Alberta

Traffic Collision Statistics

2007

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2007 Overview

- The number of **traffic fatalities increased 1.1%** over the past year from 453 fatalities in 2006 to 458 in 2007.
- The number of **traffic injuries decreased 5.5%** over the past year from 25964 injuries in 2006 to 24530 in 2007.
- The number of **traffic collisions increased 7.9%** over the past year from 142592 collisions in 2006 to 153901 in 2007.
- **The highest number of fatal collisions** occurred in **July. The highest number of injury collisions** occurred in **January**.
- **Friday** was the most collision-prone day of the week.
- **The most collision-prone period of time was the afternoon rush-hour**.
- **Casualty rates** were highest for persons between the **ages of 15 and 24**.
- **Male drivers** between the **ages of 18 and 19** had the highest involvement rate of all drivers involved in casualty collisions.
- **Following too closely, running off the road and left turn across path** were the most frequently identified **improper driver actions** contributing to casualty collisions.
- **Fatal collisions** occurred most frequently in **rural areas**, whereas **injury and property damage collisions** occurred more frequently in **urban areas**.
- **23.9% of pedestrians** involved in **fatal collisions had consumed alcohol prior to the collision** compared to **15.1% of pedestrians in injury collisions**.
- **22.3%** of drivers involved in fatal collisions **had consumed alcohol** prior to the crash compared to 4.9**%** of drivers in injury collisions.
- **Collision involved restraint users had a much lower injury rate** (9.1%) than those not using restraints (36.5%)

Preface

The purpose of this report is to provide an overview of the “who”, “what”, “when”, “where”, “why”, and “how” of traffic collisions which occurred in Alberta during 2007. Although the report is general in nature, it pays particular attention to casualty collisions, that is, those collisions which result in death or injury. Legislation in Alberta requires that a traffic collision, which results in either death, injury or property damage to an apparent extent of $1000.00 or more, be reported immediately to an authorized peace officer. The officer completes a standardized collision report form which provides information on various aspects of the traffic collision. This report is based on the data collected from these report forms.

The collision report form is issued with standard instructions to every police service within Alberta, to be completed by the officer attending the scene of a motor vehicle collision or at a police station. Police priorities at the scene of a collision are to care for the injured, protect the motoring public and clear the roadway. Completion of the collision report form is a secondary, but necessary task.

After completion, the information on the collision report form is coded for input to computer files. The Alberta Collision Information System, which has been operational since 1978, undergoes several manual and computerized inspections each year in order to ensure maximum accuracy of the final data output. This collision information is used to make Alberta’s roads safer for all road users. Due to continuing police investigation, some numbers presented in this report may be subject to revision. It should also be noted that not all percentage columns will total 100 due to rounding error.

This report was produced based on collisions reported to Alberta Transportation by police, at the time of printing. The numbers presented in this report will not be updated. However, the patterns and trends detailed in this report represent an accurate description of Alberta’s traffic collision picture.

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Glossary

Alcohol Impaired – In the judgement of the police officer, driving ability was impaired by alcohol consumption. Whether or not the subject was actually charged is not taken into consideration by the collision report form.

Casualty Collision – A vehicle collision which results in either a fatal or personal injury.

Drinking Driver – Refers to those drivers judged by the police officer as having been drinking prior to the collision or as being alcohol impaired at the time of the collision. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

Fatality – A fatality is the death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Had Been Drinking – In the judgement of the police officer, the driver had recently consumed alcohol but his driving ability was not obviously impaired.

Major Injury – Persons with injuries or complaint of pain that went to the hospital and were subsequently admitted even if for observation only.

Minor Injury – Persons with injuries or complaint of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes people who indicated that they intended to seek medical treatment).

Motorcyclist – Refers to drivers and passengers of motorcycles.

Occupant Casualties – Refers to people who were injured or killed as a result of a vehicle collision and were identified as being either a vehicle driver or passenger.

Property Damage – A vehicle collision which resulted in property damage exceeding $1000.00.

Reportable Collision – A vehicle collision which resulted in death, injury or property damage greater than $1000.00.

Rural – Any area outside of what is defined as “**Urban**”.

Urban – Any area within the corporate boundaries of a city, town, village or hamlet.

2007 Traffic Collision Summary

Introduction

During 2007, 153901 collisions were recorded on Alberta roadways. Property damage collisions (over $1000) represented 88.1% (135642) of this total while 11.6% (17857) were non-fatal injury collisions. Fatal collisions accounted for 0.3% (402) of the total reported collisions.

Five Year Trends

In terms of population the fatal collision rate and fatality rate has remained the same from 2006. In terms of licensed drivers and registered vehicles, the fatal collision rates decreased and the fatality rates remained the same from 2006.

The non-fatal injury collision rates have decreased in 2007 in terms of population, licensed drivers, and registered vehicles.

Property damage collision rates increased in 2007 in terms of population, licensed drivers and registered vehicles.

Provincial Comparisons

In order to get a picture of Alberta's traffic casualties in comparison to other provinces, rates rather than absolute numbers are utilized. In this instance casualty rates per billion vehicle kilometres travelled were examined.

Figures for 2007 provincial comparisons were not available at the time of printing; therefore, figures for 2006 were used. Based on this comparison of rates per billion vehicle kilometres travelled, of the twelve provinces and territories for which information was available, six had a higher fatality rate than Alberta in 2006. With regard to injury rate, in 2006, five jurisdictions had a higher injury rate than Alberta.

Table 1.1

Alberta Traffic Collisions

2003 – 2007

Severity of Collisions	**2007**	**2006**	**2005**	**2004**	**2003**
Fatal Collisions	402	404	392	339	321
Non-Fatal Injury Collisions	17857	18831	17726	17248	18447
Property Damage Collisions	135642	123357	106088	94966	94589
Total Reportable Collisions	**153901**	**142592**	**124206**	**112553**	**113357**
Number Killed	458	453	466	387	385
Number Injured	24530	25964	24504	24249	26426
Total Number of Casualties	**24988**	**26417**	**24970**	**24636**	**26811**

Observations

In 2007, the overall number of collisions increased 7.9% when compared to 2006. In 2007, injury collisions decreased by 5.2% and fatal crashes decreased by 0.5%. The number of fatalities increased by 1.1% from 2006 to 2007, and the number of injuries decreased by 5.5%. In terms of the past five years, overall collisions were lowest in 2004 and highest in 2007.

Table 1.2

Traffic Collision Rates

2003 – 2007

Severity of Collision	Rate Per 10,000 Population*					Rate Per 10,000 Licensed Drivers*					Rate Per 10,000 Registered Vehicles*				
	2007	**2006**	**2005**	**2004**	**2003**	**2007**	**2006**	**2005**	**2004**	**2003**	**2007**	**2006**	**2005**	**2004**	**2003**
Fatal Collisions	1.2	1.2	1.2	1.1	1.0	1.5	1.6	1.6	1.4	1.4	1.4	1.5	1.5	1.4	1.3
Number Killed	1.3	1.3	1.4	1.2	1.2	1.8	1.8	1.9	1.6	1.6	1.6	1.6	1.8	1.6	1.6
Non-Fatal Injury Collisions	51.4	55.8	54.4	53.9	58.5	68.6	74.5	72.6	72.2	78.0	61.1	68.0	68.2	69.7	76.4
Number Injured	70.6	76.9	75.2	75.7	83.8	94.3	102.8	100.3	101.5	111.8	83.9	93.8	94.3	98.0	109.5
Property Damage Collisions	390.5	365.4	325.7	296.6	299.9	521.4	488.3	434.4	397.6	400.2	464.2	445.4	408.1	383.7	391.8
Total Reportable Collisions	**443.0**	**422.4**	**381.4**	**351.5**	**359.4**	**591.6**	**564.5**	**508.6**	**471.2**	**479.6**	**526.7**	**514.9**	**477.8**	**454.7**	**469.5**

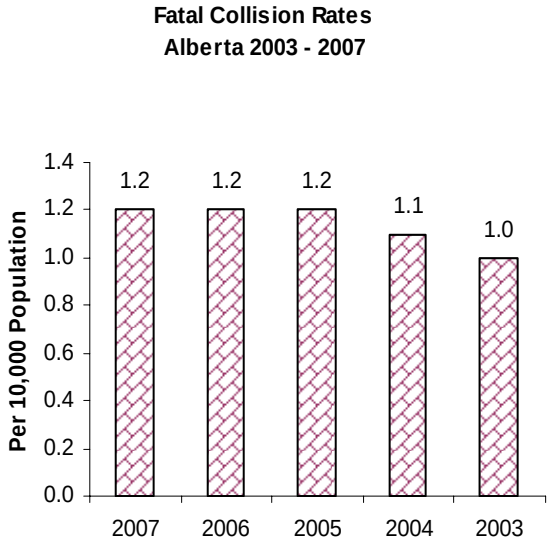
Observations

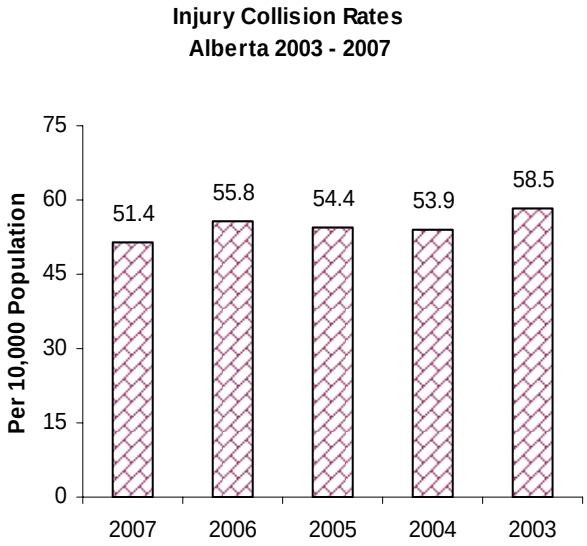
In terms of population, licensed drivers and registered vehicles the fatality rates have remained the same as 2006.

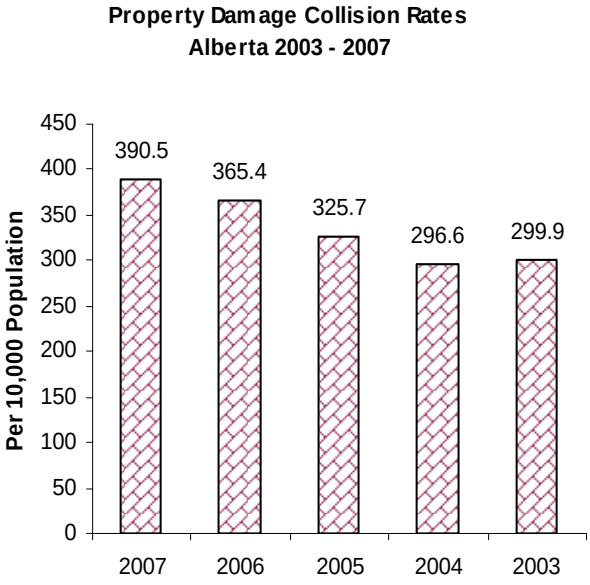
The rate for number injured, has decreased in 2007 in terms of population, licensed drivers and registered vehicles.

*Sources:
Population – Statistics Canada as of July 1, 2007
Licensed Drivers – Service Alberta – Registries Services, as of December 31, 2007
Registered Vehicles – Service Alberta – Registries Services, as of December 31, 2007

Figure 1


Fatal Collision Rates
Alberta 2003 - 2007
Per 10,000 Population
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1.2
1.2
1.2
1.1
1.0
2007
2006
2005
2004
2003


Injury Collision Rates
Alberta 2003 - 2007
Per 10,000 Population
75
60
45
30
15
0
51.4
55.8
54.4
53.9
58.5
2007
2006
2005
2004
2003


Property Damage Collision Rates
Alberta 2003 - 2007
Per 10,000 Population
450
400
350
300
250
200
150
100
50
0
390.5
365.4
325.7
296.6
299.9
2007
2006
2005
2004
2003

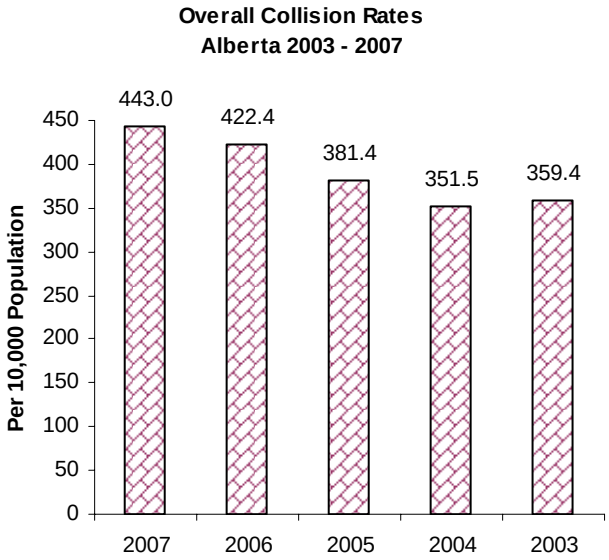

Overall Collision Rates
Alberta 2003 - 2007
Per 10,000 Population
450
400
350
300
250
200
150
100
50
0
443.0
422.4
381.4
351.5
359.4
2007
2006
2005
2004
2003

Table 1.3

Provincial Comparison of Casualty Rates
Per Billion Vehicle Kilometres Travelled*

2003 – 2006

	2006		2005		2004		2003	
	Fatalities	**Injuries**	**Fatalities**	**Injuries**	**Fatalities**	**Injuries**	**Fatalities**	**Injuries**
Canada	8.9	604.0	9.3	668.0	8.8	680.8	8.9	711.0
Alberta	10.0	570.7	10.6	555.1	9.9	621.5	9.8	671.8
British Columbia	12.9	789.5	13.9	873.3	12.4	842.4	12.9	902.5
Saskatchewan	12.2	604.4	13.2	612.8	11.0	647.1	12.1	618.0
Manitoba	9.9	729.1	10.3	788.4	9.5	890.8	8.5	795.9
Ontario	6.0	525.2	6.3	571.5	6.6	599.8	7.3	669.2
Quebec	10.3	711.1	10.6	871.2	9.0	778.0	8.4	754.3
New Brunswick	12.3	452.3	13.6	508.5	9.6	572.9	11.8	572.5
Nova Scotia	8.4	470.8	7.1	487.7	9.4	533.2	6.7	504.1
Prince Edward Island	25.0	803.6	11.3	565.7	22.6	759.5	12.0	753.3
Newfoundland	8.5	501.3	9.8	537.1	9.7	699.1	11.0	768.5
Yukon	24.2	434.5	12.3	396.4	9.4	397.4	14.1	468.3
Northwest Territories	5.3	294.3	5.4	505.7	9.6	485.2	8.2	471.4
Nunavut	N/A	N/A	N/A	N/A	33.7	2222.2	N/A	N/A

Observations

In order to get a picture of Alberta's traffic casualties in comparison to other provinces, rates rather than absolute numbers are utilized. In this instance casualty rates per billion vehicle kilometres travelled were examined.

Based on this comparison of rates per billion vehicle kilometres travelled, of the twelve provinces and territories for which information was available, six had a higher fatality rate than Alberta in 2006. With regard to injury rate, in 2006, five jurisdictions had a higher injury rate than Alberta.

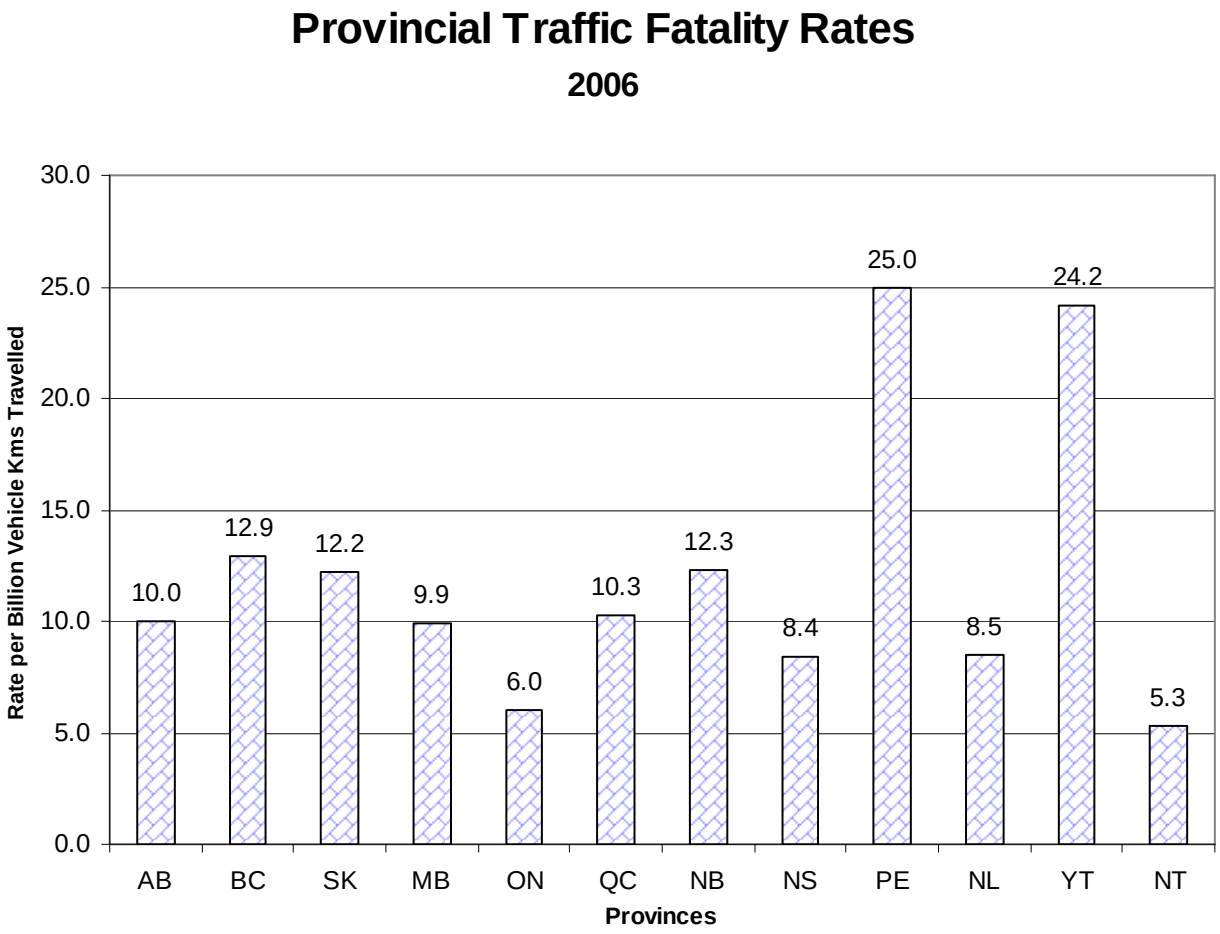
*Figures for 2007 were not available at time of printing.

Sources: Transport Canada Canadian Motor Vehicle Traffic Collision Statistics TP3322 and Statistics Canada, "Canadian Vehicle Survey", catalogue No. 53-223-XIE.

The Canadian Vehicle Survey (CVS) is a voluntary vehicle-based survey that provides annual estimates of road vehicle activity (Vehicle-kilometres and passenger-kilometres) of vehicles registered in Canada.

The in-scope vehicles for the CVS include all motor vehicles except motorcycles, off-road vehicles (e.g., snowmobiles, dune buggies, amphibious vehicles) and special equipment (e.g. cranes, street cleaners, snowplows and backhoes) registered in Canada anytime during the survey reference period that have not been scrapped or salvaged.

Figure 2


Provincial Traffic Fatality Rates
2006
Rate per Billion Vehicle Kms Travelled
30.0
25.0
20.0
15.0
10.0
5.0
0.0
10.0
12.9
12.2
9.9
6.0
10.3
12.3
8.4
25.0
8.5
24.2
5.3
AB
BC
SK
MB
ON
QC
NB
NS
PE
NL
YT
NT
Provinces

When the Collisions Occurred

Month

The months of January and December experienced more casualty collisions than other months. The highest number of property damage collisions was recorded during the month of December.

Day of Week

The daily distribution of collisions indicated that Friday was the most collision-prone day of the week.

Time

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the highest proportion of collisions. The least collision-prone time period was the early morning (3:00 a.m. – 6:59 a.m.).

Holidays

The August Long Weekend recorded the highest number of individuals killed. The Labour Day Long Weekend recorded the highest number of injuries. The Christmas Season recorded the highest total number of collisions.

Table 2.1

Collision Occurrence by Month

2007

Month	Fatal Collisions		Non-Fatal Injury Collisions		Property Damage Collisions		Total Collisions	
	N	%	N	%	N	%	N	%
January	32	8.0	1656	9.3	12718	9.4	14406	9.4
February	18	4.5	1514	8.5	12973	9.6	14505	9.4
March	26	6.5	1298	7.3	10694	7.9	12018	7.8
April	25	6.2	1177	6.6	9124	6.7	10326	6.7
May	30	7.5	1414	7.9	9245	6.8	10689	6.9
June	40	10.0	1565	8.8	10350	7.6	11955	7.8
July	50	12.4	1543	8.6	10201	7.5	11794	7.7
August	37	9.2	1486	8.3	9575	7.1	11098	7.2
September	35	8.7	1485	8.3	10073	7.4	11593	7.5
October	36	9.0	1595	8.9	10882	8.0	12513	8.1
November	39	9.7	1476	8.3	13964	10.3	15479	10.1
December	34	8.5	1644	9.2	15573	11.5	17251	11.2
Unspecified	--	--	4	0.0	270	0.2	274	0.2
Total Number of Collisions	**402**	**100.0**	**17857**	**100.0**	**135642**	**100.0**	**153901**	**100.0**

Observations

The month of July experienced more fatal crashes than other months. The highest number of reported injury collisions was in January and the highest number of property damage collisions occurred in the month of December.

Table 2.2

Collision Occurrence by Day of Week

2007

Day of Week	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
Monday	49	12.2	2592	14.5	19345	14.3	21986	14.3
Tuesday	52	12.9	2724	15.3	20037	14.8	22813	14.8
Wednesday	51	12.7	2631	14.7	20092	14.8	22774	14.8
Thursday	69	17.2	2695	15.1	20539	15.1	23303	15.1
Friday	74	18.4	2976	16.7	23002	17.0	26052	16.9
Saturday	65	16.2	2372	13.3	18094	13.3	20531	13.3
Sunday	42	10.4	1854	10.4	14132	10.4	16028	10.4
Unspecified	--	--	13	0.1	401	0.3	414	0.3
Total Number of Collisions	**402**	**100.0**	**17857**	**100.0**	**135642**	**100.0**	**153901**	**100.0**

Observations

The daily distribution of collisions indicated that overall Friday was the most collision-prone day of the week.

Table 2.3

Collision Occurrence by Time Period

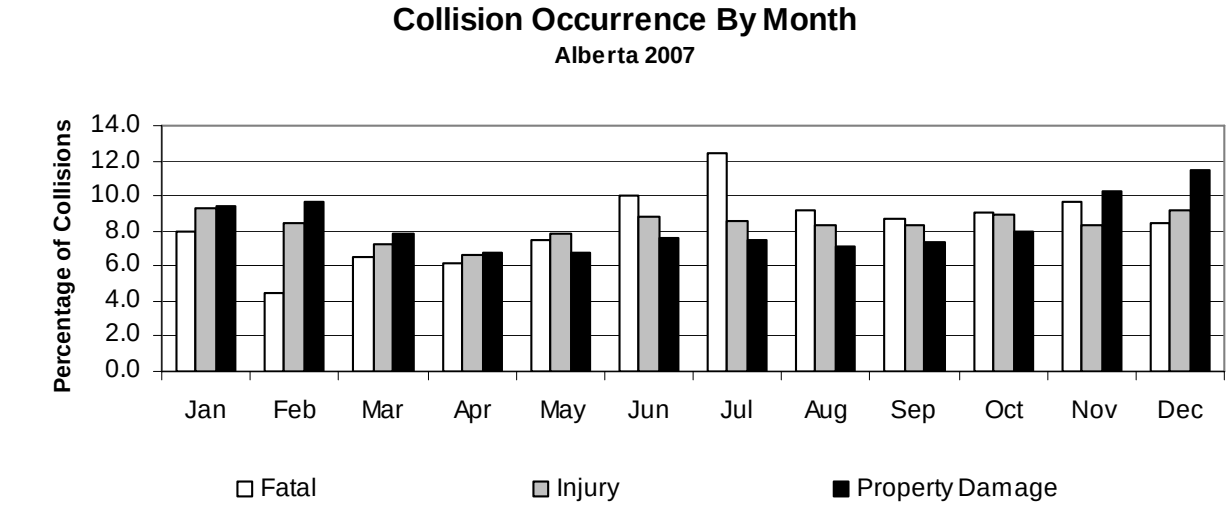
2007

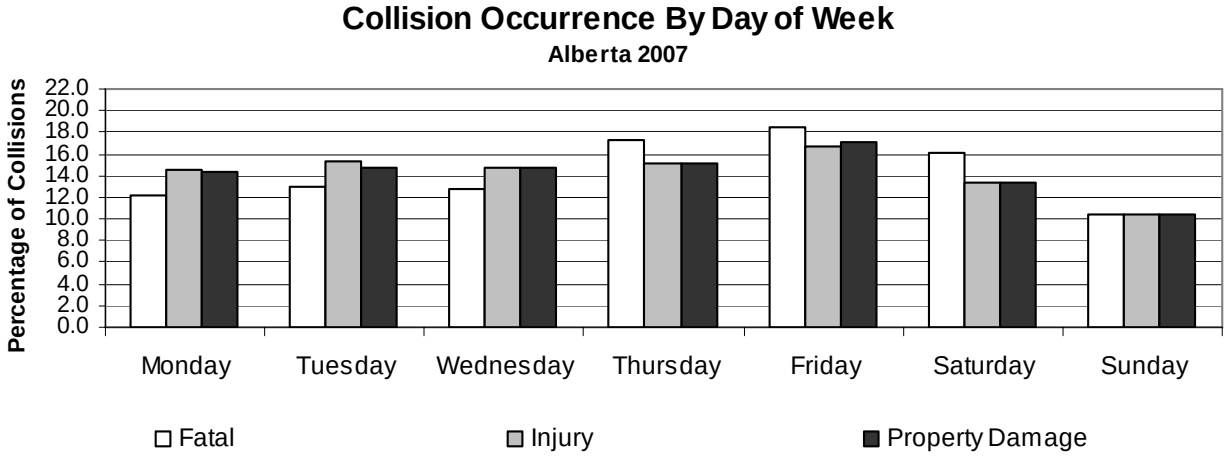
Time Period	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
11:00 p.m. - 2:59 a.m.	71	17.7	1344	7.5	10302	7.6	11717	7.6
3:00 a.m. - 6:59 a.m.	42	10.4	971	5.4	7269	5.4	8282	5.4
7:00 a.m. - 10:59 a.m.	64	15.9	3217	18.0	24344	17.9	27625	17.9
11:00 a.m. - 2:59 p.m.	56	13.9	4035	22.6	31808	23.4	35899	23.3
3:00 p.m. - 6:59 p.m.	92	22.9	5635	31.6	38723	28.5	44450	28.9
7:00 p.m. - 10:59 p.m.	72	17.9	2523	14.1	20627	15.2	23222	15.1
Unspecified	5	1.2	132	0.7	2569	1.9	2706	1.8
Total Number of Collisions	**402**	**100.0**	**17857**	**100.0**	**135642**	**100.0**	**153901**	**100.0**

Observations

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the largest percentage (28.9%) of collisions occurring in a 24 hour period. The least collision-prone time period was the early morning (3:00 a.m. – 6:59 a.m.).

Figure 3


Collision Occurrence By Month
Alberta 2007
Percentage of Collisions
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Fatal
Injury
Property Damage


Collision Occurrence By Day of Week
Alberta 2007
Percentage of Collisions
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Fatal
Injury
Property Damage

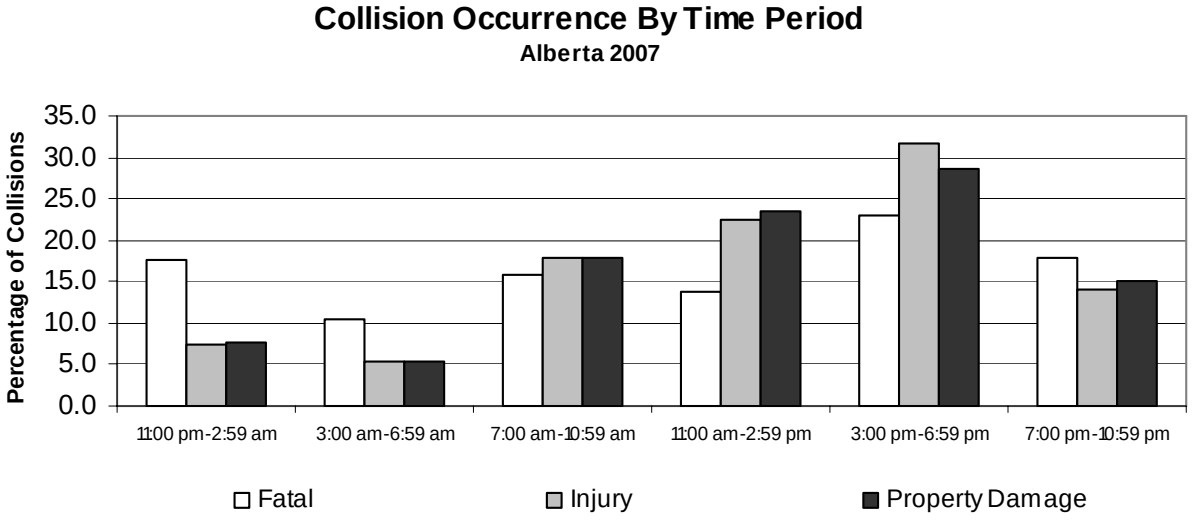

Collision Occurrence By Time Period
Alberta 2007
Percentage of Collisions
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
11:00 pm-2:59 am
3:00 am-6:59 am
7:00 am-10:59 am
11:00 am-2:59 pm
3:00 pm-6:59 pm
7:00 pm-10:59 pm
Fatal
Injury
Property Damage

Table 2.4

Collisions During 2007 Holidays

Holidays	Number Killed N	Number Injured N	Total Collisions* N
New Year's Day (January 1)	3	81	378
Family Day Long Weekend (February 16-19)	3	211	1503
Easter Long Weekend (April 5-9)	7	258	1493
Victoria Day Long Weekend (May 18-21)	1	208	1148
Canada Day (June 29 -July 2)	8	274	1461
August Long Weekend (August 3-6)	10	259	1217
Labour Day Long Weekend (August 31-September 3)	4	285	1357
Thanksgiving Long Weekend (October 5-8)	4	252	1364
Remembrance Day (November 9-12)	3	248	1605
Christmas Season (December 24-28)	7	263	1831
TOTAL	**50**	**2339**	**13357**

Observations

The August Long Weekend recorded the highest number of individuals killed. The Labour Day Long Weekend recorded the highest number of injuries. The Christmas Season recorded the highest total number of collisions.

*Total collisions includes fatal, injury and property damage collisions.

Note: Comparisons should be done with caution. The number of days for each holiday period within the year may vary. From year to year, holiday periods may also vary in length.

Victims

Road User Class

The majority of traffic victims were drivers and passengers of vehicles. Pedestrians and motorcyclists accounted for 5.6% and 3.3% of the total casualties, respectively.

Age of Casualties

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 and under.

Table 3.1

Injuries and Fatalities by Road User Class

2007

Road User Class	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %
Drivers	231	50.4	14818	60.4	15049	60.2
Passengers	101	22.1	6626	27.0	6727	26.9
Pedestrians	55	12.0	1346	5.5	1401	5.6
Motorcyclists	31	6.8	793	3.2	824	3.3
Bicyclists	11	2.4	500	2.0	511	2.0
Other	13	2.8	301	1.2	314	1.3
Unspecified	16	3.5	146	0.6	162	0.6
Total Casualties	**458**	**100.0**	**24530**	**100.0**	**24988**	**100.0**

Observations

The majority of traffic victims were drivers (60.2%) and passengers (26.9%) of vehicles. Pedestrians and motorcyclists accounted for 5.6% and 3.3% of the total casualties, respectively.

Table 3.2

Age of Casualties

2007

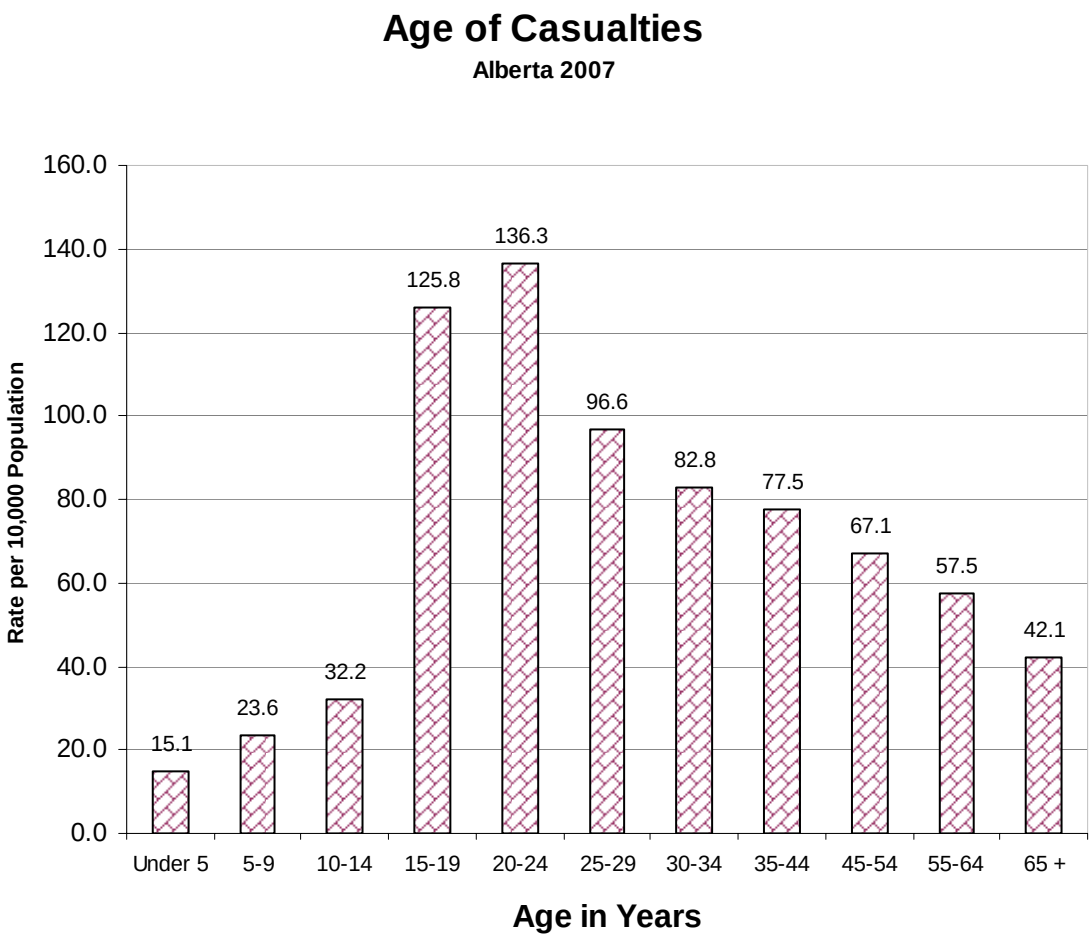
Age in Years	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %	Casualty Rate Per 10,000 Population*
Under 5	7	1.5	321	1.3	328	1.3	15.1
5-9	14	3.1	478	1.9	492	2.0	23.6
10-14	10	2.2	706	2.9	716	2.9	32.2
15-19	37	8.1	3017	12.3	3054	12.2	125.8
20-24	79	17.2	3670	15.0	3749	15.0	136.3
25-29	50	10.9	2703	11.0	2753	11.0	96.6
30-34	29	6.3	2148	8.8	2177	8.7	82.8
35-44	71	15.5	4030	16.4	4101	16.4	77.5
45-54	60	13.1	3482	14.2	3542	14.2	67.1
55-64	49	10.7	1911	7.8	1960	7.8	57.5
65 and over	52	11.4	1473	6.0	1525	6.1	42.1
Unspecified	--	--	591	2.4	591	2.4	
Total Casualties	**458**	**100.0**	**24530**	**100.0**	**24988**	**100.0**	

Observations

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 years of age and younger.

*Based on estimates of the Alberta population by age groups and sex, July 1, 2007, Statistics Canada

Figure 4


Age of Casualties
Alberta 2007
Rate per 10,000 Population
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
15.1
23.6
32.2
125.8
136.3
96.6
82.8
77.5
67.1
57.5
42.1
Under 5
5-9
10-14
15-19
20-24
25-29
30-34
35-44
45-54
55-64
65 +
Age in Years

Drivers

Age and Sex of Drivers

Collision rates per 1000 licensed drivers indicate that males 18 to 19 years old were more likely to be involved in a casualty collision than any other age group. The next age group most likely to be involved in casualty collisions was males 16 to 17 years old.

Driver Actions

Following too closely (29.2%), running off the road (15.7%) and left turn across path (13.0%) were the most frequently identified improper driver actions contributing to casualty collisions.

Table 4.1

Age and Sex of Drivers Involved in Casualty Collisions:

Per 1,000 Licensed Drivers

2007

	Male			Female			Total*		
Age of Driver	**N**	**%**	**Rate Per 1000** Licensed Drivers**	**N**	**%**	**Rate Per 1000** Licensed Drivers**	**N**	**%**	**Rate Per 1000** Licensed Drivers**
Under 16	174	0.5	12.4	54	0.2	4.7	231	0.7	9.0
16-17	743	2.3	23.8	412	1.3	15.4	1157	3.6	19.9
18-19	1149	3.6	27.9	712	2.2	19.5	1861	5.8	24.0
20-24	3049	9.4	22.9	1786	5.5	15.5	4837	15.0	19.5
25-34	4429	13.7	15.8	2692	8.3	10.7	7124	22.1	13.4
35-44	3688	11.4	13.6	2557	7.9	10.3	6248	19.3	12.1
45-54	3236	10.0	11.6	2030	6.3	7.9	5268	16.3	9.9
55-64	1895	5.9	10.6	1039	3.2	6.5	2938	9.1	8.7
65 and over	1303	4.0	8.9	649	2.0	5.3	1954	6.1	7.2
Unspecified	107	0.3		52	0.2		672	2.1	
Total Number of Drivers	**19773**	**61.2**		**11983**	**37.1**		**32290**	**100.0**	

Observations

Collision rates per 1000 licensed drivers indicated that males 18 to 19 years old were more likely to be involved in a casualty collision than any other age group. The next age group most likely to be involved in casualty collisions was males 16 to 17 years old.

*Total includes drivers whose sex was not specified on the collision report form. Includes bicyclists.

**Source: Licensed Drivers – Service Alberta – Registries Services, as of December 31, 2007.

Figure 5

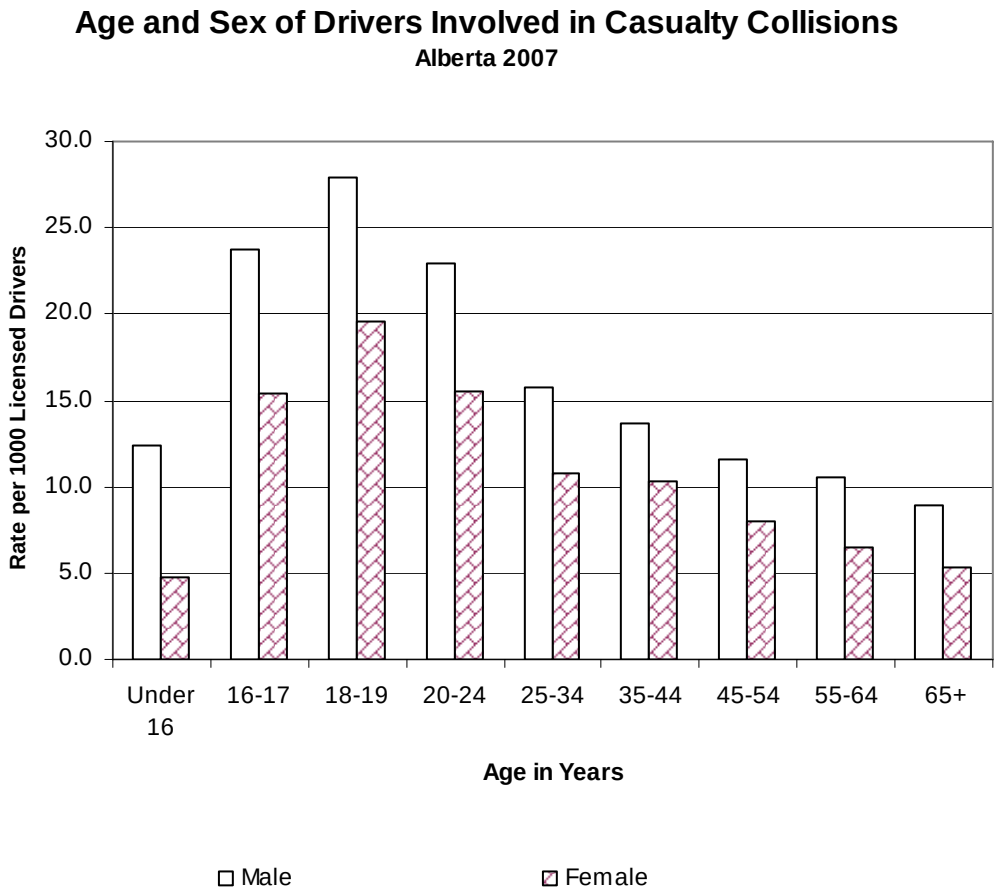

Age and Sex of Drivers Involved in Casualty Collisions
Alberta 2007
Rate per 1000 Licensed Drivers
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Under 16
16-17
18-19
20-24
25-34
35-44
45-54
55-64
65+
Age in Years
Male
Female

Table 4.2

Improper Actions of Drivers Involved in Casualty Collisions*

2007

Improper Actions	Drivers in Fatal Collisions N	%	Drivers in Non-Fatal Injury Collisions N	%	Total Drivers in Casualty Collisions N	%
Followed Too Closely	7	2.2	3626	29.9	3633	29.2
Ran Off Road	148	46.5	1799	14.8	1947	15.7
Left Turn Across Path	13	4.1	1610	13.3	1623	13.0
Stop Sign Violation	40	12.6	961	7.9	1001	8.0
Disobey Traffic Signal	5	1.6	904	7.5	909	7.3
Failed to Yield Right of Way to Pedestrian	9	2.8	433	3.6	442	3.6
Improper Turn	8	2.5	409	3.4	417	3.4
Left of Centre	49	15.4	304	2.5	353	2.8
Improper Lane Change	1	0.3	331	2.7	332	2.7
Backed Unsafely	3	0.9	302	2.5	305	2.5
Yield Sign Violation	6	1.9	287	2.4	293	2.4
Failed to Yield Right of Way - Uncontrolled Intersection	4	1.3	202	1.7	206	1.7
Improper Passing	11	3.5	156	1.3	167	1.3
Other	14	4.4	796	6.6	810	6.5
Total Number of Drivers	**318**	**100.0**	**12120**	**100.0**	**12438**	**100.0**

Observations

Following too closely (29.2%), running off the road (15.7%) and left turn across path (13.0%) were the most frequently identified improper driver actions contributing to casualty collisions.

*Based on those cases where driver actions were specified on the collision report form. Includes bicyclists.

Note: There was a total of 26195 drivers involved in casualty collisions for which a driver action was specified on the collision report form. 13757 were indicated as driving properly at the time of the collision.

Vehicles

Types of Vehicles

Passenger cars (47.4%), minivans/MPV (21.0%) and pick-up trucks/vans (20.5%) were the vehicles most frequently involved in total casualty collisions.

Vehicle Factors

Less than 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was defective brakes.

Point of Impact

The most common point of impact in casualty collisions involved the front of the vehicle. Approximately 44.3% of the impacts involved the centre front.

Table 5.1

Types of Vehicles Involved in Casualty Collisions*

2007

Type of Vehicle	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Passenger Car	172	27.7	15424	47.8	15596	47.4
Mini-Van/MPV	79	12.7	6834	21.2	6913	21.0
Pick-up Truck/Van	193	31.1	6549	20.3	6742	20.5
Truck 4500 kg+	41	6.6	1129	3.5	1170	3.6
Motorcycle	34	5.5	773	2.4	807	2.5
Tractor-Trailer	73	11.8	577	1.8	650	2.0
Bicycle	12	1.9	502	1.6	514	1.6
Off-Highway Vehicle	9	1.5	136	0.4	145	0.4
Transit Bus	1	0.2	116	0.4	117	0.4
School Bus	1	0.2	79	0.2	80	0.2
Emergency Vehicle	--	--	54	0.2	54	0.2
Construction Equipment	--	--	37	0.1	37	0.1
Farm Equipment	2	0.3	19	0.1	21	0.1
Other Bus	3	0.5	15	0.0	18	0.1
Motorized Snow Vehicle	--	--	15	0.0	15	0.0
Motorhome	--	--	14	0.0	14	0.0
Intercity Bus	--	--	5	0.0	5	0.0
Moped	--	--	2	0.0	2	0.0
Other	--	--	7	0.0	7	0.0
Total Number of Vehicles	**620**	**100.0**	**32280**	**100.0**	**32900**	**100.0**

Observations

Passenger cars, mini-van/MPV and pick-up trucks/vans were the vehicles most frequently involved in total casualty collisions. Overall, bicycles represented 1.6% and motorcycles 2.5% of the vehicles involved in casualty collisions. Tractor-Trailers were 2.0% of total vehicles in casualty crashes, but 11.8% of vehicles in fatal crashes.

*Based on those cases where type of vehicle was specified on the collision report form.

Table 5.2

Vehicle Factors Involved in Casualty Collisions*

2007

Vehicle Factors	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
No Apparent Defect	451	98.7	25601	99.1	26052	99.1
Defective Brakes	1	0.2	70	0.3	71	0.3
Tires Failed	1	0.2	50	0.2	51	0.2
Improper Load/Shift	--	--	17	0.1	17	0.1
Lighting Defect	1	0.2	12	0.0	13	0.0
Other	3	0.7	75	0.3	78	0.3
Total Number of Vehicles	**457**	**100.0**	**25825**	**100.0**	**26282**	**100.0**

Observations

Less than 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was defective brakes.

*Based on those cases where a vehicle factor was specified on the collision report form. This information does not indicate whether or not a mechanical inspection of the collision-involved vehicle was conducted.

Table 5.3

Point of Impact on Vehicles Involved in Casualty Collisions*

2007

Point of Impact	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Centre Front	274	46.2	13392	44.2	13666	44.3
Centre Rear	24	4.0	6590	21.8	6614	21.4
Right Front	27	4.6	2123	7.0	2150	7.0
Rollover	119	20.1	2026	6.7	2145	6.9
Left Front	36	6.1	2076	6.9	2112	6.8
Right Side	34	5.7	1117	3.7	1151	3.7
Left Side	39	6.6	1109	3.7	1148	3.7
Left Rear	6	1.0	755	2.5	761	2.5
Right Rear	9	1.5	702	2.3	711	2.3
Attachment	19	3.2	212	0.7	231	0.7
Undercarriage	3	0.5	101	0.3	104	0.3
Top	3	0.5	87	0.3	90	0.3
Total Number of Vehicles	**593**	**100.0**	**30290**	**100.0**	**30883**	**100.0**

Observations

The most common point of impact in casualty collisions involved the front of the vehicle. 44.3% of the impacts involved the centre front, while 21.4% of the impacts involved the centre rear.

*Based on those cases where point of impact was specified on the collision report form.

Environment

Location

The majority of fatal crashes (67.4%) occurred in rural areas, whereas the majority of injury (77.7%) and property damage (81.3%) crashes occurred in urban areas.

Surface Conditions

The majority (60.5%) of all casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 15.4% of fatal collisions and 21.0% of non-fatal injury collisions.

Table 6.1

Location of Collisions

2007

Location	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
Urban	131	32.6	13882	77.7	110212	81.3	124225	80.7
Rural	271	67.4	3975	22.3	25430	18.7	29676	19.3
Total Number of Collisions	**402**	**100.0**	**17857**	**100.0**	**135642**	**100.0**	**153901**	**100.0**

Observations

Collisions which occurred in rural areas accounted for 67.4% of all fatal crashes. Collisions occurring in urban areas resulted in the highest proportion of non-fatal injury collisions (77.7%) and property damage crashes (81.3%).

Table 6.2

Casualty Collision Occurrence by Surface Condition

2007

Surface Condition	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Dry	287	71.4	10762	60.3	11049	60.5
Slush/Snow/Ice	62	15.4	3756	21.0	3818	20.9
Wet	24	6.0	1461	8.2	1485	8.1
Loose Surface Material	14	3.5	328	1.8	342	1.9
Muddy	1	0.2	32	0.2	33	0.2
Other	6	1.5	56	0.3	62	0.3
Unspecified	8	2.0	1462	8.2	1470	8.1
Total Number of Collisions	**402**	**100.0**	**17857**	**100.0**	**18259**	**100.0**

Observations

The majority (60.5%) of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 15.4% of fatal collisions and 21.0% of non-fatal injury collisions.

Special Types of Vehicles

Motorcycles

- In 2007, based on motorcycle registrations, the involvement rate of motorcycles in fatal and injury collisions has decreased over 2006.

- The majority of motorcycle casualty collisions involved male drivers. Motorcycle drivers under the age of 25 had the highest involvement rate per 1000 licensed drivers. In particular, 16-17 year old motorcycle drivers had an involvement rate per 1000 licensed drivers of 63.7, a rate almost four times greater than that of the 20-24 year old motorcycle drivers.

- Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to run off the road or pass improperly. However, motorcycle drivers were less likely to follow too closely, make an unsafe left turn or commit a stop sign violation.

- Compared to drivers involved in all types of vehicle casualty collisions, motorcycle drivers were more likely to have consumed alcohol before the crash.

- Vehicle factors were identified for 1.9% of motorcycles involved in casualty collisions compared to 0.9% for all types of vehicles involved in casualty collisions.

- The majority of casualty collisions involving motorcycles occurred on dry roads.

Table 7.1

Motorcycles Involved in Casualty Collisions

2003 – 2007

Number of Motorcycles	**2007**	**2006**	**2005**	**2004**	**2003**
Fatal	34	31	22	26	13
Non-Fatal Injury	773	764	718	661	616
Total Number of Motorcycles Involved in Casualty Collisions	**807**	**795**	**740**	**687**	**629**
Casualties*					
Number Killed	32	32	21	25	13
Number Injured	833	830	771	715	666
Total Casualties in Collisions Involving Motorcycles	**865**	**862**	**792**	**740**	**679**
Number of Motorcycles Involved in Casualty Collisions Per 10,000 Registered Motorcycles**					
Fatal Collisions	4.0	4.2	3.4	4.4	2.4
Non-Fatal Injury Collisions	90.5	103.1	110.9	110.9	111.5

Observations

Based on motorcycle registrations in 2007, the involvement rate of motorcycles in fatal and injury collisions has decreased.

*This refers to the total number of people killed and injured in collisions in which a motorcycle was involved. It does not refer to the number of motorcyclists killed and injured.

** Source: Based on vehicle registration statistics, Service Alberta – Registries Services, December 31, 2007.

Figure 6

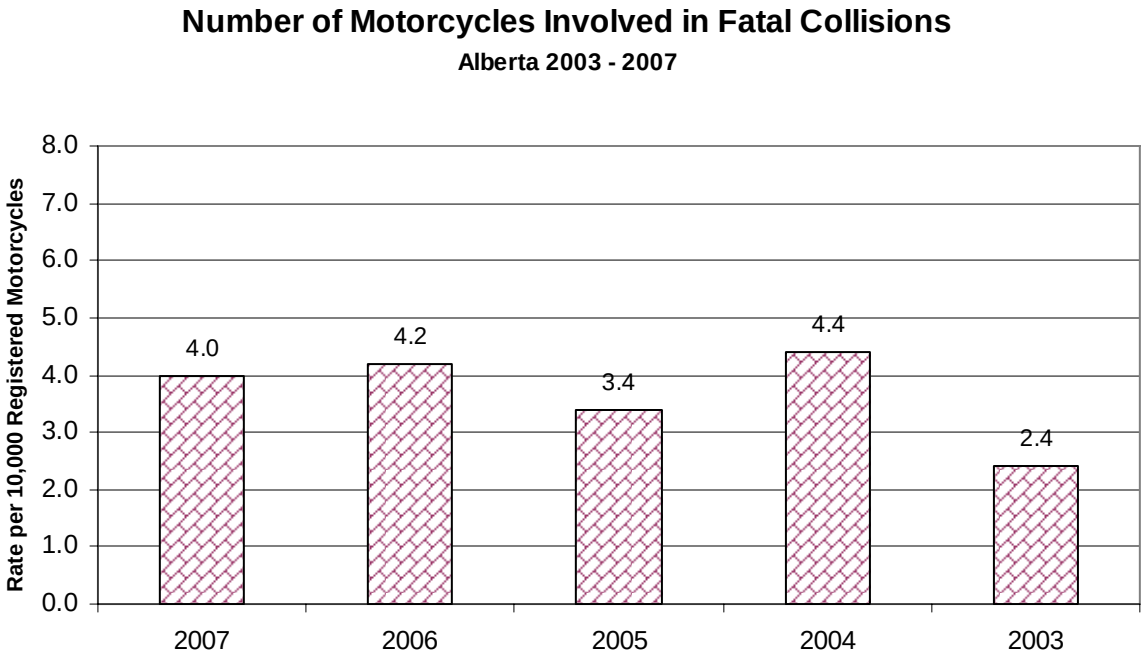

Number of Motorcycles Involved in Fatal Collisions
Alberta 2003 - 2007
Rate per 10,000 Registered Motorcycles
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
4.0
4.2
3.4
4.4
2.4
2007
2006
2005
2004
2003

Table 7.2

Age and Sex of Motorcycle Drivers Involved in Casualty Collisions

2007

	Male		Female		Total*		Rate Per 1,000 Licensed Motorcycle Drivers**
Age of Motorcycle Driver	**N**	**%**	**N**	**%**	**N**	**%**	
Under 16	9	1.1	1	0.1	10	1.2	
16-17	12	1.5	1	0.1	13	1.6	63.7
18-19	38	4.7	1	0.1	39	4.9	40.7
20-24	158	19.7	11	1.4	169	21.0	17.0
25-34	185	23.0	10	1.2	197	24.5	5.2
35-44	125	15.5	26	3.2	151	18.8	2.7
45-54	147	18.3	11	1.4	158	19.7	2.0
55-64	41	5.1	4	0.5	46	5.7	1.1
65 and over	15	1.9	--	--	15	1.9	1.1
Unspecified	--	--	--	--	6	0.7	
Total Number of Motorcycle Drivers	**730**	**90.8**	**65**	**8.1**	**804**	**100.0**	

Observations

The majority of motorcycle casualty collisions involved male drivers. Based on involvement per 1,000 licensed operators, motorcycle drivers under the age of 25 were most likely to be involved in collisions. In particular, 16-17 year old motorcycle drivers had the highest involvement rate per 1,000 licensed motorcyclists. These age and sex comparisons are limited due to the lack of driving exposure data. That is, in order to make valid age comparisons, it is important to take into account the number of kilometers driven annually by each age and sex group of motorcycle operators.

Note: In Alberta, Class 6 (motorcycle) licenses are not issued to operators under 16 years of age.

*Total includes drivers whose sex was not specified on the collision report form.

**Source: Licensed Drivers – Service Alberta – Registries Services, as of December 31, 2007.

Table 7.3

Improper Actions of Motorcycle Drivers Involved in Casualty Collisions*

2007

Improper Actions of Motorcycle Driver	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	98	36.8	15.7
Followed Too Closely	48	18.0	29.2
Improper Passing	11	4.1	1.3
Disobey Traffic Signal	11	4.1	7.3
Left of Centre	10	3.8	2.8
Left Turn Across Path	9	3.4	13.0
Improper Turn	7	2.6	3.4
Improper Lane Change	6	2.3	2.7
Yield Sign Violation	4	1.5	2.4
Failed to Yield Right of Way - Uncontrolled Intersection	3	1.1	1.7
Stop Sign Violation	3	1.1	8.0
Other	56	21.1	6.5
Total Number of Motorcycle Drivers	**266**	**100.0**	

Observations

Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to run off the road or pass improperly. However, motorcycle drivers were less likely to follow too closely, make an unsafe left turn or commit a stop sign violation.

* Based on those cases where driver actions were specified on the collision report form.

Note: There was a total of 593 motorcycle drivers involved in casualty collisions for which a driver action was specified on the collision report form. 327 were indicated as driving properly at the time of the collision.

Table 7.4

Condition of Motorcycle Drivers Involved in Casualty Collisions*

2007

Condition of Motorcycle Driver	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	593	91.4	93.1
Had Been Drinking	29	4.5	2.4
Alcohol Impaired	25	3.9	2.8
Total Alcohol Involvement	**54**	**8.3**	**5.2**
Other	2	0.3	1.7
Total Number of Motorcycle Drivers	**649**	**100.0**	

Observations

The motorcycle driver's condition was a contributory factor for 8.6% of the involved motorcycle drivers. Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to have consumed alcohol prior to the crash.

*Based on those cases where driver condition was specified on the collision report form.

Table 7.5

Motorcycle Vehicle Factors in Casualty Collisions*

2007

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	685	98.1	99.1
Tires Failed	5	0.7	0.2
Lighting Defect	1	0.1	0.0
Defective Brakes	1	0.1	0.3
Other	6	0.9	0.3
Total Number of Motorcycles	**698**	**100.0**	

Observations

Vehicle factors were identified for 1.9% of the motorcycles involved in casualty collisions, compared to 0.9% for all types of vehicles involved in casualty collisions.

*Based on those cases where a vehicle factor was specified on the collision report form. This does not indicate that a mechanical inspection of the collision-involved motorcycle was conducted.

Table 7.6

Casualty Collisions Involving Motorcycles:

Month of Occurrence

2007

Month	N	%
January	3	0.4
February	1	0.1
March	22	2.8
April	50	6.4
May	124	15.8
June	111	14.1
July	154	19.6
August	124	15.8
September	107	13.6
October	73	9.3
November	14	1.8
December	2	0.3
Unspecified	1	0.1
Total Number of Collisions	**786**	**100.0**

Observations

The month of July recorded the highest proportion of casualty crashes involving motorcycles.

Table 7.7

Casualty Collisions Involving Motorcycles:

Road Surface Condition

2007

Road Surface Condition	N	%
Dry	664	84.5
Loose Surface Material	43	5.5
Wet	29	3.7
Muddy	3	0.4
Slush/Snow/Ice	2	0.3
Other	5	0.6
Unspecified	40	5.1
Total Number of Collisions	**786**	**100.0**

Observations

The majority (84.5%) of casualty collisions involving motorcycles occurred on dry roads. Loose material on the road surface was involved in 5.5% of motorcycle casualty crashes. Wet roads were the scene of 3.7% of motorcycle casualty collisions.

Special Types of Vehicles

Truck Tractors

- In 2007, there were 81 persons killed and 754 injured in collisions involving truck tractors. This represents an increase in fatalities but a decrease in injuries from 2006.

- Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road, make an improper turn or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make an unsafe left turn, or disobey a traffic signal.

- Truck tractor drivers were less likely to consume alcohol before the crash than were drivers in total casualty collisions.

- Vehicle factors were more likely to be present in truck tractor casualty collisions than in total casualty collisions.

- The occurrence of casualty collisions involving truck tractors was highest in the month of January.

Table 7.8

Truck Tractors Involved in Casualty Collisions

2003 – 2007

Number of Truck Tractors	**2007**	**2006**	**2005**	**2004**	**2003**
Fatal	73	64	45	59	58
Non-Fatal Injury	577	642	601	574	566
Total Number of Truck Tractors Involved in Casualty Collisions	**650**	**706**	**646**	**633**	**624**
Casualties*					
Number Killed	81	67	58	69	76
Number Injured	754	813	802	753	782
Total Casualties in Collisions Involving Truck Tractors	**835**	**880**	**860**	**822**	**858**

Observations

In 2007, there were 81 persons killed and 754 injured in collisions involving truck tractors. This represents an increase in fatalities and a decrease in injuries from 2006. The total number of truck tractors involved in casualty crashes was highest in 2006 at 706.

*This refers to the total number of people killed and injured in collisions in which a truck tractor was involved. It does not refer to the number of truck tractor drivers killed and injured.

Table 7.9

Improper Actions of Truck Tractor Drivers Involved in Casualty Collisions*

2007

Improper Actions of Truck Tractor Driver	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	77	34.1	15.7
Followed Too Closely	48	21.2	29.2
Stop Sign Violation	20	8.8	8.0
Left Turn Across Path	15	6.6	13.0
Improper Turn	15	6.6	3.4
Improper Lane Change	13	5.8	2.7
Left of Centre	8	3.5	2.8
Improper Passing	8	3.5	1.3
Disobey Traffic Signal	5	2.2	7.3
Backed Unsafely	3	1.3	2.5
Yield Sign Violation	2	0.9	2.4
Failed to Yield Right of Way to Pedestrian	1	0.4	3.6
Failed to Yield Right of Way - Uncontrolled Intersection	1	0.4	1.7
Other	10	4.4	6.5
Total Number of Drivers	**226**	**100.0**	

Observations

Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road, make an improper turn, or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make an unsafe left turn, or disobey a traffic signal.

*Based on those cases where driver actions were specified on the collision report form.

Note: There was a total of 540 truck-tractor drivers involved in casualty collisions for which a driver action was specified on the collision report form. 314 were indicated as driving properly at the time of the collision.

Table 7.10

Condition of Truck Tractor Drivers Involved in Casualty Collisions*

2007

Driver Condition	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	518	96.1	93.1
Had Been Drinking	5	0.9	2.4
Alcohol Impaired	2	0.4	2.8
Total Alcohol Involvement	**7**	**1.3**	**5.2**
Fatigued/Asleep	10	1.9	0.8
Impaired by Drugs	1	0.2	0.2
Other	3	0.6	0.7
Total Number of Drivers	**539**	**100.0**	

Observations

The condition of the truck tractor driver was a contributory factor for 3.9% of the drivers involved. Truck tractor drivers were less likely to consume alcohol before the crash than were drivers involved in total casualty collisions (1.3% compared to 5.2%). However, they were more likely to have been fatigued or asleep at the time of the crash.

*Based on those cases where driver condition was specified on the collision report form.

Table 7.11

Vehicle Factors of Truck Tractors Involved in Casualty Collisions*

2007

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	553	97.9	99.1
Improper Load/Shift	5	0.9	0.1
Tires Failed	3	0.5	0.2
Defective Brakes	1	0.2	0.3
Other	3	0.5	0.3
Total Number of Truck Tractors	**565**	**100.0**	

Observations

Vehicle factors were identified for 2.1% of truck tractors in casualty collisions. Vehicle factors were more likely to be present in truck tractor collisions than in total casualty collisions.

*Based on those cases where a vehicle factor was specified on the collision report form. This does not indicate whether or not a mechanical inspection of the collision-involved truck tractor was conducted.

Table 7.12

Casualty Collisions Involving Truck Tractors:

Month of Occurrence

2007

Month	N	%
January	67	11.0
February	58	9.5
March	54	8.8
April	27	4.4
May	40	6.5
June	51	8.3
July	47	7.7
August	54	8.8
September	45	7.4
October	55	9.0
November	57	9.3
December	56	9.2
Total Number of Collisions	**611**	**100.0**

Observations

The occurrence of casualty collisions involving truck tractors was highest in the month of January. The lowest number of truck tractor casualty collisions occurred during April.

Special Types of Vehicles

Trains

- In 2007, five people were killed and 30 people were injured in crashes in which a train was involved. The number of casualties involving trains has increased from 2006.
- The largest number of casualty collisions involving trains occurred in the month of December.
- A large percentage of drivers involved in collisions with a train disobeyed a traffic control device.

Table 7.13

Trains Involved in Casualty Collisions

2003 – 2007

Number of Trains	**2007**	**2006**	**2005**	**2004**	**2003**
Fatal	4	3	5	2	3
Non-Fatal Injury	18	23	23	21	22
Total Number of Trains Involved in Casualty Collisions	**22**	**26**	**28**	**23**	**25**
Casualties*					
Number Killed	5	3	5	2	3
Number Injured	30	30	28	35	35
Total Casualties in Collisions Involving Trains	**35**	**33**	**33**	**37**	**38**

Observations

The number of trains involved in casualty collisions decreased from 2006. The number of casualties resulting from these collisions has increased.

*This refers to the total number of people killed and injured in collisions involving a train.

Table 7.14

Casualty Collisions Involving Trains:

Month of Occurrence

2007

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	--	--	1	5.6	1	4.5
February	1	25.0	1	5.6	2	9.1
March	--	--	--	--	--	--
April	1	25.0	1	5.6	2	9.1
May	--	--	--	--	--	--
June	--	--	3	16.7	3	13.6
July	1	25.0	--	--	1	4.5
August	--	--	1	5.6	1	4.5
September	1	25.0	--	--	1	4.5
October	--	--	2	11.1	2	9.1
November	--	--	3	16.7	3	13.6
December	--	--	6	33.3	6	27.3
Total Number of Collisions	**4**	**100.0**	**18**	**100.0**	**22**	**100.0**

Observations

The largest number of casualty collisions involving trains occurred in the month of December.

Table 7.15

Actions of Drivers Involved in Casualty Collisions with Trains*

2007

Driver Actions	Drivers in Fatal Collisions N	%	Drivers in Non-Fatal Injury Collisions N	%	Total Drivers in Casualty Collisions N	%
Driving Properly	--	--	2	13.3	2	11.1
Disobey Traffic Signal	1	33.3	6	40.0	7	38.9
Stop Sign Violation	1	33.3	2	13.3	3	16.7
Ran off Road	--	--	2	13.3	2	11.1
Left Turn Across Path	--	--	1	6.7	1	5.6
Left of Centre	--	--	1	6.7	1	5.6
Failed to Yield Right of Way - Uncontrolled Intersection	1	33.3	--	--	1	5.6
Other	--	--	1	6.7	1	5.6
Total Number of Drivers	**3**	**100.0**	**15**	**100.0**	**18**	**100.0**

Observations

A large percentage of drivers involved in collisions with a train disobeyed a traffic control device.

*Based on those cases where driver actions were specified on the collision report form.

Pedestrians

- Pedestrian casualty collisions were more likely to occur from September to December. February and August experienced the least number of pedestrian crashes.
- Pedestrian casualty collisions were most likely to occur on Friday and least likely to occur on Sunday.
- Pedestrian casualty collisions were most likely to occur during the evening rush-hour period (3:00-6:59 p.m.).
- 37.7% of the drivers in collisions involving a pedestrian were recorded as failing to yield the right of way to the pedestrian.
- The casualty rate per population was highest for pedestrians between the ages of 15 and 19.
- Of pedestrians involved in injury collisions, 15.1% had consumed alcohol before the collision, compared to 23.9% involved in fatal collisions.
- Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for pedestrians 20-24 years of age.

Table 8.1

Casualty Collisions Involving Pedestrians:

Month of Occurrence

2007

Month of Collision	N	%
January	112	8.4
February	92	6.9
March	96	7.2
April	97	7.2
May	95	7.1
June	98	7.3
July	119	8.9
August	89	6.6
September	121	9.0
October	136	10.2
November	143	10.7
December	141	10.5
Total Number of Collisions	**1339**	**100.0**

Observations

Pedestrian casualty collisions were more likely to occur from September to December. February and August experienced the least number of pedestrian crashes.

Table 8.2

Casualty Collisions Involving Pedestrians:

Day of Week

2007

Day of Week	N	%
Monday	192	14.3
Tuesday	196	14.6
Wednesday	201	15.0
Thursday	225	16.8
Friday	250	18.7
Saturday	175	13.1
Sunday	99	7.4
Unspecified	1	0.1
Total Number of Collisions	**1339**	**100.0**

Observations

Pedestrian casualty collisions were most likely to occur on Friday and least likely to occur on Sunday.

Table 8.3

Casualty Collisions Involving Pedestrians:

Time Period

2007

Time Period	N	%
11:00 p.m. - 2:59 a.m.	130	9.7
3:00 a.m. - 6:59 a.m.	64	4.8
7:00 a.m. - 10:59 a.m.	240	17.9
11:00 a.m. - 2:59 p.m.	281	21.0
3:00 p.m. - 6:59 p.m.	406	30.3
7:00 p.m. - 10:59 p.m.	210	15.7
Unspecified	8	0.6
Total Number of Collisions	**1339**	**100.0**

Observations

Pedestrian casualty collisions were most likely to occur during the evening rush-hour period from 3:00 p.m. to 6:59 p.m. These collisions were least likely to occur during the early morning hours (3:00 a.m. to 6:59 a.m.).

Table 8.4

Casualty Collisions Involving Pedestrians:

Location

2007

Location	N	%
Urban	1283	95.8
Rural	56	4.2
Total Number of Collisions	**1339**	**100.0**

Observations

The majority of pedestrian casualty collisions (95.8%) occurred in urban areas. Only 4.2% occurred in rural areas.

Table 8.5

Actions of Drivers Involved in Casualty Collisions with Pedestrians*

2007

Driver Actions	N	%
Driving Properly	401	38.2
Failed to Yield Right of Way To Pedestrian	396	37.7
Backed Unsafely	100	9.5
Ran Off Road	25	2.4
Disobey Traffic Signal	21	2.0
Improper Turn	17	1.6
Left Turn Across Path	14	1.3
Stop Sign Violation	12	1.1
Followed Too Closely	11	1.0
Failed to Yield Right of Way - Uncontrolled Intersection	9	0.9
Improper Passing	5	0.5
Yield Sign Violation	4	0.4
Left of Centre	3	0.3
Improper Lane Change	3	0.3
Other	30	2.9
Total Number of Drivers	**1051**	**100.0**

Observations

38.2% of the drivers involved in pedestrian crashes were recorded as driving properly. However, 37.7% of the drivers involved in pedestrian casualty collisions failed to yield the right of way to the pedestrian.

*Based on those cases where driver actions were specified on the collision report form.

Table 8.6

Age of Pedestrian Casualties

2007

Age in Years	Pedestrians Killed N	Pedestrians Injured N	Total Pedestrian Casualties N	Total Pedestrian Casualties %	Pedestrian Casualty Rate Per 10,000 Population*
Under 5	1	23	24	1.7	1.1
5 - 9	3	56	59	4.2	2.8
10 - 14	1	103	104	7.4	4.7
15 - 19	6	193	199	14.2	8.2
20 - 24	7	169	176	12.6	6.4
25 - 29	5	117	122	8.7	4.3
30 - 34	3	102	105	7.5	4.0
35 - 44	6	188	194	13.8	3.7
45 - 54	8	163	171	12.2	3.2
55 - 64	3	85	88	6.3	2.6
65 and over	12	105	117	8.4	3.2
Unspecified	--	42	42	3.0	
Total Number of Pedestrian Casualties	**55**	**1346**	**1401**	**100.0**	

Observations

The casualty rate per population was highest for pedestrians between the ages of 15 and 19. The lowest casualty rate was recorded for children under 5 years of age.

*Source: Based on estimates of the Alberta population by age groups and sex, July 1, 2007, Statistics Canada

Figure 7

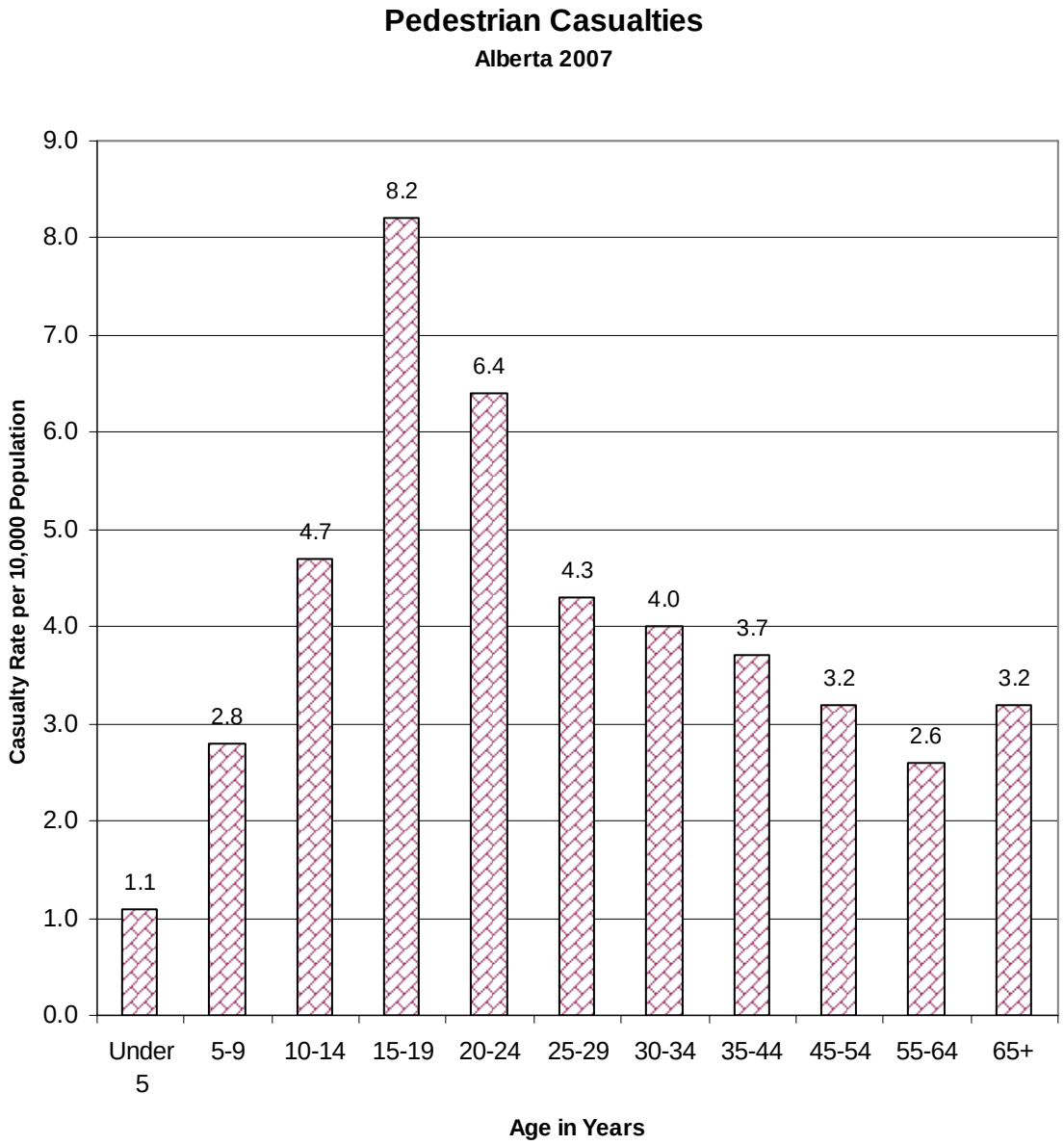

Pedestrian Casualties
Alberta 2007
Casualty Rate per 10,000 Population
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1.1
2.8
4.7
8.2
6.4
4.3
4.0
3.7
3.2
2.6
3.2
Under 5
5-9
10-14
15-19
20-24
25-29
30-34
35-44
45-54
55-64
65+
Age in Years

Table 8.7

Condition of Pedestrians Involved in Casualty Collisions*

2007

Condition of Pedestrian	Pedestrians in Fatal Collisions N	%	Pedestrians in Non-Fatal Injury Collisions N	%	Total Pedestrians in Casualty Collisions N	%
Normal	32	69.6	851	83.2	883	82.6
Had Been Drinking	4	8.7	76	7.4	80	7.5
Alcohol Impaired	7	15.2	78	7.6	85	8.0
Total Alcohol Involvement	**11**	**23.9**	**154**	**15.1**	**165**	**15.4**
Impaired by Drugs	--	--	5	0.5	5	0.5
Other	3	6.5	13	1.3	16	1.5
Total Number of Pedestrians	**46**	**100.0**	**1023**	**100.0**	**1069**	**100.0**

Observations

Of pedestrians involved in injury collisions, 15.1% had consumed alcohol before the collision, compared to 23.9% involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol increased.

*Based only on those cases where pedestrian condition was specified on the collision report form.

Table 8.8

Age of Drinking Pedestrians Involved in Casualty Collisions*

2007

Age in Years	N	%	Rate per 10,000 Population**
Under 10	1	0.6	0.0
10 - 14	--	--	0.0
15 - 19	21	12.7	0.9
20 - 24	38	23.0	1.4
25 - 29	28	17.0	1.0
30 - 34	12	7.3	0.5
35 - 44	27	16.4	0.5
45 - 54	24	14.5	0.5
55 - 64	6	3.6	0.2
65 and over	3	1.8	0.1
Unspecified	5	3.0	
Total Number of Pedestrian Casualties	**165**	**100.0**	

Observations

Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for pedestrians 20 - 24 years of age.

* Based on those cases where pedestrian condition was specified on the collision report form.

** Source: Based on estimates of the Alberta population by age groups and sex, July 1, 2007, Statistics Canada.

Bicyclists

- Casualty collisions involving bicycles were more likely to occur in the month of June.
- Weekdays experienced the most casualty collisions involving bicycles. As well, the largest number of these crashes (39.1%) occurred during the evening rush-hour period.
- Young bicyclists, 10-14 years of age, were the group most frequently involved in bicycle casualty crashes.
- Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to disobey a traffic signal or fail to yield right-of-way at an uncontrolled intersection.
- 4.8% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

Table 9.1

Casualty Collisions Involving Bicycles:

Month of Occurrence

2007

Month of Collision	N	%
January	4	0.8
February	3	0.6
March	16	3.1
April	28	5.5
May	69	13.5
June	95	18.6
July	77	15.0
August	70	13.7
September	69	13.5
October	55	10.7
November	17	3.3
December	9	1.8
Total Number of Collisions	**512**	**100.0**

Observations

The majority of casualty crashes involving bicycles occurred during the month of June.

Table 9.2

Casualty Collisions Involving Bicycles:

Day of Week

2007

Day of Week	N	%
Monday	75	14.6
Tuesday	84	16.4
Wednesday	83	16.2
Thursday	87	17.0
Friday	91	17.8
Saturday	50	9.8
Sunday	41	8.0
Unspecified	1	0.2
Total Number of Collisions	**512**	**100.0**

Observations

Casualty collisions involving bicycles were most likely to occur on weekdays.

Table 9.3

Casualty Collisions Involving Bicycles:

Time Period

2007

Time Period	N	%
11:00 p.m. - 2:59 a.m.	17	3.3
3:00 a.m. - 6:59 a.m.	28	5.5
7:00 a.m. - 10:59 a.m.	84	16.4
11:00 a.m. - 2:59 p.m.	83	16.2
3:00 p.m. - 6:59 p.m.	200	39.1
7:00 p.m. - 10:59 p.m.	97	18.9
Unspecified	3	0.6
Total Number of Collisions	**512**	**100.0**

Observations

The largest proportion of casualty crashes (39.1%) involving bicycles occurred during the evening rush-hour period of 3:00 p.m. - 6:59 p.m.

Table 9.4

Age of Bicycle Casualties

2007

Age in Years	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Bicyclist Casualties N	Total Bicyclist Casualties %	Casualty Rate Per 10,000 Population*
Under 5	--	--	4	0.8	4	0.8	0.2
5-9	--	--	28	5.6	28	5.5	1.3
10-14	--	--	93	18.6	93	18.2	4.2
15-19	3	27.3	79	15.8	82	16.0	3.4
20-24	2	18.2	49	9.8	51	10.0	1.9
25-29	--	--	40	8.0	40	7.8	1.4
30-34	--	--	39	7.8	39	7.6	1.5
35-44	2	18.2	74	14.8	76	14.9	1.4
45-54	1	9.1	58	11.6	59	11.5	1.1
55-64	2	18.2	19	3.8	21	4.1	0.6
65 and over	1	9.1	6	1.2	7	1.4	0.2
Unspecified	--	--	11	2.2	11	2.2	
Total Casualties	**11**	**100.0**	**500**	**100.0**	**511**	**100.0**	

Observations

Casualty rates per 10,000 population were highest for persons between the ages of 10 and 14. The lowest casualty rates were recorded for children under 5 years of age and adults aged 55 and older.

*Based on estimates of the Alberta population by age groups and sex, July 1, 2007, Statistics Canada

Table 9.5

Improper Actions of Bicyclists Involved in Casualty Collisions

2007

Improper Actions of Bicyclists	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Disobey Traffic Signal	43	16.8	7.3
Failed to Yield Right of Way - Uncontrolled Intersection	23	9.0	1.7
Stop Sign Violation	20	7.8	8.0
Left of Centre	14	5.5	2.8
Left Turn Across Path	11	4.3	13.0
Improper Passing	8	3.1	1.3
Improper Lane Change	4	1.6	2.7
Yield Sign Violation	4	1.6	2.4
Improper Turn	3	1.2	3.4
Followed Too Closely	2	0.8	29.2
Ran Off Road	1	0.4	15.7
Failed to Yield Right of Way to Pedestrian	1	0.4	3.6
Other	122	47.7	6.5
Total Number of Bicyclists	**256**	**100.0**	

Observations

Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to disobey a traffic signal or fail to yield right-of-way at an uncontrolled intersection.

*Based on those cases where driver actions were specified on the collision report form.

Note: There was a total of 401 bicyclists involved in casualty collisions for which a driver action was specified on the collision report form. 145 were indicated as driving properly at the time of the collision.

Table 9.6

Condition of Bicyclists Involved in Casualty Collisions*

2007

Condition of Bicyclist	N	%
Normal	446	93.1
Had Been Drinking	17	3.5
Alcohol Impaired	6	1.3
Total Alcohol Involvement	**23**	**4.8**
Impaired by Drugs	3	0.6
Other	7	1.5
Total Number of Bicyclists	**479**	**100.0**

Observations

4.8% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

*Based only on those cases where bicyclist condition was specified on the collision report form.

Traffic Safety Issues

Alcohol Involvement

- A total of 4.9% of drivers involved in injury crashes were judged to have consumed alcohol prior to the crash, compared to 22.3% of drivers involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased.

- In terms of involvement per 1,000 licensed drivers, males between 18 and 24 years of age were most likely to have been drinking before the crash. There were almost five times as many male drivers as female drivers who had consumed alcohol prior to the collision.

- In 2007, alcohol related casualty crashes were most likely to have occurred in June or July, on Saturday, and between 11:00 p.m. and 2:59 a.m.

- Figure 8 provides a graphic representation of the involvement of drinking drivers in casualty collisions over the past five years, 2003 - 2007.

Table 10.1

Condition of Drivers in Casualty Collisions*

2007

Condition of Driver	Drivers in Fatal Collisions N	%	Drivers in Non-Fatal Injury Collisions N	%	Total Drivers in Casualty Collisions N	%
Normal	365	74.6	23027	93.4	23392	93.1
Had Been Drinking	45	9.2	563	2.3	608	2.4
Alcohol Impaired	64	13.1	645	2.6	709	2.8
Total Alcohol Involvement	**109**	**22.3**	**1208**	**4.9**	**1317**	**5.2**
Impaired by Drugs	4	0.8	46	0.2	50	0.2
Fatigued/Asleep	7	1.4	200	0.8	207	0.8
Other	4	0.8	162	0.7	166	0.7
Total Number of Drivers	**489**	**100.0**	**24643**	**100.0**	**25132**	**100.0**

Observations

Of drivers involved in injury collisions, 4.9% had consumed alcohol before the crash, compared to 22.3% in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased. Overall, 5.2% of drivers involved in casualty collisions were judged to have consumed alcohol before the crash.

*Based on those cases where driver condition was specified on the collision report form. These numbers do not include bicyclists (see Table 9.6, page 65).

Figure 8

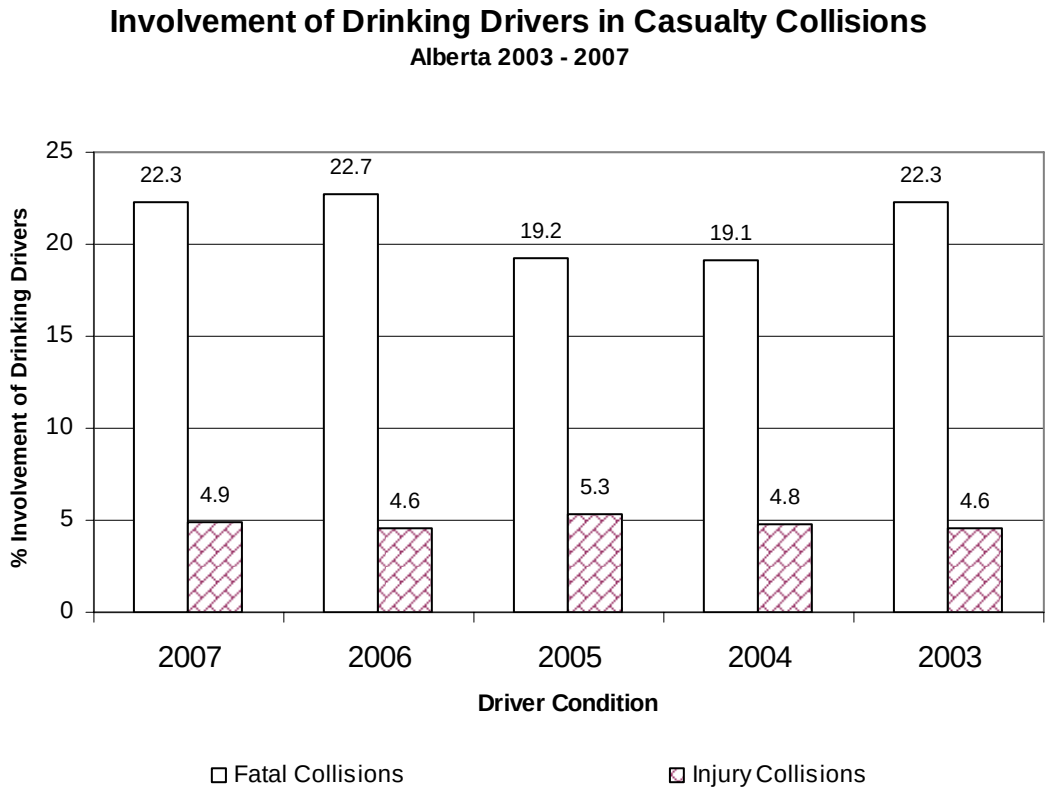

Involvement of Drinking Drivers in Casualty Collisions
Alberta 2003 - 2007
% Involvement of Drinking Drivers
25
20
15
10
5
0
22.3
4.9
22.7
4.6
19.2
5.3
19.1
4.8
22.3
4.6
2007
2006
2005
2004
2003
Driver Condition
Fatal Collisions
Injury Collisions

Figure 9

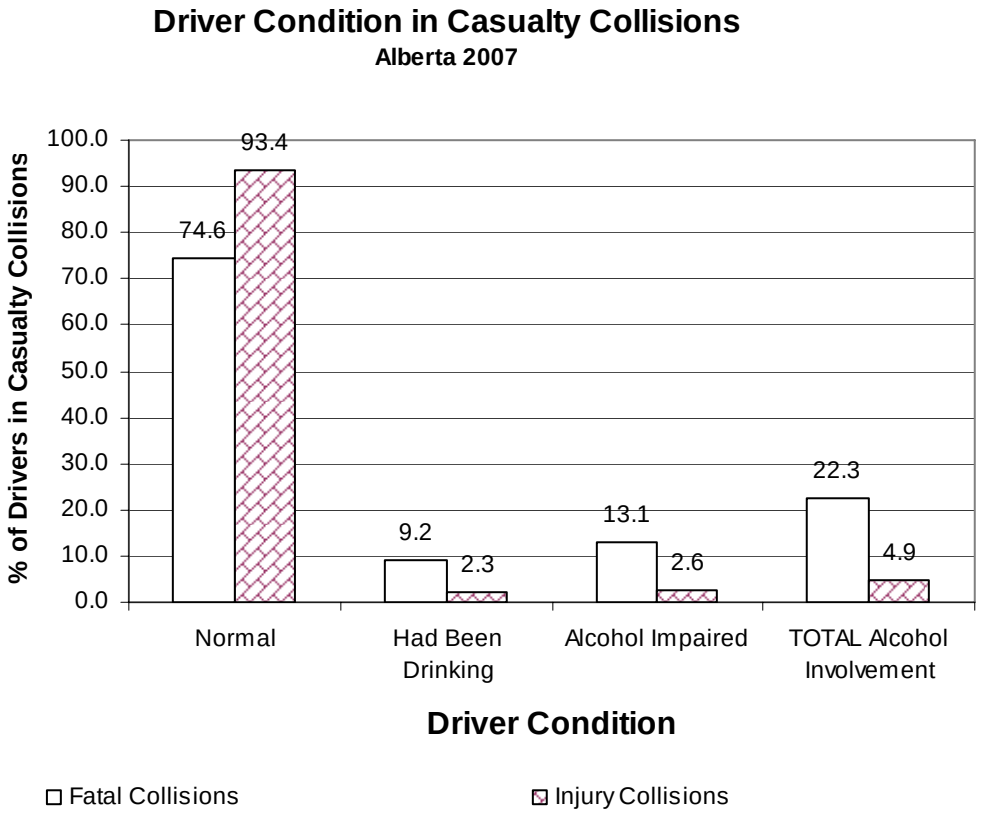

Driver Condition in Casualty Collisions
Alberta 2007
% of Drivers in Casualty Collisions
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
74.6
93.4
9.2
2.3
13.1
2.6
22.3
4.9
Normal
Had Been Drinking
Alcohol Impaired
TOTAL Alcohol Involvement
Driver Condition
Fatal Collisions
Injury Collisions

Table 10.2

Age and Sex of Drinking Drivers in Casualty Collisions*

2007

	Male		Rate Per 1,000** Licensed Drivers	Female		Rate Per 1,000** Licensed Drivers	Total*		Rate Per 1,000** Licensed Drivers
Age in Years	**N**	**%**		**N**	**%**		**N**	**%**	
Under 16	4	0.3	0.3	2	0.2	0.2	6	0.5	0.2
16 - 17	33	2.5	1.1	12	0.9	0.4	45	3.4	0.8
18 - 19	111	8.4	2.7	19	1.4	0.5	130	9.9	1.7
20 - 21	130	9.9	2.7	33	2.5	0.8	163	12.4	1.8
22 - 24	146	11.1	1.7	24	1.8	0.3	170	12.9	1.1
25 - 29	169	12.8	1.2	49	3.7	0.4	218	16.6	0.8
30 - 34	116	8.8	0.9	15	1.1	0.1	131	9.9	0.5
35 - 44	173	13.1	0.6	35	2.7	0.1	208	15.8	0.4
45 - 54	128	9.7	0.5	25	1.9	0.1	153	11.6	0.3
55 - 64	47	3.6	0.3	6	0.5	0.0	53	4.0	0.2
65 and over	17	1.3	0.1	--	--	0.0	17	1.3	0.1
Unspecified	6	0.5		2	0.2		23	1.7	
Total Drivers	**1080**	**82.0**		**222**	**16.9**		**1317**	**100.0**	

Observations

Of those collision-involved drivers who had consumed alcohol, there were almost five times as many male drivers as female drivers. In terms of involvement per 1,000 licensed drivers, males 18-24 years of age were more likely to have consumed alcohol prior to a casualty collision than any other age group.

Drinking drivers include those indicated on the collision report form as having been drinking prior to the crash and those who were alcohol-impaired at the time of the crash. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

*Includes only drivers whose age and/or sex was specified on the collision report form. Total includes drinking drivers whose sex was not specified on the collision report form.

**Source: Licensed Drivers – Service Alberta – Registries Services, as of December 31, 2007.

Figure 10

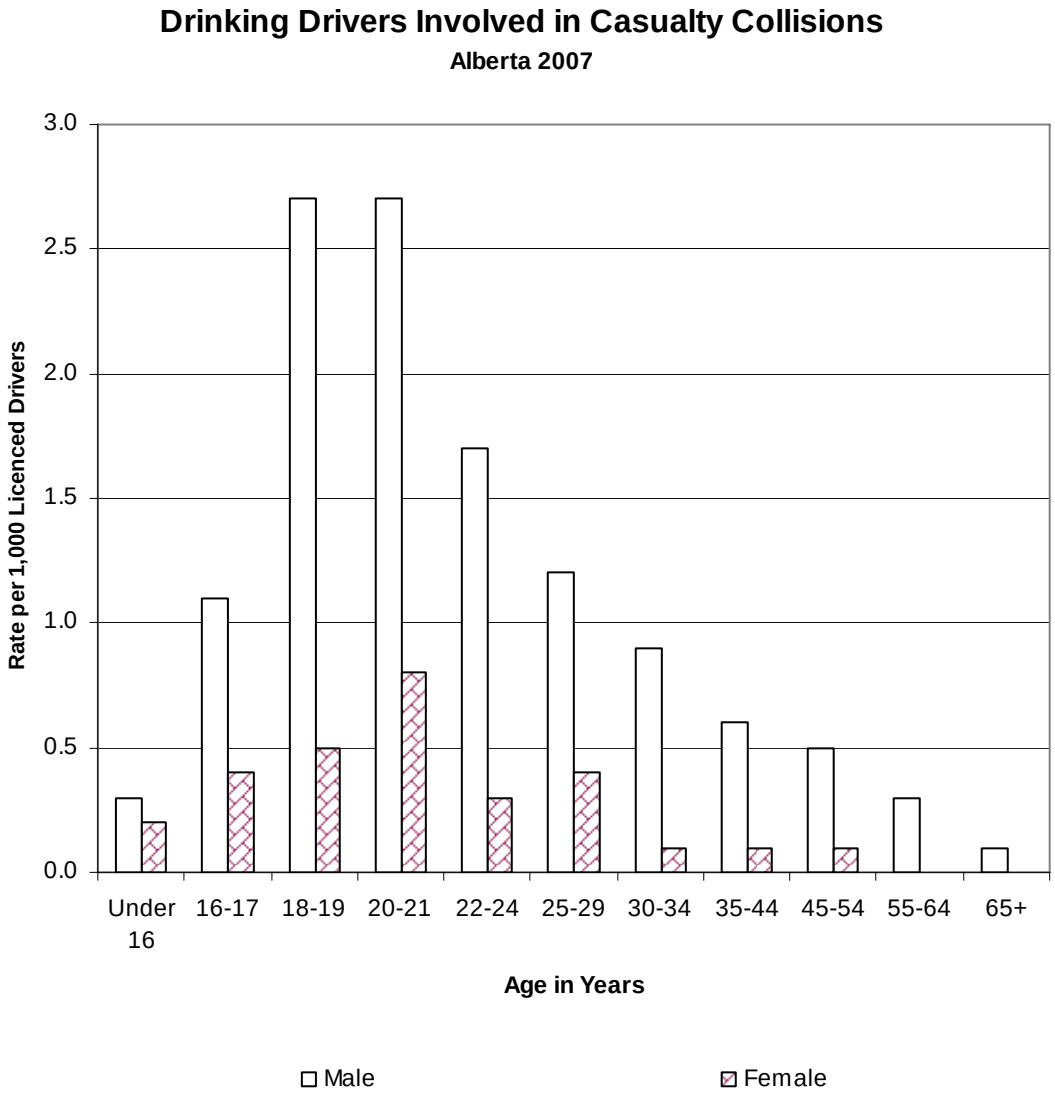

Drinking Drivers Involved in Casualty Collisions
Alberta 2007
Rate per 1,000 Licenced Drivers
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Under 16
16-17
18-19
20-21
22-24
25-29
30-34
35-44
45-54
55-64
65+
Age in Years
Male
Female

Table 10.3

Alcohol-Involved Casualty Collisions:

Month of Occurrence

2007

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	5	4.6	74	6.2	79	6.1
February	8	7.3	72	6.0	80	6.1
March	6	5.5	92	7.7	98	7.5
April	7	6.4	100	8.4	107	8.2
May	7	6.4	107	8.9	114	8.7
June	9	8.3	128	10.7	137	10.5
July	16	14.7	118	9.9	134	10.3
August	11	10.1	117	9.8	128	9.8
September	12	11.0	99	8.3	111	8.5
October	12	11.0	108	9.0	120	9.2
November	9	8.3	93	7.8	102	7.8
December	7	6.4	88	7.4	95	7.3
Total Number of Collisions	**109**	**100.0**	**1196**	**100.0**	**1305**	**100.0**

Observations

The months of June and July accounted for the largest proportion of alcohol-involved casualty collisions. The months of January and February accounted for the smallest proportion of alcohol-involved casualty collisions.

Table 10.4

Alcohol-Involved Casualty Collisions:

Day of Week

2007

Day of Week	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Monday	9	8.3	125	10.5	134	10.3
Tuesday	10	9.2	102	8.5	112	8.6
Wednesday	12	11.0	128	10.7	140	10.7
Thursday	15	13.8	140	11.7	155	11.9
Friday	27	24.8	191	16.0	218	16.7
Saturday	19	17.4	268	22.4	287	22.0
Sunday	17	15.6	242	20.2	259	19.8
Total Number of Collisions	**109**	**100.0**	**1196**	**100.0**	**1305**	**100.0**

Observations

The highest number of alcohol-involved fatal collisions occurred on Friday (24.8%) The highest number of non-fatal injury collisions occurred on Saturday (22.4%) The smallest number of alcohol-involved casualty collisions occurred on Tuesday (8.6%).

Table 10.5

Alcohol-Involved Casualty Collisions:

Time Period

2007

Time Period	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
11:00 p.m. - 2:59 a.m.	38	34.9	412	34.4	450	34.5
3:00 a.m. - 6:59 a.m.	15	13.8	191	16.0	206	15.8
7:00 a.m. - 10:59 a.m.	9	8.3	60	5.0	69	5.3
11:00 a.m. - 2:59 p.m.	4	3.7	63	5.3	67	5.1
3:00 p.m. - 6:59 p.m.	19	17.4	164	13.7	183	14.0
7:00 p.m. - 10:59 p.m.	20	18.3	283	23.7	303	23.2
Unspecified	4	3.7	23	1.9	27	2.1
Total Number of Collisions	**109**	**100.0**	**1196**	**100.0**	**1305**	**100.0**

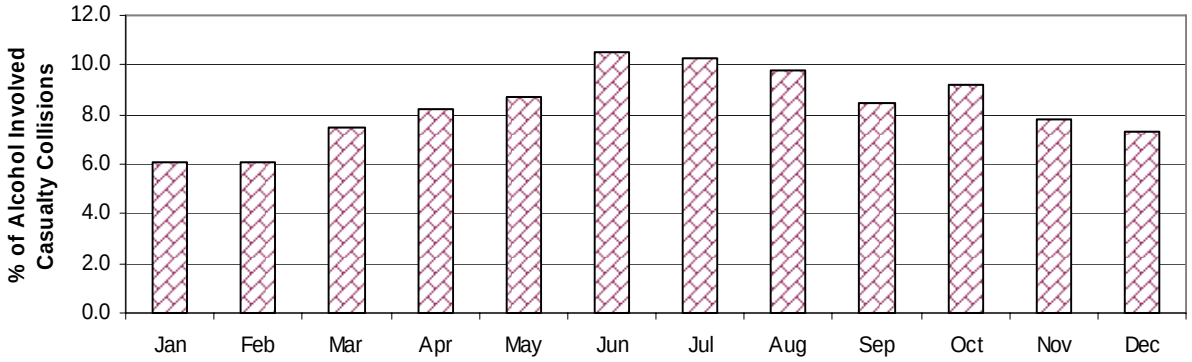
Observations

The late night/early morning time period (11:00 p.m. – 2:59 a.m.) was most likely to record alcohol-involved casualty collisions (34.5%). The late morning/early afternoon hours (11:00 a.m. – 2:59 p.m.) were least likely to record alcohol-involved casualty crashes (5.1%).

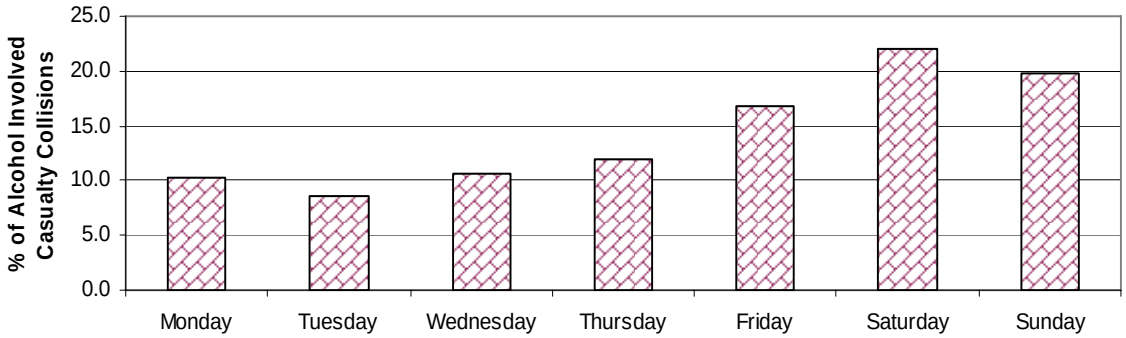
Figure 11

Alcohol-Involved Casualty Collisions
Alberta 2007

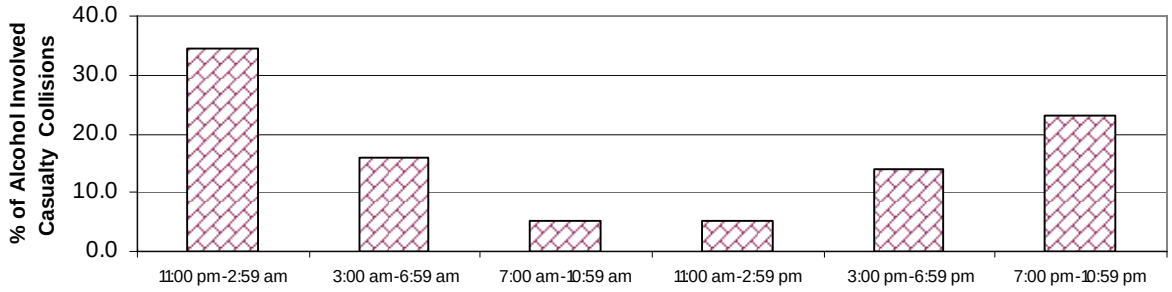
By Month of Occurrence



By Day of Week



By Time Period



Traffic Safety Issues

Restraint Use

- Collision-involved restraint users had a much lower injury rate (9.1%) than those not using restraints (36.5%).
- Occupants using a restraint reduce the likelihood of sustaining an injury and the severity of injury decreases.

Table 10.6

Restraint Use of Vehicle Occupants and Injury Severity* (Use versus Non-Use)

2007

Injury Severity of Occupants	Percentage of Occupants Using Restraints %	Percentage of Occupants Not Using Restraints %
Fatal Injury	0.1	3.5
Major Injury	0.9	11.1
Minor Injury	8.1	21.9
Total Occupants Sustaining Injuries	**9.1**	**36.5**
No Apparent Injury	91.0	63.6
Total Occupants	**100.0**	**100.0**

Observations

Collision involved restraint users had a much lower injury rate (9.1%) than those not using restraints (36.5%). This table illustrates the moderating effect of seat belt use on injury severity. Occupants using a restraint reduce the likelihood of sustaining an injury and the severity of injury decreases.

Injury Severity

Fatal – A fatal injury is the death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Major – Persons with injuries or complaint of pain that went to the hospital and were subsequently admitted even if for observation only.

Minor – Persons with injuries or complaint of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes persons who indicated they intend to seek medical attention.)

*Based on those cases where occupant restraint use and injury severity were specified on the collision report form.