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The Alcohol-Crash Problem in Canada: 2000

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ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2000 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.

Since 1998, the title and contents of this report have differed from previous annual reports in this series produced by TIRF under funding from Transport Canada and CCMTA. Previous reports focussed exclusively on the alcohol-fatal crash problem, defined in terms of the number and percent of fatally injured drivers (and pedestrians) who had been drinking. The present report (as well as those for 1998 and 1999) also includes data on alcohol in fatally injured drivers and pedestrians but it extends information about the magnitude of the alcohol-crash problem in two ways: the report examines the number and percent of people who died in alcohol-related crashes; and it examines 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 2000 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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The Traffic Injury Research Foundation of Canada (TIRF) has compiled data on alcohol use among motor vehicle fatalities since 1974. Beginning in 1995, TIRF has also complied data on alcohol use in serious injury motor vehicle crashes. All aspects of this work - but, in particular, the development, maintenance, and extension of the *Fatality Database* and the *Serious Injury Database* - would have been impossible without the generous support and co-operation of sponsors and collaborating agencies.

The maintenance and extension of the *Fatality Database* and the *Serious Injury Database* are co-funded by the **Canadian Council of Motor Transport Administrators** (CCMTA) and the **Road Safety and Motor Vehicle Regulation Directorate of Transport Canada.**

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1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2000 as well as trends in the problem. Similar to the 1998 and 1999 reports, its scope is considerably broader than that of other annual reports in this series produced by the Traffic Injury Research Foundation (TIRF) under funding from Transport Canada and the Canadian Council of Motor Transport Administrators (CCMTA). The reasons for, and the nature of, the differences between this report and previous ones are described in the 1998 report (see Mayhew et al. 2000).

The present report 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.

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 2001)* 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 2000 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 2000 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 2000 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 2000, 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)* has 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.

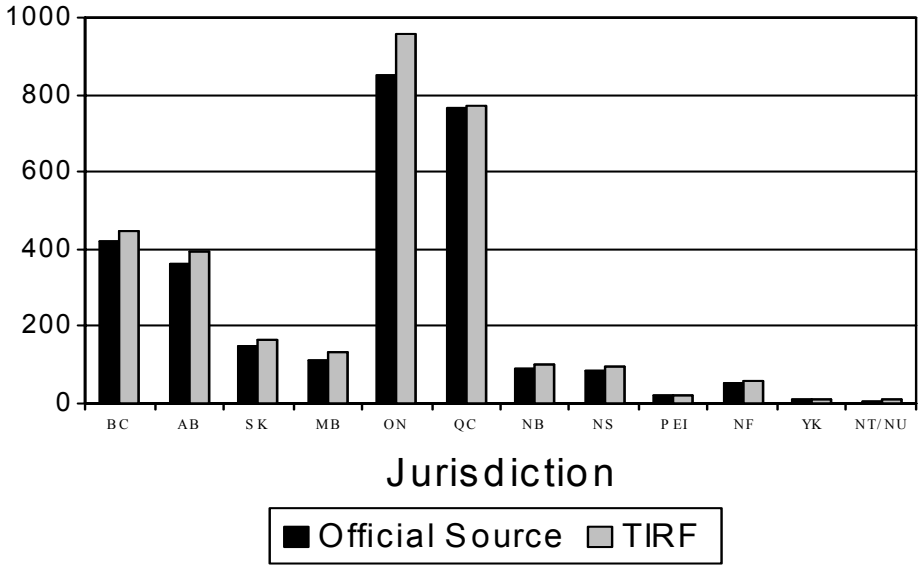
Police-reported data include characteristics of the victim (age and sex, position in the vehicle -- driver, passenger) and details of the crash (type of vehicle(s) and collision, time, date). Objective, toxicological data on alcohol use among victims are obtained from files in coroners' and medical examiners' 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 3,162 persons fatally injured in motor vehicle collisions in Canada during 2000. 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: 2000



	Official Source	TIRF
BC	421	448
AB	364	393
SK	151	167
MB	111	133
ON	849	958
QC	765	771
NB	89	100
NS	87	94
PEI	19	20
NF	53	59
YK	8	9
NT/NU	5	10

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 2000. For all 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.

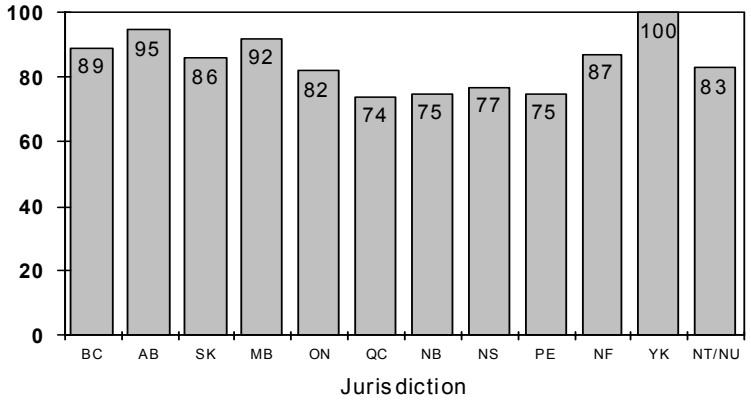
In Canada during 2000, 6 out of every 10 fatalities were operators of motor vehicles (60.0%); about 26.3% were passengers; and 13.3% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern for traffic safety.

- **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 2000, fatally injured drivers were tested most frequently (82.8%), followed by pedestrians (58.3%) and passengers (30.5%). 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 (62.3% and 33.4%, 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 73.5%).

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

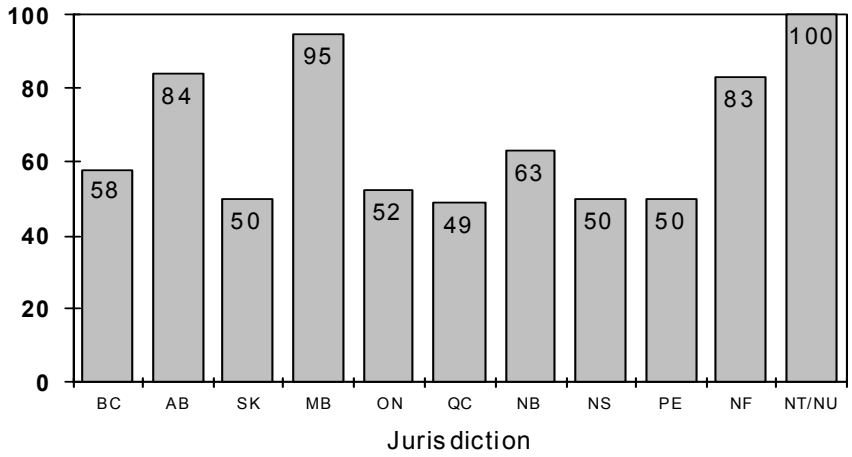
Figure 2-2
Percent of Fatally Injured Drivers
Tested for Alcohol: Canada, 2000



over 80.0% of the driver fatalities. However, 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 48.5% in Quebec to 100% in the Northwest Territories/Nunavut.

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

Figure 2-3
Percent of Fatally Injured Pedestrians
Tested for Alcohol: Canada, 2000



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, 6.9%, 4.1% and 10.0% of injuries are recorded as “unspecified”, so the number of drivers in serious injury crashes used in this report for these three jurisdictions are 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 2000, 15,171 persons were seriously injured in motor vehicle crashes; 18,402 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 (6,879 drivers or 37.4% of the "national" total); the Northwest Territories and Nunavut (combined) account for the lowest number of drivers in such crashes (33 drivers or 0.2% of all drivers).

Table 2-1
Number and Percent of Drivers Involved in Serious Injury Crashes in Each Jurisdiction: Canada*, 2000

Jurisdiction	Number of Drivers	% of Total
Alberta	3,408	18.5
Saskatchewan	734	4.0
Manitoba	610	3.3
Ontario	5,329	29.0
Quebec	6,879	37.4
New Brunswick	512	2.8
Nova Scotia	427	2.3
Prince Edward Island	115	0.6
Newfoundland	321	1.7
Yukon Territory	34	0.2
NWT/Nunavut	33	0.2
TOTAL	18,402	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 (57.8%); over one-quarter were truck-van drivers (27.1%); 5.2% were off-road vehicle drivers (e.g., snowmobiles, dirt bikes); 4.7% were motorcycle riders; 3.1% 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 2000, it was possible to determine if alcohol was a factor in the crash in 91.8% 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 2000, with 84.2% of fatally injured drivers being tested for alcohol.

2.2.3 The number and percent of fatally injured pedestrians who had been drinking. Drinking pedestrians not just drinking drivers contribute to the overall magnitude of the alcohol-fatal crash problem each year in Canada. This occurs because walking on or beside the highways after drinking is extremely risky. Accordingly, this report uses information

from the *Fatality Database* to examine the number and percent of fatally injured drinking pedestrians. This is possible because testing for alcohol, especially among those over 16 years of age is reasonably high – 58.3% overall, which increases to 62.3% 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. 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 2000. 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 2000. 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, 353 people age 16-19 were killed in road crashes in Canada during 2000. And, in 329 of these cases (93.2%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 129 people age 16-19 died in alcohol-related crashes in Canada during 2000. The next column expresses this as a percentage – e.g., 39.2% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 13.1% of all the people killed in alcohol-related crashes in Canada during 2000.

Table 3-1
Deaths* in Alcohol-Related Crashes: Canada, 2000

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	213	187	87.8	30	16.0	3.1
16-19	353	329	93.2	129	39.2	13.1
20-25	447	420	94.0	174	41.4	17.7
26-35	486	464	95.5	248	53.4	25.3
36-45	457	425	93.0	178	41.9	18.1
46-55	381	348	91.3	123	35.3	12.5
>55	825	729	88.4	99	13.6	10.1
Gender						
Male	2207	2025	91.8	800	39.5	81.5
Female	955	877	91.8	181	20.6	18.5
Type						
Driver/Operator	1897	1769	93.3	638	36.1	65.0
Passenger	833	769	92.3	220	28.6	22.4
Pedestrian	420	356	84.8	115	32.3	11.7
Unknown	12	8	66.7	8	100.0	0.8
Vehicle Occupied						
Automobiles	1558	1442	92.6	456	31.6	46.5
Trucks/Vans	714	677	94.8	266	39.3	27.1
Motorcycles	181	175	96.7	55	31.4	5.6
Tractor Trailers	59	55	93.2	5	9.1	0.5
Other Hwy. Vehs.	11	11	100.0	4	36.4	0.4
Off-road Vehicles	210	180	85.7	76	42.2	7.7
(Pedestrians)	420	356	84.8	115	32.3	11.7
Unknown	9	6	66.7	4	0.0	0.4
TOTAL	3162	2902	91.8	981	33.8	100.0

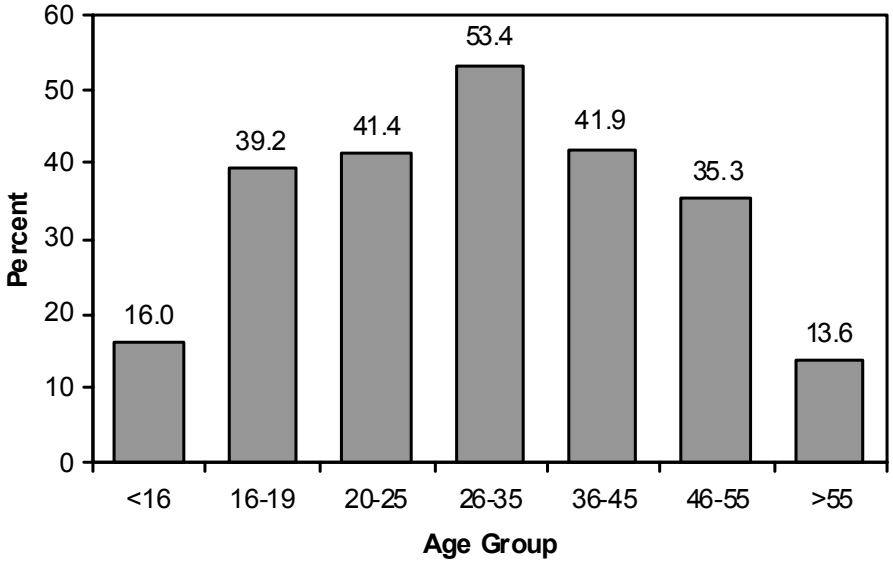
*persons dying within 12 months in collisions on and off public roadways

The totals at the bottom of the table provide a summary. As can be seen, 3,162 persons died in motor vehicle crashes in Canada during 2000. In 2,902 (91.8%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 981 (33.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (3,162 x .338) it can be estimated that *in Canada during 2000, 1,069 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), 25.3% were aged 26-35; 18.1% were aged 36-45 and 17.7% were aged 20-25. The youngest (<16) and the oldest groups (>55) accounted for only 3.1% and 10.1%, respectively, 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 (53.4%) 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 16.0% of persons under 16 and 13.6% 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, 2000



3.1.2 Gender. Of all the people who died in alcohol-related crashes, 81.5% were males. The incidence of alcohol in crashes in which a male died (39.5%) was almost twice as great as the incidence of alcohol in crashes in which a female died (20.6%).

3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.0% were drivers/operators of a vehicle; 22.4% were passengers; and 11.7% were pedestrians.

Within each of these victim types, there are some differences in alcohol involvement. The highest incidence of alcohol involvement (36.1%) occurred in the crashes in which a driver died. Alcohol was involved in 32.3% of the crashes in which a pedestrian died and in 28.6% 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 (46.5%) were in an automobile; 27.1% were in a truck/van; 7.7% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 5.6% were on a motorcycle.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (39.3% versus 31.6%). The incidence of alcohol involvement in which a person on an off-road vehicle died was 42.2%.

3.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Canada during 2000. 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 163 drivers killed during 2000; 143 of these fatally injured drivers (87.7%) were tested for alcohol. Of those who were tested, 60.1% showed no evidence of alcohol, 4.9% had BACs (blood alcohol concentrations) below 50 mg%, 7.0% had BACs from 50 to 80 mg%, 14.7% had BACs from 81 to 150 mg%, and 13.3% had BACs over 150 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers: Canada, 2000

Category of Driver	Number of Drivers*	Drivers Tested		Percent of Tested Drivers with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-150	>150
Age								
<16	7	6	85.7	83.3	0.0	0.0	16.7	0.0
16-19	163	143	87.7	60.1	4.9	7.0	14.7	13.3
20-25	261	232	88.9	58.2	3.9	1.7	8.2	28.0
26-35	317	295	93.1	51.5	5.4	3.1	12.2	27.8
36-45	311	268	86.2	59.7	1.9	1.5	8.2	28.7
46-55	245	202	82.4	68.3	4.0	0.5	7.4	19.8
>55	406	294	72.4	85.7	4.8	1.0	1.4	7.1
Gender								
Male	1344	1142	85.0	60.8	4.0	2.4	9.1	23.7
Female	366	298	81.4	78.5	4.4	1.3	4.7	11.1
Vehicle Type								
Automobile	1019	831	81.6	65.9	3.9	2.3	9.4	18.5
Motorcycle	170	142	83.5	65.5	7.7	2.8	9.9	14.1
Tractor Trailer	52	46	88.5	89.1	2.2	0.0	0.0	8.7
Heavy Truck[1]	16	15	93.8	73.3	6.7	0.0	0.0	20.0
Van	105	96	91.4	75.0	1.0	0.0	2.1	21.9
Motorhome	7	7	100.0	85.7	0.0	0.0	0.0	14.3
Light Truck[2]	331	296	89.4	51.0	4.4	2.7	8.1	33.8
Other Truck[3]	6	5	83.3	80.0	0.0	0.0	0.0	20.0
Other Hwy. Vehicle[4]	4	2	50.0	100.0	0.0	0.0	0.0	0.0
Collision Type								
Single-Vehicle	736	631	85.7	44.5	3.8	3.3	12.8	35.5
Multiple-Vehicle	973	808	83.0	80.0	4.3	1.2	4.6	9.9
Unknown	1	1	100.0	100.0	0.0	0.0	0.0	0.0
TOTAL	1710	1440	84.2	64.4	4.1	2.2	8.2	21.1

* 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 1,710 drivers fatally injured in traffic crashes in Canada during 2000. The overall rate of testing for alcohol in drivers was 84.2%, similar to the rate in 1999 – 84.1%.

Among tested drivers in Canada:

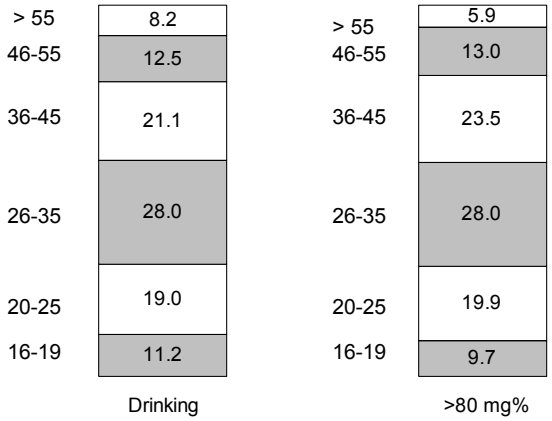
- 64.4% showed no evidence of alcohol – 35.6% had been drinking;
- 4.1% had BACs from 1-49 mg%;
- 2.2% had BACs from 50-80 mg%
- 8.2% had BACs from 81 to 150 mg%; and,
- 21.1% had BACs over 150 mg%.

Thus, 35.6% of fatally injured drivers in Canada had been drinking and most of these had illegal BACs – 80.8% 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, 2000

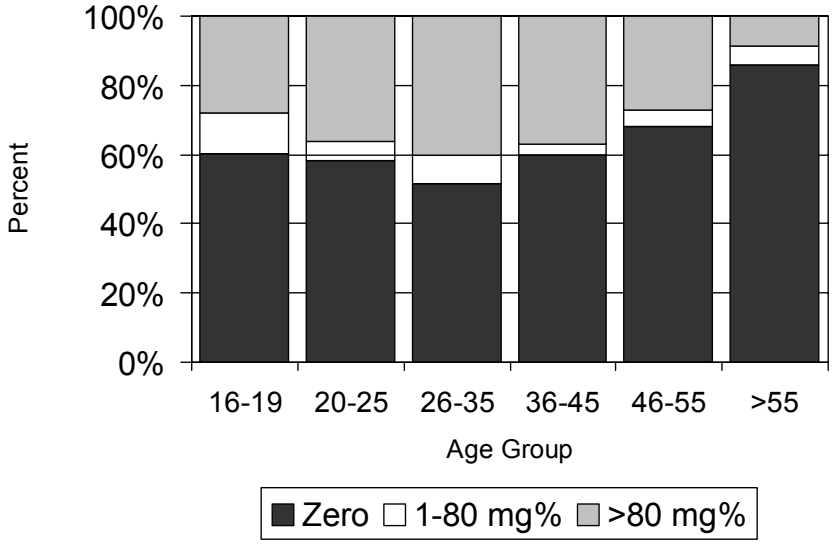


Of all the fatally injured drinking drivers, 28.0% were aged 26-35; 21.1% were aged 36-45; 19.0% were aged 20-25; 12.5% were aged 46-55; and 11.2% were aged 16-19. Those aged over 55 accounted for only 8.2% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.0% were aged 26-35; 23.5% were aged 36-45; 19.9% were aged 20-25; 13.0% were aged 46-55; and 9.7% were aged 16-19. Those aged over 55 accounted for only 5.9% of fatally injured drivers who were over the legal limit.

Figure 3-3 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.

Figure 3-3
Percent of Drinking Drivers Within Each Age Group: Canada, 2000

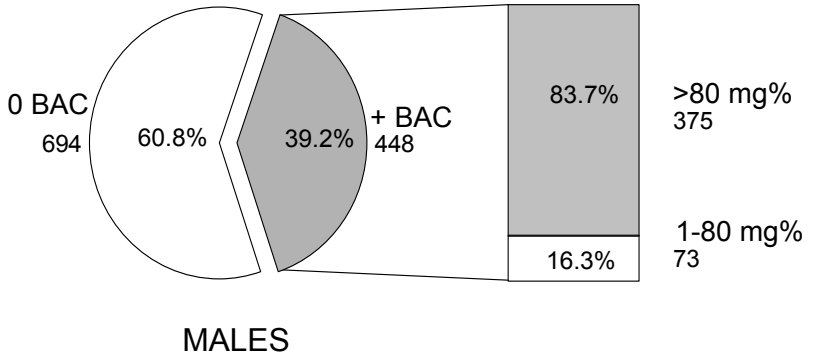


Within each of the age groups, fatally injured drivers age 26-35 were the most likely to have been drinking – 48.5% of drivers in this age group had been drinking. By contrast, only 14.3% of tested drivers over age 55 had been drinking.

3.2.2 Gender differences. Males dominate the picture – they account for 87.5% of all the fatally injured drivers who had been drinking and 88.9% of all of the fatally injured drivers who were legally impaired. However, males dominate the picture largely because they account for most of the drivers who are killed (1,344 of the 1,710 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, 2000



Fatally injured male drivers were considerably more likely to have been drinking than female drivers (39.2% and 21.5%, respectively). However, most of the male and female drivers who were drinking had BACs over the legal limit (83.7% and 73.4%, 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), 55.3% were automobile drivers; 28.3% were light truck drivers; 9.6% were motorcycle riders; and 4.7% 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, 2000

Vehicle Type	Number of Drinking Drivers*	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	283	55.3	232	55.0
Motorcycle	49	9.6	34	8.1
Tractor-Trailer	5	1.0	4	0.9
Heavy Truck[1]	4	0.8	3	0.7
Van	24	4.7	23	5.5
Motor Home	1	0.2	1	0.2
Light Truck[2]	145	28.3	124	29.4
Other Truck[3]	1	0.2	1	0.2
Other Hwy. Vehicle[4]	0	0.0	0	0.0
TOTAL	512	100.0	422	100.0

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

[1] Trucks over 4500 kg.

[2] e.g., pickup trucks.

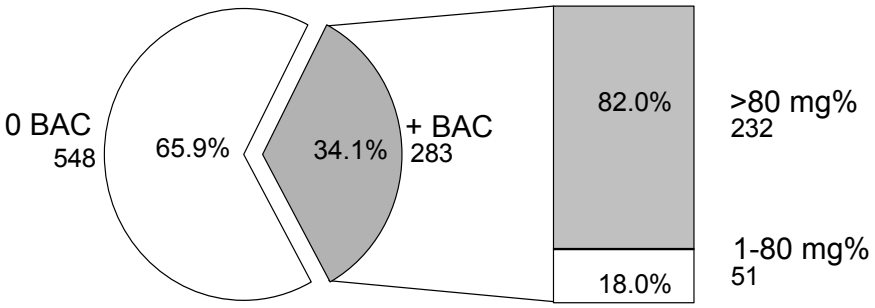
[3] Utility vehicles, plows and trucks of unknown type.

[4] Emergency vehicles and buses.

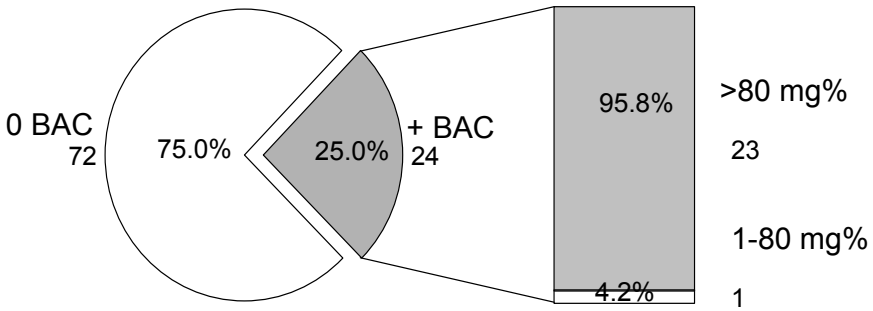
Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 55.0% were automobile drivers; 29.4% were light truck drivers; 8.1% were motorcycle riders; and 5.5% were van drivers.

Figure 3-5a-c summarizes the results of alcohol tests for drivers fatally injured in 2000 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, 2000

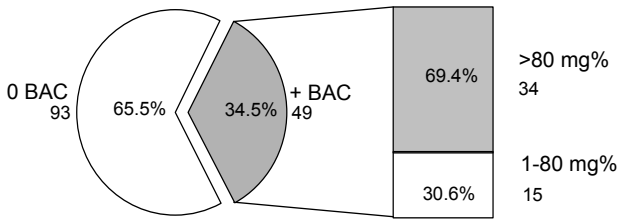


AUTOMOBILE DRIVERS

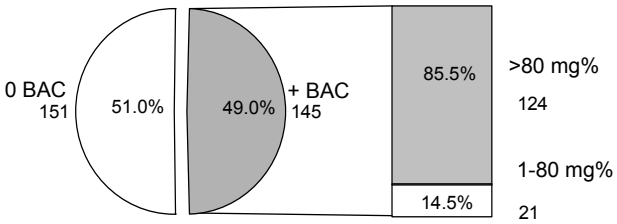


VAN DRIVERS

Figure 3-5b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2000

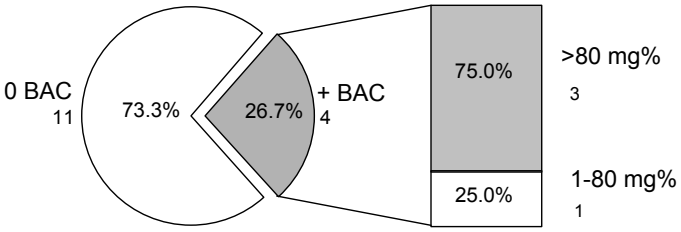


MOTORCYCLISTS

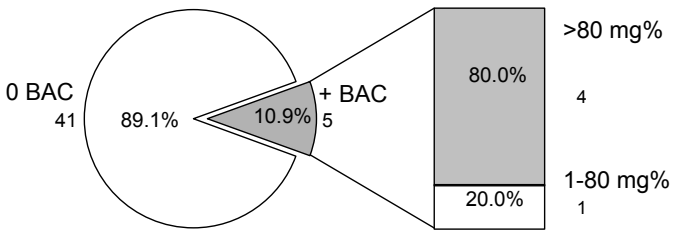


LIGHT TRUCK DRIVERS

Figure 3-5c
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2000



HEAVY TRUCK DRIVERS

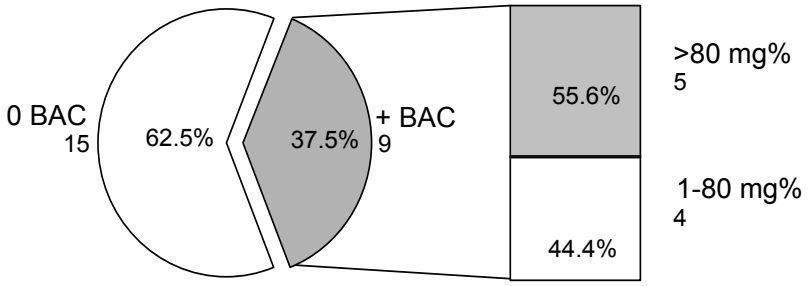


TRACTOR-TRAILER DRIVERS

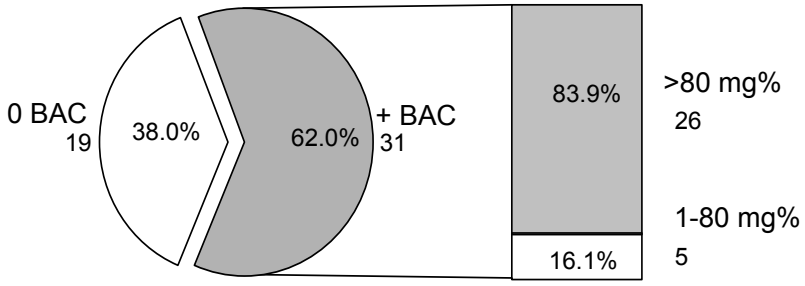
Among fatally injured automobile drivers, 34.1% had been drinking. Of those who were drinking, the vast majority (82.0%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 25.0% had been drinking and almost all (95.8%) of these had BACs over the legal limit. Among motorcycle riders, 34.5% had been drinking and 69.4% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 49.0% had been drinking and 85.5% of these had illegal BACs. Heavy truck and tractor-trailer drivers have a much lower frequency of alcohol involvement. Indeed, only 26.7% of heavy truck drivers had been drinking. And, the lowest incidence of drinking is found among tractor-trailer drivers – only 10.9% 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 37.5% of fatally

Figure 3-5d
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2000



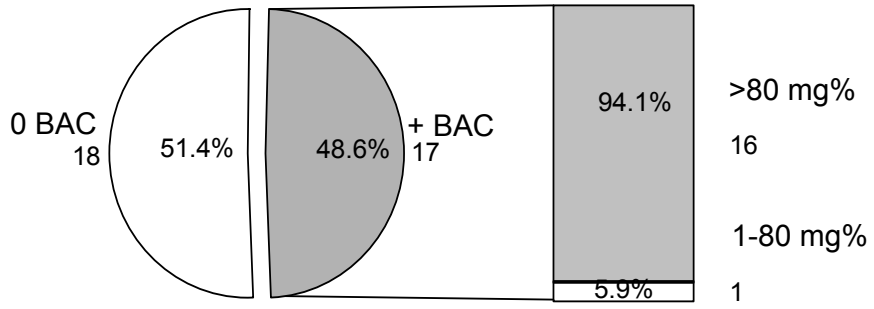
CYCLISTS



SNOWMOBILE OPERATORS

injured bicyclists had been drinking at the time of the collision. However, among those bicyclists who had been drinking, 55.6% had BACs over the legal limit. Among snowmobile drivers, 62.0% had been drinking, and 83.9% had BACs over the legal limit. Operators of off-road vehicles were less likely than snowmobile drivers to have been drinking – 48.6% of them had been drinking and 94.1% of these drinking drivers had BACs over the legal limit.

Figure 3-5e
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2000

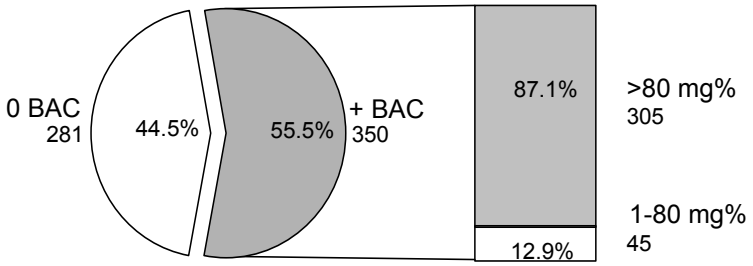


OFF-ROAD VEHICLE OPERATORS

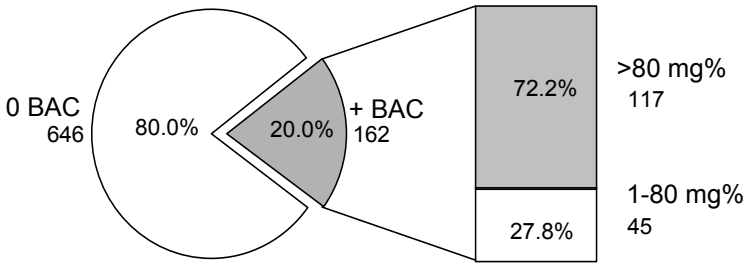
3.2.4 Collision differences. Less than half of all drivers killed (43.0%) were involved in single-vehicle collisions but these crashes accounted for over half of the drivers who had been drinking or were legally impaired (68.4% and 72.3%, respectively).

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 (55.5%) were positive for alcohol, compared to only 20.0% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (87.1%). By contrast, among drinking drivers in multiple-vehicle crashes, 72.2% had BACs over the legal limit.

Figure 3-6
Alcohol Use Among Drivers by
Type of Collision: Canada, 2000



SINGLE-VEHICLE CRASHES



MULTIPLE-VEHICLE CRASHES

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 2000. Table 3-4 shows the information by age group, gender and jurisdiction.

The first data column in the table shows the number of pedestrians killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – this includes the percent of those tested who were positive for alcohol in each of five blood alcohol concentration (BAC) levels.

Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2000

Category of Pedestrian	Number of Pedestrians	Pedestrians Tested		Percent of Tested Pedestrians with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-150	>150
Age								
<16	49	14	28.6	92.9	0.0	0.0	7.1	0.0
16-19	28	23	82.1	47.8	4.4	4.4	4.4	39.1
20-25	19	13	68.4	76.9	0.0	0.0	7.7	15.4
26-35	40	34	85.0	23.5	0.0	2.9	5.9	67.6
36-45	52	39	75.0	46.2	0.0	0.0	7.7	46.2
46-55	47	35	74.5	62.9	0.0	2.9	8.6	25.7
>55	185	87	47.0	81.6	3.4	2.3	2.3	10.3
Gender								
Male	268	169	63.1	55.0	2.4	1.8	7.1	33.7
Female	152	76	50.0	78.9	0.0	2.6	1.3	17.1
Jurisdiction								
British Columbia	65	38	58.5	68.4	0.0	2.6	5.3	23.7
Alberta	45	38	84.4	36.8	0.0	5.3	7.9	50.0
Saskatchewan	24	12	50.0	41.7	0.0	0.0	0.0	58.3
Manitoba	19	18	94.7	55.6	5.6	0.0	5.6	33.3
Ontario	135	70	51.9	67.1	4.3	2.9	5.7	20.0
Quebec	97	47	48.5	78.7	0.0	0.0	4.3	17.0
New Brunswick	16	10	62.5	60.0	0.0	0.0	0.0	40.0
Nova Scotia	10	5	50.0	60.0	0.0	0.0	20.0	20.0
Prince Edward Island	2	1	50.0	0.0	0.0	0.0	0.0	100.0
Newfoundland	6	5	83.3	80.0	0.0	0.0	0.0	20.0
Nunavut	1	1	100.0	100.0	0.0	0.0	0.0	0.0
TOTAL	420	245	58.3	62.4	1.6	2.0	5.3	28.6

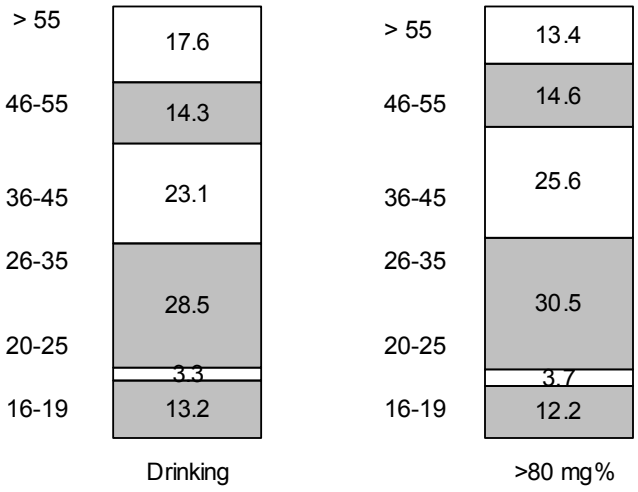
During 2000, as shown by the totals at the bottom of the table, there were 420 pedestrians fatally injured; 245 (58.3%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- 62.4% showed no evidence of alcohol – 37.6% had been drinking;
- 1.6% had BACs below 50 mg%;
- 2.0% had BACs from 50 to 80 mg%;
- 5.3% had BACs from 81 to 150%; and
- 28.6% had BACs over 150 mg%.

Thus, 37.6% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

3.3.1 Age differences. Of all the fatally injured pedestrians, over two-fifths (44.0%) were over 55 years of age (185 of the 420 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.

Figure 3-7
Percent of All Fatally Injured Drinking and Legally Impaired
Pedestrians Accounted for by Each Age Group: Canada, 2000

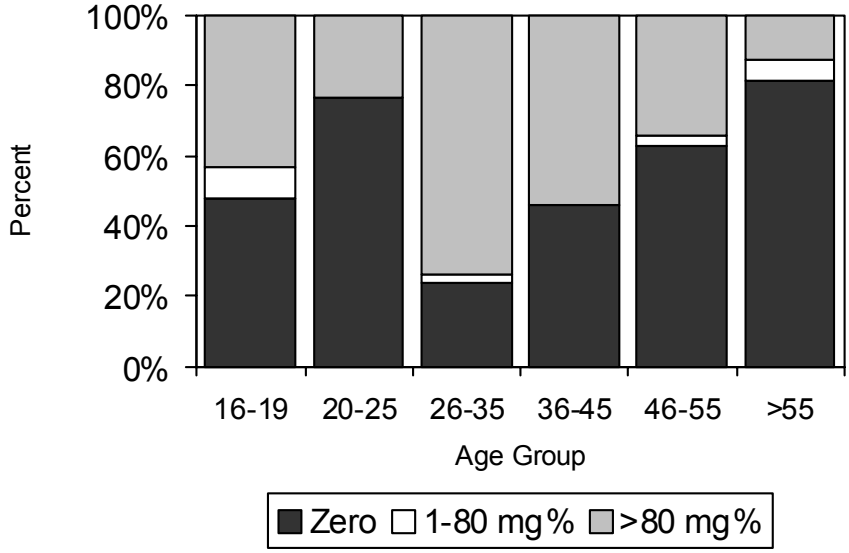


Of all the fatally injured drinking pedestrians, 28.5% were aged 26-35, 23.1% were aged 36-45; 17.6% were over 55; 14.3% were aged 46-55; 13.2% were aged 16-19; and only 3.3% were aged 20-25.

Of all the fatally injured pedestrians with BACs over 80 mg%, 30.5% were aged 26-35; 25.6% were aged 36-45; 14.6% were aged 46-55, 13.4% were over 55; 12.2% were age 16-19; and only 3.7% were aged 20-25.

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, 2000



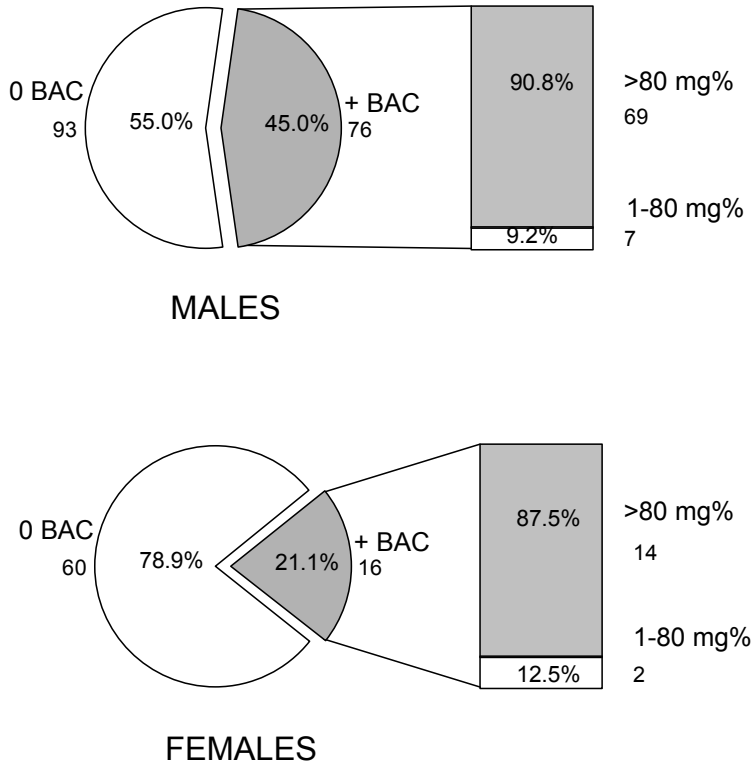
Within each of the age groups, fatally injured pedestrians age 26-35 were the most likely to have been drinking – 76.5% of pedestrians in this age group had been drinking. By contrast, only 18.4% of tested pedestrians over age 55 had been drinking.

3.3.2 Gender differences. Males account for over four-fifths (82.6%) of all the fatally injured pedestrians who had been drinking, and 83.1% of all of the fatally injured pedestrians who had BACs over 80 mg%.

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.

Among fatally injured male pedestrians, 45.0% had been drinking, and 90.8% of these pedestrians had BACs over 80 mg%. A slightly different picture emerges among fatally injured female pedestrians – only 21.1% of female pedestrians had been drinking but 87.5% of them had BACs over 80 mg%.

Figure 3-9
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2000



3.3.3 Jurisdictional differences. Of all the fatally injured pedestrians, over half were killed in Ontario and Quebec (32.1% and 23.1%, respectively). Ontario and Quebec also accounted for 25.0% and 10.9% (respectively) of the fatally injured drinking pedestrians and for 21.7% and 12.0% of the fatally injured pedestrians with BACs over 80 mg%. It should be noted that the figures for drinking and legally impaired pedestrians in Quebec are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in that province – e.g., only 48.5% of pedestrians fatally injured in Quebec were tested, compared to 94.7% in Manitoba and 84.4% in Alberta.

As shown in Table 3-4 (see page 27), the highest incidence of alcohol in fatally injured pedestrians, however, was in Prince Edward Island – 100.0%. The lowest incidence of alcohol in fatally injured pedestrians was in Nunavut, where the one pedestrian fatality tested for alcohol had not been drinking, and Newfoundland, where 20.0% had been drinking.

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 2000 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

Table 3-5
Drivers* in Alcohol-Related Serious Injury Crashes:
Canada, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	281	24	8.5	0.7
16-19	1780	441	24.8	13.1
20-25	2775	747	26.9	22.2
26-35	3473	753	21.7	22.3
36-45	3323	649	19.5	19.2
46-55	2369	363	15.3	10.8
>55	2473	229	9.3	6.8
unknown	1928	166	8.6	4.9
Gender				
Male	12760	2632	20.6	78.1
Female	5341	691	12.9	20.5
unknown	301	49	16.3	1.5
Vehicle Type				
Auto	10643	2037	19.1	60.4
Truck/Van	4984	946	19.0	28.1
Motorcycle	870	146	16.8	4.3
Tractor Trailer	567	75	13.2	2.2
Other Hwy. Vehicle	181	22	12.2	0.7
Off-Road	959	127	13.2	3.8
Unknown	198	19	9.6	0.6
Collision Type				
Single-Vehicle	5781	2293	39.7	68.0
Multiple-Vehicle	12621	1079	8.5	32.0
TOTAL	18402	3372	18.3	100.0

*Excludes British Columbia

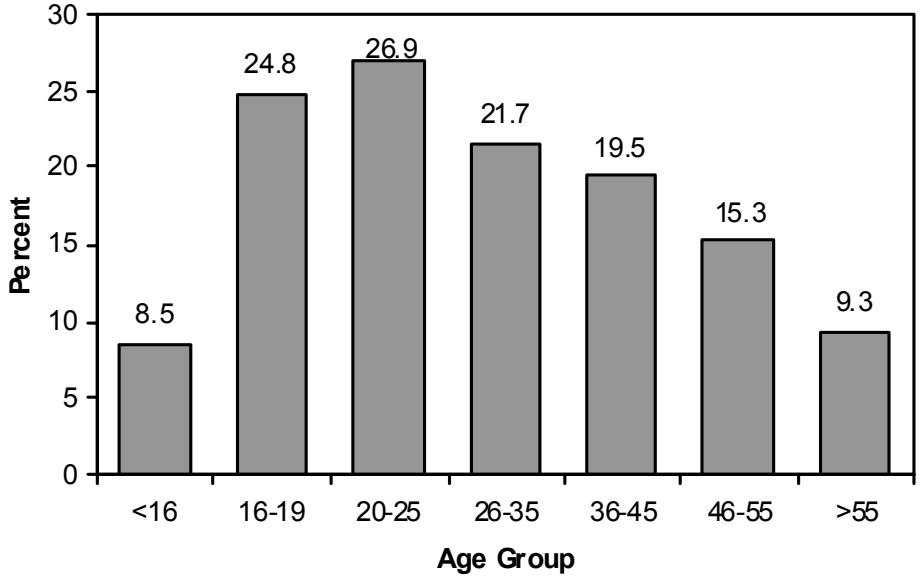
serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 18,402 drivers were involved in crashes in which someone was seriously injured. Among these, 18.3% were alcohol-related crashes.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.3% were aged 26-35; 22.2% were aged 20-25; and 19.2% were aged 36-45. Drivers under the age of 16 accounted for only 0.7% 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 (26.9%) and those age 16-19 (24.8%). The lowest incidence of involvement in alcohol-related crashes was found for the youngest age group of drivers – those aged under 16 (8.5%).

Figure 3-10
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2000



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 78.1% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (20.6% and 12.9%, respectively).

3.4.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.4% were automobile drivers; and 28.1% were truck-van drivers.

About one of five of the serious injury crashes involving truck/van drivers and automobile drivers were alcohol related (19.1% and 19.0%, respectively) as were 16.8% of motorcycle riders. The lowest incidence of involvement in alcohol-related serious injury crashes was found among drivers of other highway vehicles (12.2%).

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 68.0% 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 – 39.7% of these drivers, compared to only 8.5% 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: 1995-2000. 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 2000. These results differ slightly from those presented in Section 3.1 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 3-6

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Canada, 1995-2000

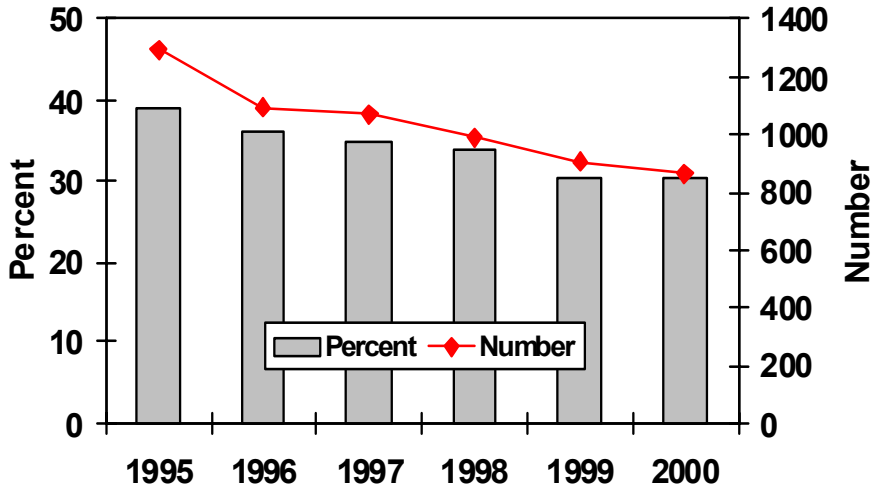
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	3338	1296	38.8
1996	3031	1097	36.2
1997	3089	1070	34.6
1998	2909	986	33.9
1999	2986	906	30.3
2000	2865	864	30.2

* 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 1,296 to 864 between 1995 and 2000. The percentage of alcohol-related fatalities decreased from 38.8% in 1995 to 30.2% in 2000.

Figure 3-11
Number and Percent of Deaths Involving a Drinking Driver: Canada, 1995-2000



3.5.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987 to 2000 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.

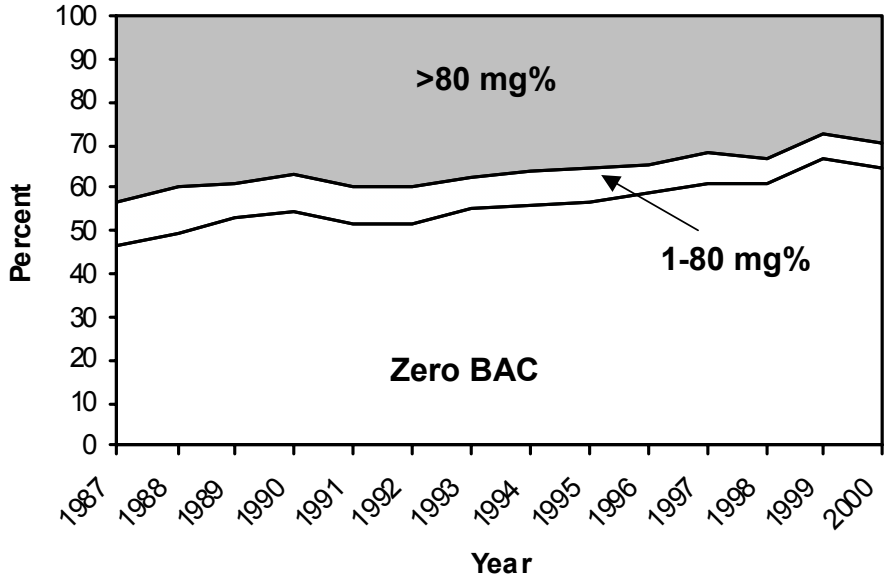
Table 3-7

Alcohol Use Among Fatally Injured Drivers:
Canada, 1987-2000

				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

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

Figure 3-12
Trends in Alcohol Use Among Driver Fatalities: Canada, 1987-2000



The number of fatally injured drivers with BACs over the legal limit (> 80 mg%) declined from 742 to 409, between 1987 and 1999 before rising to 422 in 2000. The percent of fatally injured drivers with BACs over the legal limit dropped from 43.1% to 27.1%, between 1987 and 1999, then rose to 29.3% in 2000.

By contrast, the number of fatally injured drivers with zero BAC has fluctuated over this 14-year period, from a low of 807 in 1987 to a high of 1,009 in 1999. In 2000, there were 928 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, then decreased to 64.4% in 2000.

The number of fatally injured drivers with BACs between 1-80 mg% declined from 186 to 90, between 1988 and 1998, and has since remained constant. 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 (6.0%) in 1999, before rising slightly to 6.3% in 2000.

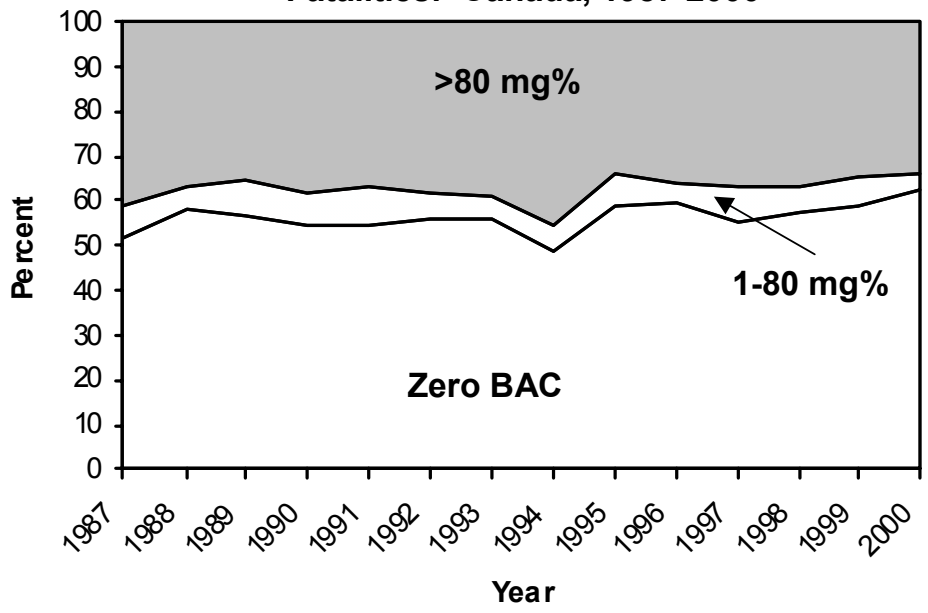
3.5.3 Fatally injured pedestrians: 1987-2000. Data on alcohol use among fatally injured pedestrians over the 14-year period from 1987 to 2000 are shown in Table 3-8. Trends are illustrated in Figure 3-13 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of alcohol -- represented by the white area; (2) had BACs below the legal limit -- shown by the light grey area; and (3) had BACs over the legal limit -- the dark grey area.

Table 3-8

Alcohol Use Among Fatally Injured Pedestrians:
Canada, 1987-2000

				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

Figure 3-13
Trends in Alcohol Use Among Pedestrian Fatalities: Canada, 1987-2000



The number of fatally injured pedestrians with a BAC over 80 mg% declined from a high of 171 in 1987 to a low of 83 in 2000. 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, and reached its lowest level in 2000 (33.9%).

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, and decreased to 153 in 2000. The percent of fatally injured pedestrians with zero BAC has remained basically unchanged over this 14-year period – 58.1% of fatally injured pedestrians showed no evidence of alcohol in 1988, compared to 62.4% in 2000.

The number of fatally injured pedestrians with BACs between 1-80 mg% has fluctuated over this 14-year period with 30 in 1987 and 9 in 2000. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 7.2% in 1987 and 3.7% in 2000.

3.5.4 Drivers in serious injury crashes: 1995-2000. 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, the Yukon, the Northwest Territories and Nunavut 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 highway vehicles – are excluded.

Table 3-9

Number and Percent of All Drivers[1] in Serious Injury Crashes that Involved Alcohol[2]: Canada[3], 1995-2000

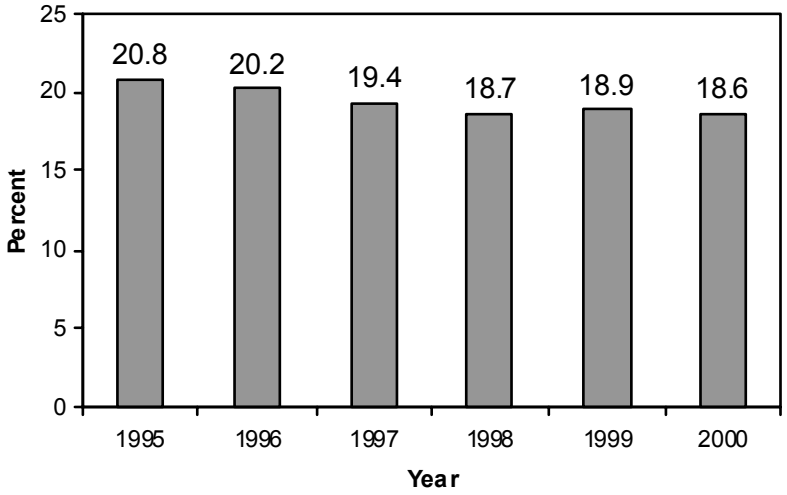
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	19205	4000	(20.8)
1996	18568	3743	(20.2)
1997	17917	3475	(19.4)
1998	18095	3382	(18.7)
1999	17563	3316	(18.9)
2000	17202	3205	(18.6)

[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, the Yukon and Northwest Territories

Figure 3-14
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Canada, 1995-2000



As can be seen, the incidence of alcohol-involvement in serious crashes has declined only slightly. Between 1995 and 2000 the number of drivers in serious injury crashes that involved alcohol declined from 4,000 to 3,205. The percentage of drivers in serious injury crashes that involved alcohol dropped from 20.8% to 18.7% from 1995 to 1998. The percentage rose slightly to 18.9% in 1999 before dropping to 18.6% in 2000.

4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in British Columbia during 2000. 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 2000. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first data column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*. For example, 59 people age 16-19 were killed in road crashes in British Columbia during 2000. 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, 20 people age 16-19 died in alcohol-related crashes in British Columbia during 2000. The next column expresses this as a percentage – e.g., 33.9% 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 13.1% of all the people killed in alcohol-related crashes in British Columbia during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 448 persons died in motor vehicle crashes in British Columbia during 2000. In 437 (97.5%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 153 (35%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (448 x .35) it can be estimated that *in British Columbia during 2000, 157 persons died in alcohol-related crashes*.

Table 4-1
Deaths* in Alcohol-Related Crashes: British Columbia, 2000

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	17	89.5	2	11.8	1.3
16-19	59	59	100.0	20	33.9	13.1
20-25	55	55	100.0	26	47.3	17.0
26-35	73	73	100.0	39	53.4	25.5
36-45	58	56	96.6	26	46.4	17.0
46-55	60	57	95.0	23	40.4	15.0
>55	124	120	96.8	17	14.2	11.1
Gender						
Male	311	303	97.4	122	40.3	79.7
Female	137	134	97.8	31	23.1	20.3
Type						
Driver/Operator	265	258	97.4	101	39.1	66.0
Passenger	115	114	99.1	35	30.7	22.9
Pedestrian	65	63	96.9	15	23.8	9.8
Unknown	3	2	66.7	2	100.0	1.3
Vehicle Occupied						
Automobiles	198	195	98.5	66	33.8	43.1
Trucks/Vans	122	120	98.4	53	44.2	34.6
Motorcycles	33	32	97.0	15	46.9	9.8
Other Hwy. Vehs.	21	20	95.2	2	10.0	1.3
Offroad Vehicles	9	7	77.8	2	28.6	1.3
(Pedestrians)	65	63	96.9	15	23.8	9.8
TOTAL	448	437	97.5	153	35.0	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, 25.5% (see last column) were aged 26-35. Those aged 20-25 and 36-45 accounted for 17.0% of the deaths.

Within each of the age groups, the highest incidence of alcohol involvement (53.4% and 47.3%, respectively) occurred in the crashes in which persons aged 26-35 and 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 11.8% of persons under age 16 and 14.2% 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, 79.7% were males. The incidence of alcohol in crashes in which a male died (40.3%) was greater than the incidence of alcohol in crashes in which a female died (23.1%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.0% were drivers/operators of a vehicle; 22.9% were passengers; 9.8% were pedestrians; and in 1.3% of cases, the victim type was unknown.

Within each of the principal victim types, the highest incidence of alcohol involvement (39.1%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 30.7% of the crashes in which a passenger died and 23.8% of those in which a pedestrian died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 43.1% were in an automobile; and 34.6% were in a truck/van. Within each of these vehicle types, the incidence of alcohol involvement in which a motorcyclist died was greater than the incidence of alcohol in crashes in which a truck/van occupant and an automobile occupant died (46.9% compared to 44.2% and 33.8%).

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 2000. 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, 2000

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	27	26	96.3	11	42.3	12.1	9	34.6	11.5
20-25	38	37	97.4	16	43.2	17.6	15	40.5	19.2
26-35	54	52	96.3	29	55.8	31.9	25	48.1	32.1
36-45	41	38	92.7	15	39.5	16.5	15	39.5	19.2
46-55	40	36	90.0	12	33.3	13.2	10	27.8	12.8
>55	56	44	78.6	8	18.2	8.8	4	9.1	5.1
Gender									
Male	205	191	93.2	75	39.3	82.4	64	33.5	82.1
Female	52	43	82.7	16	37.2	17.6	14	32.6	17.9
Vehicle Type									
Automobile	126	109	86.5	36	33.0	39.6	32	29.4	41.0
Trucks/Van	84	81	96.4	39	48.1	42.9	32	39.5	41.0
Motorcycle	32	31	96.9	14	45.2	15.4	12	38.7	15.4
Tractor Trailer	14	13	92.9	2	15.4	2.2	2	15.4	2.6
Other	1	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	136	128	94.1	67	52.3	73.6	61	47.7	78.2
Multiple-Vehicle	121	106	87.6	24	22.6	26.4	17	16.0	21.8
TOTAL	257	234	91.1	91	38.9	100.0	78	33.3	100.0

To illustrate, among 16-19 year olds there were 27 drivers killed during 2000; 26 of these fatally injured drivers (96.3%) were tested for alcohol. Of those who were tested, 11 (42.3%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 12.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that nine of the 26 (34.6%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that nine 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 11.5% 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 a very high testing rate in 2000, with 91.1% of fatally injured drivers being tested for alcohol use.

In British Columbia, 38.9% 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:

- 3.4% had BACs from 1-49 mg%;
- 2.1% had BACs from 50-80 mg%
- 8.1% had BACs from 81 to 150 mg%; and,
- 25.2% had BACs over 150 mg%.

4.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 31.9% were aged 26-35; 17.6% were aged 20-25; 16.5% were aged 36-45; 13.2% were aged 46-55; 12.1% were age 16-19; and 8.8% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), drivers age 26-35 accounted for 32.1%; 19.2% were aged 20-25 and 36-45; 12.8% were aged 46-55; 11.5% were age 16-19; and 5.1% were over age 55.

Within each of the age groups, fatally injured drivers age 26-35 and 20-25 were the most likely to have been drinking (55.8% and 43.2% respectively). By contrast, only 18.2% of tested drivers over age 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 82.4% of all the fatally injured drivers who had been drinking, and 82.1% 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 (205 of the 257 fatalities are males). If one examines the frequency of alcohol use

among males compared to females, a somewhat different picture emerges. Fatally injured female drivers were almost as likely to have been drinking as male drivers (37.2% and 39.3%, respectively). And, 85.3% of the male and 87.5% 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), 42.9% were truck/van drivers; 39.6% were automobile drivers; 15.4% were motorcyclists; and only 2.2% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), automobile and truck/van drivers each accounted for 41.0%; 15.4% were motorcyclists; and only 2.6% were tractor-trailer drivers.

Within each of the vehicle types, 48.1% of fatally injured drivers of truck/vans, 45.2% of motorcyclists; 33.3% of automobile drivers; and 15.4% of tractor-trailer drivers were found to have been drinking.

4.2.4 Collision differences. One-half of the drivers killed (136 of the 257) were involved in single-vehicle collisions and these crashes accounted for three out of four of the drivers who had been drinking or were legally impaired (73.6% and 78.2%, respectively).

Over half of the drivers involved in single-vehicle crashes (52.3%) were positive for alcohol, compared to 22.6% 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 2000 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 – previous reports included injury collisions attended by the police as well as those not attended by police and based on self-report of the driver(s).

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.

Table 4-3
Drivers in Alcohol-Related Injury Crashes:
British Columbia, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	298	19	6.4	0.4
16-19	3897	664	17.0	14.8
20-25	4900	956	19.5	21.3
26-35	6655	1078	16.2	24.0
36-45	6537	866	13.2	19.3
46-55	4414	454	10.3	10.1
>55	4521	287	6.3	6.4
unknown	840	159	18.9	3.5
Gender				
Male	20531	3316	16.2	74.0
Female	10771	1013	9.4	22.6
unknown	760	154	20.3	3.4
Vehicle Type				
Auto	24006	3262	13.6	72.8
Truck/Van	5439	940	17.3	21.0
Motorcycle	731	95	13.0	2.1
Tractor Trailer	579	82	14.2	1.8
Other Hwy. Vehicle	143	13	9.1	0.3
Off-Road	1037	73	7.0	1.6
Unknown	127	18	14.2	0.4
Collision Type				
Single-Vehicle	6757	2581	38.2	57.6
Multiple-Vehicle	25305	1902	7.5	42.4
TOTAL	32062	4483	14.0	100.0

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.

As shown, by the totals at the bottom of the table, 32,062 drivers were involved in crashes in which someone was injured, and among these 14.0% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related injury crashes, 24.0% were aged 26-35; 21.3% were aged 20-25; and 19.3% 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 (19.5% and 17.0%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age group of drivers – those aged over 55 (6.3%).

4.3.2 Driver gender. Of all the drivers involved in alcohol-related injury crashes, 74.0% were males. The incidence of involvement in alcohol-related injury crashes was also greater for males than for females (16.2% and 9.4%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related injury crashes, 72.8% were automobile drivers and 21.0% were truck-van drivers.

The highest incidence of involvement in alcohol-related injury crashes was found for truck/van drivers – 17.3% of these drivers were in crashes that involved alcohol, compared to 14.2% for tractor-trailer drivers; 13.6% for automobile drivers; and 13.0% for motorcycle riders.

4.3.4 Type of collision. Of all the drivers involved in alcohol-related injury crashes, 57.6% 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 – 38.2% of these drivers, compared to only 7.5% 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.

Table 4-4

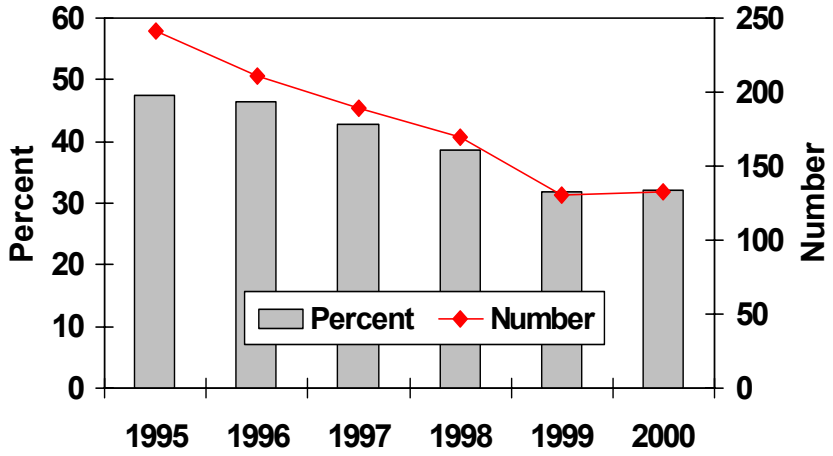
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: British Columbia, 1995-2000

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

* 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, 1995-2000



4.4.1 Deaths in alcohol-related crashes: 1995-2000. 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 2000. These results differ slightly from those in Section 4.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 241 to 130 between 1995 and 1999, then rose slightly to 133 in 2000. The percentage of alcohol-related fatalities decreased from 47.6% in 1995 to 31.7% in 1999 before rising to 32.2% in 2000.

4.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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.

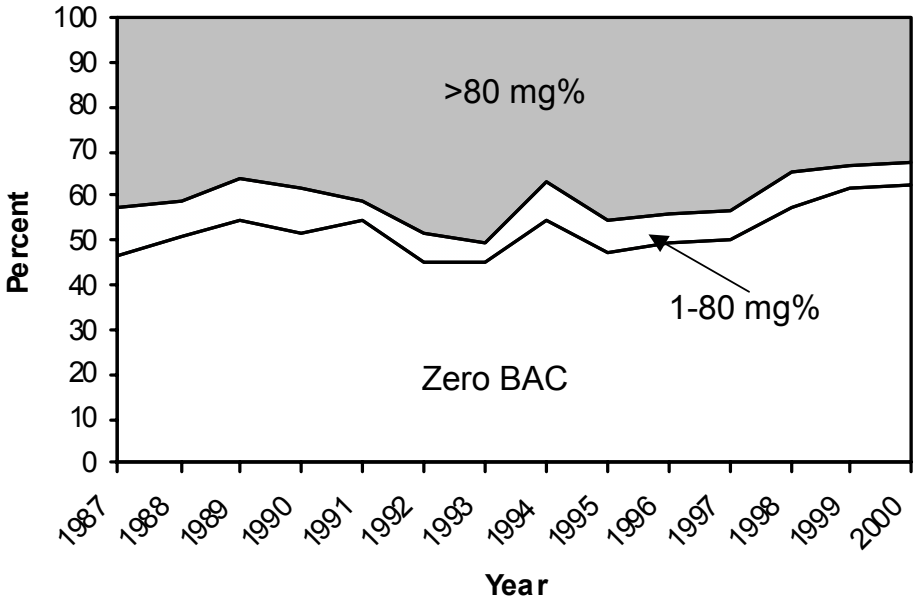
Table 4-5

Alcohol Use Among Fatally Injured Drivers:
British Columbia, 1987-2000

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

* dying in less than six hours.

Figure 4-2
Trends in Alcohol Use Among Driver Fatalities: British Columbia, 1987-2000



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%), and then reached its lowest point in 2000 (32.2%). The percent of fatally injured drivers with zero BAC decreased from 1989 (55.0%) to 1992 (44.8%), and then reached its highest level in 2000 (62.4%). The percent of fatally injured drivers with BACs between 1 and 80 mg% was at its highest level in 1987 (10.2%), dropped to its lowest mark in 1991 (4.0%), increased to 7.8% in 1998, and decreased to 5.4% in 2000.

4.4.3 Drivers in injury crashes: 1995-2000. 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 highway vehicles.

As can be seen, the incidence of alcohol-involvement in injury crashes has increased slightly over this six-year period. The percentage of drivers in injury crashes that involved alcohol decreased from 12.9% in 1995 to 12.6% in 1996, rose to 14.3% in 1998 and 1999 before decreasing slightly to 14.2% in 2000.

Table 4-6

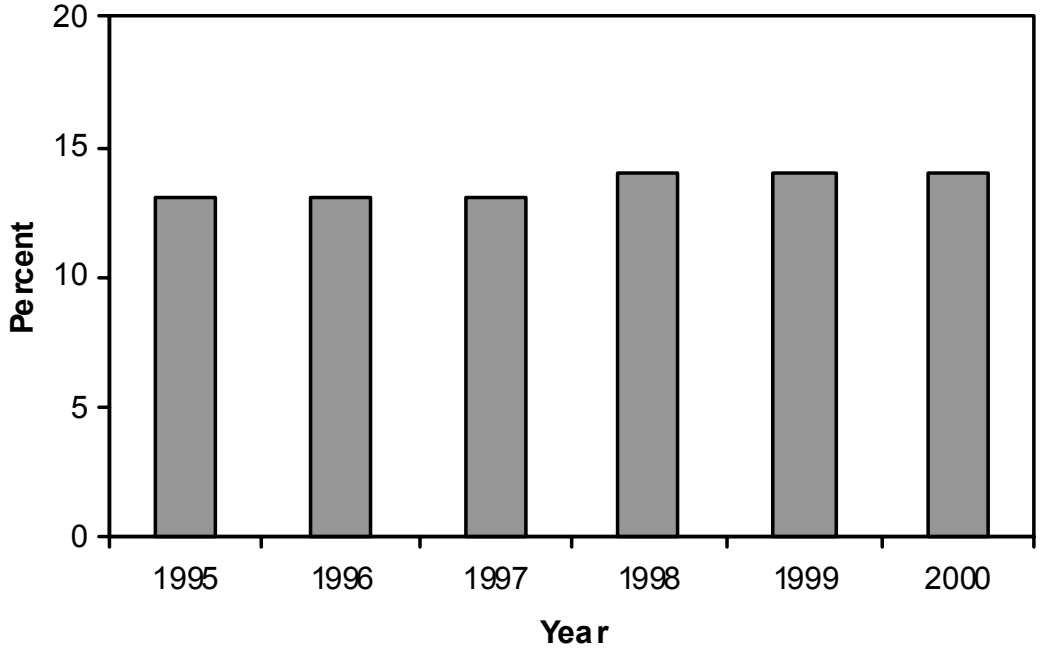
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: British Columbia, 1995-2000

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	39140	5054	(12.9)
1996	35358	4460	(12.6)
1997	31844	4202	(13.2)
1998	31170	4447	(14.3)
1999	31356	4491	(14.3)
2000	30898	4392	(14.2)

* 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 4-3
Percent of All Drivers in Injury Crashes that Involved Alcohol: British Columbia, 1995-2000



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 2000. 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 2000. 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, 46 people age 16-19 were killed in motor vehicle crashes in Alberta during 2000. And, in 38 of these cases (82.6%) 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, 19 people age 16-19 died in alcohol-related crashes in Alberta during 2000. 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 12.4% of all the people killed in alcohol-related crashes in Alberta during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 393 persons died in motor vehicle crashes in Alberta during 2000. In 358 (91.1%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 153 (42.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (393 x .427) it can be estimated that *in Alberta during 2000, 168 persons died in alcohol-related crashes*.

Table 5-1
Deaths* in Alcohol-Related Crashes: Alberta, 2000

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	26	23	88.5	3	13.0	2.0
16-19	46	38	82.6	19	50.0	12.4
20-25	41	41	100.0	13	31.7	8.5
26-35	73	71	97.3	44	62.0	28.8
36-45	55	50	90.9	32	64.0	20.9
46-55	50	47	94.0	21	44.7	13.7
>55	102	88	86.3	21	23.9	13.7
Gender						
Male	269	246	91.4	128	52.0	83.7
Female	124	112	90.3	25	22.3	16.3
Type						
Driver/Operator	220	210	95.5	86	41.0	56.2
Passenger	122	107	87.7	38	35.5	24.8
Pedestrian	45	37	82.2	25	67.6	16.3
Unknown	6	4	66.7	4	0.0	2.6
Vehicle Occupied						
Automobiles	151	135	89.4	47	34.8	30.7
Trucks/Vans	159	150	94.3	65	43.3	42.5
Motorcycles	15	15	100.0	9	60.0	5.9
Other Hwy. Vehs.	7	6	85.7	1	16.7	0.7
Offroad Vehicles	16	15	93.8	6	40.0	3.9
(Pedestrians)	45	37	82.2	25	67.6	16.3
TOTAL	393	358	91.1	153	42.7	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, 28.8% (see last column) were aged 26-35; 20.9% were aged 36-45 and 13.7% were 46-55 and over age 55.

Within each of the age groups, the highest incidence of alcohol involvement (64.0%) occurred in the crashes in which a person aged 36-45 died. The lowest incidence of alcohol involvement was

found among the youngest and oldest fatalities – only 13.0% of persons under age 16 and 23.9% 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, 83.7% were males. The incidence of alcohol in crashes in which a male died (52.0%) was greater than the incidence of alcohol in crashes in which a female died (22.3%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 56.2% were drivers/operators of a vehicle; 24.8% were passengers; 16.3% were pedestrians; and in 2.6% of cases, the victim type was unknown.

Within each of these victim types, the highest incidence of alcohol involvement (67.6%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 41.0% of the crashes in which a driver/operator died and 35.5% of those in which a passenger died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost half (42.5%) were in a truck/van; 30.7% 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 (43.3% versus 34.8%). Alcohol was involved in 60.0% of the crashes in which a motorcyclist 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 2000. 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, 2000

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
16-19	19	19	100.0	6	31.6	8.3	5	26.3	8.3
20-25	25	25	100.0	8	32.0	11.1	7	28.0	11.7
26-35	44	43	97.7	16	37.2	22.2	13	30.2	21.7
36-45	36	36	100.0	22	61.1	30.6	19	52.8	31.7
46-55	31	30	96.8	12	40.0	16.7	10	33.3	16.7
>55	51	45	88.2	8	17.8	11.1	6	13.3	10.0
Gender									
Male	164	158	96.3	66	41.8	91.7	57	36.1	95.0
Female	42	40	95.2	6	15.0	8.3	3	7.5	5.0
Vehicle Type									
Automobile	92	88	95.7	25	28.4	34.7	20	22.7	33.3
Trucks/Van	95	91	95.8	39	42.9	54.2	33	36.3	55.0
Motorcycle	14	14	100.0	7	50.0	9.7	6	42.9	10.0
Tractor Trailer	5	5	100.0	1	20.0	1.4	1	20.0	1.7
Collision Type									
Single-Vehicle	84	81	96.4	50	61.7	69.4	45	55.6	75.0
Multiple-Vehicle	122	117	95.9	22	18.8	30.6	15	12.8	25.0
TOTAL	206	198	96.1	72	36.4	100.0	60	30.3	100.0

To illustrate, among 16-19 year olds there were 19 drivers killed during 2000; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (31.6%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 8.3% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that five of the 19 (26.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means five of the six drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 8.3% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2000, with 96.1% of fatally injured drivers being tested for alcohol use.

In Alberta, 36.4% 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:

- 4.0% had BACs from 1-49 mg%;
- 2.0% had BACs from 50-80 mg%
- 7.6% had BACs from 81 to 150 mg%; and,
- 22.7% had BACs over 150 mg%.

5.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 30.6% were aged 36-45 and 22.2% were aged 26-35; 16.7% were aged 46-55; and 11.1% were aged 20-25 and over 55. Those aged 16-19 accounted for only 8.3% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 31.7% were aged 36-45; 21.7% were aged 26-35 ; 16.7% were aged 46-55; 11.7% were aged 20-25; and 10.0% were over age 55. Those aged 16-19 accounted for only 8.3% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 36-45 were the most likely to have been drinking – 61.1% of drivers in this age group had been drinking. By contrast, only 17.8% of tested drivers over age 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 91.7% of all the fatally injured drivers who had been drinking, and 95.0% 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 (164 of the 206 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 much more likely to have been drinking than female drivers (41.8% and 15.0%, respectively).

And 86.4% of the male and 50.0% 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), 54.2% were truck-van drivers; 34.7% were automobile drivers; 9.7% were motorcyclists; and 1.4% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 55.0% were truck-van drivers; 33.3% were automobile drivers; 10.0% were motorcyclists; and 1.7% were tractor-trailer drivers.

Within each of the vehicle types, 50.0% of fatally injured motorcyclists, 42.9% of truck/van drivers; 28.4% of automobile drivers; and 20.0% of tractor-trailer drivers were found to have been drinking.

5.2.4 Collision differences. About 2/5 of the drivers killed (84 of the 206) were involved in single-vehicle collisions yet these crashes accounted for about seven out of ten of the drivers who had been drinking or were legally impaired (69.4% and 75.0%, respectively).

Over half of the drivers involved in single-vehicle crashes (61.7%) were positive for alcohol, compared to 18.8% 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 2000 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.

Table 5-3
Drivers in Alcohol-Related Serious Injury Crashes:
Alberta, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	59	11	18.6	1.4
16-19	434	120	27.6	15.8
20-25	583	168	28.8	22.1
26-35	741	178	24.0	23.4
36-45	688	161	23.4	21.2
46-55	447	77	17.2	10.1
>55	421	38	9.0	5.0
unknown	35	7	20.0	0.9
Gender				
Male	2354	593	25.2	78.0
Female	1026	162	15.8	21.3
unknown	28	5	17.9	0.7
Vehicle Type				
Auto	1508	345	22.9	45.4
Truck/Van	1477	340	23.0	44.7
Motorcycle	136	35	25.7	4.6
Tractor Trailer	120	19	15.8	2.5
Other Hwy. Vehicle	28	2	7.1	0.3
Off-Road	131	18	13.7	2.4
Unknown	8	1	12.5	0.1
Collision Type				
Single-Vehicle	1117	520	46.6	68.4
Multiple-Vehicle	2291	240	10.5	31.6
TOTAL	3408	760	22.3	100.0

As shown, by the totals at the bottom of the table, 3,408 drivers were involved in crashes in which someone was seriously injured, and among these 22.3% were alcohol-related crashes.

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 23.4% were aged 26-35; 22.1% were aged 20-25; and 21.2% were aged 36-45. Drivers under 16 accounted for only 1.4% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of four drivers age 20-25 and 16-19 were involved in alcohol-related serious injury crashes (28.8% and 27.6%, respectively). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers over 55 and under 16 years of age (9.0% and 18.6%, respectively).

5.3.2 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 (25.2% and 15.8%, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, automobile drivers accounted for 45.4% and truck/van drivers accounted for 44.7%.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists – 25.7% of motorcyclists were in crashes that involved alcohol, compared to 23.0% for truck/van drivers; 22.9% for automobile drivers and 15.8% for tractor-trailer drivers.

5.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 68.4% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 46.6% of these drivers, compared to only 10.5% 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.

Table 5-4

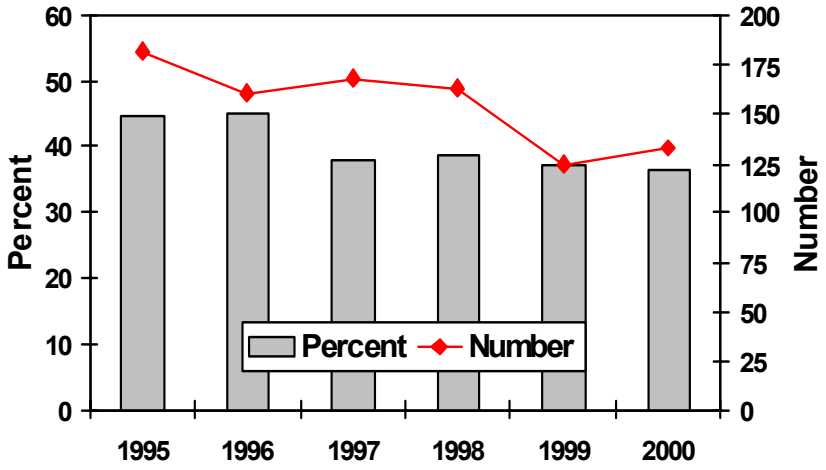
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Alberta, 1995-2000

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

* 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, 1995-2000



5.4.1 Deaths in alcohol-related crashes: 1995-2000. 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 2000. 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.

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 182 to 161 between 1995 and 1996, then increased to 168 in 1997, dropped to 125 in 1999, and rose to 133 in 2000. The percentage of alcohol-related fatalities increased from 44.8% in 1995 to to a high of 45.1% in 1996. Since then, the percentage of alcohol-related fatalities in Alberta has dropped to 36.7% in 2000.

5.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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

Table 5-5

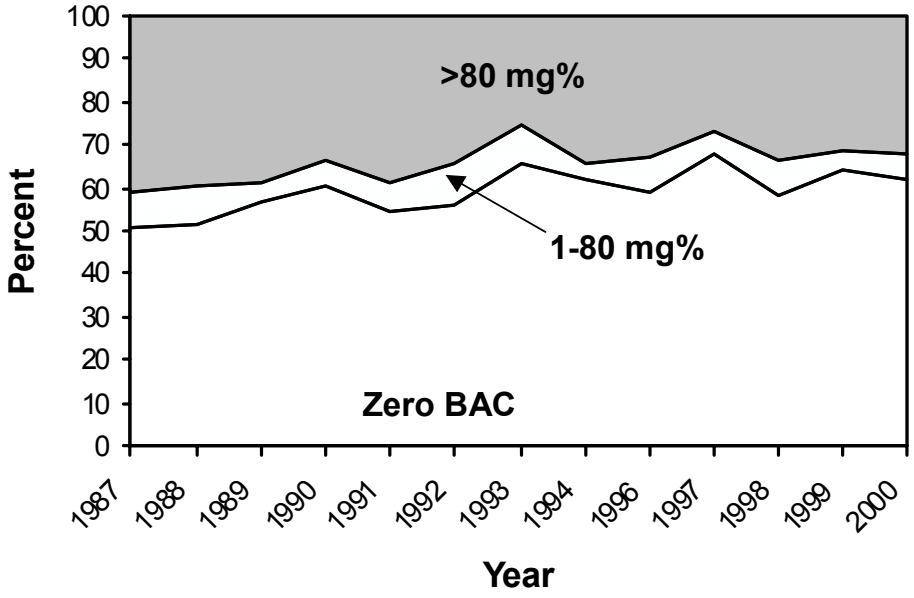
Alcohol Use Among Fatally Injured Drivers:
Alberta, 1987-2000

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	265	253	95.5	129	51.0	20	7.9	104	41.1
1988	236	215	91.1	111	51.6	20	9.3	84	39.1
1989	235	229	97.4	130	56.8	10	4.4	89	38.9
1990	195	189	96.9	114	60.3	12	6.3	63	33.3
1991	192	180	93.8	99	55.0	11	6.1	70	38.9
1992	171	165	96.5	93	56.4	15	9.1	57	34.5
1993	185	177	95.7	117	66.1	15	8.5	45	25.4
1994	194	189	97.4	117	61.9	8	4.2	64	33.9
1995	201	195	97.0	131	67.2	9	4.6	55	28.2
1996	170	168	98.8	100	59.5	13	7.7	55	32.7
1997	231	224	97.0	152	67.9	11	4.9	61	27.2
1998	206	200	97.1	117	58.5	16	8.0	67	33.5
1999	188	188	100.0	121	64.4	9	4.8	58	30.9
2000	175	173	98.9	108	62.4	10	5.8	55	31.8

* 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 5.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Figure 5-2
Trends in Alcohol Use Among Driver Fatalities: Alberta, 1987-2000



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%) before rising slightly in 2000 (31.8%). 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%), and has since fluctuated, reaching 62.4% in 2000. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (9.3%), dropped to its lowest mark in 1994 (4.2%), increased to 8.0% in 1998, fell to 4.8% in 1999, before rising again to 5.8% in 2000.

5.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

Table 5-6

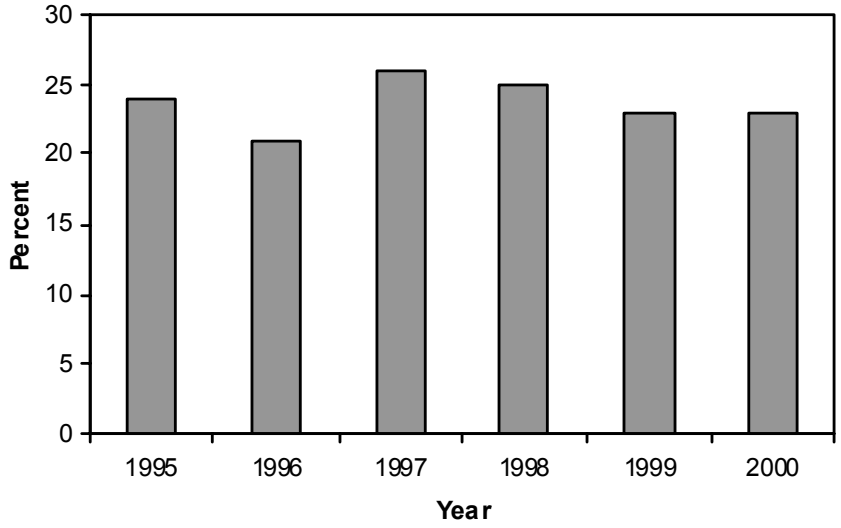
Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Alberta, 1995-2000

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	2701	657	(24.3)
1996	3023	622	(20.6)
1997	2938	749	(25.5)
1998	3332	821	(24.6)
1999	3178	741	(23.3)
2000	3269	741	(22.7)

* 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, 1995-2000



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 24.3% to 20.6%. In 1997, the incidence rose to 25.5% before dropping to 22.7% in 2000.

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 2000. 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 2000. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first data column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*. For example, 20 people age 16-19 were killed in motor vehicle crashes in Saskatchewan during 2000. And, in all 20 cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, nine people age 16-19 died in alcohol-related crashes in Saskatchewan during 2000. The next column expresses this as a percentage – e.g., 45.0% 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 16.1% of all the people killed in alcohol-related crashes in Saskatchewan during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 167 persons died in motor vehicle crashes in Saskatchewan during 2000. In 149 (89.2%) of these cases, it was

possible to determine if alcohol was a factor. Of these known cases, 56 (37.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (167 x .376) it can be estimated that *in Saskatchewan during 2000, 63 persons died in alcohol-related crashes*.

Table 6-1
Deaths* in Alcohol-Related Crashes: Saskatchewan, 2000

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	22	17	77.3	1	5.9	1.8
16-19	20	20	100.0	9	45.0	16.1
20-25	21	19	90.5	13	68.4	23.2
26-35	18	17	94.4	14	82.4	25.0
36-45	20	17	85.0	8	47.1	14.3
46-55	16	16	100.0	6	37.5	10.7
>55	50	43	86.0	5	11.6	8.9
Gender						
Male	116	105	90.5	46	43.8	82.1
Female	51	44	86.3	10	22.7	17.9
Type						
Driver/Operator	90	85	94.4	30	35.3	53.6
Passenger	51	48	94.1	16	33.3	28.6
Pedestrian	24	14	58.3	8	57.1	14.3
Unknown	2	2	100.0	2	100.0	3.6
Vehicle Occupied						
Automobiles	56	54	96.4	15	27.8	26.8
Trucks/Vans	68	64	94.1	29	45.3	51.8
Motorcycles	2	2	100.0	0	0.0	0.0
Other Hwy. Vehs.	7	6	85.7	3	50.0	5.4
Offroad Vehicles	10	9	90.0	1	11.1	1.8
(Pedestrians)	24	14	58.3	8	57.1	14.3
TOTAL	167	149	89.2	56	37.6	100.0

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

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 25.0% (see last column) were aged 26-35; 23.2% were aged 20-25 and 16.1% were 16-19.

Within each of the age groups, the highest incidence of alcohol involvement (82.4%) 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 5.9% of persons under 16 and 11.6% 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, 82.1% were males. And the incidence of alcohol in crashes in which a male died (43.8%) was much greater than the incidence of alcohol in crashes in which a female died (22.7%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 53.6% were drivers/operators of a vehicle; 28.6% were passengers; 14.3% were pedestrians; and 3.6% were occupants whose position in the vehicle was unknown.

Within each of the principal victim types, the highest incidence of alcohol involvement (57.1%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 35.3% of the crashes in which a driver/operator died and 33.3% of those in which a passenger died.

6.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over half (51.8%) were in a truck/van; 26.8% were in an automobile.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was much greater than the incidence of alcohol in crashes in which an automobile occupant died (45.3% versus 27.8%).

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 2000. 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, 2000

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	13	9	69.2	5	55.6	20.0	3	33.3	13.0
20-25	11	10	90.9	6	60.0	24.0	6	60.0	26.1
26-35	10	10	100.0	7	70.0	28.0	7	70.0	30.4
36-45	12	10	83.3	4	40.0	16.0	4	40.0	17.4
46-55	7	6	85.7	0	0.0	0.0	0	0.0	0.0
>55	29	25	86.2	3	12.0	12.0	3	12.0	13.0
Gender									
Male	65	57	87.7	24	42.1	96.0	22	38.6	95.7
Female	18	14	77.8	1	7.1	4.0	1	7.1	4.3
Vehicle Type									
Automobile	35	28	80.0	7	25.0	28.0	6	21.4	26.1
Trucks/Van	40	37	92.5	17	45.9	68.0	16	43.2	69.6
Motorcycle	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Tractor Trailer	5	3	60.0	1	33.3	4.0	1	33.3	4.3
Other Hwy. Veh.	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	41	33	80.5	18	54.5	72.0	17	51.5	73.9
Multiple-Vehicle	42	38	90.5	7	18.4	28.0	6	15.8	26.1
TOTAL	83	71	85.5	25	35.2	100.0	23	32.4	100.0

To illustrate, among 16-19 year olds there were 13 drivers killed during 2000; nine of these fatally injured drivers (69.2%) were tested for alcohol. Of those who were tested, five (55.6%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 20.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the nine (33.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that 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, 16-19 year old drivers accounted for 13.0% 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 high testing rate in 2000, with 85.5% of fatally injured drivers being tested for alcohol use.

In Saskatchewan, 35.2% had been drinking and most of these had illegal BACs – 92.0% 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:

- 1.4% had BACs from 1-49 mg%;
- 1.4% had BACs from 50-80 mg%
- 7.0% had BACs from 81 to 150 mg%; and,
- 25.4% had BACs over 150 mg%.

6.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 28.0% were aged 26-35; 24.0% were aged 20-25; 20.0% were aged 16-19; 16.0% were aged 36-45; and 12.0% were aged over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 30.4% were aged 26-35; 26.1% were aged 20-25 and 17.4% were aged 36-45. Those aged 16-19 and over 55 each accounted for 13.0% 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 – 70.0% of drivers in this age group had been drinking. By contrast, none of the tested drivers aged 46-55 had been drinking.

About nine of ten (92.0%) fatally injured drinking drivers had BACs over the legal limit.

6.2.2 Gender differences. Males dominate the picture – they account for 96.0% of all the fatally injured drivers who had been drinking, and 95.7% 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 (65 of the 83 fatalities are males). Fatally injured male drivers were much more likely to have been drinking than female drivers (42.1% and 7.1%, respectively). And, 91.7% of the male and 100% 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), 68.0% were truck/van drivers; 28.0% were automobile drivers; and only 4.0% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 69.6% were truck/van drivers; 26.1% were automobile drivers; and 4.3% were tractor trailer drivers.

Within each of the vehicle types, 45.9% of fatally injured drivers of truck-vans; 33.3% of tractor trailer drivers and 25.0% of drivers of automobiles were found to have been drinking.

6.2.4 Collision differences. Less than half of the drivers killed (41 of the 83) were involved in single-vehicle collisions but these crashes accounted for almost three-fourths of the drivers who had been drinking or were legally impaired (72.0% and 73.9%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over half of the drivers involved in single-vehicle crashes (54.5%) were positive for alcohol, compared to only 18.4% 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 2000 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, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	15	2	13.3	1.0
16-19	116	41	35.3	21.2
20-25	121	42	34.7	21.8
26-35	118	34	28.8	17.6
36-45	146	45	30.8	23.3
46-55	75	12	16.0	6.2
>55	118	10	8.5	5.2
unknown	25	7	28.0	3.6
Gender				
Male	477	136	28.5	70.5
Female	239	52	21.8	26.9
unknown	18	5	27.8	2.6
Vehicle Type				
Auto	357	103	28.9	53.4
Truck/Van	269	63	23.4	32.6
Motorcycle	29	7	24.1	3.6
Tractor Trailer	35	10	28.6	5.2
Other Hwy. Vehicle	3	0	0.0	0.0
Off-Road	38	10	26.3	5.2
Unknown	3	0	0.0	0.0
Collision Type				
Single-Vehicle	277	130	46.9	67.4
Multiple-Vehicle	457	63	13.8	32.6
TOTAL	734	193	26.3	100.0

As shown, by the totals at the bottom of the table, 734 drivers were involved in crashes in which someone was seriously injured, and among these 26.3% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 23.3% were aged 36-45; 21.8% were aged 20-25; and 21.2% were aged 16-19. Drivers over 55 accounted for only 5.2% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about three out of ten drivers age 16-19, 20-25, and 36-45 were involved in alcohol-related serious injury crashes (35.3%, 34.7% and 30.8%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the youngest and oldest age groups of drivers – those under 16 (13.3%) and those aged over 55 (8.5%).

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 70.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.5% and 21.8%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 53.4% were automobile drivers; and 32.6% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 28.9% of automobile drivers were in crashes that involved alcohol, compared to 28.6% for tractor trailer drivers and 26.3% for off-road vehicle riders. Only 23.4% of truck/van drivers were involved in alcohol-related crashes.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 67.4% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 46.9% of these drivers, compared to only 13.8% 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: 1995-2000. 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

Table 6-4

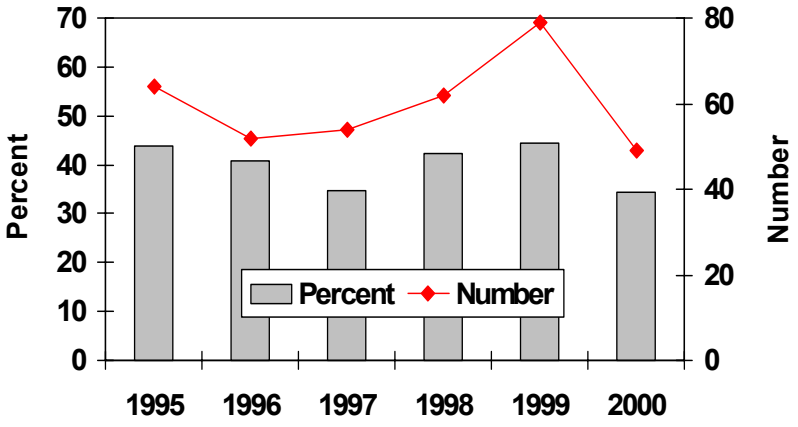
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Saskatchewan, 1995-2000

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

* 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, 1995-2000



2000. These results differ slightly from those in Section 6.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

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, and then a decrease to a low of 49 in 2000. 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% before decreasing to a low of 34.3% in 2000.

6.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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 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.

Table 6-5

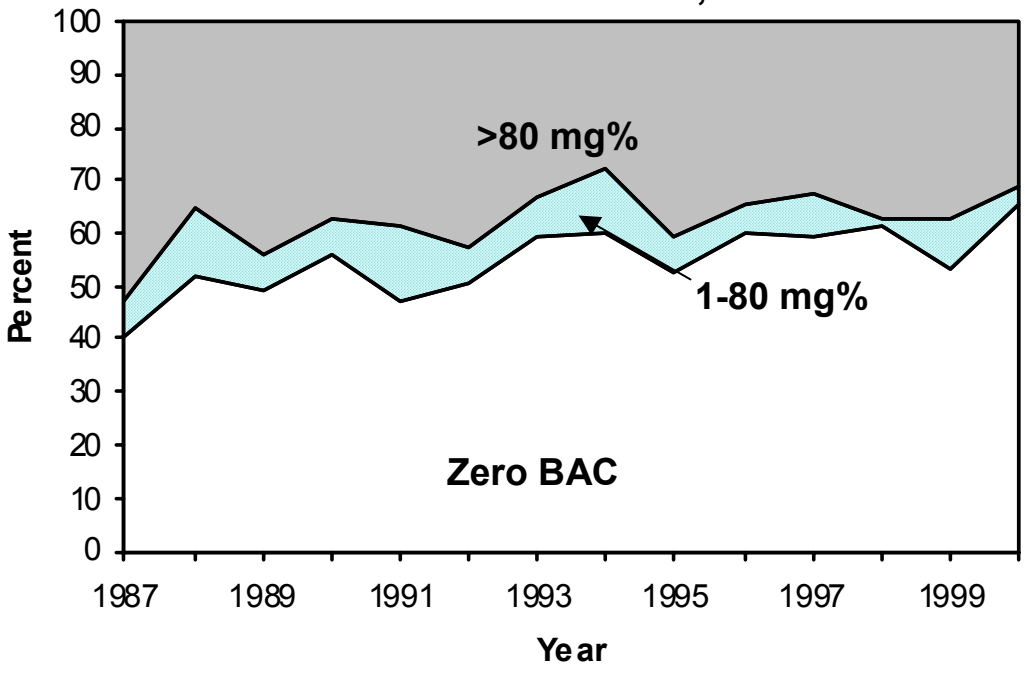
Alcohol Use Among Fatally Injured Drivers:
Saskatchewan, 1987-2000

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

* 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 (52.9%) to 1997 (32.8%), increased in 1999 (36.9%), and decreased to 31.3% in 2000. The percent of fatally injured drivers with zero BACs increased from 1987 (40.0%) to 1994 (60.3%), declined in 1995 (52.6%), inceased in 1998 (61.6%), declined to 53.6% in 1999, and peaked in 2000 (65.7%). 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%), and decreased in 2000 (3.0%).

Figure 6-2
Trends in Alcohol Use Among Driver Fatalities: Saskatchewan, 1987-2000



6.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious crashes has been relatively stable. Between 1995 and 1996 the percentage of all drivers in serious injury crashes that involved alcohol rose only slightly from 25.1% to 25.6%. In 1997 the incidence dropped to 23.4%, rose to 26.3% in 1998, dropped to 25.8% in 1999, and rose slightly to 26.4% in 2000.

Table 6-6

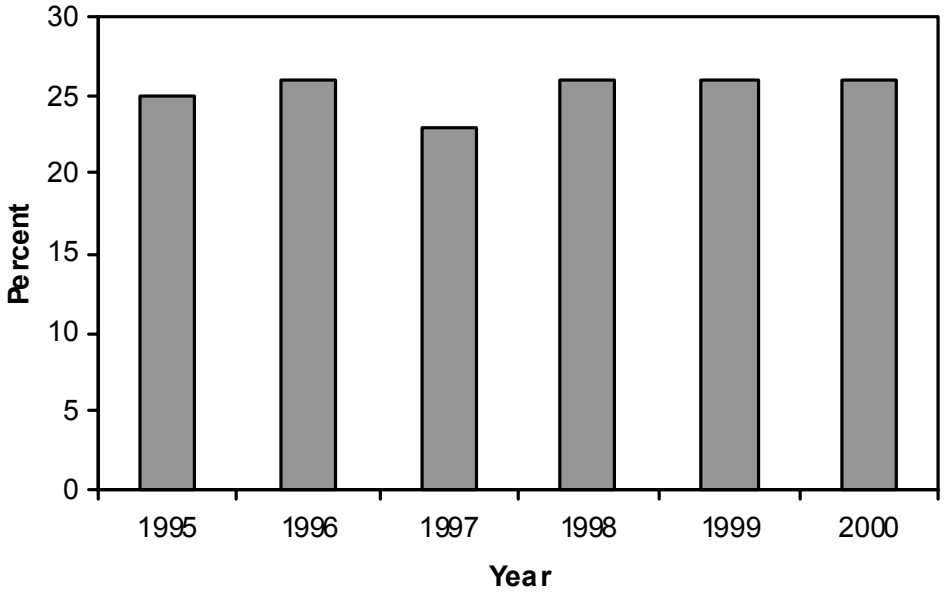
Number and Percent of All Drivers* in Serious Injury Crashes ** that Involved Alcohol: Saskatchewan, 1995-2000

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	887	223	(25.1)
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)

* 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, 1995-2000



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 2000. 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 2000. 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, 22 people age 16-19 were killed in motor vehicle crashes in Manitoba during 2000. And, in 21 cases (95.5%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, nine people age 16-19 died in alcohol-related crashes in Manitoba during 2000. The next column expresses this as a percentage – e.g., 42.9% 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 19.1% of all the people killed in alcohol-related crashes in Manitoba during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 133 persons died in motor vehicle crashes in Manitoba during 2000. In 124 (93.2%) of these cases, it was possible to

determine if alcohol was a factor. Of these known cases, 47 (37.9%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (133 x .379) it can be estimated that *in Manitoba during 2000, 50 persons died in alcohol-related crashes*.

Table 7-1
Deaths* in Alcohol-Related Crashes: Manitoba, 2000

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	0	0.0	0.0
16-19	22	21	95.5	9	42.9	19.1
20-25	16	15	93.8	7	46.7	14.9
26-35	24	24	100.0	15	62.5	31.9
36-45	13	12	92.3	4	33.3	8.5
46-55	16	14	87.5	6	42.9	12.8
>55	35	33	94.3	6	18.2	12.8
Gender						
Male	96	91	94.8	42	46.2	89.4
Female	37	33	89.2	5	15.2	10.6
Type						
Driver/Operator	79	77	97.5	30	39.0	63.8
Passenger	35	30	85.7	9	30.0	19.1
Pedestrian	19	17	89.5	8	47.1	17.0
Vehicle Occupied						
Automobiles	51	49	96.1	15	30.6	31.9
Trucks/Vans	41	40	97.6	17	42.5	36.2
Motorcycles	4	4	100.0	0	0.0	0.0
Other Hwy. Vehs.	3	3	100.0	0	0.0	0.0
Offroad Vehicles	15	11	73.3	7	63.6	14.9
(Pedestrians)	19	17	89.5	8	47.1	17.0
TOTAL	133	124	93.2	47	37.9	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, 31.9% (see last column) were aged 26-35; 19.1% were aged 16-19 and 14.9% were age 20-25.

Within each of the age groups, the highest incidence of alcohol involvement (62.5%) occurred in the crashes in which a person aged 26-35 died. The lowest incidence of alcohol involvement was

found among the oldest fatalities – only 18.2% of persons over 55 year of age died in crashes involving alcohol.

7.1.2 Gender. Of all the people who died in alcohol-related crashes, 89.4% were males. And, the incidence of alcohol in crashes in which a male died (46.2%) was three times greater than the incidence of alcohol in crashes in which a female died (15.2%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 63.8% were drivers/operators of a vehicle; 19.1% were passengers; and 17.0% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (47.1%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 39.0% of the crashes in which a driver/operator died and 30.0% of those in which a passenger died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 36.2% were in a truck/van and 31.9% 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 (42.5% versus 30.6%).

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 2000. 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, 2000

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
<16	1	0	0.0	0	0.0	0.0	0	0.0	0.0
16-19	6	6	100.0	3	50.0	12.5	2	33.3	10.0
20-25	9	9	100.0	4	44.4	16.7	4	44.4	20.0
26-35	14	14	100.0	6	42.9	25.0	5	35.7	25.0
36-45	9	9	100.0	3	33.3	12.5	3	33.3	15.0
46-55	10	10	100.0	5	50.0	20.8	5	50.0	25.0
>55	18	15	83.3	3	20.0	12.5	1	6.7	5.0
Gender									
Male	50	48	96.0	21	43.8	87.5	19	39.6	95.0
Female	17	15	88.2	3	20.0	12.5	1	6.7	5.0
Vehicle Type									
Automobile	31	28	90.3	9	32.1	37.5	8	28.6	40.0
Trucks/Van	29	28	96.6	15	53.6	62.5	12	42.9	60.0
Motorcycle	4	4	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
Collision Type									
Single-Vehicle	28	27	96.4	18	66.7	75.0	15	55.6	75.0
Multiple-Vehicle	39	36	92.3	6	16.7	25.0	5	13.9	25.0
TOTAL	67	63	94.0	24	38.1	100.0	20	31.7	100.0

To illustrate, among those aged 16-19 there were six drivers killed during 2000; all six of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, three (50.0%) were positive for alcohol. This means that fatally injured drinking drivers aged 16-19 accounted for 12.5% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the six (33.3%) fatally injured drivers aged 16-19 who were tested for alcohol had BACs in excess of 80 mg%. This means that two of the three drivers who were positive for alcohol had 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 10.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Manitoba had a very high testing rate in 2000, with 94.0% of fatally injured drivers being tested for alcohol use.

In Manitoba, 38.1% 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:

- 4.8% had BACs from 1-49 mg%;
- 1.6% had BACs from 50-80 mg%;
- 6.3% had BACs from 81 to 150 mg%; and,
- 25.4% had BACs over 150 mg%.

7.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 25.0% were aged 26-35; 20.8% of the drivers were aged 46-55; and 16.7% were 20-25. Those aged 16-19, 36-45 and over 55 each accounted for only 12.5% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.0% were aged 26-35 and 46-55; 20.0% were aged 20-25; 15.0% were aged 36-45; 10.0% were aged 16-19; and 5.0% were over 55.

Within each of the age groups, fatally injured drivers aged 46-55 were the most likely to have been drinking – 50.0% of drivers in this age group had been drinking. By contrast, only 20.0% of tested drivers over age 55 had been drinking.

7.2.2 Gender differences. Males dominate the picture – they account for 87.5% of all the fatally injured drivers who had been drinking, and 95.0% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (50 of the 67 fatalities are males). Fatally injured male drivers were twice as likely to

have been drinking than female drivers (43.8% and 20.0%, respectively). And 90.5% of the males and 33.3% of female drinking drivers 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), 62.5% were truck/van drivers and 37.5% 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, 53.6% of fatally injured drivers of trucks/vans and 32.1% of automobile drivers were found to have been drinking.

7.2.4 Collision differences. Less than half of the drivers killed (28 of the 67) were involved in single-vehicle collisions but these crashes accounted for 75.0% of both drivers who had been drinking and those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. About two out of three drivers involved in single-vehicle crashes (66.7%) were positive for alcohol, compared to only 16.7% of those involved in multiple-vehicle collisions.

7.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2000 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, 2000

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	22	2	9.1	1.8
16-19	82	24	29.3	21.1
20-25	121	33	27.3	28.9
26-35	99	25	25.3	21.9
36-45	101	20	19.8	17.5
46-55	77	3	3.9	2.6
>55	80	6	7.5	5.3
unknown	28	1	3.6	0.9
Gender				
Male	417	90	21.6	78.9
Female	177	23	13.0	20.2
unknown	16	1	6.3	0.9
Vehicle Type				
Auto	307	54	17.6	47.4
Truck/Van	233	44	18.9	38.6
Motorcycle	22	9	40.9	7.9
Tractor Trailer	24	3	12.5	2.6
Other Hwy. Vehicle	1	0	0.0	0.0
Off-Road	23	4	17.4	3.5
Collision Type				
Single-Vehicle	249	94	37.8	82.5
Multiple-Vehicle	361	20	5.5	17.5
TOTAL	610	114	18.7	100.0

*These numbers are slightly underestimated because about 6.9% of all injuries are recorded as "unspecified".

As shown, by the totals at the bottom of the table, 610 drivers were involved in crashes in which someone was seriously injured, and among these 18.7% were alcohol-related crashes.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 28.9% were aged 20-25; 21.9% were aged 26-35; and 21.1% were aged 16-19. Drivers under 16 accounted for only 1.8% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of four drivers aged 16-19, 20-25, and 26-35 were involved in alcohol-related serious injury crashes (29.3%, 27.3% and 25.3%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for drivers aged 46-55 (3.9%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 78.9% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (21.6% and 13.0%, respectively).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 47.4% were automobile drivers; and 38.6% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists – 40.9% of motorcyclists were in crashes that involved alcohol, compared to 18.9% for truck/van drivers, 17.6% for automobile drivers, and 17.4% for drivers of off-road vehicles. Only 12.5% of tractor-trailer drivers were involved in an alcohol-related crash.

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 82.5% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 37.8% of these drivers, compared to only 5.5% 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: 1995-2000. 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 2000. 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

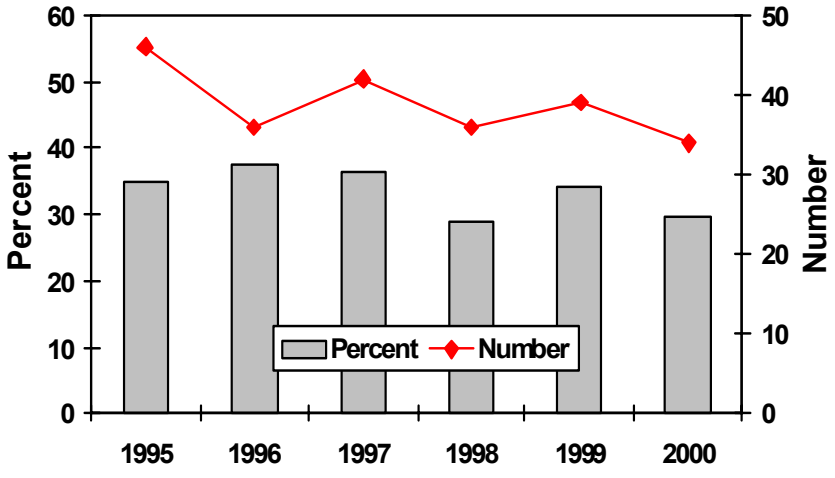
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Manitoba, 1995-2000

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

* 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, 1995-2000



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, and reached a low of 34 in 2000. 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, and decreased to 29.6% in 2000.

7.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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).

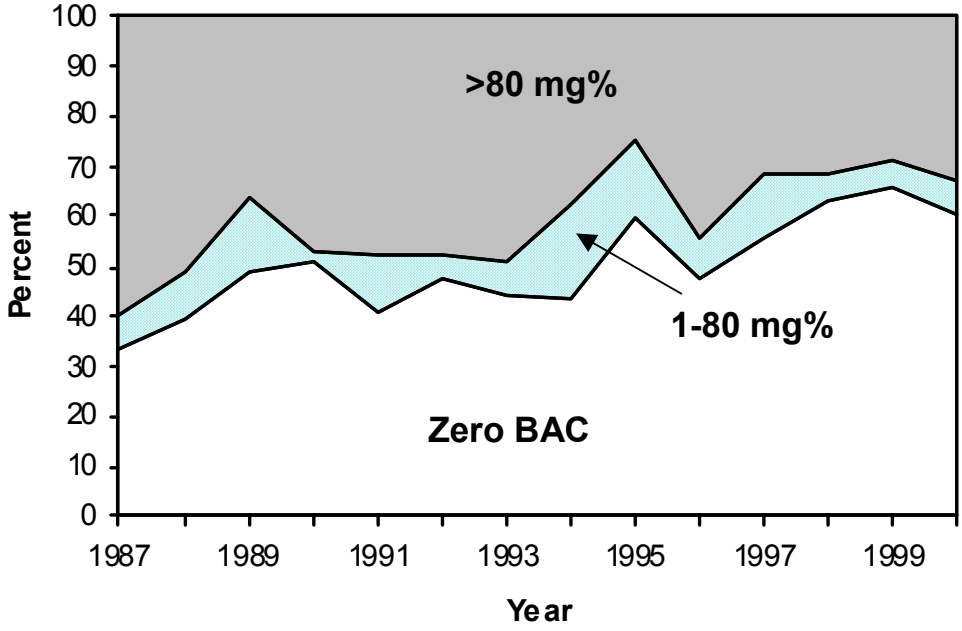
Table 7-5

Alcohol Use Among Fatally Injured Drivers:
Manitoba, 1987-2000

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

* dying in less than six hours.

Figure 7-2
Trends in Alcohol Use Among Driver Fatalities: Manitoba, 1987-2000



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%) before rising to 32.7% in 2000. 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, then decreased to 60.0% in 2000. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1994 (18.9%), dropped to 5.6% in 1998, and rose to 7.3% in 2000.

7.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles. As can be seen, the incidence of alcohol-involvement in serious crashes has been relatively stable. 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% before reaching a low of 18.7% in 2000.

Table 7-6

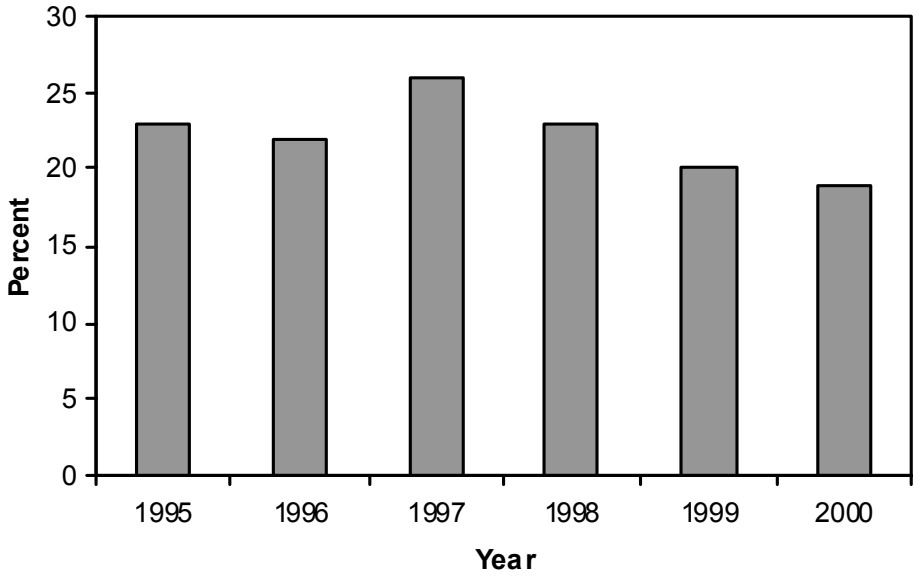
Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Manitoba, 1995-2000

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)

* 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, 1995-2000



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 2000. 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 2000. 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, 98 people age 16-19 were killed in motor vehicle crashes in Ontario during 2000. And, in 84 of these cases (85.7%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 34 people age 16-19 died in alcohol-related crashes in Ontario during 2000. The next column expresses this as a percentage – e.g., 40.5% 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 12.3% of all the people killed in alcohol-related crashes in Ontario during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 958 persons died in motor vehicle crashes in Ontario during 2000. In 833 (87.0%) of these cases, it was possible to

determine if alcohol was a factor. Of these known cases, 277 (33.3%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (958 x .333) it can be estimated that *in Ontario during 2000, 319 persons died in alcohol-related crashes*.

Table 8-1
Deaths* in Alcohol-Related Crashes: Ontario, 2000

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	62	53	85.5	12	22.6	4.3
16-19	98	84	85.7	34	40.5	12.3
20-25	140	124	88.6	48	38.7	17.3
26-35	136	129	94.9	67	51.9	24.2
36-45	143	127	88.8	53	41.7	19.1
46-55	114	97	85.1	33	34.0	11.9
>55	265	219	82.6	30	13.7	10.8
Gender						
Male	655	568	86.7	221	38.9	79.8
Female	303	265	87.5	56	21.1	20.2
Type						
Driver/Operator	567	497	87.7	175	35.2	63.2
Passenger	256	227	88.7	70	30.8	25.3
Pedestrian	135	109	80.7	32	29.4	11.6
Vehicle Occupied						
Automobiles	533	466	87.4	154	33.0	55.6
Trucks/Vans	173	158	91.3	56	35.4	20.2
Motorcycles	40	39	97.5	12	30.8	4.3
Other Hwy. Vehs.	16	15	93.8	0	0.0	0.0
Offroad Vehicles	54	40	74.1	19	47.5	6.9
(Pedestrians)	135	109	80.7	32	29.4	11.6
Unknown	7	6	85.7	4	0.0	0.0
TOTAL	958	833	87.0	277	33.3	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, 24.2% (see last column) were aged 26-35; 19.1% were aged 36-45 and 17.3% were 20-25.

Within each of the age groups, the highest incidence of alcohol involvement (51.9%) 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 13.7% of persons over 55 and 22.6% of the fatalities under 16 years of age died in crashes involving alcohol.

8.1.2 Gender. Of all the people who died in alcohol-related crashes, 79.8% were males. The incidence of alcohol in crashes in which a male died (38.9%) was about twice as great as the incidence of alcohol in crashes in which a female died (21.1%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 63.2% were drivers/operators of a vehicle; 25.3% were passengers; and 11.6% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (35.2%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 30.8% of the crashes in which a passenger died and 29.4% of those in which a pedestrian died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over half (55.6%) were in an automobile; 20.2% were in a truck/van; and 6.9% were in off-road vehicles (e.g., bicycle, snowmobile, all-terrain vehicle).

Within each of these vehicle types, the incidence of alcohol involvement in which a person on an off-road vehicle died was 47.5% compared to 35.4% for truck/van occupants, 33.0% for automobile occupants and 30.8% 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 2000. 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 47 drivers killed during 2000; 41 of these fatally injured drivers (87.2%) were tested for alcohol. Of those who were tested, 13 (31.7%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 9.6% of all drinking drivers who were killed.

Table 8-2
Alcohol Use Among Fatally Injured Drivers: Ontario, 2000

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	47	41	87.2	13	31.7	9.6	9	22.0	8.6
20-25	76	64	84.2	27	42.2	20.0	21	32.8	20.0
26-35	90	85	94.4	40	47.1	29.6	33	38.8	31.4
36-45	97	89	91.8	32	36.0	23.7	27	30.3	25.7
46-55	74	58	78.4	13	22.4	9.6	9	15.5	8.6
>55	132	91	68.9	10	11.0	7.4	6	6.6	5.7
Gender									
Male	386	320	82.9	118	36.9	87.4	93	29.1	88.6
Female	131	109	83.2	17	15.6	12.6	12	11.0	11.4
Vehicle Type									
Automobile	350	283	80.9	90	31.8	66.7	68	24.0	64.8
Trucks/Van	115	100	87.0	34	34.0	25.2	31	31.0	29.5
Motorcycle	39	34	87.2	11	32.4	8.1	6	17.6	5.7
Tractor Trailer	13	12	92.3	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	200	162	81.0	83	51.2	61.5	69	42.6	65.7
Multiple-Vehicle	317	267	84.2	52	19.5	38.5	36	13.5	34.3
TOTAL	517	429	83.0	135	31.5	100.0	105	24.5	100.0

Then, in the final three columns, it can be seen that nine of the 41 (22.0%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that nine of the 13 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 8.6% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2000, with 83.0% of fatally injured drivers being tested for alcohol use.

In Ontario, 31.5% 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:

- 5.4% had BACs from 1-49 mg%;
- 1.6% had BACs from 50-80 mg%
- 6.8% had BACs from 81 to 150 mg%; and,
- 17.7% had BACs over 150 mg%.

8.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 29.6% were aged 26-35 and 23.7% were aged 36-45; 20.0% were aged 20-25; and 9.6% were 16-19 and 46-55. Those over age 55 accounted for only 7.4% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 31.4% were aged 26-35; 25.7% were aged 36-45; 20.0% were aged 20-25; 8.6% were age 16-19 and 46-55. Those over age 55 accounted for only 5.7% 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 – 47.1% of drivers in this age group had been drinking. By contrast, only 11.0% of tested drivers over age 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture – they account for 87.4% of all the fatally injured drivers who had been drinking, and 88.6% 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 (386 of the 517 fatalities are males). Fatally injured male drivers were more than twice as likely to have been drinking than female drivers (36.9% and 15.6%, respectively). And, 78.8% of the male drivers and 70.6% 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), 66.7% were automobile drivers; 25.2% were truck/van drivers; and 8.1% were motorcycle riders. None of the tractor-trailer drivers had been drinking.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 64.8% were automobile drivers; 29.5% were truck/van drivers; and 5.7% were motorcycle riders.

Within each of the vehicle types, 34.0% of fatally injured drivers of truck/vans, 32.4% of motorcyclists, and 31.8% of automobile drivers were found to have been drinking. None of the tested tractor-trailer drivers had been drinking.

8.2.4 Collision differences. Only about two out of five of the drivers killed (200 of the 517) were involved in single-vehicle collisions but these crashes accounted for over three-fifths of the drivers who had been drinking or were legally impaired (61.5% and 65.7%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over half of the drivers involved in single-vehicle crashes (51.2%) were positive for alcohol, compared to only 19.5% 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 2000 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

Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes:
Ontario, 2000

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	20	4	20.0	0.4
16-19	482	108	22.4	10.3
20-25	806	226	28.0	21.6
26-35	1077	241	22.4	23.0
36-45	1100	204	18.5	19.5
46-55	789	138	17.5	13.2
>55	848	87	10.3	8.3
unknown	207	39	18.8	3.7
Gender				
Male	3833	852	22.2	81.4
Female	1496	195	13.0	18.6
Vehicle Type				
Auto	3286	690	21.0	65.9
Truck/Van	1361	257	18.9	24.5
Motorcycle	231	46	19.9	4.4
Tractor Trailer	181	23	12.7	2.2
Other Hwy. Vehicle	67	14	20.9	1.3
Off-Road	175	12	6.9	1.1
Unknown	28	5	17.9	0.5
Collision Type				
Single-Vehicle	1538	630	41.0	60.2
Multiple-Vehicle	3791	417	11.0	39.8
TOTAL	5329	1047	19.6	100.0

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, 5,329 drivers were involved in crashes in which someone was seriously injured, and among these 19.6% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 23.0% were aged 26-35; 21.6% were aged 20-25; and 19.5% were aged 36-45. Drivers under 16 accounted for only 0.4% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, 28.0% of drivers age 20-25 and 22.4% of drivers age 16-19 and 26-35 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 (10.3%).

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 81.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (22.2% and 13.0%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 65.9% were automobile drivers; and 24.5% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers (21.0%); compared to 20.9% for drivers of other highway vehicles and 19.9% for motorcyclists. Only 6.9% of off-road vehicle drivers 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, 60.2% 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 – 41.0% of these drivers, compared to only 11.0% 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: 1995-2000. 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 2000. 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, 1995-2000

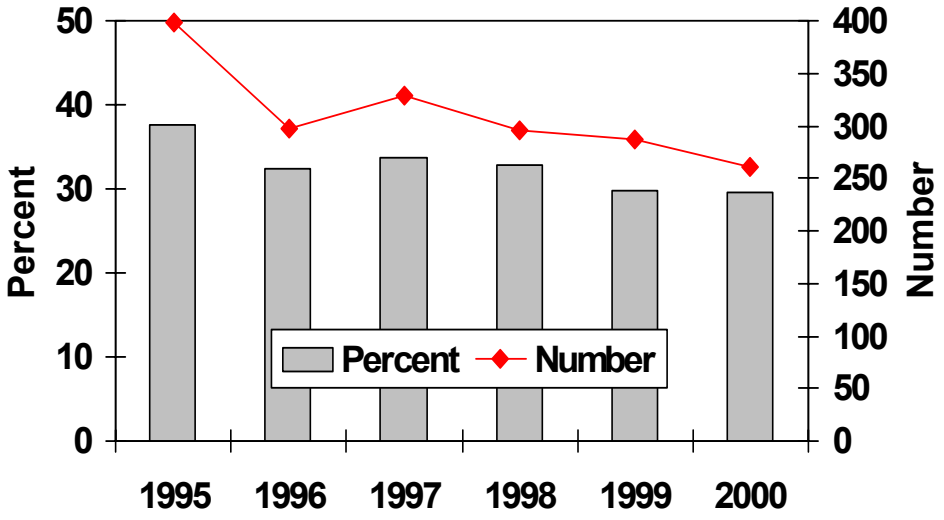
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	1059	398	37.6
1996	915	297	32.5
1997	969	328	33.8
1998	900	295	32.8
1999	966	287	29.7
2000	886	261	29.5

* 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 and then a decrease to 261 alcohol-related fatalities in 2000. 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 before dropping to 29.7% in 1999 and then 29.5% in 2000.

Figure 8-1
Number and Percent of Deaths Involving a Drinking Driver: Ontario, 1995-2000



8.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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 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.

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, and increased to 24.4% in 2000. The percent of fatally injured drivers with zero BAC increased from 1987 (53.0%) to 1997 (65.0%), dropped slightly in 1998 (64.4%), reached its highest level in 1999 (71.3%), and dropped again in 2000 (69.0%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (12.5%), dropped to its lowest mark in 1999 (5.4%), and rose in 2000 (6.7%).

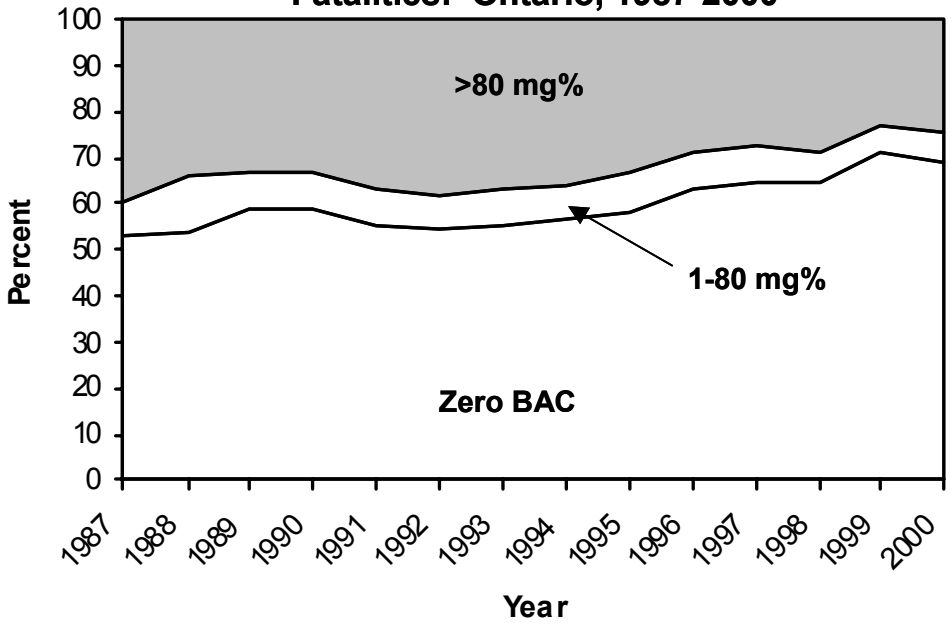
Table 8-5

Alcohol Use Among Fatally Injured Drivers:
Ontario, 1987-2000

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

* dying in less than six hours.

Figure 8-2
Trends in Alcohol Use Among Driver Fatalities: Ontario, 1987-2000



8.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious crashes has declined slightly over this six-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 before rising slightly to 20.1% in 2000.

Table 8-6

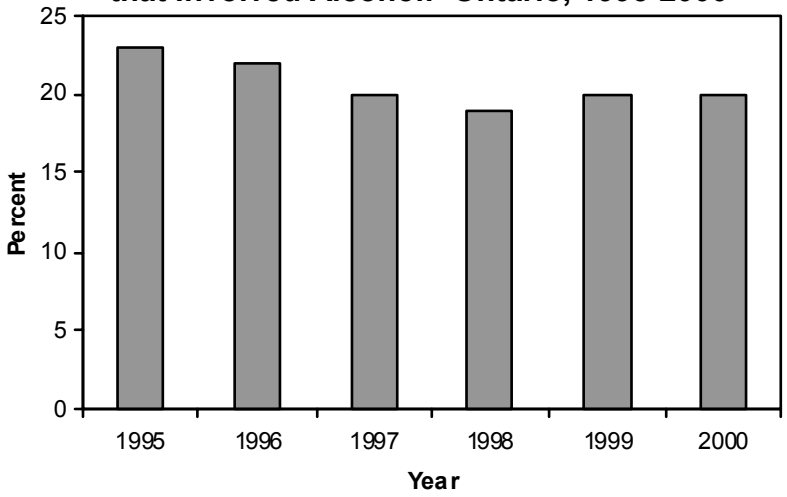
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Ontario, 1995-2000

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)

* 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, 1995-2000



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 2000. 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 2000. 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, 87 people age 16-19 were killed in motor vehicle crashes in Quebec during 2000. And, in 86 of these cases (98.9%) 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, 31 people age 16-19 died in alcohol-related crashes in Quebec during 2000. The next column expresses this as a percentage – e.g., 36.0% 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 15.5% of all the people killed in alcohol-related crashes in Quebec during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 771 persons died in motor vehicle crashes in Quebec during 2000. In 730 (94.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 200 (27.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (771 x .274) it can be estimated that *in Quebec during 2000, 211 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, 2000

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	58	55	94.8	8	14.5	4.0
16-19	87	86	98.9	31	36.0	15.5
20-25	122	115	94.3	42	36.5	21.0
26-35	120	111	92.5	46	41.4	23.0
36-45	122	119	97.5	38	31.9	19.0
46-55	86	81	94.2	18	22.2	9.0
>55	176	163	92.6	17	10.4	8.5
Gender						
Male	550	520	94.5	159	30.6	79.5
Female	221	210	95.0	41	19.5	20.5
Type						
Driver/Operator	494	469	94.9	146	31.1	73.0
Passenger	179	172	96.1	37	21.5	18.5
Pedestrian	97	89	91.8	17	19.1	8.5
Unknown	1	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	423	404	95.5	119	29.5	59.5
Trucks/Vans	94	91	96.8	24	26.4	12.0
Motorcycles	70	66	94.3	15	22.7	7.5
Other Hwy. Vehs.	15	15	100.0	3	20.0	1.5
Offroad Vehicles	72	65	90.3	22	33.8	11.0
(Pedestrians)	97	89	91.8	17	19.1	8.5
TOTAL	771	730	94.7	200	27.4	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 26-35 accounted for 23.0%; 21.0% were aged 20-25 and 19.0% were aged 36-45 (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (41.4%) 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 10.4% of persons over 55 and 14.5% 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, 79.5% were males. The incidence of alcohol in crashes in which a male died (30.6%) was greater than the incidence of alcohol in crashes in which a female died (19.5%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 73.0% were drivers/operators of a vehicle; 18.5% were passengers; and 8.5% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (31.1%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 21.5% of the crashes in which a passenger died and 19.1% of those in which a pedestrian died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, more than half (59.5%) were in an automobile; 12.0% were in a truck/van.

Within each of these vehicle types, the incidence of alcohol involvement was similar in crashes in which an off-road vehicle occupant, and an automobile occupant, died (33.8% and 29.5, respectively). The incidence of alcohol involvement was lower in crashes in which a truck/van occupant and motorcyclist died (26.4% and 22.7% 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 2000. 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, 2000

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	44	35	79.5	17	48.6	14.7	12	34.3	13.2
20-25	74	63	85.1	24	38.1	20.7	20	31.7	22.0
26-35	81	69	85.2	31	44.9	26.7	22	31.9	24.2
36-45	85	62	72.9	23	37.1	19.8	22	35.5	24.2
46-55	56	39	69.6	12	30.8	10.3	11	28.2	12.1
>55	86	53	61.6	9	17.0	7.8	4	7.5	4.4
Gender									
Male	349	266	76.2	100	37.6	86.2	80	30.1	87.9
Female	78	56	71.8	16	28.6	13.8	11	19.6	12.1
Vehicle Type									
Automobile	287	218	76.0	86	39.4	74.1	70	32.1	76.9
Trucks/Van	65	50	76.9	16	32.0	13.8	14	28.0	15.4
Motorcycle	63	45	71.4	13	28.9	11.2	7	15.6	7.7
Tractor Trailer	11	9	81.8	1	11.1	0.9	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	158	127	80.4	70	55.1	60.3	58	45.7	63.7
Multiple-Vehicle	268	194	72.4	46	23.7	39.7	33	17.0	36.3
Unknown	1	1	100.0	0	0.0	0.0	0	0.0	0.0
TOTAL	427	322	75.4	116	36.0	100.0	91	28.3	100.0

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

To illustrate, among 16-19 year olds there were 44 drivers killed during 2000; 35 of these fatally injured drivers (79.5%) were tested for alcohol. Of those who were tested, 17 (48.6%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 14.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that 12 of the 35 (34.3%) 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 13.2% 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 2000, with 75.2% of fatally injured drivers being tested for alcohol use.

In Quebec, 36.0% had been drinking and most of these had illegal BACs – 78.4% 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:

- 5.0% had BACs from 1-49 mg%;
- 2.8% had BACs from 50-80 mg%
- 9.9% had BACs from 81 to 150 mg%; and,
- 18.3% had BACs over 150 mg%.

9.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 26.7% were aged 26-35; 20.7% were aged 20-25; and 19.8% were aged 36-45. Those aged over 55 accounted for only 7.8% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 24.2% were aged 26-35 and 36-45; 22.0% were age 20-25; 13.2% were age 16-19; and 12.1% were age 46-55. Those over age 55 accounted for only 4.4% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 16-19 were the most likely to have been drinking – 48.6% of drivers in this age group had been drinking. By contrast, only 17.0% of tested drivers over age 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture – they account for 86.2% of all the fatally injured drivers who had been drinking, and 87.9% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (350 of the 428 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 (37.6% and 28.6%, respectively). And, 80.0% of the male and 68.8% of the female drivers who were drinking had BACs over the legal limit.

9.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 74.1% were automobile drivers; 13.8% were truck/van drivers; and only 11.2% were motorcycle riders.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 76.9% were automobile drivers; 15.4% were truck/van drivers; and only 7.7% were motorcycle riders.

Within each of the vehicle types, 39.4% of fatally injured automobile drivers, 32.0% of truck/van drivers; 28.9% of motorcyclists; and 11.1% of tractor-trailer drivers were found to have been drinking.

9.2.4 Collision differences. Less than two out of five of the drivers killed (159 of the 428) were involved in single-vehicle collisions but these crashes accounted for three out of five drivers who had been drinking or were legally impaired (60.3% and 63.7%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over twice as many drivers involved in single-vehicle crashes (55.1%) were positive for alcohol than those involved in multiple-vehicle collisions (23.7%).

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 2000 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, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	133	3	2.3	0.3
16-19	512	109	21.3	11.7
20-25	909	197	21.7	21.1
26-35	1150	198	17.2	21.2
36-45	1052	157	14.9	16.8
46-55	757	100	13.2	10.7
>55	768	59	7.7	6.3
unknown	1598	110	6.9	11.8
Gender				
Male	4687	705	15.0	75.6
Female	1982	192	9.7	20.6
unknown	210	36	17.1	3.9
Vehicle Type				
Auto	4399	666	15.1	71.4
Truck/Van	1284	150	11.7	16.1
Motorcycle	368	32	8.7	3.4
Tractor Trailer	160	14	8.8	1.5
Other Hwy. Vehicle	74	4	5.4	0.4
Off-Road	468	54	11.5	5.8
Unknown	126	13	10.3	1.4
Collision Type				
Single-Vehicle	2011	654	32.5	70.1
Multiple-Vehicle	4868	279	5.7	29.9
TOTAL	6879	933	13.6	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, 6,879 drivers were involved in crashes in which someone was seriously injured, and among these 13.6% were alcohol-related crashes.

9.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.2% were aged 26-35; 21.1% were aged 20-25; and 16.8% were aged 36-45. Drivers under 16 and over 55 accounted for only 0.3% and 11.8% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of five drivers age 20-25, 16-19, and 26-35 were involved in alcohol-related serious injury crashes (21.7%, 21.3% and 17.2%, respectively). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the youngest age group of drivers – those aged under 16 (2.3%).

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 9.7%, respectively).

9.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 71.4% were automobile drivers; and 16.1% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 15.1% of automobile drivers were in crashes that involved alcohol, compared to 11.7% for truck/van drivers, and 11.5% for off-road vehicle drivers. Only 5.4% 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, 70.1% of them were in single-vehicle crashes. The highest incidence of involvement in

alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.5% of these drivers, compared to only 5.7% 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: 1995-2000. 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 2000. These results differ slightly from those in Section 9.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 9-4

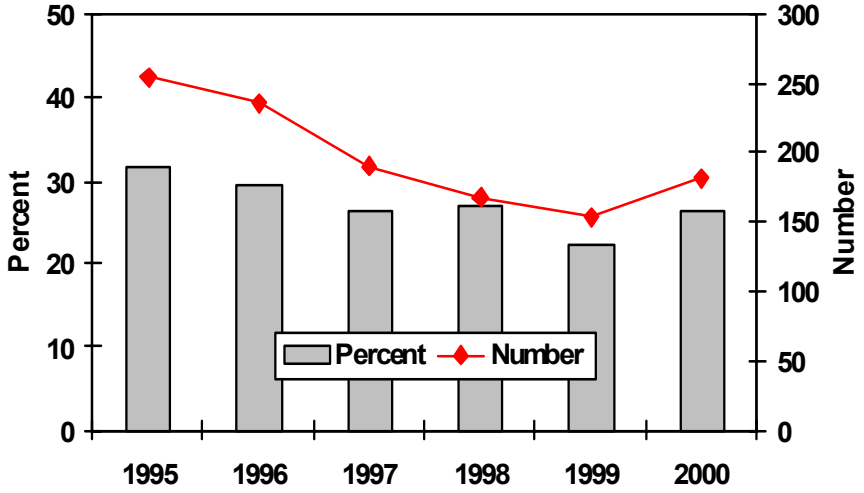
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Quebec, 1995-2000

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

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

** only on public roadways involving principal vehicle types.

Figure 9-1
Number and Percent of Deaths Involving a Drinking Driver: Quebec, 1995-2000



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, before rising to 182 in 2000. 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, and rose to 26.3% in 2000.

9.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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).

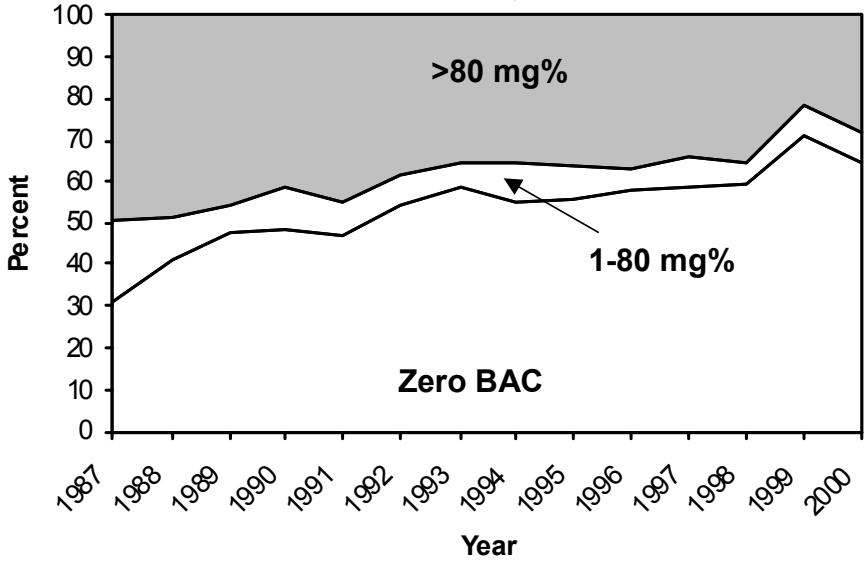
As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (49.5%) to 2000 (28.3%). The percent of fatally injured drivers with zero BAC increased from 1987 (30.9%) to 1993 (58.9%), was relatively stable until 1998, peaked in 1999 (71.5%), and then fell to 64.0% in 2000. The percent of fatally injured drivers with BACs between 1 and 80 mg% decreased from 1987 (19.6%) to its lowest mark in 1998 (5.4%) before rising to 7.8% in 2000.

Table 9-5

Alcohol Use Among Fatally Injured Drivers:
Quebec, 1987-2000

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

Figure 9-2
Trends in Alcohol Use Among Driver Fatalities: Quebec, 1987-2000



9.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

Table 9-6

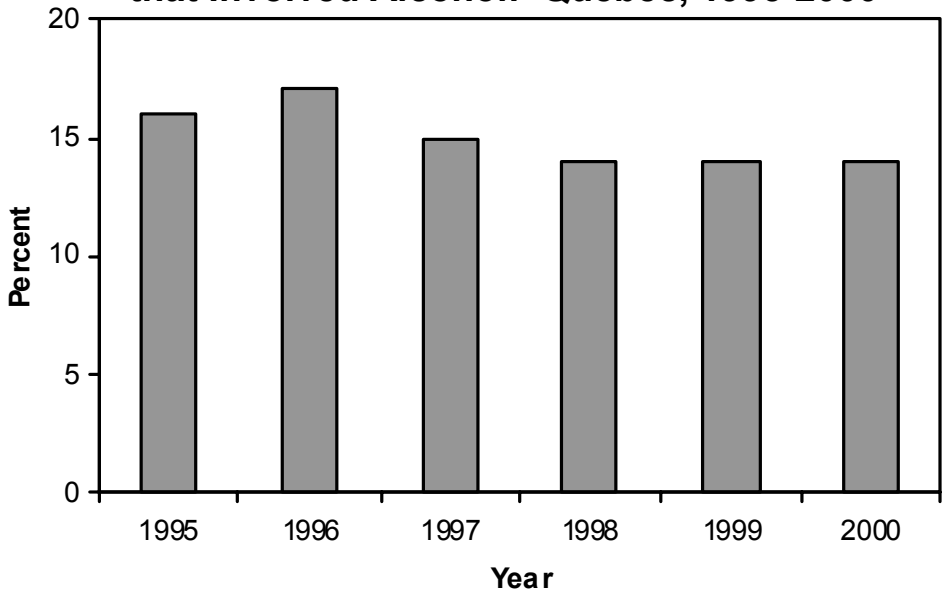
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Quebec, 1995-2000

Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	6703	1074	(16.0)
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)

* 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, 1995-2000



As can be seen, the incidence of alcohol-involvement in serious injury crashes has declined over this six-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose only slightly from 16.0% to 16.7%. The incidence steadily dropped to 13.6% in 1999 and rose slightly to 13.8% in 2000.

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 2000. 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 2000. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first data column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*. For example, nine people age 16-19 were killed in motor vehicle crashes in New Brunswick during 2000. And, in all nine cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, three people aged 16-19 died in alcohol-related crashes in New Brunswick during 2000. The next column expresses this as a percentage – e.g., 33.3% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 10.0% of all the people killed in alcohol-related crashes in New Brunswick during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 100 persons died in motor vehicle crashes in New Brunswick during 2000. In 92 (92.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 30 (32.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (100 x .326) it can be estimated that in New Brunswick *in 2000, 33 persons died in alcohol-related crashes.*

Table 10-1
Deaths* in Alcohol-Related Crashes: New Brunswick, 2000

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	4	80.0	0	0.0	0.0
16-19	9	9	100.0	3	33.3	10.0
20-25	16	15	93.8	7	46.7	23.3
26-35	15	15	100.0	11	73.3	36.7
36-45	11	11	100.0	3	27.3	10.0
46-55	8	8	100.0	5	62.5	16.7
>55	36	30	83.3	1	3.3	3.3
Gender						
Male	74	67	90.5	27	40.3	90.0
Female	26	25	96.2	3	12.0	10.0
Type						
Driver/Operator	59	55	93.2	23	41.8	76.7
Passenger	25	24	96.0	3	12.5	10.0
Pedestrian	16	13	81.3	4	30.8	13.3
Vehicle Occupied						
Automobiles	55	53	96.4	16	30.2	53.3
Trucks/Vans	17	16	94.1	7	43.8	23.3
Motorcycles	5	5	100.0	0	0.0	0.0
Offroad Vehicles	7	5	71.4	3	60.0	10.0
(Pedestrians)	16	13	81.3	4	30.8	13.3
TOTAL	100	92	92.0	30	32.6	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, 36.7% (see last column) were aged 26-35; 23.3% were aged 20-25; and 16.7% were 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (73.3%) occurred in the crashes in which persons aged 26-35 died. The lowest incidence of alcohol involvement

was found among the youngest and oldest fatalities – none of the persons under 16 and only 3.3% of persons over 55 years of age died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 90.0% were males. The incidence of alcohol in crashes in which a male died (40.3%) was much greater than the incidence of alcohol in crashes in which a female died (12.0%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 76.7% were drivers/operators of a vehicle; 13.3% were pedestrians; and 10.0% were passengers.

Within each of these victim types, the highest incidence of alcohol involvement (41.8%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 30.8% of the crashes in which a pedestrian died and 12.5% of those in which a passenger died.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 53.3% were in an automobile; 23.3% were in a truck or 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 died (43.8% versus 30.2%). Among off-road vehicle occupants, 60.0% died in an alcohol-related crash.

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 2000. 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, 2000

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	3	3	100.0	1	33.3	6.3	0	0.0	0.0
20-25	10	9	90.0	4	44.4	25.0	3	33.3	21.4
26-35	9	7	77.8	6	85.7	37.5	6	85.7	42.9
36-45	7	6	85.7	1	16.7	6.3	1	16.7	7.1
46-55	7	5	71.4	4	80.0	25.0	4	80.0	28.6
>55	16	9	56.3	0	0.0	0.0	0	0.0	0.0
Gender									
Male	43	34	79.1	14	41.2	87.5	12	35.3	85.7
Female	10	6	60.0	2	33.3	12.5	2	33.3	14.3
Vehicle Type									
Automobile	36	27	75.0	10	37.0	62.5	9	33.3	64.3
Trucks/Van	12	9	75.0	6	66.7	37.5	5	55.6	35.7
Motorcycle	5	4	80.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	29	21	72.4	13	61.9	81.3	11	52.4	78.6
Multiple-Vehicle	24	19	79.2	3	15.8	18.8	3	15.8	21.4
TOTAL	53	40	75.5	16	40.0	100.0	14	35.0	100.0

To illustrate, among those aged 20-25, there were 10 drivers killed during 2000; nine of these fatally injured drivers (90.0%) were tested for alcohol. Of those who were tested, four (44.4%) were positive for alcohol. This means that fatally injured drivers aged 20-25 accounted for 25.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the nine (33.3%) fatally injured drivers aged 20-25 who were tested for alcohol had BACs in excess of 80 mg%. This means that three of the four 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 20-25 accounted for 21.4% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. New Brunswick had a low testing rate in 2000, with 75.5% of fatally injured drivers being tested for alcohol use.

In New Brunswick, 40.0% had been drinking and most of these had illegal BACs – 87.5% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 0.0% had BACs from 1-49 mg%;
- 5.0% had BACs from 50-80 mg%
- 7.5% had BACs from 81 to 150 mg%; and,
- 27.5% had BACs over 150 mg%.

10.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 37.5% were aged 26-35; 25.0% were aged 20-25 and 46-55; and 6.3% were aged 16-19 and 36-45.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 42.9% were aged 26-35; 28.6% were aged 46-55; 21.4% were aged 20-25; and 7.1% were aged 36-45.

Within each of the age groups, fatally injured drivers aged 26-35 were the most likely to have been drinking – 85.7% of drivers in this age group had been drinking. By contrast, none of the tested drivers over 55 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 87.5% of the fatally injured drivers who had been drinking, and 85.7% of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (43 of the 53 fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (41.2% and 33.3%, respectively). Most of the male drivers (85.7%) and both female drivers (100.0%) who were drinking had BACs over the legal limit.

10.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 62.5% were automobile drivers and 37.5% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 64.3% were automobile drivers; truck/van drivers accounted for 35.7%.

Within each of the vehicle types, 66.7% of fatally injured truck/van drivers were found to have been drinking, compared to 37.0% of automobile drivers. None of the fatally injured motorcyclists who were tested had been drinking.

10.2.4 Collision differences. Approximately half of the drivers killed (29 of the 53) 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 (81.3% and 78.6%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Three out of five of the drivers involved in single-vehicle crashes (61.9%) were positive for alcohol, compared to only 15.8% 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 2000 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.

Table 10-3
Drivers in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2000

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	8	1	12.5	0.9
16-19	45	6	13.3	5.4
20-25	93	28	30.1	25.0
26-35	106	31	29.2	27.7
36-45	93	26	28.0	23.2
46-55	90	11	12.2	9.8
>55	75	9	12.0	8.0
unknown	2	0	0.0	0.0
Gender				
Male	365	92	25.2	82.1
Female	145	20	13.8	17.9
Unknown	2	0	0.0	0.0
Vehicle Type				
Auto	274	63	23.0	56.3
Truck/Van	154	37	24.0	33.0
Motorcycle	38	12	31.6	10.7
Tractor Trailer	23	0	0.0	0.0
Other Hwy. Vehicle	4	0	0.0	0.0
Off-Road	18	0	0.0	0.0
Unknown	1	0	0.0	0.0
Collision Type				
Single-Vehicle	197	93	47.2	83.0
Multiple-Vehicle	315	19	6.0	17.0
TOTAL	512	112	21.9	100.0

As shown, by the totals at the bottom of the table, 512 drivers were involved in crashes in which someone was seriously injured, and among these 21.9% were alcohol-related crashes.

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 27.7% were aged 26-35; 25.0% were aged 20-25; and 23.2% were aged 36-45. Drivers over 55 years of age accounted for only 8.0% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, one out of three drivers aged 20-25 and 26-35 were involved in alcohol-related serious injury crashes (30.1% and 29.2%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age groups of drivers – those aged over 55 and 46-55 (12.0% and 12.2%, respectively).

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 82.1% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (25.2% and 13.8%, respectively).

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 56.3% were automobile drivers; and 33.0% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found among motorcyclists – 31.6% of motorcyclists were in crashes that involved alcohol, compared to 24.0% for truck/van drivers, and 23.0% for automobile drivers. None of the tractor-trailer drivers or 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, 83.0% 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 – 47.2% of these drivers, compared to only 6.0% 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: 1995-2000. 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 2000. 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, 1995-2000

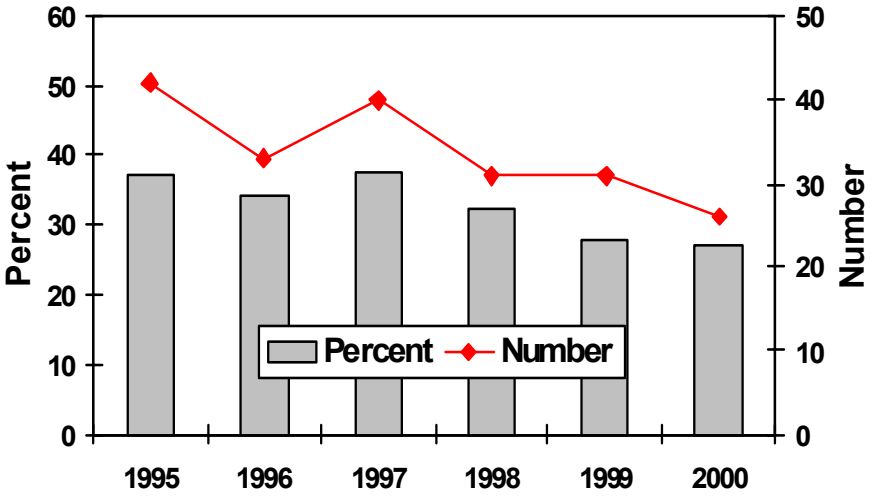
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	112	42	37.5
1996	96	33	34.4
1997	106	40	37.7
1998	96	31	32.3
1999	111	31	27.9
2000	95	26	27.4

* 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, 1995-2000



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, and decreased to 26 in 2000. 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% and then declined to its lowest level in 2000 (27.4%).

10.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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

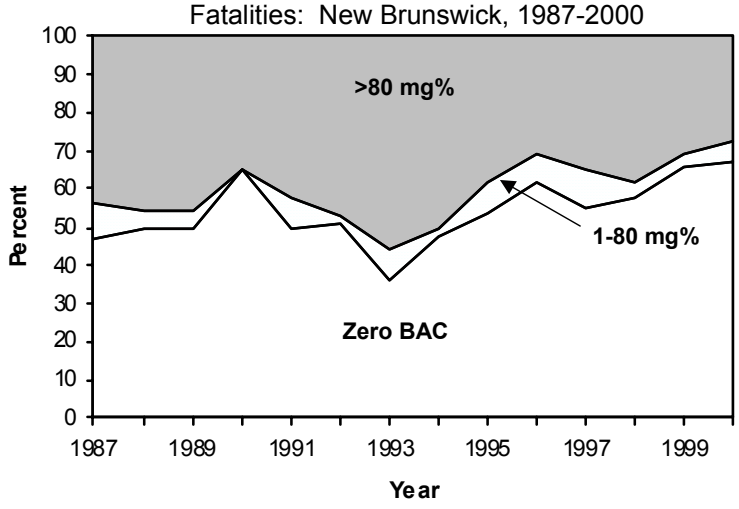
Table 10-5

Alcohol Use Among Fatally Injured Drivers:
New Brunswick, 1987-2000

	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

*dying in less than six hours.

Figure 10-2
Trends in Alcohol Use Among Driver Fatalities: New Brunswick, 1987-2000



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, reaching its peak in 1993 (56.0%), decreasing in 1996 (30.6%), increasing to 38.3% in 1998, and reaching its lowest mark in 2000 (27.8%). The percent of fatally injured drivers with zero BAC increased from 1987 (46.8%) to 1990 (64.9%), declined in 1993 (36.0%), and has gradually increased to its highest mark in 2000 (66.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% declined until 1990 (0.0%), peaked in 1997 (9.8%), declined to 4.1% in 1999, and rose to 5.6% in 2000.

10.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

Table 10-6

Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: New Brunswick, 1995-2000

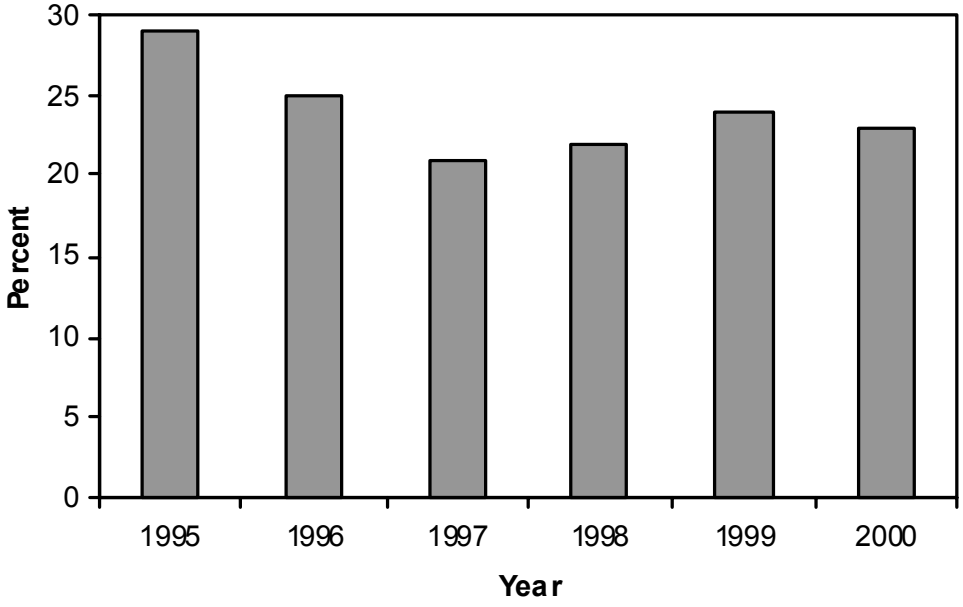
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	681	199	(29.2)
1996	593	146	(24.6)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)

* 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

As can be seen, the incidence of alcohol-involvement in serious crashes has declined. 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 and decreased to 22.7% in 2000.

Figure 10-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: New Brunswick, 1995-2000



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 2000. 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 2000. 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, four people age 16-19 were killed in motor vehicle crashes in Nova Scotia during 2000. 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, two people age 16-19 died in alcohol-related crashes in Nova Scotia during 2000. 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 5.9% of all the people killed in alcohol-related crashes in Nova Scotia during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 94 persons died in motor vehicle crashes in Nova Scotia during 2000. In 90 (95.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 34 (37.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (94 x .378) it can be estimated that *in Nova Scotia during 2000, 35 persons died in alcohol-related crashes*.

Table 11-1
Deaths* in Alcohol-Related Crashes: Nova Scotia, 2000

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	6	85.7	2	33.3	5.9
16-19	4	4	100.0	2	50.0	5.9
20-25	22	22	100.0	10	45.5	29.4
26-35	15	15	100.0	7	46.7	20.6
36-45	21	19	90.5	8	42.1	23.5
46-55	10	10	100.0	4	40.0	11.8
>55	15	14	93.3	1	7.1	2.9
Gender						
Male	68	64	94.1	28	43.8	82.4
Female	26	26	100.0	6	23.1	17.6
Type						
Driver/Operator	62	62	100.0	25	40.3	73.5
Passenger	22	22	100.0	5	22.7	14.7
Pedestrian	10	6	60.0	4	66.7	11.8
Vehicle Occupied						
Automobiles	49	49	100.0	18	36.7	52.9
Trucks/Vans	20	20	100.0	8	40.0	23.5
Motorcycles	7	7	100.0	2	28.6	5.9
Other Hwy. Vehs.	1	1	100.0	0	0.0	0.0
Offroad Vehicles	7	7	100.0	2	28.6	5.9
(Pedestrians)	10	6	60.0	4	66.7	11.8
TOTAL	94	90	95.7	34	37.8	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 29.4% (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (50.0%) occurred in the crashes in which a person aged 16-19 died. The lowest incidence of alcohol involvement was

found among the youngest and oldest fatalities – 33.3% of the persons under 16 and only 7.1% of the fatalities over 55 years of age died in crashes involving alcohol.

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 82.4% were males. The incidence of alcohol in crashes in which a male died (43.8%) was greater than the incidence of alcohol in crashes in which a female died (23.1%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 73.5% were drivers/operators of a vehicle; 14.7% were passengers and 11.8% were pedestrians.

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 40.3% of the crashes in which a driver/operator died and 22.7% of those in which a passenger died.

11.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, one-half (52.9%) were in an automobile and 23.5% were in a truck/van.

Within each of the 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 (40.0%, 36.7%, and 28.6%, respectively).

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

11.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Nova Scotia during 2000. 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, 2000

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	2	2	100.0	1	50.0	4.3	1	50.0	4.5
20-25	12	10	83.3	6	60.0	26.1	6	60.0	27.3
26-35	10	10	100.0	5	50.0	21.7	4	40.0	18.2
36-45	16	12	75.0	6	50.0	26.1	6	50.0	27.3
46-55	8	7	87.5	4	57.1	17.4	4	57.1	18.2
>55	8	4	50.0	1	25.0	4.3	1	25.0	4.5
Gender									
Male	46	38	82.6	20	52.6	87.0	19	50.0	86.4
Female	10	7	70.0	3	42.9	13.0	3	42.9	13.6
Vehicle Type									
Automobile	35	28	80.0	15	53.6	65.2	15	53.6	68.2
Trucks/Van	13	11	84.6	6	54.5	26.1	6	54.5	27.3
Motorcycle	7	5	71.4	2	40.0	8.7	1	20.0	4.5
Tractor Trailer	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	38	32	84.2	22	68.8	95.7	21	65.6	95.5
Multiple-Vehicle	18	13	72.2	1	7.7	4.3	1	7.7	4.5
TOTAL	56	45	80.4	23	51.1	100.0	22	48.9	100.0

To illustrate, among 20-25 year olds there were 12 drivers killed during 2000; 10 of these fatally injured drivers (83.3%) were tested for alcohol. Of those who were tested, six (60.0%) were positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 26.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that six of the 10 (60.0%) fatally injured 20-25 year olds 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, 20-25 year old drivers accounted for 27.3% 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 2000, with 80.4% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 51.1% had been drinking and most of these had illegal BACs – 95.7% 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:

- 0.0% had BACs from 1-49 mg%;
- 2.2% had BACs from 50-80 mg%
- 20.0% had BACs from 81 to 150 mg%; and,
- 28.9% had BACs over 150 mg%.

11.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 26.1% were aged 20-25 and 36-45, and 21.7% were aged 26-35. Those aged under 20 and over 55 each accounted for only 4.3% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 27.3% were aged 20-25 and 36-45; and 18.2% were aged 26-35 and 46-55. Those aged under 20 and over 55 each accounted for 4.5% of the 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 – 60.0% of tested drivers in this age group had been drinking. By contrast, only 25.0% of tested drivers over age 55 had been drinking.

11.2.2 Gender differences. Males dominate the picture – they account for 87.0% of all the fatally injured drivers who had been drinking, and 86.4% 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 (46 of the 56 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 (52.6% and 42.9%, respectively). All three female drinking drivers and 95.0% of the male drivers who were drinking had BACs over the legal limit.

11.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a

positive BAC), 65.2% were automobile drivers and 26.1% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 68.2% were automobile drivers; 27.3% were truck/van drivers and 4.5% were motorcyclists.

Within each of the vehicle types, 54.5% of fatally injured drivers of trucks/vans, 53.6% of automobile drivers and 40.0% of motorcyclists were found to have been drinking.

11.2.4 Collision differences. Two-thirds of the drivers killed (38 of the 56) were involved in single-vehicle collisions and these crashes accounted for almost all of the drivers who had been drinking or were legally impaired (95.7% and 95.5%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over two-thirds (68.8%) of drivers involved in single-vehicle crashes were positive for alcohol, compared to only 7.7% 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 2000 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.

Table 11-3
Drivers in Alcohol-Related Serious Injury Crashes:
Nova Scotia, 2000

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	6	0	0.0	0.0
16-19	43	11	25.6	11.1
20-25	50	17	34.0	17.2
26-35	84	27	32.1	27.3
36-45	69	18	26.1	18.2
46-55	74	12	16.2	12.1
>55	97	13	13.4	13.1
unknown	4	1	25.0	1.0
Gender				
Male	298	77	25.8	77.8
Female	126	21	16.7	21.2
unknown	3	1	33.3	1.0
Vehicle Type				
Auto	258	66	25.6	66.7
Truck/Van	90	17	18.9	17.2
Motorcycle	24	3	12.5	3.0
Tractor Trailer	16	5	31.3	5.1
Other Hwy. Vehicle	2	1	50.0	1.0
Off-Road	24	7	29.2	7.1
Unknown	13	0	0.0	0.0
Collision Type				
Single-Vehicle	185	82	44.3	82.8
Multiple-Vehicle	242	17	7.0	17.2
TOTAL	427	99	23.2	100.0

As shown, by the totals at the bottom of the table, 427 drivers were involved in crashes in which someone was seriously injured, and among these 23.2% were alcohol-related crashes.

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 27.3% were aged 26-35; 18.2% were aged 36-45; and 17.2% were aged 20-25. Drivers under 16 accounted for none of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of three drivers age 20-25 were involved in alcohol-related serious injury crashes (34.0%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the youngest age group of drivers – those aged under 16 (0.0%).

11.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 77.8% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (25.8% and 16.7%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were automobile drivers; and 17.2% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 50.0% of these drivers were in crashes that involved alcohol, compared to 31.3% for tractor-trailer drivers, 29.2% of off-road vehicle operators, 25.6% for automobile drivers, and 18.9% for truck/van drivers.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 82.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 44.3% of these drivers, compared to only 7.0% 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: 1995-2000. 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 2000. 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, 1995-2000

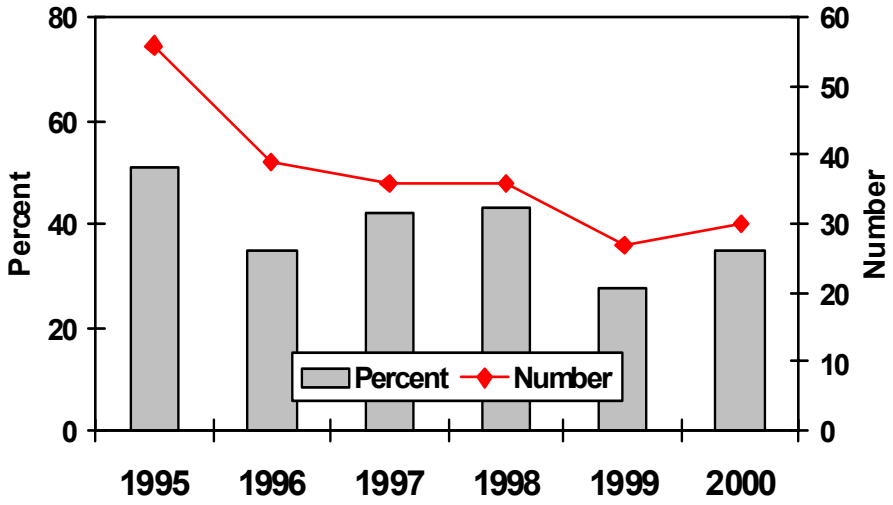
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	110	56	50.9
1996	112	39	34.8
1997	85	36	42.4
1998	83	36	43.4
1999	98	27	27.6
2000	86	30	34.9

* 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, 1995-2000



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, fell to a low of 27 in 1999, and rose to 30 in 2000. 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, and rose again to 34.9% in 2000.

11.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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.

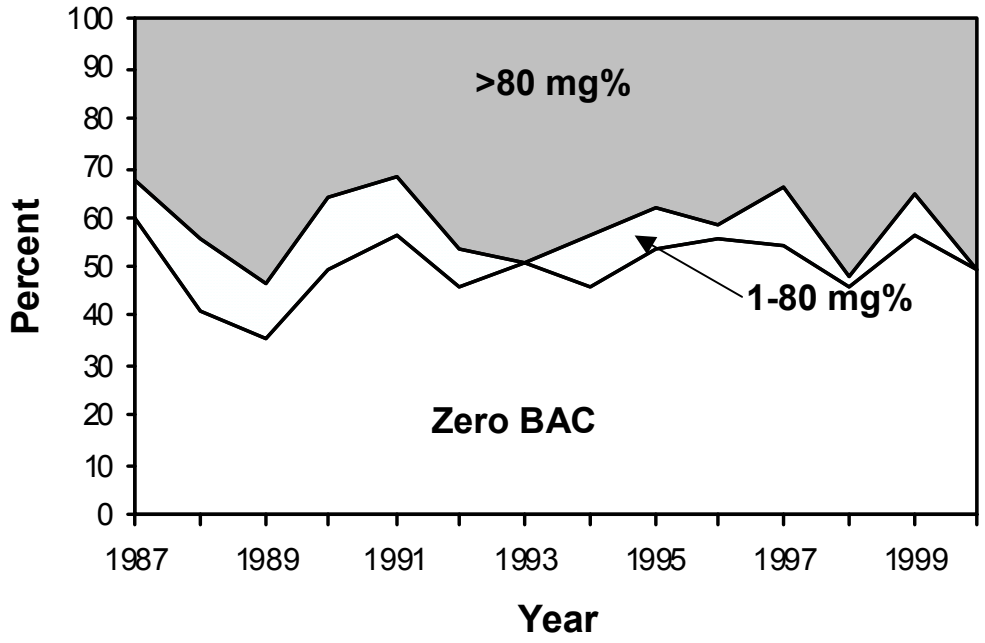
Table 11-5

Alcohol Use Among Fatally Injured Drivers:
Nova Scotia, 1987-2000

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

* dying in less than six hours.

Figure 11-2
Trends in Alcohol Use Among Driver Fatalities: Nova Scotia, 1987-2000



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%), and rose in 2000 (50.0%). The percent of fatally injured drivers with zero BAC dropped from its peak in 1987 (59.7%) to its lowest point in 1989 (35.6%), fluctuated until 1998 (45.7%), rose in 1999 (56.8%), and decreased in 2000 (50.0%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (14.8%), reached a low in 1993 (0.0%), and again in 2000 (0.0%).

11.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

Table 11-6

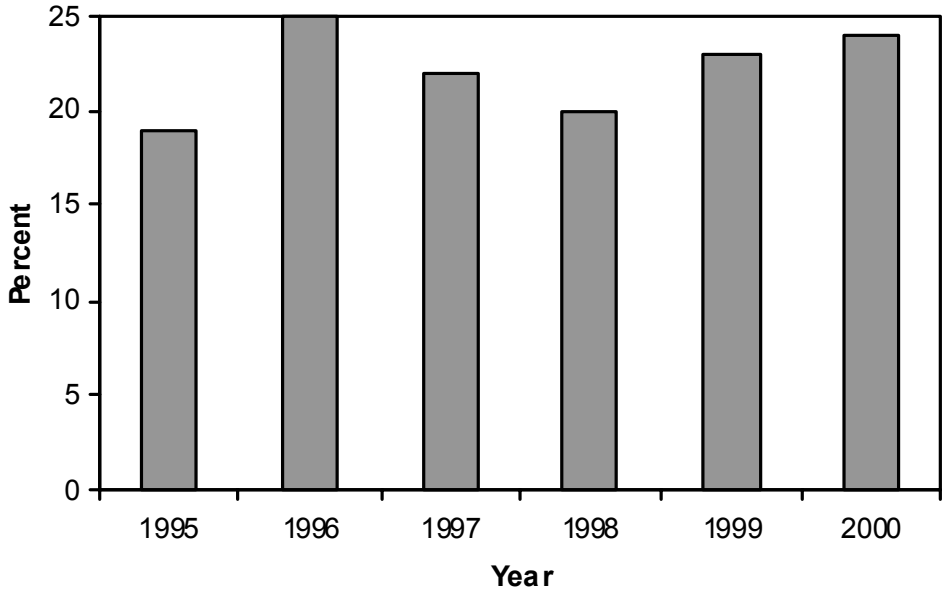
Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Nova Scotia, 1995-2000

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	504	117	(23.2)
2000	390	92	(23.6)

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

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

Figure 11-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Nova Scotia, 1995-2000



As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this six-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, before rising to 23.6% in 2000.

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 2000. It describes data on:

- people who were killed in alcohol-related crashes (Section 12.1);
- alcohol use among fatally injured drivers (Section 12.2);
- drivers involved in alcohol-related serious injury crashes (Section 12.3); and
- trends in the alcohol-crash problem (Section 12.4).

Detailed results are not provided in section 12.2 because the small number of fatally injured drivers – only 12 – makes the results unreliable.

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 2000. 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, three people under age 20 were killed in motor vehicle crashes in Prince Edward Island during 2000. And, in all three 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 under age 20 died in an alcohol-related crash in Prince Edward Island during 2000. The next column expresses this as a percentage – e.g., 33.3% of the under 20 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 under 20 represent 20.0% of all the people killed in alcohol-related crashes in Prince Edward Island during 2000.

Table 12-1
Deaths* in Alcohol-Related Crashes: Prince Edward Island, 2000

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<20	3	3	100.0	1	33.3	20.0
20-35	4	3	75.0	2	66.7	40.0
36-45	2	2	100.0	0	0.0	0.0
46-55	6	4	66.7	2	50.0	40.0
>55	5	3	60.0	0	0.0	0.0
Gender						
Male	12	8	66.7	4	50.0	80.0
Female	8	7	87.5	1	14.3	20.0
Type						
Driver/Operator	12	8	66.7	3	37.5	60.0
Passenger	6	5	83.3	1	20.0	20.0
Pedestrian	2	2	100.0	1	50.0	20.0
Vehicle Occupied						
Automobiles	11	6	54.5	0	0.0	0.0
Trucks/Vans	2	2	100.0	1	50.0	20.0
Motorcycles	3	3	100.0	2	66.7	40.0
Offroad Vehicles	2	2	100.0	1	50.0	20.0
(Pedestrians)	2	2	100.0	1	50.0	20.0
TOTAL	20	15	75.0	5	33.3	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, 20 persons died in motor vehicle crashes in Prince Edward Island during 2000. In 15 of these cases (75.0%), it was possible to determine if alcohol was a factor. Of these known cases, five (33.3%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (20 x .333) it can be estimated that *in Prince Edward Island during 2000, seven persons died in alcohol-related crashes.*

12.1.1 Victim age. Of all the people who died in alcohol-related crashes, 40.0% (see last column) were 20-35 and 46-55; and those aged under 20 accounted for 20.0%.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-35 (66.7%) died. The lowest incidence of alcohol involvement was found among the 36-45 and over 55 age groups – none of these persons died in crashes involving alcohol.

12.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.0% were males. The incidence of alcohol in crashes in which a male died was 50.0%, compared to 14.3% for females.

12.1.3 Victim type. Of all the people who died in alcohol-related crashes, 60.0% were drivers/operators of a vehicle; 20.0% were passengers; and 20.0% 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 37.5% of crashes where a driver died and 20.0% of the crashes in which a passenger died.

12.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 40.0% were on a motorcycle; 20.0% were in a truck/van; and 20.0% were on an off-road vehicle.

Within each of these vehicle types, the incidence of alcohol involvement in which a motorcycle occupant died (66.7%) was greater than the incidence of alcohol in crashes in which a truck/van and offroad vehicle occupant died (50.0% for each vehicle type).

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 2000.

Prince Edward Island had 12 drivers fatally injured in 2000; nine of these drivers (75.0%) were tested for alcohol. Of those who were tested, three (33.3%) had been drinking. All three of them were male drivers involved in a single-vehicle collision.

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 2000 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 12-2 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, 115 drivers were involved in crashes in which someone was seriously injured, and among these 28.7% were alcohol-related crashes.

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 33.3% were aged 20-25; 18.2% were aged 46-55, and 15.2% were aged 36-45. Drivers under 16 accounted for none of those involved in alcohol-related serious injury crashes.

Within each of the age groups, over one out of two drivers age 20-25 (52.4%) and 31.3% of those aged 36-45 were involved in alcohol-related serious injury crashes.

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 78.8% were males. And the incidence of involvement in alcohol-related serious injury crashes was twice as great for males than for females (34.2% and 17.9%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.6% were automobile drivers; and 33.3% were truck-van drivers.

Table 12-2
Drivers in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	1	0	0.0	0.0
16-19	14	4	28.6	12.1
20-25	21	11	52.4	33.3
26-35	22	4	18.2	12.1
36-45	16	5	31.3	15.2
46-55	22	6	27.3	18.2
>55	19	3	15.8	9.1
Gender				
Male	76	26	34.2	78.8
Female	39	7	17.9	21.2
Vehicle Type				
Auto	72	19	26.4	57.6
Truck/Van	27	11	40.7	33.3
Motorcycle	9	1	11.1	3.0
Tractor Trailer	1	0	0.0	0.0
Other Vehicle*	6	2	33.3	6.1
Collision Type				
Single-Vehicle	49	26	53.1	78.8
Multiple-Vehicle	66	7	10.6	21.2
TOTAL	115	33	28.7	100.0

* includes other highway vehicles and off-road vehicles

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 40.7% of these drivers were in crashes that involved alcohol, compared to 33.3% for other vehicle operators; 26.4% for automobile drivers and 11.1% for motorcycle operators.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 78.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 53.1% of these drivers, compared to only 10.6% for drivers involved in multiple-vehicle crashes.

12.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three indicators of the alcohol-crash problem: the number and percent of people who died in crashes that involved alcohol; the number and percent of fatally injured drivers who had been drinking; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem.

12.4.1 Deaths in alcohol-related crashes: 1995-2000. Table 12-3 and Figure 12-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2000. 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

Table 12-3

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Prince Edward Island, 1995-2000

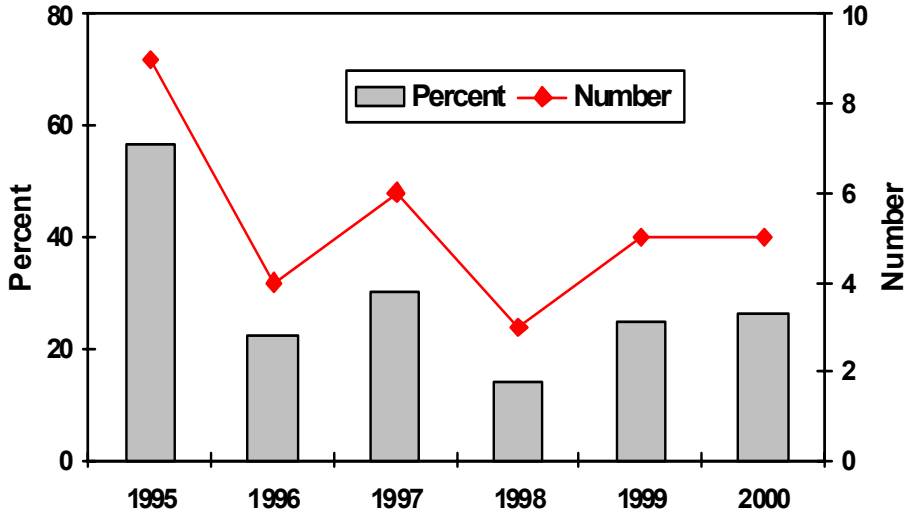
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	16	9	56.3
1996	18	4	22.2
1997	20	6	30.0
1998	21	3	14.3
1999	20	5	25.0
2000	19	5	26.3

* 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.

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 12-1
Number and Percent of Deaths Involving a Drinking Driver: Prince Edward Island, 1995-2000



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 before rising to five in 1999 and 2000. 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 26.3% in 2000.

12.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 are shown in Table 12-4. 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.

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%) before rising in 2000 (33.3%). 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 2000 (66.7%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1990 (33.3%), and dropped to 0.0% from 1998 to 2000.

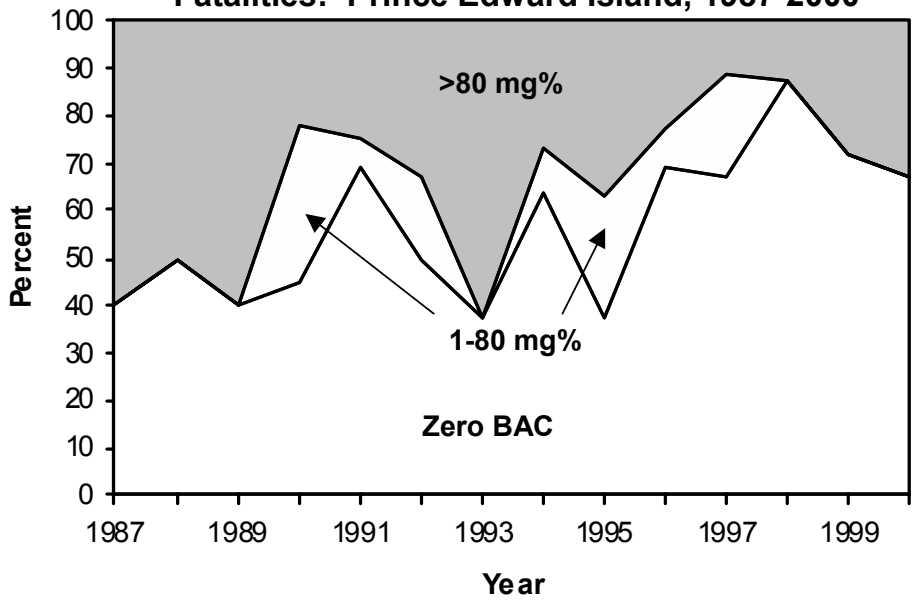
Table 12-4

Alcohol Use Among Fatally Injured Drivers:
Prince Edward Island, 1987-2000

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

* dying in less than six hours.

Figure 12-2
Trends in Alcohol Use Among Driver Fatalities: Prince Edward Island, 1987-2000



12.4.3 Drivers in serious injury crashes: 1995-2000. Table 12-5 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 highway vehicles.

Table 12-5

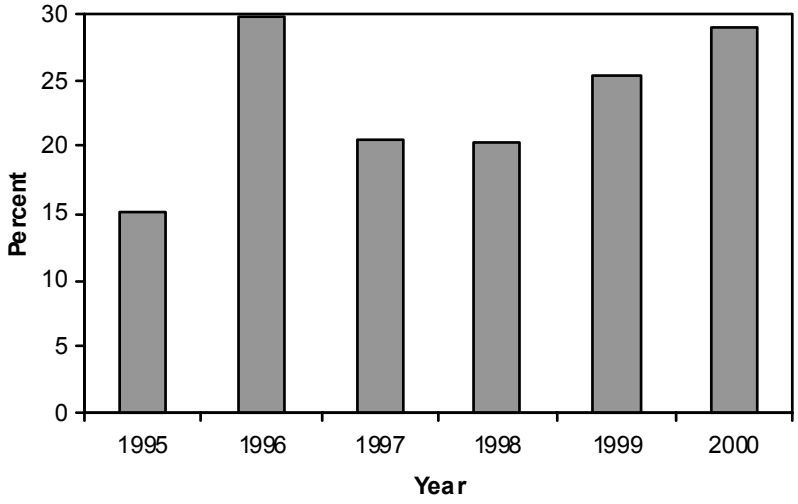
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Prince Edward Island, 1995-2000

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)

* 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, 1995-2000



As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this six-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose dramatically from 15.1% to 29.7%. Since then the incidence dropped to 20.4% in 1998 before rising to 29.1% in 2000.

13.0 NEWFOUNDLAND

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Newfoundland during 2000. 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 during 2000. 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, five people aged 16-19 were killed in motor vehicle crashes in Newfoundland during 2000. 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, one person aged 16-19 died in an alcohol-related crash in Newfoundland during 2000. The next column expresses this as a percentage – e.g., 20.0% 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 7.7% of all the people killed in alcohol-related crashes in Newfoundland during 2000.

The totals at the bottom of the table provide a summary. As can be seen, 59 persons died in motor vehicle crashes in Newfoundland during 2000. In 56 (94.9%) of these cases, it was

possible to determine if alcohol was a factor. Of these known cases, 13 (23.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (59 x .232) it can be estimated that *in Newfoundland during 2000, 14 persons died in alcohol-related crashes*.

Table 13-1
Deaths* in Alcohol-Related Crashes: Newfoundland, 2000

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	6	6	100.0	1	16.7	7.7
16-19	5	5	100.0	1	20.0	7.7
20-25	7	7	100.0	3	42.9	23.1
26-35	6	4	66.7	1	25.0	7.7
36-45	9	9	100.0	3	33.3	23.1
46-55	9	9	100.0	3	33.3	23.1
>55	17	16	94.1	1	6.3	7.7
Gender						
Male	39	36	92.3	11	30.6	84.6
Female	20	20	100.0	2	10.0	15.4
Type						
Driver/Operator	38	37	97.4	12	32.4	92.3
Passenger	15	13	86.7	0	0.0	0.0
Pedestrian	6	6	100.0	1	16.7	7.7
Vehicle Occupied						
Automobiles	28	28	100.0	3	10.7	23.1
Trucks/Vans	10	8	80.0	1	12.5	7.7
Motorcycles	1	1	100.0	0	0.0	0.0
Offroad Vehicles	14	13	92.9	8	61.5	61.5
(Pedestrians)	6	6	100.0	1	0.0	7.7
TOTAL	59	56	94.9	13	23.2	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) 23.1% were aged 20-25, 36-45 and 46-55; and 7.7% were aged under 16, 16-19, 26-35 and over 55.

Within each of the age groups, the highest incidence of alcohol involvement (42.9%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the oldest fatalities – 6.3% of the fatalities aged over 55 died in crashes involving alcohol.

13.1.2 Gender. Of all the people who died in alcohol-related crashes, 84.6% were males. The incidence of alcohol in crashes in which a male died (30.6%) was three times greater than the incidence of alcohol in crashes in which a female died (10.0%).

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 92.3% were drivers/operators of a vehicle; and 7.7% were pedestrians. None of the passengers who died were involved in an alcohol-related crash.

Within each of these victim types, the highest incidence of alcohol involvement (32.4%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 16.7% of the crashes in which a pedestrian died.

13.1.4 Type of vehicle occupied. Occupants of off-road vehicles (e.g.- bicycles, snowmobiles, ATVs) accounted for 61.5% of the people who died in alcohol-related crashes, 23.1% were in automobiles; and 7.7% were occupants of trucks/vans.

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 occupant of an automobile died (12.5% versus 10.7%). However, 61.5% of offroad 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 during 2000. 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 20-25 year olds there were four drivers killed during 2000; all four of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (25.0%) was positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 25.0% of all drinking drivers who were killed.

Table 13-2
Alcohol Use Among Fatally Injured Drivers: Newfoundland, 2000

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	25.0	0	0.0	0.0
20-25	4	4	100.0	1	25.0	25.0	1	25.0	33.3
26-35	2	2	100.0	0	0.0	0.0	0	0.0	0.0
36-45	6	4	66.7	1	25.0	25.0	1	25.0	33.3
46-55	4	4	100.0	1	25.0	25.0	1	25.0	33.3
>55	6	5	83.3	0	0.0	0.0	0	0.0	0.0
Gender									
Male	20	17	85.0	4	23.5	100.0	3	17.6	100.0
Female	5	5	100.0	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	18	15	83.3	3	20.0	75.0	2	13.3	66.7
Trucks/Van	6	6	100.0	1	16.7	25.0	1	16.7	33.3
Motorcycle	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	14	12	85.7	4	33.3	100.0	3	25.0	100.0
Multiple-Vehicle	11	10	90.9	0	0.0	0.0	0	0.0	0.0
TOTAL	25	22	88.0	4	18.2	100.0	3	13.6	100.0

Then, in the final three columns, it can be seen that one of the four fatally injured 20-25 year olds (25.0%) who were tested for alcohol had a BAC in excess of 80 mg%. This means the only 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, 20-25 year old drivers accounted for 33.3% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Newfoundland had a high testing rate in 2000, with 88.0% of fatally injured drivers being tested for alcohol use.
In Newfoundland, 18.2% had been drinking and most of these had illegal BACs – 75.0% 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:

- 0.0% had BACs from 1-49 mg%;
- 4.5% had BACs from 50-80 mg%
- 0.0% had BACs from 81 to 150 mg%; and,
- 13.6% had BACs over 150 mg%.

13.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), those aged 16-19, 20-25, 36-45 and 46-55 each accounted for 25.0%.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), those aged 20-25, 36-45 and 46-55 each accounted for 33.3%.

Within each of the age groups, fatally injured drivers age 16-19 were the most likely to have been drinking – 33.3% of drivers in this age group had been drinking. By contrast, none of the tested drivers aged 26-35 and over 55 had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for all the fatally injured drivers who had been drinking, and 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 (20 of the 25 fatalities are males). One quarter (23.5%) of fatally injured male drivers had been drinking compared to none of the five fatally injured female drivers. Of the male drivers who were drinking, 75.0% had BACs over the legal limit.

13.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 75.0% were drivers of automobiles and 25.0% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 66.7% were automobile drivers and 33.3% were truck/van drivers.

Within each of the vehicle types, 20.0% of fatally injured drivers of automobiles and 16.7% of drivers of trucks/vans were found to have been drinking.

13.2.4 Collision differences. Over half of the drivers killed (14 of the 25) were involved in single-vehicle collisions but these crashes accounted for all of the drivers who had been drinking (100.0%) and all of those who were legally impaired (100.0%).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. One-third of drivers involved in single-vehicle crashes (33.3%) were positive for alcohol, compared to none of those involved in multiple-vehicle collisions.

13.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2000 in Newfoundland. 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, 321 drivers were involved in crashes in which someone was seriously injured, and among these 15.6% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 30.0% were aged 20-25; 20.0% were aged 16-19 and 36-45; 18.0% were aged 26-35 and 6.0% were aged 46-55. Drivers under 16 and over 55 accounted for only 0.0% and 4.0% of those involved in alcohol-related serious injury crashes.

Table 13-3
Drivers in Alcohol-Related Serious Injury Crashes:
Newfoundland, 2000

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	13	0	0.0	0.0
16-19	38	10	26.3	20.0
20-25	55	15	27.3	30.0
26-35	64	9	14.1	18.0
36-45	50	10	20.0	20.0
46-55	34	3	8.8	6.0
>55	38	2	5.3	4.0
unknown	29	1	3.4	2.0
Gender				
Male	201	37	18.4	74.0
Female	96	12	12.5	24.0
unknown	24	1	4.2	2.0
Vehicle Type				
Auto	170	25	14.7	50.0
Truck/Van	65	13	20.0	26.0
Motorcycle	8	1	12.5	2.0
Tractor Trailer	5	0	0.0	0.0
Other Hwy. Vehicle	1	0	0.0	0.0
Off-Road	53	11	20.8	22.0
Unknown	19	0	0.0	0.0
Collision Type				
Single-Vehicle	119	41	34.5	82.0
Multiple-Vehicle	202	9	4.5	18.0
TOTAL	321	50	15.6	100.0

Within each of the age groups, one out of four drivers age 20-25 and 16-19 were involved in alcohol-related serious injury crashes (27.3% and 26.3%, respectively). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers aged under 16 (0.0%) and over 55 (5.3%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 74.0% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (18.4% and 12.5%, respectively).

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were automobile drivers; and 26.0% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle drivers – 20.8% of these drivers were in crashes that involved alcohol, compared to 20.0% for truck/van drivers, 14.7% for automobile drivers, and 12.5% for operators of motorcycles.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 82.0% 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 – 34.5% of these drivers, compared to only 4.5% 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: 1995-2000. 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 2000. 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, 1995-2000

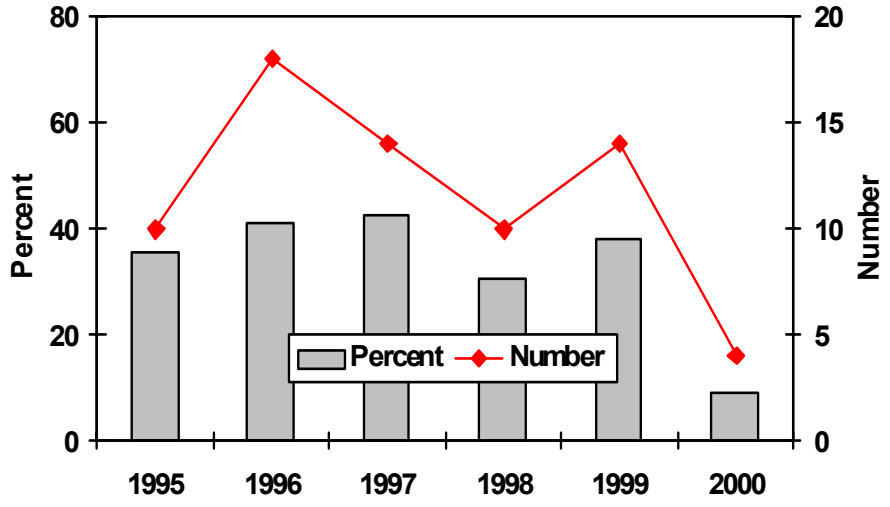
Year	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1995	28	10	35.7
1996	44	18	40.9
1997	33	14	42.4
1998	33	10	30.3
1999	37	14	37.8
2000	45	4	8.9

* 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, 1995-2000



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, and fell to a low of four in 2000. 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, and fell to a low of 8.9% in 2000.

13.4.2 Fatally injured drivers: 1987-2000. Data on alcohol use among fatally injured drivers over the 14-year period from 1987-2000 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.

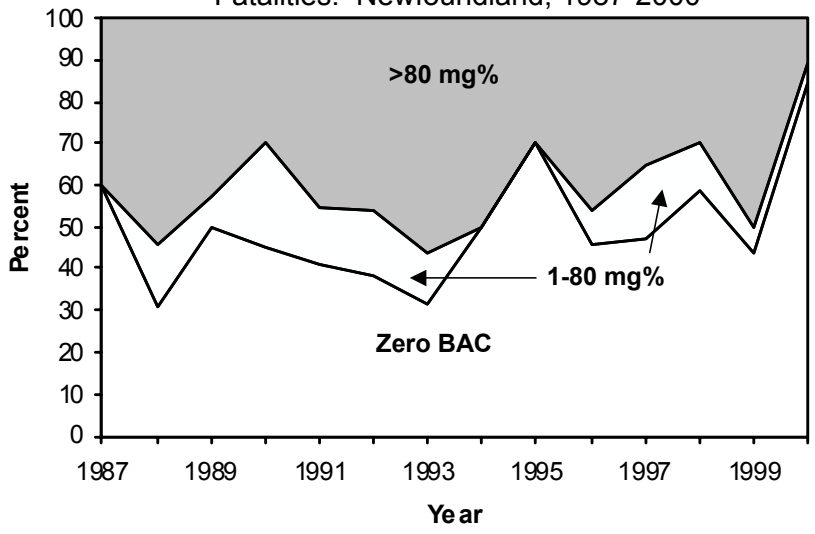
Table 13-5

Alcohol Use Among Fatally Injured Drivers:
Newfoundland, 1987-2000

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

* dying in less than six hours.

Figure 13-2
Trends in Alcohol Use Among Driver Fatalities: Newfoundland, 1987-2000



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, and fell to a low in 2000 (10.5%). 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, and peaked in 2000 (84.2%). 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, and decreased to 5.3% in 2000.

13.4.3 Drivers in serious injury crashes: 1995-2000. 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 highway vehicles.

Table 13-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Newfoundland, 1995-2000

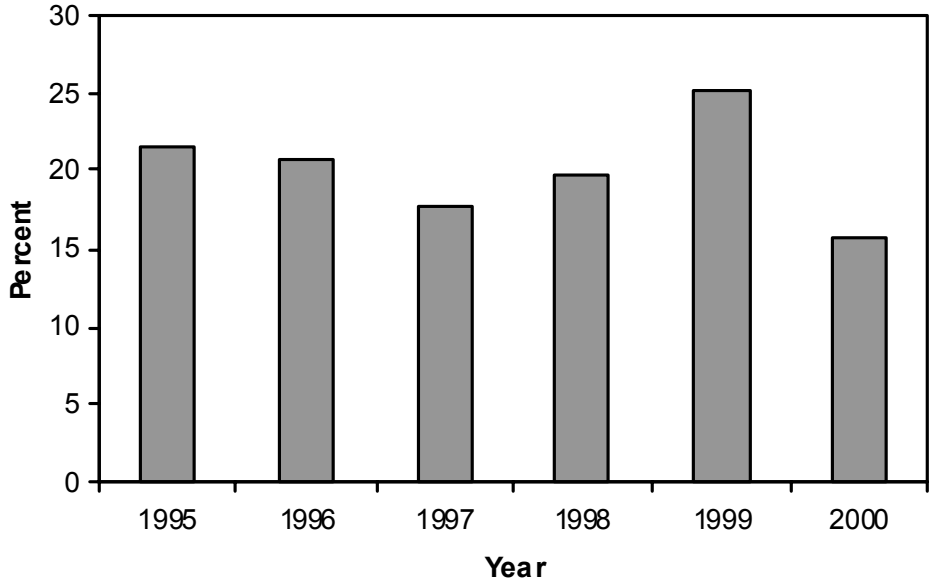
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1995	259	56	(21.6)
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)

* 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 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, and decreased to a low of 15.7% in 2000.

Figure 13-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Newfoundland, 1995-2000



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 2000. 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 nine – and drivers fatally injured – only five – 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.

Nine persons died in motor vehicle crashes in the Yukon during 2000. In nine (100.0%) of these cases, it was possible to determine if alcohol was a factor. Of these cases, six (66.7%) involved alcohol – five were male and one was female. Of the six people who died in alcohol-related crashes three were driver/operators of a vehicle and three were passengers.

14.2 ALCOHOL IN FATALLY INJURED DRIVERS

The Yukon had only five fatally injured drivers during 2000; all (100.0%) of these drivers were tested for alcohol. Two (40.0%) had been drinking and both of these drivers had illegal BACs – 100.0% of fatally injured drinking drivers had BACs >80 mg%.

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 2000 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, 34 drivers were involved in crashes in which someone was seriously injured, and among these 50.0% were alcohol-related crashes.

14.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 41.2% were under aged 20; 23.5% were aged 26-35; and 17.6% were aged 20-25.

Within each of the age groups, over three-fourths of the drivers under age 20 (77.8%), 66.7% of those aged 26-35 and 60.0% of those aged 20-25 were involved in alcohol-related serious injury crashes.

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 70.6% were males. However, the incidence of involvement in alcohol-related serious injury crashes was greater for females than for males (83.3% and 42.9%, respectively).

14.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 52.9% were truck/van drivers; 29.4% were automobile drivers; 11.8% were off-road vehicle drivers and 5.9% were tractor trailer drivers.

Table 14-1
Drivers in Alcohol-Related Serious Injury Crashes:
Yukon Territory, 2000

Category of Drivers	Number of Drivers*	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<20	9	7	77.8	41.2
20-25	5	3	60.0	17.6
26-35	6	4	66.7	23.5
36-45	4	0	0.0	0.0
46-55	4	1	25.0	5.9
>55	6	2	33.3	11.8
Gender				
Male	28	12	42.9	70.6
Female	6	5	83.3	29.4
Vehicle Type				
Auto	9	5	55.6	29.4
Truck/Van	17	9	52.9	52.9
Motorcycle	4	0	0.0	0.0
Tractor Trailer	2	1	50.0	5.9
Off-Road	2	2	100.0	11.8
Collision Type				
Single-Vehicle	26	15	57.7	88.2
Multiple-Vehicle	8	2	25.0	11.8
TOTAL	34	17	50.0	100.0

*These numbers are slightly underestimated because about 4% of all injuries are recorded as “unspecified”.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle drivers – both (100.0%) of the off-road vehicle drivers were in a crash that involved alcohol; compared to 55.6% for automobile drivers; 52.9% for truck/van drivers and 50.0% for tractor trailer drivers.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 88.2% 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 – 57.7% of these drivers, compared to 25.0% of the drivers involved in multiple-vehicle crashes.

14.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

The previous sections examined three indicators of the alcohol-crash problem: the number and percent of people who died in crashes that involved alcohol; the number and percent of fatally injured drivers who had been drinking; and the number and percent of drivers in serious injury crashes that involved alcohol. This section examines changes in these three indicators of the problem.

14.4.1 Deaths in alcohol-related crashes: 1995-2000. 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 2000. 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

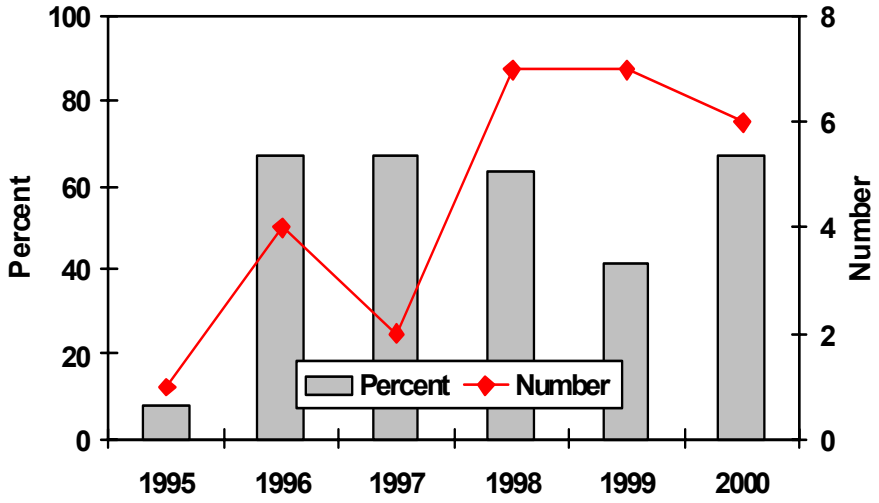
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Yukon Territory, 1995-2000

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

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

** only on public roadways involving principal vehicle types.

Figure 14-1
Number and Percent of Deaths Involving
a Drinking Driver: Yukon Territory, 1995-2000



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, and fell to six in 2000. 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 and rose to 66.7% in 2000.

14.4.2 Fatally injured drivers: 1987-2000. Due to the small number of cases – e.g., only five fatally injured drivers in 2000 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.4.3 Drivers in injury crashes: 1995-2000. 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 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 20.2% to 18.1%. In 1998 the incidence increased to 22.8% and has since decreased to 18.8% in 2000.

Table 14-3

Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: Yukon Territory, 1995-2000

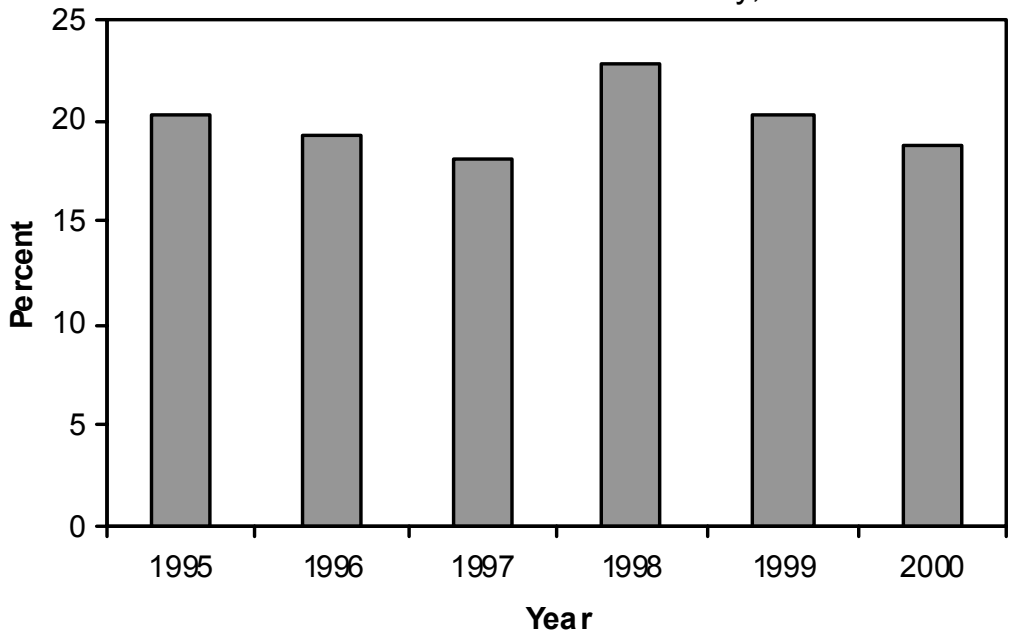
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	341	69	(20.2)
1996	349	67	(19.2)
1997	287	52	(18.1)
1998	276	63	(22.8)
1999	306	62	(20.3)
2000	288	54	(18.8)

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

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

Figure 14-2

Percent of All Drivers in Injury Crashes
that Involved Alcohol : Yukon Territory, 1995-2000



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 Northwest Territories and Nunavut during 2000. 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 two – makes the results unreliable.

15.1 DEATHS IN ALCOHOL-RELATED CRASHES

In the Northwest Territories and Nunavut during 2000, 10 persons died in motor vehicle crashes (7 in the Northwest Territories and 3 in Nunavut). In nine of these cases (90.0%) it was possible to determine if alcohol was a factor. Of these known cases, seven (77.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (10 x .778) it can be estimated that *in the Northwest Territories and Nunavut during 2000, eight persons died in alcohol-related crashes*.

15.2 ALCOHOL IN FATALLY INJURED DRIVERS

In the Northwest Territories and Nunavut during 2000, only two drivers of highway vehicles were fatally injured in motor vehicle crashes; both of which were 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 2000 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, 33 drivers (11 in the Northwest Territories and 22 in Nunavut) were involved in crashes in which someone was seriously injured, and among these 42.4% were alcohol-related crashes.

15.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were aged 20-25; 21.4% were aged 36-45; and 14.3% were aged 16-19 and 26-35. None of the drivers under 16 or over 55 were involved in alcohol-related serious injury crashes.

Within each of the age groups, three-quarters of drivers aged 36-45 were involved in alcohol-related serious injury crashes (75.0%). The lowest incidence of involvement in alcohol-related crashes was found for the youngest and oldest age groups of drivers – those aged under 16 and over 55 (0.0%).

15.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 85.7% were males. And the incidence of involvement in alcohol-related serious injury crashes was over twice as great for males than for females (50.0% and 22.2%, respectively).

Table 15-1
Drivers in Alcohol-Related Serious Injury Crashes:
Northwest Territories and Nunavut, 2000

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	3	0	0.0	0.0
16-19	6	2	33.3	14.3
20-25	11	7	63.6	50.0
26-35	6	2	33.3	14.3
36-45	4	3	75.0	21.4
>55	3	0	0.0	0.0
Gender				
Male	24	12	50.0	85.7
Female	9	2	22.2	14.3
Vehicle Type				
Auto	3	1	33.3	7.1
Truck/Van	7	5	71.4	35.7
Motorcycle	1	0	0.0	0.0
Off-Road	22	8	36.4	57.1
Collision Type				
Single-Vehicle	13	8	61.5	57.1
Multiple-Vehicle	20	6	30.0	42.9
TOTAL	33	14	42.4	100.0

15.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.1% were off-road vehicle drivers; 35.7% were truck-van drivers; and 7.1% were automobile drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 71.4% of these drivers were in crashes that involved alcohol, compared to 36.4% for off-road vehicle drivers and 33.3% for automobile drivers.

15.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 57.1% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 61.5% of these drivers compared to 30.0% 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: 1995-2000. 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 and this number rose to four in 1999 and dropped again to zero in 2000.

15.4.2 Fatally injured drivers: 1987-2000. Due to the small number of cases – e.g., only two fatally injured drivers in 2000 – any trends would be unreliable, and therefore are not reported here.

15.4.3 Drivers in serious injury crashes: 1996-2000. Since data on serious-injury crashes for the Northwest Territories and Nunavut are not available for 1995, Table 15-2 and Figure 15-1 show information on drivers involved in alcohol-related serious injury crashes from 1996 to 2000. These results differ slightly from those in Section 15.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other 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 1996 and 1997 the percentage of drivers in serious injury crashes that involved alcohol decreased from 37.5% to 21.4%. In 1998 the incidence rose sharply to 61.1%, fell to 38.1% in 1999 and rose to 54.5% in 2000.

Table 15-2

Number and Percent of All Drivers* in
Serious Injury Crashes** that Involved Alcohol:
Northwest Territories and Nunavut, 1996-2000

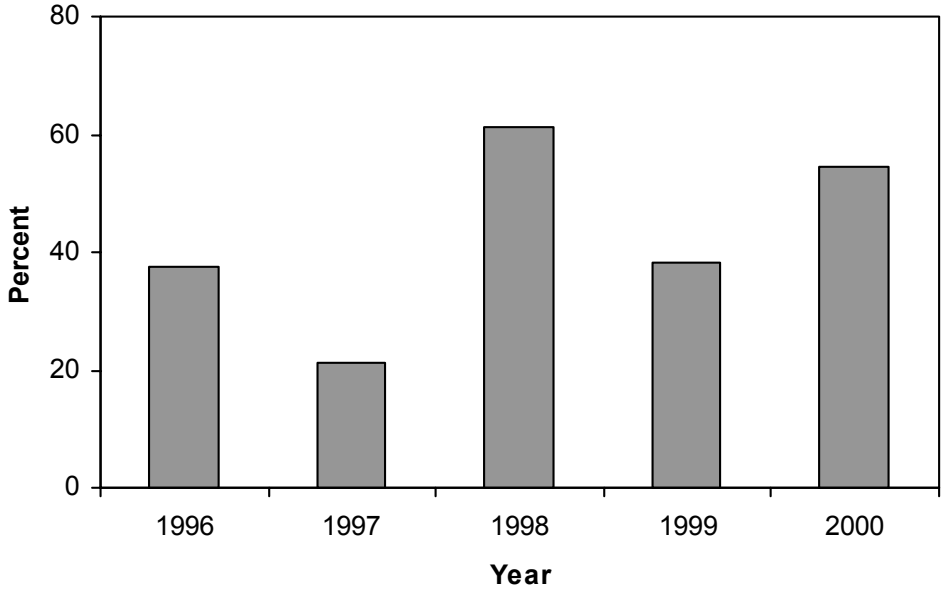
Year	Number of Drivers	Alcohol Related	
		Number	(Pct.)
1996	16	6	(37.5)
1997	14	3	(21.4)
1998	18	11	(61.1)
1999	21	8	(38.1)
2000	11	6	(54.5)

* 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, 1996-2000



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