CCMTA Road Safety Report Series

ALCOHOL-CRASH PROBLEM IN CANADA: 2004

Prepared For

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

and

Transport Canada

By

Traffic Injury Research Foundation of Canada
171 Nepean Street, Suite 200
Ottawa, Ontario

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Canadian Council of Motor Transport Administrators
2323 St. Laurent Blvd.
Ottawa, Ontario
K1G 4J8
Telephone: (613) 736-1003
Fax: (613) 736-1395
E-mail: ccmta-secretariat@ccmta.ca
Internet: www.ccmta.ca

CANADIAN COUNCIL OF
MOTOR TRANSPORT ADMINISTRATORS

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- The **Standing Committee on Drivers and Vehicles** is responsible for all matters relating to motor vehicle registration and control, light vehicle standards and inspections, and driver licensing and control.

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ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2004 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 2004 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.

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J. Hancock
Senior Vice President
Insurance Corp. of British Columbia

T. Smith
Chief Coroner
Office of the Chief Coroner
British Columbia

J. Espie
Executive Director
Office of Traffic Safety
Alberta Infrastructure and Transportation

G. Dowling, M.D.
Chief Medical Examiner
Alberta Attorney General

D. McNaughton
Traffic Accident Information System
Saskatchewan Government Insurance

K. Stewart
Chief Coroner
Saskatchewan Justice

M. Zyluk
Asst. Deputy Minister/
Registrar of Motor Vehicles
Manitoba Department of Highways and Government Services

T. Balachandra, M.D.
Chief Medical Examiner
Manitoba Justice

F. D'Onofrio
Assistant Deputy Minister
Safety and Regulation
Ontario Ministry of Transportation

B. McLellan, M.D.
Chief Coroner for Ontario
Ontario Ministry of the Solicitor General

L. Vezina
Chef de Service, études et des stratégies en sécurité routière
Société de l'assurance automobile du Québec

M. Pierre Morin
Le coroner en chef
Bureau du Coroner
Quebec

C. O'Donnell
Registrar of Motor Vehicles
Department of Public Safety
New Brunswick

D. Kelly
Chief Coroner
Department of Public Safety
New Brunswick

G. Keefe
Registrar of Motor Vehicles
Service Nova Scotia & Municipal Relations
Nova Scotia

M. Bowes, M.D.
Chief Medical Examiner
Department of the Attorney General
Nova Scotia

D. Norman
Registrar of Motor Vehicles
Department of Government Services and Lands
Newfoundland and Labrador

Dr. S. Avis
Chief Medical Examiner
Newfoundland and Labrador

G. Walsh
Director
Road Licensing and Safety Division
Dept. of Transportation
Northwest Territories

P. Kinney
Chief Coroner
Department of Justice
Northwest Territories

F. Jennex
Deputy Registrar
Yukon Department of Motor Vehicles

S. Hanley
Chief Coroner
Yukon Department of Justice

G. Beaton
Director, Highway Safety
Department of Transportation and Public Works
Prince Edward Island

R. Sellers, M.D.
Director of Laboratory Medicine
Queen Elizabeth Hospital
Prince Edward Island

D. Buchan
Director, Motor Vehicle Division
Nunavut

C. Trainor, M.D.
Chief Medical Examiner
Prince Edward Island

T. Neily
Chief Coroner
Nunavut

1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2004 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)* targets reductions in both alcohol-related fatalities and serious injuries. 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 2004 as well as changes/trends in the problem.

The report is divided into the following fourteen 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 2004 as well as trends in the problem.

In subsequent sections (**4.0 through 15.0**), descriptive data on alcohol involvement in fatal and serious injury crashes in each province and territory are summarized. Trends in the problem are also examined.

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 2004 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 2004, 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 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.

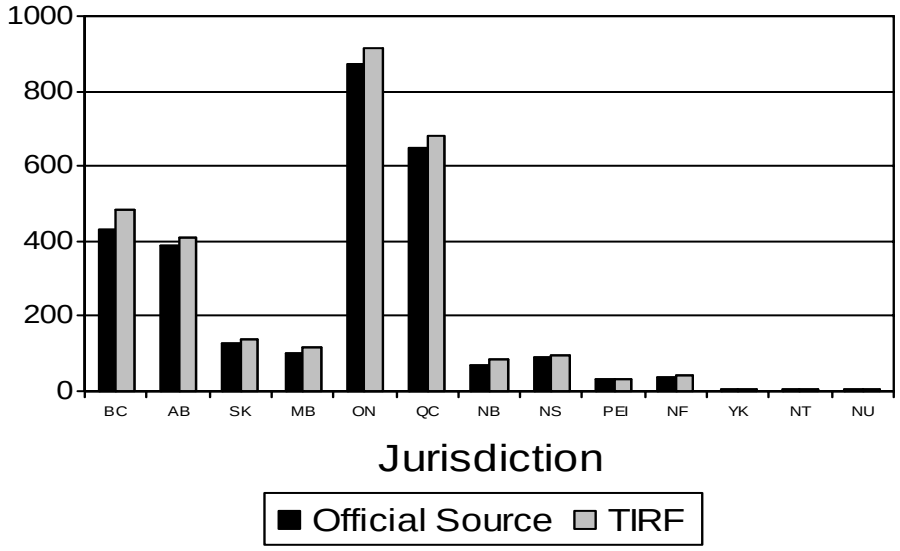
Police-reported data include characteristics of the victim (age and sex, position in the vehicle -- driver, passenger) and details of the crash (type of vehicle(s) and collision, time, date). Objective, toxicological data on alcohol use among victims are obtained from files in coroners' and medical examiners' 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 3,013 persons fatally injured in motor vehicle collisions in Canada during 2004. 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: 2004



	Official Source	TIRF
BC	430	485
AB	387	408
SK	126	137
MB	99	116
ON	872	914
QC	647	683
NB	71	86
NS	90	96
PEI	30	30
NF	37	42
YK	5	6
NT	3	4
NU	3	6
Total	2800	3013

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 2004. For most of the jurisdictions, the number of cases in the database is higher than that officially reported by transportation agencies.

- **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.

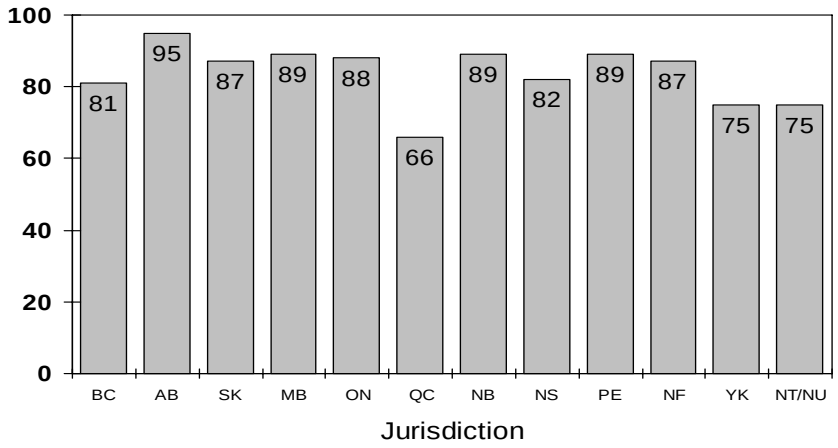
In Canada during 2004, 6 out of every 10 fatalities were operators of motor vehicles (62.1%); 23.7% were passengers; and 13.8% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern for traffic safety.

- **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 2004, fatally injured drivers were tested most frequently (82.5%), followed by pedestrians (59.6%) and passengers (25.8%). 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 (61.3% and 27.7%, 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 81.2%).

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. Most jurisdictions test

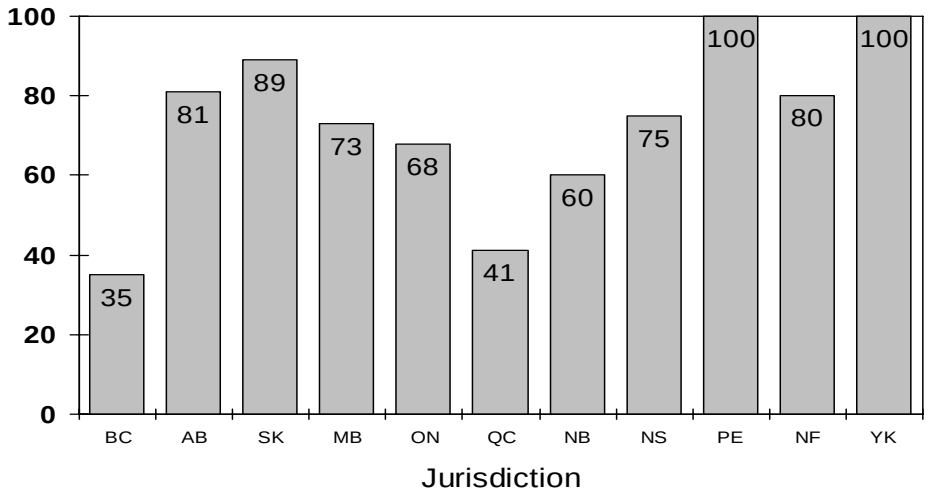
Figure 2-2
Percent of Fatally Injured Drivers
Tested for Alcohol: Canada, 2004



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 will 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 35.0% in British Columbia to 100% in Prince Edward Island and the Yukon.

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, 2004



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, investigating police officers do not record on the police report form whether the crash involved a serious injury nor, at the person level, the severity of the injury a person sustained in the crash. Accordingly, it is not possible to identify persons who sustain a serious injury or drivers involved in serious injury crashes in that province. For this reason, the Canada data presented in Section 3.4 do not include data from British Columbia. However, in the British Columbia section of the report (Section 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 Manitoba, the Yukon, and the Northwest Territories/Nunavut, 7.5%, 5.2% and 16.3% 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 (excluding British Columbia) during 2004, 14,305 persons were seriously injured in motor vehicle crashes; 18,865 drivers were involved in these crashes.

Table 2-1 shows the number of drivers for each province and territory. Quebec accounts for the largest number of the drivers involved in serious injury crashes (7,835 drivers or 41.5% of the "national" total); the Yukon accounts for the lowest number of drivers in such crashes, 21 drivers (or 0.1% of all drivers).

Table 2-1
Number and Percent of Drivers Involved in Serious Injury Crashes in Each Jurisdiction: Canada*, 2004

Jurisdiction	Number of Drivers	% of Total
Alberta	3,845	20.4
Saskatchewan	639	3.4
Manitoba	574	3.0
Ontario	4,797	25.4
Quebec	7,835	41.5
New Brunswick	444	2.4
Nova Scotia	365	1.9
Prince Edward Island	97	0.5
Newfoundland	217	1.2
Yukon Territory	21	0.1
NWT/Nunavut	31	0.2
TOTAL	18,865	100.0

* Total excludes British Columbia

- **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 (57.5%); over one-quarter were truck/van drivers (26.3%); 5.3% were off-road vehicle drivers (e.g., snowmobiles, dirt bikes); 5.3% were motorcycle riders, 3.3% were tractor-trailer drivers; and 1.0% 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 2004, it was possible to determine if alcohol was a factor in the crash in 91.6% 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 2004, 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 – 59.6% overall, which increases to 61.3% 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 15.0) 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 2004. 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 2004. 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, 290 people age 16-19 were killed in road crashes in Canada during 2004. And, in 269 of these cases (92.8%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 100 people age 16-19 died in alcohol-related crashes in Canada during 2004. The next column expresses this as a percentage – e.g., 37.2% 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 10.3% of all the people killed in alcohol-related crashes in Canada during 2004.

Table 3-1
Deaths* in Alcohol-Related Crashes: Canada, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	144	124	86.1	19	15.3	2.0
16-19	290	269	92.8	100	37.2	10.3
20-25	473	448	94.7	224	50.0	23.2
26-35	434	410	94.5	190	46.3	19.6
36-45	440	410	93.2	184	44.9	19.0
46-55	391	364	93.1	131	36.0	13.5
>55	841	745	88.6	119	16.0	12.3
Gender						
Male	2146	1976	92.1	776	39.3	80.2
Female	867	794	91.6	191	24.1	19.8
Type						
Driver/Operator	1872	1769	94.5	634	35.8	65.6
Passenger	713	648	90.9	208	32.1	21.5
Pedestrian	416	353	84.9	125	35.4	12.9
Unknown	12	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	1359	1279	94.1	437	34.2	45.2
Trucks/Vans	679	649	95.6	249	38.4	25.7
Motorcycles	199	184	92.5	47	25.5	4.9
Tractor Trailers	80	69	86.3	7	10.1	0.7
Other Hwy. Vehs.	9	7	77.8	1	14.3	0.1
Off-road Vehicles	254	229	90.2	101	44.1	10.4
(Pedestrians)	416	353	84.9	125	35.4	12.9
Unknown	17	0	0.0	0	0.0	0.0
TOTAL	3013	2770	91.9	967	34.9	100.0

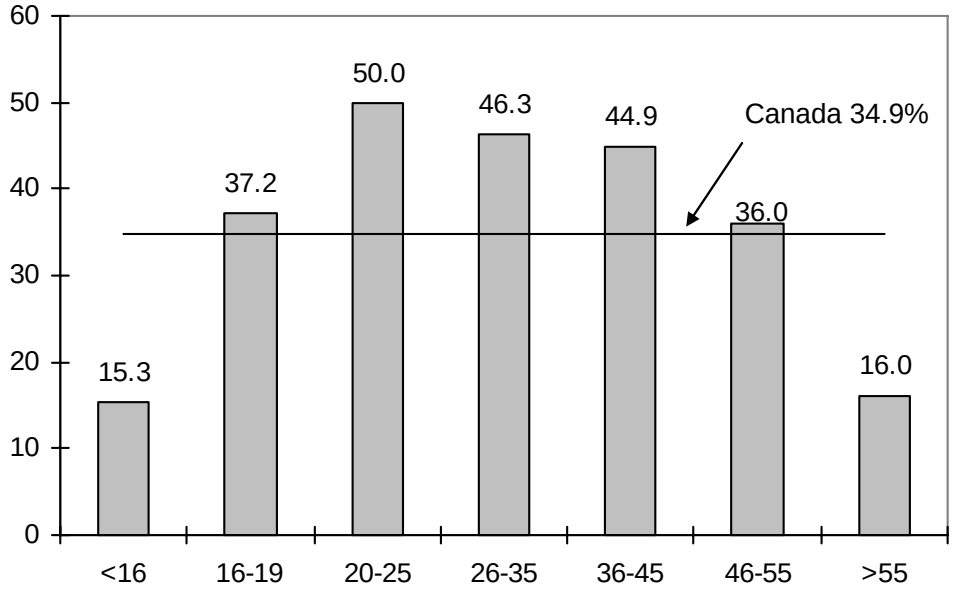
*persons dying within 12 months in collisions on and off public roadways

The totals at the bottom of the table provide a summary. As can be seen, 3,013 persons died in motor vehicle crashes in Canada during 2004. In 2,770 (91.9%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 967 (34.9%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (3,013 x .349) it can be estimated that *in Canada during 2004, 1,052 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), 23.2% were aged 20-25; 19.6% were aged 26-35; 19.0% were aged 36-45, 13.5% were aged 46-55, and 12.3% were over 55. The youngest (<16) group accounted for only 2.0% 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 (50.0% and 46.3% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 15.3% of persons under 16 and 16.0% 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, 2004



3.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.2% were males. The incidence of alcohol in crashes in which a male died (39.3%) was greater than the incidence of alcohol in crashes in which a female died (24.1%).

3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.6% were drivers/operators of a vehicle; 21.5% were passengers; and 12.9% were pedestrians.

Within each of these victim types, there are some differences in alcohol involvement. The highest incidence of alcohol involvement (35.8%) occurred in the crashes in which a driver died. Alcohol was involved in 35.4% of the crashes in which a pedestrian died and in 32.1% of the crashes in which a passenger died.

3.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost half (45.2%) were in an automobile; 25.7% were in a truck/van; 10.4% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 4.9% 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 (38.4% versus 34.2%). The incidence of alcohol involvement in which a person on a motorcycle vehicle died was 25.5%. Alcohol was involved in 44.1% 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 2004. 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 134 drivers killed during 2004; 116 of these fatally injured drivers (86.6%) were tested for alcohol. Of those who were tested, 63.8% showed no evidence of alcohol, 5.2% had BACs (blood alcohol concentrations) below 50 mg%, 4.3% had BACs from 50 to 80 mg%, 16.4% had BACs from 81 to 160 mg%, and 10.3% had BACs over 160 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers: Canada, 2004

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	2	2	100.0	50.0	50.0	0.0	0.0	0.0
16-19	134	116	86.6	63.8	5.2	4.3	16.4	10.3
20-25	282	250	88.7	55.6	3.6	2.8	15.2	22.8
26-35	284	246	86.6	53.7	6.9	1.6	12.2	25.6
36-45	287	250	87.1	58.8	4.0	0.8	8.8	27.6
46-55	240	205	85.4	72.7	3.9	2.0	4.9	16.6
>55	404	309	76.5	83.5	4.2	2.6	3.6	6.1
Gender								
Male	1290	1104	85.6	62.2	4.7	2.4	10.1	20.7
Female	343	274	79.9	77.7	4.4	1.5	6.9	9.5
Vehicle Type								
Automobile	929	765	82.3	66.3	4.6	2.6	9.3	17.3
Motorcycle	188	157	83.5	75.2	6.4	1.9	7.6	8.9
Tractor Trailer	63	52	82.5	94.2	3.8	0.0	1.9	0.0
Heavy Truck[1]	19	17	89.5	88.2	11.8	0.0	0.0	0.0
Van	119	106	89.1	72.6	3.8	2.8	4.7	16.0
Motorhome	2	2	100.0	50.0	0.0	0.0	0.0	50.0
Light Truck[2]	306	276	90.2	47.1	4.0	1.4	14.9	32.6
Other Truck[3]	3	1	33.3	100.0	0.0	0.0	0.0	0.0
Other Hwy. Vehicle[4]	4	2	50.0	100.0	0.0	0.0	0.0	0.0
Collision Type								
Single-Vehicle	707	614	86.8	46.3	5.0	2.3	15.0	31.4
Multiple-Vehicle	926	764	82.5	80.6	4.3	2.1	5.0	8.0
TOTAL	1633	1378	84.4	65.3	4.6	2.2	9.4	18.4

* 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.

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

The main findings are shown by the totals at the bottom of the table. As can be seen, there were 1,633 drivers fatally injured in traffic crashes in Canada during 2004. The overall rate of testing for alcohol in drivers was 84.4%, slightly higher than the rate in 2003 – 84.1%.

Among tested drivers in Canada:

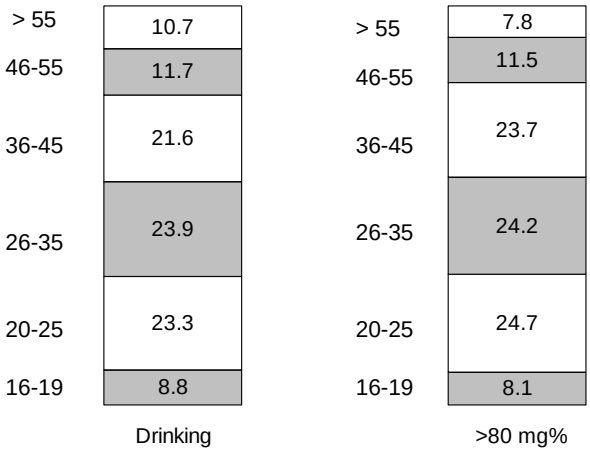
- 65.3% showed no evidence of alcohol – 34.6% had been drinking;
- 4.6% had BACs from 1-49 mg%;
- 2.2% had BACs from 50-80 mg%
- 9.4% had BACs from 81 to 160 mg%; and,
- 18.4% had BACs over 160 mg%.

Thus, 34.7% of fatally injured drivers in Canada had been drinking and most of these had illegal BACs – 80.3% of fatally injured drinking drivers had BACs >80 mg%.

***3.2.1 Age differences*.** Figures 3-2 and 3-3 summarize the data from Table 3-1 for the various age groups.

Figure 3-2 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 3-2
Percent of All Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Each Age Group: Canada, 2004



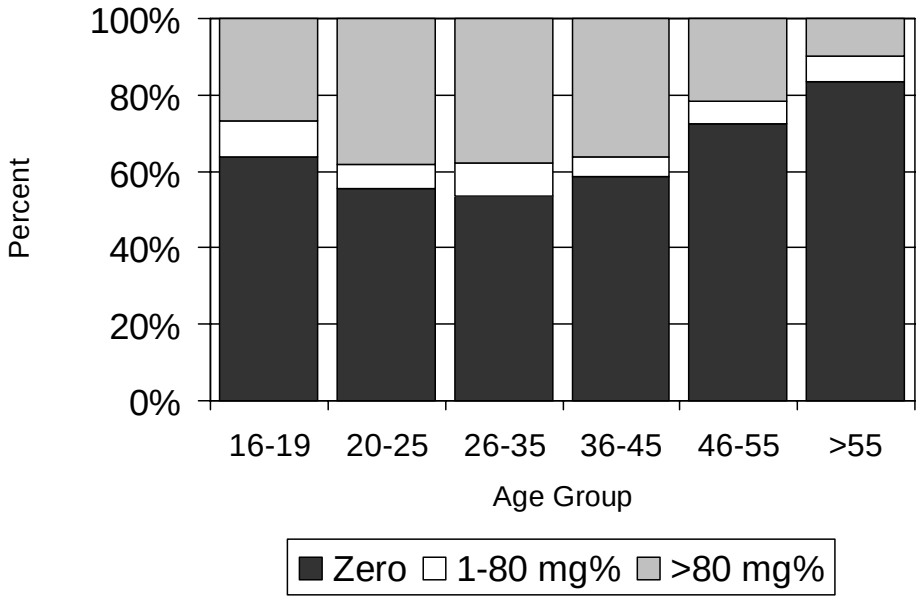
Of all the fatally injured drinking drivers, 23.9% were aged 26-35, 23.3% were aged 20-25, 21.6% were aged 36-45; 11.7% were aged 46-55; and 10.7% were over 55. Those aged 16-19 accounted for only 8.8% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 24.7% were aged 20-25; 24.2% were aged 26-35; 23.7% were aged 36-45; 11.5% were aged 46-55; and those aged 16-19 and over 55 each accounted for only 7.7% of fatally injured drivers who were over the legal limit.

Figure 3-3 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 26-35 and 20-25 were the most likely to have been drinking – 46.3% and 44.4% of drivers in these age groups had been drinking. By contrast, only 16.5% of tested drivers over age 55 had been drinking.

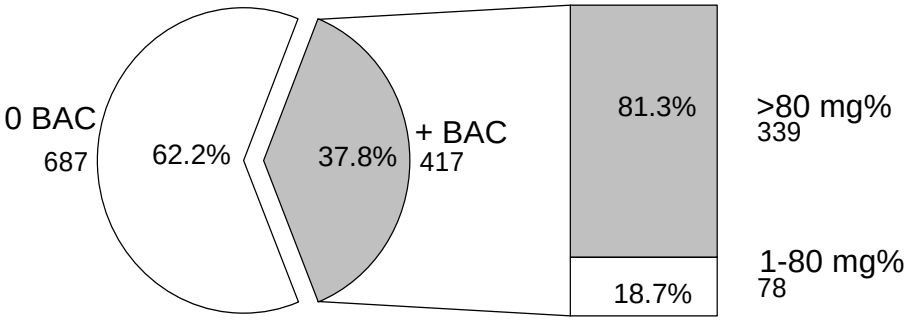
Figure 3-3
Percent of Drinking Drivers Within Each Age Group: Canada, 2004



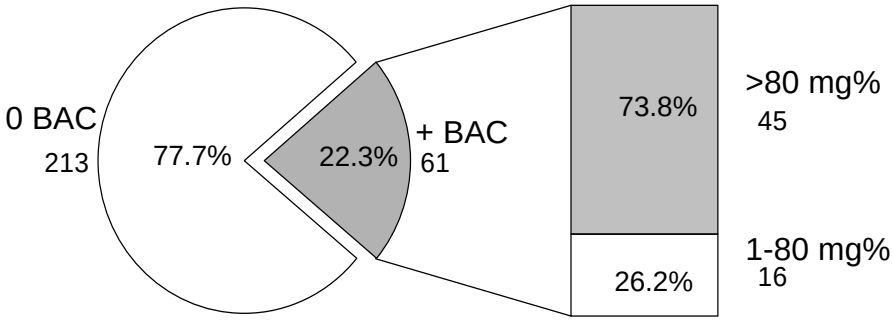
3.2.2 Gender differences. Males dominate the picture – they account for 87.2% of all the fatally injured drivers who had been drinking and 88.3% of all of the fatally injured drivers who were legally impaired. However, males dominate the picture largely because they account for 79.0% of the drivers who are killed (1,290 of the 1,633 fatalities are males).

Drinking drivers are also much more prevalent among fatally injured males than females. These results are shown in Figure 3-4. 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.

Figure 3-4
Alcohol Use Among Male and
Female Drivers: Canada, 2004



MALES



FEMALES

Fatally injured male drivers were considerably more likely to have been drinking than female drivers (37.8% and 22.3%, respectively). And, most of the male and female drivers who were drinking had BACs over the legal limit (81.3% and 73.8%, respectively).

3.2.3 Vehicle differences. Table 3-3 shows the number and percent of drinking and legally impaired drivers accounted for by drivers of different types of vehicles. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 54.0% were automobile drivers; 30.5% were light truck drivers; 8.2% were motorcycle riders; and 6.1% were van drivers.

Table 3-3

Number and Percent of Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Drivers* of Different Vehicle Types: Canada, 2004

Vehicle Type	Number of Drinking Drivers	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	258	54.0	203	52.9
Motorcycle	39	8.2	26	6.8
Tractor-Trailer	3	0.6	1	0.3
Heavy Truck[1]	2	0.4	0	0.0
Van	29	6.1	22	5.7
Light Truck[2]	146	30.5	131	34.1
Motorhome	1	0.2	1	0.3
TOTAL	478	100.0	384	100.0

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

[1] Trucks over 4500 kg.

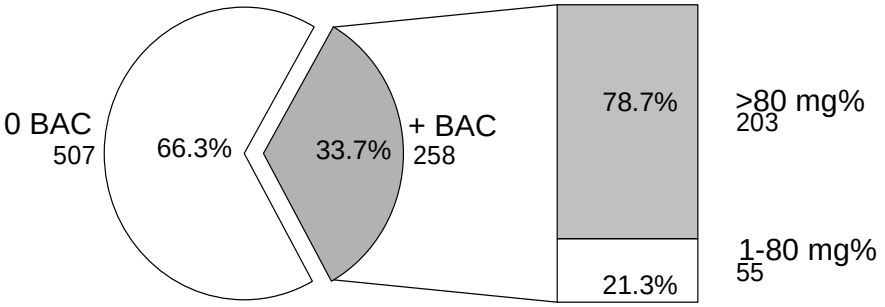
[2] e.g., pickup trucks.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 52.9% were automobile drivers; 34.1% were light truck drivers; 6.8% were motorcycle riders; and 5.7% were van drivers.

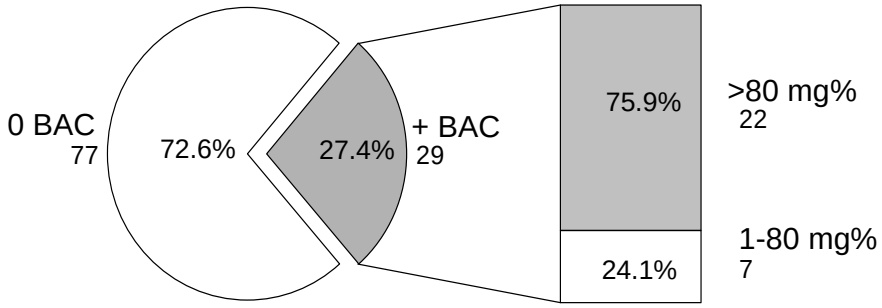
Figure 3-5a-c summarizes the results of alcohol tests for drivers fatally injured in 2004 according to the type of vehicle being operated: automobile drivers and drivers of vans (Figure 3-5a); motorcycle riders and drivers of light trucks (Figure 3-5b); and drivers of heavy trucks and tractor trailers (Figure 3-5c). 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.

Figure 3-5a
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2004



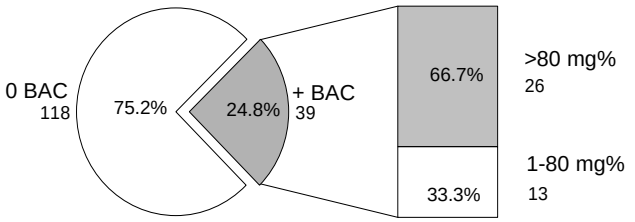
AUTOMOBILE DRIVERS



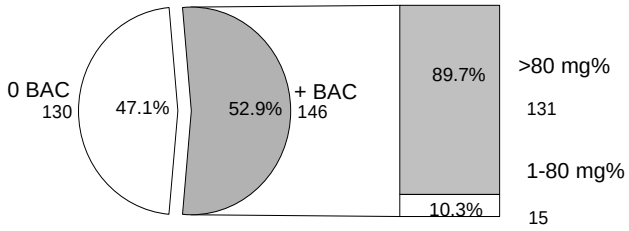
VAN DRIVERS

Among fatally injured automobile drivers, 33.7% had been drinking. Of those who were drinking, the vast majority (78.7%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 27.4% had been drinking and most (75.9%) of these had BACs over the legal limit. Among motorcycle riders, 24.8% had been drinking and 66.7% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 52.9% had been drinking and 89.7% of these had illegal BACs. Heavy truck and tractor-trailer drivers have

Figure 3-5b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2004

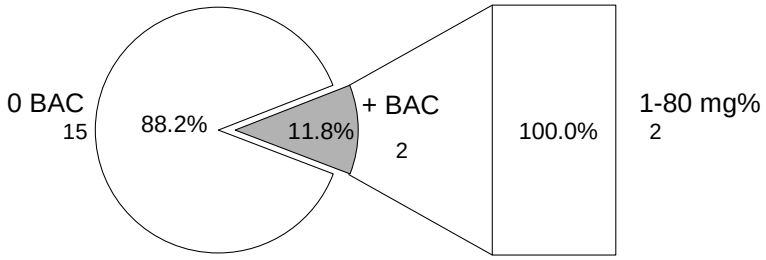


MOTORCYCLISTS

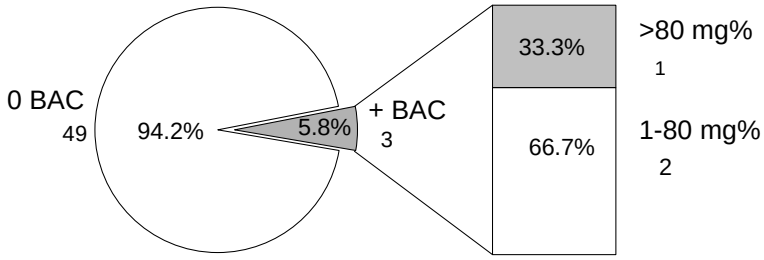


LIGHT TRUCK DRIVERS

Figure 3-5c
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2004



HEAVY TRUCK DRIVERS

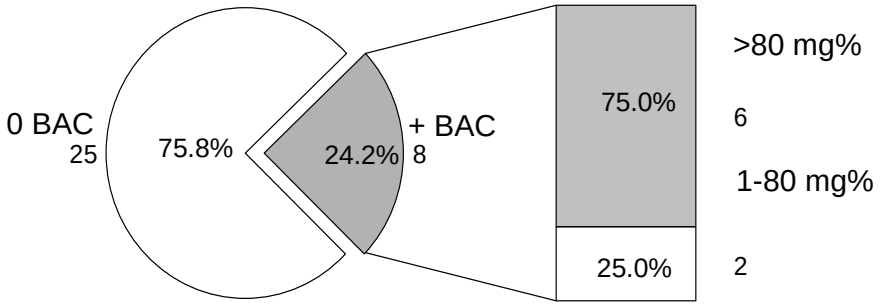


TRACTOR-TRAILER DRIVERS

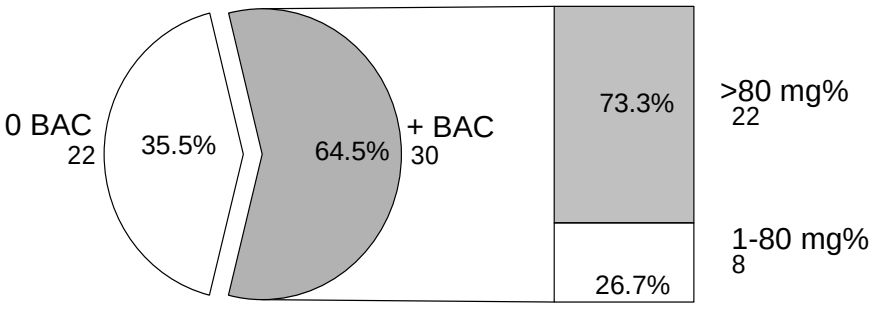
a much lower frequency of alcohol involvement. Indeed, only 11.8% of heavy truck drivers had been drinking. And, the lowest incidence of drinking is found among tractor-trailer drivers – only 5.9% had been drinking.

Figure 3-5d-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 24.2% of fatally injured bicyclists had been drinking at the time of the collision. However, among those bicyclists who had been drinking, 75.0% had BACs over the legal limit. Among snowmobile drivers, 64.5% had been drinking, and 73.3% had BACs over the legal limit. Operators of off-road vehicles were slightly less likely than snowmobile drivers to have been drinking – 61.1% of them had been drinking and 81.8% of these drinking drivers had BACs over the legal limit.

Figure 3-5d
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2004

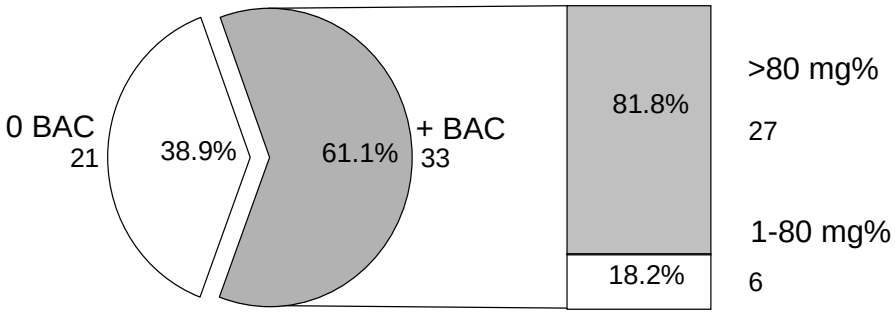


CYCLISTS



SNOWMOBILE OPERATORS

Figure 3-5e
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2004



OFF-ROAD VEHICLE OPERATORS

3.2.4 Collision differences. Less than half of all drivers killed (43.3%) were involved in single-vehicle collisions but these crashes accounted for two-thirds of the drivers who had been drinking or were legally impaired (69.0% and 74.2%, respectively).

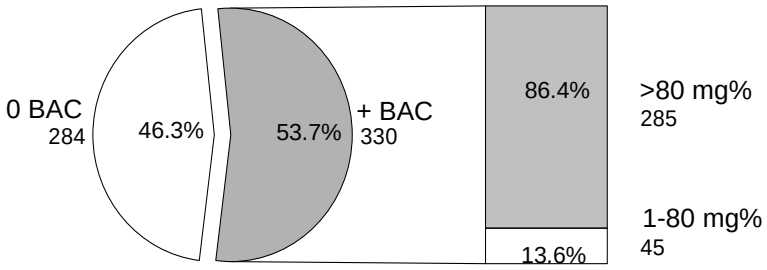
The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. As shown in Figure 3-6, over half of the drivers involved in single-vehicle crashes (53.7%) were positive for alcohol, compared to only 19.4% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (86.4%). By contrast, among drinking drivers in multiple-vehicle crashes, 66.9% had BACs over the legal limit.

3.3 ALCOHOL IN FATALLY INJURED PEDESTRIANS

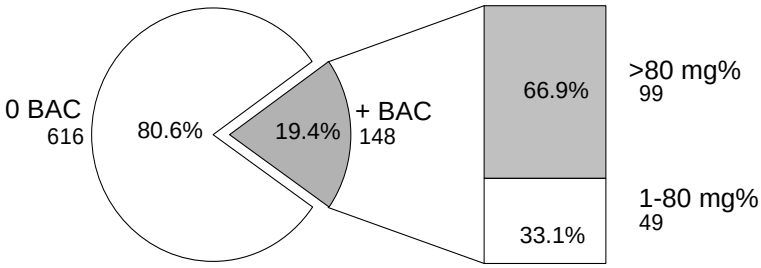
This section presents information on the presence of alcohol among pedestrians fatally injured as a result of being hit by a motor vehicle in Canada during 2004. Table 3-4 shows the information by age group, gender and jurisdiction.

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

Figure 3-6
Alcohol Use Among Drivers by
Type of Collision: Canada, 2004



SINGLE-VEHICLE CRASHES



MULTIPLE-VEHICLE CRASHES

those tested who were positive for alcohol in each of five blood alcohol concentration (BAC) levels.

During 2004, as shown by the totals at the bottom of the table, there were 416 pedestrians fatally injured; 248 (59.6%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- 58.9% showed no evidence of alcohol – 41.1% had been drinking;
- 2.8% had BACs below 50 mg%;
- 1.2% had BACs from 50 to 80 mg%;
- 7.7% had BACs from 81 to 160%; and
- 29.4% had BACs over 160 mg%.

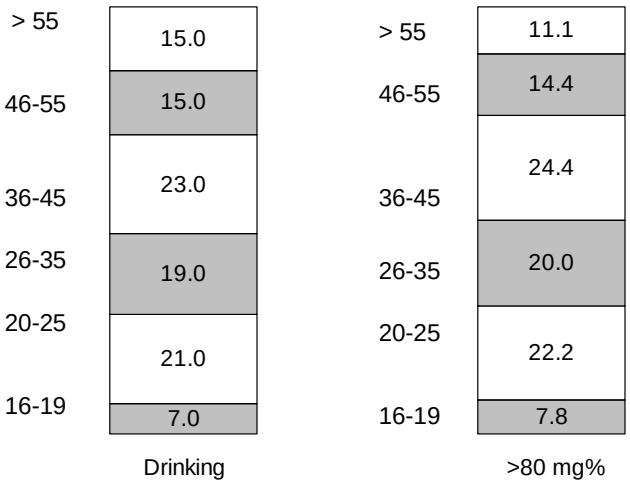
Thus, 41.1% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2004

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	26	9	34.6	77.8	0.0	0.0	0.0	22.2
16-19	21	11	52.4	36.4	0.0	0.0	27.3	36.4
20-25	38	34	89.5	38.2	0.0	2.9	11.8	47.1
26-35	45	32	71.1	40.6	3.1	0.0	3.1	53.1
36-45	47	36	76.6	36.1	0.0	2.8	11.1	50.0
46-55	40	31	77.5	51.6	6.5	0.0	16.1	25.8
>55	199	95	47.7	84.2	4.2	1.1	2.1	8.4
Gender								
Male	255	172	67.5	53.5	4.1	1.2	8.7	32.6
Female	161	76	47.2	71.1	0.0	1.3	5.3	22.4
Jurisdiction								
British Columbia	81	28	34.6	46.4	3.6	3.6	14.3	32.1
Alberta	54	44	81.5	38.6	0.0	0.0	4.5	56.8
Saskatchewan	18	16	88.9	56.3	0.0	0.0	25.0	18.8
Manitoba	22	16	72.7	43.8	0.0	0.0	0.0	56.3
Ontario	127	86	67.7	67.4	7.0	2.3	5.8	17.4
Quebec	80	33	41.3	75.8	0.0	0.0	3.0	21.2
New Brunswick	10	6	60.0	100.0	0.0	0.0	0.0	0.0
Nova Scotia	16	12	75.0	50.0	0.0	0.0	25.0	25.0
Prince Edward Island	2	2	100.0	100.0	0.0	0.0	0.0	0.0
Newfoundland	5	4	80.0	50.0	0.0	0.0	0.0	50.0
Yukon	1	1	100.0	100.0	0.0	0.0	0.0	0.0
TOTAL	416	248	59.6	58.9	2.8	1.2	7.7	29.4

***3.3.1 Age differences*.** Of all the fatally injured pedestrians, almost half (47.8%) were over 55 years of age (199 of the 416 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 3-7. 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, 23.0% were aged 36-45, 21.0% were aged 20-25; 19.0% were aged 26-35; 15.0% were aged 46-55 and over 55; and 7.0% were 16-19.

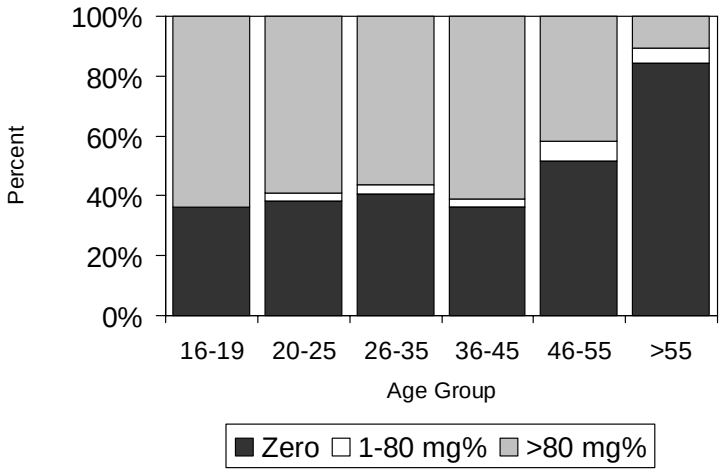
Figure 3-7
Percent of All Fatally Injured Drinking and Legally Impaired Pedestrians Accounted for by Each Age Group: Canada, 2004



Of all the fatally injured pedestrians with BACs over 80 mg%, 24.4% were aged 36-45; 22.2% were aged 20-25; 20.0% were aged 26-35; 14.4% were aged 46-55; 11.1% were over 55 and only 7.8% were aged 16-19.

Figure 3-8 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.

Figure 3-8
Percent of Drinking Pedestrians Within Each Age Group: Canada, 2004

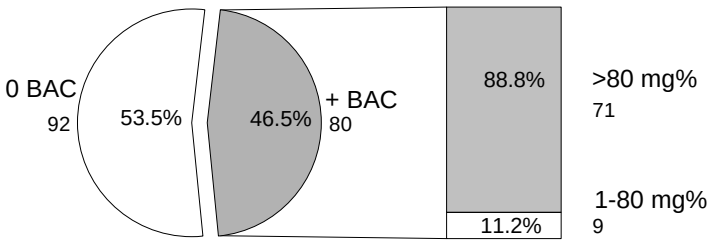


Within each of the age groups, fatally injured pedestrians age 36-45 were the most likely to have been drinking – 63.9% of pedestrians in this age group had been drinking. By contrast, only 15.8% of tested pedestrians over age 55 had been drinking. Fatally injured pedestrians aged 16-19 were either sober or over 80 mg%.

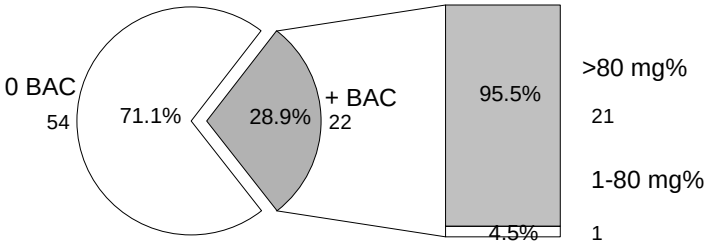
3.3.2 Gender differences. Males account for over three-quarters (78.4%) of all the fatally injured pedestrians who had been drinking, and 77.2% of all of the fatally injured pedestrians who had BACs over 80 mg%. However, males dominate the picture because they account for 61.3% of the pedestrians who are killed (255 of the 416 fatalities are male).

Figure 3-9 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 3-9
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2004



MALES



FEMALES

Among fatally injured male pedestrians, 46.5% had been drinking, and 88.8% of these pedestrians had BACs over 80 mg%. A slightly different picture emerges among fatally injured female pedestrians – only 28.9% had been drinking and 95.5% of these pedestrians had BACs over 80 mg%.

***3.3.3 Jurisdictional differences*.** Of all the fatally injured pedestrians, 30.5% were killed in Ontario, 19.5% were killed in British Columbia, and 19.2% were killed in Quebec. Ontario accounted for 27.5% and Alberta accounted for 26.5% of the fatally injured drinking pedestrians. Alberta accounted for 29.3% and Ontario accounted for 21.7% 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 are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in that province – e.g., only 34.6% of pedestrians fatally injured in British Columbia were tested, compared to 88.9% in Saskatchewan, 81.5% in Alberta, and 75.0% in Nova Scotia. In Prince Edward Island and the Yukon where there were only two and one pedestrian deaths, respectively, 100.0% were tested for alcohol.

As shown in Table 3-4 (see page 27), the highest incidence of alcohol in fatally injured pedestrians, however, was in Alberta – 61.4%. The lowest incidence of alcohol in fatally injured pedestrians was in New Brunswick, Prince Edward Island, and the Yukon where 0.0% had been drinking. Some caution should be taken interpreting the BAC results for Prince Edward Island, Newfoundland, and the Yukon because there were few fatally injured pedestrians – two, five, and one, respectively.

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 2004 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, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	279	31	11.1	1.0
16-19	1684	408	24.2	12.9
20-25	2779	686	24.7	21.7
26-35	3290	654	19.9	20.7
36-45	3268	582	17.8	18.4
46-55	2611	367	14.1	11.6
>55	2721	249	9.2	7.9
unknown	2233	187	8.4	5.9
Gender				
Male	12795	2478	19.4	78.3
Female	5587	613	11.0	19.4
unknown	483	73	15.1	2.3
Vehicle Type				
Auto	10844	1926	17.8	60.9
Truck/Van	4965	867	17.5	27.4
Motorcycle	1000	147	14.7	4.6
Tractor Trailer	625	58	9.3	1.8
Other Hwy. Vehicle	194	14	7.2	0.4
Off-Road	1040	126	12.1	4.0
Unknown	197	26	13.2	0.8
Collision Type				
Single-Vehicle	5718	2182	38.2	69.0
Multiple-Vehicle	13147	982	7.5	31.0
TOTAL	18865	3164	16.8	100.0

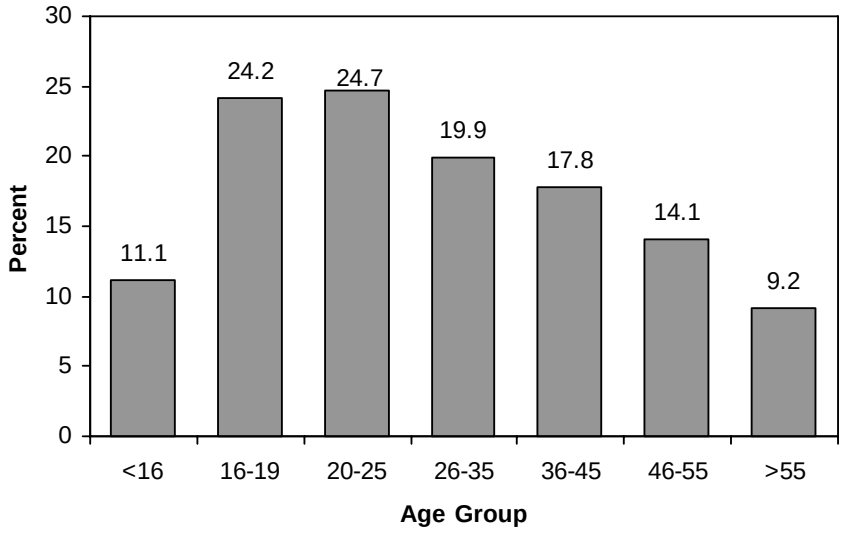
*Excludes British Columbia

As shown, by the totals at the bottom of the table, 18,865 drivers were involved in crashes in which someone was seriously injured. Among these, 16.8% were alcohol-related crashes.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.7% were aged 20-25; 20.7% were aged 26-35; and 18.4% were aged 36-45. Drivers under the age of 16 accounted for only 1.0% of all those involved in alcohol-related crashes.

Figure 3-10 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 age 20-25 (24.7%) and those age 16-19 (24.2%). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age group of drivers – those over age 55 (9.2%).

Figure 3-10
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2004



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 78.3% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (19.4% and 11.0%, respectively).

3.4.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.9% were automobile drivers; and 27.4% were truck/van drivers.

About one out of six of the serious injury crashes involving automobile drivers and truck/van drivers were alcohol related (17.8% and 17.5%, respectively) as were 14.7% of motorcycle riders. The lowest incidence of involvement in alcohol-related serious injury crashes was found among drivers of other highway vehicles (7.2%).

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.0% 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 – 38.2% of these drivers, compared to only 7.5% 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.

3.5.1 Deaths in alcohol-related crashes: 1995-2004. Table 3-6 and Figure 3-11 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. These results differ slightly from those presented in Section 3.1 for two reasons. First,

Table 3-6

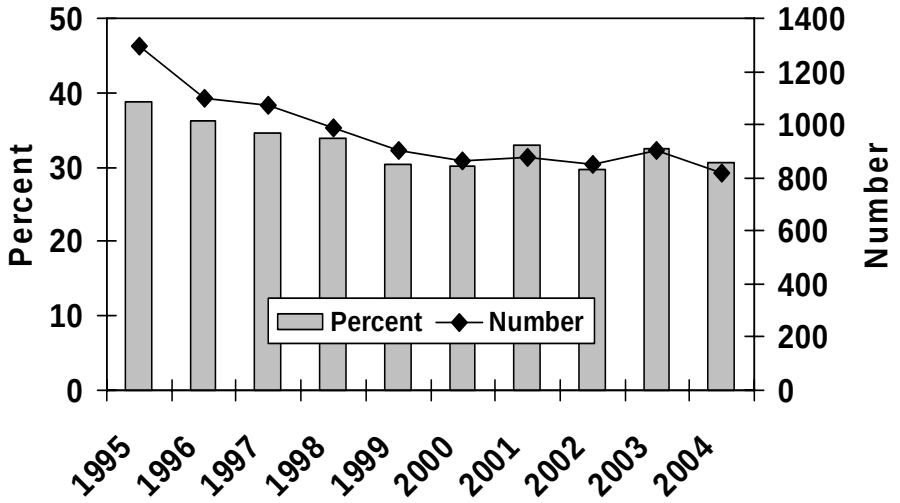
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Canada, 1995-2004

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

* 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 3-11
Number and Percent of Deaths Involving
a Drinking Driver: Canada, 1995-2004



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 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, and fell to a low of 815 in 2004. 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, and decreased again to 30.5% in 2004.

3.5.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987 to 2004 are shown in Table 3-7. Trends are illustrated in Figure 3-12 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, and fell to a low of 384 in 2004. 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, and declined again to 27.9% in 2004.

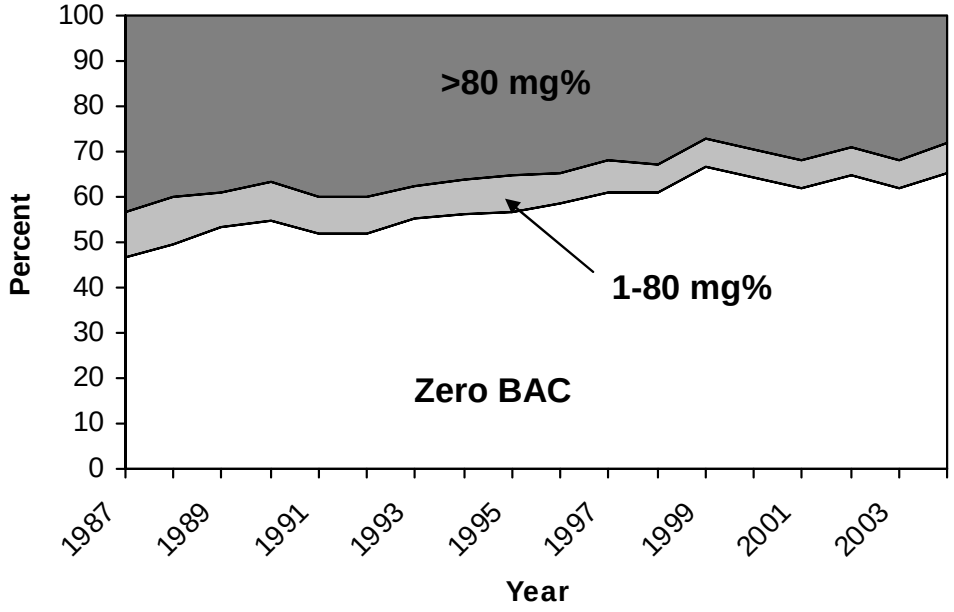
Table 3-7

Alcohol Use Among Fatally Injured Drivers:
Canada, 1987-2004

				Drivers Grouped by BAC (mg%)					
	Number of	Number	Percent	Zero BAC		1-80 BAC		>80 BAC	
YEAR	Drivers	Tested	Tested	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

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

Figure 3-12
Trends in Alcohol Use Among Driver Fatalities: Canada, 1987-2004



By contrast, the number of fatally injured drivers with zero BAC has fluctuated over this 18-year period, from a low of 807 in 1987 to a high of 1,009 in 1999. In 2004, there were 900 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, and increased to 65.3% in 2004.

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, and rose to 94 in 2004. The percent of fatally injured drivers with BACs between 1 and 80 mg% also dropped, from a high of 10.4% in 1988 to its lowest level (5.8%) in 2001, before rising in 2004 (6.8%).

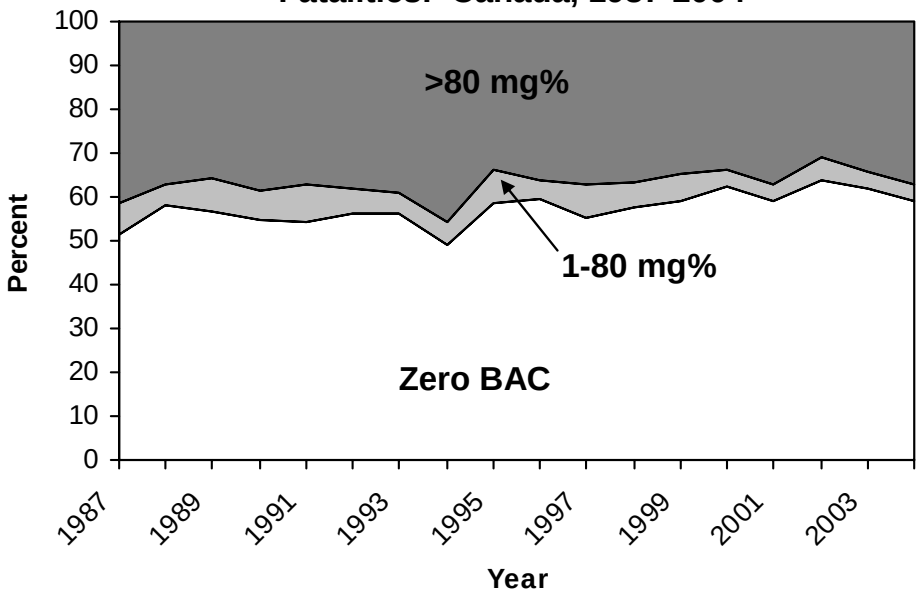
3.5.3 Fatally injured pedestrians: 1987-2004. Data on alcohol use among fatally injured pedestrians over the 18-year period from 1987 to 2004 are shown in Table 3-8. Trends are illustrated in Figure 3-13 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of 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 3-8

Alcohol Use Among Fatally Injured Pedestrians:
Canada, 1987-2004

				Pedestrians Grouped by BAC (mg%)					
	Number of	Number	Percent	Zero BAC		1-80 BAC		>80 BAC	
YEAR	Pedestrians	Tested	Tested	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

Figure 3-13
Trends in Alcohol Use Among Pedestrian Fatalities: Canada, 1987-2004



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, and rose to 92 in 2004. 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%), and rose to 37.1% in 2004.

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, and decreased again to 146 in 2004. The percent of fatally injured pedestrians with zero BAC has ranged from about 50% to 60% over this 18-year period – 51.4% of fatally injured pedestrians showed no evidence of alcohol in 1987, compared to 58.9% in 2004.

The number of fatally injured pedestrians with BACs between 1-80 mg% has fluctuated over this 18-year period with 30 in 1987 and 10 in 2004. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 7.2% in 1987 and 4.0% in 2004.

3.5.4 Drivers in serious injury crashes: 1995-2004. Table 3-9 and Figure 3-14 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 4,002 to 2,939. This number increased slightly in 2004 to 3,012. The percentage of drivers in serious injury crashes that involved alcohol dropped from 20.9% to 18.7% between 1995 to 1998. The percentage rose slightly to 18.9% in 1999, declined to 16.1% in 2003, and rose to 17.1% in 2004.

Table 3-9

Number and Percent of All Drivers[1] in Serious Injury Crashes that Involved Alcohol[2]: Canada[3], 1995-2004

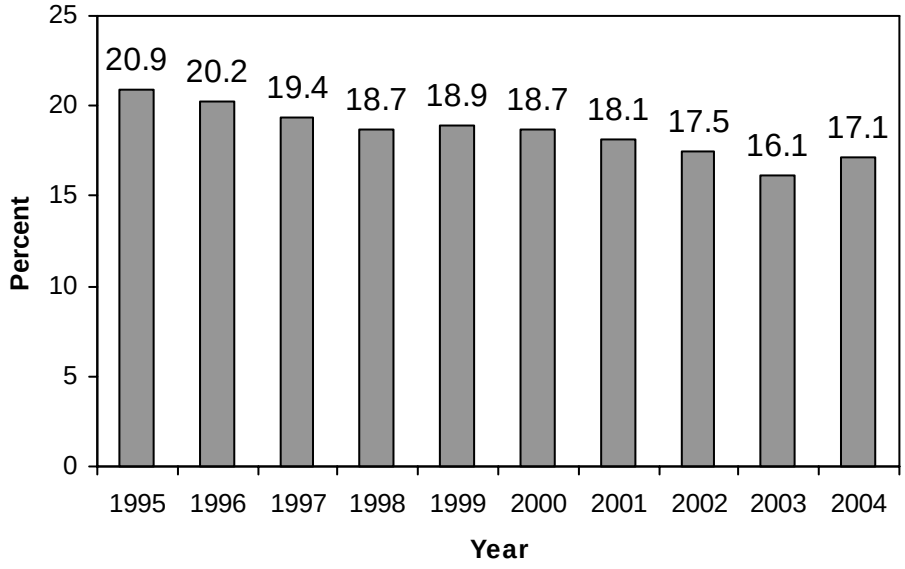
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	19132	4002	(20.9)
1996	18584	3749	(20.2)
1997	17931	3478	(19.4)
1998	18113	3393	(18.7)
1999	17584	3324	(18.9)
2000	17213	3211	(18.7)
2001	17432	3157	(18.1)
2002	18005	3152	(17.5)
2003	18226	2939	(16.1)
2004	17628	3012	(17.1)

[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 3-14
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Canada, 1995-2004



4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and injury motor vehicle collisions in British Columbia during 2004. 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 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 2004. 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, 35 people age 16-19 were killed in road crashes in British Columbia during 2004. And, in 33 of these cases (94.3%) 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, 15 people age 16-19 died in alcohol-related crashes in British Columbia during 2004. The next column expresses this as a percentage – e.g., 45.5% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 9.2% of all the people killed in alcohol-related crashes in British Columbia during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 485 persons died in motor vehicle crashes in British Columbia during 2004. In 454 (93.6%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 163 (35.9%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (485 x .359) it can be estimated that *in British Columbia during 2004, 174 persons died in alcohol-related crashes*.

Table 4-1
Deaths* in Alcohol-Related Crashes: British Columbia, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	18	16	88.9	0	0.0	0.0
16-19	35	33	94.3	15	45.5	9.2
20-25	65	62	95.4	33	53.2	20.2
26-35	81	80	98.8	34	42.5	20.9
36-45	68	66	97.1	35	53.0	21.5
46-55	69	61	88.4	23	37.7	14.1
>55	149	136	91.3	23	16.9	14.1
Gender						
Male	347	322	92.8	129	40.1	79.1
Female	138	132	95.7	34	25.8	20.9
Type						
Driver/Operator	306	288	94.1	109	37.8	66.9
Passenger	97	94	96.9	32	34.0	19.6
Pedestrian	81	72	88.9	22	30.6	13.5
Unknown	1	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	186	180	96.8	68	37.8	41.7
Trucks/Vans	129	124	96.1	51	41.1	31.3
Motorcycles	45	42	93.3	10	23.8	6.1
Other Hwy. Vehs.	20	19	95.0	5	26.3	3.1
Offroad Vehicles	22	17	77.3	7	41.2	4.3
(Pedestrians)	81	72	88.9	22	30.6	13.5
Unknown	2	0	0.0	0	0.0	0.0
TOTAL	485	454	93.6	163	35.9	100.0

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

4.1.1 Victim age. Of all the people who died in alcohol-related crashes, 21.5% (see last column) were aged 36-45. Those aged 26-35 accounted for 20.9% and those aged 20-25 accounted for 20.2% of the deaths.

Within each of the age groups, the highest incidence of alcohol involvement (53.2%) occurred in the crashes in which persons aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – none of the persons under age 16 and 16.9% of the fatalities over 55 years of age died in crashes involving alcohol.

4.1.2 Gender. Of all the people who died in alcohol-related crashes, 79.1% were males. The incidence of alcohol in crashes in which a male died (40.1%) was greater than the incidence of alcohol in crashes in which a female died (25.8%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.9% were drivers/operators of a vehicle; 19.6% were passengers; and 13.8% were pedestrians.

Within each of 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 34.0% of the crashes in which a passenger died and 30.6% of those in which a pedestrian died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 41.7% were in an automobile; and 31.3% were in a truck/van. 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 a motorcyclist died (41.1% compared to 37.8% and 23.8%, respectively).

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

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 2004. 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, 2004

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	15	14	93.3	6	42.9	6.7	3	21.4	4.5
20-25	47	40	85.1	20	50.0	22.5	17	42.5	25.4
26-35	61	52	85.2	26	50.0	29.2	21	40.4	31.3
36-45	44	38	86.4	17	44.7	19.1	13	34.2	19.4
46-55	42	33	78.6	10	30.3	11.2	7	21.2	10.4
>55	74	58	78.4	10	17.2	11.2	6	10.3	9.0
Gender									
Male	230	193	83.9	77	39.9	86.5	59	30.6	88.1
Female	53	42	79.2	12	28.6	13.5	8	19.0	11.9
Vehicle Type									
Automobile	136	110	80.9	41	37.3	46.1	31	28.2	46.3
Truck/Van	88	77	87.5	39	50.6	43.8	30	39.0	44.8
Motorcycle	43	36	83.7	8	22.2	9.0	6	16.7	9.0
Tractor Trailer	16	12	75.0	1	8.3	1.1	0	0.0	0.0
Collision Type									
Single-Vehicle	132	113	85.6	61	54.0	68.5	51	45.1	76.1
Multiple-Vehicle	151	122	80.8	28	23.0	31.5	16	13.1	23.9
TOTAL	283	235	83.0	89	37.9	100.0	67	28.5	100.0

To illustrate, among 16-19 year olds there were 15 drivers killed during 2004; 14 of these fatally injured drivers (93.3%) were tested for alcohol. Of those who were tested, six (42.9%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 6.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the 14 (21.4%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that three 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 4.5% 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 an average testing rate in 2004, with 83.0% of fatally injured drivers being tested for alcohol use.

In British Columbia, 37.9% had been drinking and most of these had illegal BACs – 75.3% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 6.4% had BACs from 1-49 mg%;
- 3.0% had BACs from 50-80 mg%
- 6.8% had BACs from 81 to 160 mg%; and,
- 21.7% had BACs over 160 mg%.

***4.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 29.2% were aged 26-35; 22.5% were aged 20-25; 19.1% were aged 36-45; 11.2% were aged 46-55 and over age 55; and 6.7% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), drivers aged 26-35 accounted for 31.3%; 25.4% were aged 20-25; 19.4% were aged 36-45; 10.4% were aged 46-55; 9.0% were over age 55; and 4.5% were aged 16-19.

Within each of the age groups, fatally injured drivers age 20-25 and age 26-35 were the most likely to have been drinking (50.0% each). By contrast, only 17.2% of tested drivers over age 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 86.5% of all the fatally injured drivers who had been drinking, and 88.1% 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 (230 of the 283 fatalities are males). If one examines the frequency of alcohol use among males compared to females, a similar picture emerges. Fatally injured male drivers were more likely to have been drinking than female drivers (39.9% and 28.6%, respectively). And, 76.6% of the male and 66.7% 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), 46.1% were automobile drivers; 43.8% were truck/van drivers; 9.0% were motorcyclists and 1.1% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 46.3% were automobile drivers; 44.8% were truck/van drivers; and 9.0% were motorcyclists.

Within each of the vehicle types, 50.6% of fatally injured truck/van drivers, 37.3% of automobile drivers; 22.2% of motorcyclists; and 8.3% of tractor trailer drivers were found to have been drinking.

4.2.4 Collision differences. Less than one-half of the drivers killed (132 of the 283) were involved in single-vehicle collisions but these crashes accounted for over two out of three of the drivers who had been drinking or were legally impaired (68.5% and 76.1%, respectively).

Over half of the drivers involved in single-vehicle crashes (54.0%) were positive for alcohol, compared to only 23.0% of those involved in multiple-vehicle collisions.

4.3 DRIVERS INVOLVED IN ALCOHOL-RELATED INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was injured in 2004 in British Columbia. This includes all injury crashes not just serious ones because information on injury severity in a crash is not recorded by the police in British Columbia. It also includes only injury collisions attended by the police.

A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an

alcohol-related injury crash if the crash in which someone was injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN 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 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 injury crashes in any row as a percent of all drivers involved in alcohol-related injury crashes.

Table 4-3
Drivers in Alcohol-Related Injury Crashes:
British Columbia, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	248	20	8.1	0.4
16-19	3322	629	18.9	13.0
20-25	5046	1029	20.4	21.2
26-35	6207	1002	16.1	20.7
36-45	6756	932	13.8	19.2
46-55	5410	640	11.8	13.2
>55	5587	418	7.5	8.6
unknown	933	177	19.0	3.7
Gender				
Male	20945	3519	16.8	72.6
Female	11661	1152	9.9	23.8
unknown	903	176	19.5	3.6
Vehicle Type				
Auto	22100	3143	14.2	64.8
Truck/Van	8306	1322	15.9	27.3
Motorcycle	949	147	15.5	3.0
Tractor Trailer	679	98	14.4	2.0
Other Hwy. Vehicle	181	20	11.0	0.4
Off-Road	1085	92	8.5	1.9
Unknown	209	25	12.0	0.5
Collision Type				
Single-Vehicle	7260	2723	37.5	56.2
Multiple-Vehicle	26249	2124	8.1	43.8
TOTAL	33509	4847	14.5	100.0

As shown, by the totals at the bottom of the table, 33,509 drivers were involved in crashes in which someone was injured, and among these 14.5% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related injury crashes, 21.2% were aged 20-25; 20.7% were aged 26-35; and 19.2% were aged 36-45. Drivers under 16 accounted for only 0.4% of those involved in alcohol-related injury crashes.

Within each of the age groups, one out of five drivers age 20-25 and 16-19 were involved in alcohol-related injury crashes (20.4% and 18.9%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age group of drivers – those aged over 55 (7.5%).

4.3.2 Driver gender. Of all the drivers involved in alcohol-related injury crashes, 72.6% were males. The incidence of involvement in alcohol-related injury crashes was also greater for males than for females (16.8% and 9.9%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related injury crashes, 64.8% were automobile drivers and 27.3% were truck/van drivers.

The highest incidence of involvement in alcohol-related injury crashes was found for truck/van drivers – 15.9% of these drivers were in crashes that involved alcohol, compared to 15.5% for motorcyclists; 14.4% for tractor-trailer drivers and 14.2% for automobile drivers.

4.3.4 Type of collision. Of all the drivers involved in alcohol-related injury crashes, 56.2% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related injury crashes was also found among drivers in single-vehicle crashes – 37.5% of these drivers, compared to only 8.1% 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 injury crashes that involved alcohol. This section examines changes in these three indicators of the problem.

4.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 4-4 and Figure 4-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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

Table 4-4

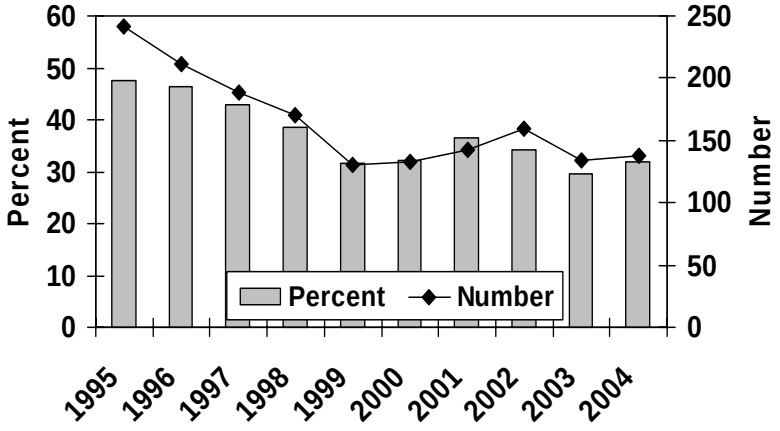
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: British Columbia, 1995-2004

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

* 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 4-1
Number and Percent of Deaths Involving a Drinking Driver: British Columbia, 1995-2004



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 130 between 1995 and 1999, rose to 160 in 2002, dropped to 134 in 2003 before rising again to 138 in 2004. The percentage of alcohol-related fatalities 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%), and rose again in 2004 (31.9%).

4.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 4-5. Trends are illustrated in Figure 4-2 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 differ slightly from those shown in Section 4.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

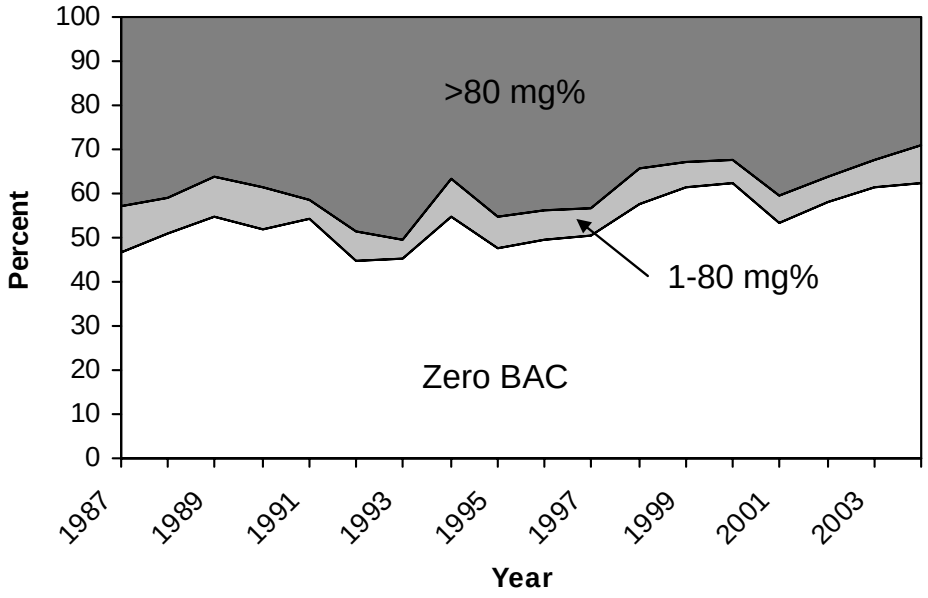
Table 4-5

Alcohol Use Among Fatally Injured Drivers:
British Columbia, 1987-2004

				Drivers Grouped by BAC (mg%)					
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Zero	(% 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

* dying in less than six hours.

Figure 4-2
Trends in Alcohol Use Among Driver Fatalities: British Columbia, 1987-2004



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%), and dropped to a low of 29.2% in 2004. The percent of fatally injured drivers with zero BAC decreased from 1989 (55.0%) to 1992 (44.8%), rose to its highest level in 2000 (62.4%), fell to 53.5% in 2001, and rose in 2004 (62.2%). 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 point in 1991 (4.0%), increased to 7.8% in 1998, decreased to 5.4% in 2000, rose to 5.9% in 2001, declined slightly to 5.8% in 2002, and rose again to 8.6% in 2004.

4.4.3 Drivers in injury crashes: 1995-2004. Table 4-6 and Figure 4-3 show information on drivers involved in alcohol-related injury crashes. These results differ slightly from those in Section 4.3 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 ten-year period. The percentage of drivers in injury crashes that involved alcohol decreased slightly from 12.7% in 1995 to 12.6% in 1996, rose to 14.9% in 1999, decreased to 13.1% in 2001, and rose to 14.7% in 2004.

Table 4-6

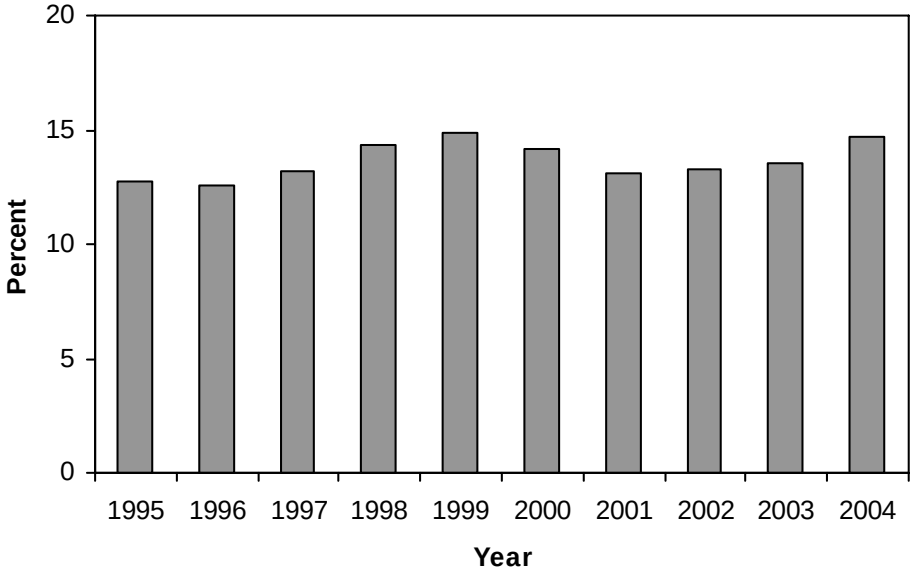
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: British Columbia, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(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)

* 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 4-3
Percent of All Drivers in Injury Crashes that Involved Alcohol: British Columbia, 1995-2004



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 2004. 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 2004. 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, 36 people age 16-19 were killed in motor vehicle crashes in Alberta during 2004. And, in 33 of these cases (91.7%) 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, 10 people age 16-19 died in alcohol-related crashes in Alberta during 2004. The next column expresses this as a percentage – e.g., 30.3% 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 6.4% of all the people killed in alcohol-related crashes in Alberta during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 408 persons died in motor vehicle crashes in Alberta during 2004. In 382 (93.6%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 156 (40.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (408 x .408) it can be estimated that *in Alberta during 2004, 166 persons died in alcohol-related crashes*.

Table 5-1
Deaths* in Alcohol-Related Crashes: Alberta, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	25	21	84.0	6	28.6	3.8
16-19	36	33	91.7	10	30.3	6.4
20-25	82	77	93.9	41	53.2	26.3
26-35	56	55	98.2	32	58.2	20.5
36-45	69	67	97.1	32	47.8	20.5
46-55	57	52	91.2	22	42.3	14.1
>55	83	77	92.8	13	16.9	8.3
Gender						
Male	292	274	93.8	125	45.6	80.1
Female	116	108	93.1	31	28.7	19.9
Type						
Driver/Operator	244	235	96.3	90	38.3	57.7
Passenger	110	99	90.0	36	36.4	23.1
Pedestrian	54	48	88.9	30	62.5	19.2
Vehicle Occupied						
Automobiles	142	134	94.4	55	41.0	35.3
Trucks/Vans	155	148	95.5	53	35.8	34.0
Motorcycles	24	24	100.0	8	33.3	5.1
Other Hwy. Vehs.	13	10	76.9	1	10.0	0.6
Offroad Vehicles	20	18	90.0	9	50.0	5.8
(Pedestrians)	54	48	88.9	30	62.5	19.2
TOTAL	408	382	93.6	156	40.8	100.0

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

5.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.3% (see last column) were aged 20-25; 20.5% were aged 26-35 and 36-45, respectively, and 14.1% were 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (58.2%) occurred in the crashes in which a person aged 26-35 died. The lowest incidence of alcohol involvement

was found among the youngest and oldest fatalities – only 28.6% of persons under 16 and 16.9% of the fatalities over 55 years of age died in crashes involving alcohol.

5.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.1% were males. The incidence of alcohol in crashes in which a male died (45.6%) was greater than the incidence of alcohol in crashes in which a female died (28.7%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 57.7% were drivers/operators of a vehicle; 23.1% were passengers; and 19.2% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (62.5%) occurred in the crashes in which a pedestrian died; 38.3% of those in which a driver died; and 36.4% of crashes in which a passenger died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over one-third (35.3%) were in a truck/van; 34.0% were in an automobile.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant died (41.0% versus 35.8%). Alcohol was involved in 33.3% of the crashes in which a motorcyclist died and 50% of the crashes in which a person on an off-road vehicle died.

5.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Alberta during 2004. 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, 2004

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									
<20	20	20	100.0	5	25.0	7.0	3	15.0	4.9
20-25	45	43	95.6	19	44.2	26.8	17	39.5	27.9
26-35	33	33	100.0	15	45.5	21.1	13	39.4	21.3
36-45	46	43	93.5	17	39.5	23.9	16	37.2	26.2
46-55	36	35	97.2	10	28.6	14.1	8	22.9	13.1
>55	45	41	91.1	5	12.2	7.0	4	9.8	6.6
Gender									
Male	171	164	95.9	63	38.4	88.7	55	33.5	90.2
Female	54	51	94.4	8	15.7	11.3	6	11.8	9.8
Vehicle Type									
Automobile	94	90	95.7	28	31.1	39.4	23	25.6	37.7
Truck/Van	98	95	96.9	34	35.8	47.9	32	33.7	52.5
Motorcycle	22	22	100.0	8	36.4	11.3	5	22.7	8.2
Tractor Trailer	10	7	70.0	1	14.3	1.4	1	14.3	1.6
Other Vehicle	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	88	85	96.6	43	50.6	60.6	39	45.9	63.9
Multiple-Vehicle	137	130	94.9	28	21.5	39.4	22	16.9	36.1
TOTAL	225	215	95.6	71	33.0	100.0	61	28.4	100.0

To illustrate, among those under 20 there were 20 drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, 5 (25.0%) were positive for alcohol. This means that fatally injured drinking drivers under 20 accounted for 7.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the 20 (15.0%) fatally injured drivers under 20 who were tested for alcohol had BACs in excess of 80 mg%. This means three 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 accounted for 4.9% of all the drivers with BACs over the legal limit. The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2004, with 95.6% of fatally injured drivers being tested for alcohol use.
In Alberta, 33.0% had been drinking and most of these had illegal BACs – 85.9% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 2.8% had BACs from 1-49 mg%;
- 1.9% had BACs from 50-80 mg%
- 7.4% had BACs from 81 to 160 mg%; and,
- 20.9% had BACs over 160 mg%.

***5.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 26.8% were aged 20-25; 23.9% were aged 36-45; 21.1% were aged 26-35; and 14.1% were aged 46-55. Those aged under 20 and over 55 accounted for only 7.0% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 27.9% were aged 20-25; 26.2% were aged 36-45; 21.3% were aged 26-35; 13.1% were aged 46-55; and 6.6% were over 55. Those under age 20 accounted for only 4.9% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 26-35 were the most likely to have been drinking – 45.5% of drivers in this age group had been drinking. By contrast, only 12.2% of tested drivers over age 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 88.7% of all the fatally injured drivers who had been drinking, and 90.2% 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 (171 of the 225 fatalities are males). If one examines the frequency of alcohol use among males compared to females, a similar picture emerges. Fatally injured male drivers were more likely to have been drinking than female drivers (38.4% and 15.7%, respectively). And, 87.3% of the male and 75.0% 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), 47.9% were truck/van drivers; 39.4% were automobile drivers; and 11.3% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 52.5% were truck/van drivers; 37.7% were automobile drivers; and 8.2% were motorcyclists.

Within each of the vehicle types, 36.4% of fatally injured motorcyclists, 35.8% of truck/van drivers; and 31.1% of automobile drivers were found to have been drinking.

5.2.4 Collision differences. Although less than half of the drivers killed (88 of the 225) were involved in single-vehicle collisions, these crashes accounted for about three-fifths of the drivers who had been drinking or were legally impaired (60.6% and 63.9%, respectively).

Over half of the drivers involved in single-vehicle crashes (50.6%) were positive for alcohol, compared to 21.5% 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 2004 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, 3,845 drivers were involved in crashes in which someone was seriously injured, and among these 20.6% were alcohol-related crashes.

Table 5-3
Drivers in Alcohol-Related Serious Injury Crashes:
Alberta, 2004

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	45	7	15.6	0.9
16-19	433	117	27.0	14.8
20-25	684	181	26.5	22.9
26-35	783	167	21.3	21.1
36-45	712	158	22.2	19.9
46-55	574	94	16.4	11.9
>55	551	56	10.2	7.1
unknown	63	12	19.0	1.5
Gender				
Male	2713	624	23.0	78.8
Female	1086	161	14.8	20.3
unknown	46	7	15.2	0.9
Vehicle Type				
Auto	1549	334	21.6	42.2
Truck/Van	1701	363	21.3	45.8
Motorcycle	211	43	20.4	5.4
Tractor Trailer	155	13	8.4	1.6
Other Hwy. Vehicle	25	2	8.0	0.3
Off-Road	187	34	18.2	4.3
Unknown	17	3	17.6	0.4
Collision Type				
Single-Vehicle	1339	564	42.1	71.2
Multiple-Vehicle	2506	228	9.1	28.8
TOTAL	3845	792	20.6	100.0

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.9% were aged 20-25; 21.1% were aged 26-35; and 19.9% were aged 36-45. Drivers under 16 accounted for only 0.9% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of four drivers aged 16-19 and 20-25 were involved in alcohol-related serious injury crashes (27.0% and 26.5%, respectively). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers over 55 (10.2%).

5.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes,

78.8% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (23.0% and 14.8%, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, truck/van drivers accounted for 45.8% and automobile drivers accounted for 42.2%.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 21.6% of these drivers were in crashes that involved alcohol, compared to 21.3% for truck/van drivers, and 20.4% for motorycyclists.

5.3.4 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 – 42.1% of these drivers, compared to only 9.1% 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.

5.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 5-4 and Figure 5-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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, 1995-2004

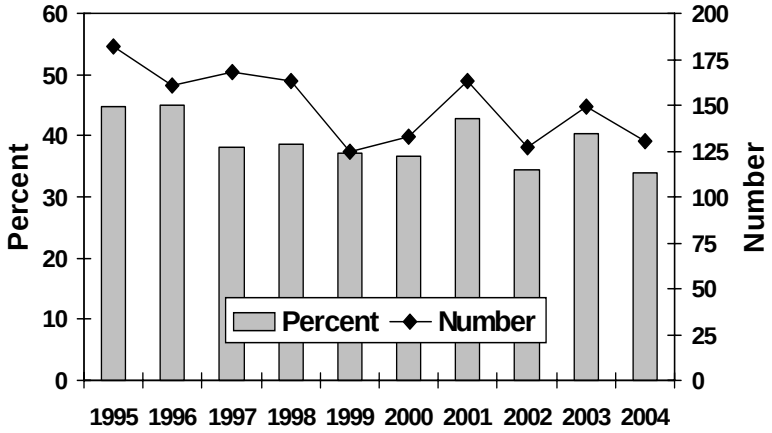
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	406	182	44.8
1996	357	161	45.1
1997	440	168	38.2
1998	422	163	38.6
1999	337	125	37.1
2000	362	133	36.7
2001	382	163	42.7
2002	368	127	34.5
2003	370	149	40.3
2004	382	130	34.0

* 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 5-1

Number and Percent of Deaths Involving
a Drinking Driver: Alberta, 1995-2004



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 182 to a low of 125 in 1999, rose to 163 in 2001, decreased to 127 in 2002, rose to 149 in 2003, and dropped to 130 in 2004. The percentage of alcohol-related fatalities increased 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, and fell to a low of 34.0% in 2004.

5.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 5-5. Trends are illustrated in Figure 5-2 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 differ slightly from those shown in Section 5.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 5-5

Alcohol Use Among Fatally Injured Drivers:
Alberta, 1987-2004

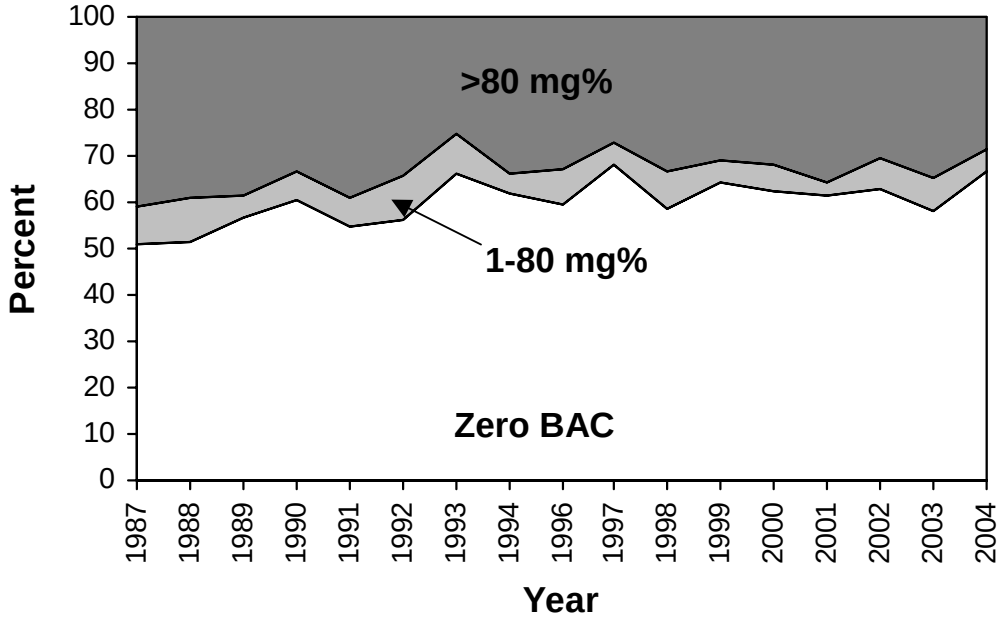
	Number of	Drivers		Drivers Grouped by BAC (mg%)					
YEAR	Drivers*	Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	265	253	95.5	129	51.0	20	7.9	104	41.1
1988	236	215	91.1	111	51.6	20	9.3	84	39.1
1989	235	229	97.4	130	56.8	10	4.4	89	38.9
1990	195	189	96.9	114	60.3	12	6.3	63	33.3
1991	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

* dying in less than six hours.

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%), and dropped in 2004 (28.5%). The percent of fatally injured drivers with zero BAC increased from 1987 (51.0%) to 1993 (66.1%), declined to 59.5% in 1996, reached its highest level in 1997 (67.9%), stabilized between 1999 and 2002, fell to 58.2% in 2003, and rose again in

2004 (66.8%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (9.3%), fell to its lowest level in 2001 (3.1%), rose in 2003 (7.0%), and decreased again in 2004 (4.7%).

Figure 5-2
Trends in Alcohol Use Among Driver Fatalities: Alberta, 1987-2004



5.4.3 Drivers in serious injury crashes: 1995-2004. Table 5-6 and Figure 5-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 5.3 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 slightly 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, and rose slightly to 20.7% in 2004.

Table 5-6

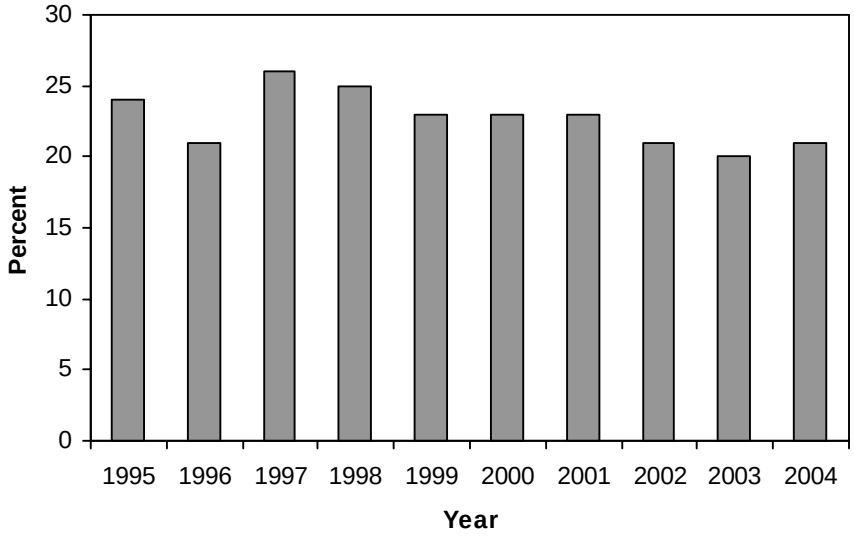
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Alberta, 1995-2004

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)

* 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 5-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Alberta, 1995-2004



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 2004. 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 2004. 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 age 16-19 were killed in motor vehicle crashes in Saskatchewan during 2004. 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, seven people aged 16-19 died in alcohol-related crashes in Saskatchewan during 2004. 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 12.1% of all the people killed in alcohol-related crashes in Saskatchewan during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 137 persons died in motor vehicle crashes in Saskatchewan during 2004. In 134 (97.8%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 58 (43.3%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (137 x .433) it can be estimated that *in Saskatchewan during 2004, 59 persons died in alcohol-related crashes*.

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 31.0% (see last column) were aged 20-25; 17.2% were aged 36-45; and 13.8% were aged 26-35 and over 55.

Within each of the age groups, the highest incidence of alcohol involvement (72.0%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement

Table 6-1
Deaths* in Alcohol-Related Crashes: Saskatchewan, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	8	8	100.0	1	12.5	1.7
16-19	14	14	100.0	7	50.0	12.1
20-25	25	25	100.0	18	72.0	31.0
26-35	16	15	93.8	8	53.3	13.8
36-45	20	19	95.0	10	52.6	17.2
46-55	20	20	100.0	6	30.0	10.3
>55	34	33	97.1	8	24.2	13.8
Gender						
Male	95	92	96.8	39	42.4	67.2
Female	42	42	100.0	19	45.2	32.8
Type						
Driver/Operator	82	81	98.8	34	42.0	58.6
Passenger	37	37	100.0	16	43.2	27.6
Pedestrian	18	16	88.9	8	50.0	13.8
Vehicle Occupied						
Automobiles	45	45	100.0	21	46.7	36.2
Trucks/Vans	55	55	100.0	25	45.5	43.1
Motorcycles	2	2	100.0	0	0.0	0.0
Other Hwy. Vehs.	7	7	100.0	0	0.0	0.0
Offroad Vehicles	10	9	90.0	4	44.4	6.9
(Pedestrians)	18	16	88.9	8	50.0	13.8
TOTAL	137	134	97.8	58	43.3	100.0

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

was found among the youngest and oldest fatalities – 12.5% of persons under 16 and 24.2% 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, 67.2% were males. However, the incidence of alcohol in crashes in which female died (45.2%) was slightly greater than the incidence of alcohol in crashes in which a male died (42.4%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 58.6% were drivers/operators of a vehicle; 27.6% were passengers; and 13.8% were pedestrians.

Within each of the principal victim types, the highest incidence of alcohol involvement (50.0%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 43.2% of the crashes in which a passenger died and 42.0% 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, 43.1% were in a truck/van; 36.2% were in an automobile.

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 truck/van occupant died (46.7% versus 45.5%).

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

6.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Saskatchewan during 2004. Table 6-2 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 6-2
Alcohol Use Among Fatally Injured Drivers: Saskatchewan, 2004

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	5	5	100.0	2	40.0	6.9	2	40.0	8.0
20-25	15	15	100.0	9	60.0	31.0	9	60.0	36.0
26-35	8	8	100.0	5	62.5	17.2	5	62.5	20.0
36-45	11	10	90.9	6	60.0	20.7	6	60.0	24.0
46-55	12	10	83.3	3	30.0	10.3	2	20.0	8.0
>55	21	16	76.2	4	25.0	13.8	1	6.3	4.0
Gender									
Male	53	48	90.6	23	47.9	79.3	19	39.6	76.0
Female	19	16	84.2	6	37.5	20.7	6	37.5	24.0
Vehicle Type									
Automobile	30	24	80.0	11	45.8	37.9	10	41.7	40.0
Truck/Van	36	34	94.4	18	52.9	62.1	15	44.1	60.0
Motorcycle	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Tractor Trailer	3	3	100.0	0	0.0	0.0	0	0.0	0.0
Other Vehicle	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	38	36	94.7	22	61.1	75.9	21	58.3	84.0
Multiple-Vehicle	34	28	82.4	7	25.0	24.1	4	14.3	16.0
TOTAL	72	64	88.9	29	45.3	100.0	25	39.1	100.0

* This category includes motorcycles and tractor trailers. It has been aggregated to ensure that the BAC of one of the drivers cannot be identified.

To illustrate, among 16-19 year olds there were five drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, two (40.0%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 6.9% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the five (40.0%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that both of the 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. Saskatchewan had a very high testing rate in 2004, with 88.9% of fatally injured drivers being tested for alcohol use.

In Saskatchewan, 45.3% had been drinking and most of these had illegal BACs – 86.2% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 4.7% had BACs from 1-49 mg%;
- 1.6% had BACs from 50-80 mg%
- 20.3% had BACs from 81 to 160 mg%; and,
- 18.8% had BACs over 160 mg%.

***6.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 31.0% were aged 20-25; 20.7% were aged 36-45; 17.2% were aged 26-35; 13.8% were over age 55; 10.3% were 46-55; and 6.9% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 36.0% were aged 20-25; 24.0% were aged 36-45; 20.0% were aged 26-35; 8.0% were aged 16-19 and 46-55; and those over 55 accounted for 4.0% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 26-35 were the most likely to have been drinking – 62.5% of drivers in this age group had been drinking. By contrast, only 25.0% of the tested drivers aged over 55 had been drinking.

6.2.2 Gender differences. Males dominate the picture – they account for 79.3% of all the fatally injured drivers who had been drinking, and 76.0% 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 (53 of the 72 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (47.9% and 37.5%, respectively). And, 82.6% of the male and all 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), 62.1% were truck/van drivers; and 37.9% were automobile drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were truck/van drivers, and 40.0% were automobile drivers.

Within each of the vehicle types, 52.9% of fatally injured drivers of truck/vans and 45.8% of drivers of automobiles were found to have been drinking. None of the drivers of motorcycles, tractor trailers, nor other vehicles had been drinking.

6.2.4 Collision differences. Slightly more than half of the drivers killed (38 of the 72) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (75.9% and 84.0%, respectively).

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 (61.1%) were positive for alcohol, compared to only 25.0% 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 2004 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.

Table 6-3
Drivers in Alcohol-Related Serious Injury Crashes:
Saskatchewan, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	18	6	33.3	3.7
16-19	87	25	28.7	15.3
20-25	116	35	30.2	21.5
26-35	104	32	30.8	19.6
36-45	114	26	22.8	16.0
46-55	74	17	23.0	10.4
>55	105	9	8.6	5.5
unknown	21	13	61.9	8.0
Gender				
Male	439	123	28.0	75.5
Female	180	28	15.6	17.2
unknown	20	12	60.0	7.4
Vehicle Type				
Auto	301	85	28.2	52.1
Truck/Van	233	61	26.2	37.4
Motorcycle	27	5	18.5	3.1
Tractor Trailer	38	3	7.9	1.8
Other Hwy. Vehicle	7	0	0.0	0.0
Off-Road	31	8	25.8	4.9
Unknown	2	1	50.0	0.6
Collision Type				
Single-Vehicle	239	113	47.3	69.3
Multiple-Vehicle	400	50	12.5	30.7
TOTAL	639	163	25.5	100.0

As shown, by the totals at the bottom of the table, 639 drivers were involved in crashes in which someone was seriously injured, and among these 25.5% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.5% were aged 20-25, 19.6% were aged 26-35; and 16.0% were aged 36-45. Drivers over 55 accounted for only 5.5% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, over one out of three drivers under age 16 and 26-35 were involved in alcohol-related serious injury crashes (33.8% and 30.8%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (8.6%).

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.0% and 15.6%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 52.1% were automobile drivers; and 37.4% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 28.2% of these drivers were in crashes that involved alcohol, compared to 26.2% for truck/van drivers, 25.8% for off-road vehicle drivers; and 18.5% for motorcycle riders. Only 7.9% of tractor trailer drivers were involved in alcohol-related crashes.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.3% 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 – 47.3% of these drivers, compared to only 12.5% 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.

6.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 6-4 and Figure 6-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. These results differ slightly from those in Section 6.1 for two reasons. First, deaths that

Table 6-4

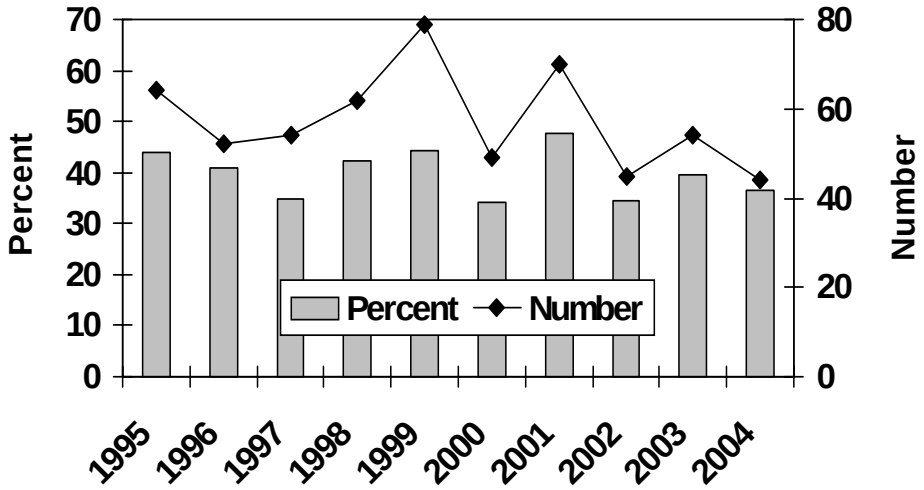
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Saskatchewan, 1995-2004

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

* 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 6-1
Number and Percent of Deaths Involving a Drinking Driver: Saskatchewan, 1995-2004



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 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, then a decrease to a low of 44 in 2004. 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, and decreased to 36.4% in 2004.

6.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 6-5. Trends are illustrated in Figure 6-2 which shows changes in the percent of fatally injured drivers who: (1) showed no

Table 6-5

Alcohol Use Among Fatally Injured Drivers:
Saskatchewan, 1987-2004

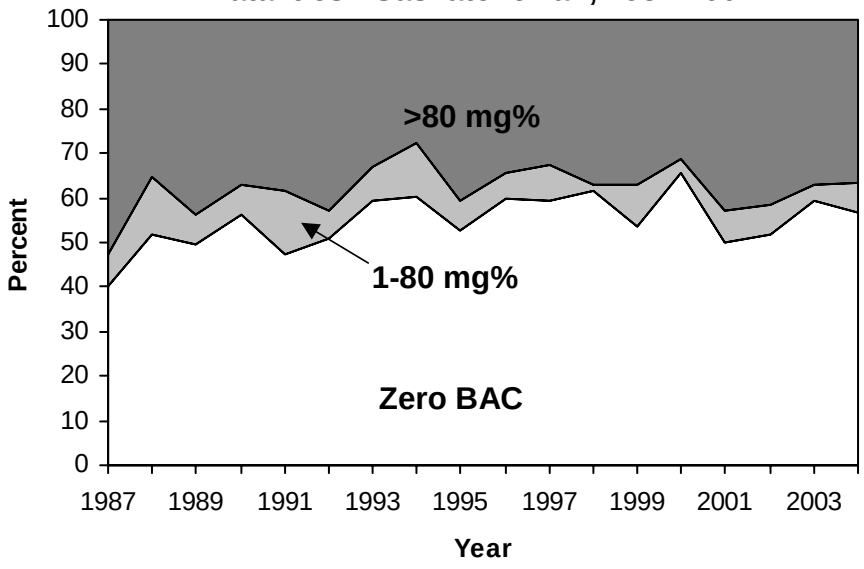
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	94	85	90.4	34	40.0	6	7.1	45	52.9
1988	81	79	97.5	41	51.9	10	12.7	28	35.4
1989	110	103	93.6	51	49.5	7	6.8	45	43.7
1990	80	78	97.5	44	56.4	5	6.4	29	37.2
1991	83	78	94.0	37	47.4	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

* dying in less than six hours.

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 differ slightly from those shown in Section 6.2 because the analysis is restricted to drivers who died in less than six hours of 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%), and decreased in 2004 (36.7%). 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%), and declined in 2004 (56.7%). 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%), and increased in 2004 (6.7%).

Figure 6-2
Trends in Alcohol Use Among Driver Fatalities: Saskatchewan, 1987-2004



6.4.3 Drivers in serious injury crashes: 1995-2004 Table 6-6 and Figure 6-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 6.3 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 and then declined in the past two study 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, peaked at 29.5% in 2002, and dropped again to 25.4% in 2004.

Table 6-6

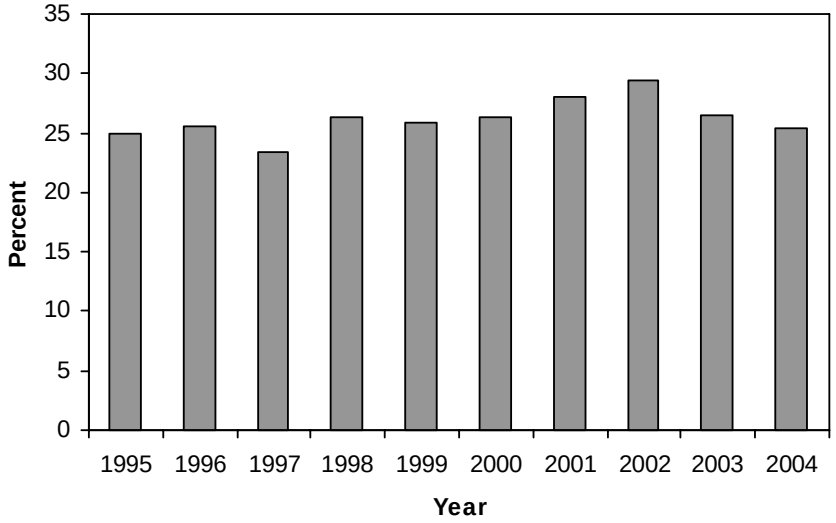
Number and Percent of All Drivers* in Serious Injury Crashes ** that Involved Alcohol: Saskatchewan, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(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)

* 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 6-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Saskatchewan, 1995-2004



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 2004. 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 2004. 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, 12 people age 16-19 were killed in motor vehicle crashes in Manitoba during 2004. And, in all 12 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, seven people age 16-19 died in alcohol-related crashes in Manitoba during 2004. The next column expresses this as a percentage – e.g., 58.3% 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 14.9% of all the people killed in alcohol-related crashes in Manitoba during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 116 persons died in motor vehicle crashes in Manitoba during 2004. In 109 (94.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 47 (43.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (116 x .431) it can be estimated that *in Manitoba during 2004, 50 persons died in alcohol-related crashes*.

Table 7-1
Deaths* in Alcohol-Related Crashes: Manitoba, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	7	5	71.4	1	20.0	2.1
16-19	12	12	100.0	7	58.3	14.9
20-25	22	22	100.0	9	40.9	19.1
26-35	16	14	87.5	10	71.4	21.3
36-45	19	18	94.7	16	88.9	34.0
46-55	8	8	100.0	1	12.5	2.1
>55	32	30	93.8	3	10.0	6.4
Gender						
Male	81	78	96.3	33	42.3	70.2
Female	35	31	88.6	14	45.2	29.8
Type						
Driver/Operator	64	63	98.4	27	42.9	57.4
Passenger	29	28	96.6	10	35.7	21.3
Pedestrian	22	18	81.8	10	55.6	21.3
Unknown	1	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	45	43	95.6	12	27.9	25.5
Trucks/Vans	35	35	100.0	21	60.0	44.7
Motorcycles	3	3	100.0	0	0.0	0.0
Other Hwy. Vehs.	4	3	75.0	0	0.0	0.0
Offroad Vehicles	7	7	100.0	4	57.1	8.5
(Pedestrians)	22	18	81.8	10	55.6	21.3
TOTAL	116	109	94.0	47	43.1	100.0

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

7.1.1 Victim age. Of all the people who died in alcohol-related crashes, 34.0% (see last column) were aged 36-45; 21.3% were aged 26-35 and 19.1% were aged 20-25.

Within each of the age groups, the highest incidence of alcohol involvement (88.9%) occurred in the crashes in which a person aged 36-45 died. The lowest incidence of alcohol involvement was found among the oldest fatalities – 12.5% of the persons aged 46-55 and only 10.0% of persons over 55 years of age died in crashes involving alcohol.

7.1.2 Gender. Of all the people who died in alcohol-related crashes, 70.2% were males. However, the incidence of alcohol in crashes in which a female died (45.2%) was slightly greater than the incidence of alcohol in crashes in which a male died (42.3%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 57.4% were drivers/operators of a vehicle; and passengers and pedestrians each accounted for 21.3%.

Within each of these victim types, the highest incidence of alcohol involvement (55.6%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 42.9% of the crashes in which a driver died and 35.7% of those in which a passenger died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 44.7% were in a truck/van and 25.5% were in an automobile.

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 (60.0% versus 27.9%).

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 2004. Table 7-2 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 7-2
Alcohol Use Among Fatally Injured Drivers: Manitoba, 2004

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	5	5	100.0	3	60.0	14.3	3	60.0	16.7
20-25	14	13	92.9	4	30.8	19.0	3	23.1	16.7
26-35	10	9	90.0	7	77.8	33.3	7	77.8	38.9
36-45	6	5	83.3	5	100.0	23.8	5	100.0	27.8
46-55	5	5	100.0	0	0.0	0.0	0	0.0	0.0
>55	17	14	82.4	2	14.3	9.5	0	0.0	0.0
Gender									
Male	48	43	89.6	16	37.2	76.2	15	34.9	83.3
Female	9	8	88.9	5	62.5	23.8	3	37.5	16.7
Vehicle Type									
Automobile	28	23	82.1	6	26.1	28.6	4	17.4	22.2
Truck/Van	24	23	95.8	15	65.2	71.4	14	60.9	77.8
Motorcycle	3	3	100.0	0	0.0	0.0	0	0.0	0.0
Tractor Trailer	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	29	26	89.7	17	65.4	81.0	16	61.5	88.9
Multiple-Vehicle	28	25	89.3	4	16.0	19.0	2	8.0	11.1
TOTAL	57	51	89.5	21	41.2	100.0	18	35.3	100.0

To illustrate, among those aged 16-19 there were five drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, three (60.0%) were positive for alcohol. This means that fatally injured drinking drivers aged 16-19 accounted for 14.3% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the five (60.0%) fatally injured drivers aged 16-19 who were tested for alcohol had BACs in excess of 80 mg%. This means that all of the three 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 aged 16-19 accounted for 16.7% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Manitoba had a very high testing rate in 2004, with 89.5% of fatally injured drivers being tested for alcohol use.

In Manitoba, 41.2% had been drinking and most of these had illegal BACs – 85.7% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 2.0% had BACs from 1-49 mg%;
- 3.9% had BACs from 50-80 mg%;
- 9.8% had BACs from 81 to 160 mg%; and,
- 25.5% had BACs over 160 mg%.

***7.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 33.3% were aged 26-35; 23.8% of the drivers were aged 36-45; 19.0% were aged 20-25, 14.3% were aged 16-19 and 9.5% were over 55. None of the fatally injured drinking drivers aged 46-55 had been drinking.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 38.9% were aged 26-35; 27.8% were aged 36-45; and 16.7% were aged 16-19 and 20-25.

Within each of the age groups, fatally injured drivers aged 36-45 were the most likely to have been drinking – 100.0% of drivers in this age group had been drinking. By contrast, none of the tested drivers aged 46-55 had been drinking.

7.2.2 Gender differences. Males dominate the picture – they account for 76.2% of both fatally injured drivers who had been drinking and 83.3% 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 (48 of the 57 fatalities are males). However, fatally injured female drivers were much more likely to have been drinking than male drivers (62.5% and 37.2%, respectively). Among fatally injured drinking drivers, 93.8% of males and 60.0% of females 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), 71.4% were truck/van drivers; and 28.6% were automobile drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 77.8% were truck/van drivers; and 22.2% were automobile drivers.

Within each of the vehicle types, 65.2% of fatally injured truck/van drivers; and 26.1% of automobile drivers were found to have been drinking. None of the fatally injured motorcyclists nor tractor-trailer drivers had been drinking.

7.2.4 Collision differences. About half of the drivers killed (29 of the 57) were involved in single-vehicle collisions but these crashes accounted for 81.0% of drivers who had been drinking and 88.9% of those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two out of three drivers involved in single-vehicle crashes (65.4%) were positive for alcohol, compared to only 16.0% 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 2004 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.

Table 7-3
Drivers in Alcohol-Related Serious Injury Crashes:
Manitoba, 2004

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	20	0	0.0	0.0
16-19	66	13	19.7	13.4
20-25	75	20	26.7	20.6
26-35	96	20	20.8	20.6
36-45	107	25	23.4	25.8
46-55	77	10	13.0	10.3
>55	106	6	5.7	6.2
unknown	27	3	11.1	3.1
Gender				
Male	373	68	18.2	70.1
Female	188	28	14.9	28.9
unknown	13	1	7.7	1.0
Vehicle Type				
Auto	301	58	19.3	59.8
Truck/Van	216	33	15.3	34.0
Motorcycle	9	0	0.0	0.0
Tractor Trailer	19	3	15.8	3.1
Other Hwy. Vehicle	5	1	20.0	1.0
Off-Road	24	2	8.3	2.1
Collision Type				
Single-Vehicle	187	71	38.0	73.2
Multiple-Vehicle	387	26	6.7	26.8
TOTAL	574	97	16.9	100.0

* These numbers are slightly underestimated because about 7.5% of all injuries are recorded as unspecified.

As shown, by the totals at the bottom of the table, 574 drivers were involved in crashes in which someone was seriously injured, and among these 16.9% were alcohol-related crashes.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.8% were aged 36-45; 20.6% were aged 20-25 and 26-35; and 13.4% were aged 16-19. None of the drivers under 16 were involved in alcohol-related serious injury crashes.

Within each of the age groups, the highest incidence of involvement in alcohol-related crashes was found for drivers age 20-25 (26.7%). The lowest incidence was found for drivers under age 16 (0.0%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 70.1% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (18.2% and 14.9%, respectively).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 59.8% were automobile drivers; and 34.0% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 20.0% of these drivers were in crashes that involved alcohol, compared to 19.3% for automobile drivers, 15.8% for tractor-trailer drivers, 15.3% for truck/van drivers and 8.3% for off-road vehicle drivers. None of the motorcyclists were involved in an alcohol-related serious injury crash.

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 73.2% 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 – 38.0% of these drivers, compared to only 6.7% 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.

7.4.1 Deaths in alcohol-related crashes: 1995-2004 Table 7-4 and Figure 7-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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.

Table 7-4

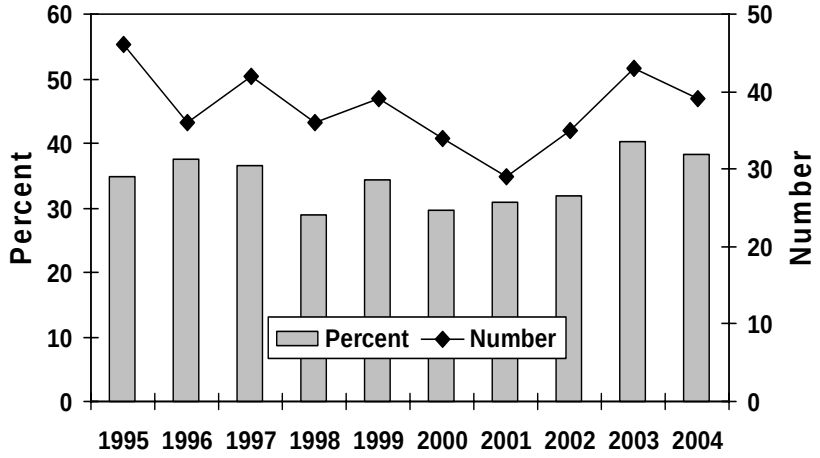
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Manitoba, 1995-2004

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

* 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 7-1
Number and Percent of Deaths Involving
a Drinking Driver: Manitoba, 1995-2004



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 46 to 36 between 1995 and 1996, increased to 42 in 1997, dropped to 36 in 1998, then increased to 39 in 1999, reached a low of 29 in 2001, rose to 43 in 2003, and decreased to 39 in 2004. The percentage of alcohol-related fatalities rose 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, rose to 40.2% in 2003, and decreased to 38.2% in 2004.

7.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 7-5. Trends are illustrated in Figure 7-2 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).

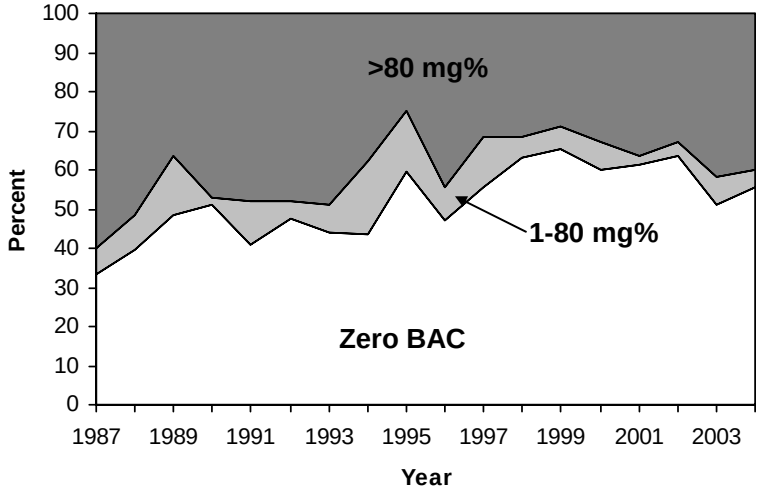
Table 7-5

Alcohol Use Among Fatally Injured Drivers:
Manitoba, 1987-2004

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) 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

* dying in less than six hours.

Figure 7-2
Trends in Alcohol Use Among Driver Fatalities: Manitoba, 1987-2004



The data reported here differ slightly from those shown in Section 7.2 because the analysis is restricted to drivers who died in less than six hours of 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 1999 (28.8%), rose to 36.5% in 2001, decreased to 32.7% in 2002, rose to 41.5% in 2003, and decreased slightly to 40.0% in 2004. The percent of fatally injured drivers with zero BAC increased from a low of 33.3% in 1987 to its highest level of 65.4% in 1999, decreased to 60.0% in 2000, rose to 63.5% in 2002, decreased to 50.9% in 2003, and rose again to 55.6% in 2004. 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 to 7.3% in 2000, dropped to a low of 1.9% in 2001, increased to 7.5% in 2003, and decreased to 4.4% in 2004.

7.4.3 Drivers in serious injury crashes: 1995-2004. Table 7-6 and Figure 7-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 7.3 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 crashes has decreased over the study period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol fell slightly from 22.9% to 21.6%. In 1997, the incidence peaked at 25.7%, dropped to 18.7% in 2000, rose to 20.6% in 2002, and decreased to a low of 17.3% in 2004.

Table 7-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Manitoba, 1995-2004

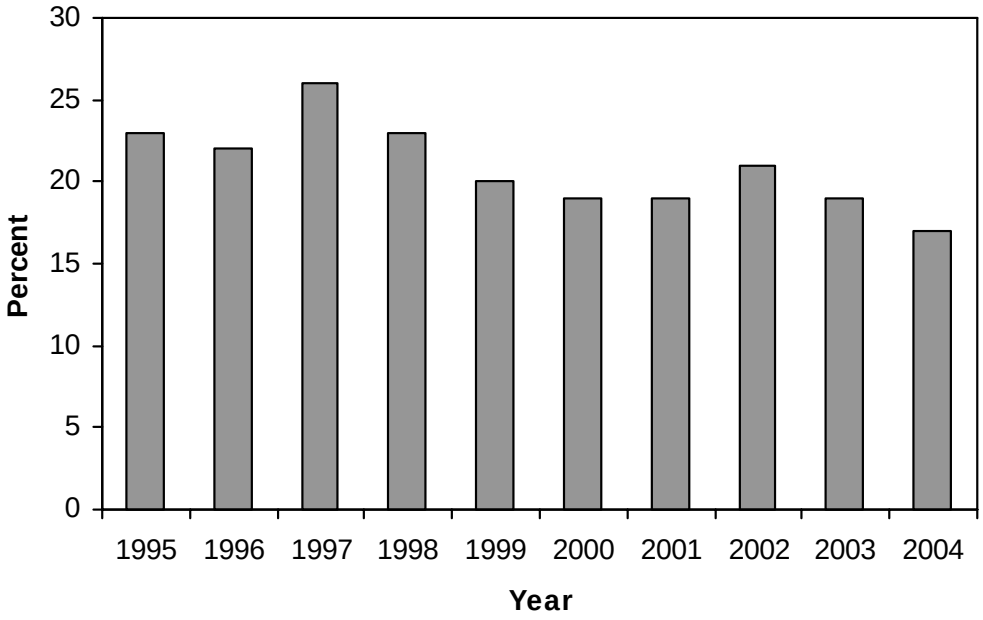
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	743	170	(22.9)
1996	804	174	(21.6)
1997	630	162	(25.7)
1998	657	151	(23.0)
1999	595	120	(20.2)
2000	587	110	(18.7)
2001	597	115	(19.3)
2002	525	108	(20.6)
2003	532	102	(19.2)
2004	550	95	(17.3)

* 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 7-3

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Manitoba, 1995-2004



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 2004. 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 2004. 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, 91 people age 16-19 were killed in motor vehicle crashes in Ontario during 2004. And, in 80 of these cases (87.9%) 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, 27 people age 16-19 died in alcohol-related crashes in Ontario during 2004. The next column expresses this as a percentage – e.g., 33.8% 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 10.3% of all the people killed in alcohol-related crashes in Ontario during 2004.

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 2004. In 808 (88.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 263 (32.5%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (914 x .325) it can be estimated that *in Ontario during 2004, 297 persons died in alcohol-related crashes*.

Table 8-1
Deaths* in Alcohol-Related Crashes: Ontario, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	35	30	85.7	4	13.3	1.5
16-19	91	80	87.9	27	33.8	10.3
20-25	129	119	92.2	55	46.2	20.9
26-35	123	113	91.9	51	45.1	19.4
36-45	140	124	88.6	50	40.3	19.0
46-55	115	108	93.9	39	36.1	14.8
>55	281	234	83.3	37	15.8	14.1
Gender						
Male	649	577	88.9	221	38.3	84.0
Female	265	231	87.2	42	18.2	16.0
Type						
Driver/Operator	581	537	92.4	185	34.5	70.3
Passenger	206	169	82.0	43	25.4	16.3
Pedestrian	127	102	80.3	35	34.3	13.3
Vehicle Occupied						
Automobiles	450	405	90.0	130	32.1	49.4
Trucks/Vans	179	164	91.6	52	31.7	19.8
Motorcycles	49	46	93.9	12	26.1	4.6
Other Hwy. Vehs.	27	20	74.1	1	5.0	0.4
Offroad Vehicles	78	71	91.0	33	46.5	12.5
(Pedestrians)	127	102	80.3	35	34.3	13.3
Unknown	4	0	0.0	0	0.0	0.0
TOTAL	914	808	88.4	263	32.5	100.0

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

8.1.1 Victim age. Of all the people who died in alcohol-related crashes, 20.9% (see last column) were aged 20-25; 19.4% were aged 26-35 and 19.0% were 36-45.

Within each of the age groups, the highest incidence of alcohol involvement (46.2%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement

was found among the youngest and oldest fatalities – only 13.3% of persons under 16 and 15.8% 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, 84.0% were males. The incidence of alcohol in crashes in which a male died (38.3%) was over twice as great as the incidence of alcohol in crashes in which a female died (18.2%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 70.3% were drivers/operators of a vehicle; 16.3% were passengers; and 13.3% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (34.5%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 34.3% of the crashes in which a pedestrian died and 25.4% of those in which a passenger died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost half (49.4%) were in an automobile; 19.8% were in a truck/van; 12.5% were off-road vehicle occupants; and 4.6% were motorcycle riders.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died was 46.5% compared to 32.1% for automobile occupants, 31.7% for truck/van occupants, and 26.1% for motorcycle riders.

8.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Ontario during 2004. Table 8-2 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%.

To illustrate, among 16-19 year olds there were 39 drivers killed during 2004; 34 of these fatally injured drivers (87.2%) were tested for alcohol. Of those who were tested, 11 (32.4%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 8.1% of all drinking drivers who were killed.

Table 8-2
Alcohol Use Among Fatally Injured Drivers: Ontario, 2004

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	39	34	87.2	11	32.4	8.1	8	23.5	7.4
20-25	82	81	98.8	32	39.5	23.7	28	34.6	25.9
26-35	83	74	89.2	31	41.9	23.0	25	33.8	23.1
36-45	96	89	92.7	31	34.8	23.0	27	30.3	25.0
46-55	74	69	93.2	15	21.7	11.1	12	17.4	11.1
>55	129	104	80.6	15	14.4	11.1	8	7.7	7.4
Gender									
Male	402	362	90.0	119	32.9	88.1	97	26.8	89.8
Female	101	89	88.1	16	18.0	11.9	11	12.4	10.2
Vehicle Type									
Automobile	314	281	89.5	83	29.5	61.5	65	23.1	60.2
Truck/Van	125	111	88.8	43	38.7	31.9	36	32.4	33.3
Motorcycle	46	45	97.8	9	20.0	6.7	7	15.6	6.5
Tractor Trailer	17	14	82.4	0	0.0	0.0	0	0.0	0.0
Other Vehicle	1	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	210	184	87.6	93	50.5	68.9	76	41.3	70.4
Multiple-Vehicle	293	267	91.1	42	15.7	31.1	32	12.0	29.6
TOTAL	503	451	89.7	135	29.9	100.0	108	23.9	100.0

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 11 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 7.4% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2004, with 89.7% of fatally injured drivers being tested for alcohol use.

In Ontario, 29.9% had been drinking and most of these had illegal BACs – 80.0% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 5.1% had BACs from 1-49 mg%;
- 0.9% had BACs from 50-80 mg%
- 8.4% had BACs from 81 to 160 mg%; and,
- 15.5% had BACs over 160 mg%.

***8.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 23.7% were aged 20-25; 23.0% were aged 26-35 and 36-45; and 11.1% were aged 46-55 and over 55. Those aged 16-19 accounted for only 8.1% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.9% were aged 20-25; 25.0% were aged 36-45; 23.1% were aged 26-35; and 11.1% were aged 46-55. Those aged 16-19 and over 55 each accounted for only 7.4% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 26-35 and 20-25 were the most likely to have been drinking – 41.9% and 39.5% respectively, of tested drivers in these age groups were positive for alcohol. By contrast, only 14.4% of tested drivers over age 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture – they account for 88.1% of all the fatally injured drivers who had been drinking, and 89.8% 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 (402 of the 503 fatalities are males). Fatally injured male drivers were almost twice as likely to have been drinking than female drivers (32.9% and 18.0%, respectively). And, 81.5% of the male drivers and 68.8% 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), 61.5% were automobile drivers; 31.9% were truck/van drivers; and 6.7% were motorcycle riders.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.2% were automobile drivers; 33.3% were truck/van drivers; and 6.5% were motorcycle riders.

Within each of the vehicle types, 38.7% of fatally injured truck/van drivers, 29.5% of automobile drivers; and 20.0% of motorcyclists were found to have been drinking. None of the fatally injured tractor trailer drivers were positive for alcohol.

8.2.4 Collision differences. Only about two out of five of the drivers killed (210 of the 503) 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 (68.9% and 70.4%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Half of the drivers involved in single-vehicle crashes (50.5%) were positive for alcohol, compared to only 15.7% 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 2004 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.

Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes:
Ontario, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	19	4	21.1	0.5
16-19	382	87	22.8	10.8
20-25	685	164	23.9	20.3
26-35	914	189	20.7	23.4
36-45	962	163	16.9	20.1
46-55	778	103	13.2	12.7
>55	839	79	9.4	9.8
unknown	218	20	9.2	2.5
Gender				
Male	3348	665	19.9	82.2
Female	1351	136	10.1	16.8
Unknown	98	8	8.2	1.0
Vehicle Type				
Auto	2935	546	18.6	67.5
Truck/Van	1134	179	15.8	22.1
Motorcycle	233	33	14.2	4.1
Tractor Trailer	199	24	12.1	3.0
Other Hwy. Vehicle	67	5	7.5	0.6
Off-Road	191	17	8.9	2.1
Unknown	38	5	13.2	0.6
Collision Type				
Single-Vehicle	1301	509	39.1	62.9
Multiple-Vehicle	3496	300	8.6	37.1
TOTAL	4797	809	16.9	100.0

As shown, by the totals at the bottom of the table, 4,797 drivers were involved in crashes in which someone was seriously injured, and among these 16.9% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 23.4% were aged 26-35; 20.3% were aged 20-25; and 20.1% were aged 36-45. Drivers under 16 accounted for only 0.5% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, 23.9% of drivers age 20-25 and 22.8% of drivers aged 16-19 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related serious injury crashes was found for the oldest age group of drivers – those aged over 55 (9.4%).

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 82.2% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (19.9% and 10.1%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 67.5% were automobile drivers; and 22.1% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of automobiles (18.6%); compared to 15.8% for truck/van drivers; 14.2% for motorcyclists and 12.1% for tractor trailer drivers. Only 7.5% of drivers of other highway vehicles were involved in alcohol-related serious injury crashes.

8.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 62.9% 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 – 39.1% of these drivers, compared to only 8.6% 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.

8.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 8-4 and Figure 8-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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, 1995-2004

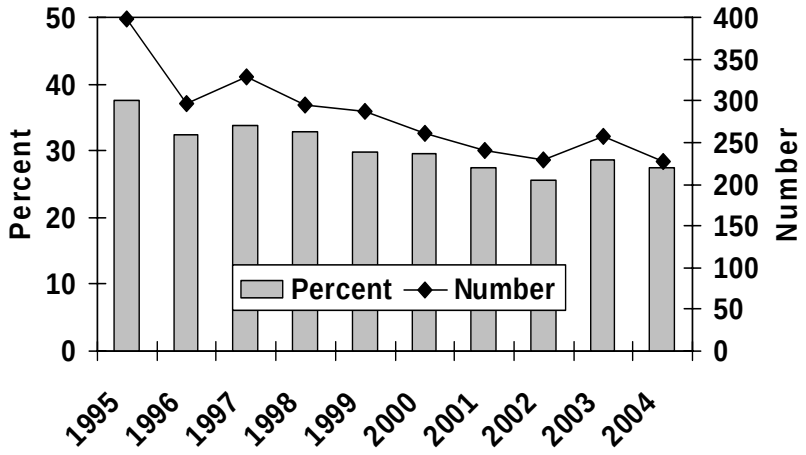
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	1059	398	37.6
1996	915	297	32.5
1997	969	328	33.8
1998	900	295	32.8
1999	966	287	29.7
2000	886	261	29.5
2001	878	241	27.4
2002	895	229	25.6
2003	903	258	28.6
2004	825	227	27.5

* 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.

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 in 1997, a gradual decrease to 229 alcohol-related fatalities in 2002, an increase to 258 in 2003, and a decrease to a low of 227 in 2004. The percentage of alcohol-related fatalities decreased from 37.6% in 1995 to 32.5% in 1996. From 1996 to 1998, the percentage of alcohol-related fatalities in Ontario remained basically unchanged, dropped to a low of 25.6% in 2002, rose to 28.6% in 2003, and dropped again to 27.5% in 2004.

Figure 8-1
Number and Percent of Deaths Involving a Drinking Driver: Ontario, 1995-2004



8.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 8-5. Trends are illustrated in Figure 8-2 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

Table 8-5

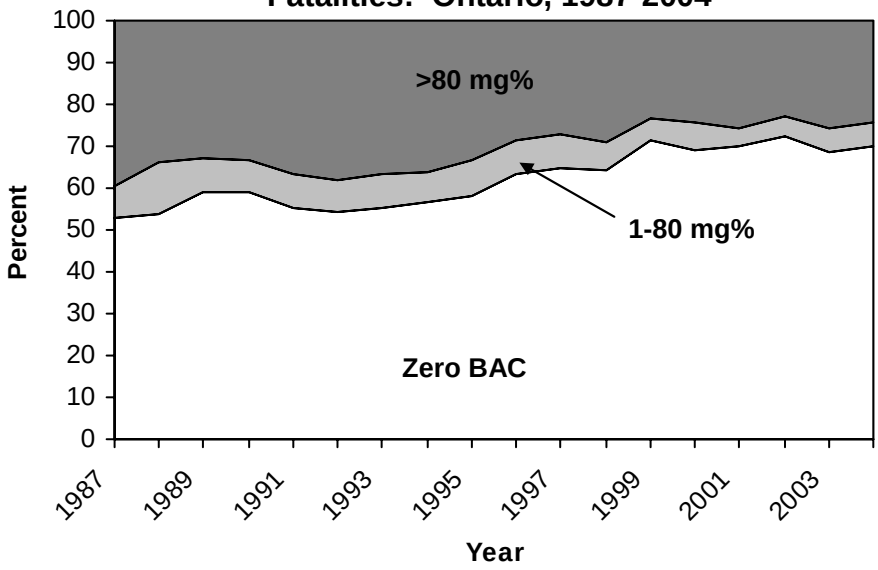
Alcohol Use Among Fatally Injured Drivers:
Ontario, 1987-2004

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

* dying in less than six hours.

limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here differ slightly from those shown in Section 8.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Figure 8-2
Trends in Alcohol Use Among Driver Fatalities: Ontario, 1987-2004



As can be seen, the percent of fatally injured drivers with BACs over the legal limit declined from 1987 (39.6%) to 1989 (32.8%), increased to 38.1% in 1992, decreased to 23.3% in 1999, increased to 25.8% in 2001, fell to 22.9% in 2002, the lowest level recorded since 1987, rose to 25.7% in 2003, and declined again to 24.2% in 2004. The percent of fatally injured drivers with zero BAC increased from 1987 (53.0%) to 1999 (71.3%), dropped in 2000 (69.0%), rose to its highest level (72.2%) in 2002, fell to 68.4% in 2003, and rose again to 70.1% in 2004. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (12.5%), dropped in 1999 (5.4%), rose in 2000 (6.7%), fell to its lowest mark in 2001 (4.3%), rose to 5.9% in 2003, and declined to 5.7% in 2004.

8.4.3 Drivers in serious injury crashes: 1995-2004. Table 8-6 and Figure 8-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 8.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 8-6

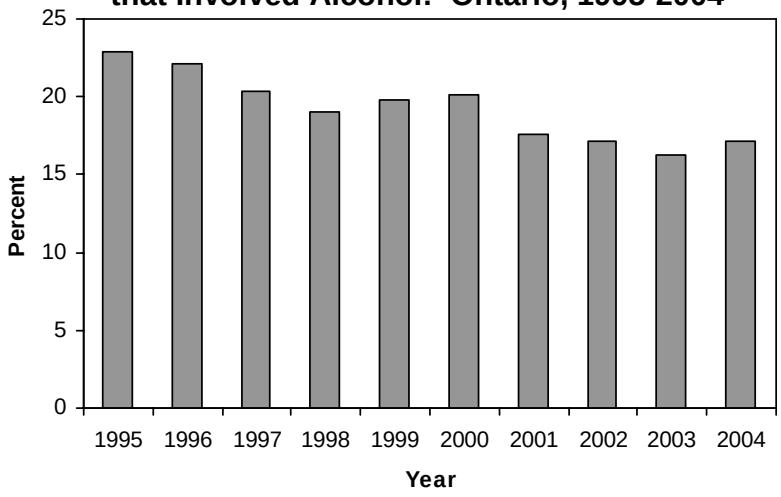
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Ontario, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(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)

* 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 8-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Ontario, 1995-2004



As can be seen, the incidence of alcohol-involvement in serious crashes has declined over this ten-year period. The percentage of drivers in serious injury crashes that involved alcohol gradually dropped from 22.9% in 1995 to 19.0% in 1998, rose slightly to 20.1% in 2000, fell to a low of 16.3% in 2003, and rose again to 17.2% in 2004.

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 2004. 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 2004. 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, 74 people age 16-19 were killed in motor vehicle crashes in Quebec during 2004. And, in 70 of these cases (94.6%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 23 people age 16-19 died in alcohol-related crashes in Quebec during 2004. The next column expresses this as a percentage – e.g., 32.9% 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 12.3% of all the people killed in alcohol-related crashes in Quebec during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 683 persons died in motor vehicle crashes in Quebec during 2004. In 631 (92.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 187 (29.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (683 x .296) it can be estimated that *in Quebec during 2004, 202 persons died in alcohol-related crashes*. This estimate, however, underestimates the magnitude of the alcohol-fatal crash problem in Quebec, compared to other jurisdictions, because of different police reporting practices for alcohol in that province (see Mayhew et al. 1999). For this reason, SAAQ prefers to use BAC test results on fatally injured drivers derived from coroner files as a more accurate measure of the alcohol-crash problem.

Table 9-1
Deaths* in Alcohol-Related Crashes: Quebec, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	33	32	97.0	5	15.6	2.7
16-19	74	70	94.6	23	32.9	12.3
20-25	100	94	94.0	43	45.7	23.0
26-35	105	97	92.4	34	35.1	18.2
36-45	96	89	92.7	28	31.5	15.0
46-55	87	84	96.6	29	34.5	15.5
>55	188	165	87.8	25	15.2	13.4
Gender						
Male	480	441	91.9	148	33.6	79.1
Female	203	190	93.6	39	20.5	20.9
Type						
Driver/Operator	435	409	94.0	133	32.5	71.1
Passenger	157	149	94.9	43	28.9	23.0
Pedestrian	80	73	91.3	11	15.1	5.9
Unknown	11	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	362	345	95.3	110	31.9	58.8
Trucks/Vans	78	75	96.2	29	38.7	15.5
Motorcycles	61	53	86.9	13	24.5	7.0
Other Hwy. Vehs.	14	13	92.9	0	0.0	0.0
Offroad Vehicles	77	72	93.5	24	33.3	12.8
(Pedestrians)	80	73	91.3	11	15.1	5.9
Unknown	11	0	0.0	0	0.0	0.0
TOTAL	683	631	92.4	187	29.6	100.0

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

9*.1.1 Victim age.* Of all the people who died in alcohol-related crashes, those aged 20-25 accounted for 23.0%; 18.2% were aged 26-35 and 15.5% were aged 46-55 (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (45.7%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 15.2 of persons over 55 and 15.6% of the fatalities under 16 years of age died in crashes involving alcohol.

9*.1.2 Gender.* Of all the people who died in alcohol-related crashes, 79.1% were males. The incidence of alcohol in crashes in which a male died (33.6%) was greater than the incidence of alcohol in crashes in which a female died (20.5%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 71.1% were drivers/operators of a vehicle; 23.0% were passengers; and 5.9% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (32.5%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 28.9% of the crashes in which a passenger died and 15.1% of those in which a pedestrian died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over half (58.8%) were in an automobile; 15.5% were in a truck/van; 12.8% were in an off-road vehicle; and 7.0% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement was higher in crashes in which a truck/van occupant and an off-road vehicle occupant died (38.7% and 33.3%, respectively). The incidence of alcohol involvement was lower in crashes in which an automobile occupant and a motorcyclist died (31.9% and 24.5% respectively).

9.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Quebec during 2004. 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, 2004

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	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	41	29	70.7	11	37.9	11.1	8	27.6	10.4
20-25	56	37	66.1	19	51.4	19.2	13	35.1	16.9
26-35	68	50	73.5	21	42.0	21.2	16	32.0	20.8
36-45	69	51	73.9	21	41.2	21.2	18	35.3	23.4
46-55	54	39	72.2	14	35.9	14.1	13	33.3	16.9
>55	78	45	57.7	13	28.9	13.1	9	20.0	11.7
Gender									
Male	285	202	70.9	85	42.1	85.9	66	32.7	85.7
Female	82	50	61.0	14	28.0	14.1	11	22.0	14.3
Vehicle Type									
Automobile	249	173	69.5	71	41.0	71.7	55	31.8	71.4
Truck/Van	48	34	70.8	17	50.0	17.2	15	44.1	19.5
Motorcycle	58	35	60.3	11	31.4	11.1	7	20.0	9.1
Tractor Trailer	11	10	90.9	0	0.0	0.0	0	0.0	0.0
Other Vehicle	1	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	152	116	76.3	67	57.8	67.7	57	49.1	74.0
Multiple-Vehicle	215	136	63.3	32	23.5	32.3	20	14.7	26.0
TOTAL	367	252	68.7	99	39.3	100.0	77	30.6	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 16-19 year olds there were 41 drivers killed during 2004; 29 of these fatally injured drivers (70.7%) were tested for alcohol. Of those who were tested, 11 (37.9%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 11.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that eight of the 29 (27.6%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. The final column

expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 10.4% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Quebec had a relatively low testing rate in 2004, with 68.7% of fatally injured drivers being tested for alcohol use.

In Quebec, 39.3% 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 shows that among tested drivers:

- 4.8% had BACs from 1-49 mg%;
- 4.0% had BACs from 50-80 mg%
- 12.3% had BACs from 81 to 160 mg%; and,
- 18.3% had BACs over 160 mg%.

***9.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 21.2% were aged 26-35 and 36-45; 19.2% were aged 20-25; 14.1% were aged 46-55; and 13.1% were over 55. Those aged 16-19 accounted for only 11.1% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 23.4% were aged 36-45; 20.8% were age 26-35; 16.9% were aged 20-25 and 46-55; and 11.7% were over age 55. Those aged 16-19 accounted for only 10.4% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 51.4% of drivers in this age group had been drinking. By contrast, only 28.9% of tested drivers over age 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture – they account for 85.9% of all the fatally injured drivers who had been drinking, and 85.7% 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 (285 of the 367 fatalities are males). If one examines the frequency of alcohol use among males compared to females, a similar picture emerges. Fatally injured male drivers were more likely to have been drinking than female drivers (42.1% and 28.0%, respectively). And, 77.3% of the male and 78.6% 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), 71.7% were automobile drivers; 17.2% were truck/van drivers; and 11.1% were motorcycle riders.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 71.4% were automobile drivers; 19.5% were truck/van drivers; and 9.1% were motorcycle riders.

Within each of the vehicle types, 50.0% of fatally injured truck/van drivers, 41.0% of automobile drivers, and 31.4% of motorcyclists were found to have been drinking. None of the fatally injured tractor trailer drivers had been drinking.

9.2.4 Collision differences. Two out of five of the drivers killed (152 of the 367) 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 (67.7% and 74.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. More drivers involved in single-vehicle crashes (57.8%) were positive for alcohol than those involved in multiple-vehicle collisions (23.5%).

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 2004 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.

Table 9-3
Drivers in Alcohol-Related Serious Injury Crashes:
Quebec, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	154	9	5.8	0.9
16-19	581	127	21.9	12.5
20-25	1046	222	21.2	21.9
26-35	1195	189	15.8	18.7
36-45	1169	164	14.0	16.2
46-55	927	105	11.3	10.4
>55	907	70	7.7	6.9
unknown	1856	126	6.8	12.5
Gender				
Male	5088	765	15.0	75.6
Female	2477	212	8.6	20.9
unknown	270	35	13.0	3.5
Vehicle Type				
Auto	5133	730	14.2	72.1
Truck/Van	1383	164	11.9	16.2
Motorcycle	404	44	10.9	4.3
Tractor Trailer	188	13	6.9	1.3
Other Hwy. Vehicle	88	5	5.7	0.5
Off-Road	523	44	8.4	4.3
Unknown	116	12	10.3	1.2
Collision Type				
Single-Vehicle	2161	705	32.6	69.7
Multiple-Vehicle	5674	307	5.4	30.3
TOTAL	7835	1012	12.9	100.0

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, 7,835 drivers were involved in crashes in which someone was seriously injured, and among these 12.9% were alcohol-related crashes.

9*.3.1 Driver age.* Of all the drivers involved in alcohol-related serious injury crashes, 21.9% were aged 20-25; 18.7% were aged 26-35; and 16.2% were aged 36-45. Drivers under 16 and over 55 accounted for only 0.9% and 6.9% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of five drivers age 16-19 were involved in alcohol-related serious injury crashes (21.9%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the youngest and oldest age groups of drivers – those aged under 16 (5.8%) and those over 55 (7.7%).

9.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.6% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.0% and 8.6%, respectively).

9.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 72.1% were automobile drivers; and 16.2% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 14.2% of automobile drivers were in crashes that involved alcohol, compared to 11.9% for truck/van drivers, and 10.9% for motorcyclists. Only 5.7% of drivers of other highway vehicles were involved in alcohol-related serious injury crashes.

9.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.7% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.6% of these drivers, compared to only 5.4% 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.

9.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 9-4 and Figure 9-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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.

Table 9-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Quebec, 1995-2004

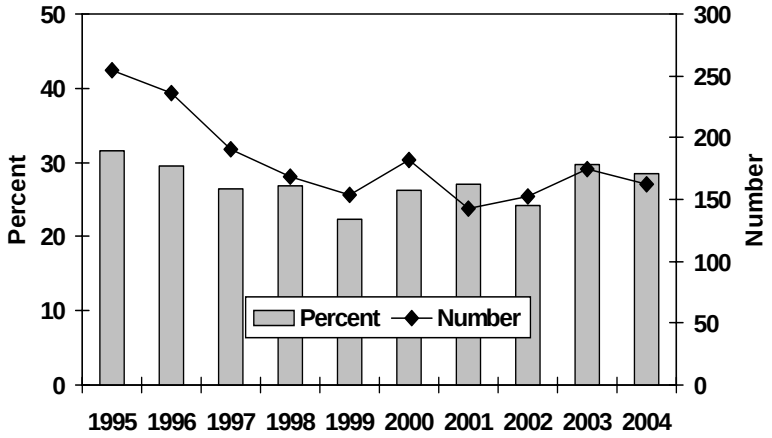
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	807	255	31.6
1996	797	236	29.6
1997	720	191	26.5
1998	628	168	26.8
1999	692	154	22.3
2000	691	182	26.3
2001	527	143	27.1
2002	631	152	24.1
2003	586	174	29.7
2004	574	163	28.4

* 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.

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.

Figure 9-1
Number and Percent of Deaths Involving a Drinking Driver: Quebec, 1995-2004



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 255 to 154 between 1995 and 1999, rose to 182 in 2000, fell to a low of 143 in 2001, rose to 174 in 2003, and fell to 163 in 2004. 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%, dropped to 22.3% in 1999, rose to 27.1% in 2001, dropped to 24.1% in 2002, rose to 29.7% in 2003, and dropped again to 28.4% in 2004.

9.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 9-5. Trends are illustrated in Figure 9-2 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).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (49.5%) to 1999 (22.3%), rose to 29.6% in 2001, dropped slightly to 29.2% in 2002, rose to 38.4% in 2003, and declined to 30.6% in 2004. The percent of fatally injured drivers with zero BAC increased from 1987 (30.9%) to 1993 (58.9%), was relatively stable at this

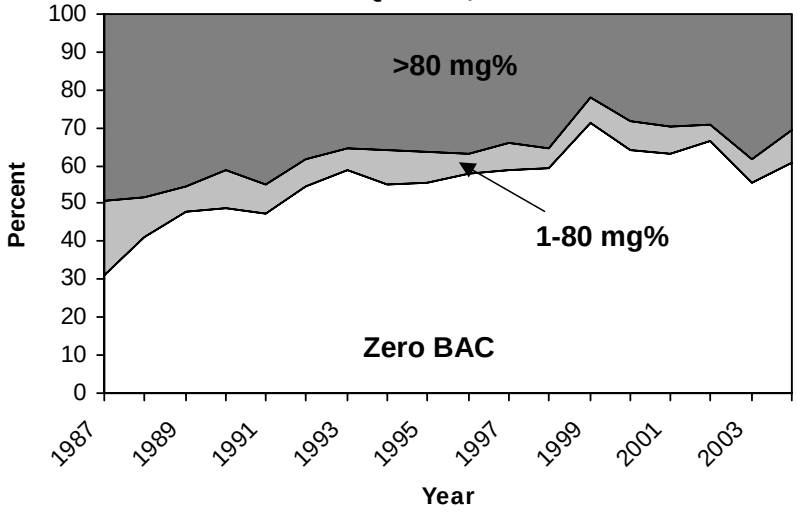
Table 9-5

Alcohol Use Among Fatally Injured Drivers:
Quebec, 1987-2004

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

level until 1998, peaked in 1999 (71.5%), fell to 63.0% in 2001, rose to 66.3% in 2002, dropped to 55.5% in 2003, and rose to 60.7% in 2004. The percent of fatally injured drivers with BACs between 1 and 80 mg% decreased from 1987 (19.6%) to 1996 (5.4%), rose to 7.8% in 2000, dropped to its lowest mark in 2002 (4.4%), and rose again to 8.7% in 2004.

Figure 9-2
Trends in Alcohol Use Among Driver Fatalities: Quebec, 1987-2004



9.4.3 Drivers in serious injury crashes: 1995-2004. Table 9-6 and Figure 9-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 9.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 9-6

Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Quebec, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	6615	1063	(16.1)
1996	6657	1109	(16.7)
1997	6681	974	(14.6)
1998	6681	921	(13.8)
1999	6098	831	(13.6)
2000	6285	866	(13.8)
2001	6275	844	(13.5)
2002	6477	884	(13.6)
2003	7244	851	(11.7)
2004	7196	956	(13.3)

* 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 9-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Quebec, 1995-2004

As can be seen, the incidence of alcohol-involvement in serious injury crashes has generally declined over this ten-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose only slightly from 16.1% to 16.7%. The incidence steadily dropped to 13.6% in 1999, rose slightly to 13.8% in 2000, dropped to 13.5% in 2001, rose slightly to 13.6% in 2002, fell to a low of 11.7% in 2003, and rose to 13.3% in 2004.

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 2004. 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 2004. 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, six people age 16-19 were killed in motor vehicle crashes in New Brunswick during 2004. And, in all six 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, one person aged 16-19 died in alcohol-related crashes in New Brunswick during 2004. The next column expresses this as a percentage – e.g., 16.7% 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 3.2% of all the people killed in alcohol-related crashes in New Brunswick during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 86 persons died in motor vehicle crashes in New Brunswick during 2004. In 80 (93.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 31 (38.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (86 x .388) it can be estimated that in New Brunswick *in 2004, 33 persons died in alcohol-related crashes.*

Table 10-1
Deaths* in Alcohol-Related Crashes: New Brunswick, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	5	2	40.0	1	50.0	3.2
16-19	6	6	100.0	1	16.7	3.2
20-25	15	15	100.0	6	40.0	19.4
26-35	12	12	100.0	9	75.0	29.0
36-45	12	12	100.0	6	50.0	19.4
46-55	10	8	80.0	5	62.5	16.1
>55	26	25	96.2	3	12.0	9.7
Gender						
Male	67	64	95.5	27	42.2	87.1
Female	19	16	84.2	4	25.0	12.9
Type						
Driver/Operator	57	57	100.0	23	40.4	74.2
Passenger	19	18	94.7	8	44.4	25.8
Pedestrian	10	5	50.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	40	40	100.0	15	37.5	48.4
Trucks/Vans	11	11	100.0	5	45.5	16.1
Motorcycles	6	6	100.0	2	33.3	6.5
Other Hwy. Vehs.	3	3	100.0	0	0.0	0.0
Offroad Vehicles	16	15	93.8	9	60.0	29.0
(Pedestrians)	10	5	50.0	0	0.0	0.0
TOTAL	86	80	93.0	31	38.8	100.0

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

10.1.1 Victim age. Of all the people who died in alcohol-related crashes, 29.0% (see last column) were aged 26-35; 19.4% were 20-25 and 36-45; and 16.1% were 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (75.0%) occurred in the crashes in which persons aged 26-35 died. The lowest incidence of alcohol involvement was found among those aged 16-19 and over 55 – 12.0% of the persons over 55 and 16.7% of persons aged 16-19 died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 87.1% were males. The incidence of alcohol in crashes in which a male died (42.2%) was much greater than the incidence of alcohol in crashes in which a female died (25.0%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 74.2% were drivers/operators of a vehicle; 25.8% were passengers; and 0.0% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (44.4%) occurred in the crashes in which a passenger died. Alcohol was involved in 40.4% of the crashes in which a driver died.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 48.4% were in an automobile; occupants of off-road vehicles accounted for 29.0%; 16.1% were truck/van occupants and 6.5% 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 automobile occupant died (45.5% versus 37.5%). Among motorcycle occupants, 33.3% died in an alcohol-related crash as did 60.0% of off-road vehicle occupants.

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 2004. Table 10-2 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 10-2
Alcohol Use Among Fatally Injured Drivers: New Brunswick, 2004

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	4	4	100.0	1	25.0	8.3	0	0.0	0.0
20-25	6	5	83.3	2	40.0	16.7	2	40.0	20.0
26-35	7	7	100.0	5	71.4	41.7	4	57.1	40.0
36-45	10	9	90.0	4	44.4	33.3	4	44.4	40.0
46-55	1	1	100.0	0	0.0	0.0	0	0.0	0.0
>55	15	12	80.0	0	0.0	0.0	0	0.0	0.0
Gender									
Male	35	32	91.4	12	37.5	100.0	10	31.3	100.0
Female	8	6	75.0	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	27	22	81.5	6	27.3	50.0	4	18.2	40.0
Truck/Van	8	8	100.0	5	62.5	41.7	5	62.5	50.0
Motorcycle	5	5	100.0	1	20.0	8.3	1	20.0	10.0
Tractor Trailer	3	3	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	23	23	100.0	10	43.5	83.3	9	39.1	90.0
Multiple-Vehicle	20	15	75.0	2	13.3	16.7	1	6.7	10.0
TOTAL	43	38	88.4	12	31.6	100.0	10	26.3	100.0

To illustrate, among those aged 16-19, there were four drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (25.0%) was positive for alcohol. This means that fatally injured drivers aged 16-19 accounted for 8.3% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that none of the four (0.0%) fatally injured drivers aged 16-19 who were tested for alcohol had BACs in excess of 80 mg%. This means that the one driver who was positive for alcohol had a BAC less than the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 16-19 accounted for 0.0% of all the drivers with BACs over the legal limit. The main findings are shown by the totals at the bottom of the table. New Brunswick had a high

testing rate in 2004, with 88.4% of fatally injured drivers being tested for alcohol use.

In New Brunswick, 31.6% had been drinking and most of these had illegal BACs – 83.3% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 2.6% had BACs from 1-49 mg%;
- 2.6% had BACs from 50-80 mg%
- 10.5% had BACs from 81 to 160 mg%; and,
- 15.8% had BACs over 160 mg%.

10.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 41.7% were aged 26-35; 33.3% were aged 36-45; 16.7% were aged 20-25; and 8.3% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 40.0% were aged 26-35 and 36-45; and 20.0% were aged 20-25.

Within each of the age groups, fatally injured drivers aged 26-35 were the most likely to have been drinking – 71.4% of drivers in this age group had been drinking. By contrast, none of the tested drivers aged 46-55 and over 55 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 100.0% of the fatally injured drivers who had been drinking and 100.0% 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 (35 of the 43 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (37.5% and 0.0%, respectively). Most of the male drivers (83.3%) who had been 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), 50.0% were automobile drivers; 41.7% were truck/van drivers and 8.3% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were

truck/van drivers; automobile drivers accounted for 40.0%; and 10.0% were motorcyclists.

Within each of the vehicle types, 62.5% of fatally injured truck/van drivers were found to have been drinking, compared to 27.3% of automobile drivers and 20.0% of motorcyclists.

10.2.4 Collision differences. Approximately half of the drivers killed (23 of the 43) were involved in single-vehicle collisions but these crashes accounted for a large majority of the drivers who had been drinking or were legally impaired (83.3% and 90.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two out of five drivers involved in single-vehicle crashes (43.5%) were positive for alcohol, compared to only 13.3% 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 2004 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, 444 drivers were involved in crashes in which someone was seriously injured, and among these 24.5% were alcohol-related crashes.

Table 10-3
Drivers in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	4	0	0.0	0.0
16-19	47	11	23.4	10.1
20-25	70	29	41.4	26.6
26-35	80	22	27.5	20.2
36-45	84	19	22.6	17.4
46-55	77	15	19.5	13.8
>55	76	12	15.8	11.0
unknown	6	1	16.7	0.9
Gender				
Male	320	88	27.5	80.7
Female	118	20	16.9	18.3
Unknown	6	1	16.7	0.9
Vehicle Type				
Auto	230	69	30.0	63.3
Truck/Van	124	26	21.0	23.9
Motorcycle	55	12	21.8	11.0
Tractor Trailer	16	1	6.3	0.9
Off-Road	16	1	6.3	0.9
Unknown	3	0	0.0	0.0
Collision Type				
Single-Vehicle	194	89	45.9	81.7
Multiple-Vehicle	250	20	8.0	18.3
TOTAL	444	109	24.5	100.0

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 26.6% were aged 20-25; 20.2% were aged 26-35; and 17.4% were aged 36-45. Drivers aged 16-19 accounted for only 10.1% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, drivers aged 20-25 and 26-35 were most likely to be involved in alcohol-related serious injury crashes (41.4% and 27.5%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the youngest and oldest age groups of drivers – 0.0% for those aged under 16 and 15.8% for those aged over 55.

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 80.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (27.5% and 16.9%, respectively).

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 63.3% were automobile drivers; and 23.9% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found among automobile drivers – 30.0% of these drivers were in crashes that involved alcohol, compared to 21.8% for motorcyclists and 21.0% for truck/van drivers. Only 6.3% of tractor trailer and off-road vehicle drivers were involved in alcohol-related crashes.

10.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 81.7% 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 – 45.9% of these drivers, compared to only 8.0% 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.

10.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 10-4 and Figure 10-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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

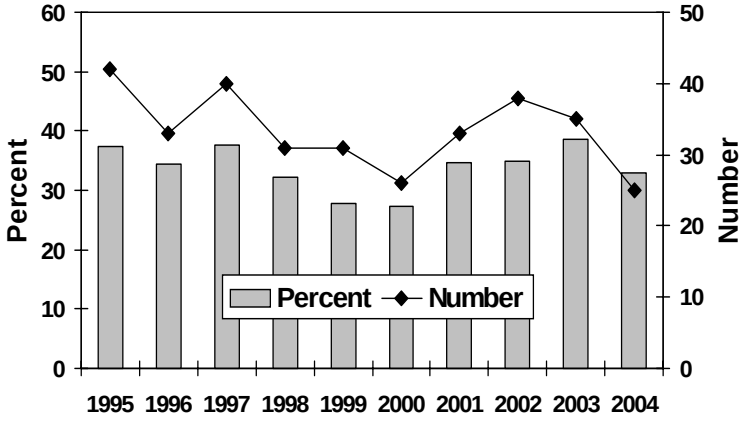
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: New Brunswick, 1995-2004

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

* 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 10-1
Number and Percent of Deaths Involving
a Drinking Driver: New Brunswick, 1995-2004



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, and decreased to a low of 25 in 2004. 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%, declined to its lowest level in 2000 (27.4%), peaked at 38.7% in 2003, and decreased to 32.9% in 2004.

10.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 10-5. Trends are illustrated in Figure 10-2 which shows changes in the percent of fatally injured drivers who: (1) showed no

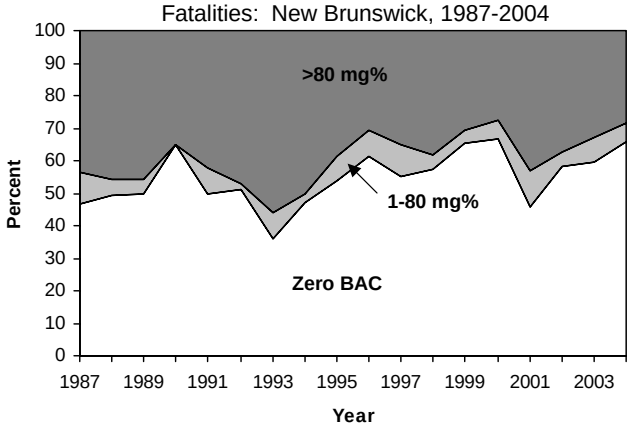
Table 10-5

Alcohol Use Among Fatally Injured Drivers:
New Brunswick, 1987-2004

	Number of Drivers			Drivers Grouped by BAC (mg%)					
YEAR	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

*dying in less than six hours.

Figure 10-2
Trends in Alcohol Use Among Driver Fatalities: New Brunswick, 1987-2004



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 differ slightly from those shown in Section 10.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Since 1987, the percent of fatally injured drivers with BACs over the legal limit fluctuated, peaking in 1993 (56.0%), falling to its lowest mark in 2000 (27.8%), rising to 43.2% in 2001, and declining to 28.6% in 2004. The percent of fatally injured drivers with zero BAC 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, and rose to 65.7% in 2004. 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 in 2001 (10.8%), fell in 2002 (4.2%), rose in 2003 (7.7%), and declined again in 2004 (5.7%).

10.4.3 Drivers in serious injury crashes: 1995-2004. Table 10-6 and Figure 10-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 10.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 10-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: New Brunswick, 1995-2004

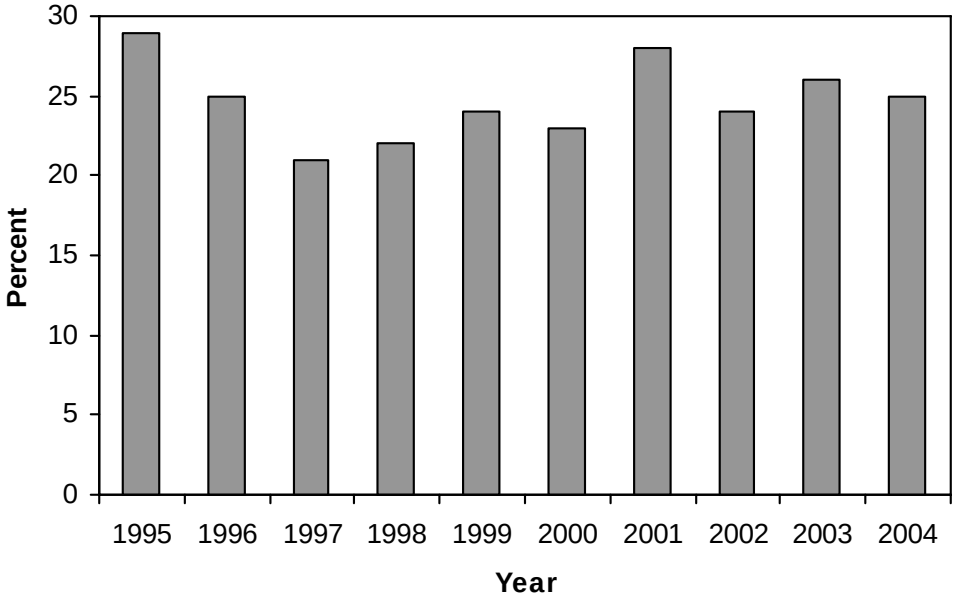
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	681	199	(29.2)
1996	597	146	(24.5)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)
2001	511	142	(27.8)
2002	439	105	(23.9)
2003	426	110	(25.8)
2004	425	108	(25.4)

* 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

As can be seen, the incidence of alcohol-involvement in serious crashes declined until 1997 and gradually increased in more recent years. Between 1995 and 1997 the percentage of drivers in serious injury crashes that involved alcohol dropped from 29.2% to a low of 21.0%. Since then, the percentage increased to 24.2% in 1999, decreased to 22.7% in 2000, rose to 27.8% in 2001, fell to 23.9% in 2002, rose to 25.8% in 2003, and decreased slightly to 25.4% in 2004.

Figure 10-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: New Brunswick, 1995-2004



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 2004. 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 2004. 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, 12 people aged 16-19 were killed in motor vehicle crashes in Nova Scotia during 2004. And, in 11 of these cases (91.7%) 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, five persons aged 16-19 died in an alcohol-related crash in Nova Scotia during 2004. The next column expresses this as a percentage – e.g., 45.5% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 16.1% of all the people killed in alcohol-related crashes in Nova Scotia during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 96 persons died in motor vehicle crashes in Nova Scotia during 2004. In 93 (96.9%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 31 (33.3%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (96 x .333) it can be estimated that *in Nova Scotia during 2004, 32 persons died in alcohol-related crashes*.

Table 11-1
Deaths* in Alcohol-Related Crashes: Nova Scotia, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	8	7	87.5	1	14.3	3.2
16-19	12	11	91.7	5	45.5	16.1
20-25	18	18	100.0	8	44.4	25.8
26-35	11	11	100.0	6	54.5	19.4
36-45	9	8	88.9	3	37.5	9.7
46-55	10	10	100.0	3	30.0	9.7
>55	28	28	100.0	5	17.9	16.1
Gender						
Male	74	73	98.6	26	35.6	83.9
Female	22	20	90.9	5	25.0	16.1
Type						
Driver/Operator	50	49	98.0	13	26.5	41.9
Passenger	30	30	100.0	11	36.7	35.5
Pedestrian	16	14	87.5	7	50.0	22.6
Vehicle Occupied						
Automobiles	55	55	100.0	14	25.5	45.2
Trucks/Vans	15	15	100.0	6	40.0	19.4
Motorcycles	4	4	100.0	1	25.0	3.2
Offroad Vehicles	6	5	83.3	3	60.0	9.7
(Pedestrians)	16	14	87.5	7	50.0	22.6
TOTAL	96	93	96.9	31	33.3	100.0

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

11.1.1 Victim age. Of all the people who died in alcohol-related crashes, those aged 20-25 accounted for 25.8% (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (54.5%) occurred in the crashes in which a person aged 26-35 died. The lowest incidence of alcohol involvement was

found among those aged under 16 – 14.3% of the fatalities in this age group died in crashes involving alcohol.

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 83.9% were males. The incidence of alcohol in crashes in which a male died (35.6%) was greater than the incidence of alcohol in crashes in which a female died (25.0%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 41.9% were drivers/operators of a vehicle; 35.5% were passengers and 22.6.9% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (50.0%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 36.7% of the crashes in which a passenger died and 26.5% 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, almost half (45.2%) were in an automobile, 19.4% were in a truck/van, 9.7% were in an off-road vehicle; and 3.2% were on a motorcycle.

Within each of the 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 truck/van occupant or an automobile occupant died (60.0%, 40.0%, and 25.5%, respectively). And 25.0% of motorcyclists died in an alcohol-related crash.

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 2004. Table 11-2 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 11-2
Alcohol Use Among Fatally Injured Drivers: Nova Scotia, 2004

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	3	3	100.0	1	33.3	11.1	1	33.3	14.3
20-25	8	7	87.5	1	14.3	11.1	1	14.3	14.3
26-35	5	5	100.0	2	40.0	22.2	1	20.0	14.3
36-45	2	2	100.0	1	50.0	11.1	1	50.0	14.3
46-55	8	7	87.5	2	28.6	22.2	1	14.3	14.3
>55	19	14	73.7	2	14.3	22.2	2	14.3	28.6
Gender									
Male	38	35	92.1	9	25.7	100.0	7	20.0	100.0
Female	7	3	42.9	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	32	26	81.3	5	19.2	55.6	4	15.4	57.1
Truck/Van	9	8	88.9	3	37.5	33.3	3	37.5	42.9
Motorcycle	4	4	100.0	1	25.0	11.1	0	0.0	0.0
Collision Type									
Single-Vehicle	18	15	83.3	6	40.0	66.7	6	40.0	85.7
Multiple-Vehicle	27	23	85.2	3	13.0	33.3	1	4.3	14.3
TOTAL	45	38	84.4	9	23.7	100.0	7	18.4	100.0

To illustrate, among 16-19 year olds there were three drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (33.3%) was positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 11.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the three (33.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that the driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 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 2004, with 84.4% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 23.7% 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 shows that among tested drivers:

- 2.6% had BACs from 1-49 mg%;
- 2.6% had BACs from 50-80 mg%
- 7.9% had BACs from 81 to 160 mg%; and,
- 10.5% had BACs over 160 mg%.

***11.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 22.2% were aged 26-35, 46-55 and over 55; and 11.1% were aged 16-19, 20-25 and 36-45.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.6% were over 55; and 14.3% were aged 16-19, 20-25, 26-35, 36-45 and 46-55.

Within each of the age groups, fatally injured drivers aged 36-45 were the most likely to have been drinking – 50.0% of tested drivers in this age group had been drinking. By contrast, 14.3% of the tested drivers aged 20-25 and over age 55 had been drinking.

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

However, males dominate the picture largely because they account for most of the drivers who are killed (38 of the 45 fatalities are males). If one examines the frequency of alcohol use among males compared to females, a similar picture emerges. Fatally injured male drivers were more likely to have been drinking than female drivers (25.7% and 0.0%, respectively). Over three-quarters all of the male drivers (77.8%) 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), 55.6% were automobile drivers, 33.3% were truck/van drivers, and 11.1% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 57.1% were automobile drivers and 42.9% were truck/van drivers.

Within each of the vehicle types, 37.5% of fatally injured drivers of trucks/vans, 25.0% of motorcyclists and 19.2% of automobile drivers had been drinking.

11.2.4 Collision differences. Two-fifths of the drivers killed (18 of the 45) were involved in single-vehicle collisions and these crashes accounted for most of the drivers who had been drinking or were legally impaired (66.7% and 85.7%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two-fifths (40.0%) of drivers involved in single-vehicle crashes were positive for alcohol, compared to 13.0% 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 2004 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, 365 drivers were involved in crashes in which someone was seriously injured, and among these 22.5% were alcohol-related crashes.

Table 11-3
Drivers in Alcohol-Related Serious Injury Crashes:
Nova Scotia, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	4	1	25.0	1.2
16-19	42	7	16.7	8.5
20-25	55	20	36.4	24.4
26-35	63	20	31.7	24.4
36-45	64	12	18.8	14.6
46-55	47	9	19.1	11.0
>55	80	10	12.5	12.2
unknown	10	3	30.0	3.7
Gender				
Male	253	64	25.3	78.0
Female	102	15	14.7	18.3
unknown	10	3	30.0	3.7
Vehicle Type				
Auto	221	53	24.0	64.6
Truck/Van	87	20	23.0	24.4
Motorcycle	33	6	18.2	7.3
Tractor Trailer	8	1	12.5	1.2
Other Hwy. Vehicle	2	1	50.0	1.2
Off-Road	14	1	7.1	1.2
Collision Type				
Single-Vehicle	150	64	42.7	78.0
Multiple-Vehicle	215	18	8.4	22.0
TOTAL	365	82	22.5	100.0

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.4% were aged 20-25 and 26-35; 14.6% were aged 36-45; 12.2% were over 55; 11.0% were aged 46-55 and 8.5% were aged 16-19. Drivers under 16 accounted for 1.2% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, over one-third of drivers age 20-25 were involved in alcohol-related serious injury crashes (36.4%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the oldest age group of drivers – 12.5% of those aged over 55.

11.3.2 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 (25.3% and 14.7%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 64.6% were automobile drivers; and 24.4% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for other highway vehicle drivers – 50.0% of these drivers were in crashes that involved alcohol, compared to 24.0% for drivers of automobiles, 23.0% of drivers of trucks/vans, 18.2% for motorcyclists, 12.5% of tractor trailer drivers and 7.1% of off-road vehicle drivers.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 78.0% 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 – 42.7% of these drivers, compared to only 8.4% 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.

11.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 11-4 and Figure 11-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. These results differ slightly from those in Section 11.1 for two reasons. First,

Table 11-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Nova Scotia, 1995-2004

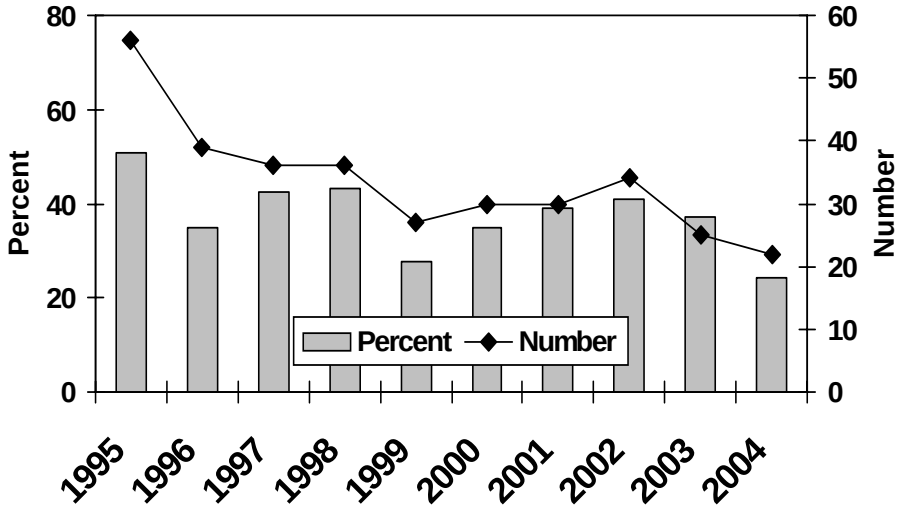
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	110	56	50.9
1996	112	39	34.8
1997	85	36	42.4
1998	83	36	43.4
1999	98	27	27.6
2000	86	30	34.9
2001	77	30	39.0
2002	83	34	41.0
2003	67	25	37.3
2004	90	22	24.4

* 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 11-1

Number and Percent of Deaths Involving
a Drinking Driver: Nova Scotia, 1995-2004



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 56 to 36 between 1995 and 1997. Alcohol-related fatalities remained constant at 36 in 1998, decreased to 27 in 1999, rose to 34 in 2002, and fell to a low of 22 in 2004. 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%, dropped substantially to 27.6% in 1999, rose to 41.0% in 2002, and decreased to a low of 24.4% in 2004.

11.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 11-5. Trends are illustrated in Figure 11-2 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 differ slightly from those shown in Section 11.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

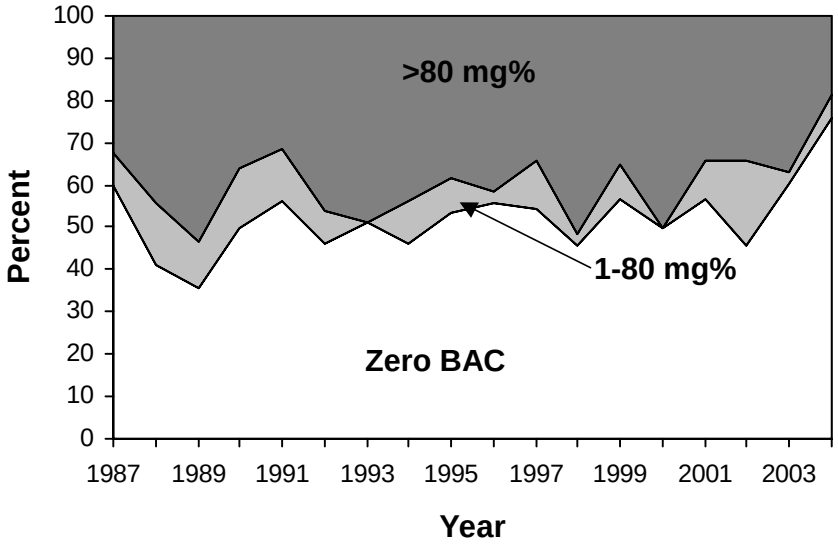
Table 11-5

Alcohol Use Among Fatally Injured Drivers:
Nova Scotia, 1987-2004

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	79	62	78.5	37	59.7	5	8.1	20	32.3
1988	85	61	71.8	25	41.0	9	14.8	27	44.3
1989	61	45	73.8	16	35.6	5	11.1	24	53.3
1990	67	58	86.6	29	50.0	8	13.8	21	36.2
1991	54	41	75.9	23	56.1	5	12.2	13	31.7
1992	53	37	69.8	17	45.9	3	8.1	17	45.9
1993	52	39	75.0	20	51.3	0	0.0	19	48.7
1994	50	41	82.0	19	46.3	4	9.8	18	43.9
1995	57	47	82.5	25	53.2	4	8.5	18	38.3
1996	49	36	73.5	20	55.6	1	2.8	15	41.7
1997	41	35	85.4	19	54.3	4	11.4	12	34.3
1998	46	35	76.1	16	45.7	1	2.9	18	51.4
1999	52	37	71.2	21	56.8	3	8.1	13	35.1
2000	47	42	89.4	21	50.0	0	0.0	21	50.0
2001	48	44	91.7	25	56.8	4	9.1	15	34.1
2002	36	35	97.2	16	45.7	7	20.0	12	34.3
2003	44	43	97.7	26	60.5	1	2.3	16	37.2
2004	40	37	92.5	28	75.7	2	5.4	7	18.9

* dying in less than six hours.

Figure 11-2
Trends in Alcohol Use Among Driver Fatalities: Nova Scotia, 1987-2004



As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1989 (53.3%), dropped to 31.7% in 1991, increased in 1998 (51.4%), dropped in 1999 (35.1%), rose in 2000 (50.0%), dropped again in 2001 (34.1%), rose slightly to 37.2% in 2003, and then fell to a low of 18.9% in 2004. The percent of fatally injured drivers with zero BAC dropped to its lowest point in 1989 (35.6%), fluctuated until 2000 (50.0%), rose in 2001 (56.8%), dropped to 45.7% in 2002, and reached its peak in 2004 (75.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% reached a low in 1993 (0.0%) and in 2000 (0.0%), peaked at 20.0% in 2002, fell to 2.3% in 2003, and rose to 5.4% in 2004.

11.4.3 Drivers in serious injury crashes: 1995-2004. Table 11-6 and Figure 11-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 11.3 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 ten-year period. Between 1995 and 1996 the percentage of 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, and dropped slightly to 23.1% in 2004.

Table 11-6

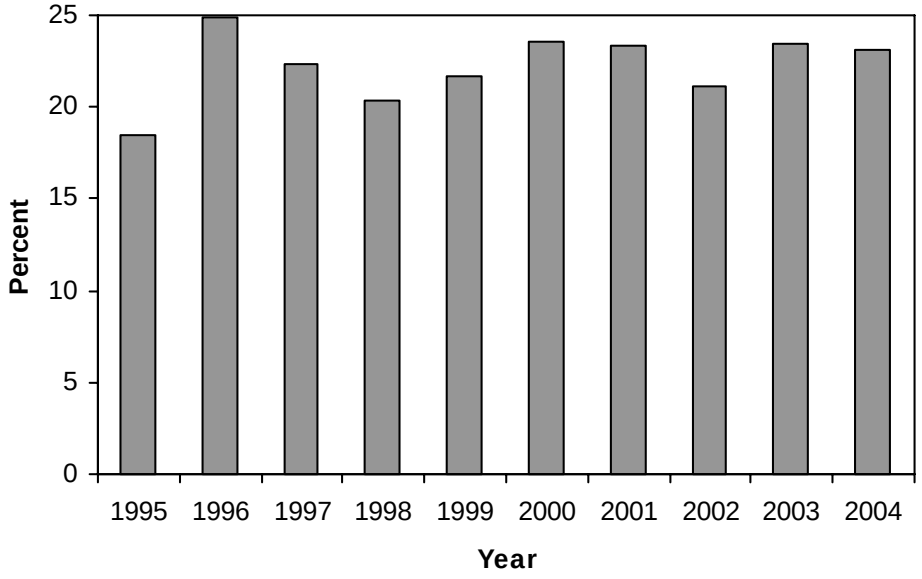
Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Nova Scotia, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(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)

* 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 11-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Nova Scotia, 1995-2004



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 2004. 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).

12.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 12-1 presents information on people who died in alcohol-related crashes in Prince Edward Island during 2004. 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, two people aged 16-19 were killed in motor vehicle crashes in Prince Edward Island during 2004. And, in both 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, one person aged 16-19 died in an alcohol-related crash in Prince Edward Island during 2004. 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 those aged 16-19 represent 9.1% of all the people killed in alcohol-related crashes in Prince Edward Island during 2004.

Table 12-1
Deaths* in Alcohol-Related Crashes: Prince Edward Island, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
16-19	2	2	100.0	1	50.0	9.1
20-25	6	6	100.0	4	66.7	36.4
26-45	6	6	100.0	4	66.7	36.4
46-55	9	8	88.9	2	25.0	18.2
>55	7	7	100.0	0	0.0	0.0
Gender						
Male	20	19	95.0	10	52.6	90.9
Female	10	10	100.0	1	10.0	9.1
Type						
Driver/Operator	18	17	94.4	7	41.2	63.6
Passenger	10	10	100.0	4	40.0	36.4
Pedestrian	2	2	100.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	12	12	100.0	5	41.7	45.5
Trucks/Vans	9	9	100.0	4	44.4	36.4
Motorcycles	5	4	80.0	1	25.0	9.1
Offroad Vehicles	2	2	100.0	1	50.0	9.1
(Pedestrians)	2	2	100.0	0	0.0	0.0
TOTAL	30	29	96.7	11	37.9	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, 30 persons died in motor vehicle crashes in Prince Edward Island during 2004. In 29 of these cases (96.7%), it was possible to determine if alcohol was a factor. Of these known cases, 11 (37.9%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (30 x .379) it can be estimated that *in Prince Edward Island during 2004, 11 persons died in alcohol-related crashes.*

12.1.1 Victim age. Of all the people who died in alcohol-related crashes, 36.4% (see last column) were aged 20-25 and 26-45; 18.2% were aged 46-55 and those aged 16-19 accounted for 9.1%.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 and 26-45 (66.7%) died. The lowest incidence of alcohol involvement was found among those aged over 55 – 0.0% of these persons died in crashes involving alcohol.

12.1.2 Gender. Of all the people who died in alcohol-related crashes, 90.9% were males. The incidence of alcohol in crashes in which a male died was 52.6% compared to only 10.0% for females.

12.1.3 Victim type. Of all the people who died in alcohol-related crashes, 63.6% were drivers/operators of a vehicle; and 36.4% were passengers.

Within each of these victim types, the highest incidence of alcohol involvement (41.2%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 40.0% of crashes where a passenger died and 0.0% of the crashes in which a pedestrian died.

12.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 45.5% were in an automobile, 36.4% were in a truck/van and 9.1% were on an off-road vehicle and on a motorcycle.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died (50.0%) was greater than the incidence of alcohol in crashes in which a truck/van and an automobile occupant died (44.4% and 41.7%, respectively). And 25.0% of motorcyclists died in alcohol-related crashes.

12.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Prince Edward Island during 2004. Table 12-2 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 12-2
Alcohol Use Among Fatally Injured Drivers: Prince Edward Island, 2004

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									
18-25	5	5	100.0	3	60.0	50.0	3	60.0	60.0
26-35	3	3	100.0	1	33.3	16.7	1	33.3	20.0
46-55	6	4	66.7	2	50.0	33.3	1	25.0	20.0
>55	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Gender									
Male	12	10	83.3	6	60.0	100.0	5	50.0	100.0
Female	4	4	100.0	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	7	6	85.7	3	50.0	50.0	3	50.0	60.0
Truck/Van	4	3	75.0	2	66.7	33.3	2	66.7	40.0
Motorcycle	5	5	100.0	1	20.0	16.7	0	0.0	0.0
Collision Type									
Single-Vehicle	6	6	100.0	4	66.7	66.7	4	66.7	80.0
Multiple-Vehicle	10	8	80.0	2	25.0	33.3	1	12.5	20.0
TOTAL	16	14	87.5	6	42.9	100.0	5	35.7	100.0

To illustrate, among 18-25 year olds there were five drivers killed during 2004; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, three (60.0%) were positive for alcohol. This means that 18-25 year old fatally injured drinking drivers accounted for 50.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the five fatally injured 18-25 year olds (60.0%) who were tested for alcohol had BACs in excess of 80 mg%. This means that all of the 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, 18-25 year old drivers accounted for 60.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Prince Edward Island had a high testing rate in 2004, with 87.5% of fatally injured drivers being tested for alcohol use. In Prince Edward Island, 42.9% had been drinking and the majority of these had illegal BACs – 83.3% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 7.1% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%
- 14.3% had BACs from 81 to 160 mg%; and,
- 21.4% had BACs over 160 mg%.

12.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 50.0% were aged 18-25; 33.3% were aged 46-55; and those aged 26-35 accounted for 16.7%.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were aged 18-25, and those aged 26-35 and 46-55 each accounted for 20.0%.

Within each of the age groups, fatally injured drivers age 18-25 were the most likely to have been drinking – 60.0% of drivers in this age group had been drinking. By contrast, 0.0% of the tested drivers over age 55 had been drinking.

12.2.2 Gender differences. Males dominate the picture – they account for all of the fatally injured drivers who had been drinking.

However, males dominate the picture largely because they account for most of the drivers who are killed (12 of the 16 fatalities are males). Three-fifths (60.0%) of fatally injured male drivers had been drinking. Of the male drivers who were drinking, 83.3% had BACs over the legal limit.

12.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), automobile drivers accounted for 50.0%, 33.3% were truck/van drivers, and 16.7% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were automobile drivers and truck/van drivers accounted for 40.0%.

Within each of the vehicle types, 66.7% of fatally injured truck/van drivers, 50.0% of drivers of automobiles and 20.0% of motorcyclists were found to have been drinking.

12.2.4 Collision differences. Less than half of the drivers killed (six of the 16) were involved in single-vehicle collisions yet these crashes accounted for 66.7% of the drivers who had been drinking and 80.0% of those who were legally impaired.

Alcohol is overrepresented in single-vehicle crashes. Two-thirds of drivers involved in single-vehicle crashes (66.7%) were positive for alcohol, compared to only 25.0% of those involved in multiple-vehicle collisions.

12.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2004 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 12-3 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, 97 drivers were involved in crashes in which someone was seriously injured, and among these 29.9% were alcohol-related crashes.

Table 12-3
Drivers in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2004

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	2	0	0.0	0.0
16-19	19	8	42.1	27.6
20-25	12	4	33.3	13.8
26-35	21	5	23.8	17.2
36-45	15	4	26.7	13.8
46-55	13	5	38.5	17.2
>55	15	3	20.0	10.3
Gender				
Male	69	23	33.3	79.3
Female	28	6	21.4	20.7
Vehicle Type				
Auto	62	20	32.3	69.0
Truck/Van	21	6	28.6	20.7
Motorcycle	8	1	12.5	3.4
Tractor Trailer	1	0	0.0	0.0
Off-Road	5	2	40.0	6.9
Collision Type				
Single-Vehicle	33	20	60.6	69.0
Multiple-Vehicle	64	9	14.1	31.0
TOTAL	97	29	29.9	100.0

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 27.6% were aged 16-19; 17.2% were aged 26-35 and 46-55; 13.8% were aged 20-25 and 36-45; and 10.3% were over age 55. Drivers under 16 accounted for none of those involved in alcohol-related serious injury crashes.

Within each of the age groups, 42.1% of drivers age 16-19 and 38.5% of those aged 46-55 were involved in alcohol-related serious injury crashes.

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 79.3% were males. And the incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (33.3% and 21.4%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 69.0% were automobile drivers; and 20.7% were truck/van drivers; 6.9% were drivers of off-road vehicles, and 3.4% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of off-road vehicles – 40.0% of these drivers were in crashes that involved alcohol, compared to 32.3% for automobile drivers, 28.6% for truck/van drivers, and 12.5% for motorcyclists.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.0% of them were in single-vehicle crashes. The incidence of involvement in alcohol-related serious injury crashes was found among 60.6% of these drivers and 14.1% among drivers 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.

12.4.1 Deaths in alcohol-related crashes: 1995-2004. Table 12-4 and Figure 12-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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 dropped from nine to only three between 1995 and 1998, rose to 10 in 2002, dropped to nine in 2003, and rose again to 10 in 2004. The percentage of alcohol-related fatalities decreased from 56.3% in

1995 to 14.3% in 1998. Since then, the percentage of alcohol-related fatalities in Prince Edward Island rose to 56.3% in 2003, and fell to 35.7% in 2004.

Figure 12-1
Number and Percent of Deaths Involving a Drinking Driver: Prince Edward Island, 1995-2004

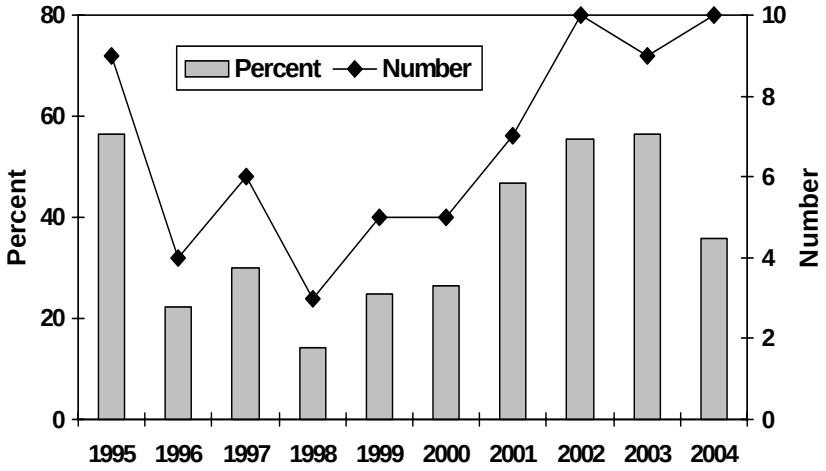


Table 12-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Prince Edward Island, 1995-2004

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

* 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.

12.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 12-5. 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 differ slightly from those shown in Section 12.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 12-5

Alcohol Use Among Fatally Injured Drivers:
Prince Edward Island, 1987-2004

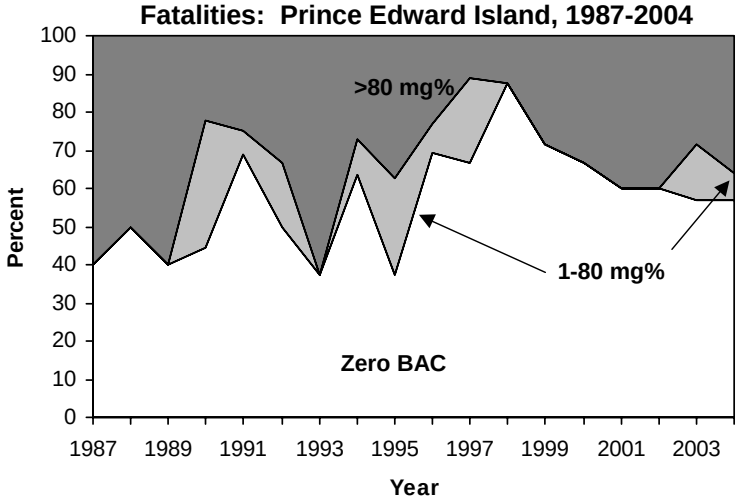
				Drivers Grouped by BAC (mg%)					
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	6	5	83.3	2	40.0	0	0.0	3	60.0
1988	9	8	88.9	4	50.0	0	0.0	4	50.0
1989	8	5	62.5	2	40.0	0	0.0	3	60.0
1990	10	9	90.0	4	44.4	3	33.3	2	22.2
1991	16	16	100.0	11	68.8	1	6.3	4	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

* dying in less than six hours.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (60.0%) to 1998 (12.5%), rose in 2002 (40.0%), dropped in 2003 (28.6%), and rose again in 2004 (35.7%). The percent of fatally injured drivers with zero BAC increased from 1987 (40.0%) to its highest level in 1998 (87.5%) before dropping in 2003 (57.1%), and remaining at that level in 2004. The percent of fatally injured drivers with BACs between 1 and

80 mg% peaked in 1990 (33.3%). The number of fatally injured drivers with BACs between 1 and 80 mg% was constant from 1998 to 2002 (0.0%), rose in 2003 (14.3%), and declined in 2004 (7.1%).

Figure 12-2
Trends in Alcohol Use Among Driver Fatalities: Prince Edward Island, 1987-2004



12.4.3 Drivers in serious injury crashes: 1995-2004. Table 12-6 and Figure 12-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 12.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 12-6

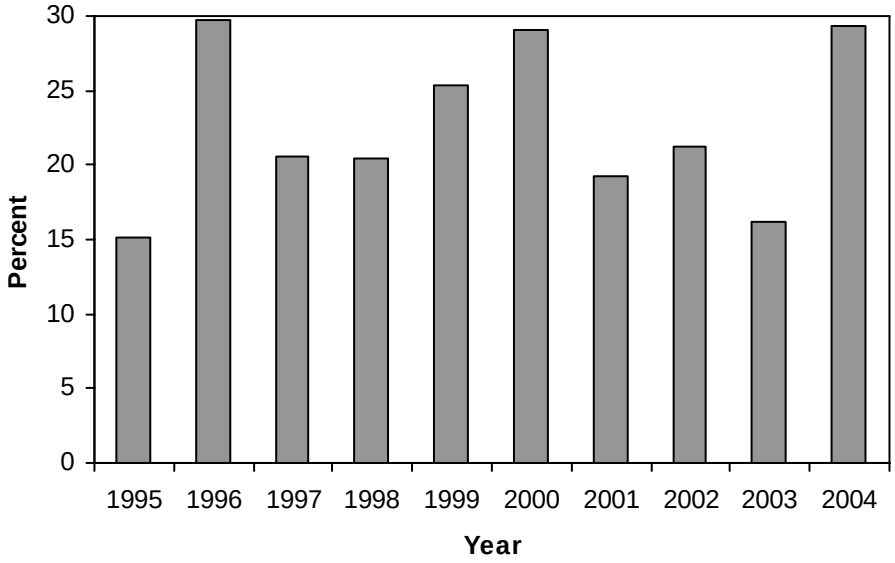
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Prince Edward Island, 1995-2004

Year	Number of Drivers	Alcohol Related Number	(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)

* 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 12-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Prince Edward Island, 1995-2004



As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 10-year period. Between 1995 and 1996 the percentage of 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, and rose to 29.3% in 2004.

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 2004. 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 2004. 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, seven people aged 16-19 were killed in motor vehicle crashes in Newfoundland and Labrador during 2004. And, in all of these 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 persons aged 16-19 died in an alcohol-related crash in Newfoundland and Labrador during 2004. The next column expresses this as a percentage – e.g., 57.1% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 23.5% of all the people killed in alcohol-related crashes in Newfoundland and Labrador during 2004.

The totals at the bottom of the table provide a summary. As can be seen, 42 persons died in motor vehicle crashes in Newfoundland and Labrador during 2004. In 38 (90.5%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 17 (44.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (42 x .447) it can be estimated that *in Newfoundland and Labrador during 2004, 19 persons died in alcohol-related crashes*.

Table 13-1
Deaths* in Alcohol-Related Crashes: Newfoundland & Labrador, 2004

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	3	2	66.7	0	0.0	0.0
16-19	7	7	100.0	4	57.1	23.5
20-25	6	5	83.3	5	100.0	29.4
26-35	9	8	88.9	3	37.5	17.6
36-45	3	3	100.0	2	66.7	11.8
46-55	3	3	100.0	1	33.3	5.9
>55	11	10	90.9	2	20.0	11.8
Gender						
Male	32	29	90.6	16	55.2	94.1
Female	10	9	90.0	1	11.1	5.9
Type						
Driver/Operator	23	23	100.0	11	47.8	64.7
Passenger	14	12	85.7	4	33.3	23.5
Pedestrian	5	3	60.0	2	66.7	11.8
Vehicle Occupied						
Automobiles	20	18	90.0	7	38.9	41.2
Trucks/Vans	8	8	100.0	2	25.0	11.8
Other Hwy. Vehs.	1	1	100.0	1	100.0	5.9
Offroad Vehicles	8	8	100.0	5	62.5	29.4
(Pedestrians)	5	3	60.0	2	66.7	11.8
TOTAL	42	38	90.5	17	44.7	100.0

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

13.1.1 Victim age. Of all the people who died in alcohol-related crashes, (see last column) 29.4% were aged 20-25; 23.5% were 16-19, 17.6% were 26-35, 11.8% were 36-45 and over 55, and 5.9% were aged 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (100.0%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 0.0% of those under age 16 and 20.0% of those over 55 died in crashes involving alcohol.

13.1.2 Gender. Almost all (94.1%) of the people who died in alcohol-related crashes were males. The incidence of alcohol in crashes in which a male died was 55.2% compared to 11.1% for females.

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 64.7% were drivers/operators of a vehicle; 23.5% were passengers and pedestrians accounted for 11.8%.

Within each of these victim types, the highest incidence of alcohol involvement (66.7%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 47.8% of the crashes in which a driver died; and in 33.3% of the crashes in which a passenger died.

13.1.4 Type of vehicle occupied. Occupants of automobiles accounted for 41.2% of the people who died in alcohol-related crashes, 29.4% were off-road vehicle occupants, 11.8% were truck/van occupants, and 5.9% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which an occupant of a truck/van died (38.9% versus 25.0%). And, 100.0% of other highway vehicle occupants and 62.5% of off-road vehicle occupants died in an alcohol-related crash.

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 2004. Table 13-2 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%.

To illustrate, among 16-35 year olds there were ten drivers killed during 2004; nine of these fatally injured drivers (90.0%) were tested for alcohol. Of those who were tested, five (55.6%) were positive for alcohol. This means that 16-35 year old fatally injured drinking drivers accounted for 83.3% of all drinking drivers who were killed.

Table 13-2
Alcohol Use Among Fatally Injured Drivers: Newfoundland & Labrador, 2004

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									
16-35	10	9	90.0	5	55.6	83.3	4	44.4	80.0
36-45	2	2	100.0	1	50.0	16.7	1	50.0	20.0
>55	4	3	75.0	0	0.0	0.0	0	0.0	0.0
Gender									
Male	13	12	92.3	6	50.0	100.0	5	41.7	100.0
Female	3	2	66.7	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	10	8	80.0	4	50.0	66.7	4	50.0	80.0
Other*	6	6	100.0	2	33.3	33.3	1	16.7	20.0
Collision Type									
Single-Vehicle	9	8	88.9	6	75.0	100.0	5	62.5	100.0
Multiple-Vehicle	7	6	85.7	0	0.0	0.0	0	0.0	0.0
TOTAL	16	14	87.5	6	42.9	100.0	5	35.7	100.0

* This category includes truck/vans and tractor trailers. It has been aggregated to ensure that the BAC of one of the drivers cannot be identified.

Then, in the final three columns, it can be seen that four of the nine fatally injured 16-35 year olds (44.4%) 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, 16-35 year old drivers accounted for 80.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Newfoundland and Labrador had a high testing rate in 2004, with 87.5% of fatally injured drivers being tested for alcohol use. In Newfoundland and Labrador, 42.9% had been drinking and the majority of these had illegal BACs – 57.1% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 7.1% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%
- 14.3% had BACs from 81 to 160 mg%; and,
- 21.4% had BACs over 160 mg%.

***13.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 83.3% were aged 16-35; and those 36-45 accounted for 16.7%.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), those aged 16-35 accounted for 80.0%, and those aged 36-45 accounted for 20.0%.

Within each of the age groups, fatally injured drivers aged 16-35 were the most likely to have been drinking – 55.6% of drivers in these age groups had been drinking. By contrast, 0.0% of the tested drivers over 55 had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for all of the fatally injured drivers who had been drinking.

However, males dominate the picture largely because they account for most of the drivers who are killed (13 of the 16 fatalities are males). Half (50.0%) of fatally injured male drivers had been drinking. Of the male drivers who were drinking, 83.3% had BACs over the legal limit.

***13.2.3 Vehicle differences*.** Drivers of trucks/vans and tractor trailers have been aggregated into an “other” vehicle category. This is to prevent identifying an individual driver’s BAC based on the type of vehicle that they were operating. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), automobile drivers accounted for 66.7%, and 33.3% were other vehicle drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), automobile drivers accounted for 80.0% and other vehicle drivers accounted for 20.0%.

Within each of the vehicle types, 50.0% of fatally injured automobile drivers and 33.3% of drivers of other vehicles were found to have been drinking.

13.2.4 Collision differences. Just over half of the drivers killed (nine of the 16) were involved in single-vehicle collisions but these crashes accounted for all of the drivers who had been drinking and who were legally impaired.

Alcohol is overrepresented in single-vehicle crashes. Three-quarters of drivers involved in single-vehicle crashes (75.0%) were positive for alcohol.

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 2004 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), and 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, 217 drivers were involved in crashes in which someone was seriously injured, and among these 24.0% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 15.4% were aged 36-45 and 46-55; 13.5% were aged 16-19, 20-25 and 26-35; and 7.7% were over age 55. Drivers under 16 accounted for 3.8% of those involved in alcohol-related serious injury crashes.

Table 13-3
Drivers in Alcohol-Related Serious Injury Crashes:
Newfoundland & Labrador, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	9	2	22.2	3.8
16-19	19	7	36.8	13.5
20-25	24	7	29.2	13.5
26-35	28	7	25.0	13.5
36-45	34	8	23.5	15.4
46-55	36	8	22.2	15.4
>55	36	4	11.1	7.7
unknown	31	9	29.0	17.3
Gender				
Male	157	45	28.7	86.5
Female	41	1	2.4	1.9
unknown	19	6	31.6	11.5
Vehicle Type				
Auto	97	25	25.8	48.1
Truck/Van	46	11	23.9	21.2
Motorcycle	19	2	10.5	3.8
Tractor Trailer	1	0	0.0	0.0
Off-Road	33	9	27.3	17.3
Unknown	21	5	23.8	9.6
Collision Type				
Single-Vehicle	81	30	37.0	57.7
Multiple-Vehicle	136	22	16.2	42.3
TOTAL	217	52	24.0	100.0

Within each of the age groups, over one out of three drivers aged 16-19 were involved in alcohol-related serious injury crashes (36.8%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers over 55 (11.1%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 86.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.7% and 2.4%, respectively).

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 48.1% were automobile drivers; 21.2% were truck/van drivers; 17.3% were drivers of off-road vehicles, and 3.8% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle drivers – 27.3% of these drivers were in crashes that involved alcohol, compared to 25.8% for drivers of automobiles; 23.9% for truck/van drivers, and 10.5% for motorcyclists.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 57.7% 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 – 37.0% of these drivers, compared to only 16.2% 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.

13.4.1 Deaths in alcohol-related crashes: 1995-2004 Table 13-4 and Figure 13-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2004. 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.

Table 13-4

Number* and Percent of Motor Vehicle Deaths** Involving a Drinking Driver: Newfoundland & Labrador, 1995-2004

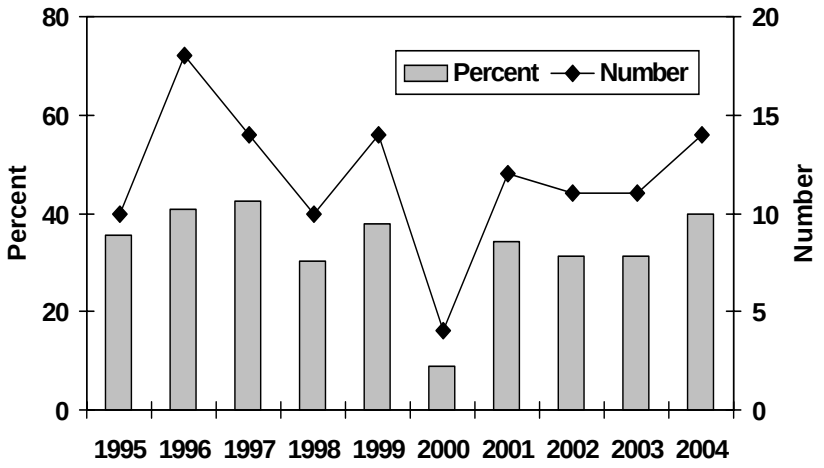
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	28	10	35.7
1996	44	18	40.9
1997	33	14	42.4
1998	33	10	30.3
1999	37	14	37.8
2000	45	4	8.9
2001	35	12	34.3
2002	35	11	31.4
2003	35	11	31.4
2004	35	14	40.0

* 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 13-1

Number and Percent of Deaths Involving a Drinking Driver: Newfoundland& Labrador, 1995-2004



As shown in the figure, the number of deaths in crashes that involved a drinking driver rose from 10 to 18 between 1995 and 1996. Alcohol-related fatalities decreased to 10 in 1998, increased to 14 in 1999, fell to a low of four in 2000, rose to 12 in 2001, decreased to 11 in 2002, remained at 11 in 2003, and rose to 14 in 2004. 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 deceased 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, remained at that level in 2003, and rose to 40.0% in 2004.

13.4.2 Fatally injured drivers: 1987-2004. Data on alcohol use among fatally injured drivers over the 18-year period from 1987-2004 are shown in Table 13-5. Trends are illustrated in Figure 13-2 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 differ slightly from those shown in Section 13.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 13-5

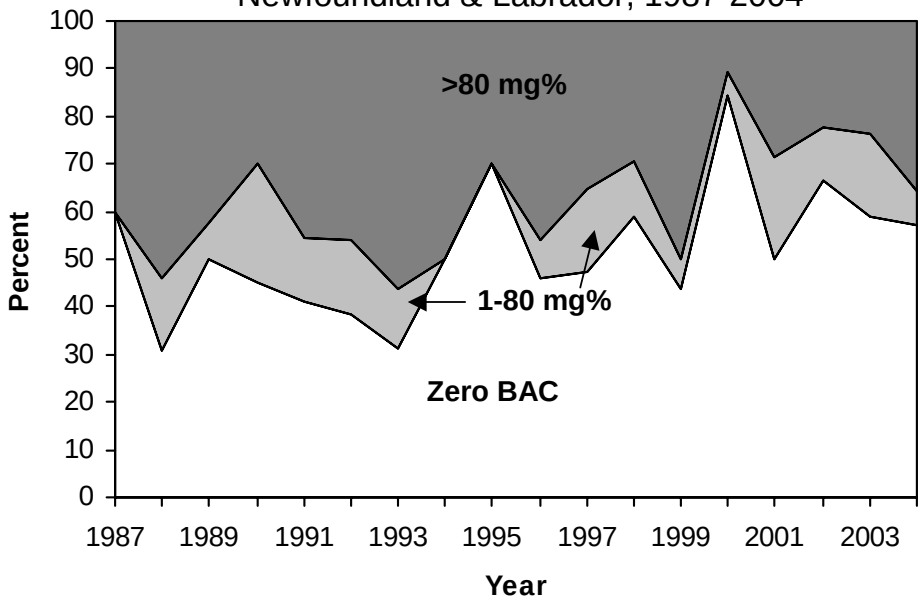
Alcohol Use Among Fatally Injured Drivers:
Newfoundland & Labrador, 1987-2004

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

* dying in less than six hours.

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 to 22.2% in 2002, and rose to 35.7% in 2004. The percent of fatally injured drivers with zero BAC reached 70.0% in 1995, declined in 1996 (46.2%), rose to 58.8% in 1998, fell to 43.8% in 1999, peaked in 2000 (84.2%), dropped in 2001 (50.0%), rose in 2002 (66.7%), and dropped to 57.1% in 2004. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1990 (25.0%), dropped to 0.0% in 1994 and 1995, reached 17.6% in 1997, decreased to 5.3% in 2000, rose to 21.4% in 2001, dropped to 11.1% in 2002, rose in 2003 (17.6%), and dropped again in 2004 (7.1%).

Figure 13-2
Trends in Alcohol Use Among Driver Fatalities:
Newfoundland & Labrador, 1987-2004



13.4.3 Drivers in serious injury crashes: 1995-2004. Table 13-6 and Figure 13-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 13.3 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, decreased to a low of 15.7% in 2000; rose to 17.9% in 2001, and decreased to 17.3% in 2003, and rose again to 23.3% in 2004.

Table 13-6

Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Newfoundland & Labrador, 1995-2004

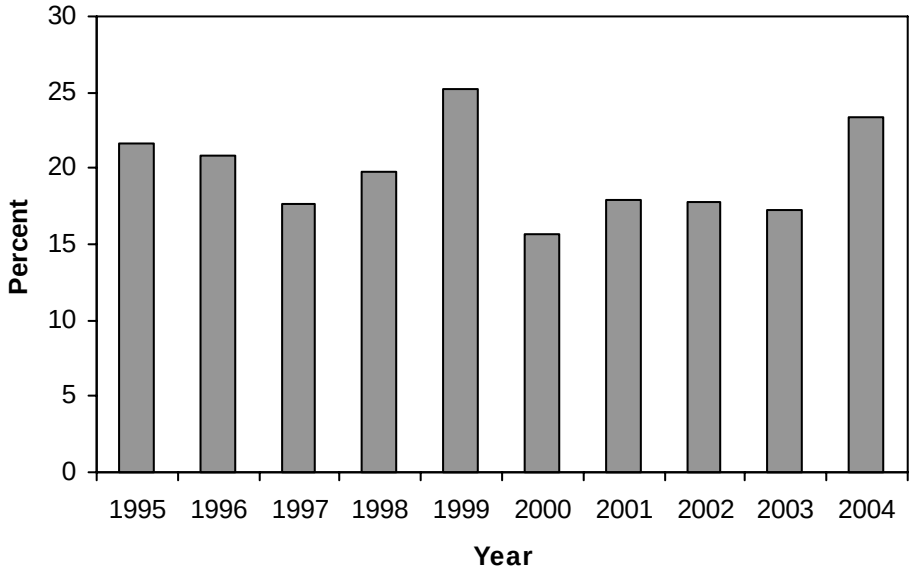
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	259	56	(21.6)
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)
2001	223	40	(17.9)
2002	191	34	(17.8)
2003	197	34	(17.3)
2004	163	38	(23.3)

* 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 13-3

Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Newfoundland & Labrador, 1995-2004



14.0 YUKON TERRITORY

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Yukon during 2004. 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 one – and drivers fatally injured – only three – 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.

Six persons died in motor vehicle crashes in the Yukon during 2004. In five (83.3%) of these cases, it was possible to determine if alcohol was a factor. Of these cases, one (20.0%) involved alcohol.

14.2 ALCOHOL IN FATALLY INJURED DRIVERS

The Yukon had only three fatally injured drivers during 2004. All of these drivers were tested for alcohol and one (33.3%) 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 2004 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), and 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, 21 drivers were involved in crashes in which someone was seriously injured, and among these 42.9% were alcohol-related crashes.

14.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 33.3% were aged 16-19; 22.2% were aged 20-25, and 11.1% were aged under 16, 26-35, 36-45 and 46-55.

Within each of the age groups, 100.0% of the drivers aged under 16 and 16-19, 66.7% of those aged 20-25, 50.0% of those aged 26-35 and 36-45, and 20.0% of those aged 46-55 were involved in alcohol-related serious injury crashes.

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 55.6% were males. The incidence of involvement in alcohol-related serious injury crashes was slightly greater for males than for females (45.5% and 40.0%, respectively).

14.3.3 Type of vehicle driven. Drivers of motorcycles and off-road vehicles have been aggregated into an “other” vehicle category. This is to prevent identifying an individual driver’s alcohol involvement based on the type of vehicle that they were operating. Of all the drivers involved in alcohol-related serious injury crashes, 44.4% were truck/van drivers; 22.2% were automobile drivers; and drivers of other vehicles accounted for 33.3%.

The highest incidence of involvement was among drivers of other vehicles as three out of four (75.0%) of these drivers were involved in an alcohol-related serious injury crash. And, 44.4% of truck/van drivers and 25.0% of drivers of automobiles were involved in alcohol-related serious injury crashes.

Table 14-1
Drivers in Alcohol-Related Serious Injury Crashes:
Yukon Territory, 2004

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	1	1	100.0	11.1
16-19	3	3	100.0	33.3
20-25	3	2	66.7	22.2
26-35	2	1	50.0	11.1
36-45	2	1	50.0	11.1
46-55	5	1	20.0	11.1
>55	5	0	0.0	0.0
Gender				
Male	11	5	45.5	55.6
Female	10	4	40.0	44.4
Vehicle Type				
Auto	8	2	25.0	22.2
Truck/Van	9	4	44.4	44.4
**Other	4	3	75.0	33.3
Collision Type				
Single-Vehicle	21	9	42.9	100.0
TOTAL	21	9	42.9	100.0

*These numbers are slightly underestimated because about 5.2% of all injuries are recorded as “unspecified”.

** This category includes motorcycles and off-road vehicles. It has been aggregated to ensure that the alcohol involvement of one of the drivers cannot be identified.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% were in single-vehicle crashes. Alcohol involvement was found among 42.9% of drivers in single-vehicle serious injury 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.

14.4.1 Deaths in alcohol-related crashes: 1995-2004. 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 2004. 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.

Table 14-2

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Yukon Territory, 1995-2004

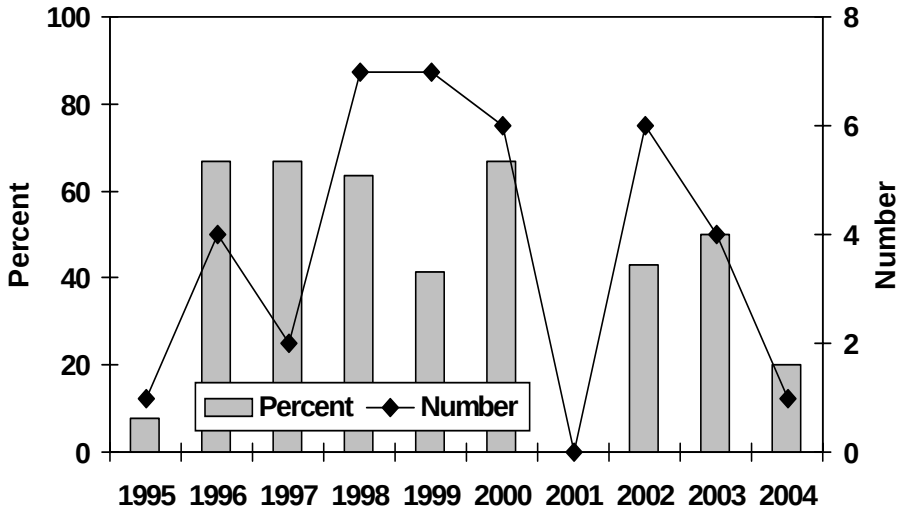
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	13	1	7.7
1996	6	4	66.7
1997	3	2	66.7
1998	11	7	63.6
1999	17	7	41.2
2000	9	6	66.7
2001	4	0	0.0
2002	14	6	42.9
2003	8	4	50.0
2004	5	1	20.0

* 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.

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, remained there in 1999, fell to none in 2001, rose to six in 2002, and dropped to one in 2004. 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 the 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, and decreased again to 20.0% in 2004.

Figure 14-1
Number and Percent of Deaths Involving
a Drinking Driver: Yukon Territory, 1995-2004



14.4.2 Fatally injured drivers: 1987-2004. Due to the small number of cases – e.g., only three fatally injured drivers in 2004 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.4.3 Drivers in injury crashes: 1995-2004. 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.

As can be seen, the incidence of alcohol-involvement in injury crashes has been relatively stable. Between 1995 and 1997 the percentage of drivers in injury crashes that involved alcohol decreased slightly from 20.1% to 18.1%. In 1998, the incidence increased to 22.7%, decreased to 14.3% in 2001, rose to 18.9% in 2002, decreased to 17.7% in 2003, and rose again to 22.2% in 2004.

Table 14-3

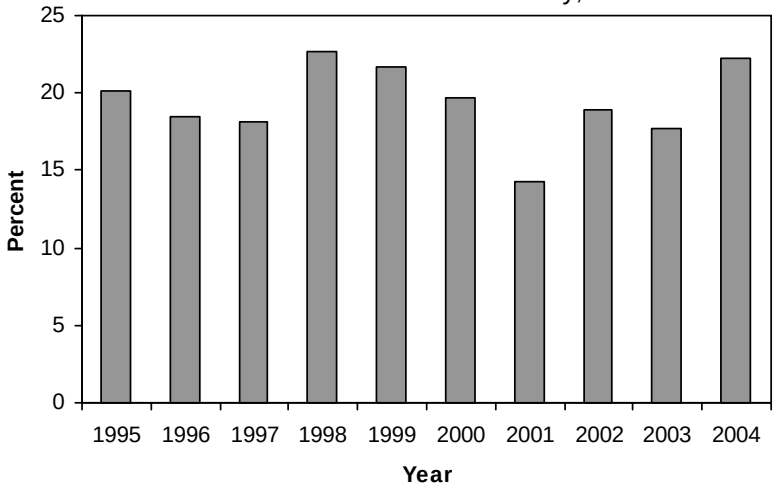
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: Yukon Territory, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(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	220	39	(17.7)
2004	198	44	(22.2)

* 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 14-2
Percent of All Drivers in Injury Crashes
that Involved Alcohol : Yukon Territory, 1995-2004



15.0 NORTHWEST TERRITORIES AND NUNAVUT

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Northwest Territories and Nunavut during 2004. The crash data for these two jurisdictions have been aggregated for two reasons. First of all, Nunavut did not become a separate entity from the Northwest Territories until April 1, 1999. And secondly, when examined separately, the number of fatalities and drivers involved in serious injury crashes is not large enough to warrant reliable statistical analysis. This section 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 numbers of persons killed – only 10 – and drivers fatally injured – only three – makes the results unreliable.

15.1 DEATHS IN ALCOHOL-RELATED CRASHES

In the Northwest Territories and Nunavut during 2004, 10 persons died in motor vehicle crashes (four in the Northwest Territories and six in Nunavut). In seven of these cases (70.0%) it was possible to determine if alcohol was a factor. Of these known cases, two (28.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (10 x .286) it can be estimated that *in the Northwest Territories and Nunavut during 2004, three persons died in alcohol-related crashes*.

15.2 ALCOHOL IN FATALLY INJURED DRIVERS

In the Northwest Territories and Nunavut during 2004, only three drivers of highway vehicles were fatally injured in a motor vehicle crash. All of these drivers were killed in the Northwest Territories.

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 2004 in the Northwest Territories and 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), and 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, 31 drivers (16 in the Northwest Territories and 15 in Nunavut) were involved in crashes in which someone was seriously injured, and among these 32.3% were alcohol-related crashes.

15.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 30.0% were aged 16-19; 20.0% were aged 20-25, 26-35 and 36-45; and 10.0% were under 16. None of the drivers aged 46-55 or over 55 were involved in alcohol-related serious injury crashes.

Within each of the age groups, 60.0% of the drivers aged 16-19 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for drivers aged 46-55 and over 55 (0.0%).

15.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 80.0% were males. However, the incidence of involvement in alcohol-related serious injury crashes was the same for both males and females (33.3%).

Table 15-1
Drivers in Alcohol-Related Serious Injury Crashes:
Northwest Territories and Nunavut, 2004

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	3	1	33.3	10.0
16-19	5	3	60.0	30.0
20-25	9	2	22.2	20.0
26-35	4	2	50.0	20.0
36-45	5	2	40.0	20.0
46-55	3	0	0.0	0.0
>55	1	0	0.0	0.0
Unknown	1	0	0.0	0.0
Gender				
Male	24	8	33.3	80.0
Female	6	2	33.3	20.0
Unknown	1	0	0.0	0.0
Vehicle Type				
Auto	7	4	57.1	40.0
Truck/Van	11	0	0.0	0.0
Off-Road	13	6	46.2	60.0
Collision Type				
Single-Vehicle	12	8	66.7	80.0
Multiple-Vehicle	19	2	10.5	20.0
TOTAL	31	10	32.3	100.0

* These numbers are slightly underestimated because about 16.3% of all injuries are recorded as unspecified.

15.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.0% were off-road vehicle drivers; and 40.0% were automobile drivers. None of the truck/van drivers were involved in an alcohol-related serious injury crash.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 57.1% of these drivers were in crashes that involved alcohol, compared to 46.2% for off-road vehicle drivers.

15.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 80.0% 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 10.5% of the 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.

15.4.1 Deaths in alcohol-related crashes: 1995-2004. The number of deaths in crashes that involved a drinking driver rose from zero to seven between 1995 and 1996. In 1997 and 1998, there were three alcohol-related fatalities. This number rose to four in 1999, dropped to zero from 2000 to 2002, rose to one in 2003, and dropped again to zero in 2004.

15.4.2 Fatally injured drivers: 1987-2004. Due to the small number of cases – e.g., only three fatally injured drivers in 2004 – any trends would be unreliable, and therefore are not reported.

15.4.3 Drivers in serious injury crashes: 1995-2004. Table 15-2 and Figure 15-1 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 15.3 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 crashes has been relatively volatile because of the small number of drivers. Between 1995 and 1997 the percentage of drivers in serious injury crashes that involved alcohol decreased from 61.5% to 21.4%. In 1998 the incidence rose sharply to 61.1%, fell to 38.1% in 1999, rose to 54.5% in 2000, dropped to 25.0% in 2002, rose to 35.0% in 2003, and dropped to its lowest level (22.2%) in 2004.

Table 15-2

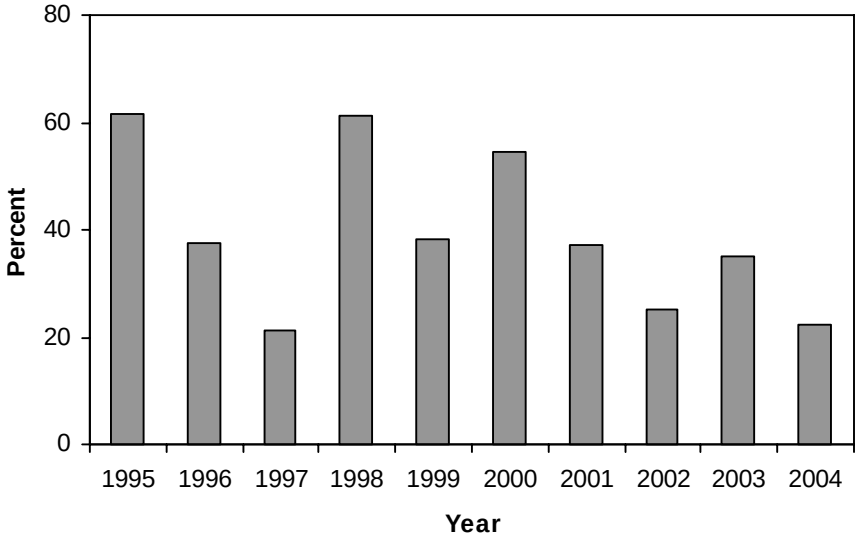
Number and Percent of All Drivers* in
Serious Injury Crashes** that Involved Alcohol:
Northwest Territories and Nunavut, 1995-2004

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	26	16	(61.5)
1996	16	6	(37.5)
1997	14	3	(21.4)
1998	18	11	(61.1)
1999	21	8	(38.1)
2000	11	6	(54.5)
2001	27	10	(37.0)
2002	24	6	(25.0)
2003	20	7	(35.0)
2004	18	4	(22.2)

* 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 15-1
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol:
Northwest Territories and Nunavut, 1995-2004



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