



Road Safety and Motor Vehicle
Regulation Directorate

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ALCOHOL USE BY DRIVERS FATALLY INJURED IN MOTOR VEHICLE COLLISIONS IN CANADA IN 2007 AND THE PREVIOUS 20 YEARS

Background

This leaflet provides information on the blood alcohol concentrations (BACs) of drivers fatally injured in motor vehicle collisions in the Canadian provinces and territories. The information is derived from the Traffic Injury Research Foundation (TIRF) Fatality Database,¹ which consists of data collected from reports prepared by provincial/territorial coroners and medical examiners, and investigating police officers. Provincial and territorial agencies provide access to these data under cooperative agreements with TIRF.

The data in the TIRF Fatality Database was compiled every year from 1973 to 2007, inclusive, for seven provinces. Since 1987, data have been assembled from all provinces and the territories.

National data on alcohol use among drivers fatally injured in motor vehicle crashes in 2007 are reviewed in the next section. This is followed by an examination of trends in alcohol use among driver fatalities from 1987 to 2007. Before reviewing these sections, the reader should be aware that the following conventions have been adopted in assembling the data for this leaflet.

¹ The TIRF Fatality Database is financially supported by the Canadian Council of Motor Transport Administrators (CCMTA) and Transport Canada.

1. The results are based on victims dying within twelve months of the crash. Most of these victims (80.9%) died less than six hours after the crash.
2. The data presented in Figures 2 to 8 are based on the number of fatally injured drivers who were tested for alcohol.
3. The data include only fatally injured drivers of the principal types of motorized vehicles on public roadways: automobiles, trucks/vans, motorcycles/mopeds and tractor-trailers. Excluded are operators of bicycles and other non-highway vehicles, as well as pedestrians and passengers.
4. Comparisons are made throughout between “drivers who had been drinking” and “drivers who were legally impaired”. The former includes any driver with a positive BAC (i.e., any amount of alcohol), and the latter includes any driver with a BAC in excess of 80 mg% (80 mg of alcohol per 100 ml of blood), the legal limit as defined in the *Criminal Code* of Canada.
5. Percentages for less populous jurisdictions are not as reliable as those for the larger ones (i.e., they are more subject to chance variation because there are fewer fatally injured drivers).

Alcohol Use among Fatally Injured Drivers in 2007

Rate of Testing for Alcohol – In order to make reliable statements about the prevalence of alcohol use by drivers killed in road crashes, a high proportion of these drivers must be tested for alcohol. In many countries, the rate of testing is very low, leading to the possibility of bias – i.e., drivers suspected of impairment may be more likely to be tested – which would lead to an overestimate of the prevalence of alcohol. It is generally accepted that conclusions about the prevalence of alcohol based on testing rates below 80% should be regarded with caution.

Fortunately, in Canada, the rate of testing has been uniformly high, so considerable confidence can be placed on the data reported here. To illustrate this, Figure 1 and Table 1 present information on the rate of testing for the presence of alcohol among fatally injured drivers in each Canadian jurisdiction in 2007. In that year, the rate of testing ranged from 64.0% in Quebec to 100% in Prince Edward Island and the Yukon. Testing rates were 90% or more in five jurisdictions and 80% or more in 11 jurisdictions. The average across all jurisdictions was 84.4% – 1,406 of 1,665 fatally injured drivers were tested for the presence of alcohol in their blood. This is comparable to a testing rate of 83.7% in the previous year and annual rates of over 80% tested for the past decade.

Drinking Drivers and Impaired Drivers – Figure 2 and Table 2 show the percentage of fatally injured drivers who had been drinking and the percentage who were legally impaired. In Canada, 38.1% of tested drivers had been drinking and 30.7% were legally impaired.

Gender – Of the 1,406 fatally injured drivers tested, 80.4% were male (figure and table not provided). Among males, 40.5% had been drinking, compared to 28.4% of the females. Males were also more likely than females to be legally impaired – 32.4% versus 23.6%.

Age – Figure 3 and Table 3 show that drivers between the ages of 21-25 were the most likely to have been drinking (50.0%) and to have illegal BACs (41.2%). The percentage of fatally injured drivers who had been drinking and the percentage who were legally impaired declined dramatically in the 56 and over age group.

Vehicles – As shown in Figure 4 and Table 4, fatally injured drivers of trucks/vans had the highest incidence of drinking (44.9%) among the major vehicle types. They were also the most likely to have illegal BACs (37.6%). Among drivers of principal highway vehicles, the lowest incidence of drinking and illegal BACs was found among fatally injured drivers of tractor trailers. Only five of these 52 drivers had consumed alcohol.

Trends over the Past 21 Years

Drinking Drivers and Impaired Drivers – Figures 5 to 8 (and Tables 5 to 8) present data for the 21-year period, 1987 to 2007. Figure 5 and Table 5 show a steady decline in the percentage of fatally injured drivers who had been drinking and the percentage who were legally impaired from 1987 to 1990. This was followed by an increase in 1991 and basically no change in 1992. From 1992 to 1999, there was a decline in the percentage of fatally injured drivers who had been drinking and the percentage who were legally impaired. From 1999 to 2001, the percentage of fatally injured drinking drivers and those who were legally impaired increased. In 2002, the percentage of both fatally injured drinking and legally impaired drivers decreased, increased in 2003, decreased in 2004, then increased in 2006. And, in 2007, the percentage of fatally injured drinking drivers increased again – from 37.1% in 2006 to 38.1% in 2007, a 2.7% increase. The percentage of fatally injured drivers who were legally impaired increased from 30.2% in 2006 to 30.7% in 2007, a 1.7% increase.

Gender – Figure 6 and Table 6 show that over the 21-year period, the incidence of illegal BACs among fatally injured female drivers has been consistently lower than among males. The percentage of males who were legally impaired decreased between 1987 and 1990, increased in 1991, then generally decreased until 1999. From 1999 until 2001, the percentage of males who were legally impaired increased before decreasing in 2002, rising in 2003, decreasing in 2004, rising in 2005, and decreasing again in 2007. The trend for women differed slightly from that for men over this 21-year period, especially since 1994. During this period, the percentage of legally impaired females increased from 17% in 1994 to 23.4% in 1995, dropped to 15.4% in 1997, rose to 18.8% in 1998, decreased to a low of 13.2% in 1999, rose to 22.3% in 2003, decreased to 16.4% in 2004, and rose again to 23.6% in 2007. The percentage of legally impaired males decreased from 40.7% in 1994 to 35.8% in 1997, rose to 36.6% in 1998, fell to 30.9% in 1999, rose to 36.3% in 2001, decreased to 32.2% in 2002, rose to 34.5% in 2003, decreased to a low of 30.7% in 2004, rose to 34.0% in 2005, and decreased again to 32.4% in 2007.

Age – Figure 7 and Table 7 show that the overall downward trend in alcohol use by fatally injured drivers differs slightly across age groups. The largest decrease over the 21 years was among fatally injured drivers aged 46 and over – from 29.2% in 1987 to 18.7% in 2007, a 36.0% decrease. There were also substantial decreases in the percentage of impaired driver fatalities in the 26-35 and 36-45 age groups, from 54.9% to 36.9% and 45.8% to 34.0%, respectively. Among the other age groups, the percentage who were legally impaired has decreased over the 21-year period except for drivers under 21 years of age (an increase from 34.1% in 1987 to 36.2% in 2007). In 2007, fatally injured drivers aged 21-25 (41.2%) had the highest incidence of illegal BACs.

Vehicles – Figure 8 and Table 8 show that over the 21-year period, fatally injured drivers of trucks/vans (excluding tractor-trailers) had the highest percentage of illegal BACs, and, until recent years, the percentage of illegal BACs was very comparable for automobile drivers and motorcycle/moped drivers. In the last six years, fatally injured motorcycle/moped drivers had the lowest percentage of illegal BACs. The percentage of legally impaired motorcycle/moped drivers decreased between 1991 and 1995, rose in 1996, generally decreased until 2000, rose rather dramatically in 2001, decreased to 16.6% in 2004, rose to 20.0% in 2005, decreased to a low of 14.5% in 2006, and rose again to 20.4% in 2007. The percentage of truck/van operators who were legally impaired increased by 6.0% from 2006 to 2007. Among automobile drivers, the incidence of illegal BACs decreased from 1987 to 1990, increased in 1991, declined until 1997, rose in 1998, dropped in 1999, rose until 2001, decreased in 2002, rose in 2003, decreased to 26.5% in 2004, rose to 30.2% in 2005, decreased to 29.4% in 2006, and rose again to 30.8% in 2007. Tractor-trailer drivers are not included in Figure 8 and Table 8 because the small number of fatalities in this group results in unreliable year-to-year fluctuations. However, it is worthwhile noting that over this 21-year period, 1995 was the only year in which none of the fatally injured tractor-trailer drivers had consumed alcohol.

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Figure 1
 Percentage of Fatally Injured Drivers
 Tested for Alcohol: 2007

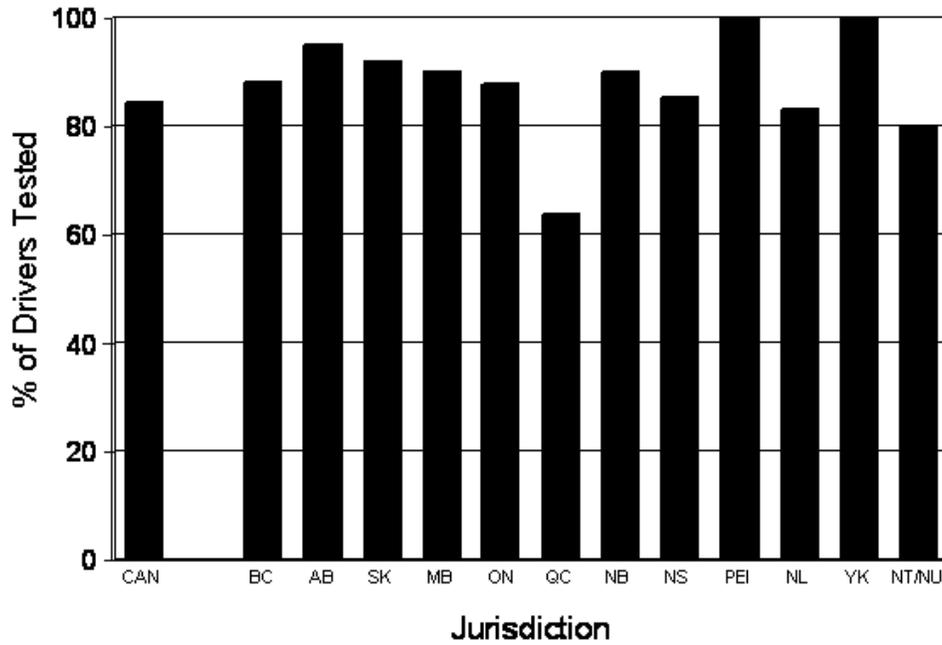
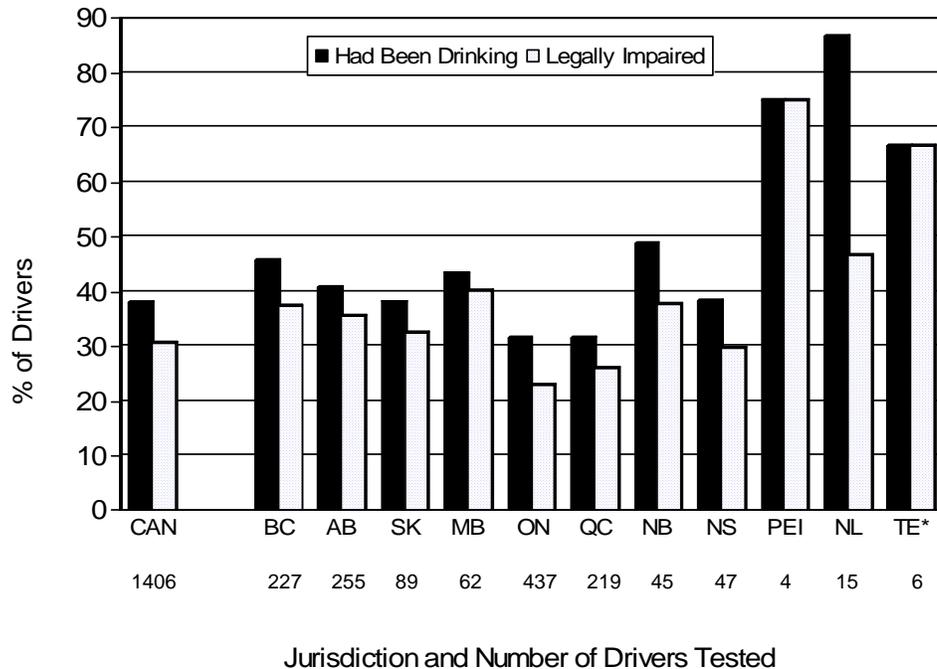


Figure 2
 Percentage of Fatally Injured Drivers Who Had Been
 Drinking and Were Legally Impaired: 2007



* aggregate of drivers from the Yukon, Northwest Territories and Nunavut

Figure 3
Age of Driver: Percentage of Fatally Injured Drivers Who Had Been Drinking and Were Legally Impaired

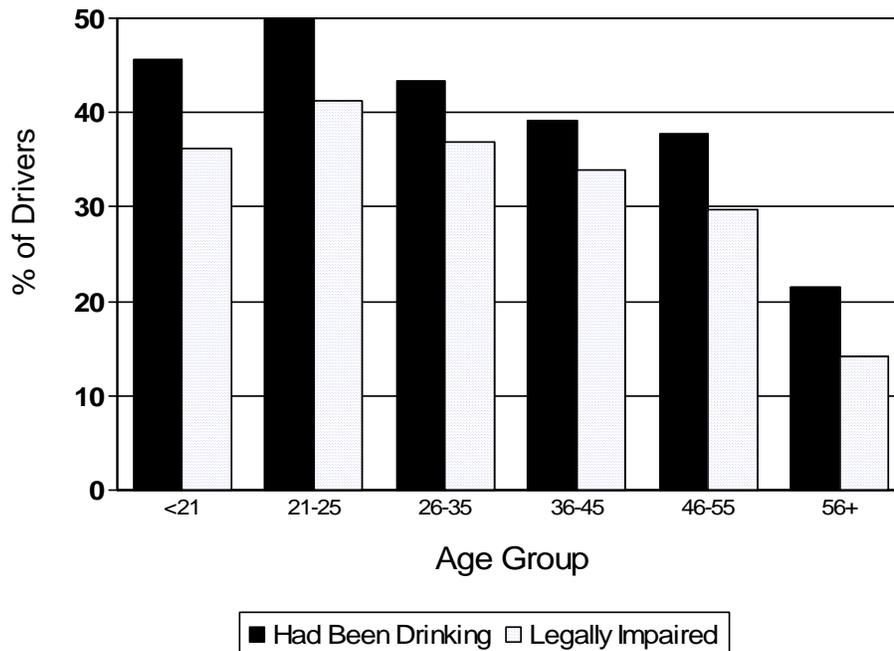


Figure 4
Type of Vehicle: Percentage of Fatally Injured Drivers Who Had Been Drinking and Were Legally Impaired

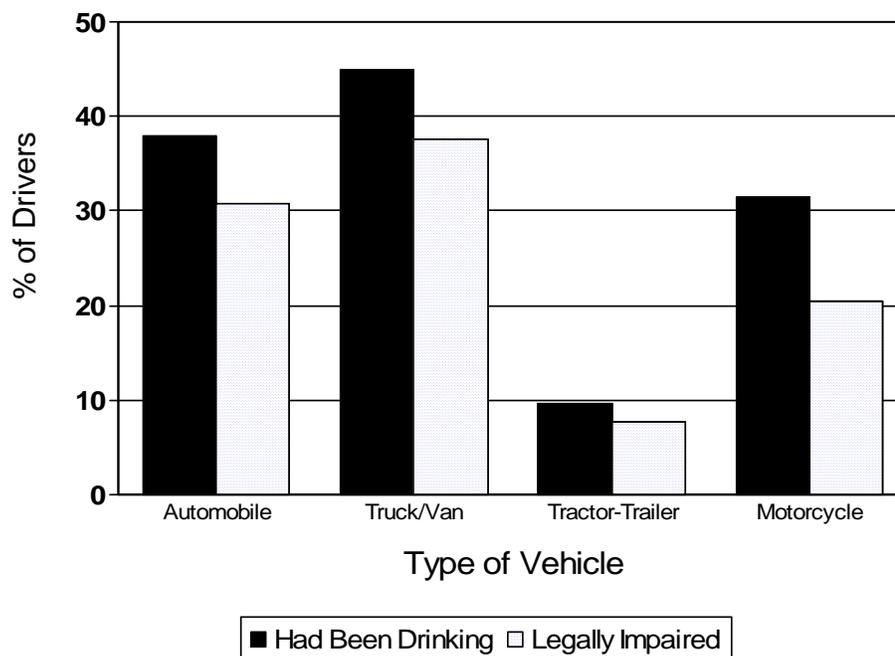


Figure 5
Trends in Alcohol Use Among Fatally Injured Drivers (Canada): 1987-2007

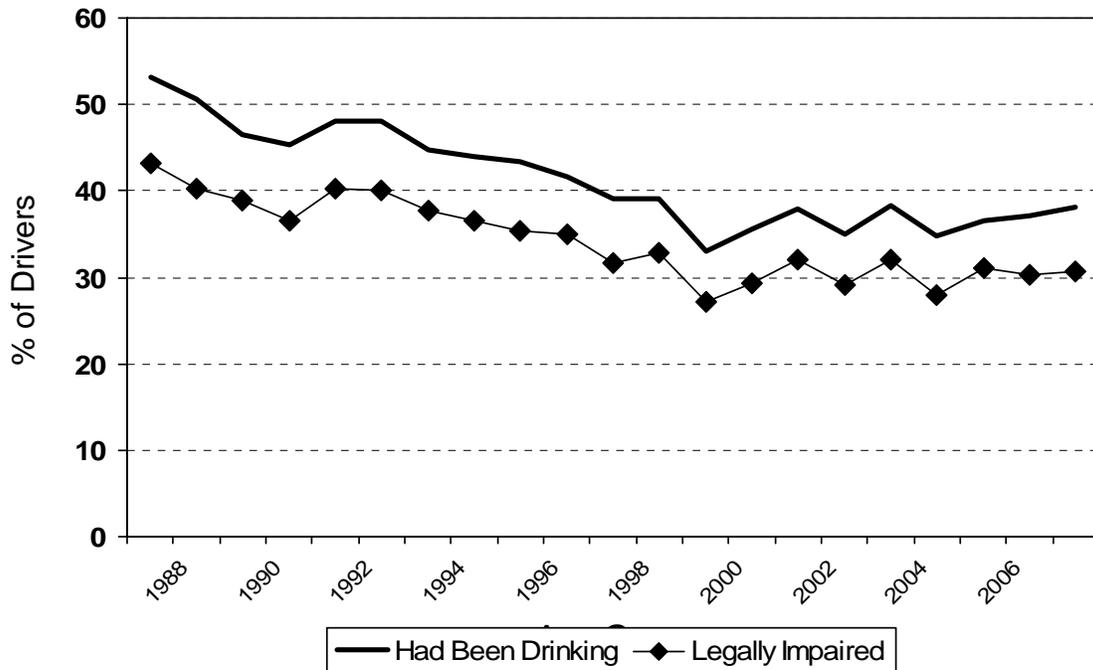


Figure 6
Trends in the Percentage of Male and Female Drivers Who Were Legally Impaired (Canada): 1987-2007

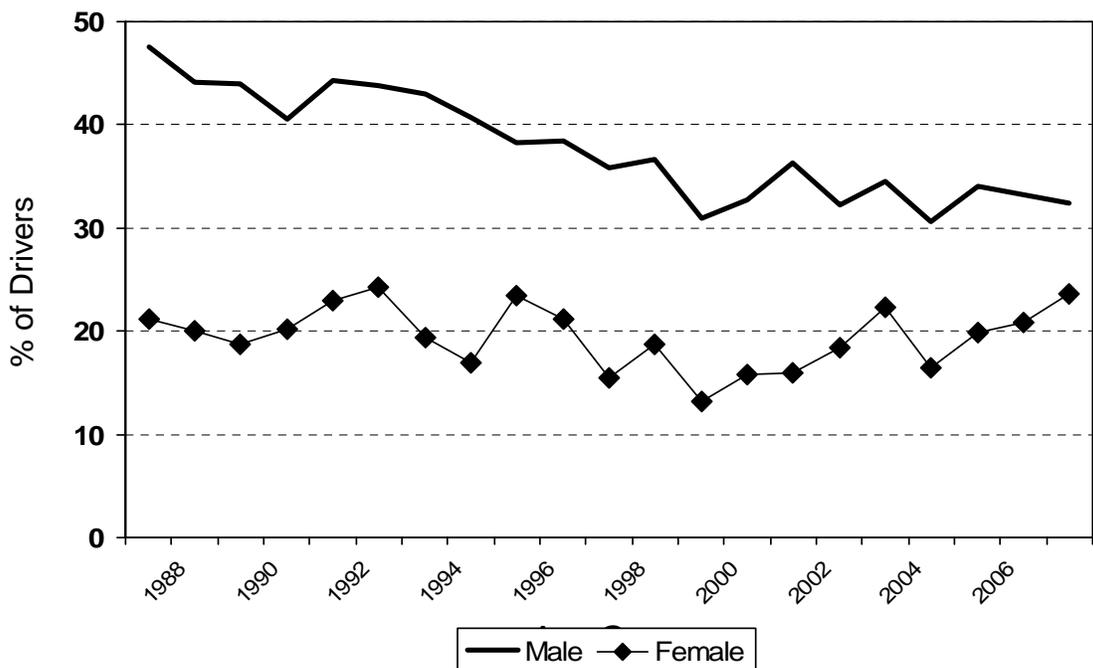


Figure 7
Trends in the Percentage of Fatally Injured Legally Impaired Drivers in Various Age Groups (Canada): 1987-2007

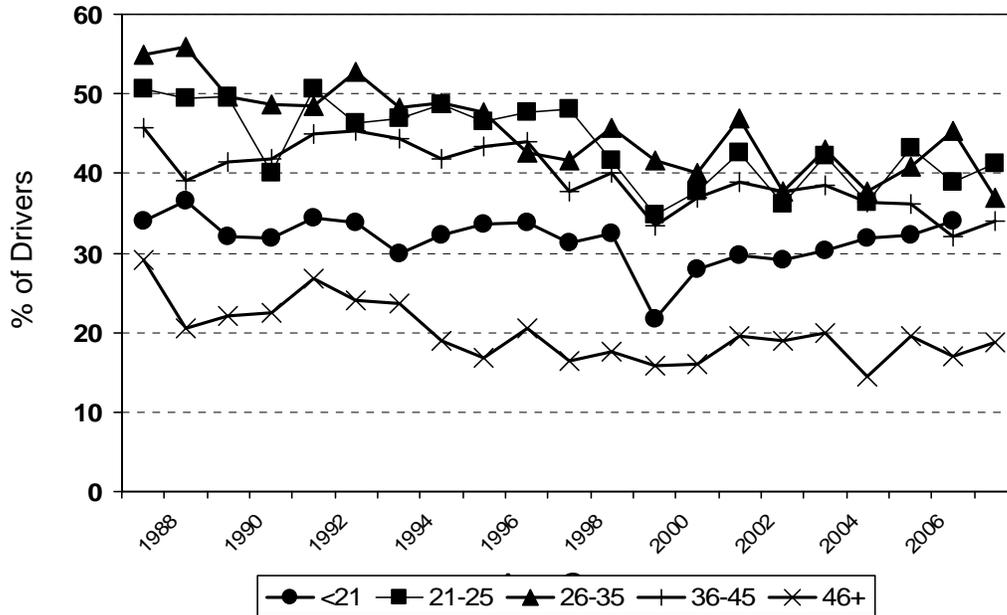


Figure 8
Trends in the Percentage of Fatally Injured Legally Impaired Drivers Operating Different Vehicles (Canada): 1987-2007

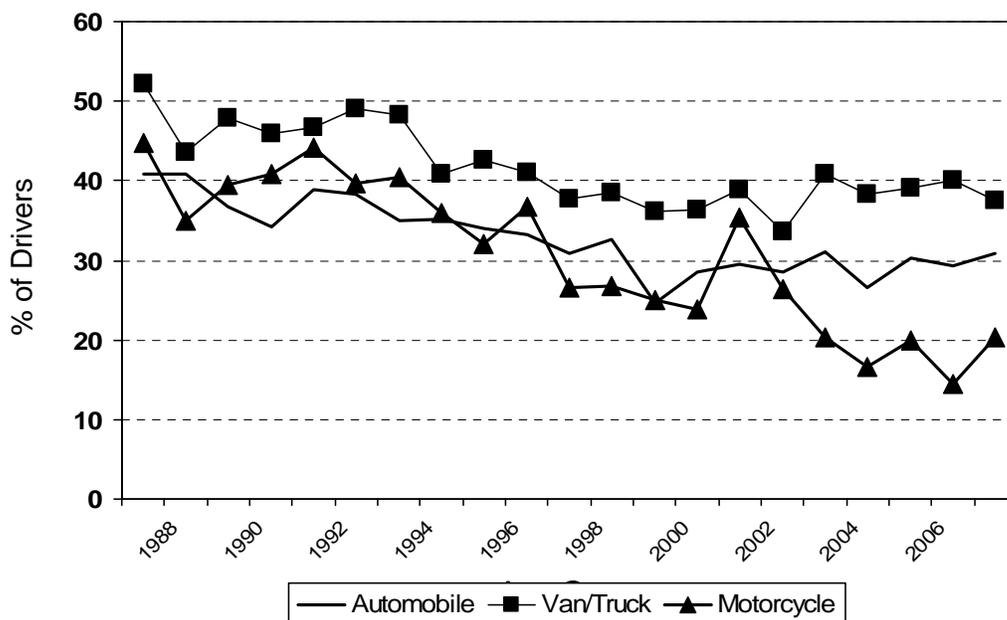


Table 1		
Number of Fatally Injured Drivers and Percentage Tested for Alcohol by Jurisdiction: 2007		
Jurisdiction	Number of Fatally Injured Drivers	Percentage of Fatally Injured Drivers Tested
British Columbia	257	88.3
Alberta	268	95.1
Saskatchewan	97	91.8
Manitoba	69	89.9
Ontario	498	87.8
Quebec	342	64.0
New Brunswick	50	90.0
Nova Scotia	55	85.5
Prince Edward Island	4	100.0
Newfoundland and Labrador	18	83.3
Yukon	2	100.0
Northwest Territories/Nunavut	5	80.0
CANADA	1,665	84.4

Table 2			
Number of Fatally Injured Drivers Tested and Percentage Who Had Been Drinking and Were Legally Impaired by Jurisdiction: 2007			
Jurisdiction	Number of Drivers Tested	Percentage of Drivers Tested	
		Had Been Drinking	Legally Impaired
British Columbia	227	45.8	37.4
Alberta	255	40.8	35.7
Saskatchewan	89	38.2	32.6
Manitoba	62	43.5	40.3
Ontario	437	31.6	22.9
Quebec	219	31.5	26.0
New Brunswick	45	48.9	37.8
Nova Scotia	47	38.3	29.8
Prince Edward Island	4	75.0	75.0
Newfoundland and Labrador	15	86.7	46.7
Yukon	2	50.0	50.0
NWT/Nunavut	4	75.0	75.0
CANADA	1,406	38.1	30.7

Table 3			
Age of Driver: Number of Fatally Injured Drivers Tested and Percentage Who Had Been Drinking and Were Legally Impaired (Canada)			
Age	Number of Drivers Tested	Percentage of Drivers Tested Had Been Drinking	Percentage of Drivers Tested Legally Impaired
<21	188	45.7	36.2
21-25	194	50.0	41.2
26-35	252	43.3	36.9
36-45	238	39.1	34.0
46-55	222	37.8	29.7
56+	312	21.5	14.1
TOTAL	1,406	38.1	30.7

Table 4			
Type of Vehicle: Number of Fatally Injured Drivers Tested and Percentage Who Had Been Drinking and Were Legally Impaired (Canada)			
Vehicle Type	Number of Drivers Tested	Percentage of Drivers Tested Had Been Drinking	Percentage of Drivers Tested Legally Impaired
Automobile	765	37.9	30.8
Truck/Van	423	44.9	37.6
Tractor-trailer	52	9.6	7.7
Moped/Motorcycle	162	31.5	20.4
Other Highway Vehicle	4	0.0	0.0
TOTAL	1,406	38.1	30.7

Table 5		
Trends in Alcohol Use Among Fatally Injured Drivers (Canada): 1987-2007		
Year	Had Been Drinking	Legally Impaired
1987	53.1	43.1
1988	50.6	40.3
1989	46.5	38.8
1990	45.4	36.6
1991	48.0	40.2
1992	48.1	40.1
1993	44.7	37.8
1994	43.9	36.6
1995	43.4	35.4
1996	41.6	34.9
1997	39.1	31.7
1998	39.1	32.8
1999	33.1	27.1
2000	35.6	29.3
2001	37.9	32.1
2002	35.0	29.1
2003	38.3	32.0
2004	34.7	27.9
2005	36.5	31.0
2006	37.1	30.2
2007	38.1	30.7

Table 6		
Trends in the Percentage of Male and Female Fatally Injured Legally Impaired Drivers (Canada): 1987-2007		
Year	Male	Female
1987	47.5	21.2
1988	44.1	20.1
1989	44.0	18.8
1990	40.6	20.2
1991	44.3	23.0
1992	43.8	24.2
1993	43.0	19.3
1994	40.7	17.0
1995	38.3	23.4
1996	38.4	21.2
1997	35.8	15.4
1998	36.6	18.8
1999	30.9	13.2
2000	32.8	15.8
2001	36.3	16.0
2002	32.2	18.4
2003	34.5	22.3
2004	30.7	16.4
2005	34.0	19.9
2006	33.2	20.8
2007	32.4	23.6

Table 7

**Trends in the Percentage of Fatally Injured Legally Impaired Drivers
in Various Age Groups (Canada): 1987-2007**

Age	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<21	34.1	36.6	32.0	31.9	34.4	33.8	30.0	32.3	33.6	33.8	31.2	32.4	21.6	28.0	29.7
21-25	50.6	49.4	49.7	40.1	50.6	46.3	46.9	48.6	46.5	47.6	48.0	41.7	34.8	37.8	42.6
26-35	54.9	55.9	49.7	48.7	48.5	52.8	48.3	48.8	47.7	42.6	41.6	45.8	41.6	40.0	46.9
36-45	45.8	39.1	41.5	41.9	45.0	45.4	44.3	41.9	43.4	43.9	37.8	40.1	33.5	36.9	38.9
46+	29.2	20.5	22.1	22.5	26.8	24.1	23.7	18.9	16.9	20.5	16.4	17.6	15.8	16.1	19.5

Age	2002	2003	2004	2005	2006	2007
<21	29.1	30.3	31.8	32.3	34.0	36.2
21-25	36.2	42.3	36.4	43.1	38.8	41.2
26-35	37.8	42.9	37.8	40.9	45.4	36.9
36-45	37.8	38.5	36.4	36.1	32.0	34.0
46+	19.0	20.0	14.4	19.6	17.0	18.7

Table 8

**Trends in the Percentage of Fatally Injured Legally Impaired Drivers
Operating Different Vehicles (Canada): 1987-2007**

Vehicle Type	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Automobile	40.8	40.9	36.7	34.2	38.8	38.3	35.0	35.1	34.1	33.3	30.8	32.6	24.6	28.5	29.6
Van/Truck	52.1	43.5	47.8	45.9	46.8	49.1	48.2	40.8	42.7	41.0	37.7	38.5	36.2	36.3	38.9
Motorcycle/ Moped	44.8	35.0	39.5	40.8	44.1	39.6	40.4	35.9	32.0	36.8	26.5	26.8	25.0	23.9	35.4

Vehicle Type	2002	2003	2004	2005	2006	2007
Automobile	28.6	31.0	26.5	30.2	29.4	30.8
Van/Truck	33.7	40.8	38.3	39.0	40.0	37.6
Motorcycle/ Moped	26.3	20.3	16.6	20.0	14.5	20.4