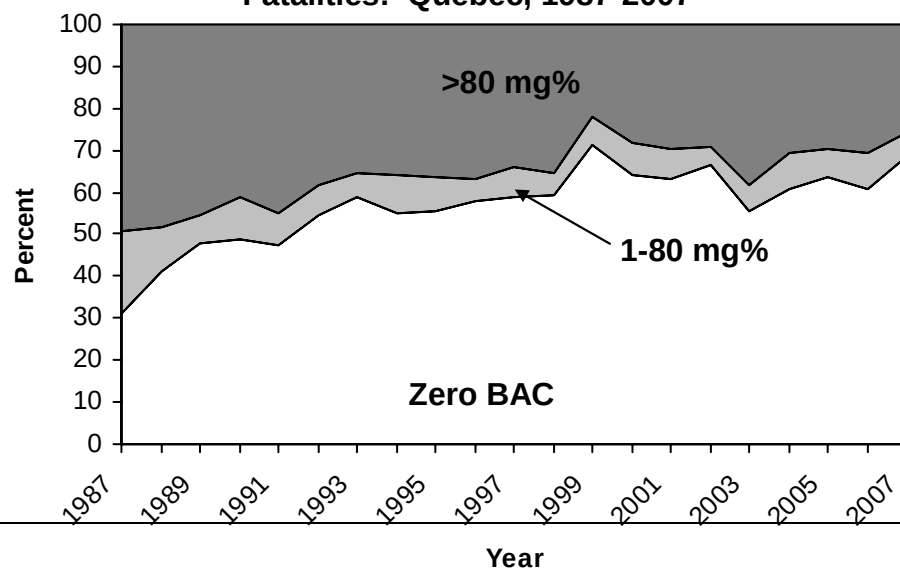
As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (49.5%) to 1997 (34.1%), increased in 1998 (35.1%), decreased in 1999 (22.3%), rose in 2001 (29.6%), decreased in 2002 (29.2%), rose in 2003 (38.4%), declined in 2005 (29.6%), rose in 2006 (30.8%), and decreased again in 2007 (26.0%). The percent of fatally injured drivers with zero BACs increased from 1987 (30.9%) to 1999 (71.5%), declined to 63.0% in 2001, rose in 2002 (66.3%), declined in 2003 (55.5%), rose in 2005 (63.7%), decreased in 2006 (60.9%), and rose in 2007 (68.5%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1987 (19.6%), dropped in 1996 and 1998 (5.4%), rose in 2000 (7.8%), decreased to its lowest mark in 2002 (4.4%), increased in 2004 (8.7%), decreased in 2005 (6.7%), rose in 2006 (8.3%), and decreased in 2007 (5.5%).

Table 9-5

Alcohol Use Among Fatally Injured Drivers:
Quebec, 1987-2007

YEAR	Number of Drivers	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	567	301	53.1	93	30.9	59	19.6	149	49.5
1988	631	392	62.1	162	41.3	41	10.5	189	48.2
1989	657	426	64.8	203	47.7	29	6.8	194	45.5
1990	582	395	67.9	193	48.9	40	10.1	162	41.0
1991	559	380	68.0	180	47.4	29	7.6	171	45.0
1992	512	383	74.8	209	54.6	28	7.3	146	38.1
1993	499	406	81.4	239	58.9	24	5.9	143	35.2
1994	448	332	74.1	182	54.8	31	9.3	119	35.8
1995	465	361	77.6	201	55.7	28	7.8	132	36.6
1996	474	355	74.9	205	57.7	19	5.4	131	36.9
1997	415	290	69.9	171	59.0	20	6.9	99	34.1
1998	398	276	69.3	164	59.4	15	5.4	97	35.1
1999	450	337	74.9	241	71.5	21	6.2	75	22.3
2000	427	322	75.4	206	64.0	25	7.8	91	28.3
2001	355	257	72.4	162	63.0	19	7.4	76	29.6
2002	420	315	75.0	209	66.3	14	4.4	92	29.2
2003	379	263	69.4	146	55.5	16	6.1	101	38.4
2004	367	252	68.7	153	60.7	22	8.7	77	30.6
2005	445	314	70.6	200	63.7	21	6.7	93	29.6
2006	427	289	67.7	176	60.9	24	8.3	89	30.8
2007	342	219	64.0	150	68.5	12	5.5	57	26.0
1996-2001 baseline	420	306	(72.9)	191	(62.4)	20	(6.5)	95	(31.0)

Figure 9-3
Trends in Alcohol Use Among Driver
Fatalities: Quebec, 1987-2007



When compared to the 1996-2001 baseline period shown at the bottom of Table 9-5, the percentage of fatally injured drivers with zero BACs in 2007 increased by 9.8% (from 62.4% to 68.5%). Among drivers with BACs from 1-80 mg%, there was a 15.4% decrease (from 6.5% to 5.5%). And among those with BACs over 80 mg%, there was a 16.1% decrease (from 31.0% to 26.0%).

Table 9-6 and Figure 9-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for two reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 9-6, the percentage of fatally injured drivers testing positive for alcohol from 1996-2001, the baseline period, is 37.6%. In 2007, 31.6% of fatally injured drivers tested positive for alcohol, a 19.2% decrease from the baseline period.

9.4.3 Drivers in serious injury crashes: Table 9-7 and Figure 9-5 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 16.5% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 16.5% in 2007, resulting in no change in the problem.

Table 9-8 and Figure 9-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 9.3 and in Table 9-7 and Figure 9-5 above because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has been relatively stable from 1997 until 2004 and then fluctuated in the past two years. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol rose only slightly from 17.7% to 18.9%. In 1999, the incidence dropped to 16.2%, rose to 16.8% in 2000, dropped slightly to 16.7% in 2001, rose to 17.3% in 2002, dropped to 15.5% in 2003, rose to 17.5% in 2004, dropped to a low of 15.3% in 2005, before rising again to 17.4% in 2007.

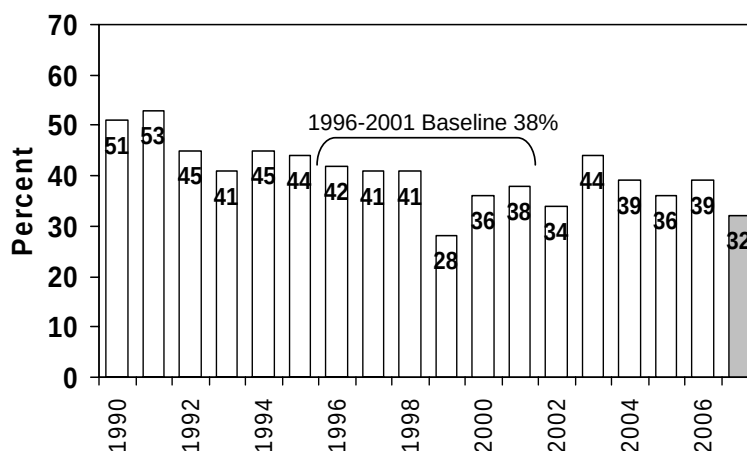
Table 9-6

Alcohol Use Among Fatally Injured Drivers*:
Quebec, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	583	285	(48.9)	298	(51.1)
1991	560	265	(47.3)	295	(52.7)
1992	512	280	(54.7)	232	(45.3)
1993	499	294	(58.9)	205	(41.1)
1994	448	247	(55.1)	201	(44.9)
1995	465	259	(55.7)	206	(44.3)
1996	474	274	(57.8)	200	(42.2)
1997	415	245	(59.0)	170	(41.0)
1998	398	236	(59.3)	162	(40.7)
1999	450	322	(71.6)	128	(28.4)
2000	427	273	(63.9)	154	(36.1)
2001	355	222	(62.5)	133	(37.5)
2002	420	279	(66.4)	141	(33.6)
2003	379	211	(55.7)	168	(44.3)
2004	367	223	(60.8)	144	(39.2)
2005	445	283	(63.6)	162	(36.4)
2006	427	260	(60.9)	167	(39.1)
2007	342	234	(68.4)	108	(31.6)
1996-2001 baseline	420	262	(62.4)	158	(37.6)

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

Figure 9-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Quebec, 1990-2007



As shown in Table 9-8, in the baseline period (1996-2001), an average of 17.1% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes was 17.4% -- a small 1.8% increase.

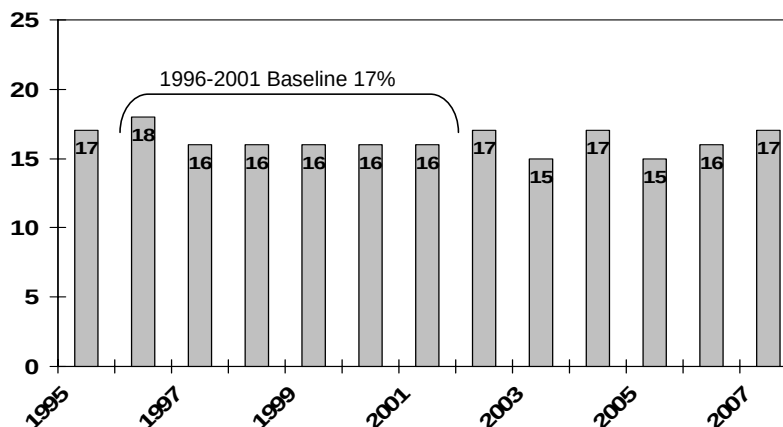
Table 9-7

Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Quebec, 1995-2007

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	6196	1069	(17.3)
1996	5929	1072	(18.1)
1997	5700	936	(16.4)
1998	5356	863	(16.1)
1999	5107	805	(15.8)
2000	4977	817	(16.4)
2001	4692	754	(16.1)
2002	4856	806	(16.6)
2003	4927	739	(15.0)
2004	4900	814	(16.6)
2005	5432	788	(14.5)
2006	4926	794	(16.1)
2007	3828	633	(16.5)
1996-2001 baseline	5294	875	(16.5)

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

Figure 9-5
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol*: Quebec, 1995-2007



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

Table 9-8

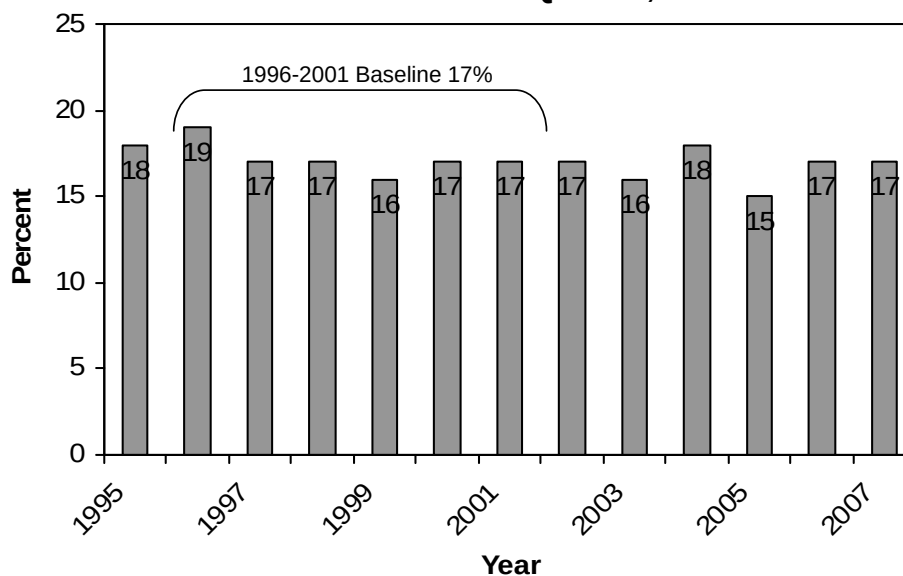
Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Quebec, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	5526	979	(17.7)
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)
1996-2001 baseline	4750	813	(17.1)

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

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

Figure 9-6
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Quebec, 1995-2007



10.0 NEW BRUNSWICK

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in New Brunswick during 2007. 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); and
- ◆ trends in the alcohol-crash problem (Section 10.4).

10.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 10-1 presents information on people who died in alcohol-related crashes in New Brunswick during 2007. 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 data 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, 20 people aged 16-19 were killed in motor vehicle crashes in New Brunswick during 2007. And, in 19 cases (95.0%) 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, 10 people aged 16-19 died in alcohol-related crashes in New Brunswick during 2007. The next column expresses this as a percentage – e.g., 52.6% of those aged 16-19 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 16-19 represent 20.8% of all the people killed in alcohol-related crashes in New Brunswick during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 104 persons died in motor vehicle crashes in New Brunswick during 2007. In 102 (98.1%) of these cases, it was

possible to determine if alcohol was a factor. Of these known cases, 48 (47.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (104 x .471) it can be estimated that *in New Brunswick during 2007, 49 persons died in alcohol-related crashes.*

10.1.1 Victim age. Of all the people who died in alcohol-related crashes, 25.0% (see last column) were aged 20-25; 20.8% were aged 16-19; 14.6% were aged 36-45, 46-55 and over 55; 8.3% were aged 26-35; and 2.1% were under 16.

Table 10-1
Deaths* in Alcohol-Related Crashes: New Brunswick, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	5	5	100.0	1	20.0	2.1
16-19	20	19	95.0	10	52.6	20.8
20-25	16	16	100.0	12	75.0	25.0
26-35	15	15	100.0	4	26.7	8.3
36-45	11	11	100.0	7	63.6	14.6
46-55	10	10	100.0	7	70.0	14.6
>55	27	26	96.3	7	26.9	14.6
<u>Gender</u>						
Male	77	75	97.4	42	56.0	87.5
Female	27	27	100.0	6	22.2	12.5
<u>Type</u>						
Driver/Operator	64	63	98.4	31	49.2	64.6
Passenger	28	28	100.0	11	39.3	22.9
Pedestrian	12	11	91.7	6	54.5	12.5
<u>Vehicle Occupied</u>						
Automobiles	57	56	98.2	26	46.4	54.2
Trucks/Vans	18	18	100.0	6	33.3	12.5
Motorcycles	3	3	100.0	1	33.3	2.1
Offroad Vehicles	14	14	100.0	9	64.3	18.8
(Pedestrians)	12	11	91.7	6	54.5	12.5
TOTAL	104	102	98.1	48	47.1	100.0

*persons dying within 12 months in collisions on and off public roadways

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 and 46-55 died (75.0% and 70.0% respectively).

The lowest incidence of alcohol involvement was found among fatalities under 16 and aged 26-35 – 20.0% of persons under 16 and 26.7% of the fatalities aged 26-35 died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 87.5% were males. The incidence of alcohol in crashes in which male a died (56.0%) was greater than the incidence of alcohol in crashes in which a female died (22.2%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 64.6% were drivers/operators of a vehicle; 22.9% were passengers; and 12.5% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (54.5%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 49.2% of the crashes in which a driver/operator died and 39.3% of those in which a passenger died.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 54.2% were in an automobile; 18.8% were off-road vehicle occupants; 12.5% were truck/van occupants; and 2.1% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died was greater than the incidence of alcohol in crashes in which a automobile occupant died (64.3% versus 46.4%). Among both truck/van occupants and motorcyclists, 33.3% of persons died in alcohol-related crashes.

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 2007. Table 10-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 10-2
Alcohol Use Among Fatally Injured Drivers: New Brunswick, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
16-19	8	7	87.5	3	42.9	13.6	1	14.3	5.9
20-25	12	11	91.7	8	72.7	36.4	7	63.6	41.2
26-35	9	9	100.0	3	33.3	13.6	3	33.3	17.6
36-45	5	4	80.0	2	50.0	9.1	2	50.0	11.8
46-55	4	3	75.0	3	100.0	13.6	1	33.3	5.9
>55	12	11	91.7	3	27.3	13.6	3	27.3	17.6
<u>Gender</u>									
Male	39	36	92.3	20	55.6	90.9	15	41.7	88.2
Female	11	9	81.8	2	22.2	9.1	2	22.2	11.8
<u>Vehicle Type</u>									
Automobile	35	32	91.4	15	46.9	68.2	11	34.4	64.7
Truck/Van	12	11	91.7	6	54.5	27.3	5	45.5	29.4
Motorcycle	3	2	66.7	1	50.0	4.5	1	50.0	5.9
<u>Collision Type</u>									
Single-Vehicle	28	26	92.9	18	69.2	81.8	13	50.0	76.5
Multiple-Vehicle	22	19	86.4	4	21.1	18.2	4	21.1	23.5
TOTAL	50	45	90.0	22	48.9	100.0	17	37.8	100.0

The first data 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 eight drivers killed during 2007; seven of these fatally injured drivers (87.5%) were tested for alcohol. Of those who were tested, three (42.9%) was positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 13.6% of all drinking drivers who were killed.

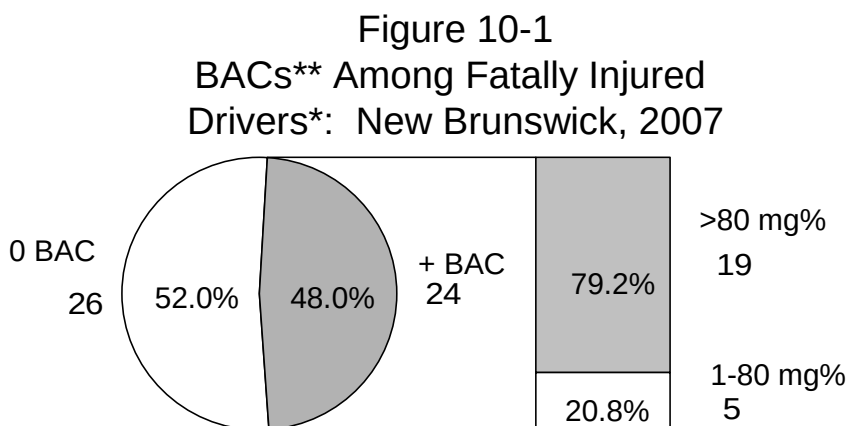
Then, in the final three columns, it can be seen that one of the seven (14.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that one of the three drivers who were positive for alcohol had a BAC below the legal limit. The final column expresses the 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 5.9% 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 high testing rate in 2007, with 90.0% of fatally injured drivers being tested for alcohol use.

In New Brunswick, 48.9% had been drinking and most of these had illegal BACs – 77.3% of 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:

- ◆ 4.4% had BACs from 1-49 mg%;
- ◆ 6.7% had BACs from 50-80 mg%
- ◆ 15.6% had BACs from 81 to 160 mg%; and,
- ◆ 22.2% 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 24 of 50 (48.0%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 19 (79.2%) have BACs over 80 mg%.



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

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

10.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with positive BAC), 36.4% were aged 20-25; 13.6% were aged 16-19, 26-35, 46-55 and over 55; and 9.1% were aged 36-45.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 41.2% were aged 20-25; 17.6% were aged 26-35 and over 55; 11.8% were aged 36-45; and 5.9% were aged 16-19 and 46-55.

Within each of the age groups, fatally injured drivers age 46-55 were the most likely to have been drinking – 100.0% of drivers in this age group had been drinking. By contrast, 27.3% of the tested drivers aged over 55 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 90.9% of all the fatally injured drivers who had been drinking, and 88.2% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (39 of the 50 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (55.6% and 22.2%, respectively). And, 75.0% of the male and 100.0% 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), 68.2% were automobile drivers; 27.3% were truck/van drivers; and 4.5% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 64.7% were automobile drivers, 29.4% were truck/van drivers; and 5.9% were motorcyclists.

Within each of the vehicle types, 54.5% of fatally injured truck/van drivers, 50.0% of motorcyclists and 46.9% of automobile drivers had been drinking.

10.2.4 Collision differences. Slightly more than half of the drivers killed (28 of the 50) were involved in single-vehicle collisions but these crashes accounted for four-fifths of the drivers who had been drinking or were legally impaired (81.8% and 76.5%, 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 (69.2%) were positive for alcohol, compared to only 21.1% of those involved in multiple-vehicle collisions.

10.3 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 2007 in New Brunswick. 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.

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 data column shows the number of drivers 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, 337 drivers were involved in crashes in which someone was seriously injured, and among these 25.5% were alcohol-related crashes.

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.6% were aged 26-35, 20.9% were aged 46-55; and 19.8% were aged 20-25. Drivers under 16 accounted for only 0.0% of those involved in alcohol-related serious injury crashes.

Table 10-3
Drivers in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	3	0	0.0	0.0
16-19	33	11	33.3	12.8
20-25	47	17	36.2	19.8
26-35	63	22	34.9	25.6
36-45	48	10	20.8	11.6
46-55	75	18	24.0	20.9
>55	61	5	8.2	5.8
unknown	7	3	42.9	3.5
Gender				
Male	174	64	36.8	74.4
Female	74	11	14.9	12.8
Unknown	89	11	12.4	12.8
Vehicle Type				
Auto	198	53	26.8	61.6
Truck/Van	77	25	32.5	29.1
Motorcycle	41	4	9.8	4.7
Tractor Trailer	9	3	33.3	3.5
Other Hwy. Vehicle	2	0	0.0	0.0
Off-Road	10	1	10.0	1.2
Collision Type				
Single-Vehicle	149	61	40.9	70.9
Multiple-Vehicle	188	25	13.3	29.1
TOTAL	337	86	25.5	100.0

Within each of the age groups, over one-third of the drivers aged 20-25 and 26-35 were involved in alcohol-related serious injury crashes (36.2% and 34.9%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (0.0%).

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 74.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (36.8% and 14.9%, respectively).

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 61.6% were automobile drivers; and 29.1% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for tractor trailer drivers – 33.3% of these drivers were in crashes that involved alcohol, compared to 32.5% for truck/van drivers, 26.8% for automobile drivers, and 9.8% for motorcycle riders.

10.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 70.9% 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 – 40.9% of these drivers, compared to only 13.3% for drivers involved in multiple-vehicle crashes.

10.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. New Brunswick's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from 1996-2001 baseline period.

10.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 10-4 and Figure 10-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 10.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 10-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: New Brunswick, 1995-2007

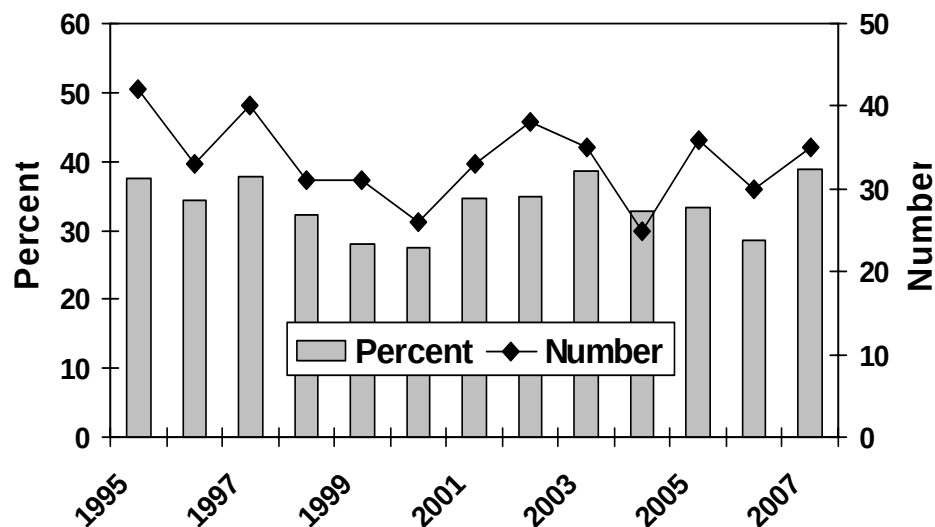
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	112	42	37.5
1996	96	33	34.4
1997	106	40	37.7
1998	96	31	32.3
1999	111	31	27.9
2000	95	26	27.4
2001	95	33	34.7
2002	109	38	34.9
2003	93	36	38.7
2004	76	25	32.9
2005	108	36	33.3
2006	105	30	28.6
2007	90	35	38.9
1996-2001 baseline	100	32	32.0

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

** Only on public roadways involving principal vehicle types

Figure 10-2

Number and Percent of Deaths Involving
a Drinking Driver: New Brunswick, 1995-2007



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 42 to 33 between 1995 and 1996, increased to 40 in 1997, decreased to 26 in 2000, rose to 38 in 2002, decreased to a low of 25 in 2004, rose to 36 in 2005, decreased to 30 in 2006, and rose again to 35 in 2007. The percentage of alcohol-related fatalities decreased from 37.5% in 1995 to 34.4% in 1996. In 1997, the percentage of alcohol-related fatalities in New Brunswick rose to 37.7%, decreased to its lowest level in 2000 (27.4%), rose to 38.7% in 2003, decreased to 32.9% in 2004, rose slightly to 33.3% in 2005, decreased to 28.6% in 2006, and peaked at 38.9% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 32 fatalities involving a drinking driver and they accounted for 32.0% of all fatalities. This means that the percent of fatalities involving a drinking driver increased by 21.6% from 32.0% in the baseline period (1996-2001) to 38.9% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 9.4% increase from an average of 32 in the baseline period (1996-2001) to 35 in 2007.

10.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 10-5. 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit fluctuated, peaking in 1993 (56.0%), falling to 27.8% in 2000, rising in 2001 (43.2%), declining to its lowest mark in 2005 (27.5%), before rising to 37.8% in 2007. The percent of fatally injured drivers with zero BACs increased from 1987 (46.8%) to 1990 (64.9%), declined in 1993 (36.0%), gradually increased to its highest mark in 2000 (66.7%), declined to 45.9% in 2001, rose again to 66.7% in 2005, before declining in 2007 (51.1%). The percent of fatally injured drivers with BACs between 1 and 80 mg% declined until 1990 (0.0%), rose to 9.8% in 1997, declined to 4.1% in 1999, peaked at 10.8% in 2001, fell to 4.2% in 2002, rose in 2003 (7.7%), decreased in 2004 (5.7%), rose slightly in 2005 (5.9%), declined to 3.8% in 2006, and rose to its highest level in 2007 (11.1%).

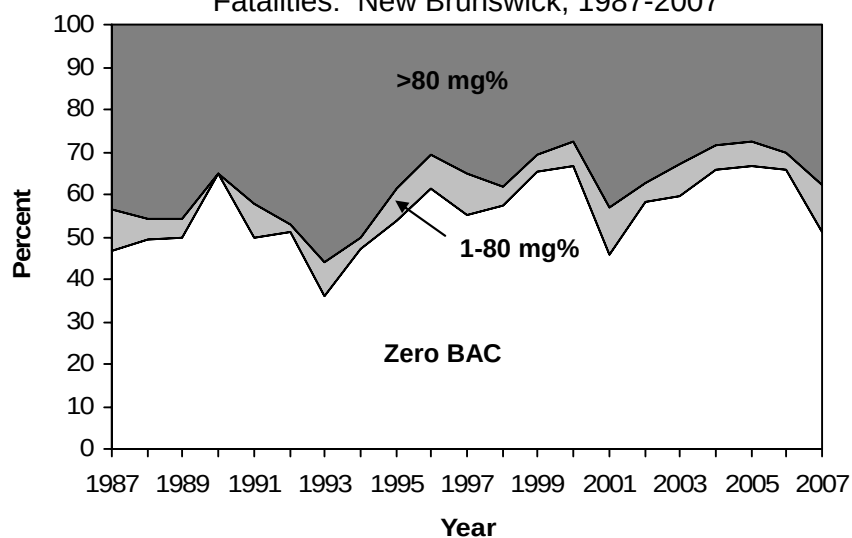
Table 10-5

Alcohol Use Among Fatally Injured Drivers:
New Brunswick, 1987-2007

YEAR	Number of Drivers			Drivers Grouped by BAC (mg%)					
	Drivers*	Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	73	62	84.9	29	46.8	6	9.7	27	43.5
1988	82	59	72.0	29	49.2	3	5.1	27	45.8
1989	68	46	67.6	23	50.0	2	4.3	21	45.7
1990	78	74	94.9	48	64.9	0	0.0	26	35.1
1991	51	50	98.0	25	50.0	4	8.0	21	42.0
1992	64	55	85.9	28	50.9	1	1.8	26	47.3
1993	70	50	71.4	18	36.0	4	8.0	28	56.0
1994	38	34	89.5	16	47.1	1	2.9	17	50.0
1995	61	52	85.2	28	53.8	4	7.7	20	38.5
1996	53	49	92.5	30	61.2	4	8.2	15	30.6
1997	54	51	94.4	28	54.9	5	9.8	18	35.3
1998	51	47	92.2	27	57.4	2	4.3	18	38.3
1999	54	49	90.7	32	65.3	2	4.1	15	30.6
2000	39	36	92.3	24	66.7	2	5.6	10	27.8
2001	44	37	84.1	17	45.9	4	10.8	16	43.2
2002	51	48	94.1	28	58.3	2	4.2	18	37.5
2003	54	52	96.3	31	59.6	4	7.7	17	32.7
2004	38	35	92.1	23	65.7	2	5.7	10	28.6
2005	53	51	96.2	34	66.7	3	5.9	14	27.5
2006	56	53	94.6	35	66.0	2	3.8	16	30.2
2007	45	45	100.0	23	51.1	5	11.1	17	37.8
1996-2001 baseline	49	45	(91.8)	26	(57.8)	3	(6.7)	16	(35.6)

* dying in less than six hours.

Figure 10-3
Trends in Alcohol Use Among Driver
Fatalities: New Brunswick, 1987-2007



When compared to the 1996-2001 baseline period shown at the bottom of Table 10-5, the percentage of fatally injured drivers with zero BACs in 2006 decreased by 11.6% (from 57.8% to 51.1%). Among drivers with BACs from 1-80 mg%, there was a 65.7% increase (from 6.7% to 11.1%). And among drivers with BACs over 80 mg%, there was a 6.2% increase (from 35.6% to 37.8%).

Table 10-6 and Figure 10-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive. As can be seen in Table 10-6 the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 42.1%. In 2007, 48.0% of fatally injured drivers tested positive for alcohol, a 14.0% increase from the baseline period.

10.4.3 Drivers in serious injury crashes: Table 10-7 and Figure 10-5 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 23.5% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 25.5% in 2007, an 8.5% increase.

Table 10-8 and Figure 10-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 10.3 and in Table 10-7 and Figure 10-5 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 13-year period. Between 1995 and 1997 the percentage of all drivers in serious injury crashes that involved alcohol dropped from 29.2% to 21.0%. Since then, the incidence rose to 24.2% in 1999, dropped to 22.7% in 2000, rose to 27.8% in 2001, declined to 23.9% in 2002, rose to 25.8% in 2003, declined to 23.8% in 2005, before rising to 26.0% in 2007.

In the baseline period (1996-2001), an average of 23.7% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes increased to 26.0% -- a 9.7% increase.

Table 10-6

Alcohol Use Among Fatally Injured Drivers*:
New Brunswick, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	88	59	(67.0)	29	(33.0)
1991	61	31	(50.8)	30	(49.2)
1992	76	35	(46.1)	41	(53.9)
1993	84	38	(45.2)	46	(54.8)
1994	49	23	(46.9)	26	(53.1)
1995	70	38	(54.3)	32	(45.7)
1996	58	36	(62.1)	22	(37.9)
1997	59	33	(55.9)	26	(44.1)
1998	58	33	(56.9)	25	(43.1)
1999	60	39	(65.0)	21	(35.0)
2000	53	32	(60.4)	21	(39.6)
2001	57	26	(45.6)	31	(54.4)
2002	64	38	(59.4)	26	(40.6)
2003	59	35	(59.3)	24	(40.7)
2004	43	29	(67.4)	14	(32.6)
2005	62	40	(64.5)	22	(35.5)
2006	65	44	(67.7)	21	(32.3)
2007	50	26	(52.0)	24	(48.0)
1996-2001 baseline	57	33	(57.9)	24	(42.1)

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

Figure 10-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: New Brunswick, 1990-2007

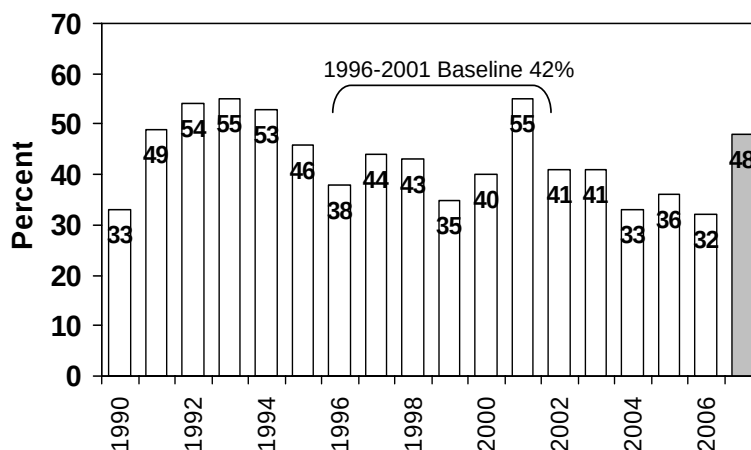


Table 10-7

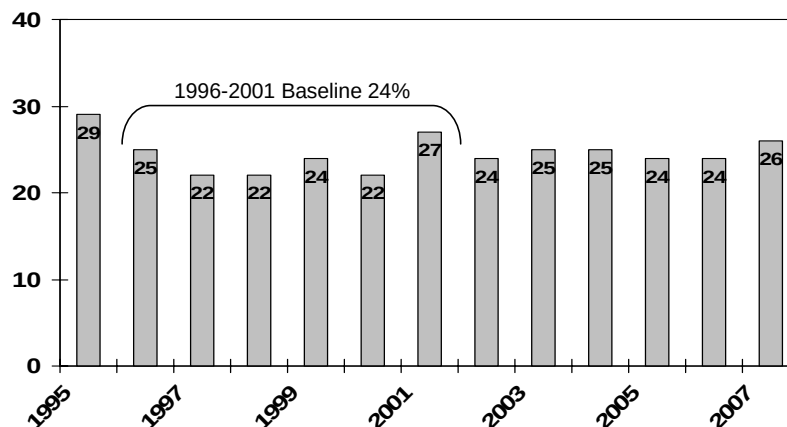
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: New Brunswick, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	711	205	(28.8)
1996	606	151	(24.9)
1997	614	132	(21.5)
1998	560	125	(22.3)
1999	527	126	(23.9)
2000	512	112	(21.9)
2001	547	148	(27.1)
2002	457	109	(23.9)
2003	447	111	(24.8)
2004	444	109	(24.5)
2005	437	104	(23.8)
2006	387	94	(24.3)
2007	337	86	(25.5)
1996-2001 baseline	561	132	(23.5)

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

Figure 10-5

Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: New Brunswick, 1995-2007



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

Table 10-8

Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: New Brunswick, 1995-2007

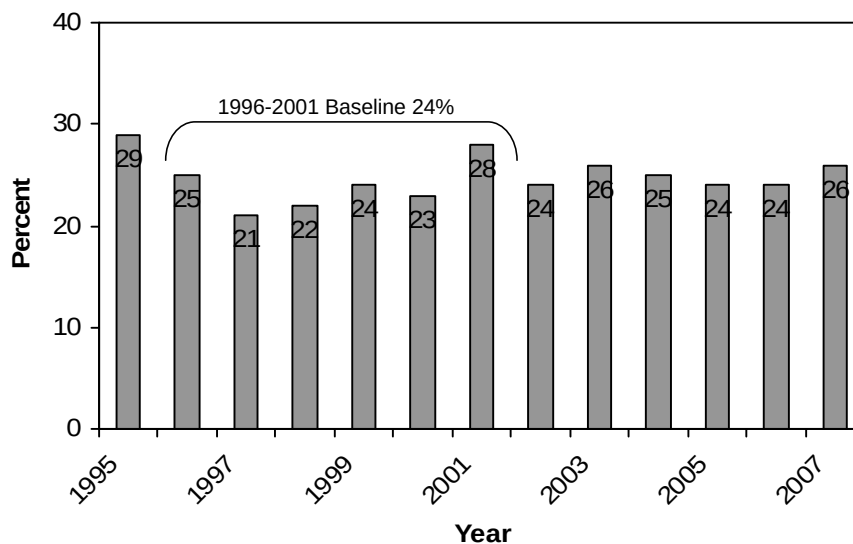
Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	681	199	(29.2)
1996	597	146	(24.5)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)
2001	511	142	(27.8)
2002	439	105	(23.9)
2003	426	110	(25.8)
2004	425	108	(25.4)
2005	429	102	(23.8)
2006	369	89	(24.1)
2007	327	85	(26.0)
1996-2001 baseline	536	127	(23.7)

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

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

Figure 10-6

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: New Brunswick, 1995-2007



11.0 NOVA SCOTIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Nova Scotia during 2007. 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); and
- > trends in the alcohol-crash problem (Section 11.4).

11.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 11-1 presents information on people who died in alcohol-related crashes in Nova Scotia during 2007. 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 data 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, 14 people aged 16-19 were killed in motor vehicle crashes in Nova Scotia during 2007. 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. For example, four people aged 16-19 died in alcohol-related crashes in Nova Scotia during 2007. The next column expresses this as a percentage – e.g., 35.7% of those aged 16-19 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 16-19 represent 12.2% of all the people killed in alcohol-related crashes in Nova Scotia during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 114 persons died in motor vehicle crashes in Nova Scotia during 2007. In 111 (97.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 41 (36.9%) involved alcohol.

Extrapolating this figure to the total number of motor vehicle fatalities (114 x .369) it can be estimated that *in Nova Scotia during 2007, 42 persons died in alcohol-related crashes.*

11.1.1 Victim age. Of all the people who died in alcohol-related crashes, 24.4% (see last column) were aged 20-25 and 26-35; 14.6% were aged 36-45 and 46-55; 12.2% were aged 16-19; and 9.8% were over age 55.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 and 46-55 died (83.3% and 66.7% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 0.0% of persons under 16 and 12.9% of the fatalities over 55 years of age died in crashes involving alcohol.

Table 11-1
Deaths* in Alcohol-Related Crashes: Nova Scotia, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<16	7	7	100.0	0	0.0	0.0
16-19	14	14	100.0	5	35.7	12.2
20-25	20	20	100.0	10	50.0	24.4
26-35	12	12	100.0	10	83.3	24.4
36-45	18	18	100.0	6	33.3	14.6
46-55	9	9	100.0	6	66.7	14.6
>55	34	31	91.2	4	12.9	9.8
<u>Gender</u>						
Male	80	79	98.8	34	43.0	82.9
Female	34	32	94.1	7	21.9	17.1
<u>Type</u>						
Driver/Operator	65	64	98.5	23	35.9	56.1
Passenger	36	36	100.0	13	36.1	31.7
Pedestrian	13	11	84.6	5	45.5	12.2
<u>Vehicle Occupied</u>						
Automobiles	62	61	98.4	24	39.3	58.5
Trucks/Vans	17	17	100.0	7	41.2	17.1
Motorcycles	11	11	100.0	1	9.1	2.4
Other Hwy Vehs	1	1	100.0	0	0.0	0.0
Offroad Vehicles	10	10	100.0	4	40.0	9.8
(Pedestrians)	13	11	84.6	5	45.5	12.2
TOTAL	114	111	97.4	41	36.9	100.0

*persons dying within 12 months in collisions on and off public roadways

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 82.9% were males. The incidence of alcohol in crashes in which male died (43.0%) was greater than the incidence of alcohol in crashes in which a female died (21.9%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 56.1% were drivers/operators of a vehicle; 31.7% were passengers; and 12.2% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (45.5%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 36.1% of the crashes in which a passenger died and 35.9% 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, 58.5% were in an automobile; 17.1% were truck/van occupants; 9.8% were off-road vehicle occupants; and 2.4% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an off-road vehicle or automobile occupant died (41.2% versus 40.0% and 39.3%).

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 2007. Table 11-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 11-2
Alcohol Use Among Fatally Injured Drivers: Nova Scotia, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
16-19	6	6	100.0	3	50.0	16.7	2	33.3	14.3
20-25	10	10	100.0	4	40.0	22.2	3	30.0	21.4
26-45	14	13	92.9	7	53.8	38.9	7	53.8	50.0
46-55	7	5	71.4	3	60.0	16.7	2	40.0	14.3
>55	18	13	72.2	1	7.7	5.6	0	0.0	0.0
Gender									
Male	47	39	83.0	16	41.0	88.9	13	33.3	92.9
Female	8	8	100.0	2	25.0	11.1	1	12.5	7.1
Vehicle Type									
Automobile	33	29	87.9	13	44.8	72.2	10	34.5	71.4
Truck/Van	12	9	75.0	4	44.4	22.2	3	33.3	21.4
Motorcycle	9	8	88.9	1	12.5	5.6	1	12.5	7.1
Tractor Trailer	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	31	25	80.6	14	56.0	77.8	12	48.0	85.7
Multiple-Vehicle	24	22	91.7	4	18.2	22.2	2	9.1	14.3
TOTAL	55	47	85.5	18	38.3	100.0	14	29.8	100.0

The first data 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 six drivers killed during 2007; all 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 16-19 year old fatally injured drinking drivers accounted for 16.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the six (33.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that two of the three drivers who were 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, 16-19 year old drivers accounted for 14.3% of all the drivers with BACs over the legal limit.

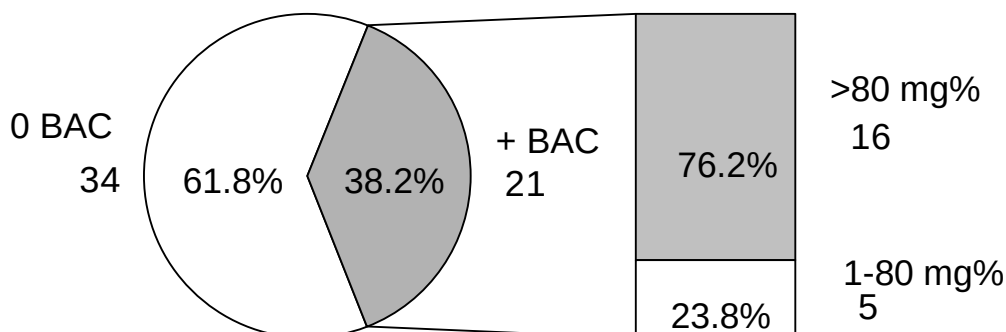
The main findings are shown by the totals at the bottom of the table. Nova Scotia had a high testing rate in 2007, with 85.5% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 38.3% had been drinking and most of these had illegal BACs – 77.8% of 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:

- > 8.5% had BACs from 1-49 mg%;
- > 0.0% had BACs from 50-80 mg%
- > 10.6% had BACs from 81 to 160 mg%; and,
- > 19.1% had BACs over 160 mg%.

In Figure 11-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 21 of 55 (38.2%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 16 (76.2%) have BACs over 80 mg%.

Figure 11-1
BACs Among Fatally Injured Drivers*: Nova Scotia, 2007**



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

** 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 positive BAC), 38.9% were aged 26-45; 22.2% were aged 20-25; 16.7% were aged 16-19 and 46-55; and 5.6% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were aged 26-45; 21.4% were aged 20-25; and 14.3% were aged 16-19 and 46-55.

Within each of the age groups, fatally injured drivers age 46-55 were the most likely to have been drinking – 60.0% of drivers in this age group had been drinking. By contrast, 7.7% of the tested drivers aged over 55 had been drinking.

11.2.2 Gender differences. Males dominate the picture – they account for 88.9% of all the fatally injured drivers who had been drinking, and 92.9% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (47 of the 55 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (41.0% and 25.0%, respectively). And, 81.3% of the male and 50.0% 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), 72.2% were automobile drivers; 22.2% were truck/van drivers; and 5.6% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 71.4% were automobile drivers, 21.4% were truck/van drivers; and 7.1% were motorcyclists.

Within each of the vehicle types, 44.8% of fatally injured drivers of automobiles, 44.4% of truck/van drivers, and 12.5% of motorcyclists were found to have been drinking. The lone fatally injured tractor trailer driver had not been drinking.

11.2.4 Collision differences. Slightly more than half of the drivers killed (31 of the 55) were involved in single-vehicle collisions but these crashes accounted for four-fifths of the drivers who had been drinking or were legally impaired (77.8% and 85.7%, 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 (56.0%) were positive for alcohol, compared to only 18.2% of those involved in multiple-vehicle collisions.

11.3 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 2007 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.

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 data column shows the number of drivers 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, 370 drivers were involved in crashes in which someone was seriously injured, and among these 25.7% were alcohol-related crashes.

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.2% were aged 16-19; 16.8% were aged 20-25 and 26-35, 15.8% were aged 36-45 and 46-55; and 9.4% were over age 55.

Table 11-3
 Drivers in Alcohol-Related Serious Injury Crashes:
 Nova Scotia, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	3	0	0.0	0.0
16-19	44	23	52.3	24.2
20-25	35	16	45.7	16.8
26-35	60	16	26.7	16.8
36-45	66	15	22.7	15.8
46-55	69	15	21.7	15.8
>55	89	9	10.1	9.5
unknown	4	1	25.0	1.1
Gender				
Male	261	77	29.5	81.1
Female	107	17	15.9	17.9
unknown	2	1	50.0	1.1
Vehicle Type				
Auto	178	55	30.9	57.9
Truck/Van	101	26	25.7	27.4
Motorcycle	51	5	9.8	5.3
Tractor Trailer	4	1	25.0	1.1
Other Hwy. Vehicle	2	1	50.0	1.1
Off-Road	22	5	22.7	5.3
Unknown	12	2	16.7	2.1
Collision Type				
Single-Vehicle	148	69	46.6	72.6
Multiple-Vehicle	222	26	11.7	27.4
TOTAL	370	95	25.7	100.0

Within each of the age groups, about one-half of the drivers aged 16-19 and 20-25 were involved in alcohol-related serious injury crashes (52.3% and 45.7%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (0.0%).

11.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 81.1% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (29.5% and 15.9%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.9% were automobile drivers; and 27.4% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 50.0% of these drivers were in crashes that involved alcohol, compared to 30.9% for automobile drivers, and 25.7% for truck/van drivers. Among motorcycle riders, 9.8% were involved in alcohol-related crashes.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 72.6% 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 – 46.6% of these drivers, compared to only 11.7% for drivers involved in multiple-vehicle crashes.

11.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Nova Scotia's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from 1996-2001 baseline period.

11.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 11-4 and Figure 11-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 11.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 11-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Nova Scotia, 1995-2007

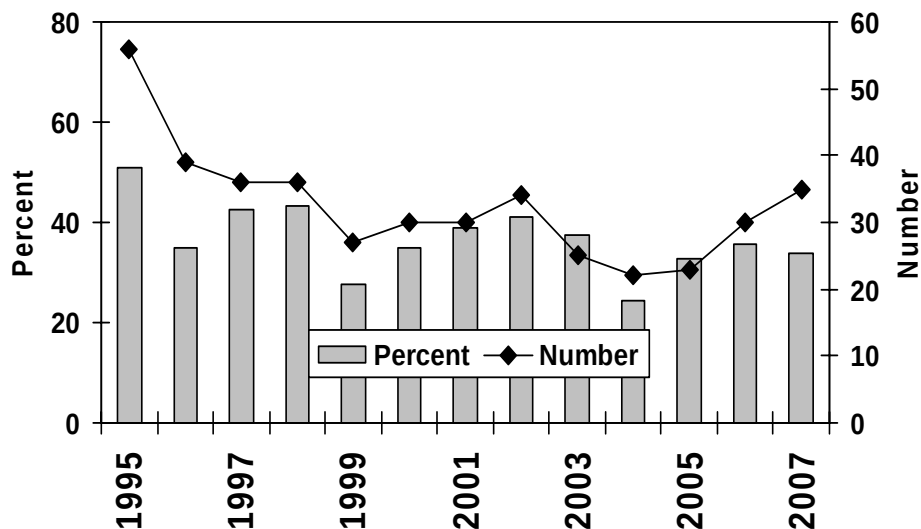
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	110	56	50.9
1996	112	39	34.8
1997	85	36	42.4
1998	83	36	43.4
1999	98	27	27.6
2000	86	30	34.9
2001	77	30	39.0
2002	83	34	41.0
2003	67	25	37.3
2004	90	22	24.4
2005	70	23	32.9
2006	84	30	35.7
2007	103	35	34.0
1996-2001 baseline	90	33	36.7

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

** only on public roadways involving principal vehicle types.

Figure 11-2

Number and Percent of Deaths Involving
a Drinking Driver: Nova Scotia, 1995-2007



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 56 to 27 between 1995 and 1999. There was an increase to 34 alcohol-related fatalities in 2002, a decrease to 22 in 2004, then an increase to 35 in 2007. The percentage of alcohol-related fatalities decreased from 50.9% in 1995 to 34.8% in 1996. In 1998, the percentage of alcohol-related fatalities in Nova Scotia rose to 43.4%, decreased to 27.6% in 1999, rose to 41.0% in 2002, decreased to a low of 24.4% in 2004, rose to 35.7% in 2006, and fell again to 34.0% in 2007.

As shown at the bottom of the table, during the 1996-2001 baseline period there was an average of 33 fatalities involving a drinking driver and they accounted for 36.7% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 7.4% from 36.7% in the baseline period (1996-2001) to 34.0% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 6.1% increase from an average of 33 in the baseline period (1996-2001) to 35 in 2007.

11.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 11-5. 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1989 (53.5%), dropped to 31.7% in 1991, increased in 1998 (51.4%), decreased in 1999 (35.1%), rose in 2000 (50.0%), dropped in 2001 (34.1%), rose in 2003 (37.2%), fell to a low in 2004 (18.9%), rose in 2005 (41.0%), decreased in 2006 (27.0%), and rose slightly in 2007 (27.9%). The percent of fatally injured drivers with zero BACs dropped to its lowest point in 1989 (35.6%) fluctuated until 2000 (50.0%), rose in 2001 (56.8%), dropped in 2002 (45.7%), peaked in 2004 (75.7%), decreased in 2005 (53.8%), rose in 2006 (70.3%), and decreased again in 2007 (62.8%). The percent of fatally injured drivers with BACs between 1 and 80 mg% dropped to its lowest mark in 1993 and 2000 (0.0%), peaked at 20.0% in 2002, fell to 2.3% in 2003, increased in 2004 (5.4%), decreased in 2006 (2.7%), and rose again in 2007 (9.3%).

Table 11-5

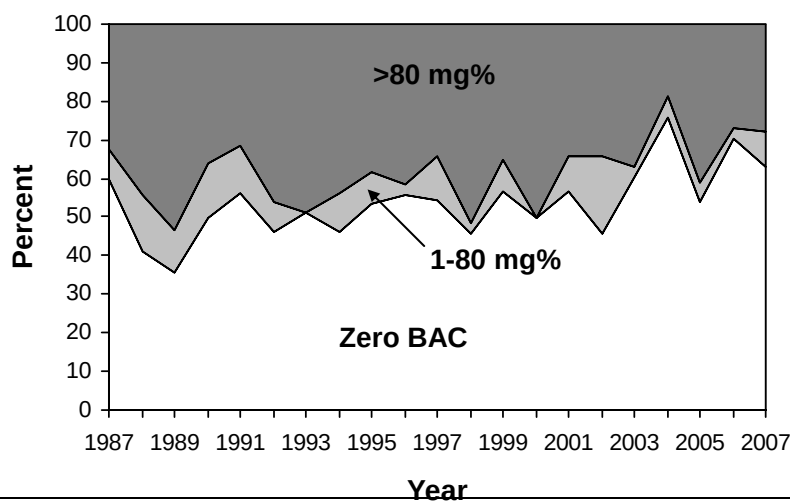
Alcohol Use Among Fatally Injured Drivers:
Nova Scotia, 1987-2007

YEAR	Number of Drivers		Drivers Grouped by BAC (mg%)	Zero	1-80	>80
	Drivers*	Tested (% Total)	(% Tested)	(% Tested)	(% Tested)	(% Tested)
1987	79	62	78.5	37	59.7	32.3
1988	85	61	71.8	25	41.0	44.3
1989	61	45	73.8	16	35.6	53.3
1990	67	58	86.6	29	50.0	36.2
1991	54	41	75.9	23	56.1	31.7
1992	53	37	69.8	17	45.9	45.9
1993	52	39	75.0	20	51.3	48.7
1994	50	41	82.0	19	46.3	43.9
1995	57	47	82.5	25	53.2	38.3
1996	49	36	73.5	20	55.6	41.7
1997	41	35	85.4	19	54.3	34.3
1998	46	35	76.1	16	45.7	51.4
1999	52	37	71.2	21	56.8	35.1
2000	47	42	89.4	21	50.0	50.0
2001	48	44	91.7	25	56.8	34.1
2002	36	35	97.2	16	45.7	34.3
2003	44	43	97.7	26	60.5	37.2
2004	40	37	92.5	28	75.7	18.9
2005	39	39	100.0	21	53.8	41.0
2006	37	37	100.0	26	70.3	27.0
2007	44	43	97.7	27	62.8	27.9
1996-2001 baseline	47	38	(80.9)	20	(52.6)	(42.1)

* dying in less than six hours.

Figure 11-3

Trends in Alcohol Use Among Driver
Fatalities: Nova Scotia, 1987-2007



When compared to the 1996-2001 baseline period shown at the bottom of Table 11-5, the percentage of fatally injured drivers with zero BACs in 2006 increased by 19.4% (from 52.6% to 62.8%). Among drivers with BACs from 1-80 mg%, there was a 75.5% increase (from 5.3% to 9.3%). And among drivers with BACs over 80 mg%, there was a 33.7% decrease (from 42.1% to 27.9%).

Table 11-6 and Figure 11-4 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive. As can be seen in Table 11-6, the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 46.3%. In 2007, 38.2% of fatally injured drivers tested positive for alcohol, a 17.5% decrease from the baseline period.

11.4.3 Drivers in serious injury crashes: Table 11-7 and Figure 11-5 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 22.0% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 25.7% in 2007, a 16.8% increase in the problem.

Table 11-8 and Figure 11-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 11.3 and in Table 11-7 and Figure 11-5 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 13-year period. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol rose from 18.5% to 24.9%. Since then, the incidence has dropped to 20.4% in 1998, rose to 23.6% in 2000, dropped to 21.1% in 2002, rose to 23.5% in 2003, declined slightly to 23.1% in 2004, rose in 2005 (26.1%), declined to 24.9% in 2006, and peaked in 2007 (26.2%).

In the baseline period (1996-2001), an average of 22.6% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes rose to 26.2%, a 15.9% increase.

Table 11-6

Alcohol Use Among Fatally Injured Drivers*:
Nova Scotia, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	75	38	(50.7)	37	(49.3)
1991	63	34	(54.0)	29	(46.0)
1992	66	32	(48.5)	34	(51.5)
1993	60	31	(51.7)	29	(48.3)
1994	60	27	(45.0)	33	(55.0)
1995	67	33	(49.3)	34	(50.7)
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	60	37	(61.7)	23	(38.3)
2000	56	27	(48.2)	29	(51.8)
2001	55	30	(54.5)	25	(45.5)
2002	41	18	(43.9)	23	(56.1)
2003	47	28	(59.6)	19	(40.4)
2004	45	34	(75.6)	11	(24.4)
2005	42	22	(52.4)	20	(47.6)
2006	47	31	(66.0)	16	(34.0)
2007	55	34	(61.8)	21	(38.2)
1996-2001 baseline	54	29	(53.7)	25	(46.3)

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

Figure 11-4
Percent of Fatally Injured Drivers* Positive
for Alcohol: Nova Scotia, 1990-2007

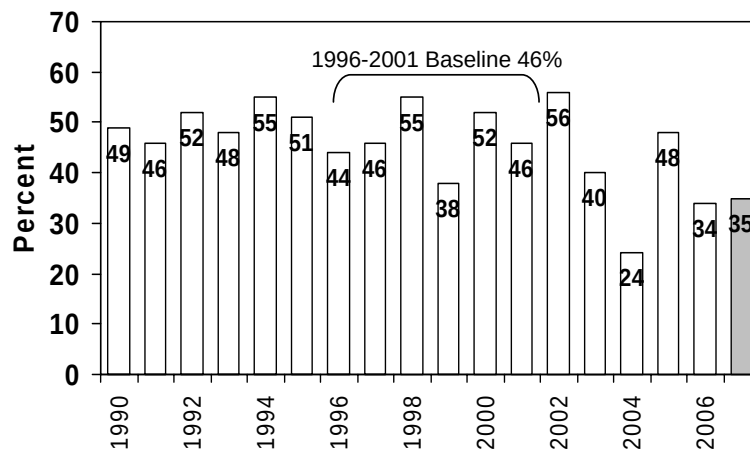


Table 11-7

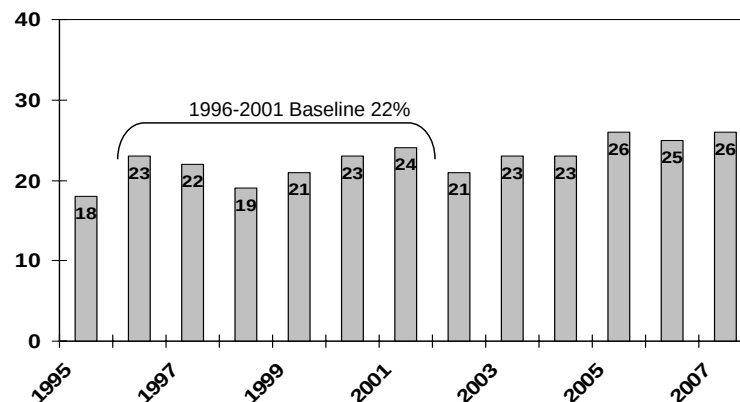
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Nova Scotia, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	523	95	(18.2)
1996	492	115	(23.4)
1997	511	110	(21.5)
1998	464	90	(19.4)
1999	610	129	(21.1)
2000	427	99	(23.2)
2001	436	103	(23.6)
2002	411	85	(20.7)
2003	358	83	(23.2)
2004	365	82	(22.5)
2005	367	94	(25.6)
2006	352	89	(25.3)
2007	370	95	(25.7)
1996-2001 baseline	490	108	(22.0)

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

Figure 11-5

Percent of All Drivers Serious Injury Crashes
that Involved Alcohol*: Nova Scotia, 1995-2007



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

Table 11-8

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Nova Scotia, 1995-2007

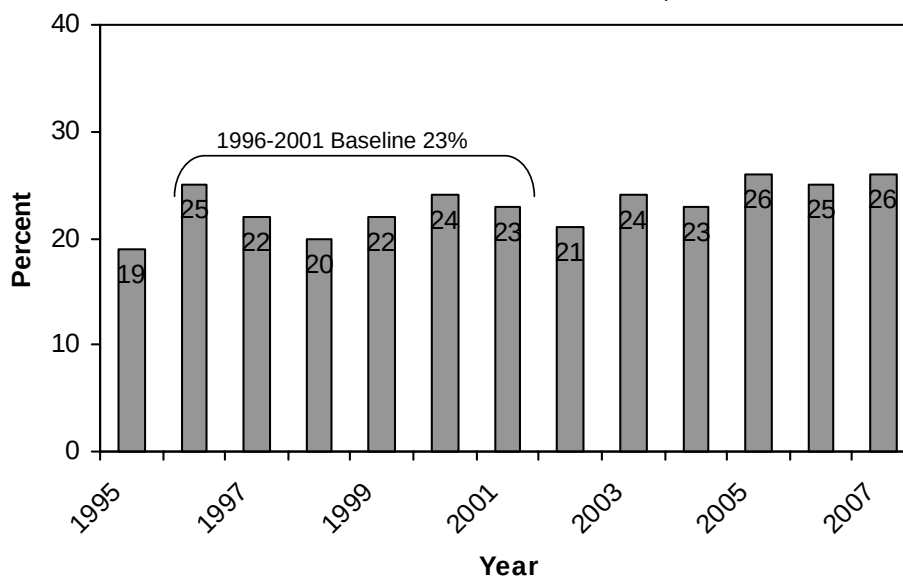
Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	491	91	(18.5)
1996	458	114	(24.9)
1997	458	102	(22.3)
1998	427	87	(20.4)
1999	577	125	(21.7)
2000	390	92	(23.6)
2001	400	93	(23.3)
2002	383	81	(21.1)
2003	332	78	(23.5)
2004	351	81	(23.1)
2005	330	86	(26.1)
2006	333	83	(24.9)
2007	336	88	(26.2)
1996-2001 baseline	452	102	(22.6)

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

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

Figure 11-6

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Nova Scotia, 1995-2007



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 in Prince Edward Island during 2007. 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); and
- ◆ trends in the alcohol-crash problem (Section 12.4).

Detailed results are not provided in Sections 12.1 and 12.2 because the small number of deaths in alcohol-related crashes – only six – and drivers fatally injured – only four – makes the results unreliable.

12.1 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 2007, nine persons died in motor vehicle crashes in Prince Edward Island. And, in all (100.0%) of these cases, it was possible to determine if alcohol was a factor in the crash. Of these cases, six (66.7%) involved alcohol.

12.2 ALCOHOL IN FATALLY INJURED DRIVERS

Prince Edward Island had only four fatally injured drivers during 2007. All of these drivers were tested for alcohol and three (75.0%) had been drinking.

12.3 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 2007 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.

The results are shown in Table 12-1 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers 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, 75 drivers were involved in crashes in which someone was seriously injured, and among these 22.7% were alcohol-related crashes.

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 41.2% were aged 16-19; 35.3% were aged 26-35; and 11.8% were aged 20-25. Drivers aged 36-45 and 46-55 each accounted for only 5.9% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, drivers aged 16-19 and 26-35 were the most likely to be involved in alcohol-related serious injury crashes (50.0% and 42.9%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16 and over 55 (0.0%).

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 94.1% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.1% and 5.6%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 76.5% were automobile drivers; and 11.8% were operating motorcycles and off-road vehicles.

Table 12-1
Drivers in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	1	0	0.0	0.0
16-19	14	7	50.0	41.2
20-25	7	2	28.6	11.8
26-35	14	6	42.9	35.3
36-45	7	1	14.3	5.9
46-55	9	1	11.1	5.9
>55	23	0	0.0	0.0
Gender				
Male	57	16	28.1	94.1
Female	18	1	5.6	5.9
Vehicle Type				
Auto	42	13	31.0	76.5
Truck/Van	19	0	0.0	0.0
Motorcycle	4	2	50.0	11.8
Tractor Trailer	2	0	0.0	0.0
Other Hwy. Vehicle	1	0	0.0	0.0
Off-Road	7	2	28.6	11.8
Collision Type				
Single-Vehicle	24	14	58.3	82.4
Multiple-Vehicle	51	3	5.9	17.6
TOTAL	75	17	22.7	100.0

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of motorcycles – 50.0% of these drivers were in crashes that involved alcohol, compared to 31.0% for automobile drivers and 28.6% for off-road vehicle drivers.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 82.4% 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 – 58.3% of these drivers, compared to only 5.9% for drivers involved in multiple-vehicle crashes.

12.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Prince Edward Island's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

12.4.1 Deaths in alcohol-related crashes: 1995-2006. Table 12-2 and Figure 12-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 12.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

As shown in the figure, the number of deaths in crashes that involved a drinking driver decreased from nine to four between 1995 and 1996. There was an increase to six alcohol-related fatalities in 1997, a decrease to three in 1998, an increase to 10 in 2002, a decrease to nine in 2003, an increase to 10 in 2004, a decrease to three in 2005, an increase to a high of 14 in 2006, and a decrease to four in 2007. The percentage of alcohol-related fatalities decreased from 56.3% in 1995 to 22.2% in 1996. In 1997, the percentage of alcohol-related fatalities in Prince Edward Island rose to 30.0%, decreased to a low of 14.3% in 1998, reached 56.3% in 2003, decreased to 20.0% in 2005, rose to 51.9% in 2006, and decreased slightly to 50.0% in 2007.

During the 1996-2001 baseline period there was an average of five fatalities involving a drinking driver and they accounted for 26.3% of all fatalities. This means that the percent of fatalities involving a drinking driver increased by 90.1% from 26.3% in the baseline period (1996-2001) to 50.0% in 2007. And, 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 five in the baseline period (1996-2001) to four in 2007.

Table 12-2

Number* and Percent of Motor Vehicle Deaths** Involving a Drinking Driver: Prince Edward Island, 1995-2007

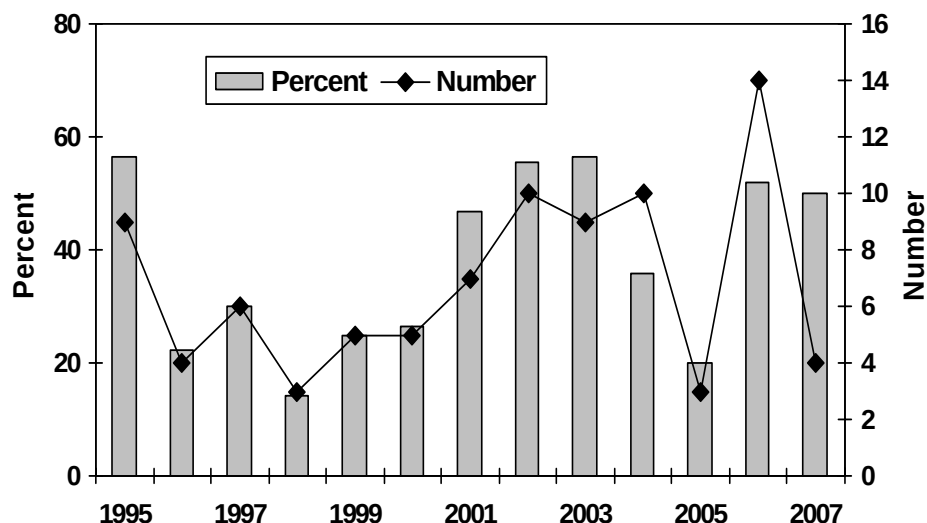
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	16	9	56.3
1996	18	4	22.2
1997	20	6	30.0
1998	21	3	14.3
1999	20	5	25.0
2000	19	5	26.3
2001	15	7	46.7
2002	18	10	55.6
2003	16	9	56.3
2004	28	10	35.7
2005	15	3	20.0
2006	27	14	51.9
2007	8	4	50.0
1996-2001 baseline	19	5	26.3

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

** only on public roadways involving principal vehicle types.

Figure 12-1

Number and Percent of Deaths Involving a Drinking Driver: Prince Edward Island, 1995-2007



12.4.2 Fatally injured drivers: Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 12-3. Trends are illustrated in Figure 12-2 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 is restricted to drivers who died in less than six hours after the crash.

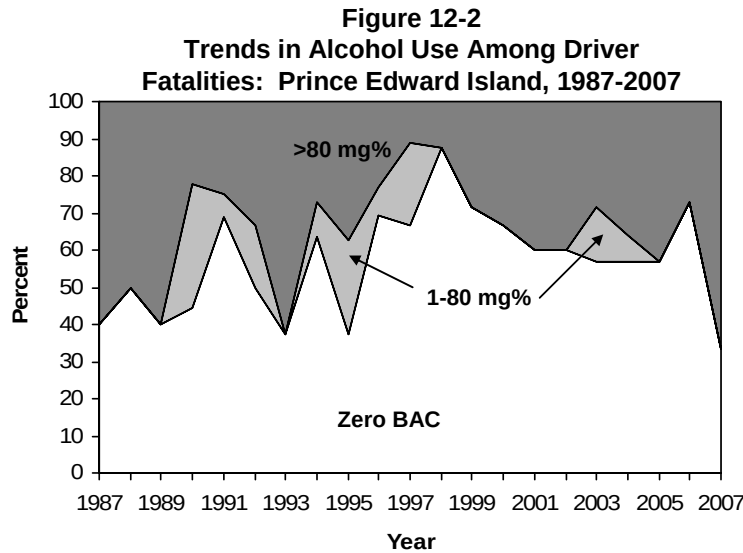
As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (60.0%) to 1997 (11.1%), increased in 2001 (40.0%), decreased in 2003 (28.6%), rose in 2005 (42.9%), decreased in 2006 (27.3%), and rose to a high in 2007 (66.7%). The percent of fatally injured drivers with zero BACs generally increased from 1987 (40.0%) to 1998 (87.5%), declined to (57.1%) in 2003, remained at this level until 2005, increased in 2006 (72.7%), and dropped to its lowest point in 2007 (33.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1990 (33.3%), dropped to its lowest mark in 1998 (0.0%), remained at this level until 2002, increased in 2003 (14.3%), decreased in 2005 (0.0%), and remained at this level until 2007.

Table 12-3

Alcohol Use Among Fatally Injured Drivers:
Prince Edward Island, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	6	5	83.3	2	40.0	0	0.0	3	60.0
1988	9	8	88.9	4	50.0	0	0.0	4	50.0
1989	8	5	62.5	2	40.0	0	0.0	3	60.0
1990	10	9	90.0	4	44.4	3	33.3	2	22.2
1991	16	16	100.0	11	68.8	1	6.3	4	25.0
1992	7	6	85.7	3	50.0	1	16.7	2	33.3
1993	9	8	88.9	3	37.5	0	0.0	5	62.5
1994	11	11	100.0	7	63.6	1	9.1	3	27.3
1995	9	8	88.9	3	37.5	2	25.0	3	37.5
1996	13	13	100.0	9	69.2	1	7.7	3	23.1
1997	9	9	100.0	6	66.7	2	22.2	1	11.1
1998	8	8	100.0	7	87.5	0	0.0	1	12.5
1999	7	7	100.0	5	71.4	0	0.0	2	28.6
2000	10	9	90.0	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	7	7	100.0	4	57.1	1	14.3	2	28.6
2004	15	14	93.3	8	57.1	1	7.1	5	35.7
2005	8	7	87.5	4	57.1	0	0.0	3	42.9
2006	11	11	100.0	8	72.7	0	0.0	3	27.3
2007	3	3	100.0	1	33.3	0	0.0	2	66.7
1996-2001 baseline	9	9	(100.0)	6	(66.7)	1	(11.1)	2	(22.2)

* dying in less than six hours.



When compared to the 1996-2001 baseline period shown at the bottom of Table 12-3, the percentage of fatally injured drivers with zero BACs in 2007 decreased by 50.0% (from 66.7% to 33.3%). Among drivers with BACs from 1-80 mg%, there was a decrease from 11.1% to 0.0%. And among drivers with BACs over 80 mg%, there was a 200.0% increase (from 22.2% to 66.7%).

Table 12-4 and Figure 12-3 show data on alcohol use among fatally injured drivers over a shorter period from 1990-2007. These results also differ from those reported above for several reasons. First, the number of drivers are estimates based on the BAC distribution of drivers tested for alcohol. Second, estimates are based on all fatally injured drivers, not just those who died in less than six hours from the crash. Third, drivers are grouped in only two BAC categories: zero and positive.

As can be seen in Table 12-4 the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 27.3%. In 2007, 75.0% of fatally injured drivers tested positive for alcohol, a 174.7% increase from the baseline period.

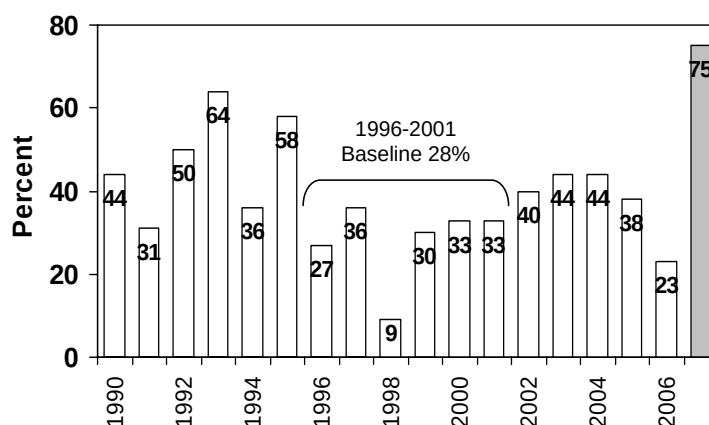
Table 12-4

Alcohol Use Among Fatally Injured Drivers*:
Prince Edward Island, 1990-2007

YEAR	Number of Drivers*	Zero	Drivers Grouped by BAC (mg%) (% Tested)	Positive	(% Tested)
1990	16	9	(56.3)	7	(43.8)
1991	16	11	(68.8)	5	(31.3)
1992	8	4	(50.0)	4	(50.0)
1993	11	4	(36.4)	7	(63.6)
1994	11	7	(63.6)	4	(36.4)
1995	12	5	(41.7)	7	(58.3)
1996	15	11	(73.3)	4	(26.7)
1997	11	7	(63.6)	4	(36.4)
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	6	4	(66.7)	2	(33.3)
2002	10	6	(60.0)	4	(40.0)
2003	9	5	(55.6)	4	(44.4)
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)
1996-2001 baseline	11	8	(72.7)	3	(27.3)

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

Figure 12-3
Percent of Fatally Injured Drivers* Positive
for Alcohol: Prince Edward Island, 1990-2007



12.4.3 Drivers in injury crashes: Table 12-5 and Figure 12-4 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 23.4% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 22.7% in 2007, a 3.0% decrease in the problem.

Table 12-6 and Figure 12-5 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 12.3 and in Table 12-5 and Figure 12-4 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 13-year period. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol rose from 15.1% to 29.7%. Since then, the incidence dropped to 20.4% in 1998, rose to 29.1% in 2000, decreased to 19.3% in 2001, rose to 21.3% in 2002, fell to 16.2% in 2003, rose to 29.3% in 2004, and declined to 22.7% in 2007.

As Shown in Table 12-6, in the baseline period (1996-2001), an average of 23.8% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes declined to 22.1%, a 7.1% decrease.

Table 12-5

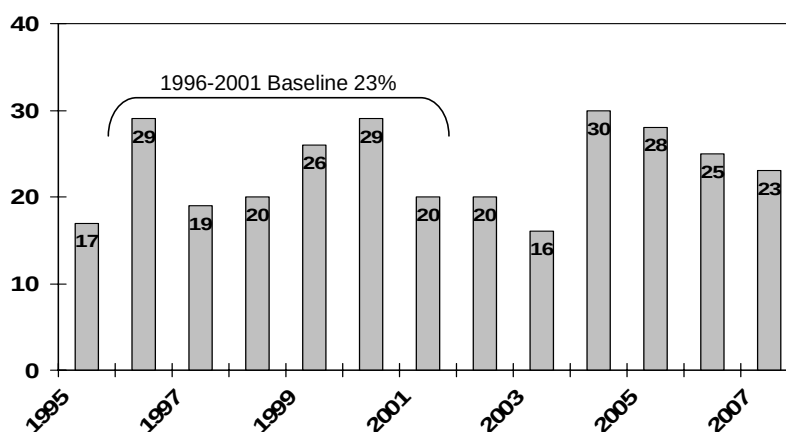
Number and Percent of All Drivers in Serious Injury Crashes *
that Involved Alcohol: Prince Edward Island, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	182	30	(16.5)
1996	75	22	(29.3)
1997	111	21	(18.9)
1998	112	22	(19.6)
1999	133	34	(25.6)
2000	115	33	(28.7)
2001	94	19	(20.2)
2002	84	17	(20.2)
2003	116	19	(16.4)
2004	97	29	(29.9)
2005	69	19	(27.5)
2006	81	20	(24.7)
2007	75	17	(22.7)
1996-2001 baseline	107	25	(23.4)

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

Figure 12-4

Percent of All Drivers Serious Injury Crashes that
Involved Alcohol*: Prince Edward Island, 1995-2007



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

Table 12-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Prince Edward Island, 1995-2007

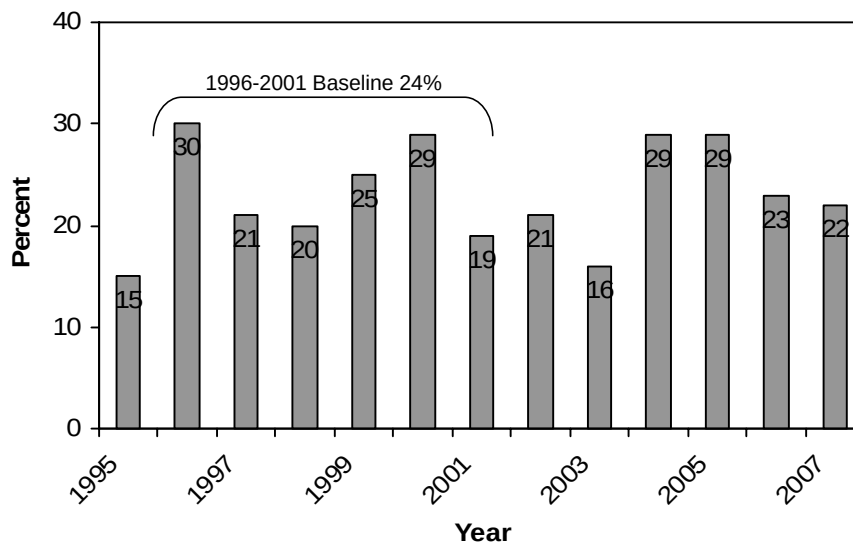
Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	172	26	(15.1)
1996	74	22	(29.7)
1997	102	21	(20.6)
1998	108	22	(20.4)
1999	130	33	(25.4)
2000	110	32	(29.1)
2001	83	16	(19.3)
2002	80	17	(21.3)
2003	111	18	(16.2)
2004	92	27	(29.3)
2005	66	19	(28.8)
2006	77	18	(23.4)
2007	68	15	(22.1)
1996-2001 baseline	101	24	(23.8)

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

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

Figure 12-5

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Prince Edward Island, 1995-2007



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 in Newfoundland and Labrador during 2007. 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); and
- > trends in the alcohol-crash problem (Section 13.4).

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 2007. 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 data 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 under 20 years of age were killed in motor vehicle crashes in Newfoundland and Labrador during 2007. 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. For example, four people under 20 years of age died in alcohol-related crashes in Newfoundland and Labrador during 2007. The next column expresses this as a percentage – e.g., 44.4% of those under 20 years of age 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 under 20 years of age represent 16.0% of all the people killed in alcohol-related crashes in Newfoundland and Labrador during 2007.

The totals at the bottom of the table provide a summary. As can be seen, 46 persons died in motor vehicle crashes in Newfoundland and Labrador during 2007. In 45 (97.8%) of these cases,

it was possible to determine if alcohol was a factor. Of these known cases, 25 (55.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($46 \times .556$) it can be estimated that *in Newfoundland and Labrador during 2007, 26 persons died in alcohol-related crashes.*

13.1.1 Victim age. Of all the people who died in alcohol-related crashes, 28.0% (see last column) were aged 26-35; 24.0% were aged 20-25; 16.0% were under age 20; 12.0% were aged 36-45 and 46-55; and 8.0% were over age 55.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 and 46-55 died (85.7% and 75.0% respectively). The lowest incidence of alcohol involvement was found among the oldest fatalities – 22.2% of persons over age 55 died in crashes involving alcohol.

Table 13-1
Deaths* in Alcohol-Related Crashes: Newfoundland & Labrador, 2007

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
<u>Age</u>						
<20	9	9	100.0	4	44.4	16.0
20-25	7	7	100.0	6	85.7	24.0
26-35	11	11	100.0	7	63.6	28.0
36-45	5	5	100.0	3	60.0	12.0
46-55	4	4	100.0	3	75.0	12.0
>55	10	9	90.0	2	22.2	8.0
<u>Gender</u>						
Male	34	33	97.1	20	60.6	80.0
Female	12	12	100.0	5	41.7	20.0
<u>Type</u>						
Driver/Operator	28	28	100.0	18	64.3	72.0
Passenger	16	15	93.8	7	46.7	28.0
Pedestrian	2	2	100.0	0	0.0	0.0
<u>Vehicle Occupied</u>						
Automobiles	20	19	95.0	13	68.4	52.0
Trucks/Vans	8	8	100.0	3	37.5	12.0
Motorcycles	3	3	100.0	2	66.7	8.0
Off-Road Vehicles	13	13	100.0	7	53.8	28.0
(Pedestrians)	2	2	100.0	0	0.0	0.0
TOTAL	46	45	97.8	25	55.6	100.0

*persons dying within 12 months in collisions on and off public roadways

13.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.0% were males. The incidence of alcohol in crashes in which male died (60.6%) was greater than the incidence of alcohol in crashes in which a female died (41.7%).

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 72.0% were drivers/operators of a vehicle; and 28.0% were passengers.

Within each of the victim types, the highest incidence of alcohol involvement (64.3%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 46.7% of the crashes in which a passenger died.

13.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 52.0% were in an automobile; 28.0% were off-road vehicle occupants; 12.0% were truck/van occupants; and 8.0% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was slightly greater than the incidence of alcohol in crashes in which a motorcyclist died (68.4% versus 66.7%).

The number of fatalities in each of the other types of vehicles is too small to produce reliable estimates of alcohol-involvement.

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 2007. Table 13-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

Table 13-2
Alcohol Use Among Fatally Injured Drivers: Newfoundland & Labrador, 2007

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
<u>Age</u>									
<36	8	8	100.0	7	87.5	53.8	5	62.5	71.4
36+	10	7	70.0	6	85.7	46.2	2	28.6	28.6
<u>Gender</u>									
Male	16	13	81.3	12	92.3	92.3	6	46.2	85.7
Female	2	2	100.0	1	50.0	7.7	1	50.0	14.3
<u>Vehicle Type</u>									
Automobile	11	10	90.9	9	90.0	69.2	6	60.0	85.7
Truck/Van	4	3	75.0	2	66.7	15.4	1	33.3	14.3
Motorcycle	3	2	66.7	2	100.0	15.4	0	0.0	0.0
<u>Collision Type</u>									
Single-Vehicle	13	12	92.3	11	91.7	84.6	7	58.3	100.0
Multiple-Vehicle	5	3	60.0	2	66.7	15.4	0	0.0	0.0
TOTAL	18	15	83.3	13	86.7	100.0	7	46.7	100.0

The first data 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 under 36 years of age there were eight drivers killed during 2007; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, seven (87.5%) were positive for alcohol. This means that fatally injured drinking drivers under 36 years of age accounted for 53.8% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that five of the eight (62.5%) fatally injured drivers under 36 years of age who were tested for alcohol had BACs in excess of 80 mg%. This means that five of the seven drivers who were 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 under 36 years of age accounted for 71.4% of all the drivers with BACs over the legal limit.

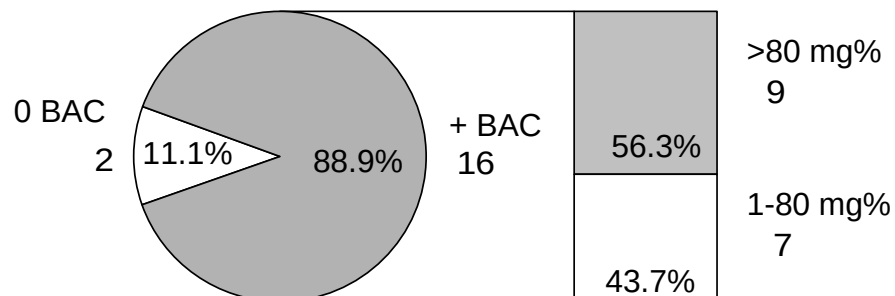
The main findings are shown by the totals at the bottom of the table. Newfoundland and Labrador had a high testing rate in 2007, with 83.3% of fatally injured drivers being tested for alcohol use.

In Newfoundland and Labrador, 86.7% had been drinking and seven of these had illegal BACs – 53.8% of 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:

- > 33.3% had BACs from 1-49 mg%;
- > 6.7% had BACs from 50-80 mg%
- > 20.0% had BACs from 81 to 160 mg%; and,
- > 26.7% had BACs over 160 mg%.

In Figure 13-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 16 of 18 (88.9%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, nine (56.3%) have BACs over 80 mg%.

Figure 13-1
BACs Among Fatally Injured Drivers*:**
Newfoundland and Labrador, 2007



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

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

13.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 53.8% were under 36 and 46.2% were 36 years of age and older.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 71.4% were under 36 years of age and 28.6% were 36 years of age and older.

Within each of the age groups, fatally injured drivers under 36 years of age were the most likely to have been drinking – 87.5% of drivers in this age group had been drinking, slightly more than the 85.7% of the tested drivers 36 and over who had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for 92.3% of all the fatally injured drivers who had been drinking and 85.7% of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (16 of the 18 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (92.3% and 50.0%, respectively). And, 50.0% of the male drivers and 100% of the 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), 69.2% were automobile drivers; and 15.4% were truck/van drivers and motorcyclists. Also, of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 85.7% were automobile drivers; and 14.3% were truck/van drivers.

Within each of the vehicle types, 90% of fatally injured drivers of automobiles and 66.7% of truck/van drivers were found to have been drinking. Both of the tested motorcyclists (100%) had been drinking.

13.2.4 Collision differences. Almost three-quarters of the drivers killed (13 of the 18) were involved in single-vehicle collisions but these crashes accounted for 84.6% of drivers who had been drinking and all of the drivers who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Three-fifths of the drivers involved in single-vehicle crashes (91.7%) were positive for alcohol, compared to 66.7% of those involved in multiple-vehicle collisions.

13.3 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 2007 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.

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 data column shows the number of drivers 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, 201 drivers were involved in crashes in which someone was seriously injured, and among these 19.9% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.0% were aged 26-35, 17.5% were aged 36-45; and 15.0% were aged 20-25. Drivers aged 46-55 accounted for only 7.5% of those involved in alcohol-related serious injury crashes.

Table 13-3
Drivers in Alcohol-Related Serious Injury Crashes:
Newfoundland & Labrador, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	3	0	0.0	0.0
16-19	21	4	19.0	10.0
20-25	23	6	26.1	15.0
26-35	34	10	29.4	25.0
36-45	33	7	21.2	17.5
46-55	21	3	14.3	7.5
>55	33	5	15.2	12.5
unknown	33	5	15.2	12.5
Gender				
Male	146	33	22.6	82.5
Female	24	2	8.3	5.0
unknown	31	5	16.1	12.5
Vehicle Type				
Auto	77	21	27.3	52.5
Truck/Van	41	7	17.1	17.5
Motorcycle	9	1	11.1	2.5
Tractor Trailer	1	0	0.0	0.0
Other Hwy. Vehicle	1	0	0.0	0.0
Off-Road	42	7	16.7	17.5
Unknown	30	4	13.3	10.0
Collision Type				
Single-Vehicle	74	29	39.2	72.5
Multiple-Vehicle	127	11	8.7	27.5
TOTAL	201	40	19.9	100.0

Within each of the age groups, almost one-third of the drivers aged 26-35 were involved in alcohol-related serious injury crashes (29.4%). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (0.0%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 82.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (22.6% and 8.3%, respectively).

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 52.5% were automobile drivers; 17.5% were truck/van and off-road vehicle drivers; and 2.5% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 27.3% of these drivers were in crashes that involved alcohol, compared to 17.1% for truck/van drivers, 16.7% for off-road vehicle drivers; and 11.1% for motorcyclists.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 72.5% 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 – 39.2% of these drivers, compared to only 8.7% for drivers involved in multiple-vehicle crashes.

13.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. A review of Newfoundland and Labrador's progress in meeting STRID 2010 goals is also reported as comparisons are made between 2007 alcohol-crash problem findings and those from the 1996-2001 baseline period.

13.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 13-4 and Figure 13-2 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 13.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

It can be seen that during the 1996-2001 baseline period that there was an average of 12 fatalities involving a drinking driver and they accounted for 31.6% of all fatalities.

Table 13-4

Number* and Percent of Motor Vehicle Deaths** Involving
a Drinking Driver: Newfoundland & Labrador, 1995-2007

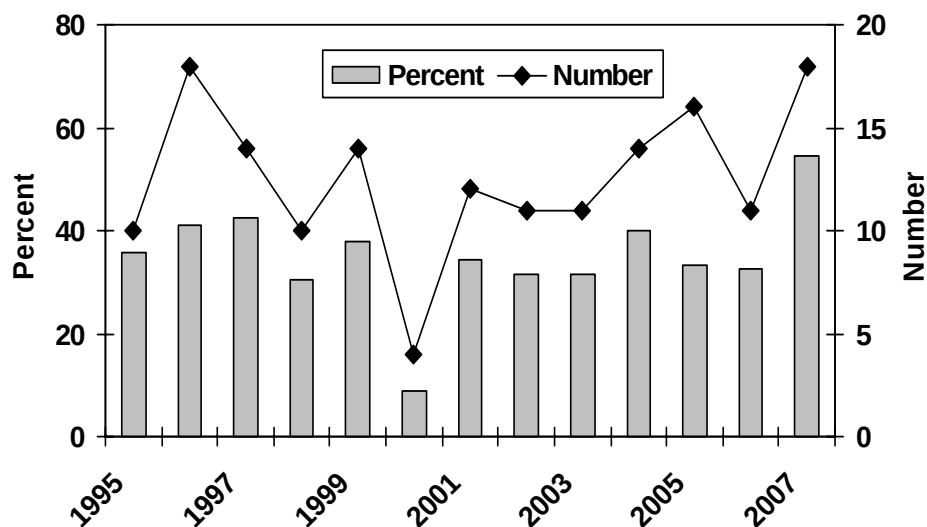
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	28	10	35.7
1996	44	18	40.9
1997	33	14	42.4
1998	33	10	30.3
1999	37	14	37.8
2000	45	4	8.9
2001	35	12	34.3
2002	35	11	31.4
2003	35	11	31.4
2004	35	14	40.0
2005	48	16	33.3
2006	34	11	32.4
2007	33	18	54.5
1996-2001 baseline	38	12	31.6

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

** only on public roadways involving principal vehicle types.

Figure 13-2

Number and Percent of Deaths Involving a Drinking Driver: Newfoundland & Labrador, 1995-2007



As shown in the figure, the number of deaths in crashes that involved a drinking driver increased from 10 to 18 between 1995 and 1996. There was a decrease to 10 alcohol-related fatalities in 1998, an increase to 14 in 1999, a decrease to a low of four in 2000, an increase to 12 in 2001, a decrease to 11 in 2002, an increase to 16 in 2005, a decrease to 11 in 2006, then an increase to 18 in 2007. The percentage of alcohol-related fatalities increased from 35.7% in 1995 to 42.4% in 1997. In 1998 the percentage of alcohol-related fatalities in Newfoundland and Labrador decreased to 30.3%, rose to 37.8% in 1999, fell to a low of 8.9% in 2000, rose to 34.3% in 2001, decreased to 31.4% in 2002, increased to 40.0% in 2004, decreased to 32.4% in 2006, and peaked at 54.5% in 2007.

Thus, it can be seen that the percent of fatalities involving a drinking driver increased by 72.5% from 31.6% in the baseline period (1996-2001) to 54.5% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been an 50.0% increase from an average of 12 in the baseline period (1996-2001) to 18 in 2007.

13.4.2 *Fatally injured drivers:* Data on alcohol use among fatally injured drivers over the 21-year period from 1987-2007 are shown in Table 13-5. 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 is restricted to drivers who died in less than six hours after the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1993 (56.3%), decreased in 1998 (29.4%), rose to 50.0% in 1999, fell to a low in 2000 (10.5%), rose in 2001 (28.6%), decreased in 2002 (22.2%), rose to 35.7% in 2004, decreased to 31.3% in 2005, and increased in 2007 (46.7%). The percent of fatally injured drivers with zero BACs reached 70.0% in 1995, declined to 46.2% in 1996, increased in 1998 (58.8%), declined in 1999 (43.8%), peaked in 2000 (84.2%), fluctuated until 2004 (57.1%), decreased in 2005 (43.8%), rose in 2006 (68.4%), and fell to a low of 13.3% in 2007. The percent of fatally injured drivers with BACs between 1 and 80 mg% reached 25.0% in 1990, dropped to 0.0% in 1994 and 1995, rose in 1997 (17.6%), decreased in 2000 (5.3%), increased in 2001 (21.4%), decreased in 2002 (11.1%), increased in 2003 (17.6%), decreased in 2004 (7.1%), increased in 2005 (25.0%), fell to 0.0% in 2006, and peaked in 2007 (40.0%).

Table 13-5

Alcohol Use Among Fatally Injured Drivers:
Newfoundland & Labrador, 1987-2007

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%)					
				Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	15	15	100.0	9	60.0	0	0.0	6	40.0
1988	20	13	65.0	4	30.8	2	15.4	7	53.8
1989	31	26	83.9	13	50.0	2	7.7	11	42.3
1990	24	20	83.3	9	45.0	5	25.0	6	30.0
1991	24	22	91.7	9	40.9	3	13.6	10	45.5
1992	18	13	72.2	5	38.5	2	15.4	6	46.2
1993	21	16	76.2	5	31.3	2	12.5	9	56.3
1994	12	10	83.3	5	50.0	0	0.0	5	50.0
1995	10	10	100.0	7	70.0	0	0.0	3	30.0
1996	18	13	72.2	6	46.2	1	7.7	6	46.2
1997	17	17	100.0	8	47.1	3	17.6	6	35.3
1998	19	17	89.5	10	58.8	2	11.8	5	29.4
1999	19	16	84.2	7	43.8	1	6.3	8	50.0
2000	21	19	90.5	16	84.2	1	5.3	2	10.5
2001	15	14	93.3	7	50.0	3	21.4	4	28.6
2002	18	18	100.0	12	66.7	2	11.1	4	22.2
2003	17	17	100.0	10	58.8	3	17.6	4	23.5
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	16	16	100.0	7	43.8	4	25.0	5	31.3
2006	21	19	90.5	13	68.4	0	0.0	6	31.6
2007	15	15	100.0	2	13.3	6	40.0	7	46.7
1996-2001 baseline	18	16	(88.9)	9	(56.3)	2	(12.5)	5	(31.3)

* dying in less than six hours.

Figure 13-3

Trends in Alcohol Use Among Driver Fatalities:
Newfoundland & Labrador, 1987-2007

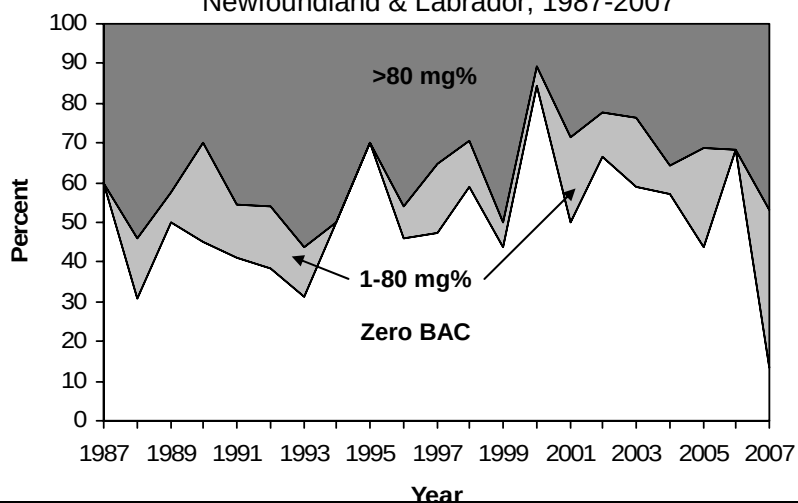


Table 13-6

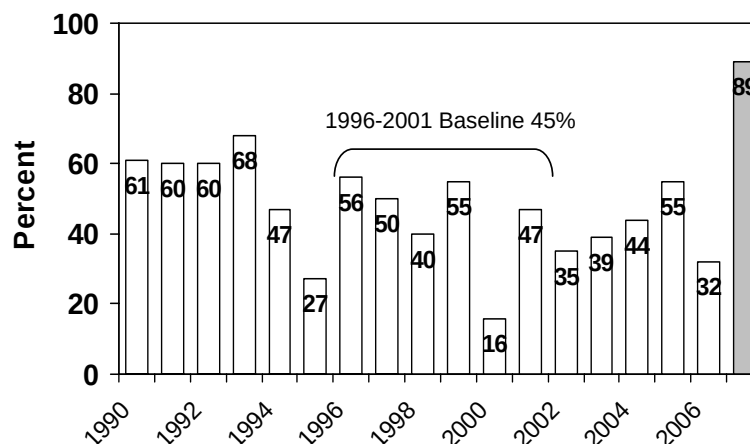
Alcohol Use Among Fatally Injured Drivers*:
Newfoundland and Labrador, 1990-2007

YEAR	Number of Drivers*	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1990	28	11	(39.3)	17	(60.7)
1991	25	10	(40.0)	15	(60.0)
1992	20	8	(40.0)	12	(60.0)
1993	25	8	(32.0)	17	(68.0)
1994	15	8	(53.3)	7	(46.7)
1995	11	8	(72.7)	3	(27.3)
1996	18	8	(44.4)	10	(55.6)
1997	18	9	(50.0)	9	(50.0)
1998	20	12	(60.0)	8	(40.0)
1999	20	9	(45.0)	11	(55.0)
2000	25	21	(84.0)	4	(16.0)
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	20	9	(45.0)	11	(55.0)
2006	22	15	(68.2)	7	(31.8)
2007	18	2	(11.1)	16	(88.9)
1996-2001 baseline	20	11	(55.0)	9	(45.0)

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

Figure 13-4

Percent of Fatally Injured Drivers* Positive for Alcohol: Newfoundland and Labrador, 1990-2007



When compared to the 1996-2001 baseline period, the percentage of fatally injured drivers with zero BACS in 2007 decreased by 76.4% (from 56.3% to 13.3%). Among drivers with BACs from 1-80 mg%, there was a 220.0% increase (from 12.5% to 40.0%). And among drivers with BACs over 80 mg%, there was a 49.2% increase (from 31.3% to 46.7%).

Data on alcohol use among fatally injured drivers from 1990-2007 are shown in Table 13-6. It should be noted that in this table, the numbers are estimates based on the BAC distribution of drivers tested for alcohol. Trends are illustrated in Figure 13-4 which shows the percentage of drivers with positive BACs. Values shown in the figure, are rounded to the nearest percentage. As can be seen in Table 13-6 the baseline percentage of fatally injured drivers testing positive for alcohol from 1996-2001 is 45.0%. In 2007, 88.9% of fatally injured drivers tested positive for alcohol, a 97.6% increase from the baseline period.

13.4.3 Drivers in serious injury crashes: Table 13-7 shows information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 19.2% of drivers in serious injury crashes were in an alcohol-involved crash. Figure 13-5 rounds the annual percentages into whole numbers. There is a 3.6% increase in the percentage of drivers involved in alcohol-involved serious-injury crashes from 19.2% in the 1996-2001 baseline period to 19.9% in 2007.

Table 13-8 and Figure 13-6 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 13.3 and in Table 13-7 and Figure 13-5 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has been relatively stable. The percentage of drivers in serious-injury crashes that involved alcohol decreased from 21.6% to 17.6% between 1995 and 1997, peaked at 25.2% in 1999, dropped to a low of 15.7% in 2000, rose to 17.9% in 2001, declined to 17.3% in 2003, rose to 23.3% in 2004, decreased to 18.4% in 2005, and rose again to 22.5% in 2007.

As shown in Table 13-8, in the baseline period (1996-2001), an average of 19.5% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes rose to 22.5%, a 15.4% increase.

Table 13-7

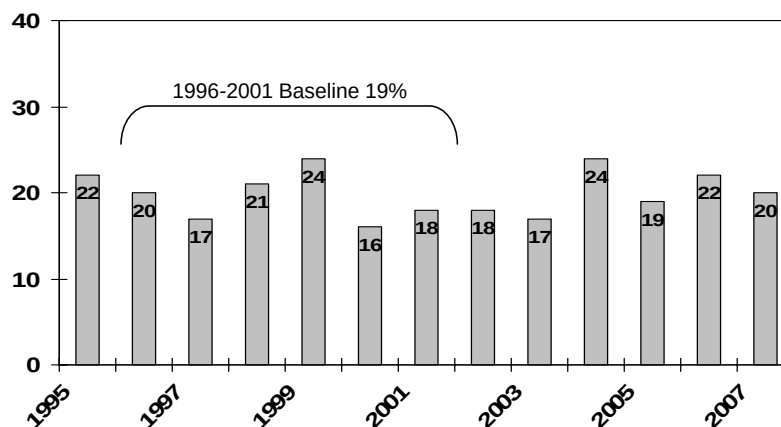
Number and Percent of All Drivers in Serious Injury Crashes* that Involved Alcohol: Newfoundland and Labrador, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	299	66	(22.1)
1996	338	69	(20.4)
1997	314	54	(17.2)
1998	271	56	(20.7)
1999	279	66	(23.7)
2000	321	50	(15.6)
2001	289	53	(18.3)
2002	246	45	(18.3)
2003	268	46	(17.2)
2004	217	52	(24.0)
2005	181	35	(19.3)
2006	166	36	(21.7)
2007	201	40	(19.9)
1996-2001 baseline	302	58	(19.2)

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

Figure 13-5

Percent of All Drivers Serious Injury Crashes that Involved Alcohol*: Newfoundland and Labrador, 1995-2007



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

Table 13-8

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Newfoundland & Labrador, 1995-2007

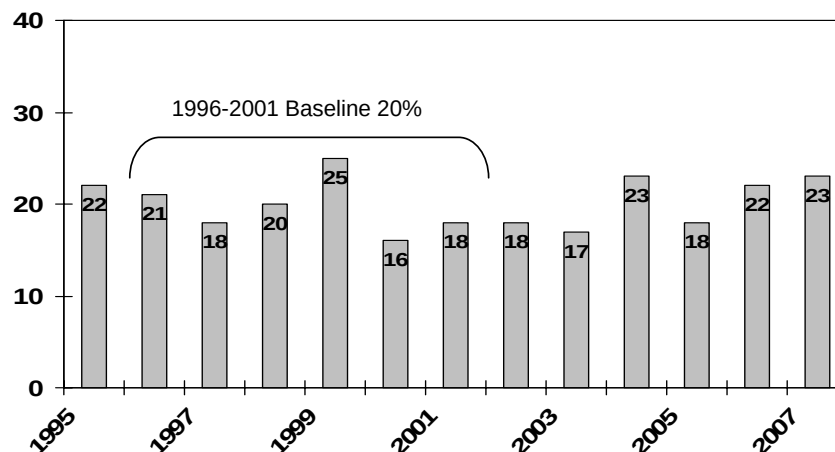
Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	259	56	(21.6)
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)
2001	223	40	(17.9)
2002	191	34	(17.8)
2003	197	34	(17.3)
2004	163	38	(23.3)
2005	136	25	(18.4)
2006	131	29	(22.1)
2007	129	29	(22.5)
1996-2001 baseline	251	49	(19.5)

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

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

Figure 13-6

Percent of All Drivers Serious Injury Crashes that
Involved Alcohol: Newfoundland and Labrador, 1995-2007



14.0 YUKON

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Yukon during 2007. 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); and
- > trends in the alcohol-crash problem (Section 14.4).

Detailed results are not provided in Sections 14.1 and 14.2 because the small number of deaths in alcohol-related crashes – only two – and drivers fatally injured – only two – makes the results unreliable.

14.1 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 2007, five persons died in motor vehicle crashes in the Yukon. And, in all (100.0%) of these cases, it was possible to determine if alcohol was a factor in the crash. Of these cases, two (40.0%) involved alcohol.

14.2 ALCOHOL IN FATALLY INJURED DRIVERS

The Yukon had only two fatally injured drivers during 2007. Both of these drivers were tested for alcohol and one (50.0%) had been drinking.

14.3 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 2007 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.

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 data column shows the number of drivers 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, 28 drivers were involved in crashes in which someone was seriously injured, and among these 35.7% were alcohol-related crashes.

14.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were 20-25; 30.0% were aged 26-35; and 20.0% were aged 46-55.

Within each of the age groups, half (50.0%) of the drivers age 26-35 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those aged 36-45 and over 55 (0.0%).

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for females than for males (50.0% and 29.4%, respectively).

14.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were automobile drivers and 50.0% were truck/van drivers.

Table 14-1
Drivers in Alcohol-Related Serious Injury Crashes:
Yukon Territory, 2007

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
20-25	12	5	41.7	50.0
26-35	6	3	50.0	30.0
36-45	1	0	0.0	0.0
46-55	5	2	40.0	20.0
>55	3	0	0.0	0.0
unknown	1	0	0.0	0.0
Gender				
Male	17	5	29.4	50.0
Female	10	5	50.0	50.0
unknown	1	0	0.0	0.0
Vehicle Type				
Auto	10	5	50.0	50.0
Truck/Van	13	5	38.5	50.0
Motorcycle	3	0	0.0	0.0
Tractor Trailer	1	0	0.0	0.0
Off-Road	1	0	0.0	0.0
Collision Type				
Single-Vehicle	19	10	52.6	100.0
Multiple-Vehicle	9	0	0.0	0.0
TOTAL	28	10	35.7	100.0

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 38.5% for truck/van drivers.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% 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 – 52.6% of these drivers, compared to only 0.0% for drivers involved in multiple-vehicle crashes.

14.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. The Yukon's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

14.4.1 Deaths in alcohol-related crashes: 1995-2007. Table 14-2 and Figure 14-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2007. These results differ slightly from those in Section 14.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

As shown in the figure, the number of deaths in crashes that involved a drinking driver increased from one to four between 1995 and 1996. The number of alcohol-related fatalities dropped to two in 1997, rose to seven in 1998, fell to zero in 2001, rose to six in 2002, decreased to one in 2004, rose to five in 2006, and fell to two in 2007. The percentage of alcohol-related fatalities rose from 7.7% in 1995 to 66.7% in 1996 and 1997. Since then, the percentage of alcohol-related fatalities in Yukon decreased to 41.2% in 1999, rose to 66.7% in 2000, dropped to 0.0% in 2001, rose to 50.0% in 2003, decreased to 20.0% in 2004, rose to 66.7% in 2005, and decreased again to 40.0% in 2007.

It can be seen that during the 1996-2001 baseline period that there was an average of four fatalities involving a drinking driver and they accounted for 50.0% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 20.0% from 50.0% in the baseline period (1996-2001) to 40.0% in 2007. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 50.0% decrease from an average of four in the baseline period (1996-2001) to two in 2007.

Table 14-2

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Yukon, 1995-2007

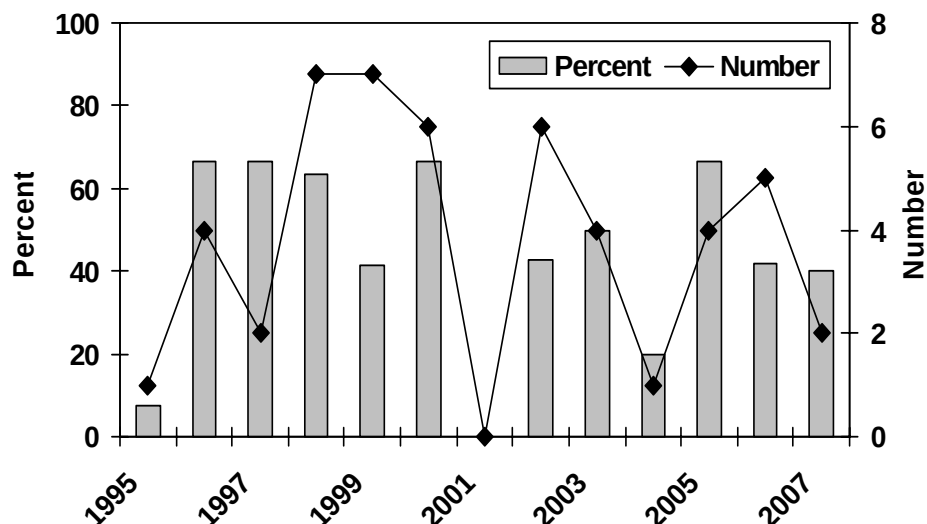
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	13	1	7.7
1996	6	4	66.7
1997	3	2	66.7
1998	11	7	63.6
1999	17	7	41.2
2000	9	6	66.7
2001	4	0	0.0
2002	14	6	42.9
2003	8	4	50.0
2004	5	1	20.0
2005	6	4	66.7
2006	12	5	41.7
2007	5	2	40.0
1996-2001 baseline	8	4	50.0

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

** only on public roadways involving principal vehicle types.

Figure 14-1

Number and Percent of Deaths Involving a
Drinking Driver: Yukon Territory, 1995-2007



14.4.2 Fatally injured drivers: Due to the small number of cases – e.g., only two fatally injured drivers in 2007 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.4.3 Drivers in injury crashes: Since information on serious injury crashes for the Yukon has only been available since 1998, trends for drivers involved in crashes of all injury severity are shown in Table 14-3 and Figure 14-2. These results differ slightly from those in Section 14.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles. During the baseline period (1996-2001), an average of 19.6% of drivers in injury crashes were in an alcohol-involved crash. This compares to 21.3% in 2007, an 8.7% increase in the problem.

Table 14-4 and Figure 14-3 also show information on drivers involved in alcohol-related injury crashes. These results differ slightly from those in Section 14.3 and in Table 14-3 and Figure 14-2 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen the incidence of alcohol-involvement in injury crashes has fluctuated over this 13-year period. Between 1995 and 1997 the percentage of all drivers in injury crashes that involved alcohol decreased from 20.1% to 18.1%. Since then, the incidence rose to 22.7% in 1998, decreased to 14.3% in 2001, rose to 18.9% in 2002, decreased to 17.7% in 2003, rose to 22.2% in 2004, dropped to a low of 13.7% in 2006, and rose to 21.1% in 2007.

As shown in Table 14-4, in the baseline period (1996-2001), an average of 19.1% of drivers in injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes rose to 21.1%, a 10.5% increase.

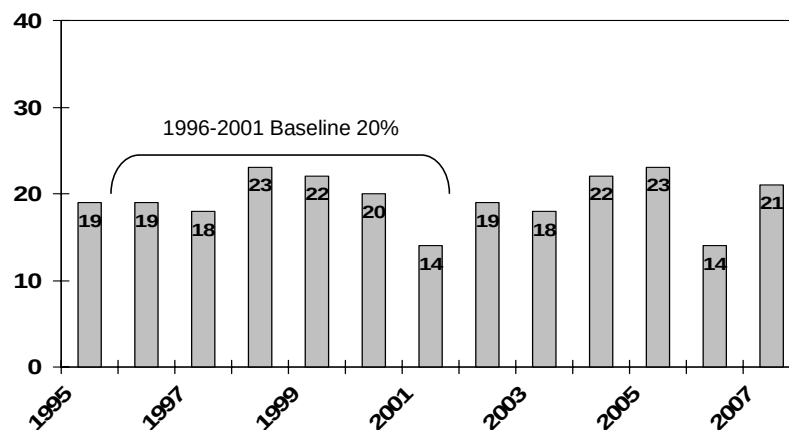
Table 14-3

Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: Yukon, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	364	70	(19.2)
1996	359	69	(19.2)
1997	293	53	(18.1)
1998	280	65	(23.2)
1999	321	71	(22.1)
2000	305	61	(20.0)
2001	278	40	(14.4)
2002	243	46	(18.9)
2003	228	40	(17.5)
2004	209	46	(22.0)
2005	191	43	(22.5)
2006	214	30	(14.0)
2007	202	43	(21.3)
1996-2001 baseline	306	60	(19.6)

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

Figure 14-2
Percent of All Drivers Injury Crashes
that Involved Alcohol*: Yukon, 1995-2007



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

Table 14-4

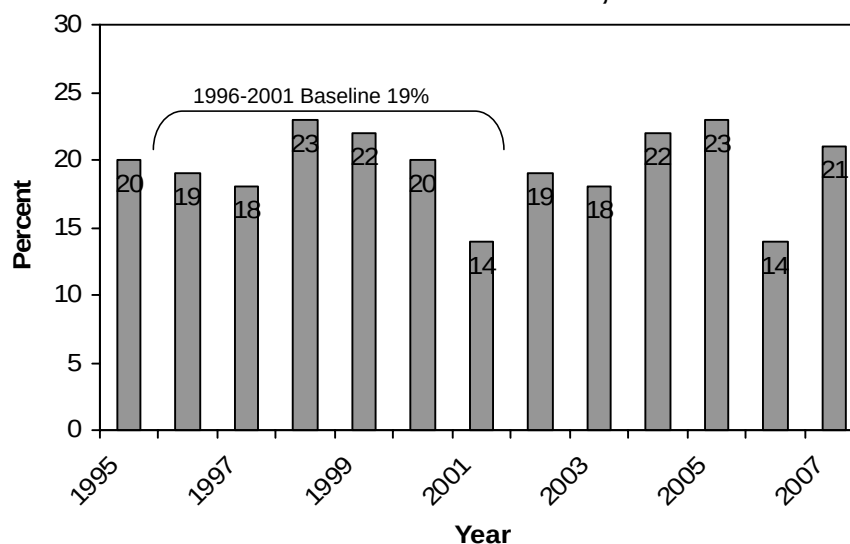
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: Yukon, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	338	68	(20.1)
1996	346	64	(18.5)
1997	287	52	(18.1)
1998	273	62	(22.7)
1999	314	68	(21.7)
2000	299	59	(19.7)
2001	273	39	(14.3)
2002	243	46	(18.9)
2003	217	39	(18.0)
2004	200	44	(22.0)
2005	197	46	(23.4)
2006	211	29	(13.7)
2007	199	42	(21.1)
1996-2001 baseline	299	57	(19.1)

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

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

Figure 14-3
Percent of All Drivers in Injury Crashes
that Involved Alcohol: Yukon, 1995-2007



15.0 NORTHWEST TERRITORIES

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Northwest Territories during 2007. 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); and
- > trends in the alcohol-crash problem (Section 15.4).

Detailed results are not provided in Sections 15.1 and 15.2 because the small number of deaths in alcohol-related crashes – only four – and drivers fatally injured – only four – makes the results unreliable.

15.1 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 2007, six persons died in motor vehicle crashes in the Northwest Territories. And, in five (83.3%) of these cases, it was possible to determine if alcohol was a factor in the crash. Of these cases, four (80.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities ($6 \times .8$) it can be estimated that *in the Northwest Territories during 2007 five persons died in alcohol-related crashes.*

15.2 ALCOHOL IN FATALLY INJURED DRIVERS

The Northwest Territories had only four fatally injured drivers during 2007.

15.3 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 2007 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.

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 data column shows the number of drivers 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, 17 drivers were involved in crashes in which someone was seriously injured, and among these 52.9% were alcohol-related crashes.

15.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 44.4% were under 26 and 26-35; and 11.1% were over 45.

Within each of the age groups, four-fifths (80.0%) of the drivers aged 26-35 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those aged 36-45 (0.0%).

15.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% were males. And, the incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (69.2% and 0.0%, respectively).

15.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 55.6% were off-road vehicle drivers; 33.3% were truck/van drivers; and 11.1% were automobile drivers.

Table 15-1
Drivers in Alcohol-Related Serious Injury Crashes:
Northwest Territories, 2007

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<26	6	4	66.7	44.4
26-35	5	4	80.0	44.4
36-45	2	0	0.0	0.0
>45	3	1	33.3	11.1
unknown	1	0	0.0	0.0
Gender				
Male	13	9	69.2	100.0
Female	3	0	0.0	0.0
unknown	1	0	0.0	0.0
Vehicle Type				
Auto	2	1	50.0	11.1
Truck/Van	7	3	42.9	33.3
Motorcycle	1	0	0.0	0.0
Off-Road	6	5	83.3	55.6
unknown	1	0	0.0	0.0
Collision Type				
Single-Vehicle	9	7	77.8	77.8
Multiple-Vehicle	8	2	25.0	22.2
TOTAL	17	9	52.9	100.0

* These numbers are slightly underestimated because about 3.8% of all injuries are recorded as unspecified.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle drivers – 83.3% of these drivers were in crashes that involved alcohol, compared to 50.0% for automobile drivers and 42.9% for truck/van drivers.

15.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 77.8% 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 – 77.8% of these drivers, compared to only 25.0% for drivers involved in multiple-vehicle crashes.

15.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. The Northwest Territories' progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

15.4.1 Deaths in alcohol-related crashes: 1995-2007. Due to the small number of crashes on public roadways involving principal vehicle types (e.g., only four deaths in 2007) any trends would be unreliable, and therefore are not reported.

15.4.2 Fatally injured drivers: 1987-2007. Due to the small number of cases – e.g., only four fatally injured drivers in 2007 – any trends would be unreliable, and therefore are not reported.

15.4.3 Drivers in serious injury crashes: Table 15-2 and Figure 15-1 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 35.0% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 52.9% in 2007, a 51.1% increase in the problem.

Table 15-3 and Figure 15-2 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 15.3 and in Table 15-2 and Figure 15-1 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 13-year period. Between 1995 and 1997 the percentage of all drivers in serious injury crashes that involved alcohol decreased from 65.0% to 25.0%. Since then, the incidence rose to 57.1% in 1998, decreased to 36.8% in 1999, rose to 66.7% in 2000, decreased to 26.3% in 2002, rose to 37.5% in 2003, dropped to a low of 21.4% in 2004, rose to 41.2% in 2006, and decreased slightly to 40.0% in 2007.

As shown in Table 15-3, in the baseline period (1996-2001), an average of 42.9% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes declined to 40.0%, a 6.8% decrease.

Table 15-2

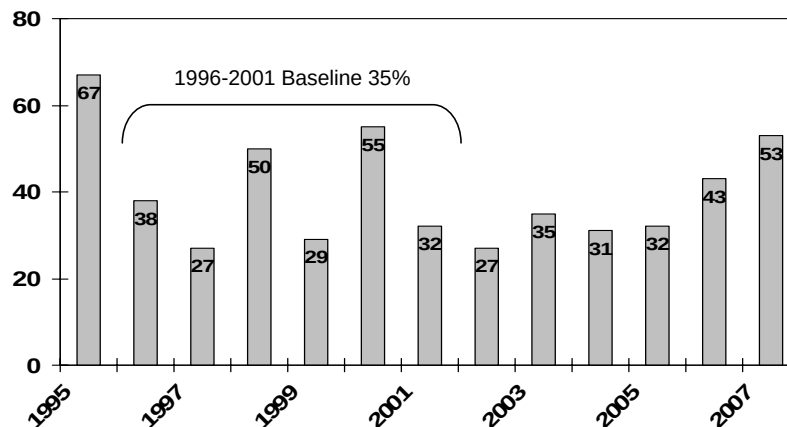
Number and Percent of All Drivers in
Serious Injury Crashes* that Involved Alcohol:
Northwest Territories, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	24	16	(66.7)
1996	21	8	(38.1)
1997	15	4	(26.7)
1998	22	11	(50.0)
1999	24	7	(29.2)
2000	11	6	(54.5)
2001	25	8	(32.0)
2002	22	6	(27.3)
2003	17	6	(35.3)
2004	16	5	(31.3)
2005	31	10	(32.3)
2006	21	9	(42.9)
2007	17	9	(52.9)
1996-2001 baseline	20	7	(35.0)

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

Figure 15-1

Percent of All Drivers in Serious Injury Crashes that
Involved Alcohol*: Northwest Territories, 1995-2007



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

Table 15-3

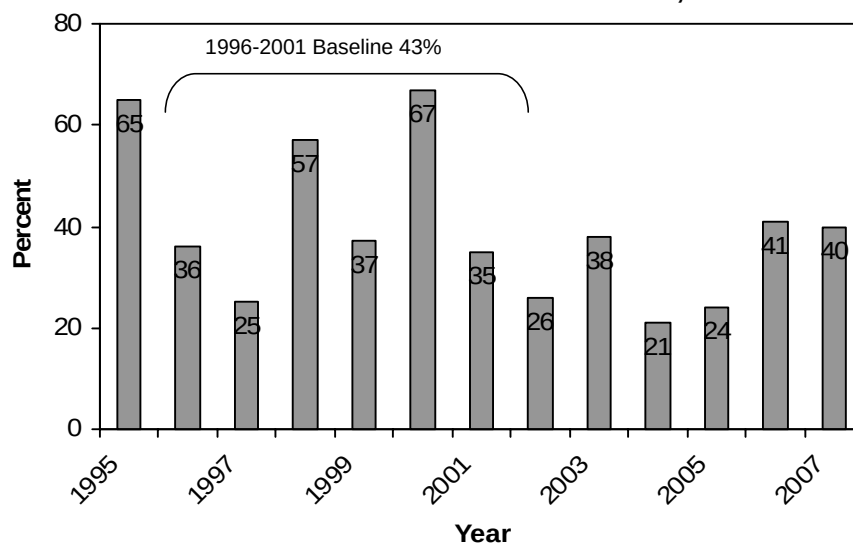
Number and Percent of All Drivers* in
 Serious Injury Crashes** that Involved Alcohol:
 Northwest Territories, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	20	13	(65.0)
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)
1996-2001 baseline	14	6	(42.9)

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

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

Figure 15-2
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Northwest Territories, 1995-2007



16.0 NUNAVUT

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Nunavut during 2007. 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); and
- > trends in the alcohol-crash problem (Section 16.4).

Detailed results are not provided in Sections 16.1 and 16.2 because the small number of deaths in alcohol-related crashes – only one – and drivers fatally injured – only one – 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 2007, ten persons died in motor vehicle crashes in Nunavut. And, in seven (70.0%) of these cases, it was possible to determine if alcohol was a factor in the crash. Of these cases, one (14.3%) involved alcohol.

16.2 ALCOHOL IN FATALLY INJURED DRIVERS

Nunavut had no fatally injured drivers during 2007.

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 2007 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.

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 data column shows the number of drivers 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, 15 drivers were involved in crashes in which someone was seriously injured, and among these 40.0% were alcohol-related crashes.

16.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were aged 26-35; and 16.7% were aged 16-19, 20-25 and 36-45.

Within each of the age groups, three-quarters (75.0%) of the drivers aged 26-35 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16, 46-55, and over 55 (0.0%).

16.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 83.3% were males. And, the incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (50.0% and 20.0%, respectively).

16.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 83.3% were operating off-road vehicles and 16.7% were truck/van drivers.

Table 16-1
Drivers in Alcohol-Related Serious Injury Crashes:
Nunavut, 2007

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	2	1	50.0	16.7
20-25	3	1	33.3	16.7
26-35	4	3	75.0	50.0
36-45	2	1	50.0	16.7
46-55	2	0	0.0	0.0
>55	1	0	0.0	0.0
<u>Gender</u>				
Male	10	5	50.0	83.3
Female	5	1	20.0	16.7
<u>Vehicle Type</u>				
Auto	1	0	0.0	0.0
Truck/Van	2	1	50.0	16.7
Off-Road	12	5	41.7	83.3
<u>Collision Type</u>				
Single-Vehicle	9	6	66.7	100.0
Multiple-Vehicle	6	0	0.0	0.0
TOTAL	15	6	40.0	100.0

* These numbers are slightly underestimated because about 18.1% of all injuries are recorded as unspecified.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 50.0% of these drivers were in crashes that involved alcohol, compared to 41.7% for off-road vehicle drivers.

16.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% 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 – 66.7% of these drivers, compared to 0.0% for drivers involved in multiple-vehicle crashes.

16.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three 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; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem. Nunavut's progress in meeting the STRID 2010 objective of a 40% reduction in the alcohol-crash problem by 2010 is also reported by comparing findings in 2007 with those from the 1996-2001 baseline period.

16.4.1 Deaths in alcohol-related crashes: 1995-2007. Due to the small number of crashes on public roadways involving principal vehicle types (e.g., five deaths in 2007) any trends would be unreliable, and therefore are not reported.

16.4.2 Fatally injured drivers: 1987-2007. Due to the small number of cases – e.g., only one fatally injured driver in 2007 – any trends would be unreliable, and therefore are not reported.

16.4.3 Drivers in serious injury crashes: Table 16-2 and Figure 16-1 show information on drivers involved in alcohol-related serious injury crashes. During the baseline period (1996-2001), an average of 40.0% of drivers in serious injury crashes were in an alcohol-involved crash. This compares to 40.0% in 2007, resulting in no change in the problem.

Table 16-3 and Figure 16-2 also show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 16.3 and in Table 16-2 and Figure 16-1 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 13-year period. Between 1995 and 1997 the percentage of all drivers in serious injury crashes that involved alcohol decreased from 50.0.0% to 0.0%. Since then, the incidence rose to 75.0% in 1998, decreased to 40.0% in 2000, rose to 42.9% in 2001, decreased to 20.0% in 2002, rose to 25.0% in 2004, dropped to 0.0% in 2005, rose to 33.3% in 2006, and remained at 33.3% in 2007.

As shown in Table 16-3, in the baseline period (1996-2001), an average of 50.0% of drivers in serious injury crashes were in an alcohol-involved crash. In 2007, the incidence of drivers in alcohol-involved crashes declined to 33.3%, a 33.4% decrease.

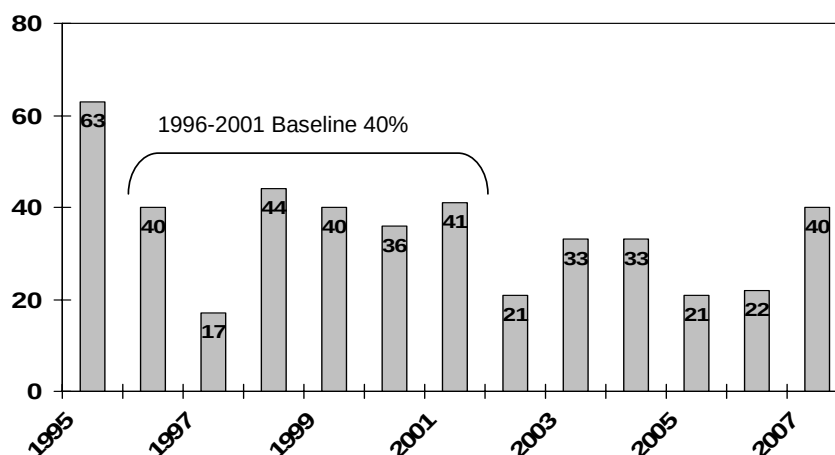
Table 16-2

Number and Percent of All Drivers in
Serious Injury Crashes* that Involved Alcohol:
Nunavut, 1995-2007

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	16	10	(62.5)
1996	10	4	(40.0)
1997	6	1	(16.7)
1998	18	8	(44.4)
1999	15	6	(40.0)
2000	22	8	(36.4)
2001	17	7	(41.2)
2002	14	3	(21.4)
2003	15	5	(33.3)
2004	15	5	(33.3)
2005	14	3	(21.4)
2006	18	4	(22.2)
2007	15	6	(40.0)
1996-2001 baseline	15	6	(40.0)

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

Figure 16-1
Percent of All Drivers Serious Injury Crashes that
Involved Alcohol*: Nunavut, 1995-2007



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

Table 16-3

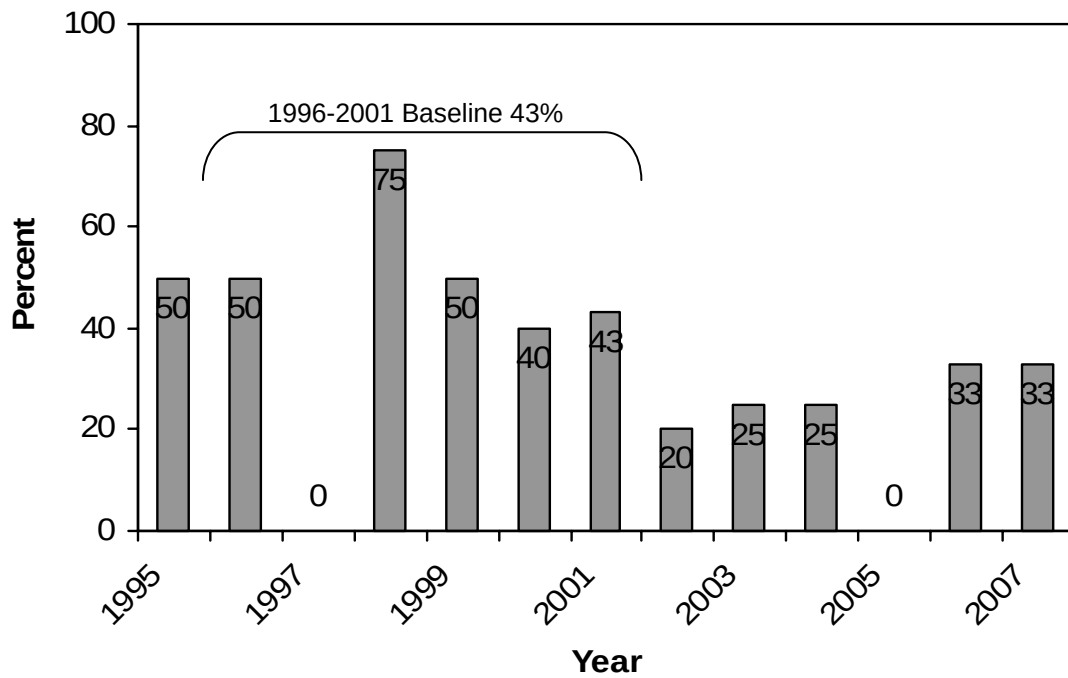
Number and Percent of All Drivers* in
Serious Injury Crashes** that Involved Alcohol:
Nunavut, 1995-2007

Year	Number of Drivers	Alcohol Related Number	Alcohol Related (Pct.)
1995	6	3	(50.0)
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)
1996-2001 baseline	4	2	(50.0)

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

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

Figure 16-2
Percent of All Drivers in Serious Injury Crashes that
Involved Alcohol: Nunavut, 1995-2007



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