Alberta

Traffic Collision Statistics

2016

Alberta

Traffic Collision Statistics

2016

For further information contact:
Alberta Transportation
Office of Traffic Safety
Main Floor, Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta T6B 2X3
780-427-8901
www.transportation.alberta.ca

2016 Overview

- The number of **traffic fatalities decreased 9.4%** over the past year from 330 fatalities in 2015 to 299 in 2016.
- The number of **traffic injuries decreased 7.2%** over the past year from 17,907 injuries in 2015 to 16,622 in 2016.
- The number of **traffic collisions decreased 5.4%** over the past year from 140,705 collisions in 2015 to 133,124 in 2016.
- **The highest number of fatal collisions** occurred in **May. The highest number of injury collisions** occurred in **June**.
- **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 making a left turn across the path of an oncoming vehicle** 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**.
- **34.2% of pedestrians** involved in **fatal collisions had consumed alcohol** prior to the collision compared to **9.0% of pedestrians in injury collisions**.
- **16.3% of drivers** involved in **fatal collisions had consumed alcohol** prior to the crash compared to **3.2% of drivers in injury collisions**.
- **Collision-involved restraint users had a much lower injury rate** (6.8%) than those not using restraints (24.1%)

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 2016. 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 $2,000.00 or more, be reported immediately to an authorized peace officer. The officer completes a standardized collision report which provides information on various aspects of the traffic collision. This report is based on the data collected from these reports.

The collision report 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, complete an on-scene investigation and clear the roadway. Completion of the collision report is a secondary, but necessary, task.

Once the collision report is completed, the data is stored in the collision database. The system undergoes several data quality checks 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.

Table of Contents

Page

2016 Overview i

Preface iii

List of Tables vii

List of Figures ix

Glossary xi

2016 Traffic Collision Summary 1

When the Collisions Occurred 7

Victims 13

Drivers 17

Vehicles 21

Environment 25

Special Types of Vehicles
- Motorcycles 29
- Truck Tractors 39
- Trains 45

Pedestrians 49

Bicyclists 59

Traffic Safety Issues
- Alcohol Involvement 67
- Restraint Use 77

List of Tables

Page

Table 1.1 Alberta Traffic Collisions 2012 - 2016 2
Table 1.2 Traffic Collision Rates 2012 - 2016 3
Table 1.3 Provincial Comparison of Casualty Rates Per Billion Vehicle Kilometres Travelled 2011 - 2015 5

Table 2.1 Collision Occurrence by Month 2016 8
Table 2.2 Collision Occurrence by Day of Week 2016 9
Table 2.3 Collision Occurrence by Time Period 2016 10
Table 2.4 Collisions During 2016 Holidays 12

Table 3.1 Injuries and Fatalities by Road User Class 2016 14
Table 3.2 Age of Casualties 2016 15

Table 4.1 Age and Sex of Drivers Involved in Casualty Collisions: Per 1,000 Licenced Drivers 2016 18
Table 4.2 Improper Actions of Drivers Involved in Casualty Collisions 2016 20

Table 5.1 Types of Vehicles Involved in Casualty Collisions 2016 22
Table 5.2 Vehicle Factors Involved in Casualty Collisions 2016 23
Table 5.3 Point of Impact on Vehicles Involved in Casualty Collisions 2016 24

Table 6.1 Location of Collisions 2016 26
Table 6.2 Casualty Collision Occurrence by Surface Condition 2016 27

Table 7.1 Motorcycles Involved in Casualty Collisions 2012 - 2016 30
Table 7.2 Age and Sex of Motorcycle Operators Involved in Casualty Collisions 2016 32
Table 7.3 Improper Actions of Motorcycle Operators Involved in Casualty Collisions 2016 33
Table 7.4 Condition of Motorcycle Operators Involved in Casualty Collisions 2016 34
Table 7.5 Motorcycle Vehicle Factors in Casualty Collisions 2016 35
Table 7.6 Casualty Collisions Involving Motorcycles: Month of Occurrence 2016 36
Table 7.7 Casualty Collisions Involving Motorcycles: Road Surface Condition 2016 37

Table 7.8 Truck Tractors Involved in Casualty Collisions 2012 - 2016 40
Table 7.9 Improper Actions of Truck Tractor Drivers Involved in Casualty Collisions 2016 41
Table 7.10 Condition of Truck Tractor Drivers Involved in Casualty Collisions 2016 42
Table 7.11 Vehicle Factors of Truck Tractors Involved in Casualty Collisions 2016 43
Table 7.12 Casualty Collisions Involving Truck Tractors: Month of Occurrence 2016 44
Table 7.13 Trains Involved in Casualty Collisions 2012 - 2016 46
Table 7.14 Casualty Collisions Involving Trains: Month of Occurrence 2016 47
Table 7.15 Actions of Drivers Involved in Casualty Collisions with Trains 2016 48

Table 8.1 Casualty Collisions Involving Pedestrians: Month of Occurrence 2016 50
Table 8.2 Casualty Collisions Involving Pedestrians: Day of Week 2016 51
Table 8.3 Casualty Collisions Involving Pedestrians: Time Period 2016 52
Table 8.4 Casualty Collisions Involving Pedestrians: Location 2016 53
Table 8.5 Actions of Drivers Involved in Casualty Collisions with Pedestrians 2016 54
Table 8.6 Age of Pedestrian Casualties 2016 55
Table 8.7 Condition of Pedestrians Involved in Casualty Collisions 2016 57
Table 8.8 Age of Drinking Pedestrians Involved in Casualty Collisions 2016 58

Table 9.1 Casualty Collisions Involving Bicycles: Month of Occurrence 2016 60
Table 9.2 Casualty Collisions Involving Bicycles: Day of Week 2016 61
Table 9.3 Casualty Collisions Involving Bicycles: Time Period 2016 62
Table 9.4 Age of Bicyclist Casualties 2016 63
Table 9.5 Improper Actions of Bicyclists Involved in Casualty Collisions 2016 64
Table 9.6 Condition of Bicyclists Involved in Casualty Collisions 2016 65

Table 10.1 Condition of Drivers in Casualty Collisions 2016 68
Table 10.2 Age and Sex of Drinking Drivers in Casualty Collisions 2016 71
Table 10.3 Alcohol-Involved Casualty Collisions: Month of Occurrence 2016 73
Table 10.4 Alcohol-Involved Casualty Collisions: Day of Week 2016 74
Table 10.5 Alcohol-Involved Casualty Collisions: Time Period 2016 75
Table 10.6 Restraint Use of Vehicle Occupants and Injury Severity 2016 (Use vs. Non-Use) 78

List of Figures

Page

Figure 1	Alberta Traffic Collision Rates Per 10,000 Population 2012 - 2016	4
Figure 2	Traffic Fatality Rates per Billion Vehicle Kilometres Travelled 2011 - 2015	6
Figure 3	Collision Occurrence by Month/Day of Week/Time Period 2016	11
Figure 4	Age of Casualties 2016	16
Figure 5	Age and Sex of Drivers Involved in Casualty Collisions 2016	19
Figure 6	Number of Motorcycles Involved in Fatal Collisions 2012 - 2016	31
Figure 7	Pedestrian Casualties 2016	56
Figure 8	Involvement of Drinking Drivers in Casualty Collisions 2012 - 2016	69
Figure 9	Driver Condition in Casualty Collisions 2016	70
Figure 10	Drinking Drivers Involved in Casualty Collisions 2016	72
Figure 11	Alcohol-Involved Casualty Collisions by Month/Day of Week/Time Period 2016	76

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.

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.

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 $2,000.00.

Reportable Collision
A vehicle collision which resulted in death, injury or property damage greater than $2,000.00.

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

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

2016 Traffic Collision Summary

Introduction

During 2016, 133,124 collisions were recorded on Alberta roadways. Property damage collisions (over $2,000) represented 90.4% (120,386) of this total while 9.4% (12,465) were non-fatal injury collisions. Fatal collisions accounted for 0.2% (273) of the total reported collisions.

Five-Year Trends

In terms of licenced drivers, the fatal collision rate is unchanged from 2015 to 2016, but decreased for both population 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 decreased in terms of population, licenced drivers and registered vehicles.

Property damage collision rates decreased from 2015 to 2016 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, eight provinces and territories had a higher fatality rate than Alberta in 2015. With regard to injury rates, in 2015, 11 jurisdictions had a higher injury rate than Alberta.

Table 1.1

Alberta Traffic Collisions

2012 – 2016

Severity of Collisions	**2016**	**2015**	**2014**	**2013**	**2012**
Fatal Collisions	273	288	328	331	307
Non-Fatal Injury Collisions	12465	13531	14244	14073	13822
Property Damage Collisions	120386	126886	130168	127234	122466
Total Reportable Collisions	**133124**	**140705**	**144740**	**141638**	**136595**
Number Killed	299	330	369	358	345
Number Injured	16622	17907	18745	18650	18220
Total Number of Casualties	**16921**	**18237**	**19114**	**19008**	**18565**

Observations

In 2016, the overall number of collisions decreased 5.4% when compared to 2015. In 2016, injury collisions decreased by 7.9% and fatal crashes decreased by 5.2%. The number of fatalities decreased by 9.4% from 2015 to 2016 and the number of injuries decreased by 7.2%. In terms of the past five years, overall collisions were lowest in 2016 and highest in 2014.

Table 1.2

Traffic Collision Rates

2012 – 2016

Severity of Collision	Rate Per 10,000 Population					Rate Per 10,000 Licenced Drivers					Rate Per 10,000 Registered Vehicles				
	2016	**2015**	**2014**	**2013**	**2012**	**2016**	**2015**	**2014**	**2013**	**2012**	**2016**	**2015**	**2014**	**2013**	**2012**
Fatal Collisions	0.6	0.7	0.8	0.8	0.8	0.9	0.9	1.1	1.1	1.1	0.7	0.8	0.9	1.0	0.9
Number Killed	0.7	0.8	0.9	0.9	0.9	1.0	1.1	1.2	1.2	1.2	0.8	0.9	1.0	1.0	1.0
Non-Fatal Injury Collisions	29.3	32.2	34.6	35.0	35.7	39.6	43.3	46.6	47.4	47.9	33.3	37.1	39.5	40.5	41.3
Number Injured	39.1	42.7	45.5	46.3	47.0	52.9	57.3	61.3	62.8	63.1	44.4	49.1	52.0	53.6	54.4
Property Damage Collisions	283.1	302.4	315.8	316.1	316.1	382.8	405.8	425.7	428.7	424.1	321.5	347.9	360.8	366.0	365.8
Total Reportable Collisions	**313.0**	**335.3**	**351.2**	**351.9**	**352.6**	**423.3**	**450.0**	**473.4**	**477.2**	**473.0**	**355.6**	**385.8**	**401.2**	**407.4**	**408.0**

Observations

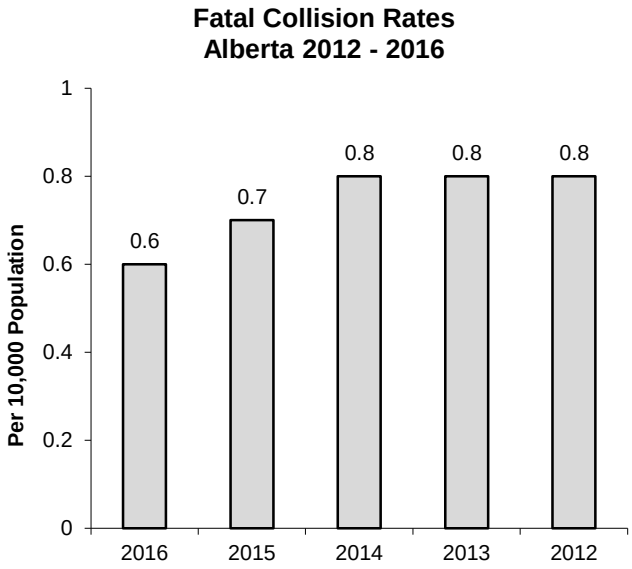
In terms of licenced drivers, the fatal collision rate is unchanged from 2015 to 2016, but decreased for both population and registered vehicles. The fatality rates have decreased in terms of population, licenced drivers, and registered vehicles.

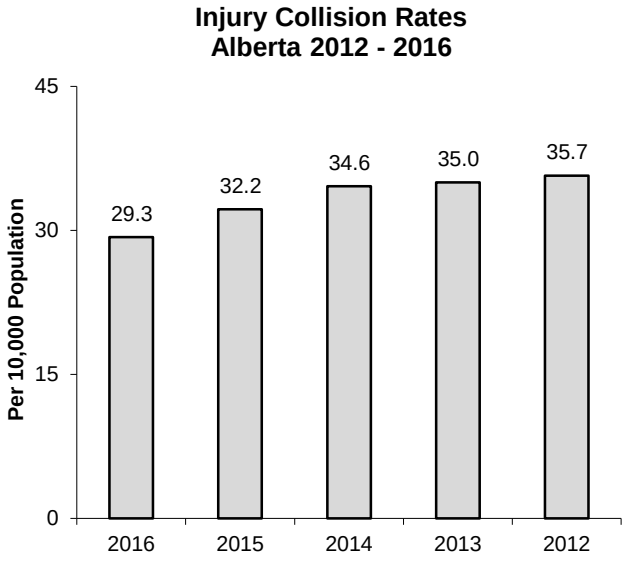
The non-fatal injury collision and injury rates decreased in terms of population, licenced drivers and registered vehicles.

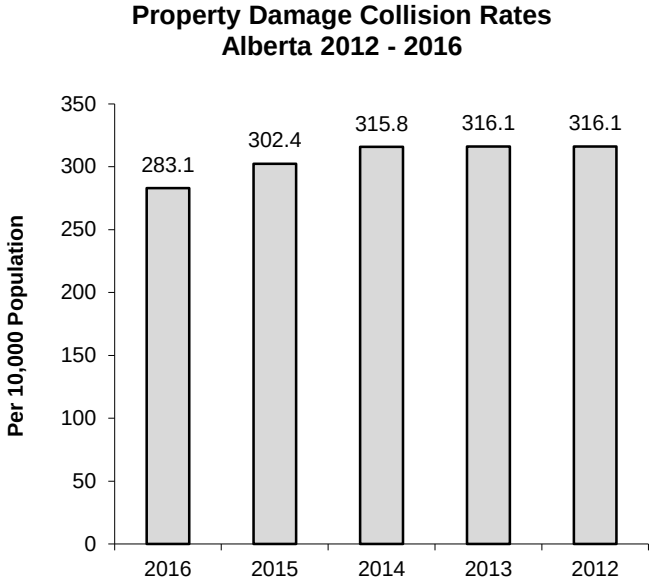
Property damage collision rates decreased from 2015 to 2016 in terms of population, licenced drivers and registered vehicles.

Sources:
Population – Statistics Canada as of July 1, 2016
Licenced Drivers – Service Alberta – Registries Services, as of December 31, 2016
Registered Vehicles – Service Alberta – Registries Services, as of December 31, 2016

Figure 1


Fatal Collision Rates
Alberta 2012 - 2016
Per 10,000 Population
1
0.8
0.6
0.4
0.2
0
0.6
0.7
0.8
0.8
0.8
2016
2015
2014
2013
2012


Injury Collision Rates
Alberta 2012 - 2016
Per 10,000 Population
45
30
15
0
29.3
32.2
34.6
35.0
35.7
2016
2015
2014
2013
2012


Property Damage Collision Rates
Alberta 2012 - 2016
Per 10,000 Population
350
300
250
200
150
100
50
0
283.1
302.4
315.8
316.1
316.1
2016
2015
2014
2013
2012

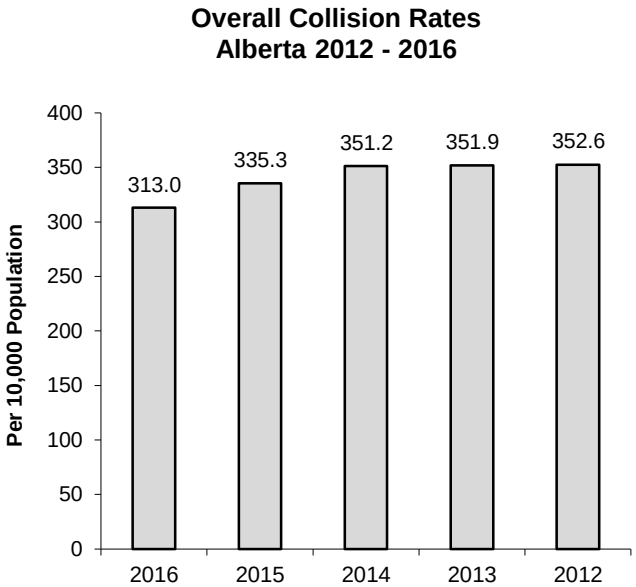

Overall Collision Rates
Alberta 2012 - 2016
Per 10,000 Population
400
350
300
250
200
150
100
50
0
313.0
335.3
351.2
351.9
352.6
2016
2015
2014
2013
2012

Table 1.3

Provincial Comparison of Casualty Rates
Per Billion Vehicle Kilometres Travelled

2011 – 2015

	Fatalities					Injuries				
	2015	**2014**	**2013**	**2012**	**2011**	**2015**	**2014**	**2013**	**2012**	**2011**
Canada	5.1	5.1	5.6	6.0	5.8	442.5	418.1	481.9	480.5	485.0
Alberta	5.5	6.3	6.4	6.4	5.7	298.2	317.8	335.5	340.1	338.7
British Columbia	7.7	7.7	7.5	7.6	8.0	583.7	560.0	567.2	543.3	536.1
Saskatchewan	8.7	9.5	10.6	13.9	11.2	396.3	423.0	535.7	548.2	512.6
Manitoba	5.5	4.9	6.4	7.3	8.9	837.4	820.3	840.0	805.5	662.6
Ontario	3.7	3.6	3.7	4.3	3.7	401.9	352.1	465.6	459.9	479.8
Quebec	4.9	4.6	5.6	5.9	6.6	499.3	493.3	530.4	545.2	565.6
New Brunswick	6.0	7.1	6.3	8.0	7.6	321.6	326.5	355.7	351.8	344.3
Nova Scotia	4.8	5.0	7.6	7.7	6.2	433.4	356.2	401.4	434.1	480.1
Prince Edward Island	12.3	3.5	9.7	7.6	13.4	354.5	358.9	826.1	439.8	503.6
Newfoundland	8.2	5.8	5.8	5.9	5.5	647.8	413.7	426.2	433.7	407.5
Yukon	6.1	6.3	6.4	3.2	17.9	319.5	280.6	329.6	318.3	383.0
Northwest Territories	7.6	10.3	7.9	5.2	0.0	204.0	228.8	314.0	378.9	332.5
Nunavut	26.3	108.1	85.7	26.5	83.5	1289.5	1270.3	1142.9	1538.1	1197.0

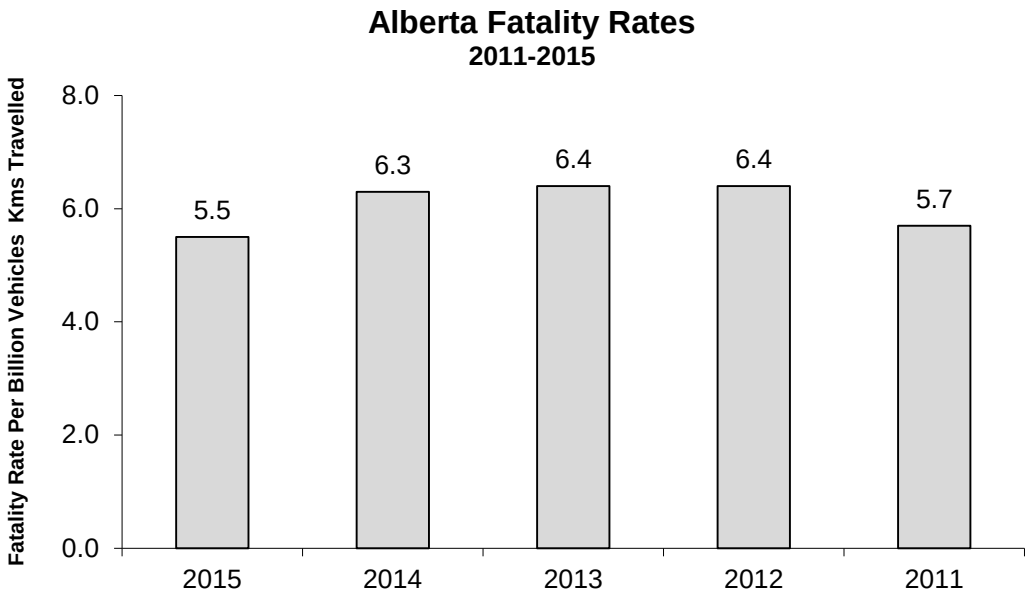
Observations

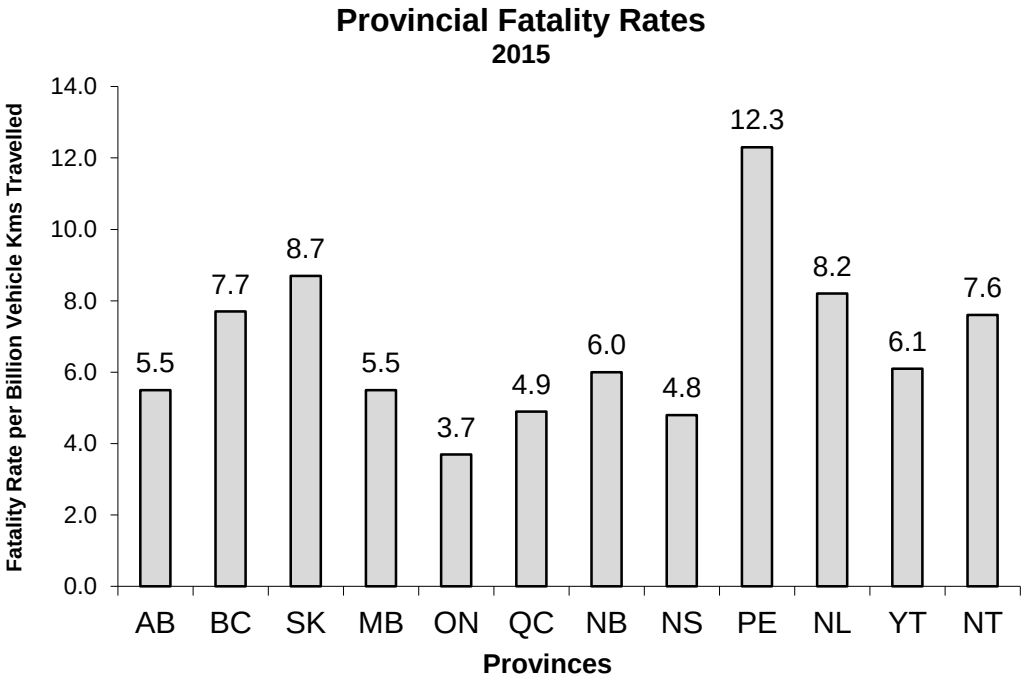
Based on the most recent information from Transport Canada, from 2014 to 2015, Alberta's fatality rate per billion vehicle kilometers travelled decreased from 6.3 to 5.5. During the same period, the injury rate per billion vehicle kilometers travelled decreased from 317.8 to 298.2. Over the five years, since 2011, rates have declined by 0.2 fatalities and 40.5 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, and 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. Vehicle Kilometres data for 2015 were estimated using average yearly change for the years 2012-2014.

The Canadian 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

May experienced more fatal collisions than other months. The highest number of injury and property damage collisions were recorded during the months of June and December, respectively.

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 Canada Day Long Weekend recorded the highest number of fatalities while the Christmas Season recorded the highest number of injuries. The Christmas Season also recorded the highest total number of collisions.

Table 2.1

Collision Occurrence by Month

2016

Month	Fatal Collisions		Non-Fatal Injury Collisions		Property Damage Collisions		Total Collisions	
	N	%	N	%	N	%	N	%
January	17	6.2	1099	8.8	11371	9.4	12487	9.4
February	14	5.1	806	6.5	8848	7.3	9668	7.3
March	20	7.3	774	6.2	8868	7.4	9662	7.3
April	20	7.3	878	7.0	7997	6.6	8895	6.7
May	31	11.4	1062	8.5	9252	7.7	10345	7.8
June	22	8.1	1189	9.5	9845	8.2	11056	8.3
July	28	10.3	1098	8.8	9304	7.7	10430	7.8
August	29	10.6	1066	8.6	8807	7.3	9902	7.4
September	19	7.0	1104	8.9	9573	8.0	10696	8.0
October	28	10.3	1109	8.9	10736	8.9	11873	8.9
November	21	7.7	1154	9.3	11098	9.2	12273	9.2
December	24	8.8	1124	9.0	14576	12.1	15724	11.8
Unspecified	--	--	2	0.0	111	0.1	113	0.1
Total Number of Collisions	**273**	**100.0**	**12465**	**100.0**	**120386**	**100.0**	**133124**	**100.0**

Observations

The month of May experienced more fatal crashes than any other month. The highest number of reported injury collisions was in June. December reported more property damage collisions than any other month.

Table 2.2

Collision Occurrence by Day of Week

2016

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	35	12.8	1755	14.1	17001	14.1	18791	14.1
Tuesday	29	10.6	1895	15.2	17907	14.9	19831	14.9
Wednesday	38	13.9	1853	14.9	17644	14.7	19535	14.7
Thursday	45	16.5	1949	15.6	18772	15.6	20766	15.6
Friday	43	15.8	2127	17.1	20434	17.0	22604	17.0
Saturday	43	15.8	1575	12.6	16135	13.4	17753	13.3
Sunday	40	14.7	1309	10.5	12382	10.3	13731	10.3
Unspecified	--	--	2	0.0	111	0.1	113	0.1
Total Number of Collisions	**273**	**100.0**	**12465**	**100.0**	**120386**	**100.0**	**133124**	**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

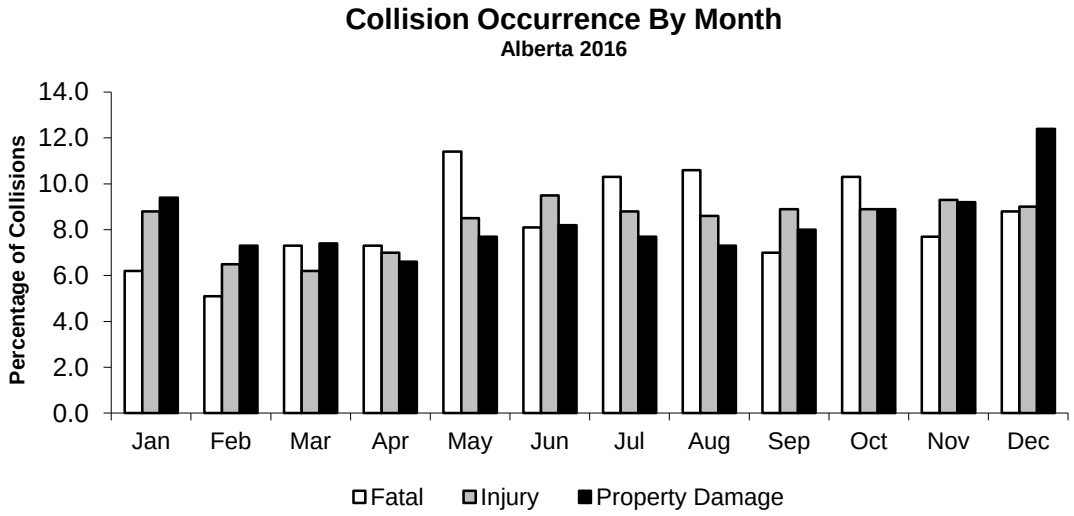
2016

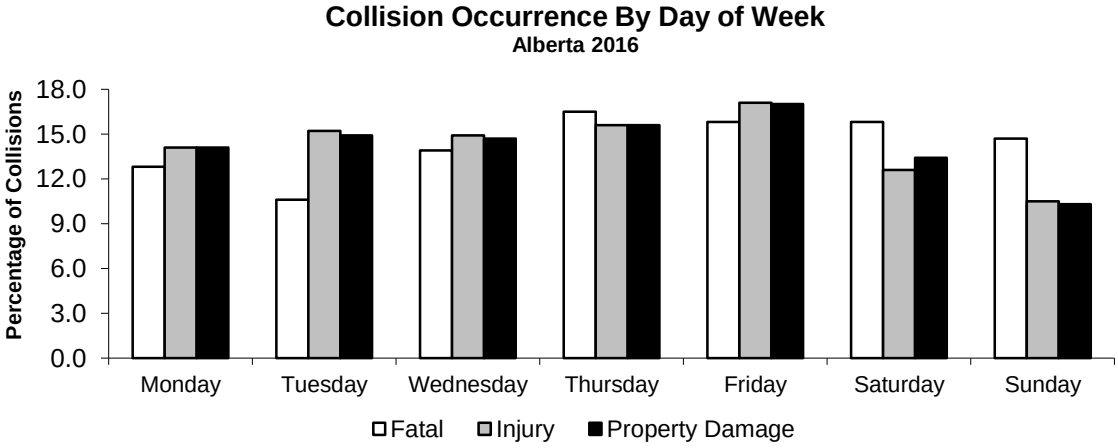
Time Period	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
11:00 p.m. - 2:59 a.m.	39	14.3	696	5.6	5993	5.0	6728	5.1
3:00 a.m. - 6:59 a.m.	38	13.9	657	5.3	5812	4.8	6507	4.9
7:00 a.m. - 10:59 a.m.	44	16.1	2239	18.0	21688	18.0	23971	18.0
11:00 a.m. - 2:59 p.m.	47	17.2	2871	23.0	30260	25.1	33178	24.9
3:00 p.m. - 6:59 p.m.	49	17.9	3939	31.6	35691	29.6	39679	29.8
7:00 p.m. - 10:59 p.m.	48	17.6	1822	14.6	16332	13.6	18202	13.7
Unspecified	8	2.9	241	1.9	4610	3.8	4859	3.6
Total Number of Collisions	**273**	**100.0**	**12465**	**100.0**	**120386**	**100.0**	**133124**	**100.0**

Observations

The afternoon rush hour period (3:00 p.m. – 6:59 p.m.) accounted for the largest percentage (29.8%) 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.).

Figure 3


Collision Occurrence By Month
Alberta 2016
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 2016
Percentage of Collisions
18.0
15.0
12.0
9.0
6.0
3.0
0.0
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Fatal
Injury
Property Damage

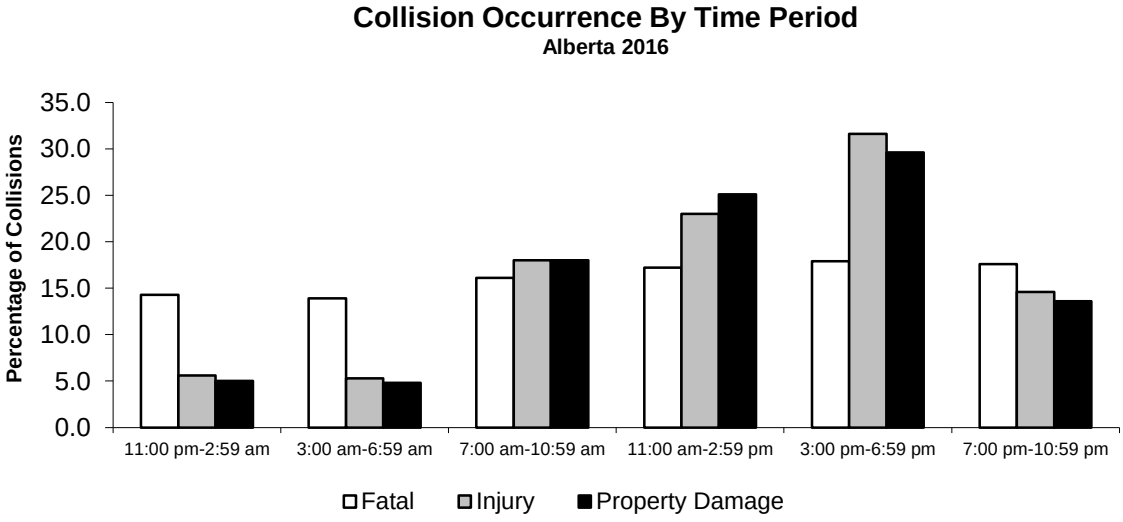

Collision Occurrence By Time Period
Alberta 2016
Percentage of Collisions
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
11:00 pm-2:59 am
3:00 am-6:59 am
7:00 am-10:59 am
11:00 am-2:59 pm
3:00 pm-6:59 pm
7:00 pm-10:59 pm
Fatal
Injury
Property Damage

Table 2.4

Collisions During 2016 Holidays

Holidays	Number Killed N	Number Injured N	Total Collisions* N
New Year's Day (January 1)	--	33	250
Family Day Long Weekend (February 12-15)	4	110	1218
Easter Long Weekend (March 24-28)	4	135	1280
Victoria Day Long Weekend (May 20-23)	5	156	1027
Canada Day Long Weekend (June 30 - July 3)	7	211	1287
August Long Weekend (July 29 - August 1)	3	187	1196
Labour Day Long Weekend (September 2-5)	4	158	1162
Thanksgiving Long Weekend (October 7-10)	6	244	1546
Remembrance Day Long Weekend (November 10-13)	2	143	1367
Christmas Season (December 23-26)	4	245	2004
Total	**39**	**1622**	**12337**

Observations

The Canada Day Long Weekend recorded the highest number of fatalities while the Christmas Season recorded the highest number of injuries. The Christmas Season also 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 7.0% and 3.9% 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 years of age and under.

Table 3.1

Injuries and Fatalities by Road User Class

2016

Road User Class	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %
Drivers	153	51.2	10354	62.3	10507	62.1
Passengers	46	15.4	3701	22.3	3747	22.1
Pedestrians	50	16.7	1135	6.8	1185	7.0
Motorcyclists	32	10.7	621	3.7	653	3.9
Bicyclists	3	1.0	503	3.0	506	3.0
Other	9	3.0	171	1.0	180	1.1
Unspecified	6	2.0	137	0.8	143	0.8
Total Casualties	**299**	**100.0**	**16622**	**100.0**	**16921**	**100.0**

Observations

The majority of traffic victims were drivers (62.1%) and passengers (22.1%) of vehicles. Pedestrians and motorcyclists accounted for 7.0% and 3.9% of the total casualties, respectively.

Table 3.2

Age of Casualties

2016

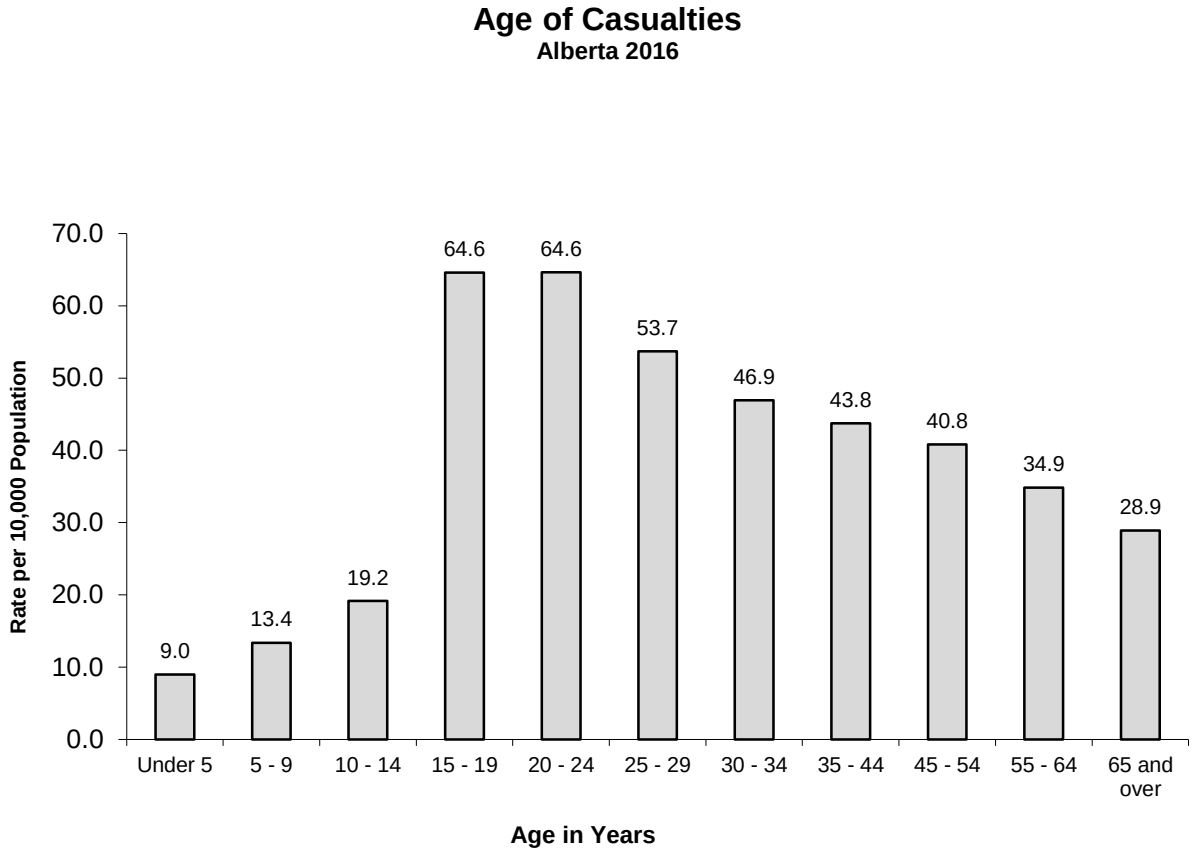
Age in Years	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %	Casualty Rate Per 10,000 Population*
Under 5	5	1.7	246	1.5	251	1.5	9.0
5 - 9	5	1.7	355	2.1	360	2.1	13.4
10 - 14	3	1.0	455	2.7	458	2.7	19.2
15 - 19	26	8.7	1540	9.3	1566	9.3	64.6
20 - 24	30	10.0	1836	11.0	1866	11.0	64.6
25 - 29	39	13.0	1807	10.9	1846	10.9	53.7
30 - 34	23	7.7	1717	10.3	1740	10.3	46.9
35 - 44	46	15.4	2706	16.3	2752	16.3	43.8
45 - 54	46	15.4	2273	13.7	2319	13.7	40.8
55 - 64	29	9.7	1771	10.7	1800	10.6	34.9
65 and over	47	15.7	1419	8.5	1466	8.7	28.9
Unspecified	--	--	497	3.0	497	2.9	
Total Casualties	**299**	**100.0**	**16622**	**100.0**	**16921**	**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, 2016, Statistics Canada

Figure 4


Age of Casualties
Alberta 2016
Rate per 10,000 Population
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
9.0
13.4
19.2
64.6
64.6
53.7
46.9
43.8
40.8
34.9
28.9
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 1,000 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 (31.0%), running off the road (19.5%) and left turn across path (11.1%) 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

2016

	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	107	0.5	6.3	44	0.2	2.8	151	0.7	4.6
16 - 17	400	1.8	12.0	365	1.6	11.9	765	3.4	11.9
18 - 19	594	2.7	14.3	376	1.7	10.0	970	4.3	12.3
20 - 24	1489	6.7	11.3	1111	5.0	9.4	2603	11.6	10.4
25 - 34	2955	13.2	8.4	2205	9.9	6.9	5160	23.1	7.7
35 - 44	2332	10.4	7.4	1803	8.1	6.3	4135	18.5	6.9
45 - 54	2038	9.1	7.2	1435	6.4	5.5	3473	15.5	6.4
55 - 64	1628	7.3	6.3	1019	4.6	4.3	2649	11.8	5.4
65 and over	1232	5.5	5.7	729	3.3	3.8	1962	8.8	4.8
Unspecified	99	0.4		34	0.2		511	2.3	
Total Number of Drivers	**12874**	**57.5**		**9121**	**40.8**		**22379**	**100.0**	

Observations

Collision rates per 1,000 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, 2016.

Figure 5

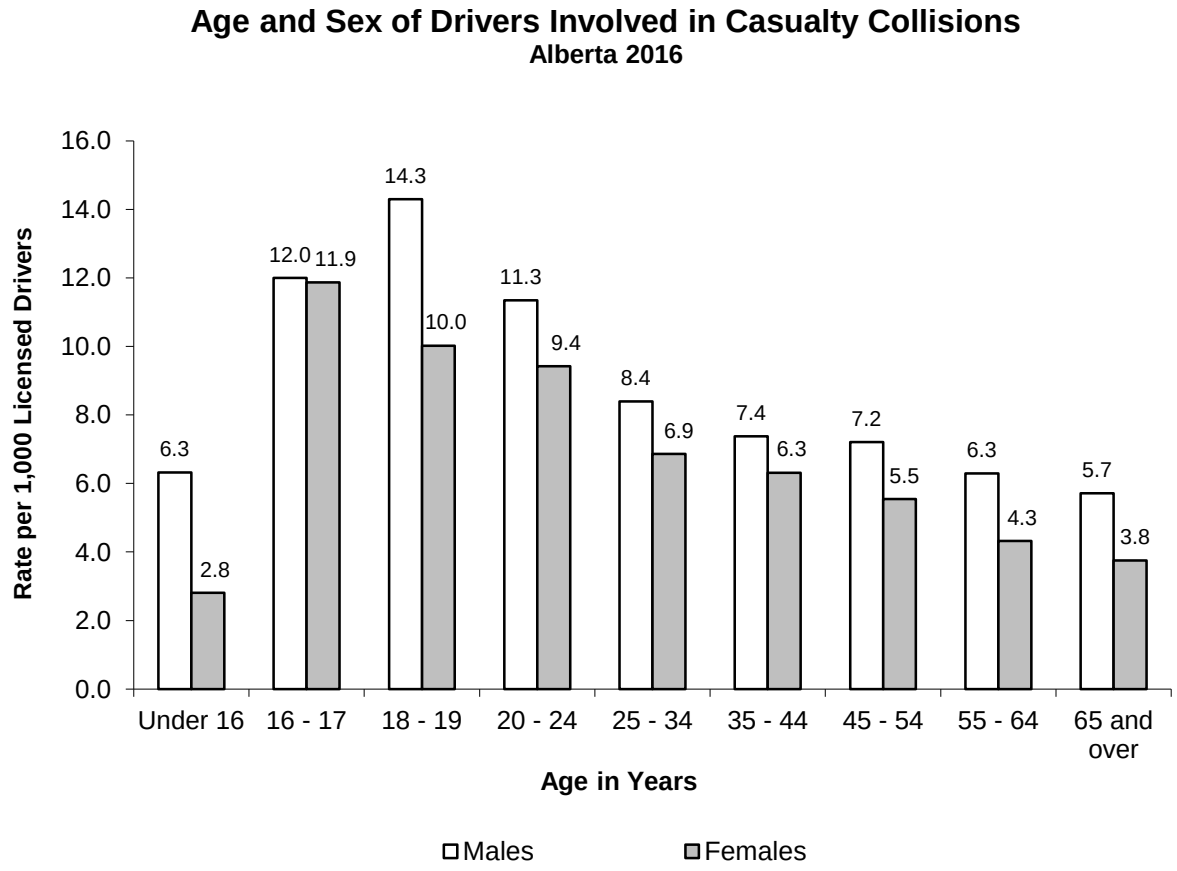

Age and Sex of Drivers Involved in Casualty Collisions
Alberta 2016
Rate per 1,000 Licensed Drivers
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
6.3
2.8
12.0
11.9
14.3
10.0
11.3
9.4
8.4
6.9
7.4
6.3
7.2
5.5
6.3
4.3
5.7
3.8
Under 16
16 - 17
18 - 19
20 - 24
25 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years
Males
Females

Table 4.2

Improper Actions of Drivers Involved in Casualty Collisions*

2016

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	11	4.7	3127	31.6	3138	31.0
Ran Off Road	92	39.5	1885	19.0	1977	19.5
Left Turn Across Path	7	3.0	1118	11.3	1125	11.1
Stop Sign Violation	24	10.3	705	7.1	729	7.2
Disobey Traffic Signal	6	2.6	653	6.6	659	6.5
Failed to Yield Right of Way to Pedestrian	20	8.6	508	5.1	528	5.2
Improper Turn	7	3.0	351	3.5	358	3.5
Improper Lane Change	--	--	298	3.0	298	2.9
Left of Centre	44	18.9	238	2.4	282	2.8
Backed Unsafely	3	1.3	263	2.7	266	2.6
Failed to Yield Right of Way - Uncontrolled Intersection	5	2.1	229	2.3	234	2.3
Yield Sign Violation	1	0.4	198	2.0	199	2.0
Improper Passing	6	2.6	108	1.1	114	1.1
Other	7	3.0	221	2.2	228	2.2
Total Number of Drivers	**233**	**100.0**	**9902**	**100.0**	**10135**	**100.0**

Observations

Following too closely (31.0%), running off the road (19.5%) and left turn across path (11.1%) 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 20,036 drivers involved in casualty collisions for which a driver action was specified on the collision report form. 9,901 were indicated as driving properly at the time of the collision.

Vehicles

Types of Vehicles

Passenger cars (37.2%), minivans/MPVs (30.2%) and pick-up trucks/vans (21.4%) were the vehicles most frequently involved in total casualty collisions.

Vehicle Factors

Overall 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was tire failures.

Point of Impact

The most common point of impact in casualty collisions involved the front of the vehicle. Overall, 46.0% of the impacts involved the centre front.

Table 5.1

Types of Vehicles Involved in Casualty Collisions*

2016

Type of Vehicle	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Passenger Car	115	26.7	8356	37.4	8471	37.2
Mini-Van/MPV	81	18.8	6789	30.4	6870	30.2
Pick-up Truck/Van	107	24.8	4775	21.4	4882	21.4
Truck 4500 kg+	30	7.0	699	3.1	729	3.2
Motorcycle	38	8.8	607	2.7	645	2.8
Bicycle	3	0.7	504	2.3	507	2.2
Tractor-Trailer	36	8.4	332	1.5	368	1.6
Transit Bus	2	0.5	68	0.3	70	0.3
Off-Highway Vehicle	5	1.2	58	0.3	63	0.3
School Bus	1	0.2	47	0.2	48	0.2
Emergency Vehicle	2	0.5	35	0.2	37	0.2
Construction Equipment	4	0.9	23	0.1	27	0.1
Other Bus	3	0.7	12	0.1	15	0.1
Farm Equipment	3	0.7	11	0.0	14	0.1
Motorhome	1	0.2	9	0.0	10	0.0
Moped	--	--	4	0.0	4	0.0
Motorized Snow Vehicle	--	--	2	0.0	2	0.0
Intercity Bus	--	--	--	--	--	--
Other	--	--	--	--	--	--
Total Number of Vehicles	**431**	**100.0**	**22331**	**100.0**	**22762**	**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 2.2% and motorcycles 2.8% of the vehicles involved in casualty collisions. Tractor-Trailers were 1.6% of total vehicles in casualty crashes, but 8.4% 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*

2016

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	343	98.8	20118	99.2	20461	99.1
Tires Failed	2	0.6	51	0.3	53	0.3
Defective Brakes	--	--	47	0.2	47	0.2
Improper Load/Shift	--	--	11	0.1	11	0.1
Lighting Defect	--	--	9	0.0	9	0.0
Other	2	0.6	54	0.3	56	0.3
Total Number of Vehicles	**347**	**100.0**	**20290**	**100.0**	**20637**	**100.0**

Observations

Overall 0.9% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defect was tire failures.

*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*

2016

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	218	51.7	9975	45.9	10193	46.0
Centre Rear	23	5.5	4735	21.8	4758	21.5
Right Front	16	3.8	1449	6.7	1465	6.6
Left Front	24	5.7	1442	6.6	1466	6.6
Rollover	71	16.8	1036	4.8	1107	5.0
Left Side	22	5.2	959	4.4	981	4.4
Right Side	15	3.6	951	4.4	966	4.4
Left Rear	11	2.6	496	2.3	507	2.3
Right Rear	2	0.5	453	2.1	455	2.1
Attachment	13	3.1	156	0.7	169	0.8
Undercarriage	5	1.2	62	0.3	67	0.3
Top	2	0.5	39	0.2	41	0.2
Total Number of Vehicles	**422**	**100.0**	**21753**	**100.0**	**22175**	**100.0**

Observations

The most common point of impact in casualty collisions involved the front of the vehicle. 46.0% of the impacts involved the centre front, while 21.5% 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 (63.7%) occurred in rural areas, whereas the majority of injury (75.7%) and property damage (84.2%) crashes occurred in urban areas.

Surface Conditions

The majority (70.8%) of all casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 13.9% of fatal collisions and 16.1% of non-fatal injury collisions.

Table 6.1

Location of Collisions

2016

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	99	36.3	9434	75.7	101356	84.2	110889	83.3
Rural	174	63.7	3031	24.3	19030	15.8	22235	16.7
Total Number of Collisions	**273**	**100.0**	**12465**	**100.0**	**120386**	**100.0**	**133124**	**100.0**

Observations

The majority of fatal collisions (63.7%) occurred in rural areas. Collisions occurring in urban areas resulted in the highest proportion of non-fatal injury collisions (75.7%) and property damage crashes (84.2%).

Table 6.2

Casualty Collision Occurrence by Surface Condition

2016

Surface Condition	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Dry	197	72.2	8827	70.8	9024	70.8
Slush/Snow/Ice	38	13.9	2006	16.1	2044	16.0
Wet	24	8.8	1086	8.7	1110	8.7
Loose Surface Material	5	1.8	193	1.5	198	1.6
Muddy	--	--	35	0.3	35	0.3
Other	--	--	33	0.3	33	0.3
Unspecified	9	3.3	285	2.3	294	2.3
Total Number of Collisions	**273**	**100.0**	**12465**	**100.0**	**12738**	**100.0**

Observations

The majority (70.8%) of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 13.9% of fatal collisions and 16.1% of non-fatal injury collisions.

Special Types of Vehicles

Motorcycles

- In 2016, based on motorcycle registrations, the involvement rate of motorcycles has increased in both fatal collisions and injury collisions.
- The majority of motorcycle casualty collisions involved male drivers. Motorcycle operators under the age of 25 had the highest involvement rate per 1,000 licenced drivers.
- Compared to drivers involved in total casualty collisions, motorcycle operators were more likely to run off the road, make an improper turn, or pass improperly. However, motorcycle operators were less likely to follow too closely, make a left turn across the path of an oncoming vehicle or commit a stop sign violation.
- Compared to drivers involved in all types of vehicle casualty collisions, motorcycle operators were more likely to have consumed alcohol before the crash.
- Vehicle factors were identified for 2.2% of motorcycles involved in casualty collisions compared to 0.9% for all types of vehicles involved in casualty collisions.
- The occurrence of casualty collisions involving motorcycles was highest in the month of July.
- The majority of casualty collisions involving motorcycles occurred on dry roads.

Table 7.1

Motorcycles Involved in Casualty Collisions

2012 – 2016

Number of Motorcycles	**2016**	**2015**	**2014**	**2013**	**2012**
Fatal	38	31	36	42	22
Non-Fatal Injury	607	622	598	642	609
Total Number of Motorcycles Involved in Casualty Collisions	**645**	**653**	**634**	**684**	**631**
Casualties*					
Number Killed	32	33	35	42	21
Number Injured	665	685	649	697	660
Total Casualties in Collisions Involving Motorcycles	**697**	**718**	**684**	**739**	**681**
Number of Motorcycles Involved in Casualty Collisions Per 10,000 Registered Motorcycles**					
Fatal Collisions	3.1	2.5	2.9	3.6	2.0
Non-Fatal Injury Collisions	50.1	49.2	48.9	54.7	54.3

Observations

Based on motorcycle registrations in 2016, compared to 2015, the involvement rate of motorcycles increased in both fatal collisions and injury collisions.

*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, 2016.

Figure 6

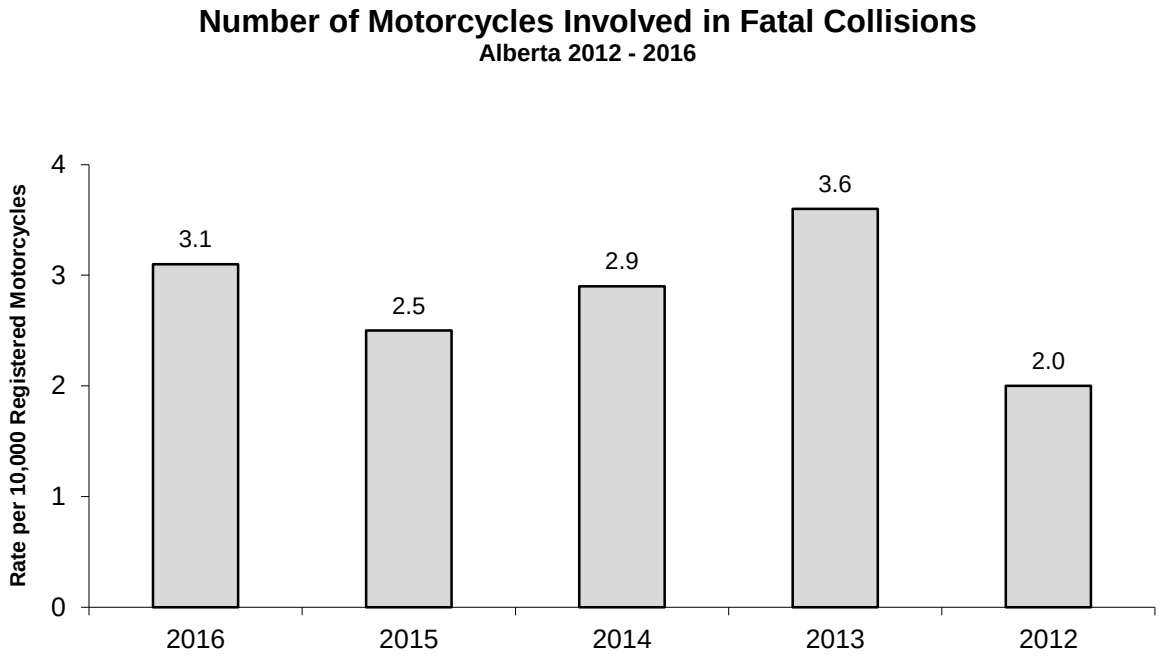

Number of Motorcycles Involved in Fatal Collisions
Alberta 2012 - 2016
Rate per 10,000 Registered Motorcycles
4
3
2
1
0
3.1
2.5
2.9
3.6
2.0
2016
2015
2014
2013
2012

Table 7.2

Age and Sex of Motorcycle Operators Involved in Casualty Collisions

2016

	Male		Female		Total*		Rate Per 1,000 Licensed Motorcycle Operators**
Age of Motorcycle Operators	**N**	**%**	**N**	**%**	**N**	**%**	
Under 16	3	0.5	5	0.8	8	1.2	--
16 - 17	5	0.8	--	--	5	0.8	32.3
18 - 19	10	1.6	--	--	10	1.6	16.2
20 - 24	71	11.1	4	0.6	75	11.7	11.8
25 - 34	147	22.9	18	2.8	165	25.7	4.0
35 - 44	103	16.0	15	2.3	118	18.4	2.2
45 - 54	110	17.1	20	3.1	130	20.2	1.9
55 - 64	97	15.1	8	1.2	105	16.4	1.3
65 and over	24	3.7	1	0.2	25	3.9	0.6
Unspecified	1	0.2	--	--	1	0.2	
Total Number of Motorcycle Operators	**571**	**88.9**	**71**	**11.1**	**642**	**100.0**	

Observations

The majority of motorcycle casualty collisions involved male operators. Based on involvement per 1,000 licenced operators, motorcycle operators under the age of 25 were most likely to be involved in collisions. In particular, 16 - 17 year old motorcycle operators had the highest involvement rate per 1,000 licenced motorcycle operators. 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, 2016.

Table 7.3

Improper Actions of Motorcycle Operators Involved in Casualty Collisions*

2016

Improper Actions of Motorcycle Operators	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	153	51.5	19.5
Followed Too Closely	56	18.9	31.0
Improper Turn	20	6.7	3.5
Improper Lane Change	10	3.4	2.9
Left of Centre	7	2.4	2.8
Improper Passing	7	2.4	1.1
Left Turn Across Path	6	2.0	11.1
Disobey Traffic Signal	5	1.7	6.5
Stop Sign Violation	5	1.7	7.2
Failed to Yield Right of Way - Uncontrolled Intersection	1	0.3	2.3
Yield Sign Violation	--	--	2.0
Failed to Yield Right of Way to Pedestrian	--	--	5.2
Backed Unsafely	--	--	2.6
Other	27	9.1	2.2
Total Number of Operators	**297**	**100.0**	

Observations

Compared to drivers involved in total casualty collisions, motorcycle operators were more likely to run off the road, make an improper turn or pass improperly. However, motorcycle operators were less likely to follow too closely, make a left turn across the path of an oncoming vehicle 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 operators involved in casualty collisions for which a driver action was specified on the collision report form. 253 were indicated as driving properly at the time of the collision.

Table 7.4

Condition of Motorcycle Operators Involved in Casualty Collisions*

2016

Condition of Motorcycle Operator	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	544	95.1	94.0
Had Been Drinking	13	2.3	1.4
Alcohol Impaired	9	1.6	2.0
Total Alcohol Involvement	**22**	**3.8**	**3.4**
Impaired by Drugs	1	0.2	0.3
Fatigued/Asleep	1	0.2	1.1
Other	4	0.7	1.2
Total Number of Motorcycle Operators	**572**	**100.0**	

Observations

The motorcycle operator's condition was a contributory factor for 4.9% of the motorcycle operators involved in casualty collisions. Compared to drivers involved in total casualty collisions, motorcycle operators 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*

2016

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	577	97.8	99.1
Tires Failed	3	0.5	0.3
Defective Brakes	3	0.5	0.2
Improper Load/Shift	--	--	0.1
Lighting Defect	--	--	0.0
Other	7	1.2	0.3
Total Number of Motorcycles	**590**	**100.0**	

Observations

Vehicle factors were identified for 2.2% 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

2016

Month	N	%
January	--	--
February	6	1.0
March	20	3.3
April	69	11.2
May	97	15.8
June	103	16.7
July	116	18.9
August	96	15.6
September	68	11.1
October	18	2.9
November	20	3.3
December	--	--
Unspecified	2	0.3
Total Number of Collisions	**615**	**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

2016

Road Surface Condition	N	%
Dry	541	88.0
Wet	32	5.2
Loose Surface Material	26	4.2
Muddy	2	0.3
Slush/Snow/Ice	1	0.2
Other	1	0.2
Unspecified	12	2.0
Total Number of Collisions	**615**	**100.0**

Observations

The majority (88.0%) of casualty collisions involving motorcycles occurred on dry roads. Wet roads were the scene for 5.2% of motorcycle casualty collisions. Loose material on the road surface was involved in 4.2% of motorcycle casualty crashes.

Special Types of Vehicles

Truck Tractors

- In 2016, there were 39 persons killed and 411 injured in collisions involving truck tractors. This represents an increase in fatalities and decrease in injuries from 2015.

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

- 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 December.

Table 7.8

Truck Tractors Involved in Casualty Collisions

2012 – 2016

Number of Truck Tractors	2016	2015	2014	2013	2012
Fatal	36	39	54	50	39
Non-Fatal Injury	332	457	526	477	476
Total Number of Truck Tractors Involved in Casualty Collisions	**368**	**496**	**580**	**527**	**515**
Casualties*					
Number Killed	39	38	57	53	37
Number Injured	411	556	633	584	599
Total Casualties in Collisions Involving Truck Tractors	**450**	**594**	**690**	**637**	**636**

Observations

In 2016, there were 39 persons killed and 411 injured in collisions involving truck tractors. This represents an increase in fatalities and decrease in injuries from 2015. The total number of truck tractors involved in casualty crashes was highest in 2014 at 580.

*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*

2016

Improper Actions of Truck Tractor Driver	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Ran Off Road	87	52.1	19.5
Followed Too Closely	30	18.0	31.0
Improper Turn	9	5.4	3.5
Improper Lane Change	8	4.8	2.9
Stop Sign Violation	6	3.6	7.2
Improper Passing	6	3.6	1.1
Left Turn Across Path	6	3.6	11.1
Left of Centre	6	3.6	2.8
Disobey Traffic Signal	2	1.2	6.5
Backed Unsafely	2	1.2	2.6
Failed to Yield Right of Way - Pedestrian	2	1.2	5.2
Failed to Yield Right of Way - Uncontrolled Intersection	1	0.6	2.3
Yield Sign Violation	1	0.6	2.0
Other	1	0.6	2.2
Total Number of Drivers	**167**	**100.0**	

Observations

Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road, pass improperly, or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make a left turn across the path of oncoming vehicles 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 324 truck-tractor drivers involved in casualty collisions for which a driver action was specified on the collision report form. 157 were indicated as driving properly at the time of the collision.

Table 7.10

Condition of Truck Tractor Drivers Involved in Casualty Collisions*

2016

Driver Condition	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	297	94.0	94.0
Had Been Drinking	2	0.6	1.4
Alcohol Impaired	2	0.6	2.0
Total Alcohol Involvement	**4**	**1.3**	**3.4**
Fatigued/Asleep	9	2.8	1.1
Impaired by Drugs	--	--	0.3
Other	6	1.9	1.2
Total Number of Drivers	**316**	**100.0**	

Observations

The condition of the truck tractor driver was a contributory factor for 6.0% of the drivers involved. In 2016, four truck tractor drivers were reported by police as having consumed alcohol. Truck tractor drivers 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*

2016

Vehicle Factors	N	%	Vehicle Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	320	97.0	99.1
Tires Failed	5	1.5	0.3
Improper Load/Shift	2	0.6	0.1
Defective Brakes	1	0.3	0.2
Lighting Defect	--	--	0.0
Other	2	0.6	0.3
Total Number of Truck Tractors	**330**	**100.0**	

Observations

Vehicle factors were identified for 3.0% 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

2016

Month	N	%
January	29	8.4
February	22	6.3
March	20	5.8
April	28	8.1
May	27	7.8
June	32	9.2
July	35	10.1
August	32	9.2
September	30	8.6
October	30	8.6
November	24	6.9
December	38	11.0
Total Number of Collisions	**347**	**100.0**

Observations

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

Special Types of Vehicles

Trains

- In 2016, two people were killed and 10 people were injured in crashes in which a train was involved. The number of casualties involving trains has decreased from 2015.
- The largest number of casualty collisions involving trains occurred in the months of April and July.
- The majority (88.9%) of drivers involved in casualty collisions with a train made an improper driving action.

Table 7.13

Trains Involved in Casualty Collisions

2012 – 2016

Number of Trains	2016	2015	2014	2013	2012
Fatal	1	4	2	4	1
Non-Fatal Injury	8	12	14	16	16
Total Number of Trains Involved in Casualty Collisions	**9**	**16**	**16**	**20**	**17**
Casualties*					
Number Killed	2	4	2	4	1
Number Injured	10	14	16	20	20
Total Casualties in Collisions Involving Trains	**12**	**18**	**18**	**24**	**21**

Observations

The number of trains involved in casualty collisions decreased from 2015. The number of casualties resulting from these collisions also decreased.

*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

2016

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	--	--	1	12.5	1	11.1
February	--	--	--	--	--	--
March	--	--	--	--	--	--
April	1	100.0	1	12.5	2	22.2
May	--	--	1	12.5	1	11.1
June	--	--	1	12.5	1	11.1
July	--	--	2	25.0	2	22.2
August	--	--	1	12.5	1	11.1
September	--	--	1	12.5	1	11.1
October	--	--	--	--	--	--
November	--	--	--	--	--	--
December	--	--	--	--	--	--
Total Number of Collisions	**1**	**100.0**	**8**	**100.0**	**9**	**100.0**

Observations

The largest number of casualty collisions involving trains occurred in the months of April and July.

Table 7.15

Actions of Drivers Involved in Casualty Collisions with Trains*

2016

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	12.5	1	11.1
Disobey Traffic Signal	1	100.0	4	50.0	5	55.6
Backed Unsafely	--	--	1	12.5	1	11.1
Yield Sign Violation	--	--	1	12.5	1	11.1
Followed Too Closely	--	--	1	12.5	1	11.1
Total Number of Drivers	**1**	**100.0**	**8**	**100.0**	**9**	**100.0**

Observations

The majority (88.9%) of drivers involved in a casualty collision 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 November. March 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 p.m. - 6:59 p.m.).
- 49.8% 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, 9.0% had consumed alcohol before the collision, compared to 34.2% 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 15 - 24 years of age.

Table 8.1

Casualty Collisions Involving Pedestrians:

Month of Occurrence

2016

Month of Collision	N	%
January	108	9.5
February	100	8.8
March	65	5.7
April	70	6.2
May	87	7.7
June	98	8.6
July	81	7.1
August	87	7.7
September	117	10.3
October	89	7.8
November	141	12.4
December	91	8.0
Total Number of Collisions	**1134**	**100.0**

Observations

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

Table 8.2

Casualty Collisions Involving Pedestrians:

Day of Week

2016

Day of Week	N	%
Monday	163	14.4
Tuesday	190	16.8
Wednesday	163	14.4
Thursday	184	16.2
Friday	198	17.5
Saturday	132	11.6
Sunday	104	9.2
Total Number of Collisions	**1134**	**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

2016

Time Period	N	%
11:00 p.m. - 2:59 a.m.	64	5.6
3:00 a.m. - 6:59 a.m.	59	5.2
7:00 a.m. - 10:59 a.m.	235	20.7
11:00 a.m. - 2:59 p.m.	243	21.4
3:00 p.m. - 6:59 p.m.	315	27.8
7:00 p.m. - 10:59 p.m.	201	17.7
Unspecified	17	1.5
Total Number of Collisions	**1134**	**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

2016

Location	N	%
Urban	1082	95.4
Rural	52	4.6
Total Number of Collisions	**1134**	**100.0**

Observations

The majority of pedestrian casualty collisions (95.4%) occurred in urban areas. Only 4.6% occurred in rural areas.

Table 8.5

Actions of Drivers Involved in Casualty Collisions with Pedestrians*

2016

Driver Actions	N	%
Driving Properly	282	30.2
Failed to Yield Right of Way To Pedestrian	465	49.8
Backed Unsafely	77	8.3
Left Turn Across Path	19	2.0
Ran Off Road	17	1.8
Improper Turn	16	1.7
Disobey Traffic Signal	16	1.7
Followed Too Closely	14	1.5
Failed to Yield Right of Way - Uncontrolled Intersection	11	1.2
Stop Sign Violation	3	0.3
Improper Passing	3	0.3
Yield Sign Violation	1	0.1
Other	9	1.0
Total Number of Drivers	**933**	**100.0**

Observations

30.2% of the drivers involved in pedestrian casualty crashes were recorded as driving properly. However, 49.8% 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

2016

Age in Years	Pedestrians Killed N	Pedestrians Injured N	Total Pedestrian Casualties N	%	Pedestrian Casualty Rate Per 10,000 Population*
Under 5	2	25	27	2.3	1.0
5 - 9	1	32	33	2.8	1.2
10 - 14	1	66	67	5.7	2.8
15 - 19	4	108	112	9.5	4.6
20 - 24	4	96	100	8.4	3.5
25 - 29	5	103	108	9.1	3.1
30 - 34	1	90	91	7.7	2.5
35 - 44	8	160	168	14.2	2.7
45 - 54	8	150	158	13.3	2.8
55 - 64	4	127	131	11.1	2.5
65 and over	12	130	142	12.0	2.8
Unspecified	--	48	48	4.1	
Total Number of Pedestrian Casualties	**50**	**1135**	**1185**	**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, 2016, Statistics Canada

Figure 7

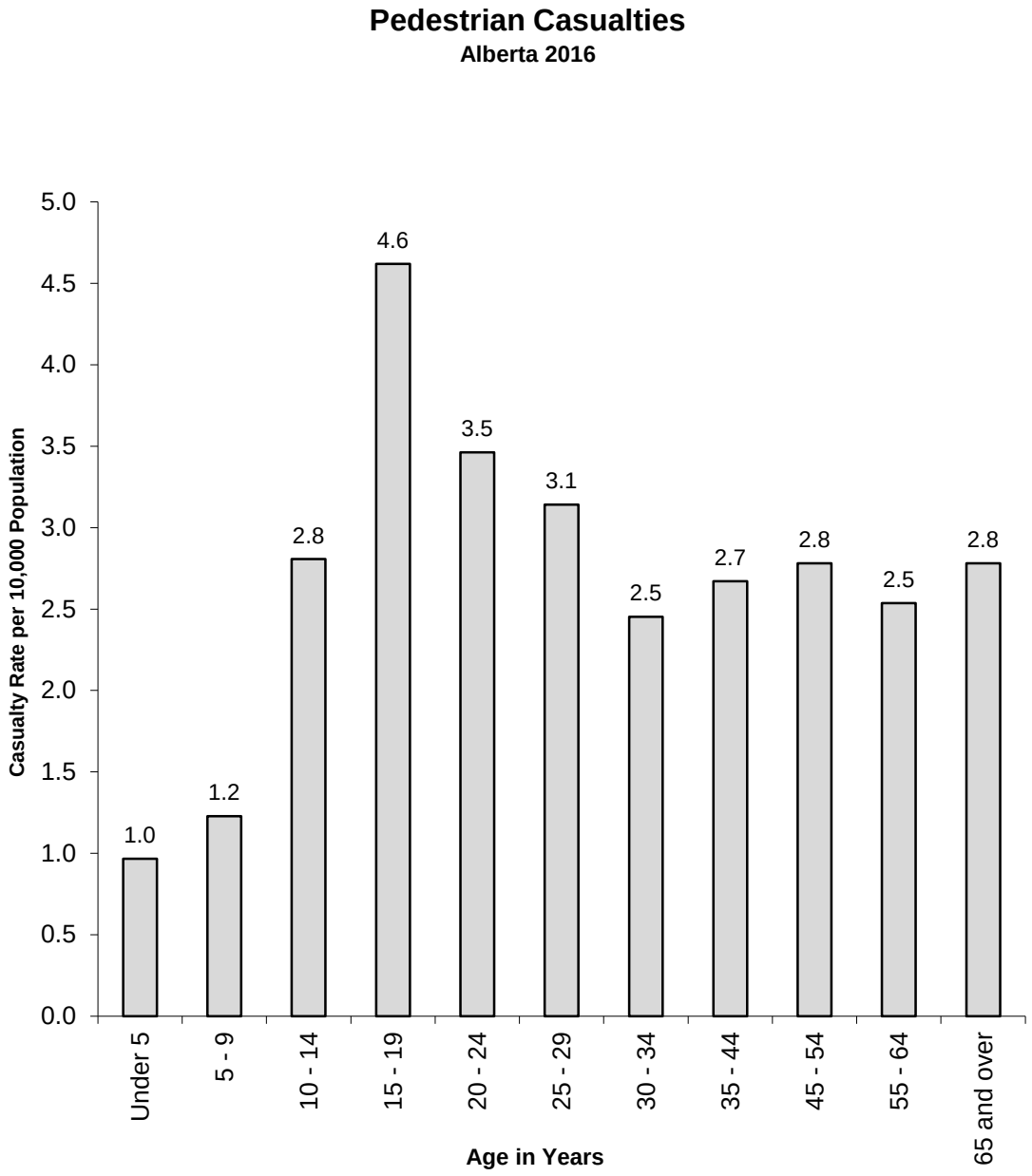

Pedestrian Casualties
Alberta 2016
Casualty Rate per 10,000 Population
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.0
1.2
2.8
4.6
3.5
3.1
2.5
2.7
2.8
2.5
2.8
Under 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65 and over
Age in Years

Table 8.7

Condition of Pedestrians Involved in Casualty Collisions*

2016

Condition of Pedestrian	Pedestrians in Fatal Collisions N	%	Pedestrians in Non-Fatal Injury Collisions N	%	Total Pedestrians in Casualty Collisions N	%
Normal	22	57.9	902	89.7	924	88.5
Had Been Drinking	5	13.2	51	5.1	56	5.4
Alcohol Impaired	8	21.1	40	4.0	48	4.6
Total Alcohol Involvement	**13**	**34.2**	**91**	**9.0**	**104**	**10.0**
Impaired by Drugs	2	5.3	6	0.6	8	0.8
Fatigued/Asleep	1	2.6	--	--	1	0.1
Other	--	--	7	0.7	7	0.7
Total Number of Pedestrians	**38**	**100.0**	**1006**	**100.0**	**1044**	**100.0**

Observations

Of pedestrians involved in injury collisions, 9.0% had consumed alcohol before the collision, compared to 34.2% 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*

2016

Age in Years	N	%	Rate per 10,000 Population**
Under 10	--	--	--
10 - 14	1	1.0	0.0
15 - 19	12	11.5	0.5
20 - 24	14	13.5	0.5
25 - 29	15	14.4	0.4
30 - 34	10	9.6	0.3
35 - 44	21	20.2	0.3
45 - 54	15	14.4	0.3
55 - 64	10	9.6	0.2
65 and over	2	1.9	0.0
Unspecified	4	3.8	
Total Number of Pedestrian Casualties	**104**	**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 15 - 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, 2016, 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 (39.8%) occurred during the evening rush-hour period.
- Young bicyclists aged 10 to 14 had the highest casualty rate per 10,000 population.
- 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.
- 4.1% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

Table 9.1

Casualty Collisions Involving Bicycles:

Month of Occurrence

2016

Month of Collision	N	%
January	4	0.8
February	9	1.8
March	18	3.6
April	56	11.1
May	56	11.1
June	112	22.3
July	71	14.1
August	50	9.9
September	70	13.9
October	30	6.0
November	22	4.4
December	5	1.0
Total Number of Collisions	**503**	**100.0**

Observations

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

Table 9.2

Casualty Collisions Involving Bicycles:

Day of Week

2016

Day of Week	N	%
Monday	77	15.3
Tuesday	78	15.5
Wednesday	82	16.3
Thursday	87	17.3
Friday	89	17.7
Saturday	56	11.1
Sunday	34	6.8
Total Number of Collisions	**503**	**100.0**

Observations

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

Table 9.3

Casualty Collisions Involving Bicycles:

Time Period

2016

Time Period	N	%
11:00 p.m. - 2:59 a.m.	7	1.4
3:00 a.m. - 6:59 a.m.	10	2.0
7:00 a.m. - 10:59 a.m.	92	18.3
11:00 a.m. - 2:59 p.m.	108	21.5
3:00 p.m. - 6:59 p.m.	200	39.8
7:00 p.m. - 10:59 p.m.	80	15.9
Unspecified	6	1.2
Total Number of Collisions	**503**	**100.0**

Observations

The largest proportion of casualty crashes (39.8%) involving bicycles occurred during the evening rush-hour period of 3:00 p.m. - 6:59 p.m.

Table 9.4

Age of Bicyclist Casualties

2016

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	--	--	2	0.4	2	0.4	0.1
5 - 9	1	33.3	26	5.2	27	5.3	1.0
10 - 14	--	--	61	12.1	61	12.1	2.6
15 - 19	--	--	52	10.3	52	10.3	2.1
20 - 24	--	--	53	10.5	53	10.5	1.8
25 - 29	--	--	47	9.3	47	9.3	1.4
30 - 34	--	--	54	10.7	54	10.7	1.5
35 - 44	--	--	55	10.9	55	10.9	0.9
45 - 54	--	--	70	13.9	70	13.8	1.2
55 - 64	1	33.3	41	8.2	42	8.3	0.8
65 and over	1	33.3	20	4.0	21	4.2	0.4
Unspecified	--	--	22	4.4	22	4.3	
Total Casualties	**3**	**100.0**	**503**	**100.0**	**506**	**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, 2016, Statistics Canada

Table 9.5

Improper Actions of Bicyclists Involved in Casualty Collisions

2016

Improper Actions of Bicyclists	N	%	Driver Actions in Total Casualty Collisions (All Vehicle Types) %
Disobey Traffic Signal	35	17.1	6.5
Failed to Yield Right of Way - Uncontrolled Intersection	32	15.6	2.3
Stop Sign Violation	13	6.3	7.2
Left Turn Across Path	8	3.9	11.1
Yield Sign Violation	5	2.4	2.0
Improper Turn	4	2.0	3.5
Left of Centre	4	2.0	2.8
Improper Passing	4	2.0	1.1
Followed Too Closely	3	1.5	31.0
Failed to Yield Right of Way to Pedestrian	3	1.5	5.2
Ran Off Road	3	1.5	19.5
Backed Unsafely	2	1.0	2.6
Improper Lane Change	2	1.0	2.9
Other	87	42.4	2.2
Total Number of Bicyclists	**205**	**100.0**	

Observations

Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to disobey a traffic signal or to 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 were a total of 507 bicyclists involved in casualty collisions for which a driver action was specified on the collision report form. 176 were indicated as driving properly at the time of the collision.

Table 9.6

Condition of Bicyclists Involved in Casualty Collisions*

2016

Condition of Bicyclist	N	%
Normal	414	94.7
Had Been Drinking	10	2.3
Alcohol Impaired	8	1.8
Total Alcohol Involvement	**18**	**4.1**
Impaired by Drugs	5	1.1
Fatigued/Asleep	--	--
Other	--	--
Total Number of Bicyclists	**437**	**100.0**

Observations

4.1% 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 3.2% of drivers involved in injury crashes were judged to have consumed alcohol prior to the crash, compared to 16.3% 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 licenced drivers, males between 18 and 24 years of age were most likely to have been drinking before the crash. There were over three times as many male drivers as female drivers who had consumed alcohol prior to the collision.

- In 2016, alcohol related casualty crashes were most likely to have occurred in July, on Sunday, 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, 2012 - 2016.

Table 10.1

Condition of Drivers in Casualty Collisions*

2016

Condition of Driver	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 %
Normal	245	78.3	17945	94.2	18190	94.0
Had Been Drinking	15	4.8	248	1.3	263	1.4
Alcohol Impaired	36	11.5	358	1.9	394	2.0
Total Alcohol Involvement	**51**	**16.3**	**606**	**3.2**	**657**	**3.4**
Impaired by Drugs	5	1.6	58	0.3	63	0.3
Fatigued/Asleep	6	1.9	200	1.1	206	1.1
Other	6	1.9	234	1.2	240	1.2
Total Number of Drivers	**313**	**100.0**	**19043**	**100.0**	**19356**	**100.0**

Observations

Of drivers involved in injury collisions, 3.2% had consumed alcohol before the crash, compared to 16.3% in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased. Overall, 3.4% 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

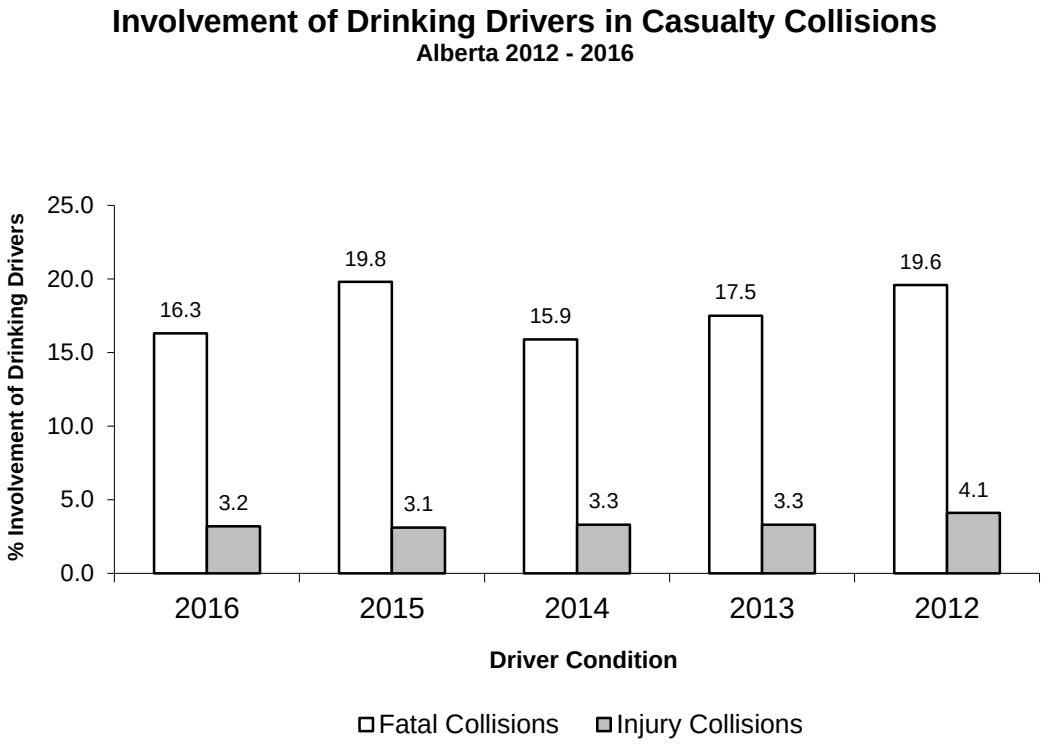

Involvement of Drinking Drivers in Casualty Collisions
Alberta 2012 - 2016
% Involvement of Drinking Drivers
25.0
20.0
15.0
10.0
5.0
0.0
16.3
3.2
19.8
3.1
15.9
3.3
17.5
3.3
19.6
4.1
2016
2015
2014
2013
2012
Driver Condition
Fatal Collisions
Injury Collisions

Figure 9

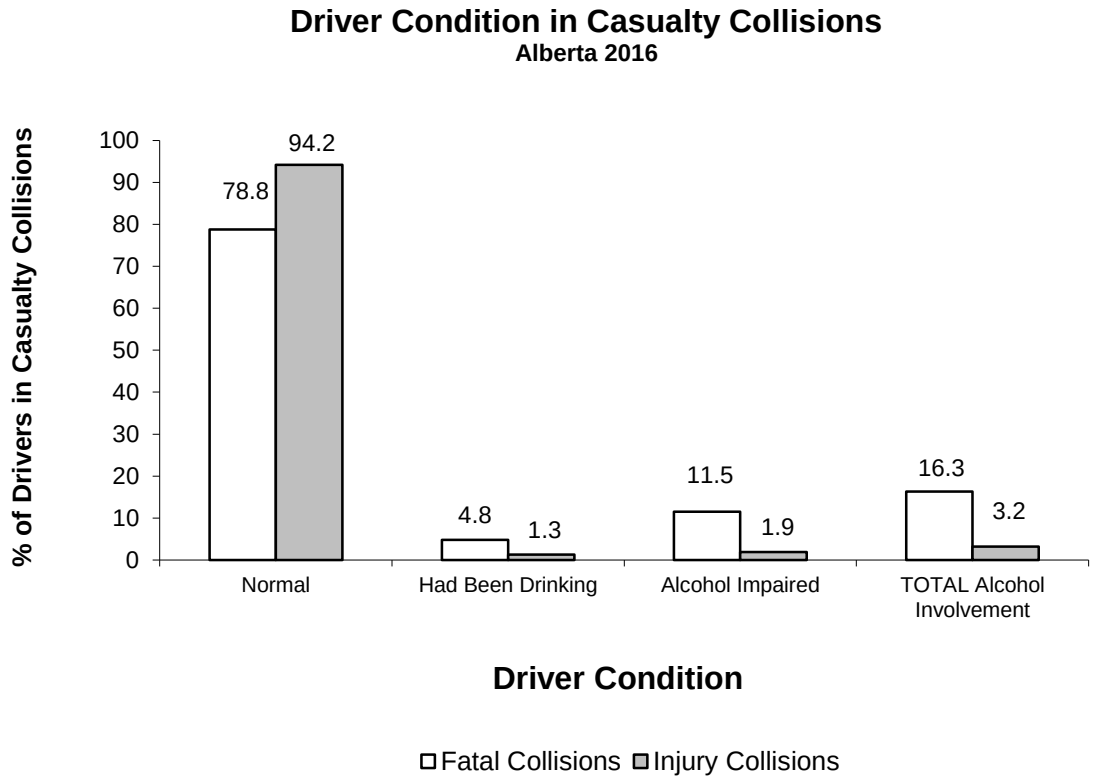

Driver Condition in Casualty Collisions
Alberta 2016
% of Drivers in Casualty Collisions
100
90
80
70
60
50
40
30
20
10
0
78.8
94.2
4.8
1.3
11.5
1.9
16.3
3.2
Normal
Had Been Drinking
Alcohol Impaired
TOTAL Alcohol Involvement
Driver Condition
Fatal Collisions
Injury Collisions

Table 10.2

Age and Sex of Drinking Drivers in Casualty Collisions*

2016

	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	0.3	0.1	1	0.2	0.1	3	0.5	0.1
16 - 17	10	1.5	0.3	4	0.6	0.1	14	2.1	0.2
18 - 19	39	5.9	0.9	12	1.8	0.3	51	7.8	0.6
20 - 21	31	4.7	0.7	10	1.5	0.2	41	6.2	0.5
22 - 24	57	8.7	0.7	15	2.3	0.2	72	11.0	0.5
25 - 29	95	14.5	0.6	30	4.6	0.2	125	19.0	0.4
30 - 34	70	10.7	0.4	18	2.7	0.1	88	13.4	0.3
35 - 44	95	14.5	0.3	32	4.9	0.1	127	19.3	0.2
45 - 54	56	8.5	0.2	11	1.7	0.0	67	10.2	0.1
55 - 64	36	5.5	0.1	9	1.4	0.0	45	6.8	0.1
65 and over	17	2.6	0.1	3	0.5	0.0	20	3.0	0.0
Unspecified	2	0.3		--	--		4	0.6	
Total Drivers	**510**	**77.6**		**145**	**22.1**		**657**	**100.0**	

Observations

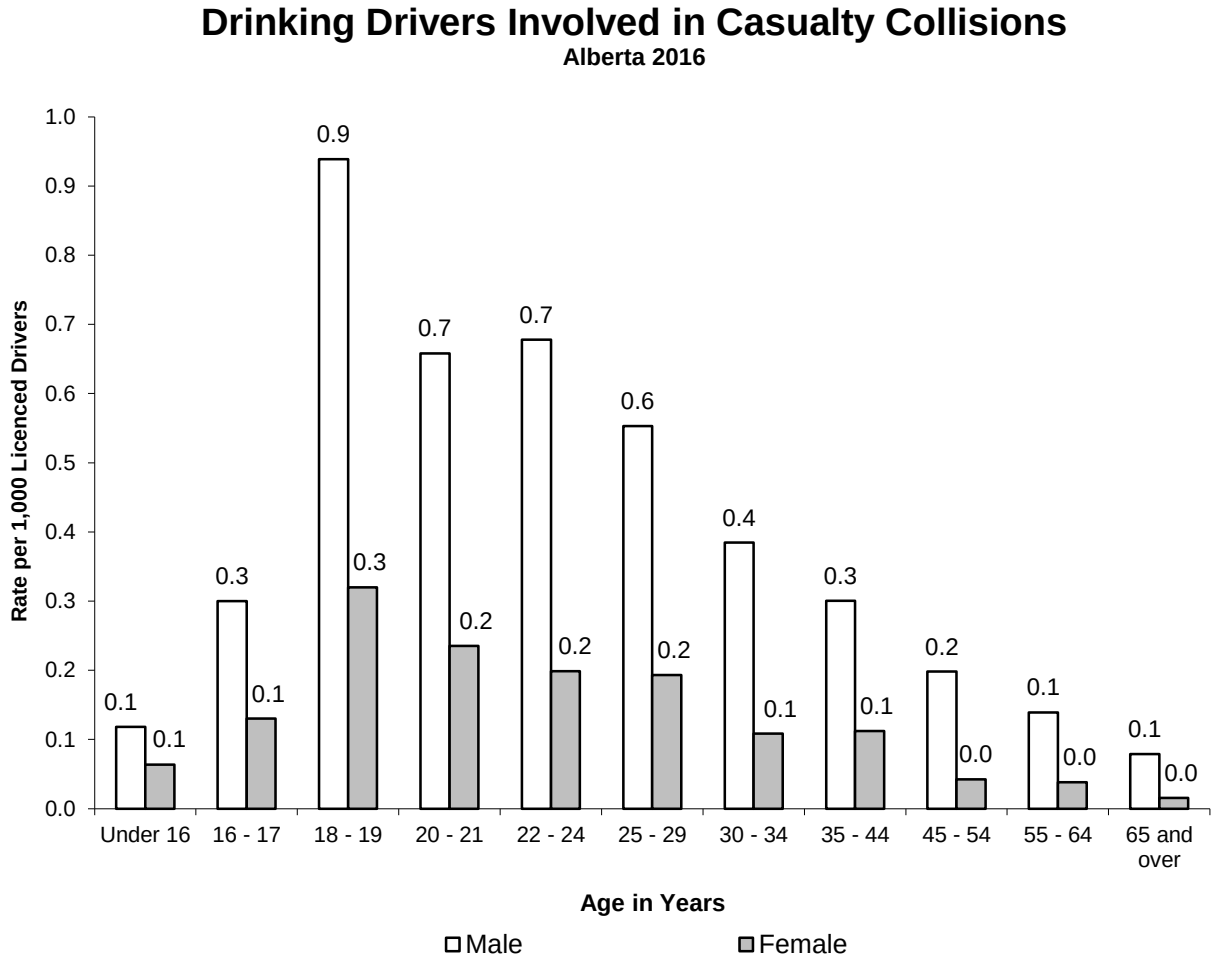
Of those collision-involved drivers who had consumed alcohol, there were over three times as many male drivers as female drivers. In terms of involvement per 1,000 licenced drivers, males 18 - 24 years of age were more likely to have consumed alcohol prior to a casualty collision than any other age group.

Drinking drivers include those indicated on the collision report 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, 2016.

Figure 10



Note: The bars in the above figure depict the actual number. The data labels have been rounded.

Table 10.3

Alcohol-Involved Casualty Collisions:

Month of Occurrence

2016

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
January	1	2.0	38	6.3	39	5.9
February	4	7.8	41	6.8	45	6.9
March	6	11.8	44	7.3	50	7.6
April	9	17.6	56	9.3	65	9.9
May	4	7.8	53	8.8	57	8.7
June	4	7.8	59	9.8	63	9.6
July	4	7.8	67	11.1	71	10.8
August	5	9.8	52	8.6	57	8.7
September	5	9.8	59	9.8	64	9.8
October	5	9.8	56	9.3	61	9.3
November	2	3.9	42	6.9	44	6.7
December	2	3.9	38	6.3	40	6.1
Total Number of Collisions	**51**	**100.0**	**605**	**100.0**	**656**	**100.0**

Observations

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

Table 10.4

Alcohol-Involved Casualty Collisions:

Day of Week

2016

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	5	9.8	73	12.1	78	11.9
Tuesday	4	7.8	51	8.4	55	8.4
Wednesday	8	15.7	66	10.9	74	11.3
Thursday	4	7.8	75	12.4	79	12.0
Friday	10	19.6	83	13.7	93	14.2
Saturday	8	15.7	129	21.3	137	20.9
Sunday	12	23.5	128	21.2	140	21.3
Total Number of Collisions	**51**	**100.0**	**605**	**100.0**	**656**	**100.0**

Observations

The highest number of alcohol-involved fatal collisions occurred on Sunday (23.5%). The highest number of non-fatal injury collisions occurred on Saturday (21.3%). The smallest number of alcohol-involved casualty collisions occurred on Tuesday (8.4%).

Table 10.5

Alcohol-Involved Casualty Collisions:

Time Period

2016

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.	20	39.2	184	30.4	204	31.1
3:00 a.m. - 6:59 a.m.	9	17.6	90	14.9	99	15.1
7:00 a.m. - 10:59 a.m.	2	3.9	36	6.0	38	5.8
11:00 a.m. - 2:59 p.m.	1	2.0	51	8.4	52	7.9
3:00 p.m. - 6:59 p.m.	8	15.7	93	15.4	101	15.4
7:00 p.m. - 10:59 p.m.	10	19.6	138	22.8	148	22.6
Unspecified	1	2.0	13	2.1	14	2.1
Total Number of Collisions	**51**	**100.0**	**605**	**100.0**	**656**	**100.0**

Observations

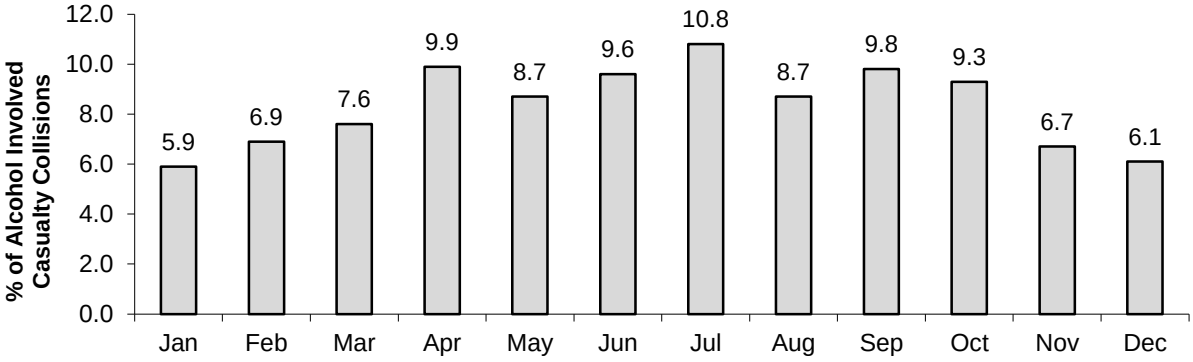
The late night/early morning time period (11:00 p.m. – 2:59 a.m.) was most likely to record alcohol-involved casualty collisions (31.1%). The morning hours (7:00 a.m. – 10:59 a.m.) were least likely to record alcohol-involved casualty crashes (5.8%).

Figure 11

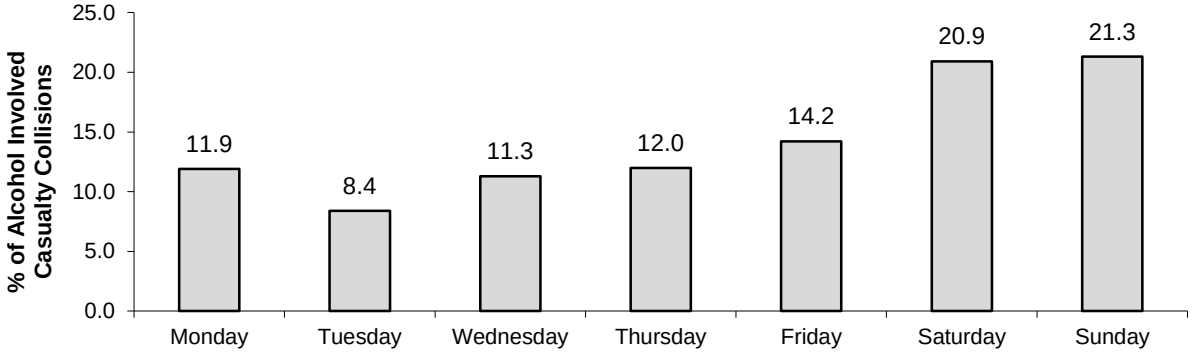
Alcohol-Involved Casualty Collisions

Alberta 2016

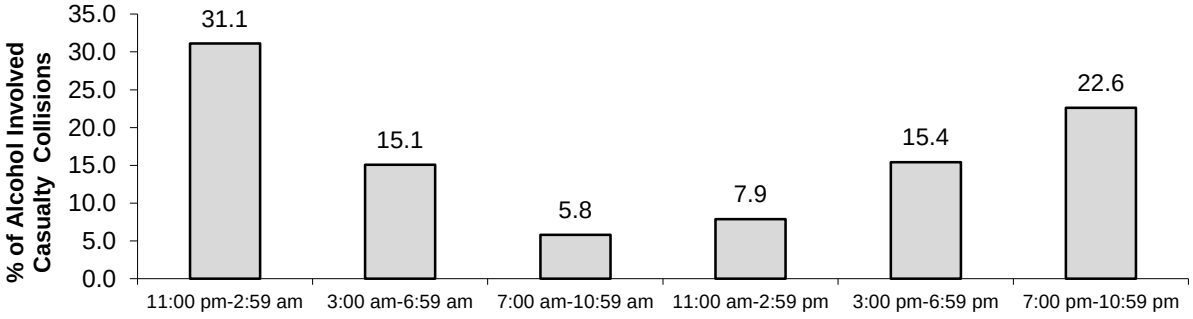
By Month of Occurrence



By Day of Week



By Time Period



Traffic Safety Issues

Restraint Use

- Collision-involved restraint users had a much lower injury rate (6.8%) than those not using restraints (24.1%).
- 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)

2016

Injury Severity of Occupants	Percentage of Occupants Using Restraints %	Percentage of Occupants Not Using Restraints %
Fatal Injury	0.1	3.0
Major Injury	0.8	8.2
Minor Injury	5.9	12.9
Total Occupants Sustaining Injuries	**6.8**	**24.1**
No Apparent Injury	93.2	75.9
Total Occupants	**100.0**	**100.0**

Observations

Collision involved restraint users had a much lower injury rate (6.8%) than those not using restraints (24.1%). 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.