Alberta

Traffic Collision Statistics

2011

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2011 Overview

- The number of **traffic fatalities decreased 9.0%** over the past year from 344 fatalities in 2010 to 313 in 2011.
- The number of **traffic injuries increased 1.8%** over the past year from 18253 injuries in 2010 to 18584 in 2011.
- The number of **traffic collisions decreased 8.0%** over the past year from 151289 collisions in 2010 to 139179 in 2011.
- **The highest number of fatal collisions** occurred in **September. 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**.
- **46.3% of pedestrians** involved in **fatal collisions had consumed alcohol** prior to the collision compared to **13.4% of pedestrians in injury collisions**.
- **16.5% of drivers** involved in **fatal collisions had consumed alcohol** prior to the crash compared to **4.4% of drivers in injury collisions**.
- **Collision-involved restraint users had a much lower injury rate** (7.7%) than those not using restraints (31.0%)

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 2011. 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 death, injury, or property damage to an apparent extent of $2000.00 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.

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

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Glossary

Alcohol Impaired – In the judgment 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 judgment of the police officer, the driver had recently consumed alcohol but his driving ability was not obviously impaired.

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

Minor Injury – Persons with injuries or complaints 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 $2000.00.

Reportable Collision – A vehicle collision which resulted in death, injury or property damage greater than $2000.00.

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

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

2011 Traffic Collision Summary

Introduction

During 2011, 139179 collisions were recorded on Alberta roadways. Property damage collisions (over $2000) represented 89.8% (124985) of this total while 10.0% (13909) were non-fatal injury collisions. Fatal collisions accounted for 0.2% (285) of the total reported collisions.

Five-Year Trends

In terms of population, the fatal collision rate is unchanged from 2010, but decreased for both licenced drivers and registered vehicles. The fatality rates have decreased in terms of population, licenced drivers and registered vehicles.

The non-fatal injury collision and injury rates increased in 2011 in terms of population and licenced drivers, but decreased in terms of registered vehicles.

Property damage collision rates decreased in 2011 in terms of population, licenced 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, the most recent casualty rates per billion vehicle kilometres travelled were examined.

Based on this comparison of rates per billion vehicle kilometres travelled, nine provinces and territories had a higher fatality rate than Alberta in 2009. With regard to injury rates, in 2009, 11 jurisdictions had a higher injury rate than Alberta.

Table 1.1

Alberta Traffic Collisions

2007 – 2011

Severity of Collisions	**2011**	**2010**	**2009**	**2008**	**2007**
Fatal Collisions	285	307	302	375	402
Non-Fatal Injury Collisions	13909	13552	14246	16153	17857
Property Damage Collisions	124985	137430	142678	141527	135642
Total Reportable Collisions	**139179**	**151289**	**157226**	**158055**	**153901**
Number Killed	313	344	351	410	458
Number Injured	18584	18253	19167	22015	24530
Total Number of Casualties	**18897**	**18597**	**19518**	**22425**	**24988**

Observations

In 2011, the overall number of collisions decreased 8.0% when compared to 2010. In 2011, injury collisions increased by 2.6% and fatal crashes decreased by 7.2%. The number of fatalities decreased by 9.0% from 2010 to 2011 and the number of injuries increased by 1.8%. In terms of the past five years, overall collisions were lowest in 2011 and highest in 2008.

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Table 1.2

Traffic Collision Rates

2007 – 2011

Severity of Collision	Rate Per 10,000 Population*					Rate Per 10,000 Licenced Drivers					Rate Per 10,000 Registered Vehicles				
	2011	**2010**	**2009**	**2008**	**2007**	**2011**	**2010**	**2009**	**2008**	**2007**	**2011**	**2010**	**2009**	**2008**	**2007**
Fatal Collisions	0.8	0.8	0.8	1.0	1.1	1.0	1.1	1.1	1.4	1.5	0.9	1.0	1.0	1.2	1.4
Number Killed	0.8	0.9	1.0	1.1	1.3	1.1	1.2	1.3	1.5	1.8	1.0	1.1	1.1	1.4	1.6
Non-Fatal Injury Collisions	36.8	36.4	38.6	44.9	50.8	49.2	48.7	52.2	60.5	68.6	43.2	43.3	46.5	53.3	61.1
Number Injured	49.2	49.1	52.0	61.2	69.8	65.8	65.6	70.2	82.4	94.3	57.7	58.3	62.6	72.7	83.9
Property Damage Collisions	330.7	369.3	386.9	393.6	386.1	442.3	493.8	522.3	529.8	521.4	338.0	438.9	466.1	467.1	464.2
Total Reportable Collisions	**368.3**	**406.6**	**426.4**	**439.5**	**438.1**	**492.6**	**543.6**	**575.6**	**591.7**	**591.5**	**432.1**	**483.2**	**513.6**	**521.6**	**526.7**

Observations

In terms of population, the fatal collision rate is unchanged from 2010 to 2011, but decreased for both licenced drivers and registered vehicles. The fatality rates have decreased in terms of population, licenced drivers and registered vehicles.

The non-fatal injury collision and injury rates increased in terms of population and licenced drivers, but decreased in terms of registered vehicles.

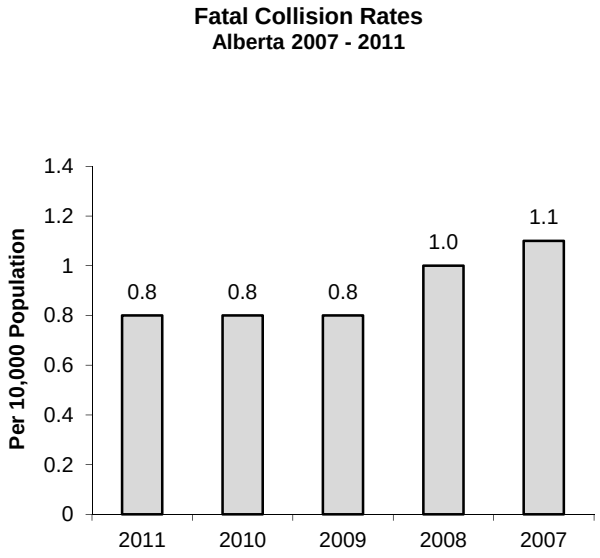
Property damage collision rates decreased from 2010 to 2011 in terms of population, licenced drivers and registered vehicles.

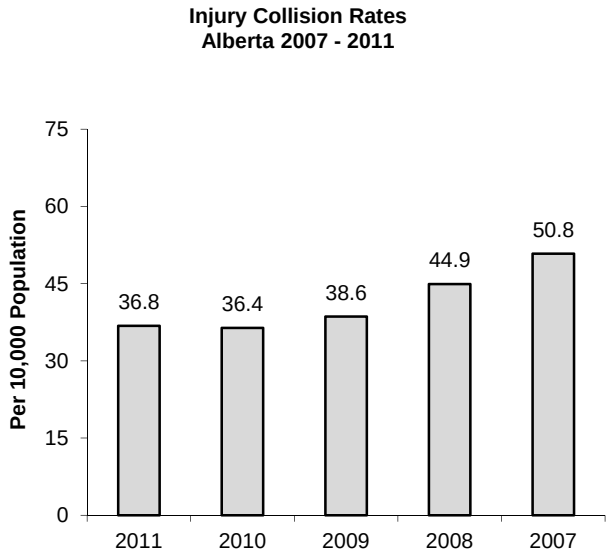
Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

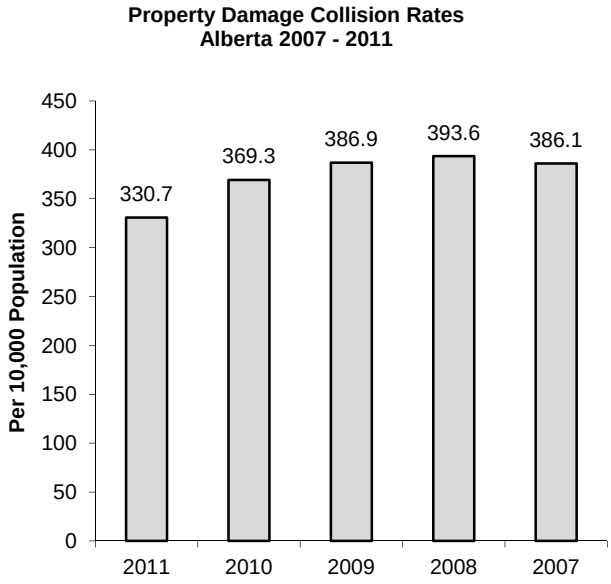
*In 2008, Statistics Canada updated the Alberta population estimates for 2004 - 2007 to align with the 2006 Standard Geographical Classification (SGC). As a result, collision rates for 2007 in this report are based on the updated population estimates and may differ from previous publications in this series. In 2009, Statistics Canada further refined the 2008 and 2007 population numbers.

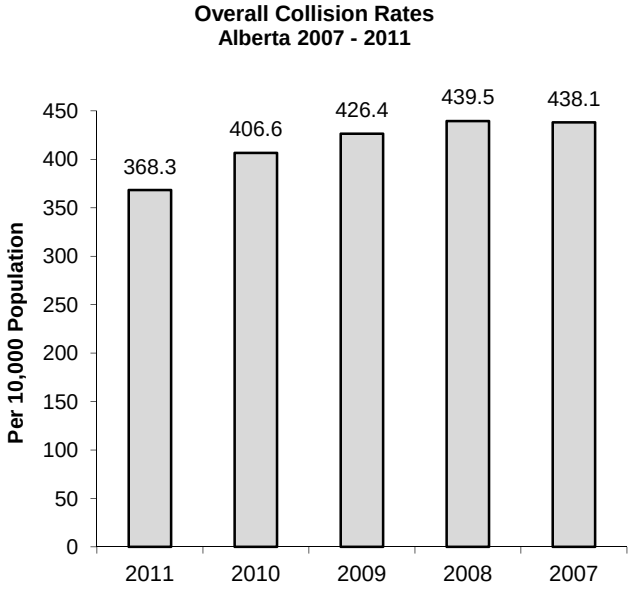
Sources:
Population – Statistics Canada as of July 1, 2011
Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2011
Registered Vehicles – Service Alberta – Registries Services, as of December 31, 2011

Figure 1









Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Note: In 2008, Statistics Canada updated the Alberta population estimates for 2004 - 2007 to align with the 2006 Standard Geographical Classification (SGC). As a result, collision rates for 2007 in this report are based on the updated population estimates and may differ from previous publications in this series. In 2009, Statistics Canada further refined the 2008 and 2007 population numbers.

Table 1.3

Provincial Comparison of Casualty Rates
Per Billion Vehicle Kilometres Travelled

2005 – 2009

	Fatalities					Injuries				
	2009	**2008**	**2007**	**2006**	**2005**	**2009**	**2008**	**2007**	**2006**	**2005**
Canada	6.6	7.4	8.3	8.9	9.3	518.7	549.2	584.4	604.0	668.0
Alberta	7.1	8.6	9.6	10.0	10.6	385.6	464.2	513.2	570.7	555.1
British Columbia	10.5	9.9	11.6	12.9	13.9	562.6	613.1	725.5	789.5	873.3
Saskatchewan	11.8	12.2	10.6	12.2	13.2	526.0	541.0	509.0	604.4	612.8
Manitoba	7.3	8.1	7.9	9.9	10.3	615.9	689.1	617.1	729.1	788.4
Ontario	4.2	5.0	6.2	6.0	6.3	490.7	479.9	534.8	525.2	571.5
Quebec	7.1	8.1	8.8	10.3	10.6	592.2	632.1	678.6	711.1	871.2
New Brunswick	8.3	9.6	11.0	12.3	13.6	480.7	482.2	459.5	452.3	508.5
Nova Scotia	7.2	8.6	9.3	8.4	7.1	751.5	743.6	577.9	470.8	487.7
Prince Edward Island	9.4	14.9	5.6	25.0	11.3	596.2	496.5	565.6	803.6	565.7
Newfoundland	6.9	8.0	9.4	8.5	9.8	508.9	385.9	519.0	501.3	537.1
Yukon	13.7	15.4	10.3	24.2	12.3	341.1	461.4	427.0	434.5	396.4
Northwest Territories	15.9	11.8	13.9	5.3	5.4	419.8	408.8	435.0	294.3	505.7
Nunavut	65.1	132.5	0.0	N/A	N/A	1368.1	1357.6	461.5	N/A	N/A

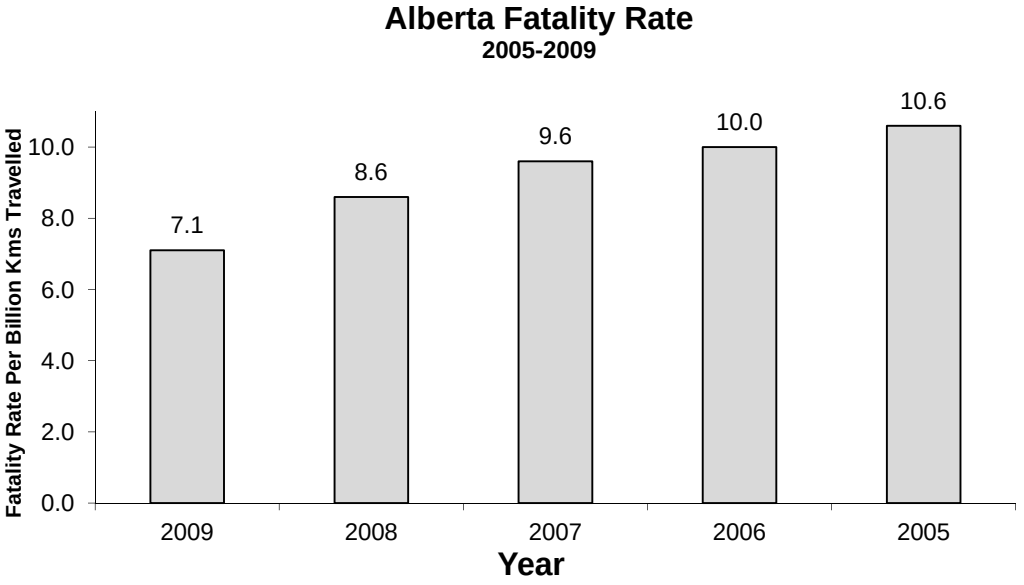
Observations

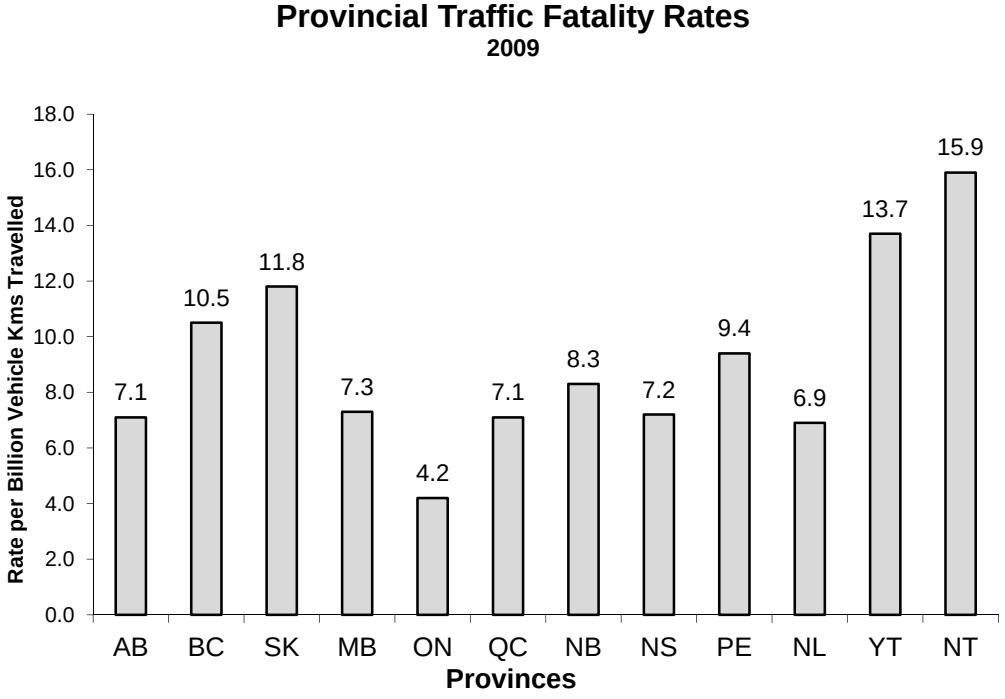
Based on the most recent information from Transport Canada, from 2008 to 2009, Alberta's fatality rate per billion vehicle kilometers travelled decreased from 8.6 to 7.1. During the same period, the injury rate per billion vehicle kilometers travelled decreased from 464.2 to 385.6. Over the five years, since 2005, rates have declined by 3.5 fatalities and 169.5 injuries per billion vehicle kilometers travelled.

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, buses, 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.

The Motor Vehicle Traffic Collision Statistics can be accessed online at:
http://www.tc.gc.ca/eng/roadsafety/resources-researchstats-menu-847.htm

Figure 2





Note: To maintain the scale of the graph and to facilitate the comparison across jurisdictions the fatality rate for Nunavut is not included in this graph. The rate for Nunavut is reported in Table 1.3.

When the Collisions Occurred

Month

September experienced more fatal collisions than other months. The highest number of injury and property damage collisions were recorded during the month of January.

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 Labour Day Long Weekend recorded the highest number of fatalities while the Canada Day Long Weekend recorded the highest number of injuries. The Family Day Long Weekend recorded the highest total number of collisions.

Table 2.1

Collision Occurrence by Month

2011

Month	Fatal Collisions		Non-Fatal Injury Collisions		Property Damage Collisions		Total Collisions	
	N	%	N	%	N	%	N	%
January	22	7.7	1386	10.0	15375	12.3	16783	12.1
February	16	5.6	1085	7.8	12372	9.9	13473	9.7
March	13	4.6	1204	8.7	11891	9.5	13108	9.4
April	22	7.7	846	6.1	8487	6.8	9355	6.7
May	15	5.3	991	7.1	7969	6.4	8975	6.4
June	23	8.1	1136	8.2	9007	7.2	10166	7.3
July	23	8.1	1234	8.9	9069	7.3	10326	7.4
August	24	8.4	1261	9.1	8640	6.9	9925	7.1
September	41	14.4	1244	8.9	8869	7.1	10154	7.3
October	31	10.9	1188	8.5	9647	7.7	10866	7.8
November	30	10.5	1183	8.5	12357	9.9	13570	9.8
December	25	8.8	1143	8.2	11021	8.8	12189	8.8
Unspecified	--	--	8	0.1	281	0.2	289	0.2
Total Number of Collisions	**285**	**100.0**	**13909**	**100.0**	**124985**	**100.0**	**139179**	**100.0**

Observations

The month of September experienced more fatal crashes than any other month. The highest number of reported injury collisions and property damage collisions were in January.

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Table 2.2

Collision Occurrence by Day of Week

2011

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	39	13.7	1928	13.9	17552	14.0	19519	14.0
Tuesday	33	11.6	2020	14.5	18227	14.6	20280	14.6
Wednesday	42	14.7	2066	14.9	18479	14.8	20587	14.8
Thursday	47	16.5	2120	15.2	18764	15.0	20931	15.0
Friday	34	11.9	2217	15.9	20836	16.7	23087	16.6
Saturday	44	15.4	1975	14.2	17422	13.9	19441	14.0
Sunday	46	16.1	1563	11.2	13362	10.7	14971	10.8
Unspecified	--	--	20	0.1	343	0.3	363	0.3
Total Number of Collisions	**285**	**100.0**	**13909**	**100.0**	**124985**	**100.0**	**139179**	**100.0**

Observations

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

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Table 2.3

Collision Occurrence by Time Period

2011

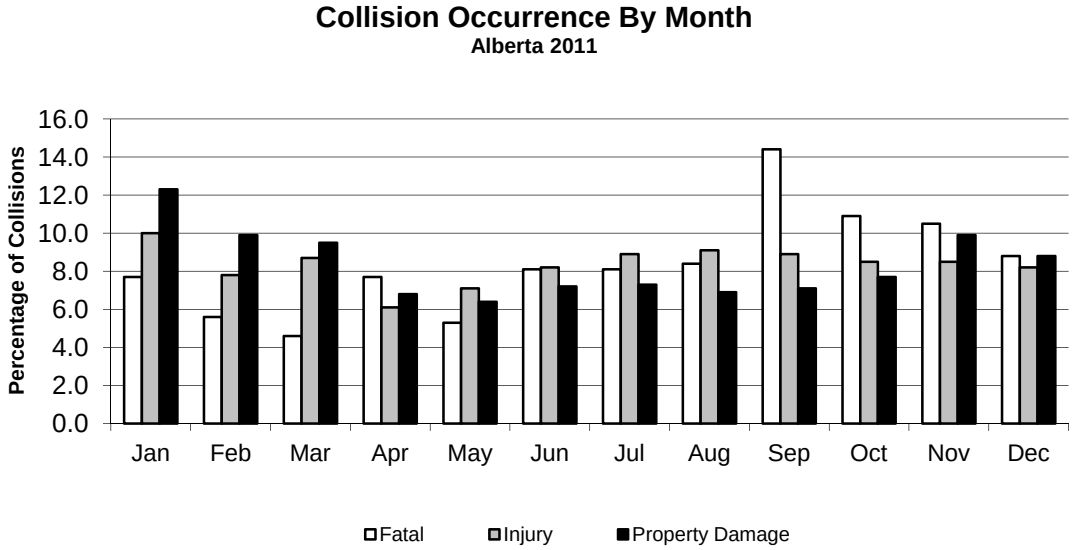
Time Period	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
11:00 p.m. - 2:59 a.m.	41	14.4	946	6.8	7719	6.2	8706	6.3
3:00 a.m. - 6:59 a.m.	27	9.5	745	5.4	6618	5.3	7390	5.3
7:00 a.m. - 10:59 a.m.	39	13.7	2555	18.4	23546	18.8	26140	18.8
11:00 a.m. - 2:59 p.m.	45	15.8	3159	22.7	29891	23.9	33095	23.8
3:00 p.m. - 6:59 p.m.	59	20.7	4303	30.9	35767	28.6	40129	28.8
7:00 p.m. - 10:59 p.m.	69	24.2	2056	14.8	17866	14.3	19991	14.4
Unspecified	5	1.8	145	1.0	3578	2.9	3728	2.7
Total Number of Collisions	**285**	**100.0**	**13909**	**100.0**	**124985**	**100.0**	**139179**	**100.0**

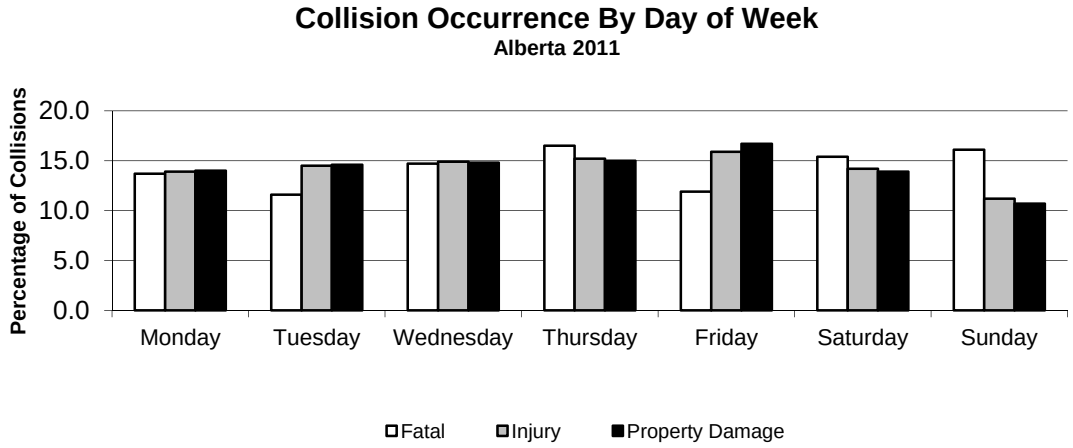
Observations

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the largest percentage (28.8%) 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.).

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Figure 3


Collision Occurrence By Month
Alberta 2011
Percentage of Collisions
16.0
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 2011
Percentage of Collisions
20.0
15.0
10.0
5.0
0.0
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Fatal
Injury
Property Damage

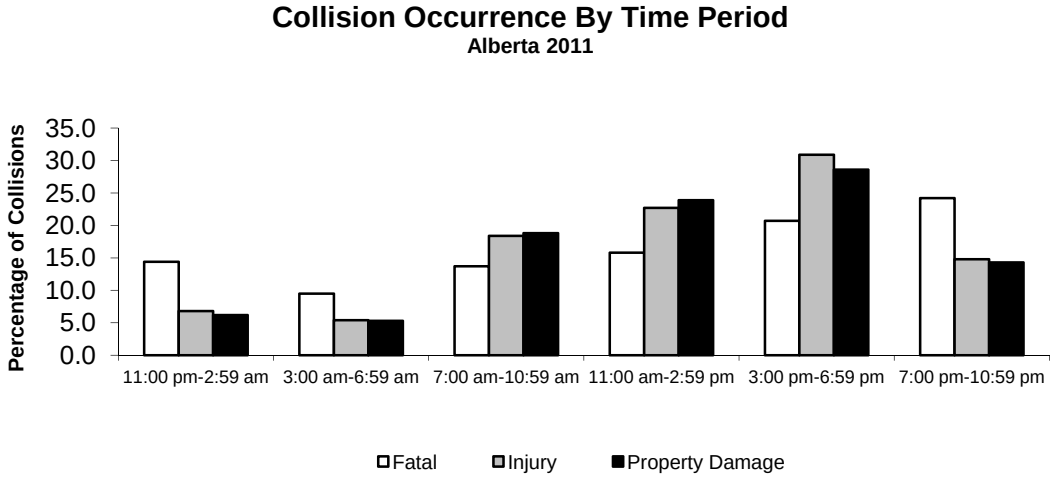

Collision Occurrence By Time Period
Alberta 2011
Percentage of Collisions
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
11:00 pm-2:59 am
3:00 am-6:59 am
7:00 am-10:59 am
11:00 am-2:59 pm
3:00 pm-6:59 pm
7:00 pm-10:59 pm
Fatal
Injury
Property Damage

Table 2.4

Collisions During 2011 Holidays

Holidays	Number Killed N	Number Injured N	Total Collisions* N
New Year's Day (January 1)	1	46	342
Family Day Long Weekend (February 18-21)	2	167	1643
Easter Long Weekend (April 21-25)	--	140	1204
Victoria Day Long Weekend (May 20-23)	1	197	963
Canada Day Long Weekend (June 30-July 3)	4	239	1272
August Long Weekend (July 29-August 1)	2	225	1155
Labour Day Long Weekend (September 2-5)	8	201	1084
Thanksgiving Long Weekend (October 7-10)	1	193	1140
Remembrance Day Long Weekend (November 10-13)	4	221	1518
Christmas Season (December 23-26)	--	126	1033
Total	**23**	**1755**	**11354**

Observations

The Labour Day Long Weekend recorded the highest number of fatalities while the Canada Day Long Weekend recorded the highest number of injuries. The Family Day Long Weekend recorded the highest total number of collisions.

*Total collisions includes fatal, injury and property damage collisions. On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

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 6.4% and 3.7% 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

2011

Road User Class	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %
Drivers	165	52.7	11322	60.9	11487	60.8
Passengers	68	21.7	4561	24.5	4629	24.5
Pedestrians	43	13.7	1164	6.3	1207	6.4
Motorcyclists	23	7.3	683	3.7	706	3.7
Bicyclists	2	0.6	458	2.5	460	2.4
Other	6	1.9	262	1.4	268	1.4
Unspecified	6	1.9	134	0.7	140	0.7
Total Casualties	**313**	**100.0**	**18584**	**100.0**	**18897**	**100.0**

Observations

The majority of traffic victims were drivers (60.8%) and passengers (24.5%) of vehicles. Pedestrians and motorcyclists accounted for 6.4% and 3.7% of the total casualties, respectively.

Table 3.2

Age of Casualties

2011

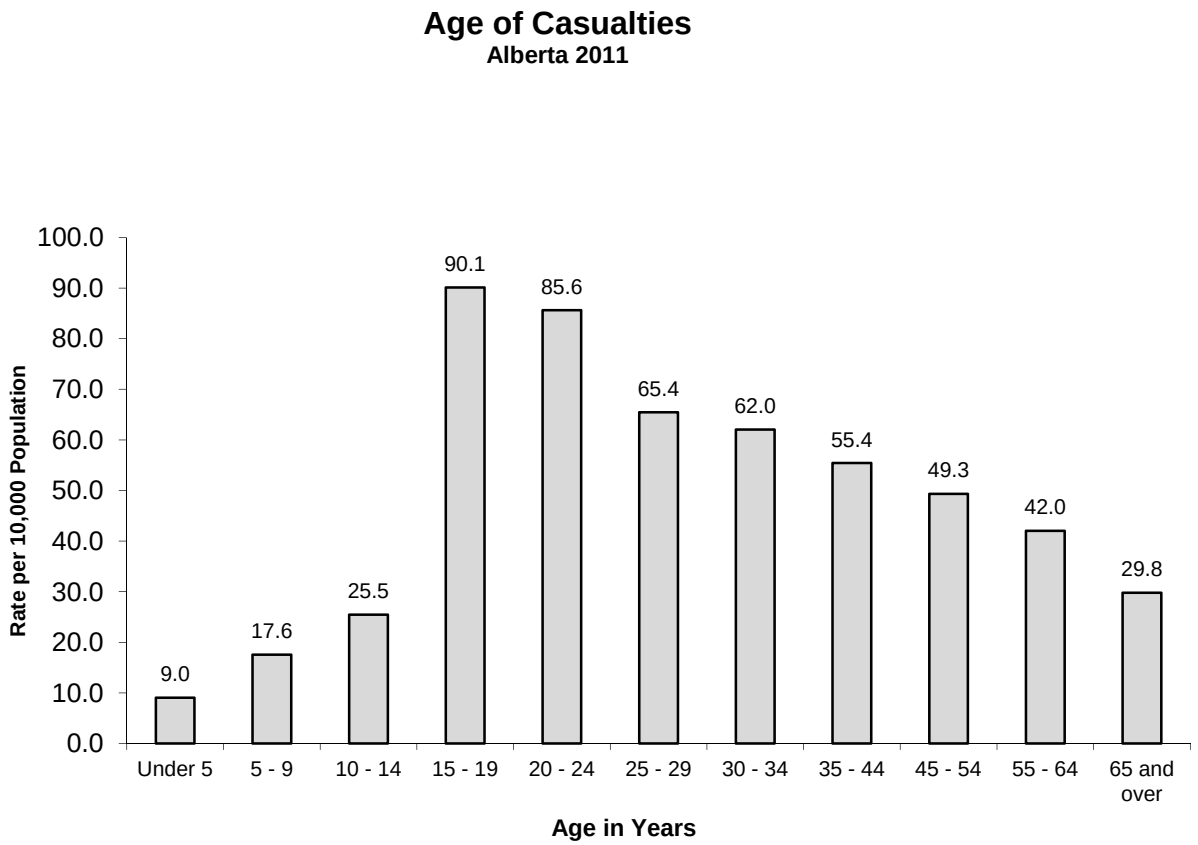
Age in Years	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %	Casualty Rate Per 10,000 Population*
Under 5	1	0.3	231	1.2	232	1.2	9.0
5-9	1	0.3	386	2.1	387	2.0	17.6
10-14	2	0.6	552	3.0	554	2.9	25.5
15-19	37	11.8	2131	11.5	2168	11.5	90.1
20-24	38	12.1	2373	12.8	2411	12.8	85.6
25-29	33	10.5	2059	11.1	2092	11.1	65.4
30-34	27	8.6	1806	9.7	1833	9.7	62.0
35-44	38	12.1	3003	16.2	3041	16.1	55.4
45-54	51	16.3	2746	14.8	2797	14.8	49.3
55-64	43	13.7	1733	9.3	1776	9.4	42.0
65 and over	42	13.4	1177	6.3	1219	6.5	29.8
Unspecified	--	--	387	2.1	387	2.0	
Total Casualties	**313**	**100.0**	**18584**	**100.0**	**18897**	**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, 2011, Statistics Canada

Figure 4


Age of Casualties
Alberta 2011
Rate per 10,000 Population
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
9.0
17.6
25.5
90.1
85.6
65.4
62.0
55.4
49.3
42.0
29.8
Under 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years

Drivers

Age and Sex of Drivers

Collision rates per 1000 licenced 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 (30.2%), running off the road (15.8%) and left turn across path (12.3%) 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 Licenced Drivers

2011

	Male			Female			Total*		
Age of Driver	**N**	**%**	**Rate Per 1000** Licenced Drivers**	**N**	**%**	**Rate Per 1000** Licenced Drivers**	**N**	**%**	**Rate Per 1000** Licenced Drivers**
Under 16	144	0.6	9.4	59	0.2	4.4	203	0.8	7.1
16-17	521	2.1	16.1	360	1.5	12.7	881	3.6	14.5
18-19	792	3.2	19.2	519	2.1	14.2	1311	5.3	16.9
20-24	1921	7.8	14.9	1257	5.1	10.9	3179	12.9	13.0
25-34	3416	13.8	10.9	2185	8.9	7.7	5602	22.7	9.4
35-44	2658	10.8	9.5	1883	7.6	7.5	4542	18.4	8.5
45-54	2604	10.5	9.1	1621	6.6	6.1	4225	17.1	7.6
55-64	1599	6.5	7.3	995	4.0	5.1	2595	10.5	6.3
65 and over	1102	4.5	6.5	528	2.1	3.6	1630	6.6	5.1
Unspecified	95	0.4		33	0.1		517	2.1	
Total Number of Drivers	**14852**	**60.2**		**9440**	**38.2**		**24685**	**100.0**	

Observations

Collision rates per 1000 licenced 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: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2011.

Figure 5

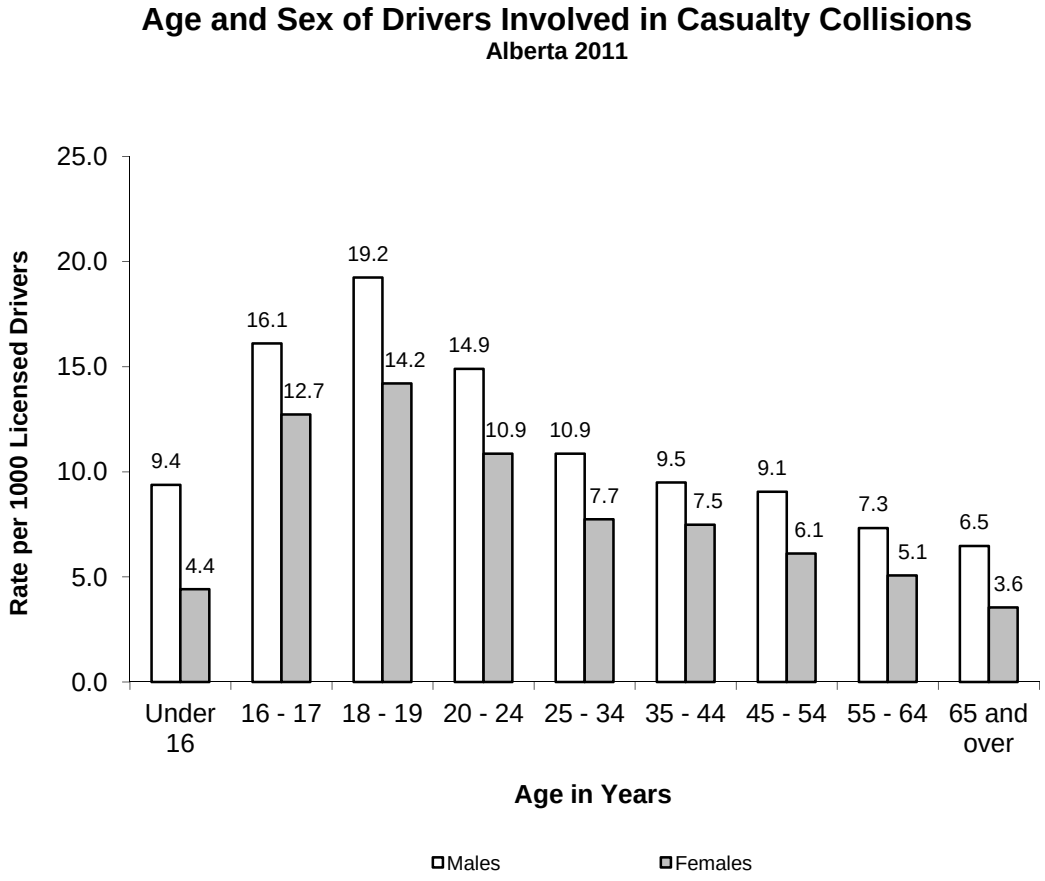

Age and Sex of Drivers Involved in Casualty Collisions
Alberta 2011
Rate per 1000 Licensed Drivers
25.0
20.0
15.0
10.0
5.0
0.0
9.4
4.4
16.1
12.7
19.2
14.2
14.9
10.9
10.9
7.7
9.5
7.5
9.1
6.1
7.3
5.1
6.5
3.6
Under 16
16 - 17
18 - 19
20 - 24
25 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years
Males
Females

Table 4.2

Improper Actions of Drivers Involved in Casualty Collisions*

2011

Improper Actions	Drivers in Fatal Collisions N	Drivers in Fatal Collisions %	Drivers in Non-Fatal Injury Collisions N	Drivers in Non-Fatal Injury Collisions %	Total Drivers in Casualty Collisions N	Total Drivers in Casualty Collisions %
Followed Too Closely	14	6.2	3168	30.7	3182	30.2
Ran Off Road	85	37.6	1582	15.3	1667	15.8
Left Turn Across Path	19	8.4	1275	12.4	1294	12.3
Stop Sign Violation	21	9.3	794	7.7	815	7.7
Disobey Traffic Signal	3	1.3	682	6.6	685	6.5
Failed to Yield Right of Way to Pedestrian	8	3.5	447	4.3	455	4.3
Left of Centre	45	19.9	326	3.2	371	3.5
Improper Turn	5	2.2	301	2.9	306	2.9
Improper Lane Change	2	0.9	290	2.8	292	2.8
Backed Unsafely	--	--	280	2.7	280	2.7
Yield Sign Violation	7	3.1	202	2.0	209	2.0
Failed to Yield Right of Way - Uncontrolled Intersection	3	1.3	166	1.6	169	1.6
Improper Passing	5	2.2	122	1.2	127	1.2
Other	9	4.0	686	6.6	695	6.6
Total Number of Drivers	**226**	**100.0**	**10321**	**100.0**	**10547**	**100.0**

Observations

Following too closely (30.2%), running off the road (15.8%) and left turn across path (12.3%) 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 were a total of 21920 drivers involved in casualty collisions for which a driver action was specified on the collision report form. 11373 were indicated as driving properly at the time of the collision.

Vehicles

Types of Vehicles

Passenger cars (41.7%), minivans/MPV (24.1%) and pick-up trucks/vans (22.4%) were the vehicles most frequently involved in total casualty collisions.

Vehicle Factors

Overall 0.8% 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. Overall, 43.8% of the impacts involved the centre front.

Table 5.1

Types of Vehicles Involved in Casualty Collisions*

2011

Type of Vehicle	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Passenger Car	135	29.2	10341	41.9	10476	41.7
Mini-Van/MPV	68	14.7	5995	24.3	6063	24.1
Pick-up Truck/Van	140	30.2	5488	22.3	5628	22.4
Truck 4500 kg+	34	7.3	789	3.2	823	3.3
Motorcycle	26	5.6	655	2.7	681	2.7
Tractor-Trailer	48	10.4	481	2.0	529	2.1
Bicycle	2	0.4	460	1.9	462	1.8
Off-Highway Vehicle	4	0.9	143	0.6	147	0.6
Transit Bus	2	0.4	116	0.5	118	0.5
School Bus	--	--	58	0.2	58	0.2
Construction Equipment	2	0.4	41	0.2	43	0.2
Emergency Vehicle	--	--	28	0.1	28	0.1
Motorized Snow Vehicle	1	0.2	17	0.1	18	0.1
Farm Equipment	1	0.2	15	0.1	16	0.1
Other Bus	--	--	13	0.1	13	0.1
Motorhome	--	--	13	0.1	13	0.1
Moped	--	--	5	0.0	5	0.0
Intercity Bus	--	--	5	0.0	5	0.0
Other	--	--	2	0.0	2	0.0
Total Number of Vehicles	**463**	**100.0**	**24665**	**100.0**	**25128**	**100.0**

Observations

Passenger cars, mini-vans/MPVs and pick-up trucks/vans were the vehicles most frequently involved in total casualty collisions. Overall, bicycles represented 1.8% and motorcycles 2.7% of the vehicles involved in casualty collisions. Tractor-Trailers were 2.1% of total vehicles in casualty crashes, but 10.4% 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*

2011

Vehicle Factors	Vehicles in Fatal Collisions N	Vehicles in Fatal Collisions %	Vehicles in Non-Fatal Injury Collisions N	Vehicles in Non-Fatal Injury Collisions %	Total Vehicles in Casualty Collisions N	Total Vehicles in Casualty Collisions %
No Apparent Defect	361	98.6	21524	99.3	21885	99.2
Defective Brakes	1	0.3	40	0.2	41	0.2
Tires Failed	1	0.3	26	0.1	27	0.1
Improper Load/Shift	--	--	15	0.1	15	0.1
Lighting Defect	2	0.5	4	0.0	6	0.0
Other	1	0.3	77	0.4	78	0.4
Total Number of Vehicles	**366**	**100.0**	**21686**	**100.0**	**22052**	**100.0**

Observations

Overall 0.8% 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*

2011

Point of Impact	Vehicles in Fatal Collisions N	Vehicles in Fatal Collisions %	Vehicles in Non-Fatal Injury Collisions N	Vehicles in Non-Fatal Injury Collisions %	Total Vehicles in Casualty Collisions N	Total Vehicles in Casualty Collisions %
Centre Front	208	47.5	10314	43.8	10522	43.8
Centre Rear	19	4.3	4857	20.6	4876	20.3
Rollover	66	15.1	1794	7.6	1860	7.7
Right Front	28	6.4	1705	7.2	1733	7.2
Left Front	42	9.6	1612	6.8	1654	6.9
Left Side	19	4.3	926	3.9	945	3.9
Right Side	22	5.0	892	3.8	914	3.8
Left Rear	9	2.1	589	2.5	598	2.5
Right Rear	7	1.6	529	2.2	536	2.2
Attachment	13	3.0	224	1.0	237	1.0
Undercarriage	5	1.1	71	0.3	76	0.3
Top	--	--	59	0.3	59	0.2
Total Number of Vehicles	**438**	**100.0**	**23572**	**100.0**	**24010**	**100.0**

Observations

The most common point of impact in casualty collisions involved the front of the vehicle. 43.8% of the impacts involved the centre front, while 20.3% 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 (69.8%) occurred in rural areas, whereas the majority of injury (72.3%) and property damage (82.2%) crashes occurred in urban areas.

Surface Conditions

The majority (59.8%) of all casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 17.9% of fatal collisions and 26.1% of non-fatal injury collisions.

Table 6.1

Location of Collisions

2011

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	86	30.2	10062	72.3	102716	82.2	112864	81.1
Rural	199	69.8	3847	27.7	22269	17.8	26315	18.9
Total Number of Collisions	**285**	**100.0**	**13909**	**100.0**	**124985**	**100.0**	**139179**	**100.0**

Observations

Collisions which occurred in rural areas accounted for 69.8% of all fatal crashes. Collisions occurring in urban areas resulted in the highest proportion of non-fatal injury collisions (72.3%) and property damage crashes (82.2%).

Note: On January 1, 2011, the reporting threshold for property damage only collisions increased from $1000 to $2000.

Table 6.2

Casualty Collision Occurrence by Surface Condition

2011

Surface Condition	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Dry	190	66.7	8295	59.6	8485	59.8
Slush/Snow/Ice	51	17.9	3624	26.1	3675	25.9
Wet	22	7.7	1266	9.1	1288	9.1
Loose Surface Material	11	3.9	247	1.8	258	1.8
Muddy	4	1.4	26	0.2	30	0.2
Other	1	0.4	55	0.4	56	0.4
Unspecified	6	2.1	396	2.8	402	2.8
Total Number of Collisions	**285**	**100.0**	**13909**	**100.0**	**14194**	**100.0**

Observations

The majority (59.8%) of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 17.9% of fatal collisions and 26.1% of non-fatal injury collisions.

Special Types of Vehicles

Motorcycles

- In 2011, based on motorcycle registrations, the involvement rate of motorcycles has decreased in fatal collisions and in injury collisions from 2010.

- The majority of motorcycle casualty collisions involved male drivers. Motorcycle drivers under the age of 25 had the highest involvement rate per 1000 licenced drivers. In particular, 16-17 year old motorcycle drivers had an involvement rate per 1000 licenced drivers of 51.9, a rate slightly over 4 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, make an improper lane change, or make an improper turn. 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 1.8% of motorcycles involved in casualty collisions compared to 0.8% for all types of vehicles involved in casualty collisions.

- The occurrence of casualty collisions involving motorcycles was highest in the month of August.

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

Table 7.1

Motorcycles Involved in Casualty Collisions

2007 – 2011

Number of Motorcycles	**2011**	**2010**	**2009**	**2008**	**2007**
Fatal	26	31	34	43	34
Non-Fatal Injury	655	662	692	807	773
Total Number of Motorcycles Involved in Casualty Collisions	**681**	**693**	**726**	**850**	**807**
Casualties*					
Number Killed	24	31	37	42	32
Number Injured	719	715	757	852	833
Total Casualties in Collisions Involving Motorcycles	**743**	**746**	**794**	**894**	**865**
Number of Motorcycles Involved in Casualty Collisions Per 10,000 Registered Motorcycles**					
Fatal Collisions	2.4	2.9	3.3	4.4	4.0
Non-Fatal Injury Collisions	60.5	62.7	67.4	82.4	90.5

Observations

Based on motorcycle registrations in 2011, the involvement rate of motorcycles has decreased in fatal and injury collisions from 2010.

*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, 2011.

Figure 6

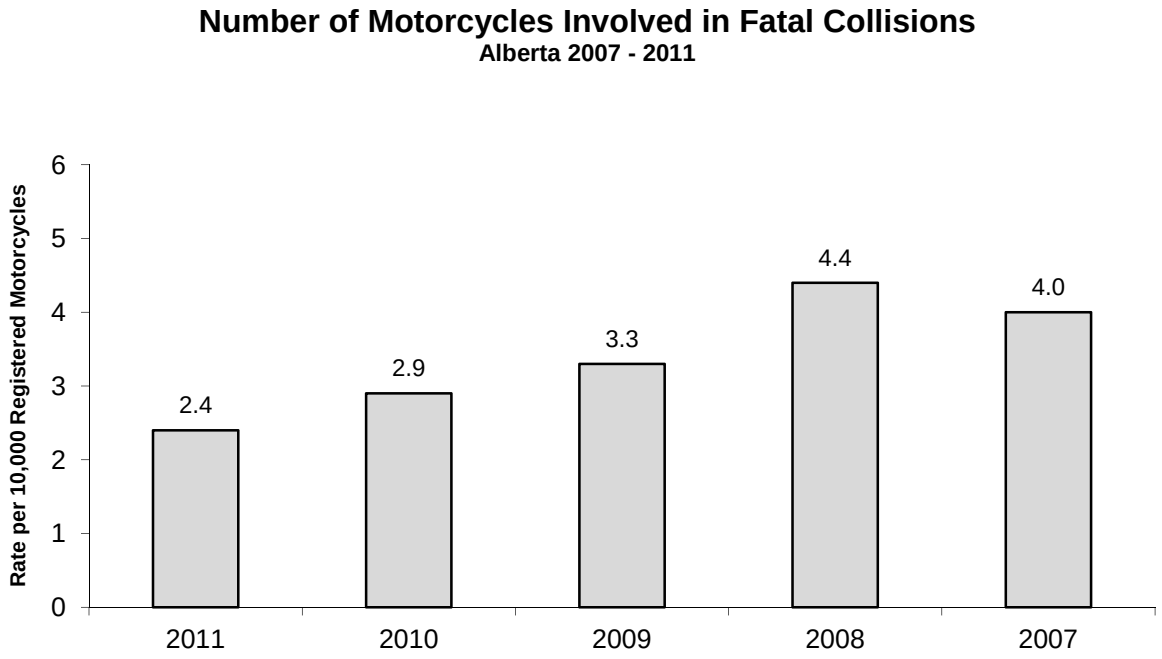

Number of Motorcycles Involved in Fatal Collisions
Alberta 2007 - 2011
Rate per 10,000 Registered Motorcycles
0
1
2
3
4
5
6
2.4
2.9
3.3
4.4
4.0
2011
2010
2009
2008
2007

Table 7.2

Age and Sex of Motorcycle Drivers Involved in Casualty Collisions

2011

	Male		Female		Total*		Rate Per 1,000 Licensed Motorcycle Drivers**
Age of Motorcycle Driver	**N**	**%**	**N**	**%**	**N**	**%**	
Under 16	5	0.7	1	0.1	6	0.9	
16-17	8	1.2	--	--	8	1.2	51.9
18-19	18	2.7	1	0.1	19	2.8	28.6
20-24	86	12.7	7	1.0	94	13.8	12.2
25-34	158	23.3	16	2.4	174	25.6	4.2
35-44	115	16.9	10	1.5	125	18.4	2.3
45-54	131	19.3	11	1.6	142	20.9	1.8
55-64	81	11.9	6	0.9	87	12.8	1.4
65 and over	20	2.9	--	--	20	2.9	1.0
Unspecified	--	--	--	--	4	0.6	
Total Number of Motorcycle Drivers	**622**	**91.6**	**52**	**7.7**	**679**	**100.0**	

Observations

The majority of motorcycle casualty collisions involved male drivers. Based on involvement per 1,000 licenced 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 licenced motorcyclists. These age and sex comparisons are limited due to the lack of driving exposure data. 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) licences are not issued to operators under 16 years of age.

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

**Source: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2011.

Table 7.3

Improper Actions of Motorcycle Drivers Involved in Casualty Collisions*

Improper Actions of Motorcycle Driver	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	100	41.2	15.8
Followed Too Closely	53	21.8	30.2
Left of Centre	11	4.5	3.5
Improper Lane Change	10	4.1	2.8
Improper Turn	10	4.1	2.9
Left Turn Across Path	10	4.1	12.3
Disobey Traffic Signal	6	2.5	6.5
Improper Passing	4	1.6	1.2
Stop Sign Violation	3	1.2	7.7
Failed to Yield Right of Way to Pedestrian	2	0.8	4.3
Failed to Yield Right of Way - Uncontrolled Intersection	2	0.8	1.6
Backed Unsafely	--	--	2.7
Yield Sign Violation	--	--	2.0
Other	32	13.2	6.6
Total Number of Motorcycle Drivers	**243**	**100.0**	

2011

Observations

Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to run off the road, make an improper lane change, or make an improper turn. 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 were a total of 550 motorcycle drivers involved in casualty collisions for which a driver action was specified on the collision report form. 307 were indicated as driving properly at the time of the collision.

Table 7.4

Condition of Motorcycle Drivers Involved in Casualty Collisions*

2011

Condition of Motorcycle Driver	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	554	93.1	93.2
Had Been Drinking	23	3.9	2.0
Alcohol Impaired	16	2.7	2.6
Total Alcohol Involvement	**39**	**6.6**	**4.6**
Impaired by Drugs	--	--	0.2
Fatigued/Asleep	--	--	1.0
Other	2	0.3	0.9
Total Number of Motorcycle Drivers	**595**	**100.0**	

Observations

The motorcycle driver's condition was a contributory factor for 6.9% of the motorcycle drivers involved in casualty collisions. 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*

2011

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	595	98.2	99.2
Tires Failed	4	0.7	0.1
Defective Brakes	3	0.5	0.2
Lighting Defect	--	--	0.0
Improper Load/Shift	--	--	0.1
Other	4	0.7	0.4
Total Number of Motorcycles	**606**	**100.0**	

Observations

Vehicle factors were identified for 1.8% of the motorcycles involved in casualty collisions, compared to 0.8% 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

2011

Month	N	%
January	--	--
February	1	0.2
March	1	0.2
April	20	3.0
May	97	14.7
June	102	15.5
July	130	19.8
August	138	21.0
September	132	20.1
October	29	4.4
November	8	1.2
December	--	--
Unspecified	--	--
Total Number of Collisions	**658**	**100.0**

Observations

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

Table 7.7

Casualty Collisions Involving Motorcycles:

Road Surface Condition

2011

Road Surface Condition	N	%
Dry	580	88.1
Loose Surface Material	36	5.5
Wet	19	2.9
Muddy	1	0.2
Slush/Snow/Ice	1	0.2
Other	3	0.5
Unspecified	18	2.7
Total Number of Collisions	**658**	**100.0**

Observations

The majority (88.1%) 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 for 2.9% of motorcycle casualty collisions.

Special Types of Vehicles

Truck Tractors

- In 2011, there were 50 persons killed and 670 injured in collisions involving truck tractors. This represents an increase in fatalities and injuries from 2010.
- Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to make a left turn across the path of oncoming vehicles or to follow too closely.
- Truck tractor drivers were less likely to consume alcohol before the crash compared to 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 November.

Table 7.8

Truck Tractors Involved in Casualty Collisions

2007 – 2011

Number of Truck Tractors	**2011**	**2010**	**2009**	**2008**	**2007**
Fatal	48	32	44	55	73
Non-Fatal Injury	481	411	331	498	577
Total Number of Truck Tractors Involved in Casualty Collisions	**529**	**443**	**375**	**553**	**650**
Casualties*					
Number Killed	50	33	49	61	81
Number Injured	670	535	453	657	754
Total Casualties in Collisions Involving Truck Tractors	**720**	**568**	**502**	**718**	**835**

Observations

In 2011, there were 50 persons killed and 670 injured in collisions involving truck tractors. This represents an increase in fatalities and injuries from 2010. The total number of truck tractors involved in casualty crashes was highest in 2007 at 650.

*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*

2011

Improper Actions of Truck Tractor Driver	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	58	32.8	15.8
Followed Too Closely	45	25.4	30.2
Stop Sign Violation	13	7.3	7.7
Improper Lane Change	12	6.8	2.8
Left of Centre	11	6.2	3.5
Improper Passing	8	4.5	1.2
Left Turn Across Path	7	4.0	12.3
Improper Turn	4	2.3	2.9
Backed Unsafely	4	2.3	2.7
Disobey Traffic Signal	2	1.1	6.5
Yield Sign Violation	1	0.6	2.0
Failed to Yield Right of Way - Uncontrolled Intersection	1	0.6	1.6
Failed to Yield Right of Way to Pedestrian	--	--	4.3
Other	11	6.2	6.6
Total Number of Drivers	**177**	**100.0**	

Observations

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

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

Note: There was a total of 471 truck-tractor drivers involved in casualty collisions for which a driver action was specified on the collision report form. 294 were indicated as driving properly at the time of the collision.

Table 7.10

Condition of Truck Tractor Drivers Involved in Casualty Collisions*

2011

Driver Condition	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	447	97.2	93.2
Had Been Drinking	1	0.2	2.0
Alcohol Impaired	1	0.2	2.6
Total Alcohol Involvement	**2**	**0.4**	**4.6**
Fatigued/Asleep	9	2.0	1.0
Impaired by Drugs	--	--	0.2
Other	2	0.4	0.9
Total Number of Drivers	**460**	**100.0**	

Observations

The condition of the truck tractor driver was a contributory factor for 2.8% of the drivers involved. Truck tractor drivers were less likely to consume alcohol before the crash compared to drivers involved in total casualty collisions (0.4% compared to 4.6%). 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*

2011

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	457	98.1	99.2
Improper Load/Shift	3	0.6	0.1
Tires Failed	3	0.6	0.1
Defective Brakes	--	--	0.2
Lighting Defect	--	--	0.0
Other	3	0.6	0.4
Total Number of Truck Tractors	**466**	**100.0**	

Observations

Vehicle factors were identified for 1.9% 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

2011

Month	N	%
January	56	11.3
February	41	8.3
March	49	9.9
April	25	5.1
May	18	3.6
June	36	7.3
July	33	6.7
August	38	7.7
September	53	10.7
October	40	8.1
November	59	11.9
December	46	9.3
Unspecified	1	0.2
Total Number of Collisions	**495**	**100.0**

Observations

The occurrence of casualty collisions involving truck tractors was highest in the month of November and lowest during May.

Special Types of Vehicles

Trains

- In 2011, 3 people were killed and 27 people were injured in crashes in which a train was involved. The number of casualties involving trains has increased from 2010.
- The largest number of casualty collisions involving trains occurred in the months of January, May, and September.
- Almost all of the drivers involved in casualty collisions with a train made an improper driving action.

Table 7.13

Trains Involved in Casualty Collisions

2007 – 2011

Number of Trains	**2011**	**2010**	**2009**	**2008**	**2007**
Fatal	3	5	2	3	4
Non-Fatal Injury	19	10	9	21	18
Total Number of Trains Involved in Casualty Collisions	**22**	**15**	**11**	**24**	**22**
Casualties*					
Number Killed	3	6	2	3	5
Number Injured	27	13	12	27	30
Total Casualties in Collisions Involving Trains	**30**	**19**	**14**	**30**	**35**

Observations

The number of trains involved in casualty collisions increased from 2010. The number of casualties resulting from these collisions also 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

2011

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	1	33.3	2	10.5	3	13.6
February	--	--	2	10.5	2	9.1
March	--	--	2	10.5	2	9.1
April	--	--	--	--	--	--
May	1	33.3	2	10.5	3	13.6
June	--	--	2	10.5	2	9.1
July	--	--	2	10.5	2	9.1
August	--	--	2	10.5	2	9.1
September	1	33.3	2	10.5	3	13.6
October	--	--	--	--	--	--
November	--	--	2	10.5	2	9.1
December	--	--	1	5.3	1	4.5
Total Number of Collisions	**3**	**100.0**	**19**	**100.0**	**22**	**100.0**

Observations

The largest number of casualty collisions involving trains occurred in the months of January, May, and September.

Table 7.15

Actions of Drivers Involved in Casualty Collisions with Trains*

2011

Driver Actions	Drivers in Fatal Collisions N	Drivers in Fatal Collisions %	Drivers in Non-Fatal Injury Collisions N	Drivers in Non-Fatal Injury Collisions %	Total Drivers in Casualty Collisions N	Total Drivers in Casualty Collisions %
Driving Properly	--	--	1	5.9	1	5.3
Disobey Traffic Signal	--	--	9	52.9	9	47.4
Stop Sign Violation	1	50.0	4	23.5	5	26.3
Failed to Yield Right of Way - Uncontrolled Intersection	1	50.0	1	5.9	2	10.5
Other	--	--	2	11.8	2	10.5
Total Number of Drivers	**2**	**100.0**	**17**	**100.0**	**19**	**100.0**

Observations

Almost all of the drivers involved in casualty collisions with a train made an improper driving action.

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

Pedestrians

- Pedestrian casualty collisions were more likely to occur in December. February 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.).
- 41.1% of the drivers in casualty 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, 13.4% had consumed alcohol before the collision, compared to 46.3% 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

2011

Month of Collision	N	%
January	90	7.8
February	68	5.9
March	72	6.2
April	90	7.8
May	82	7.1
June	87	7.5
July	87	7.5
August	91	7.9
September	114	9.8
October	118	10.2
November	118	10.2
December	140	12.1
Unspecified	1	0.1
Total Number of Collisions	**1158**	**100.0**

Observations

Pedestrian casualty collisions were more likely to occur in December. February experienced the least number of pedestrian crashes.

Table 8.2

Casualty Collisions Involving Pedestrians:

Day of Week

2011

Day of Week	N	%
Monday	175	15.1
Tuesday	174	15.0
Wednesday	189	16.3
Thursday	167	14.4
Friday	201	17.4
Saturday	147	12.7
Sunday	103	8.9
Unspecified	2	0.2
Total Number of Collisions	**1158**	**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

2011

Time Period	N	%
11:00 p.m. - 2:59 a.m.	110	9.5
3:00 a.m. - 6:59 a.m.	56	4.8
7:00 a.m. - 10:59 a.m.	197	17.0
11:00 a.m. - 2:59 p.m.	254	21.9
3:00 p.m. - 6:59 p.m.	340	29.4
7:00 p.m. - 10:59 p.m.	195	16.8
Unspecified	6	0.5
Total Number of Collisions	**1158**	**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

2011

Location	**N**	%
Urban	1100	95.0
Rural	58	5.0
Total Number of Collisions	**1158**	**100.0**

Observations

The majority of pedestrian casualty collisions (95.0%) occurred in urban areas. Only 5.0% occurred in rural areas.

Table 8.5

Actions of Drivers Involved in Casualty Collisions with Pedestrians*

2011

Driver Actions	N	%
Driving Properly	338	33.9
Failed to Yield Right of Way To Pedestrian	409	41.1
Backed Unsafely	93	9.3
Improper Turn	21	2.1
Stop Sign Violation	20	2.0
Ran Off Road	16	1.6
Followed Too Closely	15	1.5
Disobey Traffic Signal	12	1.2
Left Turn Across Path	10	1.0
Failed to Yield Right of Way - Uncontrolled Intersection	8	0.8
Yield Sign Violation	5	0.5
Improper Passing	4	0.4
Left of Centre	2	0.2
Improper Lane Change	2	0.2
Other	41	4.1
Total Number of Drivers	**996**	**100.0**

Observations

33.9% of the drivers involved in pedestrian casualty crashes were recorded as driving properly. However, 41.1% 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

2011

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	--	20	20	1.7	0.8
5 - 9	--	41	41	3.4	1.9
10 - 14	--	74	74	6.1	3.4
15 - 19	--	161	161	13.3	6.7
20 - 24	4	136	140	11.6	5.0
25 - 29	5	117	122	10.1	3.8
30 - 34	4	87	91	7.5	3.1
35 - 44	4	141	145	12.0	2.6
45 - 54	9	126	135	11.2	2.4
55 - 64	10	114	124	10.3	2.9
65 and over	7	128	135	11.2	3.3
Unspecified	--	19	19	1.6	
Total Number of Pedestrian Casualties	**43**	**1164**	**1207**	**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, 2011, Statistics Canada

Figure 7

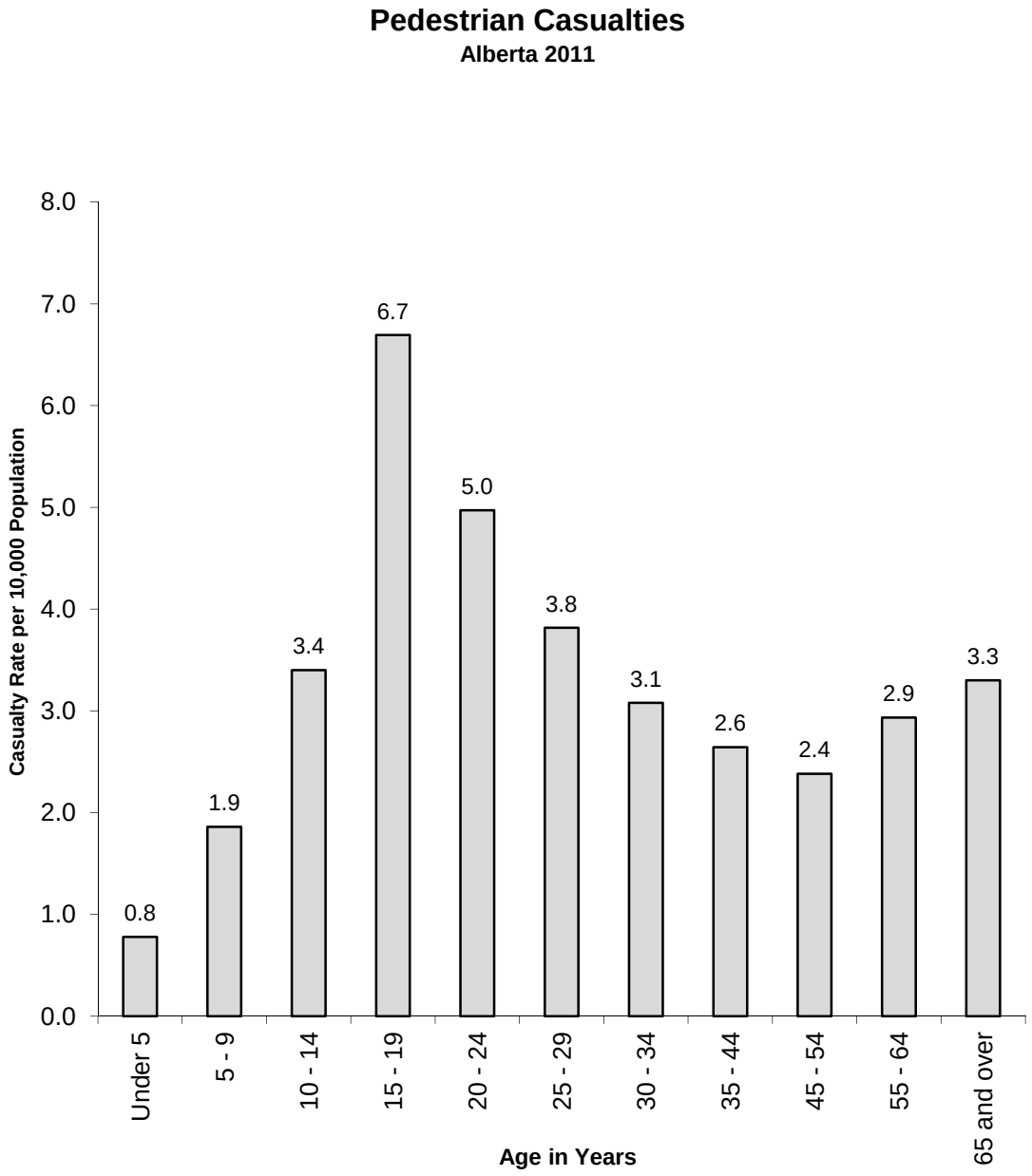

Pedestrian Casualties
Alberta 2011
Casualty Rate per 10,000 Population
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.8
1.9
3.4
6.7
5.0
3.8
3.1
2.6
2.4
2.9
3.3
Under 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years

Table 8.7

Condition of Pedestrians Involved in Casualty Collisions*

2011

Condition of Pedestrian	Pedestrians in Fatal Collisions N	%	Pedestrians in Non-Fatal Injury Collisions N	%	Total Pedestrians in Casualty Collisions N	%
Normal	22	53.7	825	85.0	847	83.7
Had Been Drinking	10	24.4	72	7.4	82	8.1
Alcohol Impaired	9	22.0	58	6.0	67	6.6
Total Alcohol Involvement	**19**	**46.3**	**130**	**13.4**	**149**	**14.7**
Impaired by Drugs	--	--	2	0.2	2	0.2
Other	--	--	14	1.4	14	1.4
Total Number of Pedestrians	**41**	**100.0**	**971**	**100.0**	**1012**	**100.0**

Observations

Of pedestrians involved in injury collisions, 13.4% had consumed alcohol before the collision, compared to 46.3% 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*

2011

Age in Years	N	%	Rate per 10,000 Population**
Under 10	--	--	
10 - 14	--	--	
15 - 19	9	6.0	0.4
20 - 24	32	21.5	1.1
25 - 29	28	18.8	0.9
30 - 34	13	8.7	0.4
35 - 44	24	16.1	0.4
45 - 54	22	14.8	0.4
55 - 64	12	8.1	0.3
65 and over	2	1.3	0.0
Unspecified	7	4.7	
Total Number of Pedestrian Casualties	**149**	**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, 2011, Statistics Canada.

Bicyclists

- Casualty collisions involving bicycles were more likely to occur in the month of September.
- Weekdays experienced the most casualty collisions involving bicycles. As well, the largest number of these crashes (42.1%) occurred during the evening rush-hour period.
- Young bicyclists aged 10-14 had the highest casualty rate per 10,000 population.
- Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to fail to yield right-of-way at an uncontrolled intersection or to disobey a traffic signal.
- 5.1% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

Table 9.1

Casualty Collisions Involving Bicycles:

Month of Occurrence

2011

Month of Collision	N	%
January	3	0.7
February	5	1.1
March	5	1.1
April	22	4.8
May	59	12.8
June	65	14.1
July	74	16.1
August	62	13.4
September	82	17.8
October	56	12.1
November	19	4.1
December	8	1.7
Unspecified	1	0.2
Total Number of Collisions	**461**	**100.0**

Observations

The highest number of casualty crashes involving bicycles occurred during the month of September.

Table 9.2

Casualty Collisions Involving Bicycles:

Day of Week

2011

Day of Week	N	%
Monday	69	15.0
Tuesday	81	17.6
Wednesday	77	16.7
Thursday	79	17.1
Friday	71	15.4
Saturday	51	11.1
Sunday	32	6.9
Unspecified	1	0.2
Total Number of Collisions	**461**	**100.0**

Observations

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

Table 9.3

Casualty Collisions Involving Bicycles:

Time Period

2011

Time Period	N	%
11:00 p.m. - 2:59 a.m.	11	2.4
3:00 a.m. - 6:59 a.m.	14	3.0
7:00 a.m. - 10:59 a.m.	89	19.3
11:00 a.m. - 2:59 p.m.	80	17.4
3:00 p.m. - 6:59 p.m.	194	42.1
7:00 p.m. - 10:59 p.m.	70	15.2
Unspecified	3	0.7
Total Number of Collisions	**461**	**100.0**

Observations

The largest proportion of casualty crashes (42.1%) 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

2011

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	--	--	5	1.1	5	1.1	0.2
5-9	--	--	31	6.8	31	6.7	1.4
10-14	--	--	74	16.2	74	16.1	3.4
15-19	1	50.0	63	13.8	64	13.9	2.7
20-24	--	--	52	11.4	52	11.3	1.8
25-29	--	--	45	9.8	45	9.8	1.4
30-34	--	--	33	7.2	33	7.2	1.1
35-44	--	--	54	11.8	54	11.7	1.0
45-54	1	50.0	57	12.4	58	12.6	1.0
55-64	--	--	28	6.1	28	6.1	0.7
65 and over	--	--	6	1.3	6	1.3	0.1
Unspecified	--	--	10	2.2	10	2.2	
Total Casualties	**2**	**100.0**	**458**	**100.0**	**460**	**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 65 and older.

*Based on estimates of the Alberta population by age groups and sex, July 1, 2011, Statistics Canada

Table 9.5

Improper Actions of Bicyclists Involved in Casualty Collisions

2011

Improper Actions of Bicyclists	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Disobey Traffic Signal	22	12.3	6.5
Failed to Yield Right of Way - Uncontrolled Intersection	16	8.9	1.6
Stop Sign Violation	15	8.4	7.7
Left Turn Across Path	11	6.1	12.3
Left of Centre	9	5.0	3.5
Improper Lane Change	7	3.9	2.8
Yield Sign Violation	6	3.4	2.0
Improper Turn	6	3.4	2.9
Ran Off Road	3	1.7	15.8
Improper Passing	2	1.1	1.2
Failed to Yield Right of Way to Pedestrian	2	1.1	4.3
Followed Too Closely	--	--	30.2
Backed Unsafely	--	--	2.7
Other	80	44.7	6.6
Total Number of Bicyclists	**179**	**100.0**	

Observations

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

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

Note: There were a total of 310 bicyclists involved in casualty collisions for which a driver action was specified on the collision report form. 131 were indicated as driving properly at the time of the collision.

Table 9.6

Condition of Bicyclists Involved in Casualty Collisions*

2011

Condition of Bicyclist	N	%
Normal	385	93.9
Had Been Drinking	14	3.4
Alcohol Impaired	7	1.7
Total Alcohol Involvement	**21**	**5.1**
Impaired by Drugs	1	0.2
Fatigued/Asleep	1	0.2
Other	2	0.5
Total Number of Bicyclists	**410**	**100.0**

Observations

5.1% 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 4.4% of drivers involved in injury crashes were judged to have consumed alcohol prior to the crash, compared to 16.5% 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 licenced drivers, males between 18 and 24 years of age were most likely to have been drinking before the crash. There were more than 4.5 times as many male drivers as female drivers who had consumed alcohol prior to the collision.

- In 2011, alcohol related casualty crashes were most likely to have occurred in 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, 2007 - 2011.

Table 10.1

Condition of Drivers in Casualty Collisions*

2011

Condition of Driver	Drivers in Fatal Collisions		Drivers in Non-Fatal Injury Collisions		Total Drivers in Casualty Collisions	
	N	%	N	%	N	%
Normal	322	79.5	19427	93.5	19749	93.2
Had Been Drinking	24	5.9	402	1.9	426	2.0
Alcohol Impaired	43	10.6	513	2.5	556	2.6
Total Alcohol Involvement	**67**	**16.5**	**915**	**4.4**	**982**	**4.6**
Impaired by Drugs	1	0.2	43	0.2	44	0.2
Fatigued/Asleep	6	1.5	207	1.0	213	1.0
Other	9	2.2	191	0.9	200	0.9
Total Number of Drivers	**405**	**100.0**	**20783**	**100.0**	**21188**	**100.0**

Observations

Of drivers involved in injury collisions, 4.4% had consumed alcohol before the crash, compared to 16.5% in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased. Overall, 4.6% 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

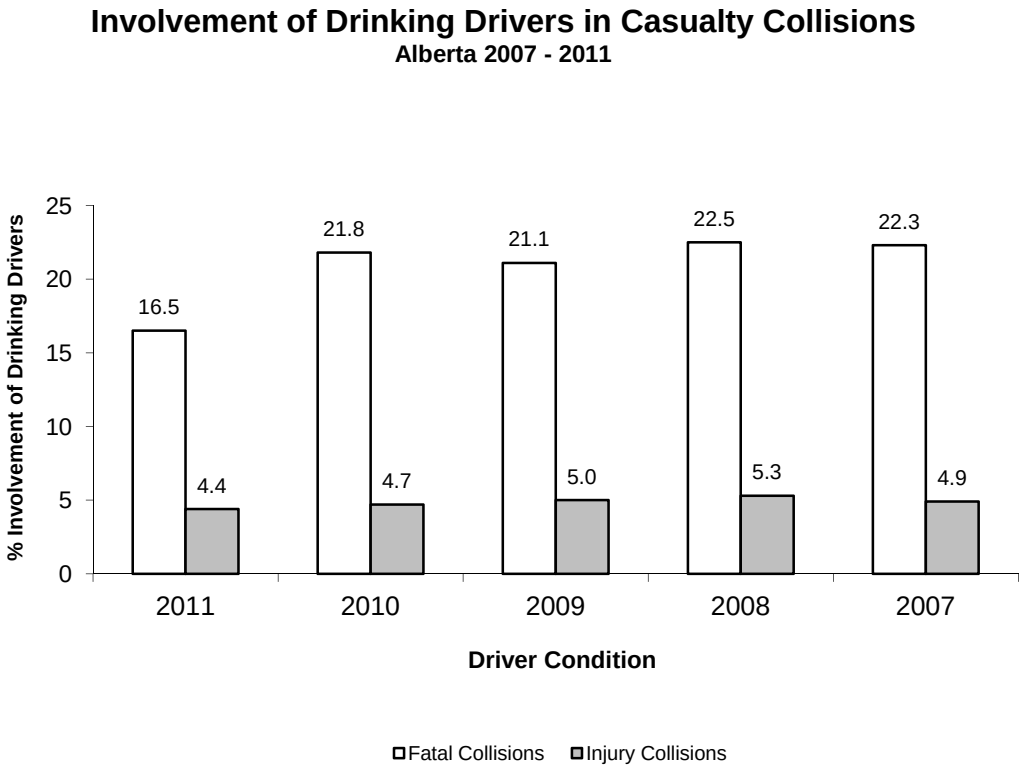

Involvement of Drinking Drivers in Casualty Collisions
Alberta 2007 - 2011
% Involvement of Drinking Drivers
25
20
15
10
5
0
16.5
4.4
21.8
4.7
21.1
5.0
22.5
5.3
22.3
4.9
2011
2010
2009
2008
2007
Driver Condition
Fatal Collisions
Injury Collisions

Figure 9

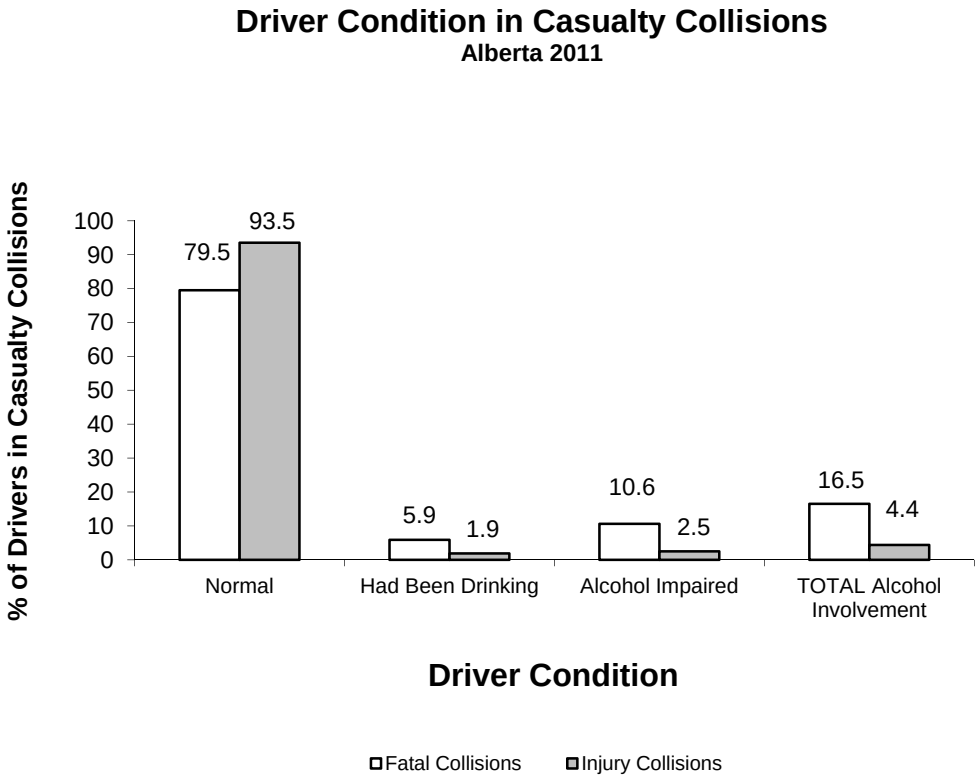

Driver Condition in Casualty Collisions
Alberta 2011
% of Drivers in Casualty Collisions
100
90
80
70
60
50
40
30
20
10
0
79.5
93.5
5.9
1.9
10.6
2.5
16.5
4.4
Normal
Had Been Drinking
Alcohol Impaired
TOTAL Alcohol Involvement
Driver Condition
Fatal Collisions
Injury Collisions

Table 10.2

Age and Sex of Drinking Drivers in Casualty Collisions*

2011

	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	2	0.2	0.1	5	0.5	0.4	7	0.7	0.2
16 - 17	28	2.9	0.9	13	1.3	0.5	41	4.2	0.7
18 - 19	71	7.2	1.7	14	1.4	0.4	85	8.7	1.1
20 - 21	72	7.3	1.5	20	2.0	0.5	92	9.4	1.0
22 - 24	100	10.2	1.2	21	2.1	0.3	121	12.3	0.8
25 - 29	131	13.3	0.8	27	2.7	0.2	158	16.1	0.5
30 - 34	112	11.4	0.7	21	2.1	0.2	133	13.5	0.5
35 - 44	123	12.5	0.4	28	2.9	0.1	151	15.4	0.3
45 - 54	91	9.3	0.3	15	1.5	0.1	106	10.8	0.2
55 - 64	53	5.4	0.2	9	0.9	0.0	62	6.3	0.1
65 and over	12	1.2	0.1	2	0.2	0.0	14	1.4	0.0
Unspecified	4	0.4		--	--		12	1.2	
Total Drivers	**799**	**81.4**		**175**	**17.8**		**982**	**100.0**	

Observations

Of those collision-involved drivers who had consumed alcohol, there were over 4.5 times as many male drivers as female drivers. In terms of involvement per 1,000 licenced 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: Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2011.

Figure 10

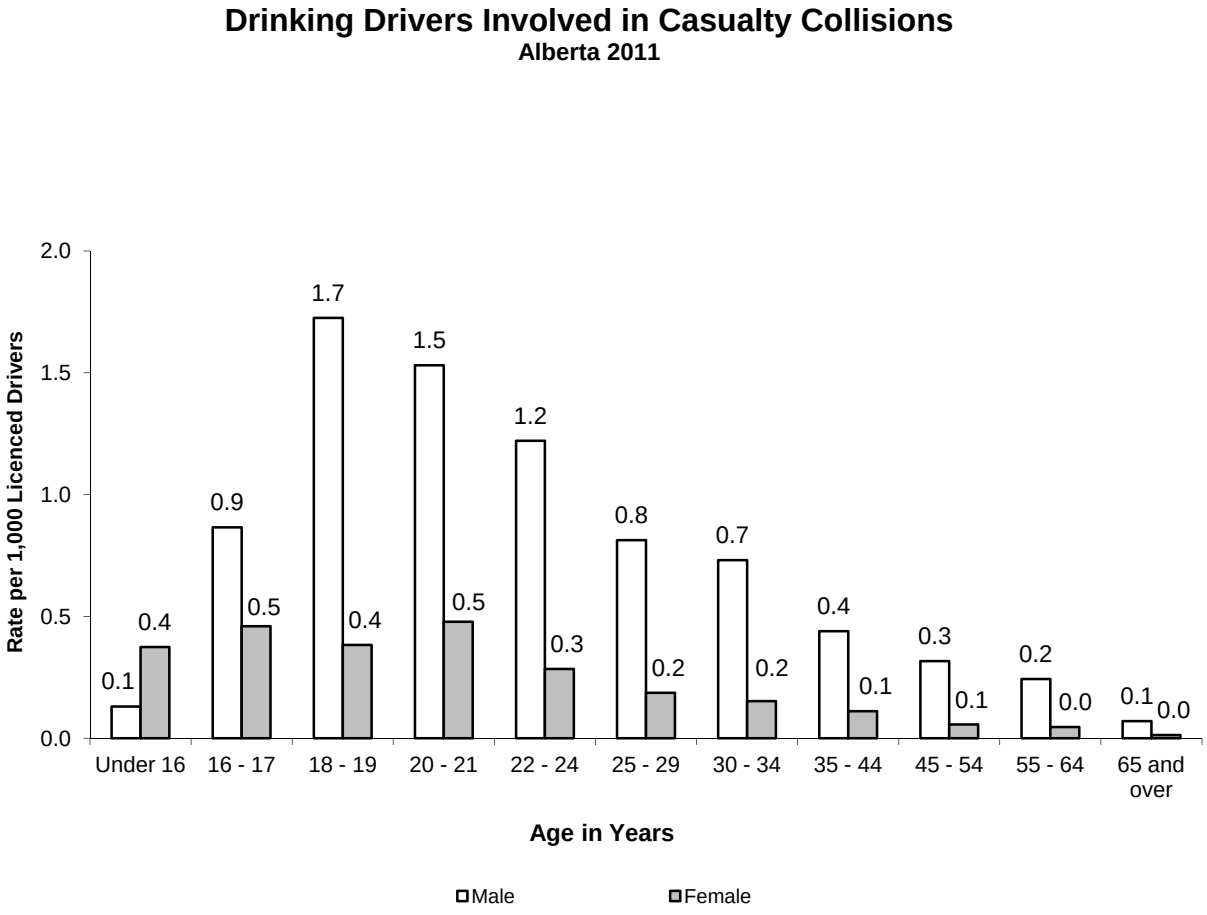

Drinking Drivers Involved in Casualty Collisions
Alberta 2011
Rate per 1,000 Licenced Drivers
2.0
1.5
1.0
0.5
0.0
0.1
0.4
0.9
0.5
1.7
0.4
1.5
0.5
1.2
0.3
0.8
0.2
0.7
0.2
0.4
0.1
0.3
0.1
0.2
0.0
0.1
0.0
Under 16
16 - 17
18 - 19
20 - 21
22 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years
Male
Female

Table 10.3

Alcohol-Involved Casualty Collisions:

Month of Occurrence

2011

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	6	9.1	54	6.0	60	6.2
February	3	4.5	50	5.5	53	5.5
March	3	4.5	61	6.8	64	6.6
April	6	9.1	71	7.9	77	8.0
May	2	3.0	78	8.7	80	8.3
June	6	9.1	97	10.8	103	10.7
July	6	9.1	106	11.8	112	11.6
August	9	13.6	92	10.2	101	10.4
September	10	15.2	85	9.4	95	9.8
October	7	10.6	86	9.5	93	9.6
November	4	6.1	65	7.2	69	7.1
December	4	6.1	56	6.2	60	6.2
Total Number of Collisions	**66**	**100.0**	**901**	**100.0**	**967**	**100.0**

Observations

The month of July accounted for the largest proportion of alcohol-involved casualty collisions. The month of February accounted for the smallest proportion of alcohol-involved casualty collisions.

Table 10.4

Alcohol-Involved Casualty Collisions:

Day of Week

2011

Day of Week	Fatal Collisions		Non-Fatal Injury Collisions		Total Casualty Collisions	
	N	%	N	%	N	%
Monday	5	7.6	68	7.5	73	7.5
Tuesday	3	4.5	92	10.2	95	9.8
Wednesday	5	7.6	98	10.9	103	10.7
Thursday	7	10.6	95	10.5	102	10.5
Friday	12	18.2	145	16.1	157	16.2
Saturday	21	31.8	232	25.7	253	26.2
Sunday	13	19.7	171	19.0	184	19.0
Total Number of Collisions	**66**	**100.0**	**901**	**100.0**	**967**	**100.0**

Observations

The highest number of alcohol-involved fatal collisions and non-fatal injury collisions occurred on Saturday (31.8% and 25.7% respectively). The smallest number of alcohol-involved casualty collisions occurred on Monday (7.5%).

Table 10.5

Alcohol-Involved Casualty Collisions:

Time Period

2011

Time Period	Fatal Collisions		Non-Fatal Injury Collisions		Total Casualty Collisions	
	N	%	N	%	N	%
11:00 p.m. - 2:59 a.m.	17	25.8	287	31.9	304	31.4
3:00 a.m. - 6:59 a.m.	13	19.7	127	14.1	140	14.5
7:00 a.m. - 10:59 a.m.	4	6.1	39	4.3	43	4.4
11:00 a.m. - 2:59 p.m.	3	4.5	50	5.5	53	5.5
3:00 p.m. - 6:59 p.m.	8	12.1	156	17.3	164	17.0
7:00 p.m. - 10:59 p.m.	19	28.8	225	25.0	244	25.2
Unspecified	2	3.0	17	1.9	19	2.0
Total Number of Collisions	**66**	**100.0**	**901**	**100.0**	**967**	**100.0**

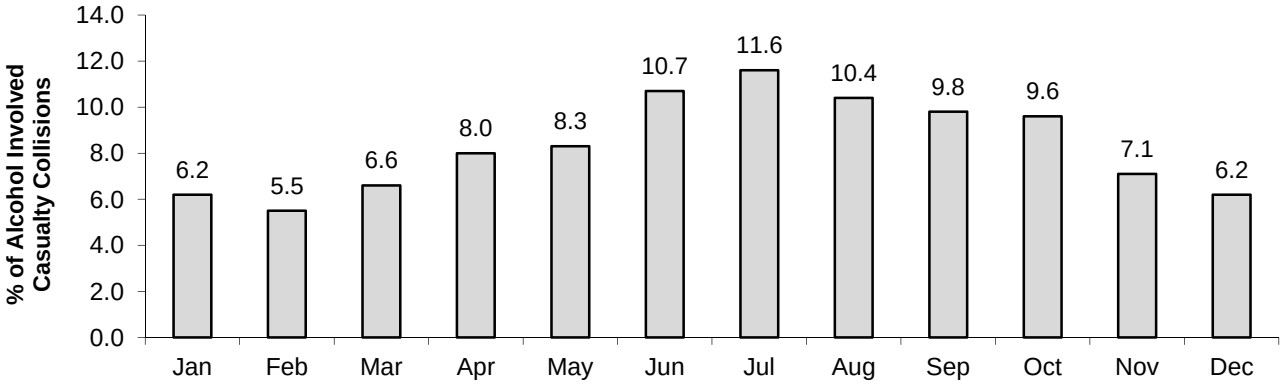
Observations

The late night/early morning time period (11:00 p.m. – 2:59 a.m.) was most likely to record alcohol-involved casualty collisions (31.4%). The morning hours (7:00 a.m. – 10:59 a.m.) were least likely to record alcohol-involved casualty crashes (4.4%).

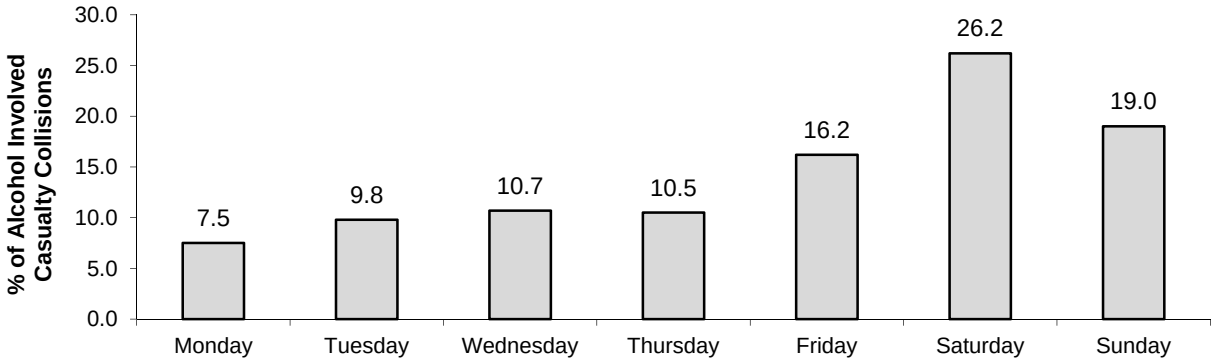
Figure 11

Alcohol-Involved Casualty Collisions
Alberta 2011

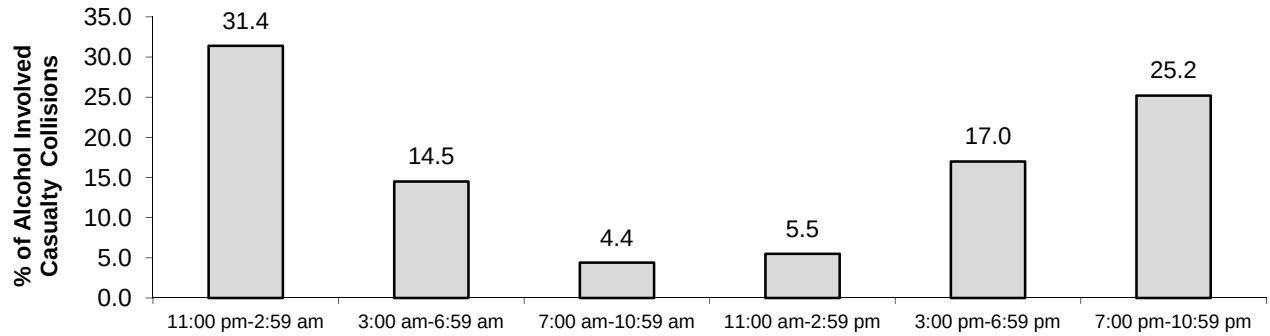
By Month of Occurrence



By Day of Week



By Time Period



Traffic Safety Issues

Restraint Use

- Collision-involved restraint users had a much lower injury rate (7.7%) than those not using restraints (31.0%).
- 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)

2011

Injury Severity of Occupants	Percentage of Occupants Using Restraints %	Percentage of Occupants Not Using Restraints %
Fatal Injury	0.1	3.2
Major Injury	0.9	9.2
Minor Injury	6.8	18.6
Total Occupants Sustaining Injuries	**7.7**	**31.0**
No Apparent Injury	92.3	69.0
Total Occupants	**100.0**	**100.0**

Observations

Collision involved restraint users had a much lower injury rate (7.7%) than those not using restraints (31.0%). 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.