CCMTA Road Safety Report Series

ALCOHOL-CRASH PROBLEM IN CANADA: 2005

Prepared For

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

and

Transport Canada

By

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

January 2008

© Canadian Council of Motor Transport Administrators and the
Minister of Public Works and Government Services,
represented by the Minister of Transport, 2008.

This publication may be reproduced without permission provided that its use is solely for the purposes of private study, research, criticism, review or newspaper summary and the source is fully acknowledged.

© Conseil canadien des administrateurs en transport motorisé et le
Ministre des Travaux publics et des Services gouvernementaux Canada,
représenté par le ministre des Transports, 2008.

Cette publication peut être reproduite sans permission à condition qu'elle soit utilisée uniquement pour des études privées, de la recherche, de la critique, de l'analyse ou pour faire l'objet d'un sommaire dans un journal et que la source soit parfaitement identifiée.

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

CANADIAN COUNCIL OF
MOTOR TRANSPORT ADMINISTRATORS

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

The work of CCMTA is conducted by three permanent standing committees which meet twice a year. The mandates of the standing committees are as follows:

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

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

- The **Standing Committee on Road Safety Research and Policies** is responsible for coordinating federal, provincial and territorial road safety efforts, making recommendations in support of road safety programs, and developing overall expertise and strategies to prevent road collisions and reduce their consequences.

CCMTA's Board of Directors also meets twice per year to attend to the overall management of the organization, determine policy direction and provide overall guidance and direction to the standing committees. Recommendations of the standing committees are ratified by the CCMTA Board.

All CCMTA standing committee meetings are open to industry stakeholders. Associate membership further allows private organizations and other government bodies with an interest in matters dealing with motor vehicle transportation and highway safety to be kept apprised of CCMTA activities and have formal access to CCMTA meetings and proceedings.

For further information on CCMTA projects and programs or associate membership, please contact the Secretariat.

ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2005 as well as trends in the problem.

Information contained in this report was drawn from two national databases compiled and maintained by the Traffic Injury Research Foundation (TIRF) and funded jointly by Transport Canada and the Canadian Council of Motor Transport Administrators (CCMTA). One database contains information on persons fatally injured in motor vehicle crashes; the other has information on persons seriously injured in motor vehicle crashes.

This report examines: data on alcohol in fatally injured drivers and pedestrians; the number and percent of people who died in alcohol-related crashes; and alcohol involvement in those crashes in which someone was seriously injured but not killed.

Thus, in the report, various indicators are used to estimate the magnitude and extent of the alcohol-crash problem in Canada during 2005 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.

TABLE OF CONTENTS

Acknowledgements ..... **v**

1.0 Introduction **1**

2.0 Data Sources and Indicators of the Alcohol-crash Problem **3**

2.1 Sources of the Data 3
2.1.1 The Fatality Database 4
2.1.2 The Serious Injury Database 7

2.2 Indicators of the Problem 10
2.2.1 The number and percent of people killed in alcohol-related crashes 11
2.2.2 The number and percent of fatally injured drivers who had been drinking 11
2.2.3 The number and percent of fatally injured pedestrians who had been drinking 11
2.2.4 The number and percent of drivers in serious injury crashes that involved alcohol 12

3.0 Canada **13**

3.1 Deaths In Alcohol-Related Crashes 13
3.1.1 Victim age 15
3.1.2 Gender 15
3.1.3 Victim type 15
3.1.4 Type of vehicle occupied 16

3.2 Alcohol in Fatally Injured Drivers 16
3.2.1 Age differences 18
3.2.2 Gender differences 20
3.2.3 Vehicle differences 21
3.2.4 Collision differences 25

3.3 Alcohol In Fatally Injured Pedestrians 25
3.3.1 Age differences 27
3.3.2 Gender differences 29
3.3.3 Jurisdictional differences 30

3.4 Drivers Involved in Alcohol-related Serious Injury Crashes 30
3.4.1 Driver age 32
3.4.2 Driver gender 32
3.4.3 Type of vehicle driven 32
3.4.4 Type of collision 33

3.5 Trends in the Alcohol-crash Problem 33
3.5.1 Deaths in alcohol-related crashes: 1995-2005 33
3.5.2 Fatally injured drivers: 1987-2005 34
3.5.3 Fatally injured pedestrians: 1987-2005 36
3.5.4 Drivers in serious injury crashes: 1995-2005 37

4.0 British Columbia **41**

5.0 Alberta **53**

6.0 Saskatchewan 65

7.0 Manitoba 77

8.0 Ontario 89

9.0 Quebec 101

10.0 New Brunswick 113

11.0 Nova Scotia 125

12.0 Prince Edward Island 137

13.0 Newfoundland and Labrador 149

14.0 Yukon Territory 161

15.0 Northwest Territories 167

16.0 Nunavut 173

17.0 References 179

ACKNOWLEDGEMENTS

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 compiled 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.**

We gratefully acknowledge the following individuals, their organizations and members of their staff for ensuring that complete and accurate data were made available to us:

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

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

D. McNaughton
Traffic Accident Information System
Saskatchewan Government Insurance

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

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

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

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

K. Stewart
Chief Coroner
Saskatchewan Justice

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

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

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

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

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

D. Kelly
Chief Coroner
Department of Public Safety
New Brunswick

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

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

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

Dr. S. Avis
Chief Medical Examiner
Newfoundland and Labrador

A. Kaylo
Director
Road Licensing and Safety Division
Dept. of Transportation
Northwest Territories

P. Kinney
Chief Coroner
Department of Justice
Northwest Territories

F. Jennex
Deputy Registrar
Yukon Department of Motor Vehicles

S. Hanley
Chief Coroner
Yukon Department of Justice

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

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

L. Gee
Director, Motor Vehicle Division
Nunavut

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

T. Neily
Chief Coroner
Nunavut

1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash problem in Canada during 2005 as well as trends in the problem. It includes data on alcohol in fatally injured drivers and pedestrians derived from the *Fatality Database*. For the past two and a half decades, the *Fatality Database*, developed and maintained by TIRF, has provided objective data on alcohol use among persons fatally injured in motor vehicle crashes. Each year, TIRF compiles information from coroner and medical examiners files on the results of toxicological tests for alcohol in the blood of fatally injured drivers (and pedestrians). Given a high testing rate in all jurisdictions, particularly among fatally injured drivers, the *Fatality Database* has proven a valid and reliable source of descriptive data on the magnitude and characteristics of the alcohol-fatal crash problem, a means for monitoring changes/trends in the problem as well as a valuable tool for research on alcohol-impaired driving. The Fatality Database is co-funded by the Canadian Council of Motor Transport Administrators (CCMTA) and Transport Canada.

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

This report goes beyond fatal crashes to examine alcohol involvement in those crashes in which someone was seriously injured but not killed. For this purpose, relevant information is derived from a *Serious Injury Database*, constructed and maintained by TIRF, under a related project funded by Transport Canada and CCMTA. Since few drivers involved in serious injury crashes are tested for alcohol, a surrogate or indirect measure is used to assess the incidence of alcohol involvement in these crashes.

The focus on alcohol-related serious injury crashes underscores the fact that serious injury is too often a consequence of drinking and driving. It also recognizes that the federal/ provincial/territorial *Strategy to Reduce Impaired Driving (STRID 2010)* targets reductions in both alcohol-related fatalities and serious injuries. Thus, this report includes information on

both fatal and serious injury crashes to provide as comprehensive a picture as possible of the magnitude and nature of the alcohol-crash problem in Canada during 2005 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 2005 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 2005 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 2005, inclusive, for seven provinces – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Prince Edward Island. Beginning with 1987, data are available from all jurisdictions in Canada.

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

information on crashes that involve serious injury has been assembled from all jurisdictions in Canada.

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

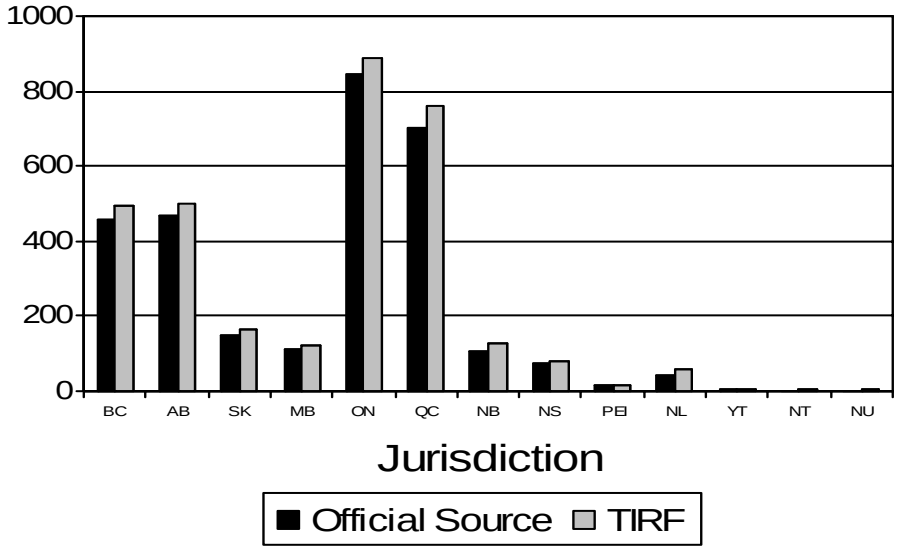
Police-reported data include characteristics of the victim (age and sex, position in the vehicle -- driver, passenger) and details of the crash (type of vehicle(s) and collision, time, date). Objective, toxicological data on alcohol use among victims are obtained from files in coroners' and medical examiners'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

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

- **Motor vehicle fatality.** A motor vehicle fatality is defined in the data capture procedures, and in this report, as any person dying within 12 months as a result of injuries sustained in a collision involving a motor vehicle. Since this definition of a motor vehicle fatality differs somewhat from those of some coroners/medical examiners and some provincial transportation agencies, the number of fatalities included in the *Fatality Database* may also differ slightly from those reported by official sources (see Mayhew et al. 1999 for a description of how these agencies define motor vehicle fatalities).

- **Number of fatalities: Official sources compared to the Fatality Database.** The *Fatality Database* contains information on 3,226 persons fatally injured in motor vehicle collisions in Canada during 2005. 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: 2005



	Official Source	TIRF
BC	459	496
AB	466	501
SK	147	163
MB	113	120
ON	845	886
QC	704	761
NB	105	126
NS	72	81
PEI	17	17
NL	43	58
YT	5	6
NT	2	5
NU	2	6
Total	2980	3226

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 2005. For most of the jurisdictions, the number of cases in the database is higher than that officially reported by transportation agencies.

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

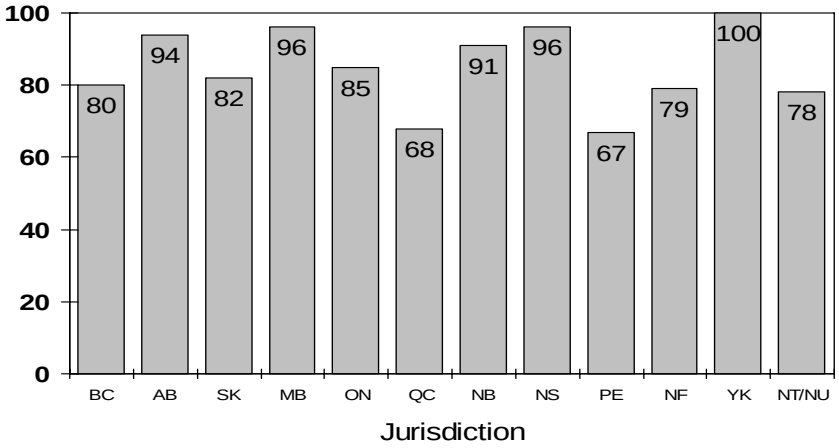
In Canada during 2005, 6 out of every 10 fatalities were operators of motor vehicles (63.5%); 23.4% were passengers; and 13.0% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern for traffic safety.

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

In Canada during 2005, fatally injured drivers were tested most frequently (81.6%), followed by pedestrians (58.1%) and passengers (26.4%). The testing rate among fatally injured pedestrians and passengers increases slightly if victims under the age of 16, who are less often tested, are excluded (60.1% and 28.4%, 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 78.1%).

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

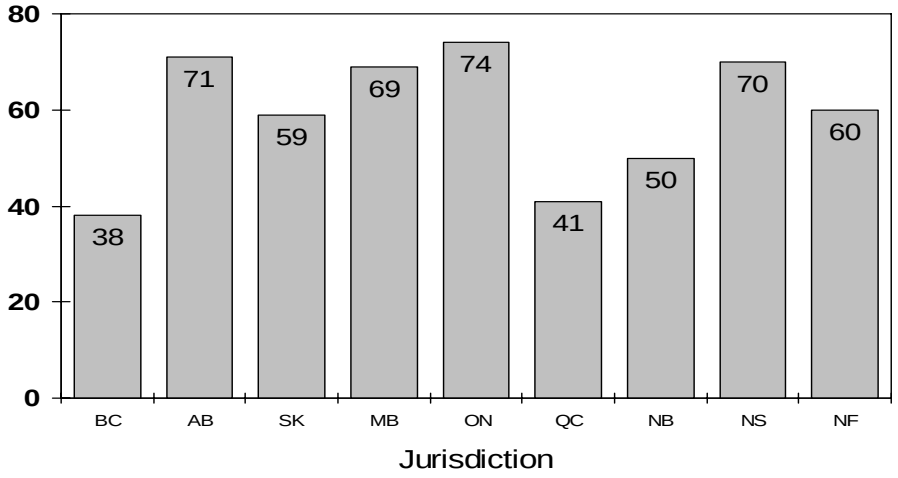
Figure 2-2
Percent of Fatally Injured Drivers
Tested for Alcohol: Canada, 2005



over 80.0% of the driver fatalities. In some jurisdictions, there is clearly room for improvement -- the testing rates need to be increased to enhance the reliability and utility of the information. In those jurisdictions with a high rate of testing for fatally injured drivers, there are various reasons why tests are not done on some drivers. This occurs, for example, when the victim survived the initial crash and died much later – the alcohol results at that time would be of little value. Or, if extensive transfusions were given to the victim prior to death, there is little point in taking a blood sample for an alcohol test. And, if the victim were incinerated in a vehicle fire, or massive injuries resulted in exsanguination (excessive loss of blood), body fluids will not be available for testing. Figure 2-3 shows the rate of testing for alcohol among fatally injured pedestrians in the various jurisdictions. As can be seen, there is considerable variation in the rate of testing -- from 38.0% in British Columbia to 74.0% in Ontario.

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

Figure 2-3
Percent of Fatally Injured Pedestrians
Tested for Alcohol: Canada, 2005



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

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

In the case of the Northwest Territories, Manitoba, Nunavut, and the Yukon, 12.6%, 11.0%, 8.6% and 5.6% of injuries are recorded as “unspecified”, so the number of drivers in serious injury crashes used in this report for these four jurisdictions might be underestimated.

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

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

- **Number of cases**. In Canada during 2005, 16,711 persons were seriously injured in motor vehicle crashes; 22,430 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 (8,484 drivers or 37.8% of the "national" total); Nunavut accounts for the lowest number of drivers in such crashes, 14 drivers (or 0.1% of all drivers).

Table 2-1
Number and Percent of Drivers Involved in Serious Injury Crashes in Each Jurisdiction: Canada, 2005

Jurisdiction	Number of Drivers	% of Total
British Columbia	2,832	12.6
Alberta	4,024	17.9
Saskatchewan	469	2.1
Manitoba	511	2.3
Ontario	4,970	22.2
Quebec	8,484	37.8
New Brunswick	437	1.9
Nova Scotia	367	1.6
Prince Edward Island	69	0.3
Newfoundland and Labrador	181	0.8
Yukon Territory	41	0.2
Northwest Territories	31	0.1
Nunavut	14	0.1
TOTAL	22,430	100.0

- **Type of cases**. The *Serious Injury Database* includes information on persons who sustained a serious injury in a motor vehicle crash and information on all drivers involved in these crashes. Drivers include operators of all types of vehicles: automobiles, trucks/vans, motorcycles, bicycles, all terrain vehicles, dirt bikes, and snowmobiles. Of all the drivers involved in serious injury crashes: more than half were automobile drivers (56.2%); over one-quarter were truck/van drivers (26.1%); 6.2% were motorcycle riders; 5.3% were off-road vehicle drivers (e.g., snowmobiles, dirt bikes); 3.6% were tractor-trailer drivers; and 1.2% 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 2005, it was possible to determine if alcohol was a factor in the crash in 91.3% 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 2005, with 83.1% 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 – 58.1% overall, which increases to 60.1% if victims under the age of 16 are excluded.

Descriptive data on fatally injured drinking pedestrians are provided in the Canada section (3.0) but not in the provincial/territorial sections (4.0 through 15.0) of the report. The number of fatally injured pedestrians in most jurisdictions is relatively small, so detailed results for these jurisdictions would not be reliable. Jurisdictional results are also not reported to protect privacy. However, data on the overall incidence of fatally injured drinking pedestrians in each jurisdiction are presented in the Canada section of the report (3.3).

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

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

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

3.0 CANADA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Canada during 2005. 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 2005. 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, 327 people age 16-19 were killed in road crashes in Canada during 2005. And, in 300 of these cases (91.7%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 100 people age 16-19 died in alcohol-related crashes in Canada during 2005. The next column expresses this as a percentage – e.g., 33.3% of the 16-19 year olds died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 10.0% of all the people killed in alcohol-related crashes in Canada during 2005.

Table 3-1
Deaths* in Alcohol-Related Crashes: Canada, 2005

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	156	137	87.8	13	9.5	1.3
16-19	327	300	91.7	100	33.3	10.0
20-25	491	459	93.5	247	53.8	24.6
26-35	483	456	94.4	220	48.2	21.9
36-45	442	407	92.1	174	42.8	17.3
46-55	441	413	93.7	139	33.7	13.9
>55	886	773	87.2	110	14.2	11.0
Gender						
Male	2262	2081	92.0	806	38.7	80.4
Female	964	864	89.6	197	22.8	19.6
Type						
Driver/Operator	2048	1906	93.1	687	36.0	68.5
Passenger	755	689	91.3	194	28.2	19.3
Pedestrian	418	346	82.8	118	34.1	11.8
Unknown	5	4	80.0	4	100.0	0.4
Vehicle Occupied						
Automobiles	1445	1336	92.5	432	32.3	43.1
Trucks/Vans	772	741	96.0	283	38.2	28.2
Motorcycles	249	225	90.4	61	27.1	6.1
Tractor Trailers	48	44	91.7	3	6.8	0.3
Other Hwy. Vehs.	6	4	66.7	0	0.0	0.0
Off-road Vehicles	283	249	88.0	106	42.6	10.6
(Pedestrians)	418	346	82.8	118	34.1	11.8
Unknown	5	0	0.0	0	0.0	0.0
TOTAL	3226	2945	91.3	1003	34.1	100.0

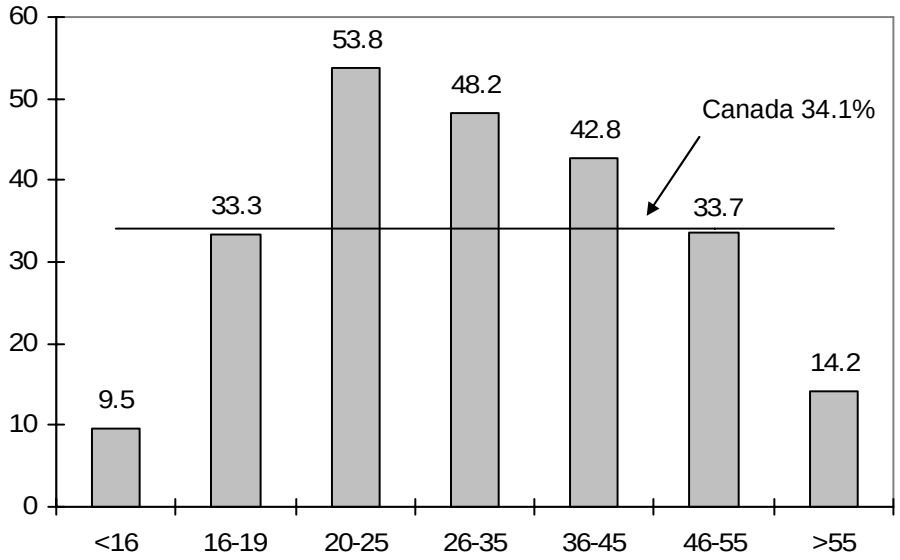
*persons dying within 12 months in collisions on and off public roadways

The totals at the bottom of the table provide a summary. As can be seen, 3,226 persons died in motor vehicle crashes in Canada during 2005. In 2,945 (91.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 1,003 (34.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (3,226 x .341) it can be estimated that *in Canada during 2005, 1,100 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), 24.6% were aged 20-25; 21.9% were aged 26-35; 17.3% were aged 36-45, 13.9% were aged 46-55, and 11.0% were over 55. The youngest (<16) group accounted for only 1.3% of all people who died in alcohol-related crashes.

Figure 3-1 shows the percent of alcohol-related deaths within each age group. The highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 and 26-35 died (53.8% and 48.2% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 9.5% of persons under 16 and 14.2% 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, 2005



3.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.4% were males. The incidence of alcohol in crashes in which a male died (38.7%) was greater than the incidence of alcohol in crashes in which a female died (22.8%).

3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 68.5% were drivers/operators of a vehicle; 19.3% were passengers; 11.8% were pedestrians; and 0.4% were victims whose position was unknown.

Within each of these victim types, there are some differences in alcohol involvement. Among the principal victim types, the highest incidence of alcohol involvement (36.0%) occurred in the crashes in which a driver died. Alcohol was involved in 34.1% of the crashes in which a pedestrian died and in 28.2% 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 (43.1%) were in an automobile; 28.2% were in a truck/van; 10.6% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 6.1% were on a motorcycle.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (38.2% versus 32.3%). The incidence of alcohol involvement in which a person on a motorcycle vehicle died was 27.1%. Alcohol was involved in 42.6% of the crashes in which a person on an off-road vehicle died.

3.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Canada during 2005. 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 153 drivers killed during 2005; 135 of these fatally injured drivers (88.2%) were tested for alcohol. Of those who were tested, 64.4% showed no evidence of alcohol, 3.0% had BACs (blood alcohol concentrations) below 50 mg%, 3.0% had BACs from 50 to 80 mg%, 15.6% had BACs from 81 to 160 mg%, and 14.1% had BACs over 160 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers: Canada, 2005

Category of Driver	Number of Drivers*	Drivers Tested		Percent of Tested Drivers with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<16	8	4	50.0	75.0	0.0	25.0	0.0	0.0
16-19	153	135	88.2	64.4	3.0	3.0	15.6	14.1
20-25	298	271	90.9	49.1	5.5	2.6	19.9	22.9
26-35	307	254	82.7	53.5	4.3	1.2	13.0	28.0
36-45	278	233	83.8	58.8	3.9	1.3	9.0	27.0
46-55	279	248	88.9	66.5	3.2	1.6	8.1	20.6
>55	461	338	73.3	83.1	2.1	1.8	3.0	10.1
Gender								
Male	1395	1162	83.3	60.6	3.4	2.0	12.0	22.0
Female	389	321	82.5	74.1	4.4	1.6	6.2	13.7
Vehicle Type								
Automobile	973	801	82.3	65.0	3.2	1.5	11.7	18.5
Motorcycle	230	190	82.6	72.1	6.8	1.1	8.9	11.1
Tractor Trailer	47	36	76.6	91.7	2.8	0.0	0.0	5.6
Heavy Truck[1]	26	21	80.8	85.7	4.8	0.0	4.8	4.8
Van	158	130	82.3	62.3	3.8	3.8	9.2	20.8
Motorhome	2	2	100.0	100.0	0.0	0.0	0.0	0.0
Light Truck[2]	338	295	87.3	48.5	2.7	2.7	11.9	34.2
Other Truck[3]	6	6	100.0	83.3	0.0	16.7	0.0	0.0
Other Hwy. Vehicle[4]	4	2	50.0	100.0	0.0	0.0	0.0	0.0
Collision Type								
Single-Vehicle	807	690	85.5	44.3	3.9	1.7	17.0	33.1
Multiple-Vehicle	977	793	81.2	80.2	3.4	2.0	5.3	9.1
TOTAL	1784	1483	83.1	63.5	3.6	1.9	10.7	20.2

* 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 1,784 drivers fatally injured in traffic crashes in Canada during 2005. The overall rate of testing for alcohol in drivers was 83.1%, slightly lower than the rate in 2004 – 84.4%.

Among tested drivers in Canada:

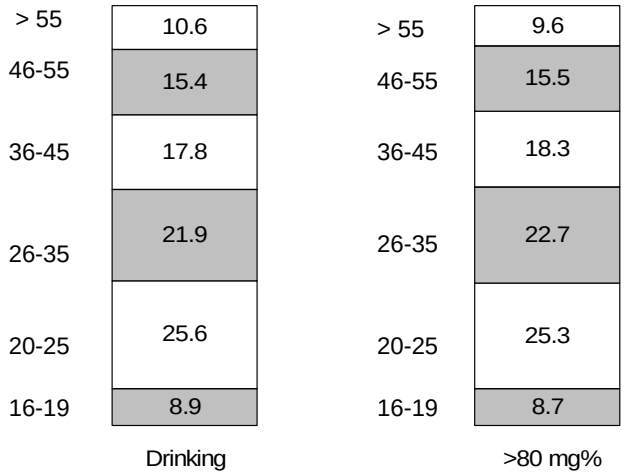
- 63.5% showed no evidence of alcohol – 36.5% had been drinking;
- 3.6% had BACs from 1-49 mg%;
- 1.9% had BACs from 50-80 mg%
- 10.7% had BACs from 81 to 160 mg%; and,
- 20.2% had BACs over 160 mg%.

Thus, 36.5% of fatally injured drivers in Canada had been drinking and most of these had illegal BACs – 84.8% 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, 2005



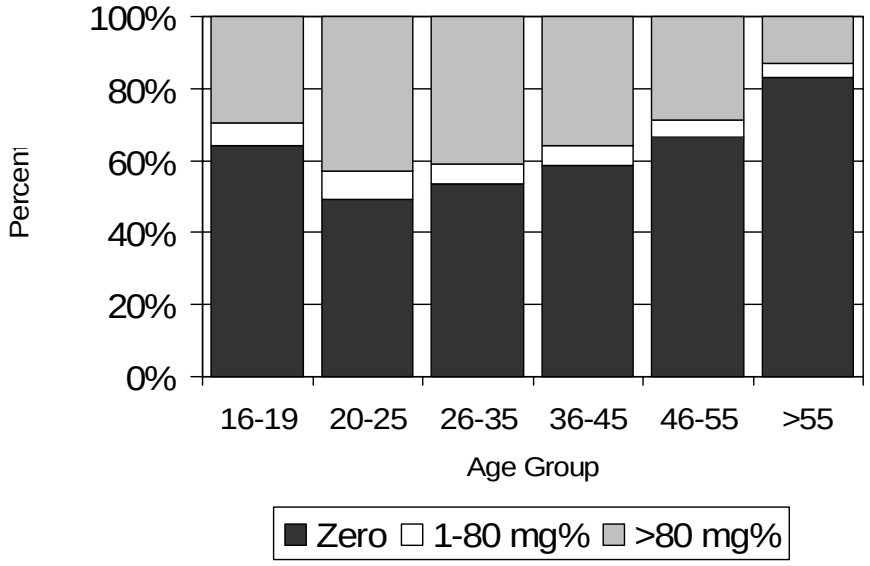
Of all the fatally injured drinking drivers, 25.6% were aged 20-25, 21.9% were aged 26-35, 17.8% were aged 36-45; 15.4% were aged 46-55; and 10.6% were over 55. Those aged 16-19 accounted for only 8.9% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.3% were aged 20-25; 22.7% were aged 26-35; 18.3% were aged 36-45; 15.5% were aged 46-55; 9.6% were over 55; and those aged 16-19 for only 8.6% of fatally injured drivers who were over the legal limit.

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

Within each of the age groups, fatally injured drivers age 20-25 and 26-35 were the most likely to have been drinking – 50.9% and 46.5% of drivers in these age groups had been drinking. By contrast, only 16.9% of tested drivers over age 55 had been drinking.

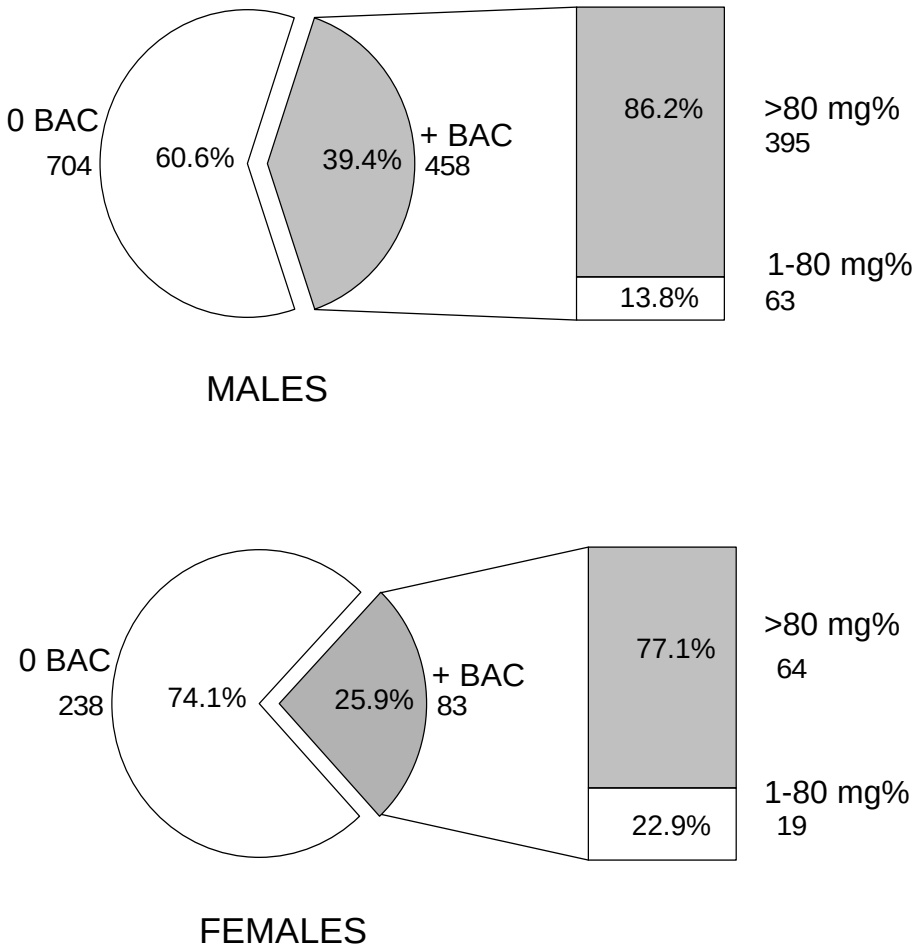
Figure 3-3
Percent of Drinking Drivers Within Each Age Group: Canada, 2005



3.2.2 Gender differences. Males dominate the picture – they account for 86.5% of all the fatally injured drivers who had been drinking and 86.1% of all of the fatally injured drivers who were legally impaired. However, males dominate the picture largely because they account for 78.2% of the drivers who are killed (1,395 of the 1,784 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, 2005



Fatally injured male drivers were considerably more likely to have been drinking than female drivers (39.4% and 25.9%, respectively). And, most of the male and female drivers who were drinking had BACs over the legal limit (86.2% and 77.1%, 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), 51.8% were automobile drivers; 28.1% were light truck drivers; 9.8% were motorcycle riders; and 9.1% were van drivers.

Table 3-3

Number and Percent of Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Drivers* of Different Vehicle Types: Canada, 2005

Vehicle Type	Number of Drinking Drivers	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	280	51.8	242	52.7
Motorcycle	53	9.8	38	8.3
Tractor-Trailer	3	0.6	2	0.4
Heavy Truck[1]	3	0.6	2	0.4
Van	49	9.1	39	8.5
Light Truck[2]	152	28.1	136	29.6
Other Truck[3]	1	0.2	0	0.0
TOTAL	541	100.0	459	100.0

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

[1] Trucks over 4500 kg.

[2] e.g., pickup trucks.

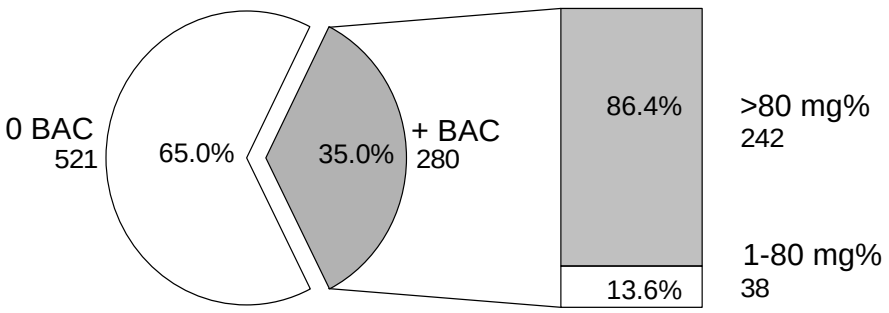
[3] Utility vehicles, plows and trucks of unknown type.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 52.7% were automobile drivers; 29.6% were light truck drivers; 8.5% were van drivers; and 8.3% were motorcycle riders.

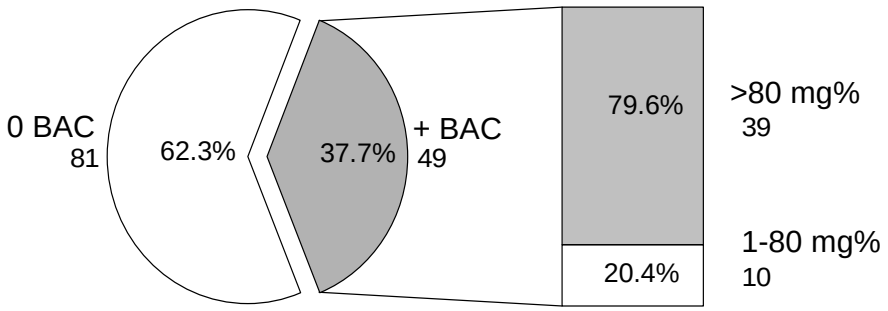
Figure 3-5a-c summarizes the results of alcohol tests for drivers fatally injured in 2005 according to the type of vehicle being operated: automobile drivers and drivers of vans (Figure 3-5a); motorcycle riders and drivers of light trucks (Figure 3-5b); and drivers of heavy trucks and tractor trailers (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, 2005



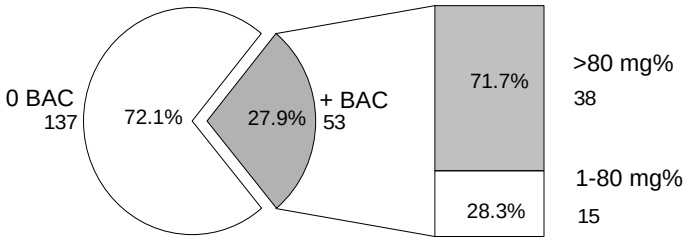
AUTOMOBILE DRIVERS



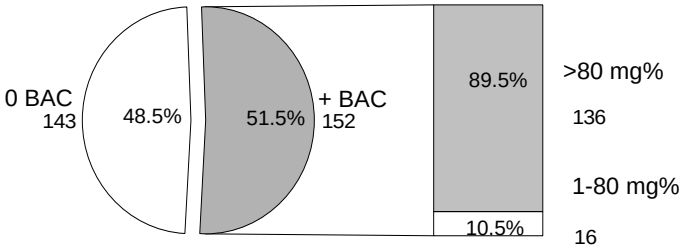
VAN DRIVERS

Among fatally injured automobile drivers, 35.0% had been drinking. Of those who were drinking, the vast majority (86.4%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 37.7% had been drinking and most (79.6%) of these had BACs over the legal limit. Among motorcycle riders, 27.9% had been drinking and 71.7% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 51.5% had been drinking and 89.5% of these had illegal BACs. Heavy truck and tractor-trailer drivers have

Figure 3-5b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2005

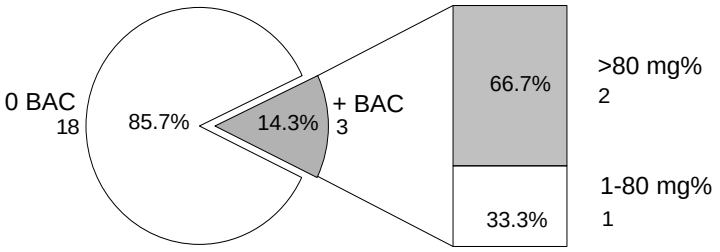


MOTORCYCLISTS

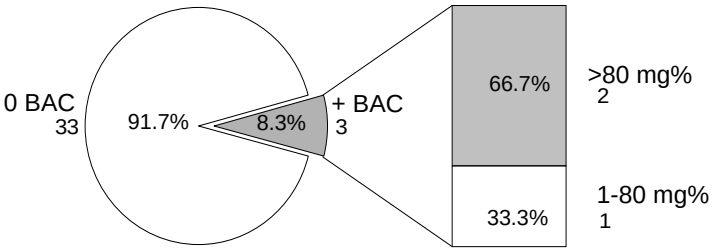


LIGHT TRUCK DRIVERS

Figure 3-5c
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2005



HEAVY TRUCK DRIVERS

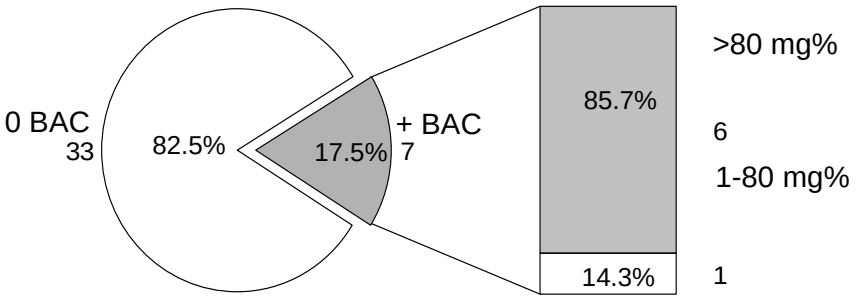


TRACTOR-TRAILER DRIVERS

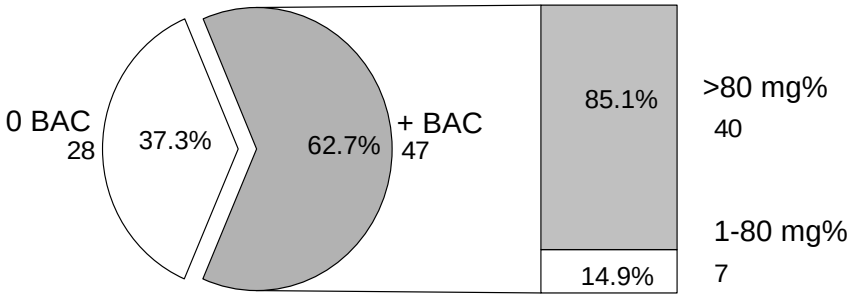
a much lower frequency of alcohol involvement. Indeed, only 14.3% of heavy truck drivers had been drinking. And, the lowest incidence of drinking is found among tractor-trailer drivers – only 8.3% had been drinking.

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 17.5% of fatally injured bicyclists had been drinking at the time of the collision. However, among those bicyclists who had been drinking, 85.7% had BACs over the legal limit. Among snowmobile drivers, 62.7% had been drinking, and 85.1% had BACs over the legal limit. Operators of off-road vehicles were slightly less likely than snowmobile drivers to have been drinking – 53.1% of them had been drinking and 76.5% of these drinking drivers had BACs over the legal limit.

Figure 3-5d
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2005

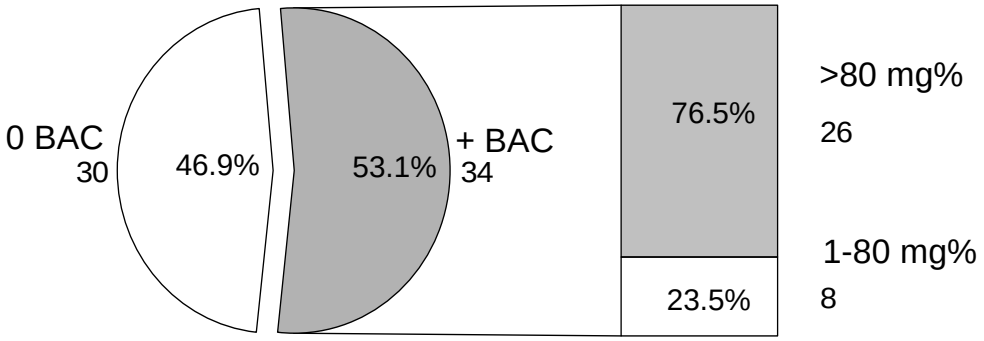


CYCLISTS



SNOWMOBILE OPERATORS

Figure 3-5e
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2005



OFF-ROAD VEHICLE OPERATORS

3.2.4 Collision differences. Less than half of all drivers killed (45.2%) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (71.0% and 75.2%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. As shown in Figure 3-6, over half of the drivers involved in single-vehicle crashes (55.7%) were positive for alcohol, compared to only 19.8% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (89.8%). By contrast, among drinking drivers in multiple-vehicle crashes, 72.6% had BACs over the legal limit.

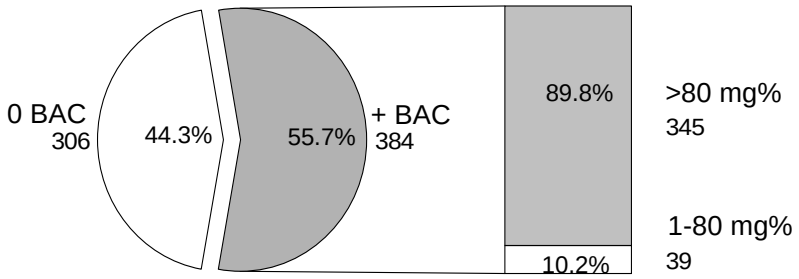
3.3 ALCOHOL IN FATALLY INJURED PEDESTRIANS

This section presents information on the presence of alcohol among pedestrians fatally injured as a result of being hit by a motor vehicle in Canada during 2005. Table 3-4 shows the information by age group, gender and jurisdiction.

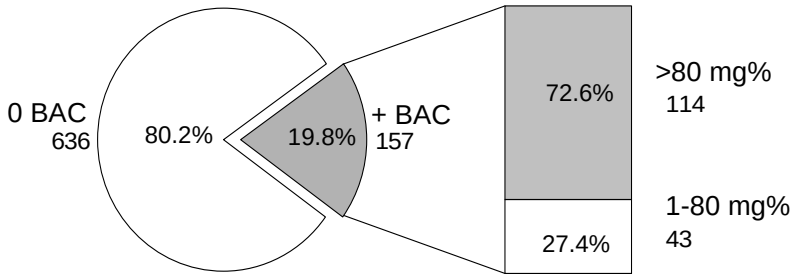
The first data column in the table shows the number of pedestrians killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – this includes the percent of

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

Figure 3-6
Alcohol Use Among Drivers by
Type of Collision: Canada, 2005



SINGLE-VEHICLE CRASHES



MULTIPLE-VEHICLE CRASHES

During 2005, as shown by the totals at the bottom of the table, there were 418 pedestrians fatally injured; 243 (58.1%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- 61.3% showed no evidence of alcohol – 38.7% had been drinking;
- 1.2% had BACs below 50 mg%;
- 2.5% had BACs from 50 to 80 mg%;
- 8.6% had BACs from 81 to 160%; and
- 26.3% had BACs over 160 mg%.

Thus, 38.7% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

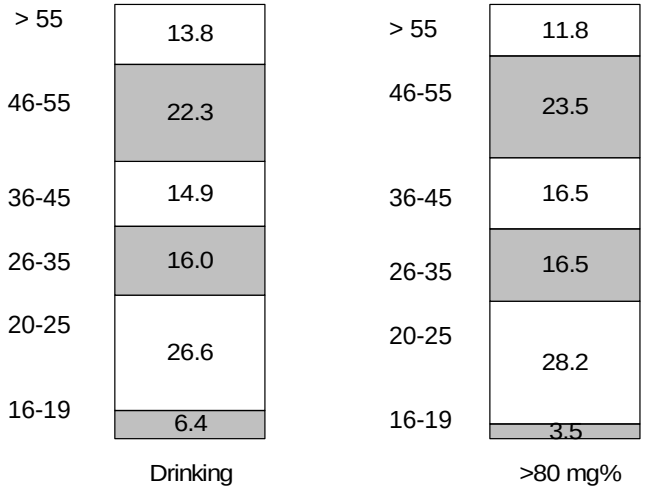
Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2005

Category of Pedestrian	Number of Pedestrians	Pedestrians Tested		Percent of Tested Pedestrians with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<16	32	11	34.4	100.0	0.0	0.0	0.0	0.0
16-19	14	12	85.7	50.0	16.7	8.3	16.7	8.3
20-25	48	34	70.8	26.5	0.0	2.9	23.5	47.1
26-35	35	26	74.3	42.3	0.0	3.8	7.7	46.2
36-45	47	33	70.2	57.6	0.0	0.0	9.1	33.3
46-55	65	45	69.2	53.3	0.0	2.2	8.9	35.6
>55	177	82	46.3	84.1	1.2	2.4	2.4	9.8
Gender								
Male	269	169	62.8	58.6	1.2	3.0	8.3	29.0
Female	149	74	49.7	67.6	1.4	1.4	9.5	20.3
Jurisdiction								
British Columbia	79	30	38.0	66.7	0.0	3.3	3.3	26.7
Alberta	58	41	70.7	61.0	0.0	4.9	9.8	24.4
Saskatchewan	22	13	59.1	38.5	0.0	0.0	0.0	61.5
Manitoba	13	9	69.2	55.6	0.0	11.1	11.1	22.2
Ontario	133	99	74.4	62.6	2.0	2.0	10.1	23.2
Quebec	84	34	40.5	58.8	2.9	0.0	11.8	26.5
New Brunswick	14	7	50.0	57.1	0.0	0.0	0.0	42.9
Nova Scotia	10	7	70.0	71.4	0.0	0.0	14.3	14.3
Newfoundland	5	3	60.0	100.0	0.0	0.0	0.0	0.0
TOTAL	418	243	58.1	61.3	1.2	2.5	8.6	26.3

3.3.1 Age differences. Of all the fatally injured pedestrians, over two-fifths (42.3%) were over 55 years of age (177 of the 418 pedestrian fatalities). The oldest pedestrians, however, accounted for a much smaller portion of the drinking pedestrians and those with BACs over 80 mg%. This is illustrated in Figure 3-7. The figure shows the percent of all drinking pedestrians accounted for by each age group. The bar on the left shows the percent of all fatally injured pedestrians with any evidence of alcohol accounted for by each age group. On the right is shown the percent of pedestrians with BACs over 80 mg% accounted for by each age group.

Of all the fatally injured drinking pedestrians, 26.6% were aged 20-25, 22.3% were aged 46-55; 16.0% were aged 26-35; 14.9% were aged 36-45; 13.8% were over 55; and 6.4% were 16-19.

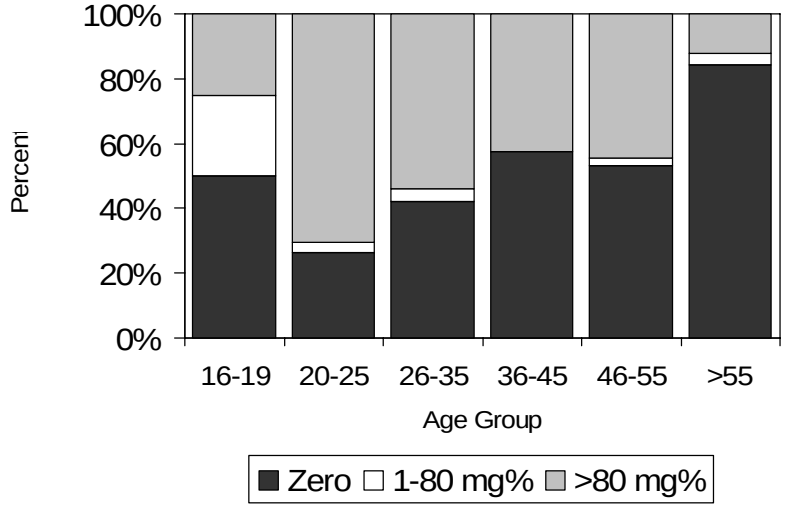
Figure 3-7
Percent of All Fatally Injured Drinking and Legally Impaired Pedestrians Accounted for by Each Age Group: Canada, 2005



Of all the fatally injured pedestrians with BACs over 80 mg%, 28.2% were aged 20-25; 23.5% were aged 46-55; 16.5% were aged 26-35 and 36-45; 11.8% were over 55 and only 3.5% were aged 16-19.

Figure 3-8 presents the information in a slightly different manner. For each age group, the percent of pedestrians who were sober (zero BAC) is shown by the lower, dark portion of the bar; the percent who were positive for alcohol but whose BAC was below 81 mg% is shown by the white section in the middle, and the percent with BACs over 80 mg% is shown by the upper, grey part of the bar.

Figure 3-8
Percent of Drinking Pedestrians Within Each Age Group: Canada, 2005

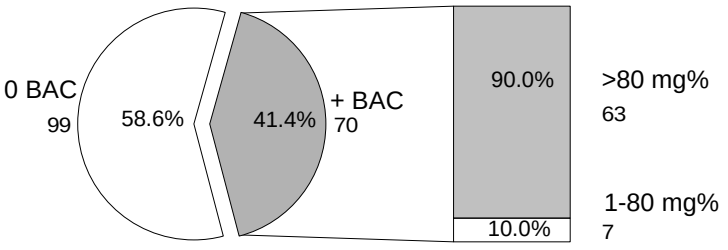


Within each of the age groups, fatally injured pedestrians age 20-25 were the most likely to have been drinking – 73.5% of pedestrians in this age group had been drinking. By contrast, only 15.9% of tested pedestrians over age 55 had been drinking. Fatally injured pedestrians aged 36-45 were either sober or over 80 mg%.

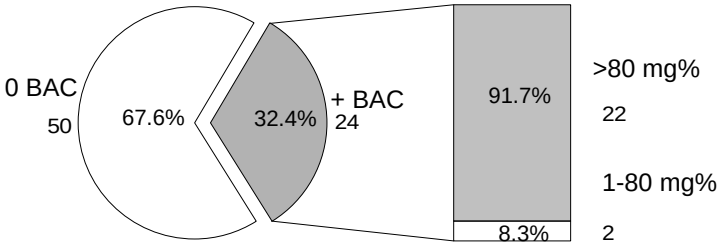
3.3.2 Gender differences. Males account for over three-quarters (74.5%) of all the fatally injured pedestrians who had been drinking, and 74.1% of all of the fatally injured pedestrians who had BACs over 80 mg%. However, males dominate the picture because they account for 64.4% of the pedestrians who are killed (269 of the 418 fatalities are male).

Figure 3-9 summarizes the findings for alcohol use among fatally injured male and female pedestrians. The pie chart shows the proportion of those pedestrians who were sober (i.e., 0 BAC) and those positive for alcohol (+ BAC). The bar to the right of the pie chart shows the distribution of alcohol levels found among those who had been drinking; the percent who had BACs above and below 80 mg%. Percentages are given inside the figures; the absolute number of cases is shown adjacent to the figure.

Figure 3-9
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2005



MALES



FEMALES

Among fatally injured male pedestrians, 41.4% had been drinking, and 90.0% of these pedestrians had BACs over 80 mg%. A slightly different picture emerges among fatally injured female pedestrians – only 32.4% had been drinking and 91.7% of these pedestrians had BACs over 80 mg%.

***3.3.3 Jurisdictional differences*.** Of all the fatally injured pedestrians, 31.8% were killed in Ontario, 20.1% were killed in Quebec, and 18.9% were killed in British Columbia. Ontario accounted for 39.4% and Alberta accounted for 17.0% of the fatally injured drinking pedestrians. Ontario accounted for 38.8% and Alberta accounted for 16.5% of the fatally injured pedestrians with BACs over 80 mg%. It should be noted that the figures for drinking and legally impaired pedestrians in British Columbia are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in that province – e.g., only 38.0% of pedestrians fatally injured in British Columbia were tested, compared to 74.4% in Ontario, 70.7% in Alberta, and 70.0% in Nova Scotia.

As shown in Table 3-4 (see page 27), the highest incidence of alcohol in fatally injured pedestrians, however, was in Saskatchewan – 61.4%. The lowest incidence of alcohol in fatally injured pedestrians was in Newfoundland and Labrador where 0.0% had been drinking. Some caution should be taken interpreting the BAC results for Newfoundland and Labrador because there were five fatally injured pedestrians.

3.4 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 in Canada. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle, at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., they noted that at least one drinking driver was involved in the crash.

The results are shown in Table 3-5 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in

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

Table 3-5
Drivers in Alcohol-Related Serious Injury Crashes:
Canada, 2005

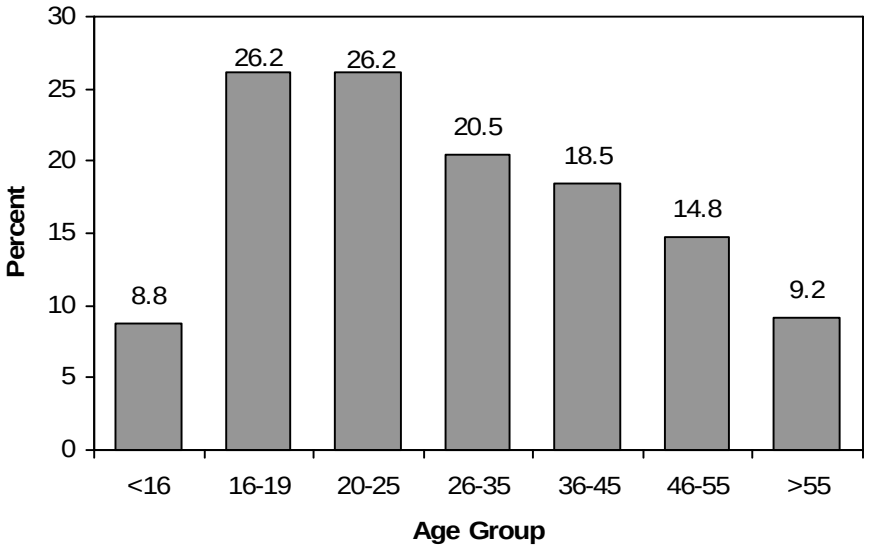
Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	331	29	8.8	0.7
16-19	1936	507	26.2	12.9
20-25	3229	847	26.2	21.5
26-35	3782	776	20.5	19.7
36-45	3864	714	18.5	18.1
46-55	3197	473	14.8	12.0
>55	3396	313	9.2	7.9
unknown	2695	282	10.5	7.2
Gender				
Male	15226	3033	19.9	77.0
Female	6404	772	12.1	19.6
unknown	800	136	17.0	3.5
Vehicle Type				
Auto	12615	2234	17.7	56.7
Truck/Van	5864	1170	20.0	29.7
Motorcycle	1395	199	14.3	5.0
Tractor Trailer	817	109	13.3	2.8
Other Hwy. Vehicle	273	27	9.9	0.7
Off-Road	1190	164	13.8	4.2
Unknown	276	38	13.8	1.0
Collision Type				
Single-Vehicle	6746	2596	38.5	65.9
Multiple-Vehicle	15684	1345	8.6	34.1
TOTAL	22430	3941	17.6	100.0

As shown, by the totals at the bottom of the table, 22,430 drivers were involved in crashes in which someone was seriously injured. Among these, 17.6% were alcohol-related crashes.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.5% were aged 20-25; 19.7% were aged 26-35; and 18.1% 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 16-19 and 20-25 (26.2% each). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age group of drivers – those over age 55 (9.2%).

Figure 3-10
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2005



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 77.0% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (19.9% and 12.1%, respectively).

3.4.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 56.7% were automobile drivers; and 29.7% were truck/van drivers.

Almost one out of five of the serious injury crashes involving truck/van drivers and automobile drivers were alcohol related (20.0% and 17.7%, respectively) as were 14.3% of motorcycle riders. The lowest incidence of involvement in alcohol-related serious injury crashes was found among drivers of other highway vehicles (9.9%).

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 65.9% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 38.5% of these drivers, compared to only 8.6% 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: 1995-2005. 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 2005. These results differ slightly from those presented in Section 3.1 for two reasons. First,

Table 3-6

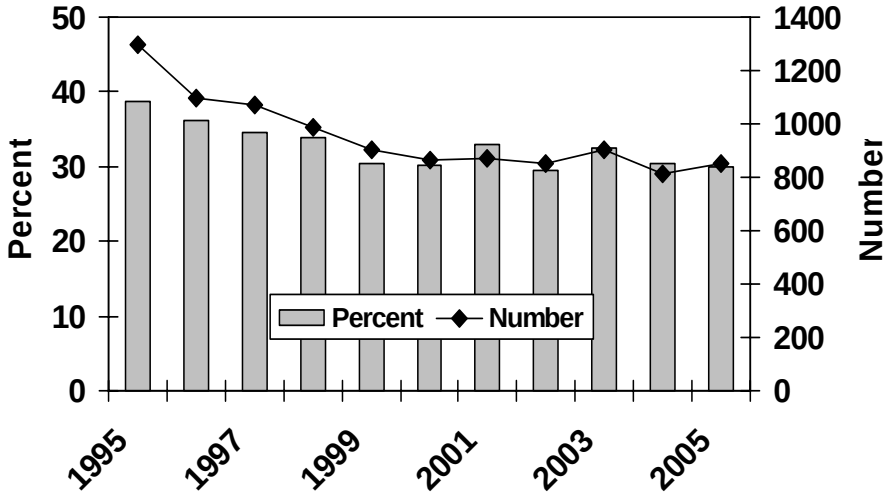
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Canada, 1995-2005

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

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

** only on public roadways involving principal vehicle types.

Figure 3-11
Number and Percent of Deaths Involving
a Drinking Driver: Canada, 1995-2005



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

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 1,296 to 864 between 1995 and 2000, rose slightly to 874 deaths in 2001, declined to 850 in 2002, rose to 902 in 2003, fell to a low of 815 in 2004, and rose again to 851 in 2005. The percentage of alcohol-related fatalities decreased from 38.8% in 1995 to 30.2% in 2000, increased to 33.0% in 2001, dropped to a low of 29.6% in 2002, rose to 32.4% in 2003, and decreased again to 29.9% in 2005.

3.5.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987 to 2005 are shown in Table 3-7. Trends are illustrated in Figure 3-12 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol -- represented by the white area; (2) had BACs below the legal limit -- shown by the light grey area; and (3) had BACs over the legal limit -- the dark grey area.

The number of fatally injured drivers with BACs over the legal limit (> 80 mg%) declined from 742 to 409, between 1987 and 1999, rose to 445 in 2001, declined to 425 in 2002, rose to 450 in 2003, fell to a low of 384 in 2004, and rose again to 459 in 2005. The percent of fatally injured

drivers with BACs over the legal limit dropped from 43.1% to 27.1% between 1987 and 1999, rose to 32.1% in 2001, declined in 2002 (29.1%), rose to 32.0% in 2003, declined to 27.9% in 2004, and rose again to 31.0% in 2005.

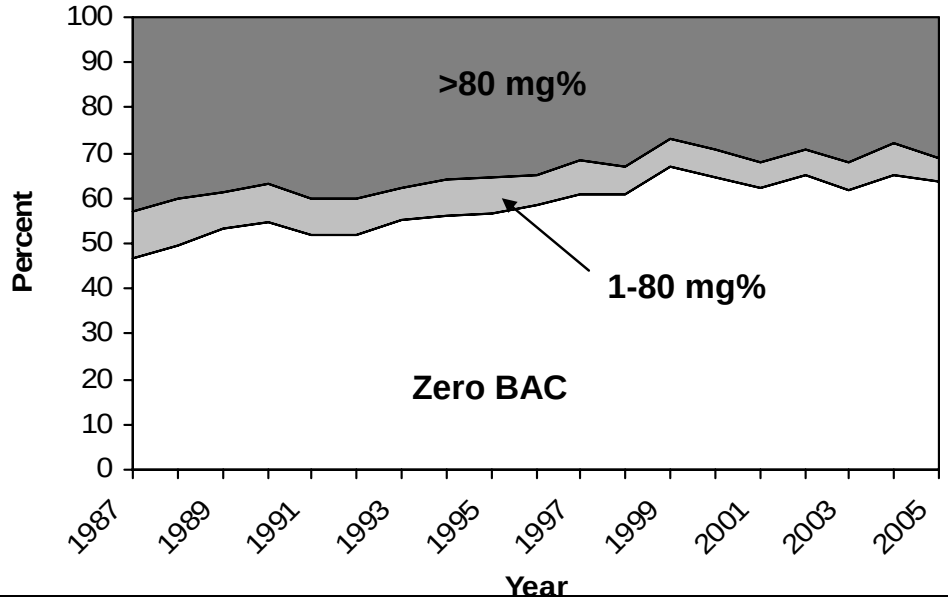
Table 3-7

Alcohol Use Among Fatally Injured Drivers:
Canada, 1987-2005

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

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

Figure 3-12
Trends in Alcohol Use Among Driver Fatalities: Canada, 1987-2005



By contrast, the number of fatally injured drivers with zero BAC has fluctuated over this 19-year period, from a low of 807 in 1987 to a high of 1,009 in 1999. In 2005, there were 942 fatally injured drivers with zero BAC. The percent of fatally injured drivers with zero BAC increased from 46.9% to 66.9% between 1987 and 1999, decreased to 62.1% in 2001, rose to 65.0% in 2002, decreased to 61.7% in 2003, increased to 65.3% in 2004, and decreased again to 63.5% in 2005.

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

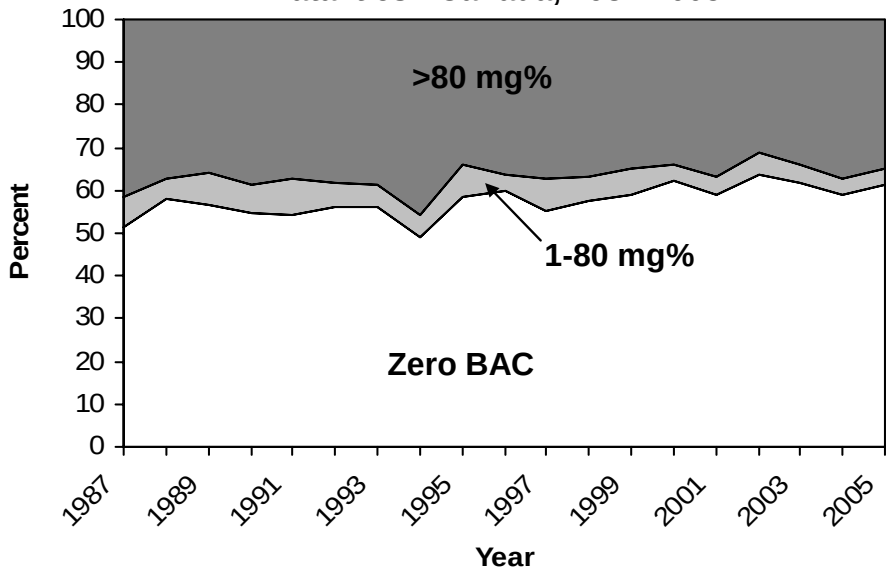
3.5.3 Fatally injured pedestrians: 1987-2005. Data on alcohol use among fatally injured pedestrians over the 19-year period from 1987 to 2005 are shown in Table 3-8. Trends are illustrated in Figure 3-13 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of alcohol -- represented by the white area; (2) had BACs below the legal limit -- shown by the light grey area; and (3) had BACs over 80 mg% -- the dark grey area.

Table 3-8

Alcohol Use Among Fatally Injured Pedestrians:
Canada, 1987-2005

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

Figure 3-13
Trends in Alcohol Use Among Pedestrian Fatalities: Canada, 1987-2005



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

The number of fatally injured pedestrians with no evidence of alcohol decreased from 213 to 145 between 1987 and 1994, increased to 194 in 1996, decreased to 150 in 2001, rose to 161 in 2003, decreased to 146 in 2004, and rose slightly to 149 in 2005. The percent of fatally injured pedestrians with zero BAC has ranged from about 50% to 60% over this 19-year period – 51.4% of fatally injured pedestrians showed no evidence of alcohol in 1987, compared to 61.3% in 2005.

The number of fatally injured pedestrians with BACs between 1-80 mg% has fluctuated over this 19-year period with 30 in 1987 and 10 in 2004. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 7.2% in 1987 and 3.7% in 2005.

3.5.4 Drivers in serious injury crashes: 1995-2005. Table 3-9 and Figure 3-14 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those reported earlier in Section 3-4 for two reasons. First, British Columbia, and the Yukon, are excluded from the Canada totals because relevant information on serious injury was not available for these jurisdictions in all of the years examined. Second, certain vehicle types –

e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles – are excluded.

As can be seen, the incidence of alcohol-involvement in serious crashes has declined only slightly. Between 1995 and 2003 the number of drivers in serious injury crashes that involved alcohol declined from 4,002 to 2,939. This number increased in 2004 to 3,012, and decreased slightly to 2,992 in 2005. The percentage of drivers in serious injury crashes that involved alcohol dropped from 20.9% to 18.7% between 1995 to 1998. The percentage rose slightly to 18.9% in 1999, declined to 16.1% in 2003, rose to 17.1% in 2004, and decreased again to 16.4% in 2005.

Table 3-9

Number and Percent of All Drivers[1] in Serious Injury Crashes that Involved Alcohol[2]: Canada[3], 1995-2005

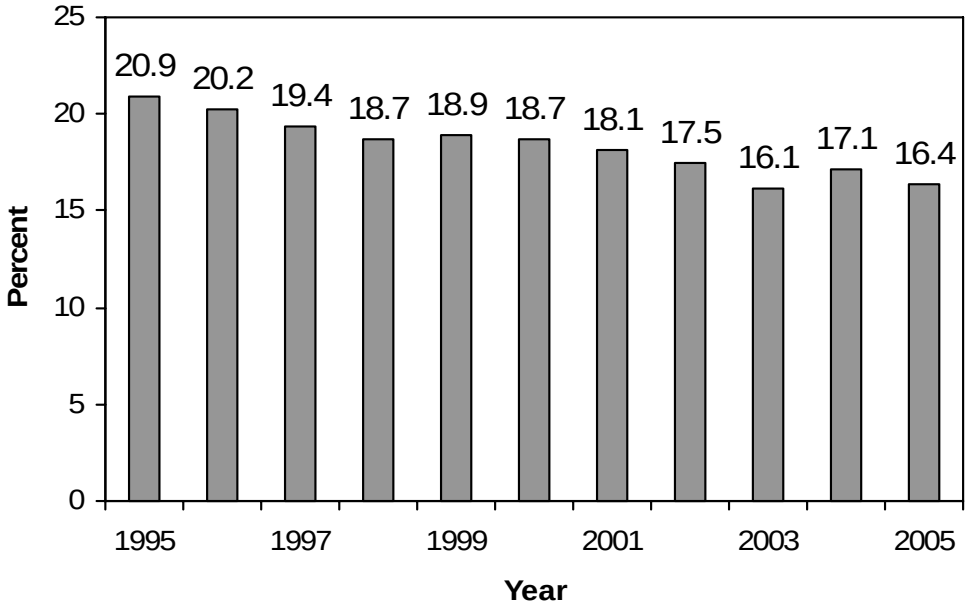
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	19132	4002	(20.9)
1996	18584	3749	(20.2)
1997	17931	3478	(19.4)
1998	18113	3393	(18.7)
1999	17584	3324	(18.9)
2000	17213	3211	(18.7)
2001	17432	3157	(18.1)
2002	18005	3152	(17.5)
2003	18226	2939	(16.1)
2004	17628	3012	(17.1)
2005	18273	2992	(16.4)

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

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

[3] excludes drivers from British Columbia and the Yukon

Figure 3-14
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Canada, 1995-2005



4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and injury motor vehicle collisions in British Columbia during 2005. It describes data on:

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

4.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 4-1 presents information on people who died in alcohol-related crashes in British Columbia during 2005. 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, 41 people age 16-19 were killed in road crashes in British Columbia during 2005. And, in 40 of these cases (97.6%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 18 people age 16-19 died in alcohol-related crashes in British Columbia during 2005. 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 10.2% of all the people killed in alcohol-related crashes in British Columbia during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 496 persons died in motor vehicle crashes in British Columbia during 2005. In 466 (94.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 177 (38.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (496 x .38) it can be estimated that *in British Columbia during 2005, 188 persons died in alcohol-related crashes*.

Table 4-1
Deaths* in Alcohol-Related Crashes: British Columbia, 2005

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	12	11	91.7	2	18.2	1.1
16-19	41	40	97.6	18	45.0	10.2
20-25	100	93	93.0	56	60.2	31.6
26-35	74	71	95.9	36	50.7	20.3
36-45	59	55	93.2	26	47.3	14.7
46-55	67	63	94.0	21	33.3	11.9
>55	143	133	93.0	18	13.5	10.2
Gender						
Male	339	318	93.8	127	39.9	71.8
Female	157	148	94.3	50	33.8	28.2
Type						
Driver/Operator	304	290	95.4	115	39.7	65.0
Passenger	113	106	93.8	43	40.6	24.3
Pedestrian	79	70	88.6	19	27.1	10.7
Vehicle Occupied						
Automobiles	195	187	95.9	81	43.3	45.8
Trucks/Vans	142	135	95.1	58	43.0	32.8
Motorcycles	48	46	95.8	15	32.6	8.5
Other Hwy. Vehs.	14	13	92.9	0	0.0	0.0
Offroad Vehicles	17	15	88.2	4	26.7	2.3
(Pedestrians)	79	70	88.6	19	27.1	10.7
Unknown	1	0	0.0	0	0.0	0.0
TOTAL	496	466	94.0	177	38.0	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, 31.6% (see last column) were aged 20-25. Those aged 26-35 accounted for 20.3% and those aged 36-45 accounted for 14.7% of the deaths.

Within each of the age groups, the highest incidence of alcohol involvement (60.2%) occurred in the crashes in which persons aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 18.2% of the persons under age 16 and 13.5% 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, 71.8% were males. The incidence of alcohol in crashes in which a male died (39.9%) was greater than the incidence of alcohol in crashes in which a female died (33.8%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.0% were drivers/operators of a vehicle; 24.3% were passengers; and 10.7% were pedestrians.

Within each of the principal victim types, the highest incidence of alcohol involvement (40.6%) occurred in the crashes in which a passenger died. Alcohol was involved in 39.7% of the crashes in which a driver/operator died and 27.1% of those in which a pedestrian died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 45.8% were in an automobile; and 32.8% were in a truck/van. Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant and a truck/van occupant died was greater than the incidence of alcohol in crashes in which a motorcyclist or an off-road vehicle occupant died (43.3% and 43.0% compared to 32.6% and 26.7%, respectively).

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

4.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in British Columbia during 2005. 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, 2005

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	3	1	33.3	0	0.0	0.0	0	0.0	0.0
16-19	23	20	87.0	11	55.0	11.1	9	45.0	10.5
20-25	63	57	90.5	31	54.4	31.3	26	45.6	30.2
26-35	49	42	85.7	21	50.0	21.2	20	47.6	23.3
36-45	33	26	78.8	15	57.7	15.2	12	46.2	14.0
46-55	43	38	88.4	12	31.6	12.1	11	28.9	12.8
>55	74	53	71.6	9	17.0	9.1	8	15.1	9.3
Gender									
Male	226	186	82.3	79	42.5	79.8	70	37.6	81.4
Female	62	51	82.3	20	39.2	20.2	16	31.4	18.6
Vehicle Type									
Automobile	135	111	82.2	49	44.1	49.5	42	37.8	48.8
Truck/Van	94	75	79.8	38	50.7	38.4	35	46.7	40.7
Motorcycle	45	42	93.3	12	28.6	12.1	9	21.4	10.5
Tractor Trailer	14	9	64.3	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	144	124	86.1	74	59.7	74.7	69	55.6	80.2
Multiple-Vehicle	144	113	78.5	25	22.1	25.3	17	15.0	19.8
TOTAL	288	237	82.3	99	41.8	100.0	86	36.3	100.0

To illustrate, among 16-19 year olds there were 23 drivers killed during 2005; 20 of these fatally injured drivers (87.0%) were tested for alcohol. Of those who were tested, 11 (55.0%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 11.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that nine of the 20 (45.0%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that nine of the 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 10.5% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. British Columbia had an average testing rate in 2005, with 82.3% of fatally injured drivers being tested for alcohol use.

In British Columbia, 41.8% had been drinking and most of these had illegal BACs – 86.9% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 2.1% had BACs from 1-49 mg%;
- 3.4% had BACs from 50-80 mg%
- 13.9% had BACs from 81 to 160 mg%; and,
- 22.4% had BACs over 160 mg%.

4.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 31.3% were aged 20-25; 21.2% were aged 26-35; 15.2% were aged 36-45; 12.1% were aged 46-55; 11.1% were aged 16-19; and 9.1% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), drivers aged 20-25 accounted for 30.2%; 23.3% were aged 26-35; 14.0% were aged 36-45; 12.8% were aged 46-55; 10.5% were aged 16-19; and 9.3% were over age 55.

Within each of the age groups, fatally injured drivers age 36-45 and age 16-19 were the most likely to have been drinking (57.7% and 55.0%, respectively). By contrast, only 17.0% of tested drivers over age 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 79.8% of all the fatally injured drivers who had been drinking, and 81.4% 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 (226 of the 288 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 slightly more likely to have been drinking than female drivers (42.5% and 39.2%, respectively). And, 88.6% of the male and 80.0% 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), 49.5% were automobile drivers; 38.4% were truck/van drivers; and 12.1% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 48.8% were automobile drivers; 40.7% were truck/van drivers; and 10.5% were motorcyclists.

Within each of the vehicle types, 50.7% of fatally injured truck/van drivers, 44.1% of automobile drivers; and 28.6% of motorcyclists were found to have been drinking. None of the fatally injured tractor trailer drivers had been drinking.

4.2.4 Collision differences. One-half of the drivers killed (144 of the 288) were involved in single-vehicle collisions but these crashes accounted for over three out of four of the drivers who had been drinking or were legally impaired (74.7% and 80.2%, respectively).

Three-fifths of the drivers involved in single-vehicle crashes (59.7%) were positive for alcohol, compared to only 22.1% 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 seriously injured in 2005 in British Columbia. It also includes only serious injury collisions attended by the police.

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 injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

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

Table 4-3
Drivers in Alcohol-Related Serious Injury Crashes:
British Columbia, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	22	1	4.5	0.1
16-19	226	83	36.7	10.8
20-25	444	166	37.4	21.5
26-35	533	155	29.1	20.1
36-45	559	164	29.3	21.3
46-55	483	105	21.7	13.6
>55	485	67	13.8	8.7
unknown	80	30	37.5	3.9
Gender				
Male	2019	576	28.5	74.7
Female	738	165	22.4	21.4
unknown	75	30	40.0	3.9
Vehicle Type				
Auto	1420	399	28.1	51.8
Truck/Van	847	261	30.8	33.9
Motorcycle	243	45	18.5	5.8
Tractor Trailer	125	22	17.6	2.9
Other Hwy. Vehicle	20	3	15.0	0.4
Off-Road	132	27	20.5	3.5
Unknown	45	14	31.1	1.8
Collision Type				
Single-Vehicle	1059	464	43.8	60.2
Multiple-Vehicle	1773	307	17.3	39.8
TOTAL	2832	771	27.2	100.0

As shown, by the totals at the bottom of the table, 2,832 drivers were involved in crashes in which someone was seriously injured, and among these 27.2% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.5% were aged 20-25; 21.3% were aged 36-45; and 20.1% were aged 26-35. Drivers under 16 accounted for only 0.1% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, over one out of three drivers age 20-25 and 16-19 were involved in alcohol-related serious injury crashes (37.4% and 36.7%, 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 (4.5%).

4.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 74.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (28.5% and 22.4%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 51.8% were automobile drivers and 33.9% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 30.8% of these drivers were in crashes that involved alcohol, compared to 28.1% for automobile drivers; 20.5% for off-road vehicle drivers and 18.5% for motorcyclists.

4.3.4 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 – 43.8% of these drivers, compared to only 17.3% for drivers involved in multiple-vehicle crashes.

4.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

4.4.1 Deaths in alcohol-related crashes: 1995-2005. 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 2005. These results differ slightly from those in Section 4.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways

Table 4-4

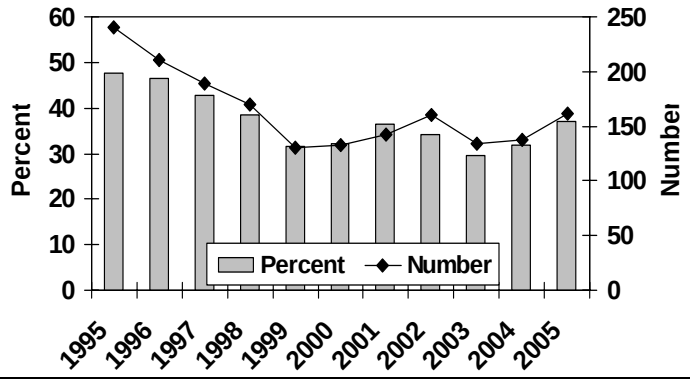
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: British Columbia, 1995-2005

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

* 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, 1995-2005



involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

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

4.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 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.

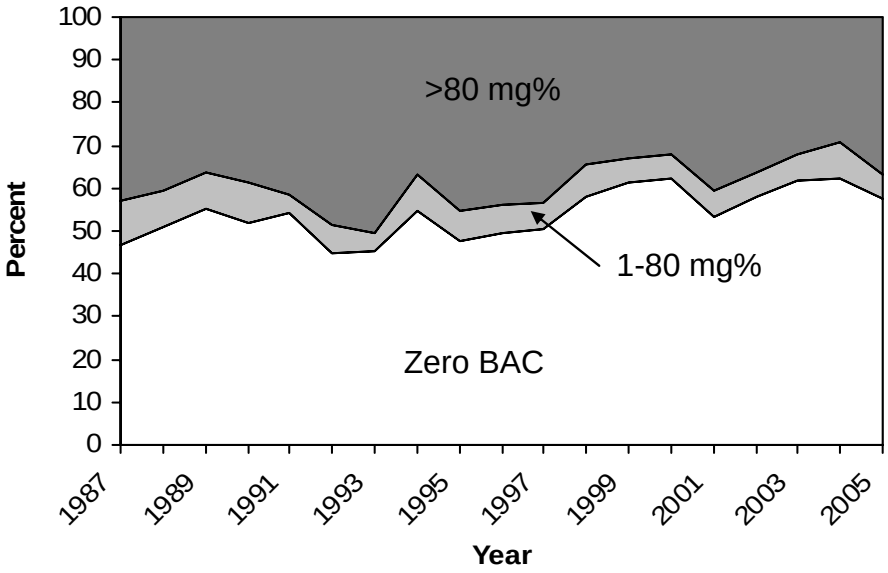
Table 4-5

Alcohol Use Among Fatally Injured Drivers:
British Columbia, 1987-2005

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

* dying in less than six hours.

Figure 4-2
Trends in Alcohol Use Among Driver Fatalities: British Columbia, 1987-2005



As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1989 (36.1%) to 1993 (50.4%), dropped in 2000 (36.6%), rose in 2001 (40.6%), dropped to a low of 29.2% in 2004, and rose again to 36.6% in 2005. The percent of fatally injured drivers with zero BAC decreased from 1989 (55.0%) to 1992 (44.8%), rose to its highest level in 2000 (62.4%), fell to 53.5% in 2001, rose in 2004 (62.2%), and fell again to 57.7% in 2005. The percent of fatally injured drivers with BACs between 1 and 80 mg% was at its highest level in 1987 (10.2%), dropped to its lowest point in 1991 (4.0%), increased to 7.8% in 1998, decreased to 5.4% in 2000, rose to 5.9% in 2001, declined slightly to 5.8% in 2002, rose to 8.6% in 2004, and decreased again to 5.6% in 2005.

4.4.3 Drivers in injury crashes: 1995-2005. Table 4-6 and Figure 4-3 show information on drivers involved in alcohol-related injury crashes and not those in alcohol-related serious injury crashes. Data on injury severity in crashes has only recently been reported in British Columbia so it is not possible to examine trends with this indicator. These results differ slightly from those in Section 4.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in injury crashes has increased slightly over this 11-year period. The percentage of drivers in injury crashes that involved alcohol decreased slightly from 12.7% in 1995 to 12.6% in 1996, rose to 14.9% in 1999, decreased to 13.1% in 2001, and rose to 14.8% in 2005.

Table 4-6

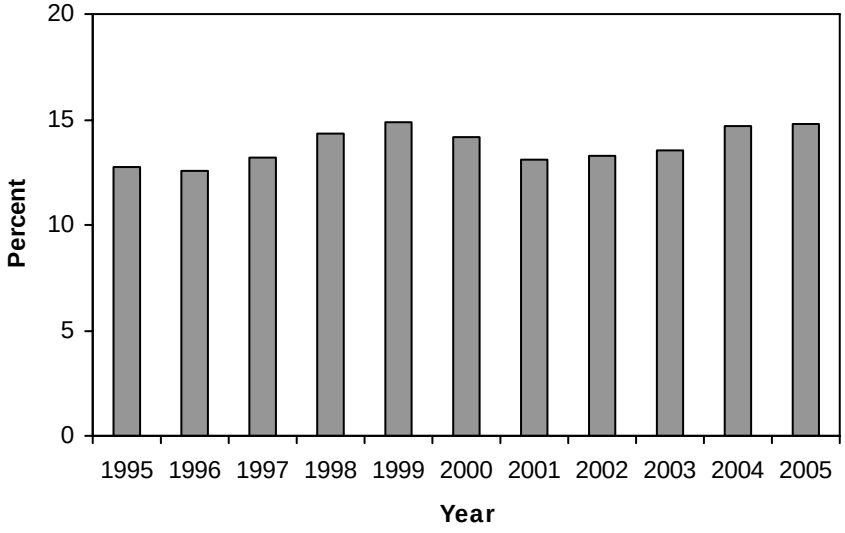
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: British Columbia, 1995-2005

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

* 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 4-3
Percent of All Drivers in Injury Crashes that Involved Alcohol: British Columbia, 1995-2005



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 2005. 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 2005. 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, 47 people age 16-19 were killed in motor vehicle crashes in Alberta during 2005. And, in 46 of these cases (97.9%) 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, twenty people age 16-19 died in alcohol-related crashes in Alberta during 2005. The next column expresses this as a percentage – e.g., 43.5% 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 10.7% of all the people killed in alcohol-related crashes in Alberta during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 501 persons died in motor vehicle crashes in Alberta during 2005. In 475 (94.8%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 187 (39.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (501 x .394) it can be estimated that *in Alberta during 2005, 197 persons died in alcohol-related crashes*.

Table 5-1
Deaths* in Alcohol-Related Crashes: Alberta, 2005

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	24	92.3	6	25.0	3.2
16-19	47	46	97.9	20	43.5	10.7
20-25	84	81	96.4	48	59.3	25.7
26-35	94	92	97.9	50	54.3	26.7
36-45	71	69	97.2	24	34.8	12.8
46-55	59	57	96.6	23	40.4	12.3
>55	120	106	88.3	16	15.1	8.6
Gender						
Male	359	345	96.1	150	43.5	80.2
Female	142	130	91.5	37	28.5	19.8
Type						
Driver/Operator	317	305	96.2	128	42.0	68.4
Passenger	125	120	96.0	36	30.0	19.3
Pedestrian	58	49	84.5	22	44.9	11.8
Unknown	1	1	100.0	1	100.0	0.5
Vehicle Occupied						
Automobiles	172	165	95.9	60	36.4	32.1
Trucks/Vans	211	205	97.2	83	40.5	44.4
Motorcycles	21	21	100.0	7	33.3	3.7
Other Hwy. Vehs.	8	7	87.5	1	14.3	0.5
Offroad Vehicles	30	28	93.3	14	50.0	7.5
(Pedestrians)	58	49	84.5	22	44.9	11.8
Unknown	1	0	0.0	0	0.0	0.0
TOTAL	501	475	94.8	187	39.4	100.0

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

5.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.7% (see last column) were aged 26-35; 25.7% were aged 20-25, and 12.8% were 36-45.

Within each of the age groups, the highest incidence of alcohol involvement (59.3%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement

was found among the youngest and oldest fatalities – only 25.0% of persons under 16 and 15.1% of the fatalities over 55 years of age died in crashes involving alcohol.

5.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.2% were males. The incidence of alcohol in crashes in which a male died (43.5%) was greater than the incidence of alcohol in crashes in which a female died (28.5%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 68.4% were drivers/operators of a vehicle; 19.3% were passengers; 11.8% were pedestrians; and 0.5% were victims whose position was unknown.

The lone person with an unknown victim position was involved in an alcohol-related crash. Within each of the principle victim types, the highest incidence of alcohol involvement (44.9%) occurred in the crashes in which a pedestrian died; 42.0% of those in which a driver died; and 30.0% of crashes in which a passenger died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 44.4% were in a truck/van; 32.1% 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 (40.5% versus 36.4%). Alcohol was involved in 33.3% of the crashes in which a motorcyclist died and 50% of the crashes in which a person on an off-road vehicle died.

5.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Alberta during 2005. 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, 2005

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	24	24	100.0	11	45.8	10.2	10	41.7	10.4
20-25	41	41	100.0	24	58.5	22.2	20	48.8	20.8
26-35	64	61	95.3	30	49.2	27.8	27	44.3	28.1
36-45	52	49	94.2	16	32.7	14.8	16	32.7	16.7
46-55	36	36	100.0	17	47.2	15.7	16	44.4	16.7
>55	71	60	84.5	10	16.7	9.3	7	11.7	7.3
Gender									
Male	230	217	94.3	94	43.3	87.0	84	38.7	87.5
Female	58	54	93.1	14	25.9	13.0	12	22.2	12.5
Vehicle Type									
Automobile	110	107	97.3	42	39.3	38.9	37	34.6	38.5
Truck/Van	150	138	92.0	58	42.0	53.7	51	37.0	53.1
Motorcycle	20	19	95.0	7	36.8	6.5	7	36.8	7.3
Tractor Trailer	6	5	83.3	1	20.0	0.9	1	20.0	1.0
Other Vehicle	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	130	124	95.4	74	59.7	68.5	69	55.6	71.9
Multiple-Vehicle	158	147	93.0	34	23.1	31.5	27	18.4	28.1
TOTAL	288	271	94.1	108	39.9	100.0	96	35.4	100.0

To illustrate, among those under 20 there were 24 drivers killed during 2005; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, 11 (45.8%) were positive for alcohol. This means that fatally injured drinking drivers under 20 accounted for 10.2% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that 10 of the 24 (41.7%) fatally injured drivers under 20 who were tested for alcohol had BACs in excess of 80 mg%. This means 10 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, drivers under 20 accounted for 10.4% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2005, with 94.1% of fatally injured drivers being tested for alcohol use.
In Alberta, 39.9% had been drinking and most of these had illegal BACs – 88.9% of fatally injured

drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 2.2% had BACs from 1-49 mg%;
- 2.2% had BACs from 50-80 mg%
- 10.0% had BACs from 81 to 160 mg%; and,
- 25.5% had BACs over 160 mg%.

***5.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 27.8% were aged 26-35; 22.2% were aged 20-25; 15.7% were aged 46-55; and 14.8% were aged 36-45. Those aged under 20 and over 55 accounted for only 10.2% and 9.3%, respectively, of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.1% were aged 26-35; 20.8% were aged 20-25; 16.7% were aged 36-45 and 46-55; and 10.4% were under age 20. Those over age 55 accounted for only 7.3% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 58.5% of drivers in this age group had been drinking. By contrast, only 16.7% of tested drivers over age 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 87.0% of all the fatally injured drivers who had been drinking, and 87.5% of all of the fatally injured drivers who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (230 of the 288 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 (43.3% and 25.9%, respectively). And, 89.4% of the male and 85.7% of the female drivers who were drinking had BACs over the legal limit.

5.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 53.7% were truck/van drivers; 38.9% were automobile drivers; 6.5% were motorcyclists; and 0.9% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 53.1% were truck/van drivers; 38.5% were automobile drivers; 7.3% were motorcyclists; and 1.0% were tractor trailer drivers.

Within each of the vehicle types, 42.0% of fatally injured truck/van drivers, 39.3% of automobile drivers; 36.8% of motorcyclists and 20.0% of tractor trailer drivers were found to have been drinking.

5.2.4 Collision differences. Although less than half of the drivers killed (130 of the 288) were involved in single-vehicle collisions, these crashes accounted for over two-thirds of the drivers who had been drinking or were legally impaired (68.5% and 71.9%, respectively).

Three-fifths of the drivers involved in single-vehicle crashes (59.7%) were positive for alcohol, compared to 23.1% of those involved in multiple-vehicle collisions.

5.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 in Alberta. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

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

alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 4,024 drivers were involved in crashes in which someone was seriously injured, and among these 20.6% were alcohol-related crashes.

Table 5-3
Drivers in Alcohol-Related Serious Injury Crashes:
Alberta, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	49	9	18.4	1.1
16-19	390	109	27.9	13.1
20-25	741	197	26.6	23.8
26-35	807	165	20.4	19.9
36-45	771	153	19.8	18.5
46-55	627	111	17.7	13.4
>55	557	61	11.0	7.4
unknown	82	24	29.3	2.9
Gender				
Male	2832	660	23.3	79.6
Female	1130	152	13.5	18.3
unknown	62	17	27.4	2.1
Vehicle Type				
Auto	1586	312	19.7	37.6
Truck/Van	1817	397	21.8	47.9
Motorcycle	218	43	19.7	5.2
Tractor Trailer	168	32	19.0	3.9
Other Hwy. Vehicle	37	4	10.8	0.5
Off-Road	188	38	20.2	4.6
Unknown	10	3	30.0	0.4
Collision Type				
Single-Vehicle	1336	560	41.9	67.6
Multiple-Vehicle	2688	269	10.0	32.4
TOTAL	4024	829	20.6	100.0

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 23.8% were aged 20-25; 19.9% were aged 26-35; and 18.5% were aged 36-45. Drivers under 16 accounted for only 1.1% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of four drivers aged 16-19 and 20-25 were involved in alcohol-related serious injury crashes (27.9% and 26.6%, respectively). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers over 55 (11.0%).

5.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 79.6% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (23.3% and 13.5%, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, truck/van drivers accounted for 47.9% and automobile drivers accounted for 37.6%.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 21.8% of these drivers were in crashes that involved alcohol, compared to 20.2% for off-road vehicle drivers, and 19.7% for motorcyclists and automobile drivers.

5.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 67.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 41.9% of these drivers, compared to only 10.0% for drivers involved in multiple-vehicle crashes.

5.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

5.4.1 Deaths in alcohol-related crashes: 1995-2005. 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 2005. These results differ slightly from those in Section 5.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal

vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 5-4

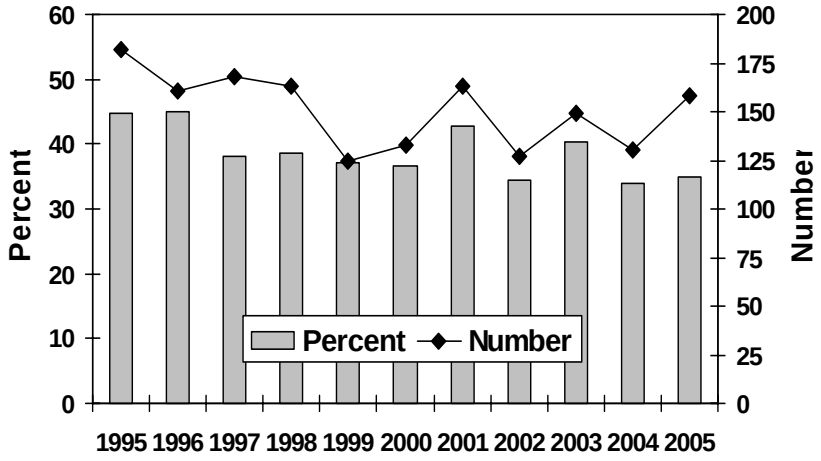
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Alberta, 1995-2005

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

* 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, 1995-2005



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 182 to a low of 125 in 1999, rose to 163 in 2001, decreased to 127 in 2002, rose to 149 in 2003, dropped to 130 in 2004, and rose to 158 in 2005. The percentage of alcohol-related fatalities increased from 44.8% in 1995 to a high of 45.1% in 1996. Since then, the percentage of alcohol-related fatalities in Alberta dropped to 36.7% in 2000, rose to 42.7% in 2001, decreased to 34.5% in 2002, rose to 40.3% in 2003, fell to a low of 34.0% in 2004 and rose slightly to 35.0% in 2005.

5.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 5-5. Trends are illustrated in Figure 5-2 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here differ slightly from those shown in Section 5.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 5-5

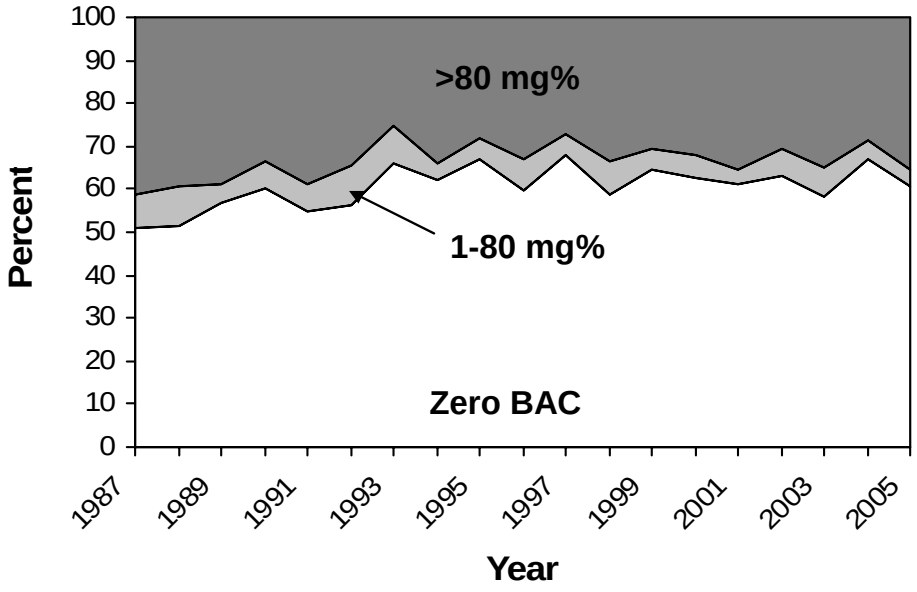
Alcohol Use Among Fatally Injured Drivers:
Alberta, 1987-2005

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

* dying in less than six hours.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (41.1%) to 1999 (30.9%), rose in 2001 (35.6%), fell in 2002 (30.5%), rose in 2003 (34.8%), dropped in 2004 (28.5%) and rose again in 2005 (35.5%). The percent of fatally injured drivers with zero BAC increased from 1987 (51.0%) to 1993 (66.1%), declined to 59.5% in 1996, reached its highest level in 1997 (67.9%), stabilized between 1999 and 2002, fell to 58.2% in 2003, rose in 2004 (66.8%), and fell again in 2005 (60.5%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (9.3%), fell to its lowest level in 2001 (3.1%), rose in 2003 (7.0%), and decreased again in 2005 (4.0%).

Figure 5-2
Trends in Alcohol Use Among Driver Fatalities: Alberta, 1987-2005



5.4.3 Drivers in serious injury crashes: 1995-2005. Table 5-6 and Figure 5-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 5.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

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

Table 5-6

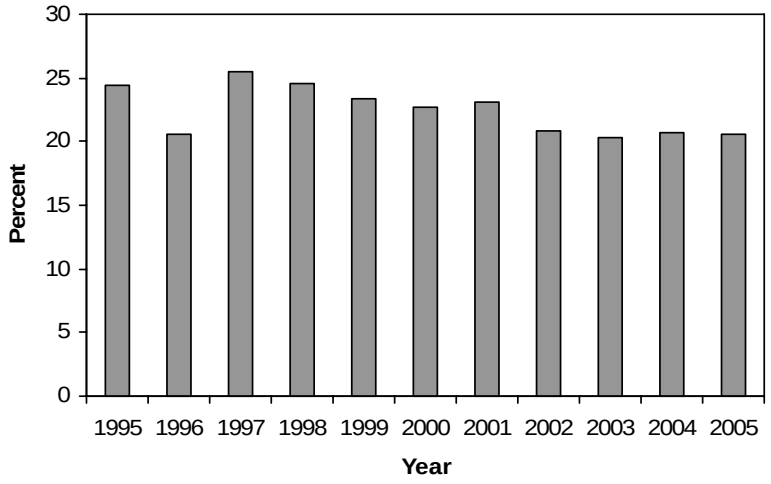
Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Alberta, 1995-2005

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

* 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, 1995-2005



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 2005. 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 2005. 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, 27 people age 16-19 were killed in motor vehicle crashes in Saskatchewan during 2005. And, in all 27 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, 10 people aged 16-19 died in alcohol-related crashes in Saskatchewan during 2005. The next column expresses this as a percentage – e.g., 37.0% 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 17.5% of all the people killed in alcohol-related crashes in Saskatchewan during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 163 persons died in motor vehicle crashes in Saskatchewan during 2005. In 155 (95.1%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 57 (36.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (163 x .368) it can be estimated that *in Saskatchewan during 2005, 60 persons died in alcohol-related crashes*.

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 22.8% (see last column) were aged 20-25 and 26-35; 17.5% were aged 16-19 and 36-45; and 10.5% were aged 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (65.0%) occurred in the crashes in which a person aged 20-25 and 26-35 died. The lowest incidence of alcohol

Table 6-1
Deaths* in Alcohol-Related Crashes: Saskatchewan, 2005

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	10	9	90.0	0	0.0	0.0
16-19	27	27	100.0	10	37.0	17.5
20-25	20	20	100.0	13	65.0	22.8
26-35	20	20	100.0	13	65.0	22.8
36-45	20	20	100.0	10	50.0	17.5
46-55	20	18	90.0	6	33.3	10.5
>55	46	41	89.1	5	12.2	8.8
Gender						
Male	103	97	94.2	34	35.1	59.6
Female	60	58	96.7	23	39.7	40.4
Type						
Driver/Operator	92	92	100.0	31	33.7	54.4
Passenger	48	47	97.9	16	34.0	28.1
Pedestrian	22	15	68.2	9	60.0	15.8
Unknown	1	1	100.0	1	100.0	1.8
Vehicle Occupied						
Automobiles	65	64	98.5	17	26.6	29.8
Trucks/Vans	59	59	100.0	26	44.1	45.6
Motorcycles	4	4	100.0	1	25.0	1.8
Other Hwy. Vehs.	2	2	100.0	0	0.0	0.0
Offroad Vehicles	11	11	100.0	4	36.4	7.0
(Pedestrians)	22	15	68.2	9	60.0	15.8
TOTAL	163	155	95.1	57	36.8	100.0

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

involvement was found among the youngest and oldest fatalities – 0.0% of persons under 16 and 12.2% of the fatalities over 55 years of age died in crashes involving alcohol.

6.1.2 Gender. Of all the people who died in alcohol-related crashes, 59.6% were males. However, the incidence of alcohol in crashes in which female died (39.7%) was slightly greater than the incidence of alcohol in crashes in which a male died (35.1%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 54.4% were drivers/operators of a vehicle; 28.1% were passengers; 15.8% were pedestrians; and for 1.8% of the cases, the victim position was unknown.

Within each of the principal victim types, the highest incidence of alcohol involvement (60.0%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 34.0% of the crashes in which a passenger died and 33.7% of those in which a driver/operator died.

6.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 45.6% were in a truck/van; 29.8% 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 (44.1% versus 26.6%).

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 2005. 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, 2005

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	13	13	100.0	6	46.2	22.2	4	30.8	17.4
20-25	11	11	100.0	5	45.5	18.5	5	45.5	21.7
26-35	11	7	63.6	5	71.4	18.5	5	71.4	21.7
36-45	14	12	85.7	6	50.0	22.2	6	50.0	26.1
46-55	10	10	100.0	2	20.0	7.4	1	10.0	4.3
>55	23	14	60.9	3	21.4	11.1	2	14.3	8.7
Gender									
Male	63	51	81.0	20	39.2	74.1	18	35.3	78.3
Female	19	16	84.2	7	43.8	25.9	5	31.3	21.7
Vehicle Type									
Automobile	40	31	77.5	8	25.8	29.6	7	22.6	30.4
Truck/Van	36	31	86.1	18	58.1	66.7	16	51.6	69.6
Motorcycle	4	3	75.0	1	33.3	3.7	0	0.0	0.0
Tractor Trailer	2	2	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	33	27	81.8	19	70.4	70.4	19	70.4	82.6
Multiple-Vehicle	49	40	81.6	8	20.0	29.6	4	10.0	17.4
TOTAL	82	67	81.7	27	40.3	100.0	23	34.3	100.0

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

To illustrate, among 16-19 year olds there were 13 drivers killed during 2005; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (46.2%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 22.2% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that four of the 13 (30.8%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that four of the six drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 17.4% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Saskatchewan had a high testing rate in 2005, with 81.7% of fatally injured drivers being tested for alcohol use.

In Saskatchewan, 40.3% had been drinking and most of these had illegal BACs – 85.2% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 6.0% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%
- 10.4% had BACs from 81 to 160 mg%; and,
- 23.9% had BACs over 160 mg%.

***6.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 22.2% were aged 16-19 and 36-45; 18.5% were aged 20-25 and 26-35; 11.1% were over age 55; and 7.4% were aged 46-55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 26.1% were aged 36-45; 21.7% were aged 20-25 and 26-35; 17.4% were aged 16-19; 8.7% were over age 55; and those aged 46-55 accounted for 4.3% 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 – 71.4% of drivers in this age group had been drinking. By contrast, only 20.0% of the tested drivers aged 46-55 had been drinking.

6.2.2 Gender differences. Males dominate the picture – they account for 74.1% of all the fatally injured drivers who had been drinking, and 78.3% 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 (63 of the 82 fatalities are males). Yet, fatally injured female drivers were more likely to have been drinking than male drivers (43.8% and 39.2%, respectively). And, 90.0% of the male and 71.4% 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), 66.7% were truck/van drivers; 29.6% were automobile drivers; and 3.7% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 69.6% were truck/van drivers, and 30.4% were automobile drivers.

Within each of the vehicle types, 58.1% of fatally injured drivers of truck/vans, 25.8% of drivers of automobiles, and 33.3% of motorcyclists were found to have been drinking. None of the drivers of tractor trailers had been drinking.

6.2.4 Collision differences. Less than half of the drivers killed (33 of the 82) were involved in single-vehicle collisions but these crashes accounted for three-quarters of the drivers who had been drinking or were legally impaired (70.4% and 82.6%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two-thirds of the drivers involved in single-vehicle crashes (70.4%) were positive for alcohol, compared to only 20.0% of those involved in multiple-vehicle collisions.

6.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 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, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	11	1	9.1	0.8
16-19	68	20	29.4	15.5
20-25	78	31	39.7	24.0
26-35	65	25	38.5	19.4
36-45	80	21	26.3	16.3
46-55	65	16	24.6	12.4
>55	84	9	10.7	7.0
unknown	18	6	33.3	4.7
Gender				
Male	313	95	30.4	73.6
Female	138	28	20.3	21.7
unknown	18	6	33.3	4.7
Vehicle Type				
Auto	212	60	28.3	46.5
Truck/Van	185	51	27.6	39.5
Motorcycle	23	6	26.1	4.7
Tractor Trailer	20	5	25.0	3.9
Other Hwy. Vehicle	3	0	0.0	0.0
Off-Road	22	6	27.3	4.7
Unknown	4	1	25.0	0.8
Collision Type				
Single-Vehicle	197	93	47.2	72.1
Multiple-Vehicle	272	36	13.2	27.9
TOTAL	469	129	27.5	100.0

As shown, by the totals at the bottom of the table, 469 drivers were involved in crashes in which someone was seriously injured, and among these 27.5% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.0% were aged 20-25, 19.4% were aged 26-35; and 16.3% were aged 36-45. Drivers over 55 accounted for only 7.0% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, two out of five drivers aged 20-25 and 26-35 were involved in alcohol-related serious injury crashes (39.7% and 38.5%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for those under 16 (9.1%).

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 73.6% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (30.4% and 20.3%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 46.5% were automobile drivers; and 39.5% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 28.3% of these drivers were in crashes that involved alcohol, compared to 27.6% for truck/van drivers, 27.3% for off-road vehicle drivers; and 26.1% for motorcycle riders. Among tractor trailer drivers, 25.0% were involved in alcohol-related crashes.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 72.1% 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 – 47.2% of these drivers, compared to only 13.2% 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: 1995-2005. 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 2005. These results differ slightly from those in Section 6.1 for two reasons. First, deaths that

Table 6-4

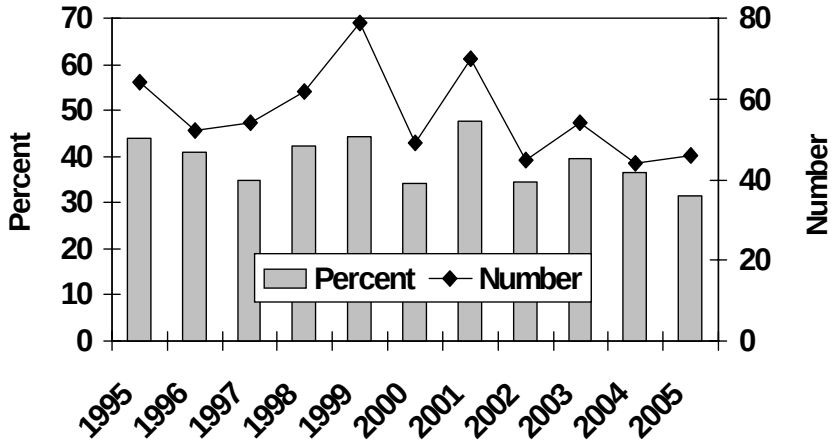
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Saskatchewan, 1995-2005

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

* 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, 1995-2005



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

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 64 to 52 between 1995 and 1996. There was an increase to 79 alcohol-related fatalities in 1999, a decrease to 49 in 2000, an increase to 70 in 2001, a decrease to 45 in 2002, an increase to 55 in 2003, a decrease to a low of 44 in 2004, then an increase to 46 in 2005. The percentage of alcohol-related fatalities decreased from 43.8% in 1995 to 34.8% in 1997. In 1999, the percentage of alcohol-related fatalities in Saskatchewan rose to 44.4%, decreased to a low of 34.3% in 2000, reached a high of 47.6% in 2001, decreased to 34.4% in 2002, rose to 40.1% in 2003, and decreased to 31.3% in 2005.

6.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 6-5. Trends are illustrated in

Table 6-5

Alcohol Use Among Fatally Injured Drivers:
Saskatchewan, 1987-2005

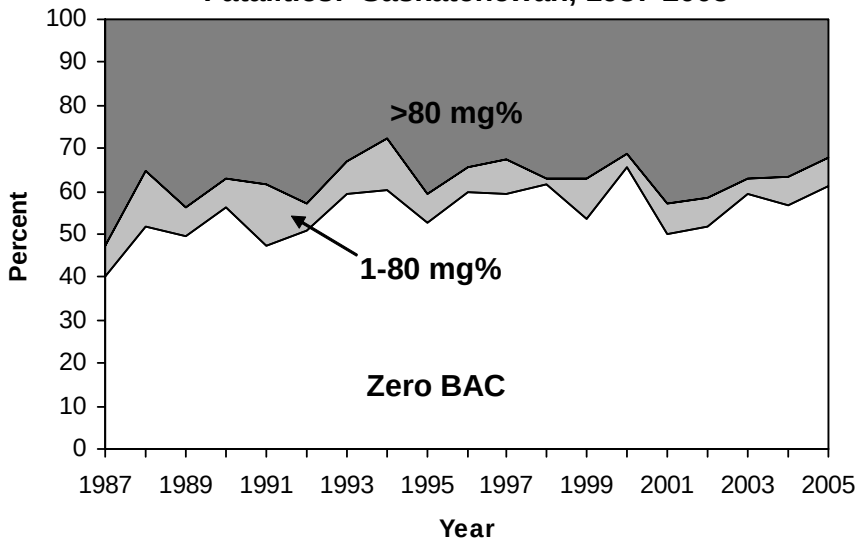
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	94	85	90.4	34	40.0	6	7.1	45	52.9
1988	81	79	97.5	41	51.9	10	12.7	28	35.4
1989	110	103	93.6	51	49.5	7	6.8	45	43.7
1990	80	78	97.5	44	56.4	5	6.4	29	37.2
1991	83	78	94.0	37	47.4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

* dying in less than six hours.

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.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (52.9%) to 1997 (32.8%), increased in 1999 (36.9%), decreased in 2000 (31.3%), rose in 2001 (42.7%), and decreased in 2005 (32.3%). The percent of fatally injured drivers with zero BACs increased from 1987 (40.0%) to 1998 (61.6%), declined to 53.6% in 1999, peaked in 2000 (65.7%), declined in 2001 (50.0%), rose in 2003 (59.3%), declined in 2004 (56.7%), and rose again in 2005 (61.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1991 (14.1%), dropped to its lowest mark in 1998 (1.4%), rose in 1999 (9.5%), decreased in 2000 (3.0%), increased in 2001 (7.3%), decreased in 2003 (3.7%), increased in 2004 (6.7%), and decreased slightly in 2005 (6.5%).

Figure 6-2
Trends in Alcohol Use Among Driver Fatalities: Saskatchewan, 1987-2005



6.4.3 Drivers in serious injury crashes: 1995-2005 Table 6-6 and Figure 6-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 6.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

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

Table 6-6

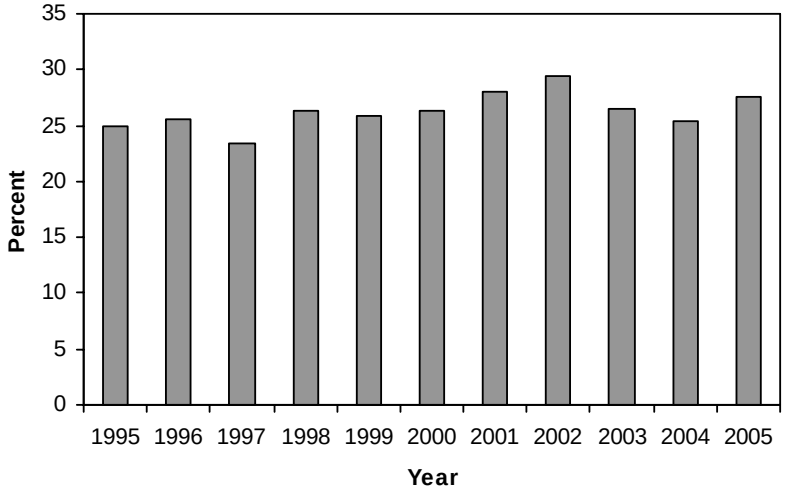
Number and Percent of All Drivers* in Serious Injury Crashes **
that Involved Alcohol: Saskatchewan, 1995-2005

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	885	221	(25.0)
1996	656	168	(25.6)
1997	843	197	(23.4)
1998	703	185	(26.3)
1999	757	195	(25.8)
2000	693	183	(26.4)
2001	583	164	(28.1)
2002	599	177	(29.5)
2003	667	177	(26.5)
2004	606	154	(25.4)
2005	443	122	(27.5)

* 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 6-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Saskatchewan, 1995-2005



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 2005. 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 2005. 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, 11 people age 16-19 were killed in motor vehicle crashes in Manitoba during 2005. And, in all 11 cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, three people age 16-19 died in alcohol-related crashes in Manitoba during 2005. The next column expresses this as a percentage – e.g., 27.3% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 8.1% of all the people killed in alcohol-related crashes in Manitoba during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 120 persons died in motor vehicle crashes in Manitoba during 2005. In 114 (95.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 37 (32.5%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (120 x .325) it can be estimated that *in Manitoba during 2005, 39 persons died in alcohol-related crashes*.

Table 7-1
Deaths* in Alcohol-Related Crashes: Manitoba, 2005

Category of Victim	Number of Deaths	Alcohol Use Known		Alcohol-Related Deaths		
		Number	% of total	Number	% of known	% of all alcohol-related deaths
Age						
<16	8	5	62.5	1	20.0	2.7
16-19	11	11	100.0	3	27.3	8.1
20-25	24	23	95.8	12	52.2	32.4
26-35	18	17	94.4	7	41.2	18.9
36-45	16	16	100.0	6	37.5	16.2
46-55	18	18	100.0	6	33.3	16.2
>55	25	24	96.0	2	8.3	5.4
Gender						
Male	74	73	98.6	28	38.4	75.7
Female	46	41	89.1	9	22.0	24.3
Type						
Driver/Operator	66	64	97.0	21	32.8	56.8
Passenger	41	39	95.1	11	28.2	29.7
Pedestrian	13	11	84.6	5	45.5	13.5
Vehicle Occupied						
Automobiles	54	53	98.1	14	26.4	37.8
Trucks/Vans	35	35	100.0	11	31.4	29.7
Motorcycles	4	4	100.0	1	25.0	2.7
Other Hwy. Vehs.	1	1	100.0	0	0.0	0.0
Offroad Vehicles	12	10	83.3	6	60.0	16.2
(Pedestrians)	13	11	84.6	5	45.5	13.5
Unknown	1	0	0.0	0	0.0	0.0
TOTAL	120	114	95.0	37	32.5	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, 32.4% (see last column) were aged 20-25; 18.9% were aged 26-35 and 16.2% were aged 36-45 and 46-55.

Within each of the age groups, the highest incidence of alcohol involvement (52.2%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 20.0% of the persons aged under 16 and only 8.3% of persons over 55 years of age died in crashes involving alcohol.

7.1.2 Gender. Of all the people who died in alcohol-related crashes, 75.7% were males. The incidence of alcohol in crashes in which a male died (38.4%) was greater than the incidence of alcohol in crashes in which a female died (22.0%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 56.8% were drivers/operators of a vehicle; 29.7% were passengers; and pedestrians accounted for 13.5%.

Within each of these victim types, the highest incidence of alcohol involvement (45.5%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 32.8% of the crashes in which a driver died and 28.2% of those in which a passenger died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 37.8% were in an automobile and 29.7% were in a truck/van.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (31.4% versus 26.4%).

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 2005. 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, 2005

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
16-19	6	6	100.0	1	16.7	7.7	1	16.7	8.3
20-25	11	11	100.0	5	45.5	38.5	4	36.4	33.3
26-35	6	6	100.0	1	16.7	7.7	1	16.7	8.3
36-45	12	12	100.0	3	25.0	23.1	3	25.0	25.0
46-55	7	7	100.0	1	14.3	7.7	1	14.3	8.3
>55	13	12	92.3	2	16.7	15.4	2	16.7	16.7
Gender									
Male	39	39	100.0	13	33.3	100.0	12	30.8	100.0
Female	16	15	93.8	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobile	30	30	100.0	7	23.3	53.8	7	23.3	58.3
Truck/Van	21	20	95.2	5	25.0	38.5	4	20.0	33.3
Motorcycle	3	3	100.0	1	33.3	7.7	1	33.3	8.3
Tractor Trailer	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	20	20	100.0	12	60.0	92.3	11	55.0	91.7
Multiple-Vehicle	35	34	97.1	1	2.9	7.7	1	2.9	8.3
TOTAL	55	54	98.2	13	24.1	100.0	12	22.2	100.0

To illustrate, among those aged 16-19 there were six drivers killed during 2005; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (16.7%) was positive for alcohol. This means that fatally injured drinking drivers aged 16-19 accounted for 7.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the six (16.7%) fatally injured drivers aged 16-19 who were tested for alcohol had BACs in excess of 80 mg%. This means that the driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 16-19 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. Manitoba had a very high testing rate in 2005, with 98.2% of fatally injured drivers being tested for alcohol use.

In Manitoba, 24.1% had been drinking and most of these had illegal BACs – 92.3% 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:

- 1.9% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%;
- 7.4% had BACs from 81 to 160 mg%; and,
- 14.8% had BACs over 160 mg%.

7.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 38.5% were aged 20-25; 23.1% of the drivers were aged 36-45; 15.4% were over age 55, 7.7% were aged 16-19, 26-35 and 46-55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 33.3% were aged 20-25; 25.0% were aged 36-45; 16.7% were over 55 and 8.3% were 16-19, 26-35 and 46-55.

Within each of the age groups, fatally injured drivers aged 20-25 were the most likely to have been drinking – 45.5% of drivers in this age group had been drinking. By contrast, 14.3% of the tested drivers aged 46-55 had been drinking.

7.2.2 Gender differences. Males dominate the picture – they account for 100.0% of fatally injured drivers who had been drinking.

However, males dominate the picture largely because they account for most of the drivers who are killed (39 of the 55 fatalities are males). One-third of fatally injured male drivers had been drinking (33.3%). Among fatally injured drinking drivers, 92.3% of males 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), 53.8% were automobile drivers; and 38.5% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 58.3% were automobile drivers; 33.3% were truck/van drivers, and 8.3% were motorcyclists.

Within each of the vehicle types, 33.3% of fatally injured motorcyclists; 25.0% of truck/van drivers and 23.3% of automobile drivers were found to have been drinking. The fatally injured tractor-trailer driver had not been drinking.

7.2.4 Collision differences. Less than half of the drivers killed (20 of the 55) were involved in single-vehicle collisions but these crashes accounted for 92.3% of drivers who had been drinking and 91.7% of those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Three out of five drivers involved in single-vehicle crashes (60.0%) were positive for alcohol, compared to only 2.9% 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 2005 in Manitoba. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

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

As shown, by the totals at the bottom of the table, 511 drivers were involved in crashes in which someone was seriously injured, and among these 19.0% were alcohol-related crashes.

Table 7-3
Drivers in Alcohol-Related Serious Injury Crashes:
Manitoba, 2005

Category of Drivers	Number of Drivers*	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	12	0	0.0	0.0
16-19	56	20	35.7	20.6
20-25	92	24	26.1	24.7
26-35	81	17	21.0	17.5
36-45	75	19	25.3	19.6
46-55	62	6	9.7	6.2
>55	96	5	5.2	5.2
unknown	37	6	16.2	6.2
Gender				
Male	334	69	20.7	71.1
Female	156	25	16.0	25.8
unknown	21	3	14.3	3.1
Vehicle Type				
Auto	240	47	19.6	48.5
Truck/Van	150	31	20.7	32.0
Motorcycle	21	3	14.3	3.1
Tractor Trailer	66	8	12.1	8.2
Other Hwy. Vehicle	5	3	60.0	3.1
Off-Road	29	5	17.2	5.2
Collision Type				
Single-Vehicle	174	72	41.4	74.2
Multiple-Vehicle	337	25	7.4	25.8
TOTAL	511	97	19.0	100.0

* These numbers are slightly underestimated because about 11.0% of all injuries are recorded as unspecified.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.7% were aged 20-25; 20.6% were aged 16-19; and 19.6% were aged 36-45. None of the drivers under 16 were involved in alcohol-related serious injury crashes.

Within each of the age groups, the highest incidence of involvement in alcohol-related crashes was found for drivers age 16-19 (35.7%). The lowest incidence was found for drivers under age 16 (0.0%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.1% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (20.7% and 16.0%, respectively).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 48.5% were automobile drivers; and 32.0% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 60.0% of these drivers were in crashes that involved alcohol, compared to 20.7% for truck/van drivers, 19.6% for automobile drivers, 17.2% for off-road vehicle drivers and 14.3% for motorcyclists. The lowest incidence of involvement in alcohol-related serious injury crashes was found for tractor-trailer drivers (12.1%).

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 74.2% 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 – 41.4% of these drivers, compared to only 7.4% for drivers involved in multiple-vehicle crashes.

7.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

7.4.1 Deaths in alcohol-related crashes: 1995-2005 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 2005. 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

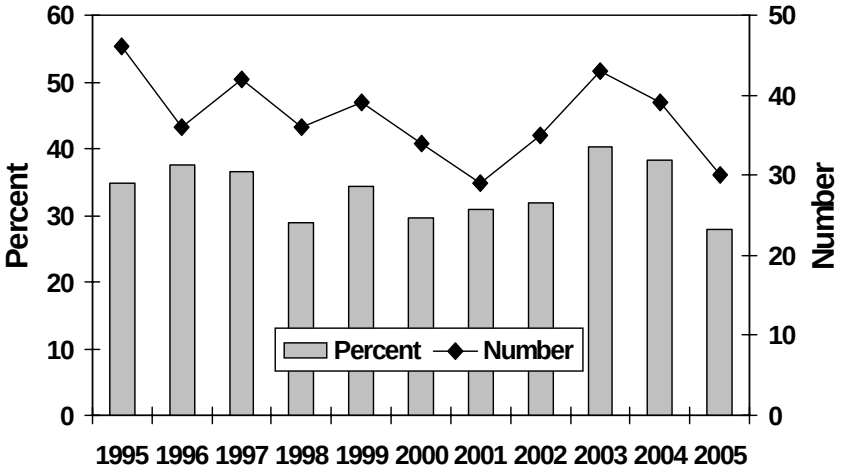
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Manitoba, 1995-2005

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

* 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, 1995-2005



The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

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

7.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 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).

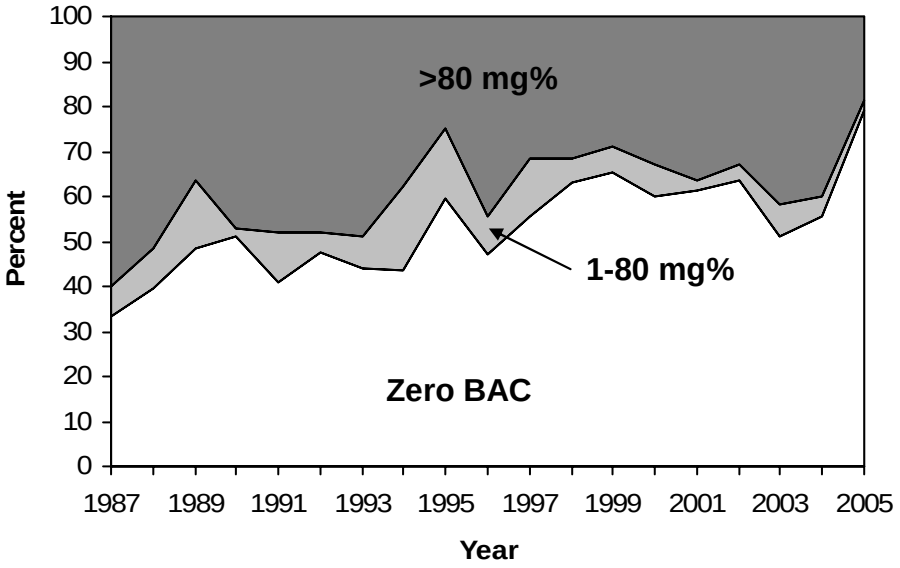
Table 7-5

Alcohol Use Among Fatally Injured Drivers:
Manitoba, 1987-2005

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

* dying in less than six hours.

Figure 7-2
Trends in Alcohol Use Among Driver Fatalities: Manitoba, 1987-2005



The data reported here differ slightly from those shown in Section 7.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (60.0%) to 1999 (28.8%), rose to 36.5% in 2001, decreased to 32.7% in 2002, rose to 41.5% in 2003, and fell to a low of 18.8% in 2005. The percent of fatally injured drivers with zero BAC increased from a low of 33.3% in 1987 to 65.4% in 1999, decreased to 60.0% in 2000, rose to 63.5% in 2002, decreased to 50.9% in 2003, and rose to its highest level of 79.2% in 2005. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1994 (18.9%), dropped to 5.6% in 1998, rose to 7.3% in 2000, dropped to a low of 1.9% in 2001, increased to 7.5% in 2003, and decreased to 2.1% in 2005.

7.4.3 Drivers in serious injury crashes: 1995-2005. Table 7-6 and Figure 7-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 7.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles. As can be seen, the incidence of alcohol-involvement in serious crashes has decreased over the study period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol fell slightly from 22.9% to 21.6%. In 1997, the incidence peaked at 25.7%, dropped to 18.7% in 2000, rose to 20.6% in 2002, decreased to a low of 17.3% in 2004, and rose again to 19.1% in 2005.

Table 7-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Manitoba, 1995-2005

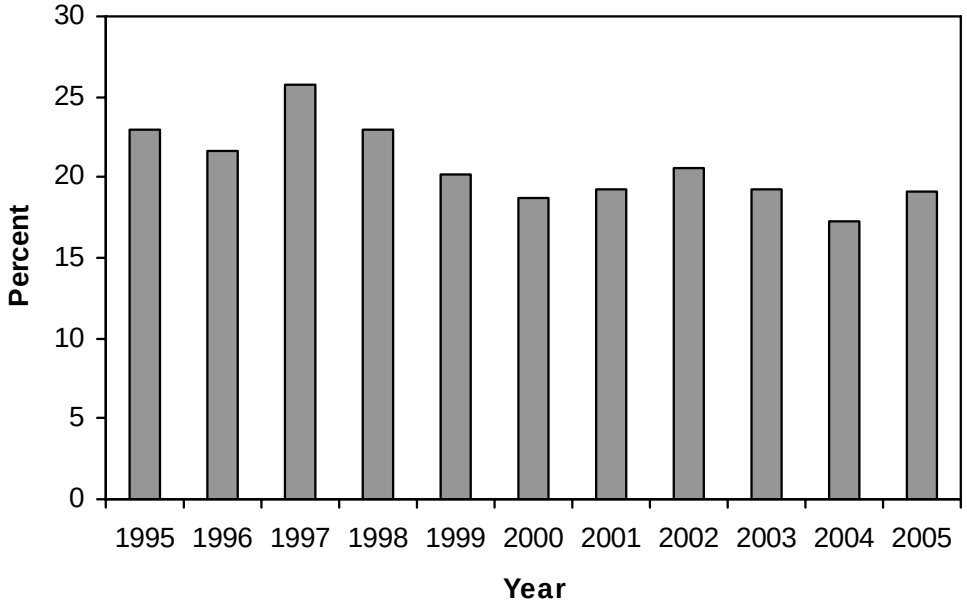
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	743	170	(22.9)
1996	804	174	(21.6)
1997	630	162	(25.7)
1998	657	151	(23.0)
1999	595	120	(20.2)
2000	587	110	(18.7)
2001	597	115	(19.3)
2002	525	108	(20.6)
2003	532	102	(19.2)
2004	550	95	(17.3)
2005	482	92	(19.1)

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

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

Figure 7-3

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Manitoba, 1995-2005



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 2005. 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 2005. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first data column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*. For example, 91 people age 16-19 were killed in motor vehicle crashes in Ontario during 2005. And, in 79 of these cases (86.8%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 23 people age 16-19 died in alcohol-related crashes in Ontario during 2005. The next column expresses this as a percentage – e.g., 29.1% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 9.1% of all the people killed in alcohol-related crashes in Ontario during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 886 persons died in motor vehicle crashes in Ontario during 2005. In 759 (85.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 252 (33.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (886 x .332) it can be estimated that *in Ontario during 2005, 294 persons died in alcohol-related crashes*.

Table 8-1
Deaths* in Alcohol-Related Crashes: Ontario, 2005

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	53	42	79.2	1	2.4	0.4
16-19	91	79	86.8	23	29.1	9.1
20-25	114	99	86.8	50	50.5	19.8
26-35	118	105	89.0	53	50.5	21.0
36-45	134	112	83.6	53	47.3	21.0
46-55	121	109	90.1	33	30.3	13.1
>55	255	213	83.5	39	18.3	15.5
Gender						
Male	623	538	86.4	217	40.3	86.1
Female	263	221	84.0	35	15.8	13.9
Type						
Driver/Operator	552	486	88.0	164	33.7	65.1
Passenger	200	170	85.0	45	26.5	17.9
Pedestrian	133	103	77.4	43	41.7	17.1
Unknown	1	0	0.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	413	361	87.4	106	29.4	42.1
Trucks/Vans	170	154	90.6	47	30.5	18.7
Motorcycles	86	74	86.0	24	32.4	9.5
Other Hwy. Vehs.	11	8	72.7	1	12.5	0.4
Offroad Vehicles	71	59	83.1	31	52.5	12.3
(Pedestrians)	133	103	77.4	43	41.7	17.1
Unknown	2	0	0.0	0	0.0	0.0
TOTAL	886	759	85.7	252	33.2	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, 21.0% (see last column) were aged 26-35 and 36-45; 19.8% were aged 20-25 and 15.5% were over 55.

Within each of the age groups, the highest incidence of alcohol involvement (50.5%) occurred in the crashes in which persons aged 20-25 and 26-35 died. The lowest incidence of alcohol

involvement was found among the youngest and oldest fatalities – only 2.4% of persons under 16 and 18.3% of the fatalities over 55 years of age died in crashes involving alcohol.

8.1.2 Gender. Of all the people who died in alcohol-related crashes, 86.1% were males. The incidence of alcohol in crashes in which a male died (40.3%) was over twice as great as the incidence of alcohol in crashes in which a female died (15.8%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.1% were drivers/operators of a vehicle; 17.9% were passengers; and 17.1% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (41.7%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 33.7% of the crashes in which a driver/operator died and 26.5% of those in which a passenger died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over two-fifths (42.1%) were in an automobile; 18.7% were in a truck/van; 12.3% were off-road vehicle occupants; and 9.5% were motorcycle riders.

Within each of these vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died was 52.5% compared to 32.4% for motorcycle riders, 30.5% for truck/van occupants, and 29.4% for automobile occupants.

8.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Ontario during 2005. 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 40 drivers killed during 2005; 36 of these fatally injured drivers (90.0%) were tested for alcohol. Of those who were tested, 10 (27 .8%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 8.1% of all drinking drivers who were killed.

Table 8-2
Alcohol Use Among Fatally Injured Drivers: Ontario, 2005

Category of Driver	Number of Drivers	Drivers Tested		Positive BAC			BAC > 80 mg%		
		Number	% of total	Number	% of tested	% of all drivers with +BAC	Number	% of tested	% of all drivers with BAC >80 mg%
Age									
<16	1	0	0.0	0	0.0	0.0	0	0.0	0.0
16-19	40	36	90.0	10	27.8	8.1	8	22.2	7.8
20-25	72	69	95.8	29	42.0	23.6	24	34.8	23.3
26-35	76	67	88.2	29	43.3	23.6	27	40.3	26.2
36-45	76	64	84.2	24	37.5	19.5	20	31.3	19.4
46-55	82	73	89.0	18	24.7	14.6	15	20.5	14.6
>55	134	102	76.1	13	12.7	10.6	9	8.8	8.7
Gender									
Male	372	316	84.9	109	34.5	88.6	93	29.4	90.3
Female	109	95	87.2	14	14.7	11.4	10	10.5	9.7
Vehicle Type									
Automobile	286	250	87.4	69	27.6	56.1	60	24.0	58.3
Truck/Van	106	86	81.1	33	38.4	26.8	29	33.7	28.2
Motorcycle	80	68	85.0	20	29.4	16.3	14	20.6	13.6
Tractor Trailer	7	7	100.0	1	14.3	0.8	0	0.0	0.0
Other Vehicle	2	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	212	179	84.4	80	44.7	65.0	73	40.8	70.9
Multiple-Vehicle	269	232	86.2	43	18.5	35.0	30	12.9	29.1
TOTAL	481	411	85.4	123	29.9	100.0	103	25.1	100.0

Then, in the final three columns, it can be seen that eight of the 36 (22.2%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that eight of the 10 drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 7.8% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2005, with 85.4% of fatally injured drivers being tested for alcohol use.

In Ontario, 29.9% had been drinking and most of these had illegal BACs – 83.7% 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%;
- 1.5% had BACs from 50-80 mg%
- 10.2% had BACs from 81 to 160 mg%; and,
- 14.8% had BACs over 160 mg%.

8.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 23.6% were aged 20-25 and 26-35; 19.5% were aged 36-45; 14.6% were aged 46-55; and 10.6% were over age 55. Those aged 16-19 accounted for only 8.1% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 26.2% were aged 26-35; 23.3% were aged 20-25; 19.4% were aged 36-45; and 14.6% were aged 46-55. Those aged 16-19 and over 55 accounted for only 7.8% and 8.7%, respectively, of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 26-35 and 20-25 were the most likely to have been drinking – 43.3% and 42.0% respectively, of tested drivers in these age groups were positive for alcohol. By contrast, only 12.7% of tested drivers over age 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture – they account for 88.6% of all the fatally injured drivers who had been drinking, and 90.3% 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 (372 of the 481 fatalities are males). Fatally injured male drivers were more than twice as likely to have been drinking than female drivers (34.5% and 14.7%, respectively). And, 85.3% of the male drivers and 71.4% 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), 56.1% were automobile drivers; 26.8% were truck/van drivers; 16.3% were motorcycle riders; and 0.8% were tractor trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 58.3% were automobile drivers; 28.2% were truck/van drivers; and 13.6% were motorcycle riders.

Within each of the vehicle types, 38.4% of fatally injured truck/van drivers, 29.4% of motorcyclists; 27.6% of automobile drivers; and 14.3% of tractor trailer drivers were found to have been drinking.

8.2.4 Collision differences. Less than half of the drivers killed (212 of the 481) were involved in single-vehicle collisions but these crashes accounted for two-thirds of the drivers who had been drinking or were legally impaired (65.0% and 70.9%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost half of the drivers involved in single-vehicle crashes (44.7%) were positive for alcohol, compared to only 18.5% 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 2005 in Ontario. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

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

related serious injury crashes.

Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes:
Ontario, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	18	5	27.8	0.6
16-19	421	103	24.5	12.7
20-25	667	156	23.4	19.2
26-35	878	155	17.7	19.1
36-45	932	153	16.4	18.9
46-55	820	110	13.4	13.6
>55	905	76	8.4	9.4
unknown	329	53	16.1	6.5
Gender				
Male	3493	659	18.9	81.3
Female	1340	141	10.5	17.4
Unknown	137	11	8.0	1.4
Vehicle Type				
Auto	3063	517	16.9	63.7
Truck/Van	1125	198	17.6	24.4
Motorcycle	289	39	13.5	4.8
Tractor Trailer	179	17	9.5	2.1
Other Hwy. Vehicle	68	12	17.6	1.5
Off-Road	209	18	8.6	2.2
Unknown	37	10	27.0	1.2
Collision Type				
Single-Vehicle	1272	476	37.4	58.7
Multiple-Vehicle	3698	335	9.1	41.3
TOTAL	4970	811	16.3	100.0

As shown, by the totals at the bottom of the table, 4,970 drivers were involved in crashes in which someone was seriously injured, and among these 16.3% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 19.2% were aged 20-25; 19.1% were aged 26-35; and 18.9% were aged 36-45. Drivers under 16 accounted for only 0.6% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, 27.8% of drivers under age 16, 24.5% of drivers age 16-19 and 23.4% of drivers aged 20-25 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 (8.4%).

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 81.3% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (18.9% and 10.5%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 63.7% were automobile drivers; and 24.4% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of trucks/vans and other highway vehicles (17.6%); compared to 16.9% for automobile drivers; 13.5% for motorcyclists and 9.5% for tractor trailer drivers. Only 8.6% of drivers of off-road vehicles were involved in alcohol-related serious injury crashes.

8.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 58.7% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 37.4% of these drivers, compared to only 9.1% 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: 1995-2005. 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 2005. 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, 1995-2005

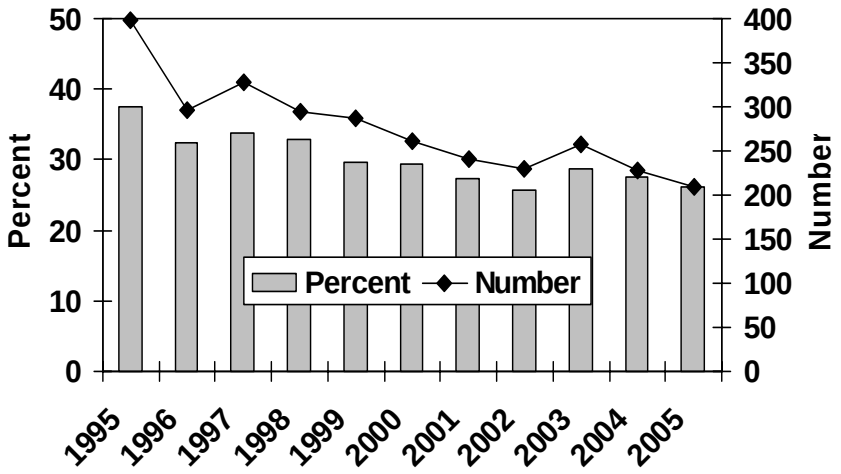
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	1059	398	37.6
1996	915	297	32.5
1997	969	328	33.8
1998	900	295	32.8
1999	966	287	29.7
2000	886	261	29.5
2001	878	241	27.4
2002	895	229	25.6
2003	903	258	28.6
2004	825	227	27.5
2005	802	210	26.2

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

** only on public roadways involving principal vehicle types.

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 398 to 297 between 1995 and 1996. There was an increase to 328 in 1997, a gradual decrease to 229 alcohol-related fatalities in 2002, an increase to 258 in 2003, and a decrease to a low of 210 in 2005. The percentage of alcohol-related fatalities decreased from 37.6% in 1995 to 32.5% in 1996. From 1996 to 1998, the percentage of alcohol-related fatalities in Ontario remained basically unchanged, dropped to a low of 25.6% in 2002, rose to 28.6% in 2003, and dropped again to 26.2% in 2005.

Figure 8-1
Number and Percent of Deaths Involving a Drinking Driver: Ontario, 1995-2005



8.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 8-5. Trends are illustrated in Figure 8-2 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal

Table 8-5

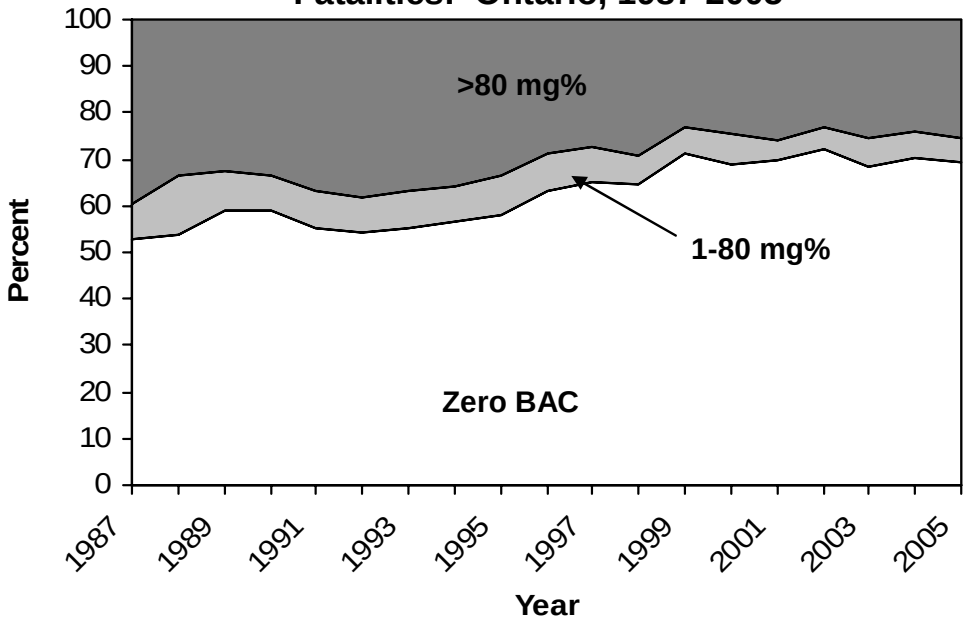
Alcohol Use Among Fatally Injured Drivers:
Ontario, 1987-2005

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

* dying in less than six hours.

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

Figure 8-2
Trends in Alcohol Use Among Driver Fatalities: Ontario, 1987-2005



As can be seen, the percent of fatally injured drivers with BACs over the legal limit declined from 1987 (39.6%) to 1989 (32.8%), increased to 38.1% in 1992, decreased to 23.3% in 1999, increased to 25.8% in 2001, fell to 22.9% in 2002, the lowest level recorded since 1987, rose to 25.7% in 2003, declined to 24.2% in 2004, and rose again to 25.7% in 2005. The percent of fatally injured drivers with zero BAC increased from 1987 (53.0%) to 1999 (71.3%), dropped in 2000 (69.0%), rose to its highest level (72.2%) in 2002, fell to 68.4% in 2003, rose to 70.1% in 2004, and declined slightly to 69.5% in 2005. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1988 (12.5%), dropped in 1999 (5.4%), rose in 2000 (6.7%), fell to its lowest mark in 2001 (4.3%), rose to 5.9% in 2003, and declined to 4.8% in 2005.

8.4.3 Drivers in serious injury crashes: 1995-2005. Table 8-6 and Figure 8-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 8.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 8-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: Ontario, 1995-2005

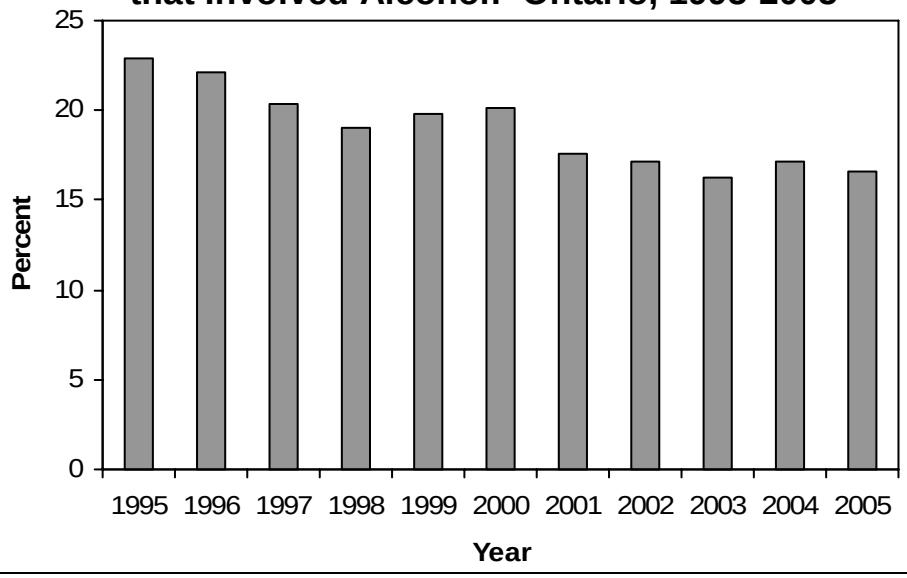
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	6568	1504	(22.9)
1996	6003	1326	(22.1)
1997	5442	1106	(20.3)
1998	5402	1026	(19.0)
1999	5486	1088	(19.8)
2000	5126	1030	(20.1)
2001	5199	916	(17.6)
2002	5468	939	(17.2)
2003	5086	829	(16.3)
2004	4568	787	(17.2)
2005	4724	783	(16.6)

* 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

As can be seen, the incidence of alcohol-involvement in serious crashes has declined over this ten-year period. The percentage of drivers in serious injury crashes that involved alcohol gradually dropped from 22.9% in 1995 to 19.0% in 1998, rose slightly to 20.1% in 2000, fell to a low of 16.3% in 2003, rose to 17.2% in 2004, and decreased again to 16.6% in 2005.

Figure 8-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Ontario, 1995-2005



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 2005. 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 2005. 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, 79 people age 16-19 were killed in motor vehicle crashes in Quebec during 2005. And, in 70 of these cases (88.6%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 14 people age 16-19 died in alcohol-related crashes in Quebec during 2005. 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 Quebec during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 761 persons died in motor vehicle crashes in Quebec during 2005. In 697 (91.6%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 181 (26.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (761 x .26) it can be estimated that *in Quebec during 2005, 198 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. This measure of the problem is provided in Section 9.2.

Table 9-1
Deaths* in Alcohol-Related Crashes: Quebec, 2005

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	28	27	96.4	1	3.7	0.6
16-19	79	70	88.6	14	20.0	7.7
20-25	104	100	96.2	43	43.0	23.8
26-35	114	108	94.7	38	35.2	21.0
36-45	98	92	93.9	30	32.6	16.6
46-55	123	116	94.3	36	31.0	19.9
>55	215	184	85.6	19	10.3	10.5
Gender						
Male	550	510	92.7	157	30.8	86.7
Female	211	187	88.6	24	12.8	13.3
Type						
Driver/Operator	536	497	92.7	145	29.2	80.1
Passenger	141	126	89.4	22	17.5	12.2
Pedestrian	84	74	88.1	14	18.9	7.7
Vehicle Occupied						
Automobiles	411	378	92.0	108	28.6	59.7
Trucks/Vans	86	86	100.0	30	34.9	16.6
Motorcycles	65	57	87.7	10	17.5	5.5
Other Hwy. Vehs.	16	15	93.8	0	0.0	0.0
Offroad Vehicles	99	87	87.9	19	21.8	10.5
(Pedestrians)	84	74	88.1	14	18.9	7.7
TOTAL	761	697	91.6	181	26.0	100.0

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

9*.1.1 Victim age.* Of all the people who died in alcohol-related crashes, those aged 20-25 accounted for 23.8%; 21.0% were aged 26-35 and 19.9% were aged 46-55 (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (43.0%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – only 3.7% of persons under 16 and 10.3% of the fatalities over 55 years of age died in crashes involving alcohol.

9*.1.2 Gender.* Of all the people who died in alcohol-related crashes, 86.7% were males. The incidence of alcohol in crashes in which a male died (30.8%) was greater than the incidence of alcohol in crashes in which a female died (12.8%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 80.1% were drivers/operators of a vehicle; 12.2% were passengers; and 7.7% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (29.2%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 18.9% of the crashes in which a pedestrian died and 17.5% of those in which a passenger died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, over half (59.7%) were in an automobile; 16.6% were in a truck/van; 10.5% were in an off-road vehicle; and 5.0% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement was higher in crashes in which a truck/van occupant and an automobile vehicle occupant died (34.9% and 28.6%, respectively). The incidence of alcohol involvement was lower in crashes in which an off-road vehicle occupant and a motorcyclist died (21.8% and 17.5% respectively).

9.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Quebec during 2005. 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, 2005

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	2	1	50.0	0	0.0	0.0	0	0.0	0.0
16-19	38	28	73.7	7	25.0	6.1	6	21.4	6.5
20-25	72	56	77.8	28	50.0	24.6	23	41.1	24.7
26-35	79	51	64.6	23	45.1	20.2	17	33.3	18.3
36-45	67	47	70.1	19	40.4	16.7	16	34.0	17.2
46-55	79	63	79.7	22	34.9	19.3	18	28.6	19.4
>55	108	68	63.0	15	22.1	13.2	13	19.1	14.0
Gender									
Male	356	258	72.5	98	38.0	86.0	81	31.4	87.1
Female	89	56	62.9	16	28.6	14.0	12	21.4	12.9
Vehicle Type									
Automobile	298	207	69.5	78	37.7	68.4	66	31.9	71.0
Truck/Van	74	60	81.1	27	45.0	23.7	22	36.7	23.7
Motorcycle	58	37	63.8	9	24.3	7.9	5	13.5	5.4
Tractor Trailer	15	10	66.7	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	173	131	75.7	80	61.1	70.2	66	50.4	71.0
Multiple-Vehicle	272	183	67.3	34	18.6	29.8	27	14.8	29.0
TOTAL	445	314	70.6	114	36.3	100.0	93	29.6	100.0

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

To illustrate, among 16-19 year olds there were 38 drivers killed during 2005; 28 of these fatally injured drivers (73.7%) were tested for alcohol. Of those who were tested, seven (25.0%) were positive for alcohol. This means that 16-19 year olds fatally injured drinking drivers accounted for 6.1% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that six of the 28 (21.4%) 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 6.5% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Quebec had a relatively low testing rate in 2005, with 70.6% of fatally injured drivers being tested for alcohol use.

In Quebec, 36.3% had been drinking and most of these had illegal BACs – 81.6% of fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories shows that among tested drivers:

- 5.1% had BACs from 1-49 mg%;
- 1.6% had BACs from 50-80 mg%
- 10.5% had BACs from 81 to 160 mg%; and,
- 19.1% had BACs over 160 mg%.

9.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 24.6% were aged 20-25; 20.2% were aged 26-35; 19.3% were aged 46-55; 16.7% were 36-45; and 13.2% were over age 55. Those aged 16-19 accounted for only 6.1% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 24.7% were aged 20-25; 19.4% were aged 46-55; 18.3% were aged 26-35; 17.2% were aged 36-45; and 14.0% were over age 55. Those aged 16-19 accounted for only 6.5% of fatally injured drivers who were over the legal limit.

Within each of the age groups, fatally injured drivers age 20-25 were the most likely to have been drinking – 50.0% of drivers in this age group had been drinking. By contrast, only 22.1% of tested drivers over age 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture – they account for 86.0% of all the fatally injured drivers who had been drinking, and 87.1% 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 (356 of the 445 fatalities are males). If one examines the frequency of alcohol use among males compared to females, a similar picture emerges. Fatally injured male drivers were more likely to have been drinking than female drivers (38.0% and 28.6%, respectively). And, 82.7% of the male and 75.0% of the female drivers who were drinking had BACs over the legal limit.

9.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 68.4% were automobile drivers; 23.7% were truck/van drivers; and 7.9% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 71.0% were automobile drivers; 23.7% were truck/van drivers; and 5.4% were motorcycle riders.

Within each of the vehicle types, 45.0% of fatally injured truck/van drivers, 37.7% of automobile drivers, and 24.3% of motorcyclists were found to have been drinking.

9.2.4 Collision differences. Less than two out of five of the drivers killed (173 of the 445) were involved in single-vehicle collisions but these crashes accounted for over two-thirds of the drivers who had been drinking or were legally impaired (70.2% and 71.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. More drivers involved in single-vehicle crashes (61.1%) were positive for alcohol than those involved in multiple-vehicle collisions (18.6%).

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 2005 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, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	192	10	5.2	1.0
16-19	662	133	20.1	13.1
20-25	1044	217	20.8	21.3
26-35	1203	182	15.1	17.9
36-45	1232	155	12.6	15.2
46-55	971	92	9.5	9.0
>55	1067	70	6.6	6.9
unknown	2113	159	7.5	15.6
Gender				
Male	5425	738	13.6	72.5
Female	2600	214	8.2	21.0
unknown	459	66	14.4	6.5
Vehicle Type				
Auto	5499	745	13.5	73.2
Truck/Van	1473	160	10.9	15.7
Motorcycle	489	44	9.0	4.3
Tractor Trailer	213	16	7.5	1.6
Other Hwy. Vehicle	136	5	3.7	0.5
Off-Road	512	40	7.8	3.9
Unknown	162	8	4.9	0.8
Collision Type				
Single-Vehicle	2215	709	32.0	69.6
Multiple-Vehicle	6269	309	4.9	30.4
TOTAL	8484	1018	12.0	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, 8,484 drivers were involved in crashes in which someone was seriously injured, and among these 12.0% were alcohol-related crashes.

9*.3.1 Driver age.* Of all the drivers involved in alcohol-related serious injury crashes, 21.3% were aged 20-25; 17.9% were aged 26-35; and 15.2% were aged 36-45. Drivers under 16 and over 55 accounted for only 1.0% and 6.9% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, about one out of five drivers age 20-25 were involved in alcohol-related serious injury crashes (20.8%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the youngest and oldest age groups of drivers – those aged under 16 (5.2%) and those over 55 (6.6%).

9.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 72.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (13.6% and 8.2%, respectively).

9.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 73.2% were automobile drivers; and 15.7% were truck-van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 13.5% of automobile drivers were in crashes that involved alcohol, compared to 10.9% for truck/van drivers, and 9.0% for motorcyclists. Only 3.7% of drivers of other highway vehicles were involved in alcohol-related serious injury crashes.

9.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.0% of these drivers, compared to only 4.9% for drivers involved in multiple-vehicle crashes.

9.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

9.4.1 Deaths in alcohol-related crashes: 1995-2005. 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 2005. These results differ slightly from those in Section 9.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths.

Table 9-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Quebec, 1995-2005

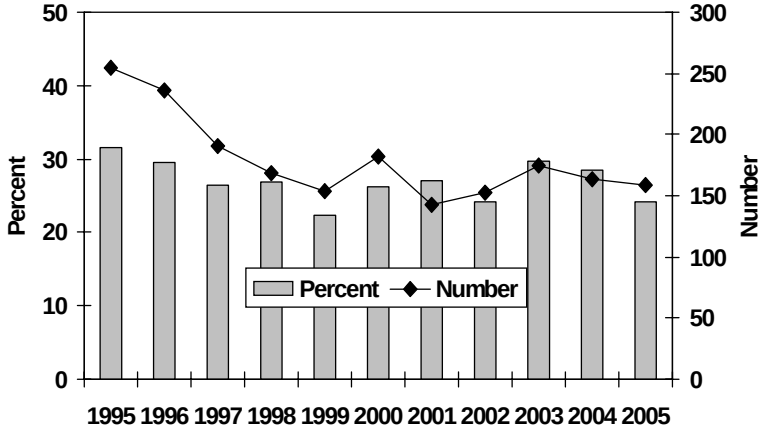
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	807	255	31.6
1996	797	236	29.6
1997	720	191	26.5
1998	628	168	26.8
1999	692	154	22.3
2000	691	182	26.3
2001	527	143	27.1
2002	631	152	24.1
2003	586	174	29.7
2004	574	163	28.4
2005	652	158	24.2

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

** only on public roadways involving principal vehicle types.

The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Figure 9-1
Number and Percent of Deaths Involving a Drinking Driver: Quebec, 1995-2005



As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 255 to 154 between 1995 and 1999, rose to 182 in 2000, fell to a low of 143 in 2001, rose to 174 in 2003, and fell to 158 in 2005. The percentage of alcohol-related fatalities decreased from 31.6% in 1995 to 26.5% in 1997. In 1998, the percentage of alcohol-related fatalities in Quebec rose slightly to 26.8%, dropped to 22.3% in 1999, rose to 27.1% in 2001, dropped to 24.1% in 2002, rose to 29.7% in 2003, and dropped again to 24.2% in 2005.

9.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 9-5. Trends are illustrated in Figure 9-2 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (49.5%) to 1999 (22.3%), rose to 29.6% in 2001, dropped slightly to 29.2% in 2002, rose to 38.4% in 2003, and declined to 29.6% in 2005. The percent of fatally injured drivers with zero BAC increased from 1987 (30.9%) to 1993 (58.9%), was relatively stable at this

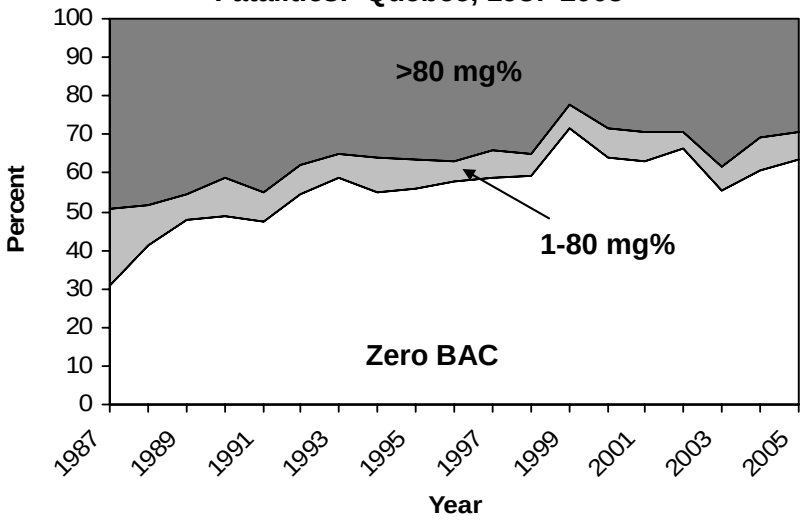
Table 9-5

Alcohol Use Among Fatally Injured Drivers:
Quebec, 1987-2005

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

level until 1998, peaked in 1999 (71.5%), fell to 63.0% in 2001, rose to 66.3% in 2002, dropped to 55.5% in 2003, and rose to 63.4% in 2005. The percent of fatally injured drivers with BACs between 1 and 80 mg% decreased from 1987 (19.6%) to 1996 (5.4%), rose to 7.8% in 2000, dropped to its lowest mark in 2002 (4.4%), rose to 8.7% in 2004, and decreased again to 6.7% in 2005.

Figure 9-2
Trends in Alcohol Use Among Driver Fatalities: Quebec, 1987-2005



9.4.3 Drivers in serious injury crashes: 1995-2005. Table 9-6 and Figure 9-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 9.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 9-6

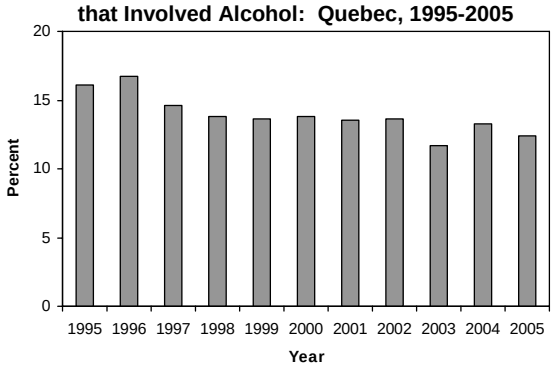
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Quebec, 1995-2005

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	6615	1063	(16.1)
1996	6657	1109	(16.7)
1997	6681	974	(14.6)
1998	6681	921	(13.8)
1999	6098	831	(13.6)
2000	6285	866	(13.8)
2001	6275	844	(13.5)
2002	6477	884	(13.6)
2003	7244	851	(11.7)
2004	7196	956	(13.3)
2005	7810	970	(12.4)

* 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 9-3
Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Quebec, 1995-2005



As can be seen, the incidence of alcohol-involvement in serious injury crashes has generally declined over this 11-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose only slightly from 16.1% to 16.7%. The incidence steadily dropped to 13.6% in 1999, rose slightly to 13.8% in 2000, dropped to 13.5% in 2001, rose slightly to 13.6% in 2002, fell to a low of 11.7% in 2003, rose to 13.3% in 2004, and decreased again to 12.4% in 2005.

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 2005. 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 2005. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied. The first data column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*. For example, seven people age 16-19 were killed in motor vehicle crashes in New Brunswick during 2005. And, in all seven cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, four people aged 16-19 died in alcohol-related crashes in New Brunswick during 2005. The next column expresses this as a percentage – e.g., 57.1% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 8.3% of all the people killed in alcohol-related crashes in New Brunswick during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 126 persons died in motor vehicle crashes in New Brunswick during 2005. In 121 (96.0%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 48 (39.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (126 x .397) it can be estimated that in New Brunswick *in 2005, 50 persons died in alcohol-related crashes.*

Table 10-1
Deaths* in Alcohol-Related Crashes: New Brunswick, 2005

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	5	100.0	1	20.0	2.1
16-19	7	7	100.0	4	57.1	8.3
20-25	24	24	100.0	10	41.7	20.8
26-35	21	21	100.0	12	57.1	25.0
36-45	18	17	94.4	11	64.7	22.9
46-55	13	12	92.3	4	33.3	8.3
>55	38	35	92.1	6	17.1	12.5
Gender						
Male	90	86	95.6	40	46.5	83.3
Female	36	35	97.2	8	22.9	16.7
Type						
Driver/Operator	77	75	97.4	32	42.7	66.7
Passenger	33	32	97.0	10	31.3	20.8
Pedestrian	14	12	85.7	4	33.3	8.3
Unknown	2	2	100.0	2	100.0	4.2
Vehicle Occupied						
Automobiles	53	53	100.0	23	43.4	47.9
Trucks/Vans	31	30	96.8	10	33.3	20.8
Motorcycles	10	8	80.0	0	0.0	0.0
Other Hwy. Vehs.	1	1	100.0	0	0.0	0.0
Offroad Vehicles	17	17	100.0	11	64.7	22.9
(Pedestrians)	14	12	85.7	4	33.3	8.3
TOTAL	126	121	96.0	48	39.7	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, 25.0% (see last column) were aged 26-35; 22.9% were 36-45; and 20.8% were 20-25.

Within each of the age groups, the highest incidence of alcohol involvement (64.7%) occurred in the crashes in which persons aged 36-45 died. The lowest incidence of alcohol involvement was found among those aged 16-19 and over 55 – 17.1% of the persons over 55 and 20.0% of persons aged 16-19 died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 83.3% were males. The incidence of alcohol in crashes in which a male died (46.5%) was much greater than the incidence of alcohol in crashes in which a female died (22.9%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.7% were drivers/operators of a vehicle; 20.8% were passengers; 8.3% were pedestrians; and in 4.2% of cases, the victim's position was unknown.

Within each of these victim types, the highest incidence of alcohol involvement (100.0%) occurred in the crashes in which a person of unknown position died. Alcohol was involved in 42.7% of the crashes in which a driver died. As well, 33.3% of pedestrians and 31.3% of passengers died in an alcohol-related crash.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 47.9% were in an automobile; occupants of off-road vehicles accounted for 22.9%; and 20.8% were truck/van occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which an truck/van occupant died (43.4% versus 33.3%). Among off-road vehicle occupants, 64.7% 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 2005. 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, 2005

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	2	2	100.0	0	0.0	0.0	0	0.0	0.0
20-25	13	11	84.6	4	36.4	20.0	4	36.4	23.5
26-35	11	10	90.9	4	40.0	20.0	3	30.0	17.6
36-45	9	9	100.0	6	66.7	30.0	6	66.7	35.3
46-55	10	10	100.0	4	40.0	20.0	3	30.0	17.6
>55	17	14	82.4	2	14.3	10.0	1	7.1	5.9
Gender									
Male	49	44	89.8	17	38.6	85.0	15	34.1	88.2
Female	13	12	92.3	3	25.0	15.0	2	16.7	11.8
Vehicle Type									
Automobile	31	29	93.5	11	37.9	55.0	10	34.5	58.8
Truck/Van	21	18	85.7	9	50.0	45.0	7	38.9	41.2
Motorcycle	9	8	88.9	0	0.0	0.0	0	0.0	0.0
Tractor Trailer	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single-Vehicle	37	33	89.2	15	45.5	75.0	14	42.4	82.4
Multiple-Vehicle	25	23	92.0	5	21.7	25.0	3	13.0	17.6
TOTAL	62	56	90.3	20	35.7	100.0	17	30.4	100.0

To illustrate, among those aged 20-25, there were 13 drivers killed during 2005; 11 of these fatally injured drivers (84.6%) were tested for alcohol. Of those who were tested, four (36.4%) were positive for alcohol. This means that fatally injured drivers aged 20-25 accounted for 20.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that four of the 11 (36.4%) fatally injured drivers aged 20-25 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 over 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 23.5% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. New Brunswick had a high testing rate in 2005, with 90.3% of fatally injured drivers being tested for alcohol use.

In New Brunswick, 35.7% had been drinking and most of these had illegal BACs – 85.0% 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:

- 3.6% had BACs from 1-49 mg%;
- 1.8% had BACs from 50-80 mg%
- 10.7% had BACs from 81 to 160 mg%; and,
- 19.6% had BACs over 160 mg%.

***10.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 30.0% were aged 36-45; 20.0% were aged 20-25, 26-35, and 46-55; and 10.0% were over age 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 35.3% were aged 36-45; and 23.5% were aged 20-25.

Within each of the age groups, fatally injured drivers aged 36-45 were the most likely to have been drinking – 66.7% of drivers in this age group had been drinking. By contrast, none of the tested drivers aged 16-19 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 85.0% of the fatally injured drivers who had been drinking and 88.2% 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 (49 of the 62 fatalities are males). Fatally injured male drivers were more likely to have

been drinking than female drivers (38.6% and 25.0%, respectively). 88.2% of the male drivers and 66.7% of the female drivers who had been drinking had BACs over the legal limit.

10.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 55.0% were automobile drivers; and 45.0% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 58.8% were automobile drivers; and 41.2% were truck/van drivers.

Within each of the vehicle types, 50.0% of fatally injured truck/van drivers were found to have been drinking, compared to 37.9% of automobile drivers. Neither of the motorcyclists nor the tractor-trailer driver had been drinking.

10.2.4 Collision differences. Approximately three-fifths of the drivers killed (37 of the 62) 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 (75.0% and 82.4%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over two out of five drivers involved in single-vehicle crashes (45.5%) were positive for alcohol, compared to only 21.7% 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 2005 in New Brunswick. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

The results are shown in Table 10-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in

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

As shown, by the totals at the bottom of the table, 437 drivers were involved in crashes in which someone was seriously injured, and among these 23.8% were alcohol-related crashes.

Table 10-3
Drivers in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2005

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	5	0	0.0	0.0
16-19	33	14	42.4	13.5
20-25	75	20	26.7	19.2
26-35	92	26	28.3	25.0
36-45	86	20	23.3	19.2
46-55	70	13	18.6	12.5
>55	72	10	13.9	9.6
unknown	4	1	25.0	1.0
Gender				
Male	314	85	27.1	81.7
Female	120	18	15.0	17.3
Unknown	3	1	33.3	1.0
Vehicle Type				
Auto	221	56	25.3	53.8
Truck/Van	130	33	25.4	31.7
Motorcycle	51	8	15.7	7.7
Tractor Trailer	26	5	19.2	4.8
Other Hwy. Vehicle	1	0	0.0	0.0
Off-Road	7	1	14.3	1.0
Unknown	1	1	100.0	1.0
Collision Type				
Single-Vehicle	172	83	48.3	79.8
Multiple-Vehicle	265	21	7.9	20.2
TOTAL	437	104	23.8	100.0

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.0% were aged 26-35; 19.2% were aged 20-25 and 36-45; and 13.5% were aged 16-19. Drivers over 55 accounted for only 9.6% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, drivers aged 16-19 and 26-35 were most likely to be involved in alcohol-related serious injury crashes (42.4% and 28.3%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the youngest and oldest age groups of drivers – 0.0% for those aged under 16 and 13.9% for those aged over 55.

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 81.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (27.1% and 15.0%, respectively).

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 53.8% were automobile drivers; and 31.7% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found among truck/van drivers and automobile drivers – 25.4% and 25.3% of these drivers were in crashes that involved alcohol, compared to 19.2% for tractor trailer drivers. Only 15.7% of motorcyclists and 14.3% 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, 79.8% 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 – 48.3% of these drivers, compared to only 7.9% 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: 1995-2005. 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 2005. 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

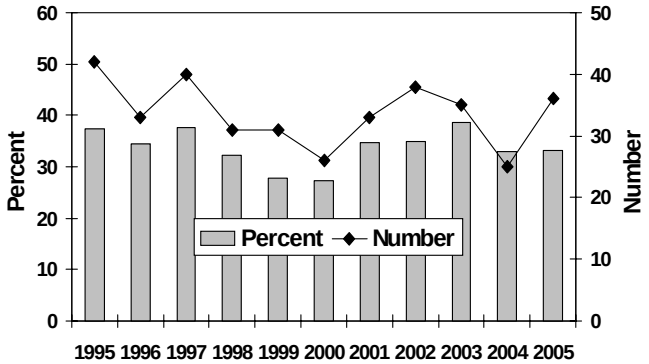
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: New Brunswick, 1995-2005

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

* 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, 1995-2005



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

10.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 10-5. Trends are illustrated

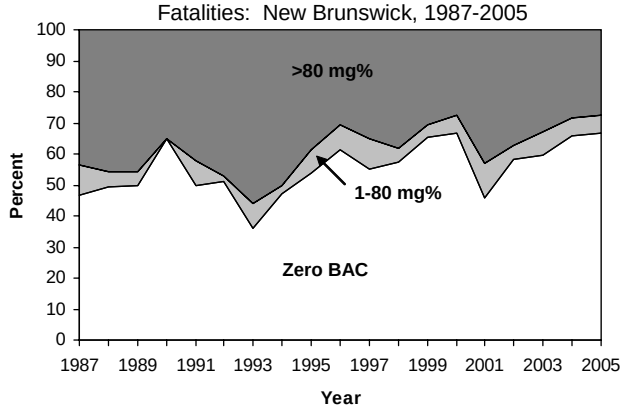
Table 10-5

Alcohol Use Among Fatally Injured Drivers:
New Brunswick, 1987-2005

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

*dying in less than six hours.

Figure 10-2
Trends in Alcohol Use Among Driver
Fatalities: New Brunswick, 1987-2005



in Figure 10-2 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 10.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

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

10.4.3 Drivers in serious injury crashes: 1995-2005. Table 10-6 and Figure 10-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 10.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 10-6

Number and Percent of All Drivers* in Serious Injury Crashes**
that Involved Alcohol: New Brunswick, 1995-2005

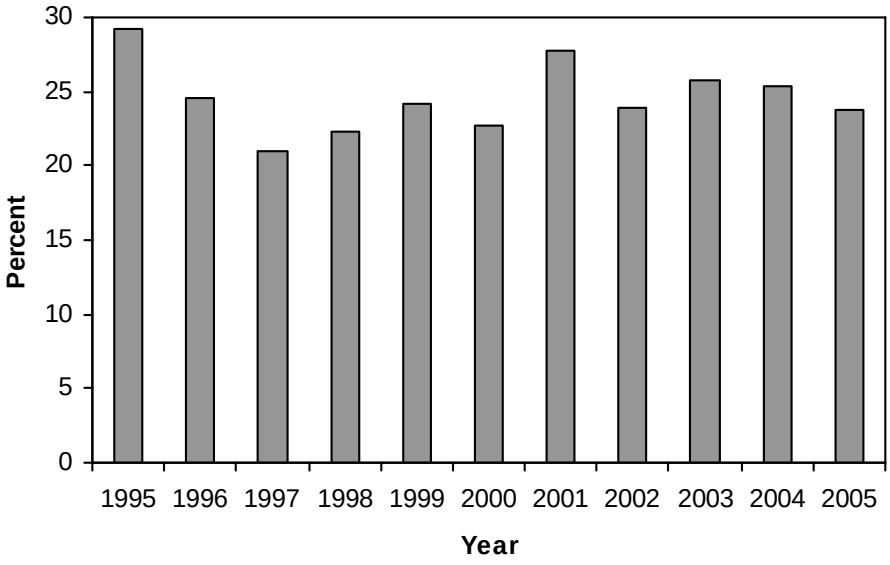
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	681	199	(29.2)
1996	597	146	(24.5)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)
2001	511	142	(27.8)
2002	439	105	(23.9)
2003	426	110	(25.8)
2004	425	108	(25.4)
2005	429	102	(23.8)

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

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

As can be seen, the incidence of alcohol-involvement in serious crashes declined until 1997 and gradually increased in more recent years. Between 1995 and 1997 the percentage of drivers in serious injury crashes that involved alcohol dropped from 29.2% to a low of 21.0%. Since then, the percentage increased to 24.2% in 1999, decreased to 22.7% in 2000, rose to 27.8% in 2001, fell to 23.9% in 2002, rose to 25.8% in 2003, and decreased to 23.8% in 2005.

Figure 10-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: New Brunswick, 1995-2005



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 2005. 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 2005. 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, 11 people aged 16-19 were killed in motor vehicle crashes in Nova Scotia during 2005. 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, three persons aged 16-19 died in an alcohol-related crash in Nova Scotia during 2005. The next column expresses this as a percentage – e.g., 27.3% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 10.3% of all the people killed in alcohol-related crashes in Nova Scotia during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 81 persons died in motor vehicle crashes in Nova Scotia during 2005. In 78 (96.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 29 (37.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (81 x .372) it can be estimated that *in Nova Scotia during 2005, 30 persons died in alcohol-related crashes*.

Table 11-1
Deaths* in Alcohol-Related Crashes: Nova Scotia, 2005

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	7	100.0	0	0.0	0.0
16-19	11	11	100.0	3	27.3	10.3
20-25	13	13	100.0	9	69.2	31.0
26-35	11	10	90.9	5	50.0	17.2
36-45	13	13	100.0	5	38.5	17.2
46-55	8	8	100.0	5	62.5	17.2
>55	18	16	88.9	2	12.5	6.9
Gender						
Male	60	57	95.0	25	43.9	86.2
Female	21	21	100.0	4	19.0	13.8
Type						
Driver/Operator	46	45	97.8	23	51.1	79.3
Passenger	25	25	100.0	5	20.0	17.2
Pedestrian	10	8	80.0	1	12.5	3.4
Vehicle Occupied						
Automobiles	40	40	100.0	13	32.5	44.8
Trucks/Vans	18	18	100.0	9	50.0	31.0
Motorcycles	6	6	100.0	2	33.3	6.9
Offroad Vehicles	7	6	85.7	4	66.7	13.8
(Pedestrians)	10	8	80.0	1	12.5	3.4
TOTAL	81	78	96.3	29	37.2	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 31.0% (see last column).

Within each of the age groups, the highest incidence of alcohol involvement (69.2%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was

found among those aged under 16 – none of the fatalities in this age group died in crashes involving alcohol.

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 86.2% were males. The incidence of alcohol in crashes in which a male died (43.9%) was greater than the incidence of alcohol in crashes in which a female died (19.0%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 79.3% were drivers/operators of a vehicle; 17.2% were passengers and 3.4% were pedestrians.

Within each of these victim types, the highest incidence of alcohol involvement (51.1%) occurred in the crashes in which a driver died. Alcohol was involved in 20.0% of the crashes in which a passenger died and 12.5% of those in which a pedestrian died.

11.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost half (44.8%) were in an automobile, 31.0% were in a truck/van, 13.8% were in an off-road vehicle; and 6.9% were on a motorcycle.

Within each of the vehicle types, the incidence of alcohol involvement in which an off-road vehicle occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or an automobile occupant died (66.7%, 50.0%, and 32.5%, respectively). As well, 33.3% of motorcyclists died in an alcohol-related crash.

11.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Nova Scotia during 2005. 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, 2005

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	2	2	100.0	1	50.0	5.0	1	50.0	5.9
20-25	11	11	100.0	8	72.7	40.0	7	63.6	41.2
26-35	7	7	100.0	3	42.9	15.0	2	28.6	11.8
36-45	8	7	87.5	2	28.6	10.0	2	28.6	11.8
46-55	6	6	100.0	4	66.7	20.0	4	66.7	23.5
>55	8	8	100.0	2	25.0	10.0	1	12.5	5.9
Gender									
Male	31	30	96.8	16	53.3	80.0	13	43.3	76.5
Female	11	11	100.0	4	36.4	20.0	4	36.4	23.5
Vehicle Type									
Automobile	20	20	100.0	9	45.0	45.0	8	40.0	47.1
Truck/Van	16	15	93.8	9	60.0	45.0	8	53.3	47.1
Motorcycle	6	6	100.0	2	33.3	10.0	1	16.7	5.9
Collision Type									
Single-Vehicle	28	27	96.4	15	55.6	75.0	13	48.1	76.5
Multiple-Vehicle	14	14	100.0	5	35.7	25.0	4	28.6	23.5
TOTAL	42	41	97.6	20	48.8	100.0	17	41.5	100.0

To illustrate, among 16-19 year olds there were two drivers killed during 2005; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (50.0%) was positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 5.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the two (50.0%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that the driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 5.9% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Nova Scotia had a high testing rate in 2005, with 97.6% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 48.8% had been drinking and most of these had illegal BACs – 85.0% 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:

- 4.9% had BACs from 1-49 mg%;
- 2.4% had BACs from 50-80 mg%
- 9.8% had BACs from 81 to 160 mg%; and,
- 31.7% had BACs over 160 mg%.

***11.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 40.0% were aged 20-25, 20.0% were aged 46-55; 15.0% were aged 26-35; 10.0% were aged 36-45 and over 55; and 5.0% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 41.2% were aged 20-25; 23.5% were aged 46-55; 11.8% were aged 26-35 and 36-45; and 5.9% were aged 16-19 and over 55.

Within each of the age groups, fatally injured drivers aged 20-25 were the most likely to have been drinking – 72.7% of tested drivers in this age group had been drinking. By contrast, 25.0% of the tested drivers and over age 55 had been drinking.

11.2.2 Gender differences. Males dominate the picture – they account for 80.0% of the fatally injured drivers who had been drinking and 76.5% of those who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (31 of the 42 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 (53.3% and 36.4%, respectively). Over four-fifths all of the male drivers (81.3%) and all of the female drivers who were drinking had BACs over the legal limit.

***11.2.3 Vehicle differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 45.0% were automobile drivers and truck/van drivers, and 10.0% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 47.1% were automobile drivers and truck/van drivers; and 5.9% were motorcyclists.

Within each of the vehicle types, 60.0% of fatally injured drivers of trucks/vans, 45.0% of automobile drivers and 33.3% of motorcyclists had been drinking.

11.2.4 Collision differences. Two-thirds of the drivers killed (28 of the 42) were involved in single-vehicle collisions and these crashes accounted for most of the drivers who had been drinking or were legally impaired (75.0% and 76.5%, respectively).

The reason for this apparent over-representation is because alcohol is overrepresented in single-vehicle crashes. Over half (55.6%) of drivers involved in single-vehicle crashes were positive for alcohol, compared to 35.7% 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 2005 in Nova Scotia. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

The results are shown in Table 11-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol

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

As shown, by the totals at the bottom of the table, 367 drivers were involved in crashes in which someone was seriously injured, and among these 25.6% were alcohol-related crashes.

Table 11-3
Drivers in Alcohol-Related Serious Injury Crashes:
Nova Scotia, 2005

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	4	1	25.0	1.1
16-19	43	11	25.6	11.7
20-25	48	20	41.7	21.3
26-35	67	26	38.8	27.7
36-45	73	15	20.5	16.0
46-55	53	10	18.9	10.6
>55	68	10	14.7	10.6
unknown	11	1	9.1	1.1
Gender				
Male	262	84	32.1	89.4
Female	95	9	9.5	9.6
unknown	10	1	10.0	1.1
Vehicle Type				
Auto	220	57	25.9	60.6
Truck/Van	69	18	26.1	19.1
Motorcycle	30	8	26.7	8.5
Tractor Trailer	9	3	33.3	3.2
Other Hwy. Vehicle	2	0	0.0	0.0
Off-Road	32	7	21.9	7.4
Unknown	5	1	20.0	1.1
Collision Type				
Single-Vehicle	174	82	47.1	87.2
Multiple-Vehicle	193	12	6.2	12.8
TOTAL	367	94	25.6	100.0

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 27.7% were aged 26-35; 21.3% were aged 20-25; 16.0% were aged 36-45; 11.7% were aged 16-19; and 10.6% were aged 46-55 and over 55. Drivers under 16 accounted for 1.1% of those involved in alcohol-related serious injury crashes.

Within each of the age groups, over two-fifths of drivers age 20-25 were involved in alcohol-related serious injury crashes (41.7%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for the oldest age group of drivers – 14.7% of those aged over 55.

11.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 89.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (32.1% and 9.5%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.6% were automobile drivers; and 19.1% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for tractor trailer drivers – 33.3% of these drivers were in crashes that involved alcohol, compared to 26.7% for motorcyclists, 26.1% of drivers of trucks/vans, 25.9% for automobile drivers, and 21.9% of off-road vehicle drivers.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 87.2% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 47.1% of these drivers, compared to only 6.2% 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: 1995-2005. 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 2005. These results differ slightly from those in Section 11.1 for two reasons. First,

Table 11-4

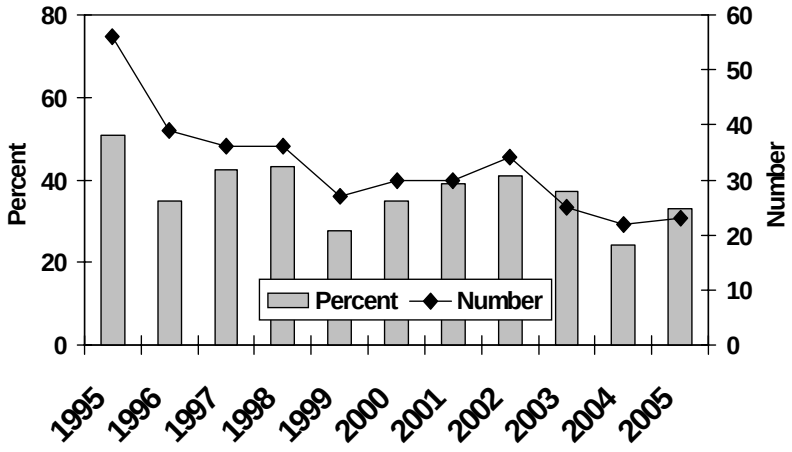
Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Nova Scotia, 1995-2005

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

* 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, 1995-2005



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

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from 56 to 36 between 1995 and 1997. Alcohol-related fatalities remained constant at 36 in 1998, decreased to 27 in 1999, rose to 34 in 2002, fell to a low of 22 in 2004, and rose slightly to 23 in 2005. The percentage of alcohol-related fatalities decreased from 50.9% in 1995 to 34.8% in 1996. In 1998, the percentage of alcohol-related fatalities in Nova Scotia rose to 43.4%, dropped substantially to 27.6% in 1999, rose to 41.0% in 2002, decreased to a low of 24.4% in 2004, and rose again to 32.9% in 2005.

11.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 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.

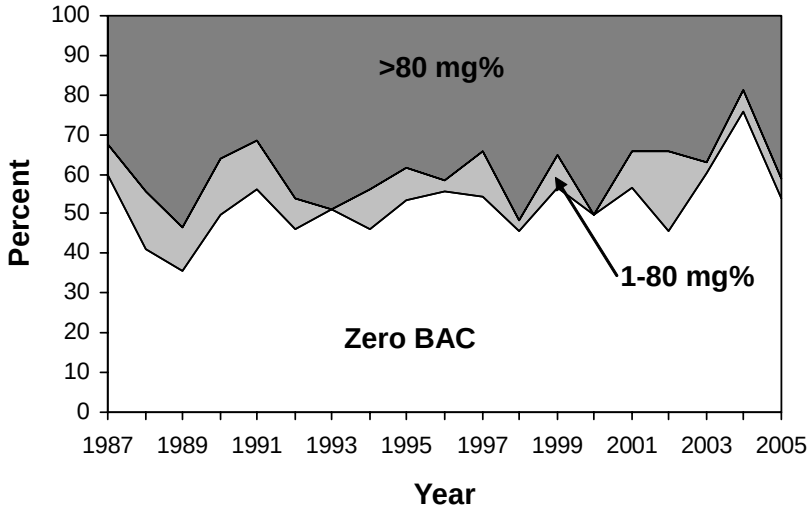
Table 11-5

Alcohol Use Among Fatally Injured Drivers:
Nova Scotia, 1987-2005

				Drivers Grouped by BAC (mg%)					
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	79	62	78.5	37	59.7	5	8.1	20	32.3
1988	85	61	71.8	25	41.0	9	14.8	27	44.3
1989	61	45	73.8	16	35.6	5	11.1	24	53.3
1990	67	58	86.6	29	50.0	8	13.8	21	36.2
1991	54	41	75.9	23	56.1	5	12.2	13	31.7
1992	53	37	69.8	17	45.9	3	8.1	17	45.9
1993	52	39	75.0	20	51.3	0	0.0	19	48.7
1994	50	41	82.0	19	46.3	4	9.8	18	43.9
1995	57	47	82.5	25	53.2	4	8.5	18	38.3
1996	49	36	73.5	20	55.6	1	2.8	15	41.7
1997	41	35	85.4	19	54.3	4	11.4	12	34.3
1998	46	35	76.1	16	45.7	1	2.9	18	51.4
1999	52	37	71.2	21	56.8	3	8.1	13	35.1
2000	47	42	89.4	21	50.0	0	0.0	21	50.0
2001	48	44	91.7	25	56.8	4	9.1	15	34.1
2002	36	35	97.2	16	45.7	7	20.0	12	34.3
2003	44	43	97.7	26	60.5	1	2.3	16	37.2
2004	40	37	92.5	28	75.7	2	5.4	7	18.9
2005	39	39	100.0	21	53.8	2	5.1	16	41.0

* dying in less than six hours.

Figure 11-2
Trends in Alcohol Use Among Driver Fatalities: Nova Scotia, 1987-2005



As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1989 (53.3%), dropped to 31.7% in 1991, increased in 1998 (51.4%), dropped in 1999 (35.1%), rose in 2000 (50.0%), dropped again in 2001 (34.1%), rose slightly to 37.2% in 2003, fell to a low of 18.9% in 2004, and rose again in 2005 (41.0%). The percent of fatally injured drivers with zero BAC dropped to its lowest point in 1989 (35.6%), fluctuated until 2000 (50.0%), rose in 2001 (56.8%), dropped to 45.7% in 2002, reached its peak in 2004 (75.7%), and dropped in 2005 (53.8%). The percent of fatally injured drivers with BACs between 1 and 80 mg% reached a low in 1993 (0.0%) and in 2000 (0.0%), peaked at 20.0% in 2002, fell to 2.3% in 2003, rose to 5.4% in 2004, and dropped slightly to 5.1% in 2005.

11.4.3 Drivers in serious injury crashes: 1995-2005. Table 11-6 and Figure 11-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 11.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 11-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose from 18.5% to 24.9%. Since then, the incidence has dropped to 20.4% in 1998, rose to 23.6% in 2000, dropped to 21.1% in 2002, rose to 23.5% in 2003, dropped slightly to 23.1% in 2004, and rose to its highest level in 2005 (26.1%).

Table 11-6

Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Nova Scotia, 1995-2005

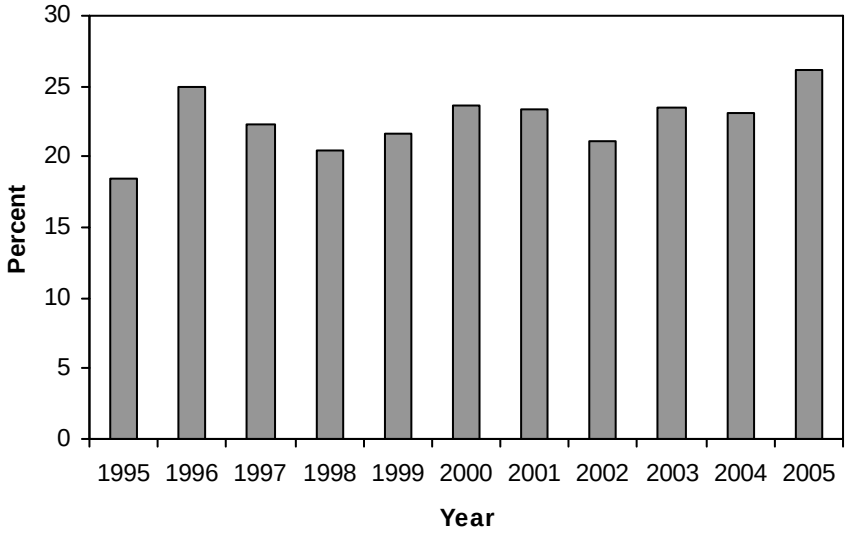
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	491	91	(18.5)
1996	458	114	(24.9)
1997	458	102	(22.3)
1998	427	87	(20.4)
1999	577	125	(21.7)
2000	390	92	(23.6)
2001	400	93	(23.3)
2002	383	81	(21.1)
2003	332	78	(23.5)
2004	351	81	(23.1)
2005	330	86	(26.1)

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

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

Figure 11-3

Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Nova Scotia, 1995-2005



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 2005. It describes data on:

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

12.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 12-1 presents information on people who died in alcohol-related crashes in Prince Edward Island during 2005. 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 aged 16-19 were killed in motor vehicle crashes in Prince Edward Island during 2005. And, in two cases (66.7%) 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, no persons aged 16-19 died in an alcohol-related crash in Prince Edward Island during 2005. The next column expresses this as a percentage – e.g., 0.0% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among those aged 16-19 represent 0.0% of all the people killed in alcohol-related crashes in Prince Edward Island during 2005.

Table 12-1
Deaths* in Alcohol-Related Crashes: Prince Edward Island, 2005

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	2	2	100.0	0	0.0	0.0
16-19	3	2	66.7	0	0.0	0.0
26-35	5	5	100.0	2	40.0	66.7
46-55	3	3	100.0	1	33.3	33.3
>55	4	4	100.0	0	0.0	0.0
Gender						
Male	12	12	100.0	2	16.7	66.7
Female	5	4	80.0	1	25.0	33.3
Type						
Driver/Operator	15	14	93.3	3	21.4	100.0
Passenger	2	2	100.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	12	11	91.7	2	18.2	66.7
**Other	3	3	100.0	1	33.3	33.3
Offroad Vehicles	2	2	100.0	0	0.0	0.0
TOTAL	17	16	94.1	3	18.8	100.0

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

** This category includes trucks/vans and motorcycles. It has been aggregated to ensure that the alcohol involvement of one of the drivers cannot be identified.

The totals at the bottom of the table provide a summary. As can be seen, 17 persons died in motor vehicle crashes in Prince Edward Island during 2005. In 16 of these cases (94.1%), it was possible to determine if alcohol was a factor. Of these known cases, three (18.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (17 x .188) it can be estimated that *in Prince Edward Island during 2005, three persons died in alcohol-related crashes.*

12.1.1 Victim age. Of all the people who died in alcohol-related crashes, 66.7% (see last column) were aged 26-35, and those aged 46-55 accounted for 33.3%.

Within each of the age groups, the highest incidence of alcohol involvement occurred in the crashes in which persons aged 26-35 and 46-55 (40.0% and 33.3%, respectively) died. The lowest incidence of alcohol involvement was found among those aged under 16, 16-19 and over 55 – 0.0% of these persons died in crashes involving alcohol.

12.1.2 Gender. Of all the people who died in alcohol-related crashes, 66.7% were males. The incidence of alcohol in crashes in which a female died was 25.0% compared to 16.7% for males.

12.1.3 Victim type. Of all the people who died in alcohol-related crashes, 100.0% were drivers/operators of a vehicle.

Within each of these victim types, the highest incidence of alcohol involvement (21.4%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 0.0% of crashes where a passenger died.

12.1.4 Type of vehicle occupied. Occupants of trucks/vans and motorcycles have been aggregated into an “other” vehicle category. This is to prevent identifying the alcohol involvement of one of the drivers. Of all the people who died in alcohol-related crashes, 66.7% were in an automobile, and 33.3% were occupants of other vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which an other vehicle occupant died (33.3%) was greater than the incidence of alcohol in crashes in which an automobile occupant died (18.2%).

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 2005. Table 12-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

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

who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

Table 12-2
Alcohol Use Among Fatally Injured Drivers: Prince Edward Island, 2005

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	2	66.7	0	0.0	0.0	0	0.0	0.0
26-35	4	3	75.0	2	66.7	66.7	2	66.7	66.7
46-55	2	2	100.0	1	50.0	33.3	1	50.0	33.3
>55	3	0	0.0	0	0.0	0.0	0	0.0	0.0
Gender									
Male	9	5	55.6	2	40.0	66.7	2	40.0	66.7
Female	4	3	75.0	1	33.3	33.3	1	33.3	33.3
Vehicle Type									
Automobile	10	6	60.0	2	33.3	66.7	2	33.3	66.7
Other*	3	2	66.7	1	50.0	33.3	1	50.0	33.3
Collision Type									
Single-Vehicle	9	7	77.8	3	42.9	100.0	3	42.9	100.0
Multiple-Vehicle	4	1	25.0	0	0.0	0.0	0	0.0	0.0
TOTAL	13	8	61.5	3	37.5	100.0	3	37.5	100.0

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

To illustrate, among 26-35 year olds there were four drivers killed during 2005; three of these fatally injured drivers (75.0%) were tested for alcohol. Of those who were tested, two (66.7%) were positive for alcohol. This means that 26-35 year old fatally injured drinking drivers accounted for 66.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the three fatally injured 20-35 year olds (66.7%) 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, 26-35 year old drivers accounted for 66.7% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Prince Edward Island had a low testing rate in 2005, with 61.5% of fatally injured drivers being tested for alcohol use. In Prince Edward Island, 37.5% had been drinking and all of these had illegal BACs – 100.0% 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%;
- 0.0% had BACs from 50-80 mg%
- 25.0% had BACs from 81 to 160 mg%; and,
- 12.5% had BACs over 160 mg%.

***12.2.1 Age differences*.** Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were aged 26-35; and those aged 46-55 accounted for 33.3%.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 66.7% were aged 26-35 and those aged 46-55 accounted for 33.3%.

Within each of the age groups, fatally injured drivers age 26-35 were the most likely to have been drinking – 66.7% of drivers in this age group had been drinking. By contrast, 0.0% of the tested drivers under 16, aged 16-19 and over age 55 had been drinking.

12.2.2 Gender differences. Males dominate the picture – they account for 66.7% of both the fatally injured drivers who had been drinking and those who were legally impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (9 of the 13 fatalities are males). Two-fifths (40.0%) of fatally injured male drivers and 33.3% of fatally injured female drivers had been drinking. Of the male and female drivers who were drinking, 100.0% had BACs over the legal limit.

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

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 66.7% were automobile drivers and other vehicle drivers accounted for 33.3%.

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

12.2.4 Collision differences. Just over two-thirds of the drivers killed (nine of the 13) were involved in single-vehicle collisions yet these crashes accounted for 100.0% of the drivers who had been drinking.

Alcohol is overrepresented in single-vehicle crashes. Two-fifths of drivers involved in single-vehicle crashes (42.9%) were positive for alcohol, compared to only 0.0% of those involved in multiple-vehicle collisions.

12.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 in Prince Edward Island. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

The results are shown in Table 12-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 69 drivers were involved in crashes in which someone was seriously injured, and among these 27.5% were alcohol-related crashes.

Table 12-3
Drivers in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2005

Category of Drivers	Number of Drivers	Alcohol-Related Number	Alcohol-Related % of total	Alcohol-Related % of all drivers in alcohol-related crashes
Age				
<16	2	0	0.0	0.0
16-19	15	6	40.0	31.6
20-25	7	5	71.4	26.3
26-35	4	2	50.0	10.5
36-45	13	4	30.8	21.1
46-55	7	1	14.3	5.3
>55	21	1	4.8	5.3
Gender				
Male	53	16	30.2	84.2
Female	16	3	18.8	15.8
Vehicle Type				
Auto	45	14	31.1	73.7
Truck/Van	8	3	37.5	15.8
Motorcycle	9	2	22.2	10.5
Tractor Trailer	4	0	0.0	0.0
Off-Road	3	0	0.0	0.0
Collision Type				
Single-Vehicle	26	13	50.0	68.4
Multiple-Vehicle	43	6	14.0	31.6
TOTAL	69	19	27.5	100.0

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 31.6% were aged 16-19; 26.3% were aged 20-25; 21.1% were aged 36-45; 10.5% were aged 26-35; and 5.3% were aged 46-55 and over 55. Drivers under 16 accounted for none of those involved in alcohol-related serious injury crashes.

Within each of the age groups, 71.4% of drivers age 20-25 and 50.0% of those aged 26-35 were involved in alcohol-related serious injury crashes.

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 84.2% were males. And the incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (30.2% and 18.8%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 73.7% were automobile drivers; 15.8% were truck/van drivers; and 10.5% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 37.5% of these drivers were in crashes that involved alcohol, compared to 31.1% for automobile drivers, and 22.2% for motorcyclists.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 68.4% of them were in single-vehicle crashes. The incidence of involvement in alcohol-related serious injury crashes was found among 50.0% of these drivers and 14.0% among drivers in multiple-vehicle crashes.

12.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

12.4.1 Deaths in alcohol-related crashes: 1995-2005. Table 12-4 and Figure 12-1 show the number and percent of people who died in crashes involving a drinking driver from 1995 to 2005. These results differ slightly from those in Section 12.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

As shown in the figure, the number of deaths in crashes that involved a drinking driver dropped from nine to only three between 1995 and 1998, rose to 10 in 2002, dropped to nine in 2003, rose to 10 in 2004, and fell again to three in 2005. The percentage of alcohol-related fatalities

decreased from 56.3% in 1995 to 14.3% in 1998. Since then, the percentage of alcohol-related fatalities in Prince Edward Island rose to 56.3% in 2003, and fell to 20.0% in 2005.

Table 12-4

Number* and Percent of Motor Vehicle Deaths**
Involving a Drinking Driver: Prince Edward Island, 1995-20(

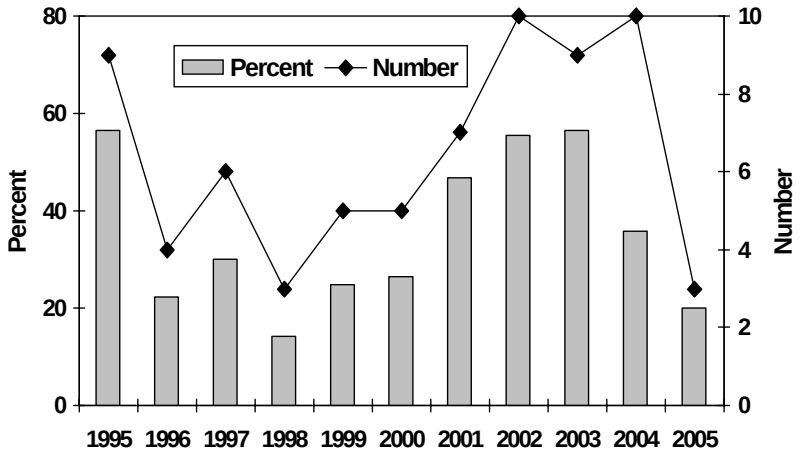
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	16	9	56.3
1996	18	4	22.2
1997	20	6	30.0
1998	21	3	14.3
1999	20	5	25.0
2000	19	5	26.3
2001	15	7	46.7
2002	18	10	55.6
2003	16	9	56.3
2004	28	10	35.7
2005	15	3	20.0

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

** only on public roadways involving principal vehicle types.

Figure 12-1

Number and Percent of Deaths Involving a Drinking Driver: Prince Edward Island, 1995-2005



12.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 12-5. Trends are illustrated in Figure 12-2 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here differ slightly from those shown in Section 12.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 12-5

Alcohol Use Among Fatally Injured Drivers:
Prince Edward Island, 1987-2005

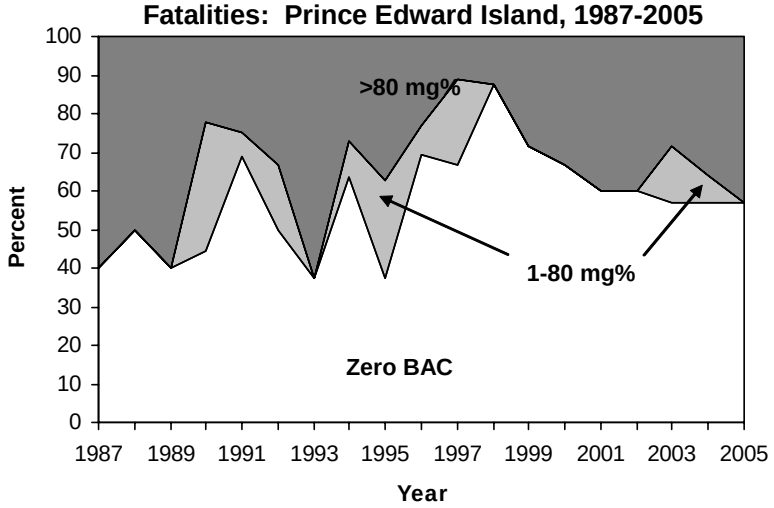
				Drivers Grouped by BAC (mg%)					
YEAR	Number of Drivers*	Drivers Tested	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	6	5	83.3	2	40.0	0	0.0	3	60.0
1988	9	8	88.9	4	50.0	0	0.0	4	50.0
1989	8	5	62.5	2	40.0	0	0.0	3	60.0
1990	10	9	90.0	4	44.4	3	33.3	2	22.2
1991	16	16	100.0	11	68.8	1	6.3	4	25.0
1992	7	6	85.7	3	50.0	1	16.7	2	33.3
1993	9	8	88.9	3	37.5	0	0.0	5	62.5
1994	11	11	100.0	7	63.6	1	9.1	3	27.3
1995	9	8	88.9	3	37.5	2	25.0	3	37.5
1996	13	13	100.0	9	69.2	1	7.7	3	23.1
1997	9	9	100.0	6	66.7	2	22.2	1	11.1
1998	8	8	100.0	7	87.5	0	0.0	1	12.5
1999	7	7	100.0	5	71.4	0	0.0	2	28.6
2000	10	9	90.0	6	66.7	0	0.0	3	33.3
2001	5	5	100.0	3	60.0	0	0.0	2	40.0
2002	10	10	100.0	6	60.0	0	0.0	4	40.0
2003	7	7	100.0	4	57.1	1	14.3	2	28.6
2004	15	14	93.3	8	57.1	1	7.1	5	35.7
2005	8	7	87.5	4	57.1	0	0.0	3	42.9

* dying in less than six hours.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1987 (60.0%) to 1998 (12.5%), rose in 2002 (40.0%), dropped in 2003 (28.6%), and rose again in 2005 (42.9%). The percent of fatally injured drivers with zero BAC increased from 1987 (40.0%) to its highest level in 1998 (87.5%) before dropping in 2003 (57.1%), and remaining at that level in 2004 and 2005. The percent of fatally injured drivers with BACs between 1 and 80

mg% peaked in 1990 (33.3%). The number of fatally injured drivers with BACs between 1 and 80 mg% was constant from 1998 to 2002 (0.0%), rose in 2003 (14.3%), and fell in 2005 (0.0%).

Figure 12-2
Trends in Alcohol Use Among Driver Fatalities: Prince Edward Island, 1987-2005



12.4.3 Drivers in serious injury crashes: 1995-2005. Table 12-6 and Figure 12-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 12.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

Table 12-6

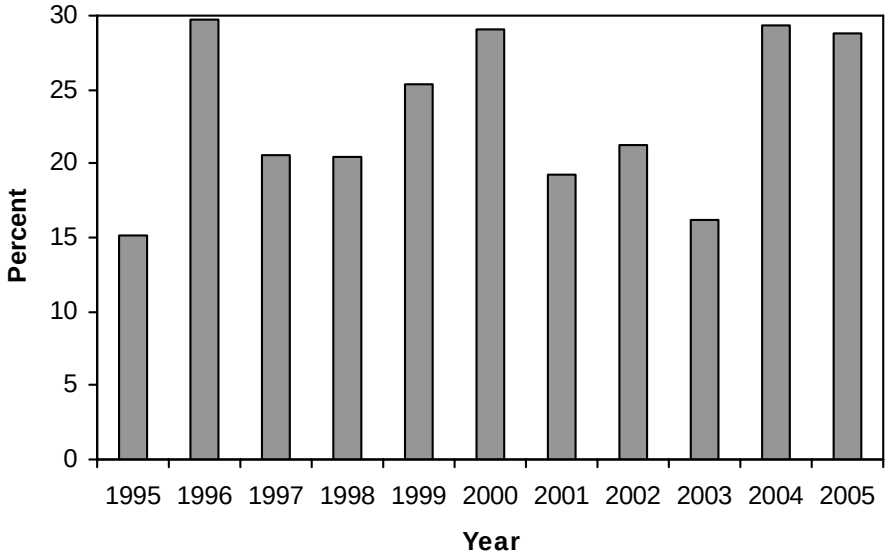
Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Prince Edward Island, 1995-2005

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

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

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

Figure 12-3
Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Prince Edward Island, 1995-2005



As can be seen, the incidence of alcohol-involvement in serious injury crashes has fluctuated over this 11-year period. Between 1995 and 1996 the percentage of drivers in serious injury crashes that involved alcohol rose from 15.1% to 29.7%. Since then, the incidence dropped to 20.4% in 1998, rose to 29.1% in 2000, decreased to 19.3% in 2001, rose to 21.3% in 2002, fell to 16.2% in 2003, rose to 29.3% in 2004, and declined slightly to 28.8% in 2005.

13.0 NEWFOUNDLAND AND LABRADOR

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in Newfoundland and Labrador during 2005. It describes data on:

- people who were killed in alcohol-related crashes (Section 13.1);
- alcohol use among fatally injured drivers (Section 13.2);
- drivers involved in alcohol-related serious injury crashes (Section 13.3); and
- trends in the alcohol-crash problem (Section 13.4)

13.1 DEATHS IN ALCOHOL-RELATED CRASHES

Table 13-1 presents information on people who died in alcohol-related crashes in Newfoundland and Labrador during 2005. 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 aged 16-19 were killed in motor vehicle crashes in Newfoundland and Labrador during 2005. And, in seven of these cases (77.8%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, five persons aged 16-19 died in an alcohol-related crash in Newfoundland and Labrador during 2005. The next column expresses this as a percentage – e.g., 71.4% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 21.7% of all the people killed in alcohol-related crashes in Newfoundland and Labrador during 2005.

The totals at the bottom of the table provide a summary. As can be seen, 58 persons died in motor vehicle crashes in Newfoundland and Labrador during 2005. In 50 (86.2%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 23 (46.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (58 x .46) it can be estimated that *in Newfoundland and Labrador during 2005, 27 persons died in alcohol-related*

Table 13-1
Deaths* in Alcohol-Related Crashes: Newfoundland & Labrador, 2005

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	5	100.0	1	20.0	4.3
16-19	9	7	77.8	5	71.4	21.7
20-25	4	3	75.0	3	100.0	13.0
26-35	4	4	100.0	2	50.0	8.7
36-45	11	11	100.0	7	63.6	30.4
46-55	6	6	100.0	2	33.3	8.7
>55	19	14	73.7	3	21.4	13.0
Gender						
Male	38	34	89.5	18	52.9	78.3
Female	20	16	80.0	5	31.3	21.7
Type						
Driver/Operator	28	25	89.3	16	64.0	69.6
Passenger	25	21	84.0	6	28.6	26.1
Pedestrian	5	4	80.0	1	25.0	4.3
Vehicle Occupied						
Automobiles	28	22	78.6	7	31.8	30.4
Trucks/Vans	13	13	100.0	5	38.5	21.7
Motorcycles	2	2	100.0	1	50.0	4.3
**Other	10	9	90.0	9	100.0	39.1
(Pedestrians)	5	4	80.0	1	25.0	4.3
TOTAL	58	50	86.2	23	46.0	100.0

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

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

crashes.

13.1.1 Victim age. Of all the people who died in alcohol-related crashes, (see last column) 30.4% were aged 36-45; 21.7% were 16-19, 13.0% were 20-25 and over 55, 8.7% were

26-35 and 46-55, and 4.3% were under age 16.
Within each of the age groups, the highest incidence of alcohol involvement (100.0%) occurred in the crashes in which a person aged 20-25 died. The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 20.0% of those under age 16 and 21.4% of those over 55 died in crashes involving alcohol.

13.1.2 Gender. Over three-quarters (78.3%) of the people who died in alcohol-related crashes were males. The incidence of alcohol in crashes in which a male died was 52.9% compared to 31.3% for females.

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 69.6% were drivers/operators of a vehicle; 26.1% were passengers and pedestrians accounted for 4.3%.

Within each of these victim types, the highest incidence of alcohol involvement (64.0%) occurred in the crashes in which a driver died. Alcohol was involved in 28.6% of the crashes in which a passenger died; and in 25.0% of the crashes in which a pedestrian died.

13.1.4 Type of vehicle occupied. Occupants of off-road vehicles and unknown vehicles have been aggregated into an “other” vehicle category. This has been done to ensure that the alcohol involvement of one of the drivers cannot be identified. Occupants of other vehicles accounted for 39.1% of the people who died in alcohol-related crashes, 30.4% were automobile occupants, 21.7% were truck/van occupants, and 4.3% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an occupant of an automobile died (38.5% versus 31.8%). And, 100.0% of other vehicle occupants and 50.0% of motorcyclists died in an alcohol-related crash.

13.2 ALCOHOL IN FATALLY INJURED DRIVERS

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Newfoundland and Labrador during 2005. Table 13-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple).

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

To illustrate, among 16-19 year olds there were three drivers killed during 2005; all of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, two (66.7%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 22.2% of all drinking drivers who were killed.

Table 13-2
Alcohol Use Among Fatally Injured Drivers: Newfoundland & Labrador, 2005

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	2	66.7	22.2	1	33.3	20.0
20-45	7	7	100.0	5	71.4	55.6	3	42.9	60.0
46-55	3	2	66.7	1	50.0	11.1	0	0.0	0.0
>55	7	4	57.1	1	25.0	11.1	1	25.0	20.0
Gender									
Male	14	10	71.4	6	60.0	66.7	4	40.0	80.0
Female	6	6	100.0	3	50.0	33.3	1	16.7	20.0
Vehicle Type									
Automobile	11	8	72.7	4	50.0	44.4	2	25.0	40.0
Truck/Van	7	6	85.7	4	66.7	44.4	2	33.3	40.0
Motorcycle	2	2	100.0	1	50.0	11.1	1	50.0	20.0
Collision Type									
Single-Vehicle	16	12	75.0	8	66.7	88.9	5	41.7	100.0
Multiple-Vehicle	4	4	100.0	1	25.0	11.1	0	0.0	0.0
TOTAL	20	16	80.0	9	56.3	100.0	5	31.3	100.0

Then, in the final three columns, it can be seen that one of the three fatally injured 16-19 year olds (33.3%) who were tested for alcohol had BACs in excess of 80 mg%. This means that one of the two 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 20.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Newfoundland and Labrador had a high testing rate in 2005, with 80.0% of fatally injured drivers being tested for alcohol use. In Newfoundland and Labrador, 56.3% had been drinking and the majority of these had illegal BACs – 55.6% 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:

- 18.8% had BACs from 1-49 mg%;
- 6.3% had BACs from 50-80 mg%
- 0.0% had BACs from 81 to 160 mg%; and,
- 31.3% had BACs over 160 mg%.

13.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 55.6% were aged 20-45, 22.2% were aged 16-19; and those aged 46-55 and over 55 each accounted for 11.1%.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), those aged 20-45 accounted for 60.0%, and those aged 16-19 and over 55 each accounted for 20.0%.

Within each of the age groups, fatally injured drivers aged 20-45 were the most likely to have been drinking – 71.4% of drivers in these age groups had been drinking. By contrast, 25.0% of the tested drivers over 55 had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for 66.7% of the fatally injured drivers who had been drinking, and 80.0% of all of the fatally injured drivers who were impaired.

However, males dominate the picture largely because they account for most of the drivers who are killed (16 of the 20 fatalities are males). Three-fifths (60.0%) of fatally injured male drivers and 50.0% of fatally injured female drivers had been drinking. And, 66.7% of the male drivers and 33.3% of the female drivers who were drinking had BACs over the legal limit.

13.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), automobile drivers and truck/van drivers each accounted for 44.4%, and 11.1% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), automobile and truck/van drivers each accounted for 40.0% and motorcyclists accounted for 20.0%.

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

13.2.4 Collision differences. Four-fifths of the drivers killed (16 of the 20) were involved in single-vehicle collisions and these crashes accounted for 88.9% of the drivers who had been drinking and 100.0% of those who were legally impaired.

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

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 2005 in Newfoundland and Labrador. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), and if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

The results are shown in Table 13-3 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 181 drivers were involved in crashes in which someone was seriously injured, and among these 19.3% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 25.7% were aged 26-35; 22.9% were aged 20-25; 14.3% were aged 36-45; 11.4% were aged 16-19 and 46-55; and 8.6% were over age 55. Drivers under 16 accounted for 2.9% of those involved in alcohol-related serious injury crashes.

Table 13-3
Drivers in Alcohol-Related Serious Injury Crashes:
Newfoundland & Labrador, 2005

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	9	1	11.1	2.9
16-19	14	4	28.6	11.4
20-25	23	8	34.8	22.9
26-35	33	9	27.3	25.7
36-45	29	5	17.2	14.3
46-55	23	4	17.4	11.4
>55	30	3	10.0	8.6
unknown	20	1	5.0	2.9
Gender				
Male	119	24	20.2	68.6
Female	47	10	21.3	28.6
unknown	15	1	6.7	2.9
Vehicle Type				
Auto	89	18	20.2	51.4
Truck/Van	31	7	22.6	20.0
Motorcycle	10	0	0.0	0.0
Tractor Trailer	5	0	0.0	0.0
Other	1	0	0.0	0.0
Off-Road	33	10	30.3	28.6
Unknown	12	0	0.0	0.0
Collision Type				
Single-Vehicle	84	29	34.5	82.9
Multiple-Vehicle	97	6	6.2	17.1
TOTAL	181	35	19.3	100.0

Within each of the age groups, over one out of three drivers aged 20-25 were involved in alcohol-related serious injury crashes (34.8%). The lowest incidence of involvement in alcohol-related serious injury crashes was found for drivers over 55 (10.0%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 68.6% were males. However, the incidence of involvement in alcohol-related serious injury crashes was slightly greater for females than for males (21.3% and 20.2%, respectively).

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 51.4% were automobile drivers; 28.6% were off-road vehicle drivers; and 20.0% were truck/van drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle drivers – 30.3% of these drivers were in crashes that involved alcohol, compared to 22.6% for drivers of trucks/vans; and 20.2% for automobile drivers.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 82.9% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 34.5% of these drivers, compared to only 6.2% for drivers involved in multiple-vehicle crashes.

13.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

13.4.1 Deaths in alcohol-related crashes: 1995-2005. 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 2005. These results differ slightly from those in Section 13.1 for two reasons. First, deaths that occur in crashes that involve a drinking pedestrian are not classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking

driver. Second, the trend analyses focus on fatal crashes on public roadways involving principal vehicle types; the previous analyses included all types of motorized vehicles (e.g., snowmobiles) on both public roadways and in off-road locations.

Table 13-4

Number* and Percent of Motor Vehicle Deaths** Involving a Drinking Driver: Newfoundland & Labrador, 1995-2005

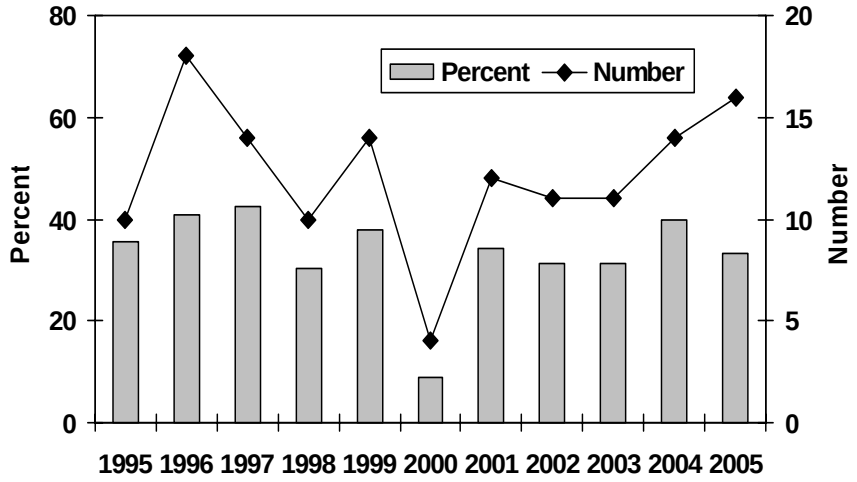
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	28	10	35.7
1996	44	18	40.9
1997	33	14	42.4
1998	33	10	30.3
1999	37	14	37.8
2000	45	4	8.9
2001	35	12	34.3
2002	35	11	31.4
2003	35	11	31.4
2004	35	14	40.0
2005	48	16	33.3

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

** only on public roadways involving principal vehicle types.

Figure 13-1

Number and Percent of Deaths Involving a Drinking Driver: Newfoundland& Labrador, 1995-2005



As shown in the figure, the number of deaths in crashes that involved a drinking driver rose from 10 to 18 between 1995 and 1996. Alcohol-related fatalities decreased to 10 in 1998, increased to 14 in 1999, fell to a low of four in 2000, rose to 12 in 2001, decreased to 11 in 2002, remained at 11 in 2003, and rose to 16 in 2005. The percentage of alcohol-related fatalities increased from 35.7% in 1995 to 42.4% in 1997. In 1998, the percentage of alcohol-related fatalities in Newfoundland deceased to 30.3%, rose to 37.8% in 1999, fell to a low of 8.9% in 2000, rose to 34.3% in 2001, decreased to 31.4% in 2002, remained at that level in 2003, rose to 40.0% in 2004, and fell again to 33.3% in 2005.

13.4.2 Fatally injured drivers: 1987-2005. Data on alcohol use among fatally injured drivers over the 19-year period from 1987-2005 are shown in Table 13-5. Trends are illustrated in Figure 13-2 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here differ slightly from those shown in Section 13.2 because the analysis is restricted to drivers who died in less than six hours of the crash.

Table 13-5

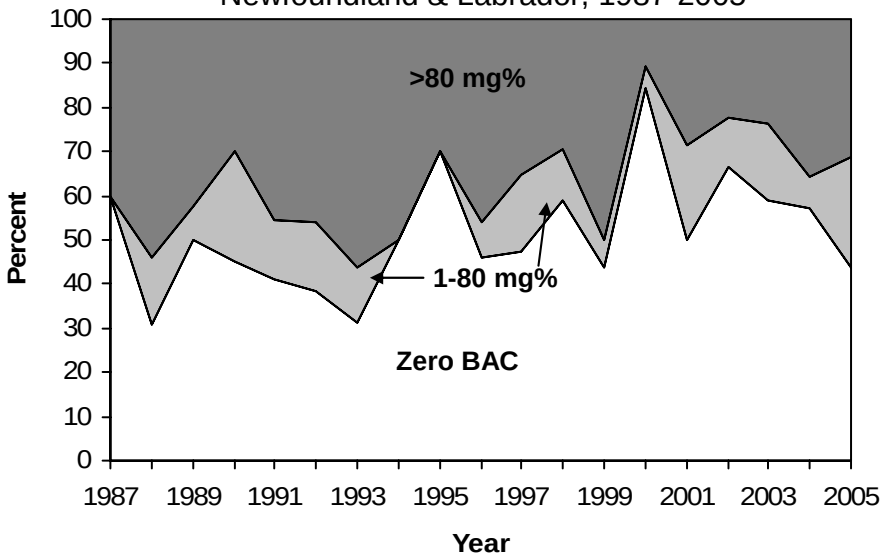
Alcohol Use Among Fatally Injured Drivers:
Newfoundland & Labrador, 1987-2005

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Grouped by BAC (mg%) Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1987	15	15	100.0	9	60.0	0	0.0	6	40.0
1988	20	13	65.0	4	30.8	2	15.4	7	53.8
1989	31	26	83.9	13	50.0	2	7.7	11	42.3
1990	24	20	83.3	9	45.0	5	25.0	6	30.0
1991	24	22	91.7	9	40.9	3	13.6	10	45.5
1992	18	13	72.2	5	38.5	2	15.4	6	46.2
1993	21	16	76.2	5	31.3	2	12.5	9	56.3
1994	12	10	83.3	5	50.0	0	0.0	5	50.0
1995	10	10	100.0	7	70.0	0	0.0	3	30.0
1996	18	13	72.2	6	46.2	1	7.7	6	46.2
1997	17	17	100.0	8	47.1	3	17.6	6	35.3
1998	19	17	89.5	10	58.8	2	11.8	5	29.4
1999	19	16	84.2	7	43.8	1	6.3	8	50.0
2000	21	19	90.5	16	84.2	1	5.3	2	10.5
2001	15	14	93.3	7	50.0	3	21.4	4	28.6
2002	18	18	100.0	12	66.7	2	11.1	4	22.2
2003	17	17	100.0	10	58.8	3	17.6	4	23.5
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	16	16	100.0	7	43.8	4	25.0	5	31.3

* dying in less than six hours.

As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1993 (56.3%), decreased in 1998 (29.4%), rose to 50.0% in 1999, fell to a low in 2000 (10.5%), rose in 2001 (28.6%), decreased to 22.2% in 2002, rose to 35.7% in 2004 and fell to 31.3% in 2005. The percent of fatally injured drivers with zero BAC reached 70.0% in 1995, declined in 1996 (46.2%), rose to 58.8% in 1998, fell to 43.8% in 1999, peaked in 2000 (84.2%), dropped in 2001 (50.0%), rose in 2002 (66.7%), and dropped to 43.8% in 2005. The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 1990 (25.0%), dropped to 0.0% in 1994 and 1995, reached 17.6% in 1997, decreased to 5.3% in 2000, rose to 21.4% in 2001, dropped to 11.1% in 2002, rose in 2003 (17.6%), dropped in 2004 (7.1%), and rose to 25.0% in 2005.

Figure 13-2
Trends in Alcohol Use Among Driver Fatalities:
Newfoundland & Labrador, 1987-2005



13.4.3 Drivers in serious injury crashes: 1995-2005. Table 13-6 and Figure 13-3 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 13.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has been relatively stable. The percentage of drivers in serious injury crashes that involved alcohol decreased from 21.6% to 17.6% between 1995 and 1997, peaked at 25.2% in 1999, decreased to a low of 15.7% in 2000; rose to 17.9% in 2001, decreased to 17.3% in 2003, rose to 23.3% in 2004, and decreased again to 18.4% in 2005.

Table 13-6

Number and Percent of All Drivers* in Serious Injury Crashes** that Involved Alcohol: Newfoundland & Labrador, 1995-2005

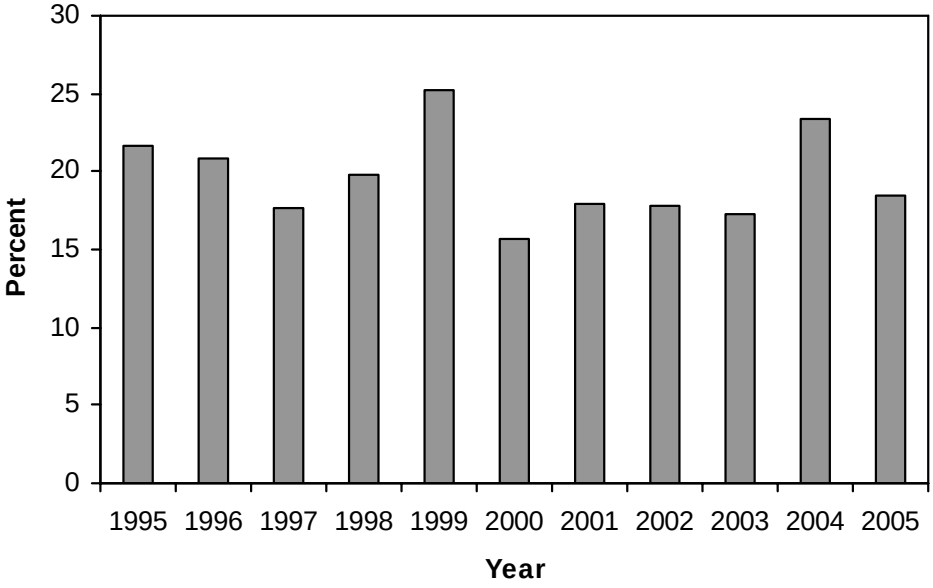
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	259	56	(21.6)
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)
2001	223	40	(17.9)
2002	191	34	(17.8)
2003	197	34	(17.3)
2004	163	38	(23.3)
2005	136	25	(18.4)

* 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 13-3

Percent of All Drivers in Serious Injury Crashes that Involved Alcohol: Newfoundland & Labrador, 1995-2005



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 2005. It describes data on:

- people who were killed in alcohol-related crashes (Section 14.1);
- alcohol use among fatally injured drivers (Section 14.2);
- drivers involved in alcohol-related serious injury crashes (Section 14.3); and
- trends in the alcohol-crash problem (Section 14.4).

Detailed results are not provided in Sections 14.1 and 14.2 because the small number of deaths in alcohol-related crashes – only one – and drivers fatally injured – only three – makes the results unreliable.

14.1 DEATHS IN ALCOHOL-RELATED CRASHES

A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.

Six persons died in motor vehicle crashes in the Yukon during 2005. In all (100.0%) of these cases, it was possible to determine if alcohol was a factor. Of these cases, four (66.7%) involved alcohol.

14.2 ALCOHOL IN FATALLY INJURED DRIVERS

The Yukon had only six fatally injured drivers during 2005. All of these drivers were tested for alcohol and four (66.7%) had been drinking.

14.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 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, 41 drivers were involved in crashes in which someone was seriously injured, and among these 51.2% were alcohol-related crashes.

14.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 38.1% were aged 26-35; 19.0% were aged 16-19, 14.3% were aged 36-45 and 46-55, and 4.8% were aged under 16 and 20-25.

Within each of the age groups, 80.0% of the drivers aged 16-19 and 26-35, 75.0% of those aged 36-45, 50.0% of those aged under 16 and 20-25, and 33.3% of those aged 46-55 were involved in alcohol-related serious injury crashes.

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.4% were males. The incidence of involvement in alcohol-related serious injury crashes was slightly greater for males than for females (51.7% and 50.0%, respectively).

14.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 42.9% were truck/van drivers; 38.1% were automobile drivers; and drivers of off-road vehicles accounted for 19.0%.

The highest incidence of involvement was among drivers of off-road vehicles as four out of five (80.0%) of these drivers were involved in an alcohol-related serious injury crash. And, 64.3% of

truck/van drivers and 57.1% of drivers of automobiles were involved in alcohol-related serious injury crashes.

Table 14-1
Drivers in Alcohol-Related Serious Injury Crashes:
Yukon Territory, 2005

Category of Drivers	Number of Drivers*	Alcohol-Related Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	2	1	50.0	4.8
16-19	5	4	80.0	19.0
20-25	2	1	50.0	4.8
26-35	10	8	80.0	38.1
36-45	4	3	75.0	14.3
46-55	9	3	33.3	14.3
>55	8	0	0.0	0.0
unknown	1	1	100.0	4.8
Gender				
Male	29	15	51.7	71.4
Female	12	6	50.0	28.6
Vehicle Type				
Auto	14	8	57.1	38.1
Truck/Van	14	9	64.3	42.9
Motorcycle	8	0	0.0	0.0
Off-Road	5	4	80.0	19.0
Collision Type				
Single-Vehicle	21	11	52.4	52.4
Multiple-Vehicle	20	10	50.0	47.6
TOTAL	41	21	51.2	100.0

*These numbers are slightly underestimated because about 5.6% of all injuries are recorded as “unspecified”.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 52.4% were in single-vehicle crashes and 47.6% were in multiple-vehicle crashes. Alcohol involvement was found among 52.4% of drivers in single-vehicle serious injury crashes, compared to 50.0% of those drivers in multiple-vehicle serious injury crashes.

14.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

14.4.1 Deaths in alcohol-related crashes: 1995-2005. 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 2005. 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, 1995-2005

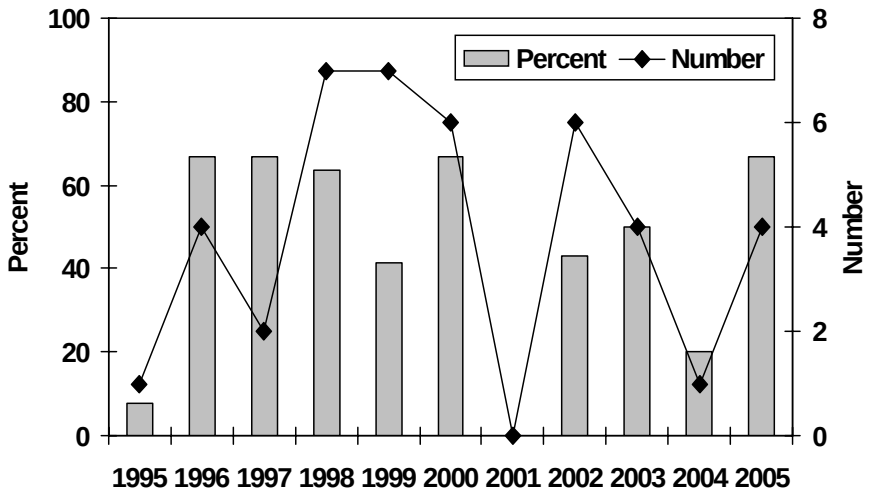
Year	Number of Deaths	Alcohol-Related Deaths Number	% of total
1995	13	1	7.7
1996	6	4	66.7
1997	3	2	66.7
1998	11	7	63.6
1999	17	7	41.2
2000	9	6	66.7
2001	4	0	0.0
2002	14	6	42.9
2003	8	4	50.0
2004	5	1	20.0
2005	6	4	66.7

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

** only on public roadways involving principal vehicle types.

As shown in the figure, the number of deaths in crashes that involved a drinking driver increased from one to four between 1995 and 1996. The number of alcohol-related fatalities dropped to two in 1997, rose to seven in 1998, remained there in 1999, fell to none in 2001, rose to six in 2002, dropped to one in 2004, and rose to four in 2005. The percentage of alcohol-related fatalities rose from 7.7% in 1995 to 66.7% in 1996 and 1997. Since then, the percentage of alcohol-related fatalities in the Yukon decreased to 41.2% in 1999, rose to 66.7% in 2000, dropped to 0.0% in 2001, rose to 50.0% in 2003, decreased to 20.0% in 2004, and rose again to 66.7% in 2005.

Figure 14-1
Number and Percent of Deaths Involving
a Drinking Driver: Yukon Territory, 1995-2005



14.4.2 Fatally injured drivers: 1987-2005. Due to the small number of cases – e.g., only three fatally injured drivers in 2005 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.4.3 Drivers in injury crashes: 1995-2005. Since information on serious injury crashes for the Yukon has only been available since 1998, trends for drivers involved in crashes of all injury severity are shown in Table 14-3 and Figure 14-2. These results differ slightly from those in Section 14.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in injury crashes has been relatively stable. Between 1995 and 1997 the percentage of drivers in injury crashes that involved alcohol decreased slightly from 20.1% to 18.1%. In 1998, the incidence increased to 22.7%, decreased to 14.3% in 2001, rose to 18.9% in 2002, decreased to 17.7% in 2003, rose to 22.2% in 2004, and decreased slightly to 21.4% in 2005.

Table 14-3

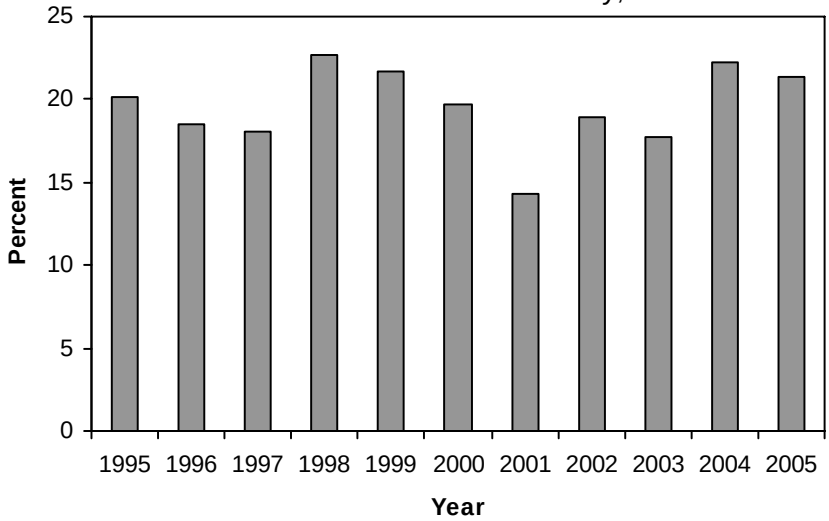
Number and Percent of All Drivers* in Injury Crashes**
that Involved Alcohol: Yukon Territory, 1995-2005

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	338	68	(20.1)
1996	346	64	(18.5)
1997	287	52	(18.1)
1998	273	62	(22.7)
1999	314	68	(21.7)
2000	299	59	(19.7)
2001	273	39	(14.3)
2002	243	46	(18.9)
2003	220	39	(17.7)
2004	198	44	(22.2)
2005	182	39	(21.4)

* 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 14-2
Percent of All Drivers in Injury Crashes
that Involved Alcohol : Yukon Territory, 1995-2005



15.0 NORTHWEST TERRITORIES

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Northwest Territories during 2005. It describes data on:

- people who were killed in alcohol-related crashes (Section 15.1);
- alcohol use among fatally injured drivers (Section 15.2);
- drivers involved in alcohol-related serious injury crashes (Section 15.3); and
- trends in the alcohol-crash problem (Section 15.4).

Detailed results are not provided in Sections 15.1 and 15.2 because the small numbers of persons killed – only five – and drivers fatally injured – only one – makes the results unreliable.

15.1 DEATHS IN ALCOHOL-RELATED CRASHES

In the Northwest Territories during 2005, five persons died in motor vehicle crashes. In all of these cases (100.0%) it was possible to determine if alcohol was a factor. Of these cases, three (60.0%) involved alcohol.

15.2 ALCOHOL IN FATALLY INJURED DRIVERS

In the Northwest Territories during 2005, only one driver of a highway vehicle was fatally injured in a motor vehicle crash.

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 2005 in the Northwest Territories. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), 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.

Table 15-1
Drivers in Alcohol-Related Serious Injury Crashes:
Northwest Territories, 2005

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	4	0	0.0	0.0
20-25	5	1	20.0	10.0
26-35	7	4	57.1	40.0
36-45	8	2	25.0	20.0
46-55	5	2	40.0	20.0
>55	2	1	50.0	10.0
Gender				
Male	23	10	43.5	100.0
Female	8	0	0.0	0.0
Vehicle Type				
Auto	4	1	25.0	10.0
Truck/Van	11	2	18.2	20.0
Motorcycle	4	1	25.0	10.0
Tractor Trailer	2	1	50.0	10.0
Off-Road	10	5	50.0	50.0
Collision Type				
Single-Vehicle	14	3	21.4	30.0
Multiple-Vehicle	17	7	41.2	70.0
TOTAL	31	10	32.3	100.0

* These numbers are slightly underestimated because about 12.6% of all injuries are recorded as unspecified.

As shown by the totals at the bottom of the table, 31 drivers were involved in crashes in which someone was seriously injured, and among these 32.3% were alcohol-related crashes.

15.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 40.0% were aged 26-35; 20.0% were aged 36-45 and 46-55; and 10.0% were aged 20-25 and over 55. None of the drivers under 16 were involved in alcohol-related serious injury crashes.

Within each of the age groups, 57.1% of the drivers aged 26-35 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for drivers under 16 (0.0%).

15.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% were males. And, the incidence of involvement in alcohol-related serious injury crashes was 43.5% for males and 0.0% for females.

15.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were off-road vehicle drivers; 20.0% were truck/van drivers; and 10.0% were motorcyclists, automobile drivers, and tractor trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for off-road vehicle and tractor trailer drivers – 50.0% of these drivers were in crashes that involved alcohol, compared to 25.0% for motorcyclists and automobile drivers, and 18.2% for truck/van drivers.

15.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 70.0% of them were in multiple-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in multiple-vehicle crashes – 41.2% of these drivers compared to 21.4% of the drivers involved in single-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: 1995-2005. Due to the small number of deaths in crashes on public roadways involving principal vehicle types (e.g., only two deaths in 2005) any trends would be unreliable, and therefore are not reported.

15.4.2 Fatally injured drivers: 1987-2005. Due to the small number of cases – e.g., only one fatally injured driver in 2005 – any trends would be unreliable, and therefore are not reported.

15.4.3 Drivers in serious injury crashes: 1995-2005. Table 15-2 and Figure 15-1 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 15.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious crashes has been relatively volatile because of the small number of drivers. Between 1995 and 1997 the percentage of drivers in serious injury crashes that involved alcohol decreased from 65.0% to 25.0%. In 1998 the incidence rose sharply to 57.1%, fell to 36.8% in 1999, rose to 66.7% in 2000, dropped to 26.3% in 2002, rose to 37.5% in 2003, dropped to its lowest level (21.4%) in 2004, and increased slightly to 23.8% in 2005.

Table 15-2

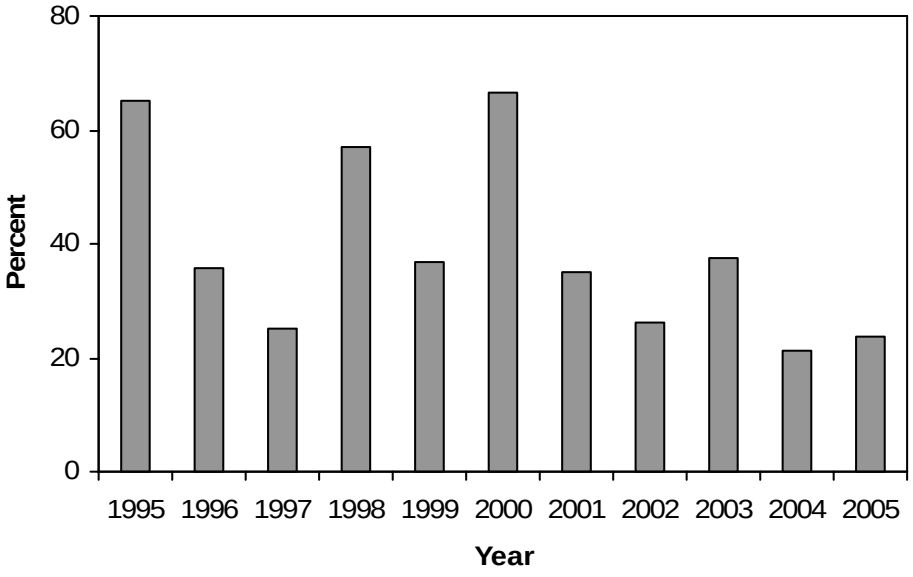
Number and Percent of All Drivers* in
Serious Injury Crashes** that Involved Alcohol:
Northwest Territories, 1995-2005

Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	20	13	(65.0)
1996	14	5	(35.7)
1997	12	3	(25.0)
1998	14	8	(57.1)
1999	19	7	(36.8)
2000	6	4	(66.7)
2001	20	7	(35.0)
2002	19	5	(26.3)
2003	16	6	(37.5)
2004	14	3	(21.4)
2005	21	5	(23.8)

* 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, 1995-2005



16.0 NUNAVUT

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions in the Nunavut during 2005. This section describes data on:

- people who were killed in alcohol-related crashes (Section 16.1);
- alcohol use among fatally injured drivers (Section 16.2);
- drivers involved in alcohol-related serious injury crashes (Section 16.3); and
- trends in the alcohol-crash problem (Section 16.4).

Detailed results are not provided in Sections 16.1 and 16.2 because the small numbers of persons killed – only six – and drivers fatally injured – only one – makes the results unreliable.

16.1 DEATHS IN ALCOHOL-RELATED CRASHES

In Nunavut during 2005, six persons died in motor vehicle crashes. In three of these cases (50.0%) it was possible to determine if alcohol was a factor. Of these cases, two (66.7%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (6 x .667) it can be estimated that *in Nunavut during 2005, four persons died in alcohol-related crashes.*

16.2 ALCOHOL IN FATALLY INJURED DRIVERS

In Nunavut during 2005, only one driver of a highway vehicle was fatally injured in a motor vehicle crash.

16.3 DRIVERS INVOLVED IN ALCOHOL-RELATED SERIOUS INJURY CRASHES

This section presents information on drivers involved in alcohol-related crashes in which someone was seriously injured in 2005 in Nunavut. A “surrogate” or “indirect” measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), 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 16-1 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first data column shows the number of drivers involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

Table 16-1
Drivers in Alcohol-Related Serious Injury Crashes:
Nunavut, 2005

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	3	0	0.0	0.0
20-25	3	1	33.3	33.3
26-45	4	2	50.0	66.7
46-55	2	0	0.0	0.0
>55	1	0	0.0	0.0
Gender				
Male	10	2	20.0	66.7
Female	4	1	25.0	33.3
Vehicle Type				
Auto	2	0	0.0	0.0
Truck/Van	4	0	0.0	0.0
Off-Road	8	3	37.5	100.0
Collision Type				
Single-Vehicle	2	1	50.0	33.3
Multiple-Vehicle	12	2	16.7	66.7
TOTAL	14	3	21.4	100.0

* These numbers are slightly underestimated because about 8.6% of all injuries are recorded as unspecified.

As shown by the totals at the bottom of the table, 14 drivers were involved in crashes in which someone was seriously injured, and among these 21.4% were alcohol-related crashes.

16.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were aged 26-45; and 33.3% were aged 20-25.

Within each of the age groups, 50.0% of the drivers aged 26-45 and 33.3% of drivers aged 20-25 were involved in alcohol-related serious injury crashes.

16.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were males. However, the incidence of involvement in alcohol-related serious injury crashes was 25.0% for females and 20.0% for males.

16.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% were off-road vehicle drivers.

Among off-road vehicle drivers, 37.5% of these drivers were in crashes that involved alcohol, compared to 0.0% for automobile and truck/van drivers.

16.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% of them were in multiple-vehicle crashes. However, the highest incidence of involvement in alcohol-related serious injury crashes was found among drivers in single-vehicle crashes – 50.0% of these drivers compared to 16.7% of the drivers involved in multiple-vehicle crashes.

16.4 TRENDS IN THE ALCOHOL-CRASH PROBLEM

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

16.4.1 Deaths in alcohol-related crashes: 1995-2005. Due to the small number of deaths in crashes on public roadways involving principal vehicle types (e.g., only one death in 2005) any trends would be unreliable, and therefore are not reported.

16.4.2 Fatally injured drivers: 1987-2005. Due to the small number of cases – e.g., only one fatally injured driver in 2005, any trends would be unreliable, and therefore are not reported.

16.4.3 Drivers in serious injury crashes: 1995-2005. Table 16-2 and Figure 16-1 show information on drivers involved in alcohol-related serious injury crashes. These results differ slightly from those in Section 16.3 because they exclude certain vehicle types – e.g., bicycles, snowmobiles, farm tractors and other non-highway vehicles.

As can be seen, the incidence of alcohol-involvement in serious crashes has been relatively volatile because of the small number of drivers. Between 1995 and 1997 the percentage of drivers in serious injury crashes that involved alcohol decreased from 50.0% to 0.0%. In 1998 the incidence rose sharply to 75.0%, fell to 40.0% in 2000, rose to 42.9% in 2001, dropped to 20.0% in 2002, rose to 25.0% in 2003, dropped to 0.0% in 2005.

Table 16-2

Number and Percent of All Drivers* in
Serious Injury Crashes** that Involved Alcohol:
Nunavut, 1995-2005

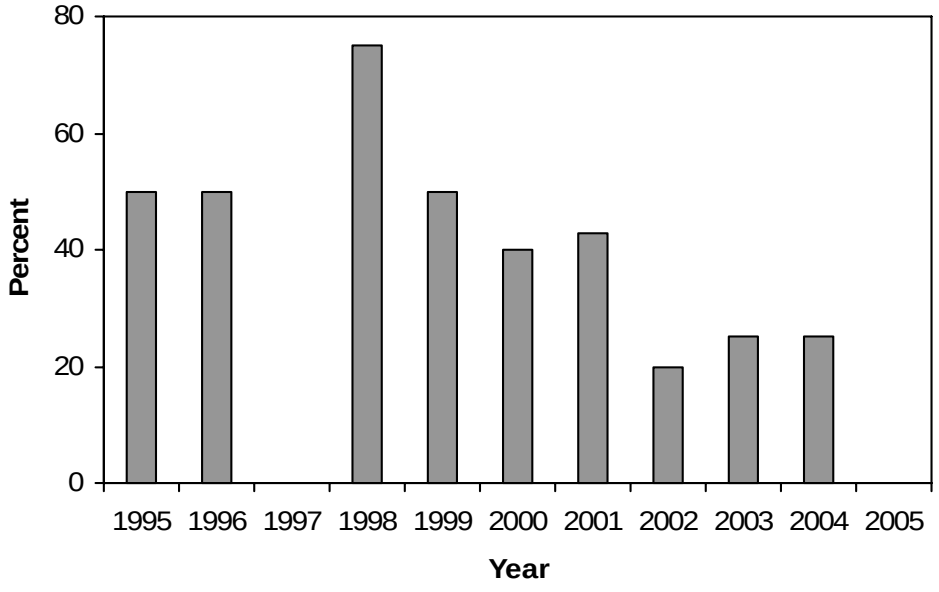
Year	Number of Drivers	Alcohol Related Number	(Pct.)
1995	6	3	(50.0)
1996	2	1	(50.0)
1997	2	0	(0.0)
1998	4	3	(75.0)
1999	2	1	(50.0)
2000	5	2	(40.0)
2001	7	3	(42.9)
2002	5	1	(20.0)
2003	4	1	(25.0)
2004	4	1	(25.0)
2005	6	0	(0.0)

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

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

Figure 16-1

Percent of All Drivers in Serious Injury Crashes
that Involved Alcohol: Nunavut, 1995-2005



17.0 REFERENCES

Mayhew, D.R.; Beirness, D.J.; and Simpson, H.M. 1997. **Indicators of the Alcohol-Crash Problem.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 1999. **Alcohol Use Among Drivers and Pedestrians Fatally Injured in Motor Vehicle Accidents.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2000. **The Alcohol-Crash Problem in Canada: 1998.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2001. **The Alcohol-Crash Problem in Canada: 1999.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2002. **The Alcohol-Crash Problem in Canada: 2000.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2003. **The Alcohol-Crash Problem in Canada: 2001.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2004. **The Alcohol-Crash Problem in Canada: 2002.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2005. **The Alcohol-Crash Problem in Canada: 2003.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.

Mayhew, D.R.; Brown, S.W.; and Simpson, H.M. 2006. **The Alcohol-Crash Problem in Canada: 2004.** Ottawa, Ontario: Transport Canada, Road Safety and Motor Vehicle Regulation.