

Alberta

Traffic Collision Statistics

2016

Alberta  Government

Office of Traffic Safety
Transportation Services Division
February 2018

This page was intentionally left blank.

Table of Contents

Alberta Traffic Collisions	4
Alberta Traffic Collision Rates	5
Where Did Casualty Collisions Occur (Urban/Rural)?	6
Where Did Casualty Collisions Occur (Intersection-Related)?	6
What was the Condition of Drivers in Casualty Collisions?.....	7
How Many People are Killed or Injured in Collisions Involving Drinking Drivers ?	8
Who is Drinking and Driving then Crashing?	8
When Do Alcohol-Involved Crashes Occur?	8
How Big of an Issue is Drug-Impaired Driving ?	8
Speeding Drivers in Casualty Collisions	9
When are Speed-related Casualty Collisions Occurring?	9
Restraint Use of Vehicle Occupants and Injury Severity (Use versus Non-Use)	10
When Did Casualty Collisions Occur?.....	11
Who Were the Victims in Casualty Collisions?	12
Who Were the Drivers in Casualty Collisions?	13
Improper Driver Actions in Casualty Collisions	14
What Types of Vehicles Were Involved in Casualty Collisions?.....	15

**Alberta Traffic Collisions
2012 – 2016**

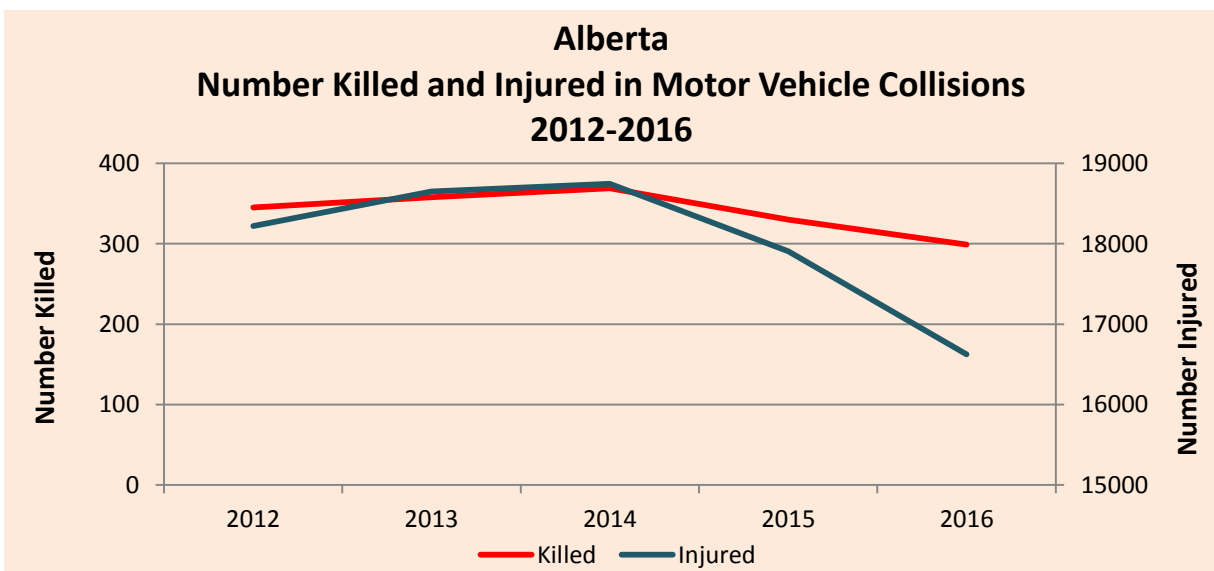
Severity of Collisions	2012	2013	2014	2015	2016
Fatal Collisions	307	331	328	288	273
Non-Fatal Injury Collisions	13,822	14,073	14,244	13,531	12,465
Property Damage Collisions	122,466	127,234	130,168	126,886	120,386
Total Reportable Collisions	136,595	141,638	144,740	140,705	133,124
Number Killed	345	358	369	330	299
Number Injured	18,220	18,650	18,745	17,907	16,622
Total Number of Casualties	18,565	19,008	19,114	18,237	16,921

Total collisions for 2016 are down 5.4% compared to 2015:

- Fatal collisions decreased 5.2% (from 288 to 273)
- Injury collisions decreased 7.9% (from 13,531 to 12,465)
- Property damage collisions decreased 5.1% (from 126,886 to 120,386)

Total casualties for 2016 are down 7.2% compared to 2015:

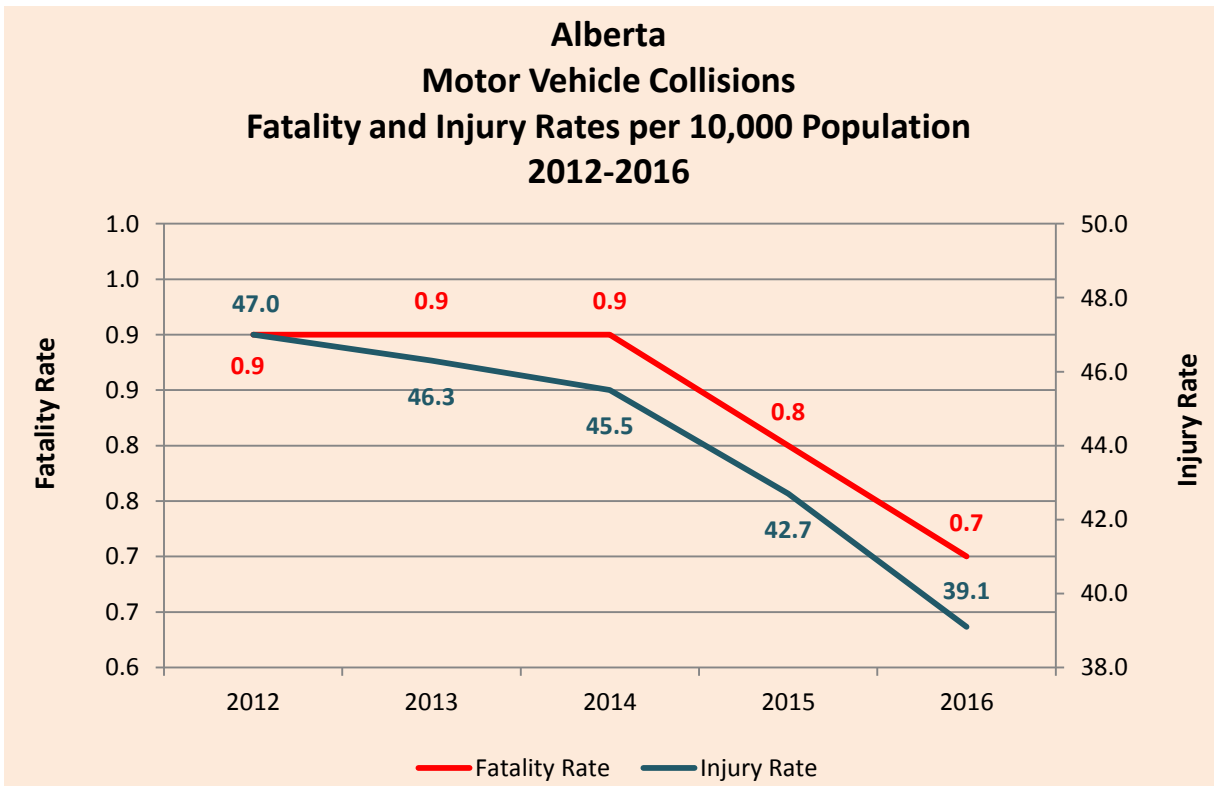
- The number of fatal injuries decreased 9.4% (from 330 to 299)
- The number of non-fatal injuries decreased 7.2% (from 17,907 to 16,622)



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

Collision and casualty rates are down in terms of population, drivers and registered vehicles, with 2016 having the lowest rates across the board over the five year period 2012 to 2016.



**Where Did Casualty Collisions Occur (Urban/Rural)?
2016**

Location	Fatal Collisions		Non-Fatal Injury Collisions		Property Damage Collisions		Total Collisions	
	N	%	N	%	N	%	N	%
Urban	99	36.3	9,434	75.7	101,356	84.2	110,889	83.3
Rural	174	63.7	3,031	24.3	19,030	15.8	22,235	16.7
Total Number of Collisions	273	100.0	12,465	100.0	120,386	100.0	133,124	100.0

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%).

**Where Did Casualty Collisions Occur (Intersection-Related)?
2016**

Location	Fatal Collisions		Non-Fatal Injury Collisions		Property Damage Collisions		Total Collisions	
	N	%	N	%	N	%	N	%
Intersection Related	51	18.7	5,513	44.2	28,426	23.6	33,990	25.5
Non-Intersection Related	222	81.3	6,952	55.8	91,960	76.4	99,134	74.5
Total Number of Collisions	273	100.0	12,465	100.0	120,386	100.0	133,124	100.0

One in four (25.5%) collisions were intersection-related. During 2016, 58 people were killed and 7,623 were injured in intersection related collisions.

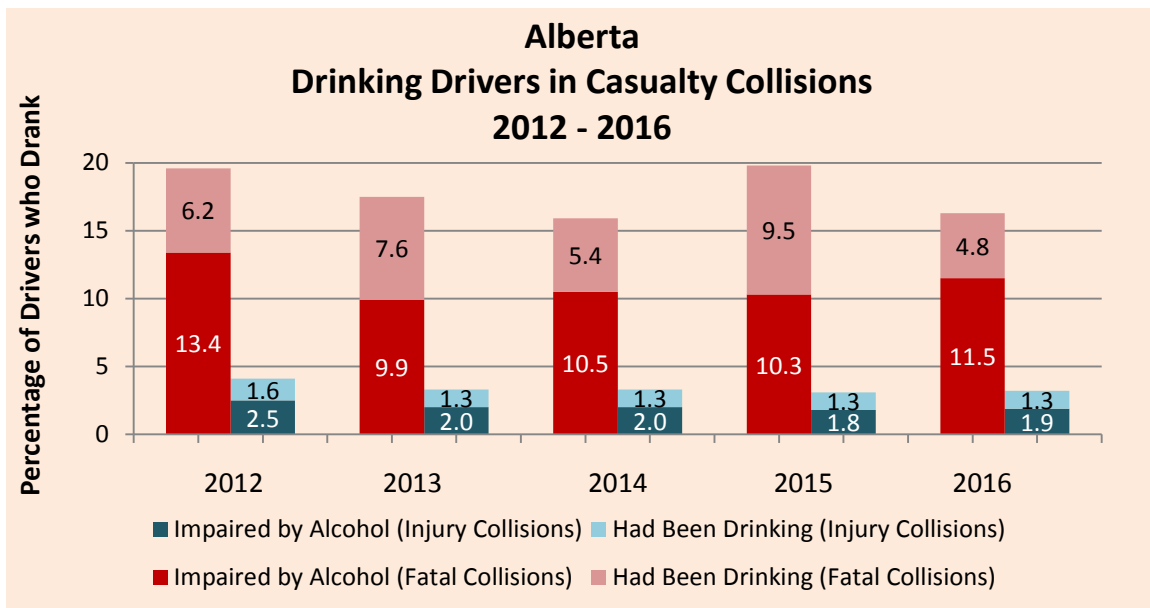
In Alberta, in 2016, three of the top five most frequently identified improper driver actions for drivers in casualty collisions were intersection-related: making a left turn across the path of an on-coming vehicle (11.1%), committing a stop sign violation (7.2%), and disobeying a traffic signal (6.5%).

See Page 14 for a complete summary of all driver actions in casualty collisions.

What was the Condition of Drivers in Casualty Collisions? 2016

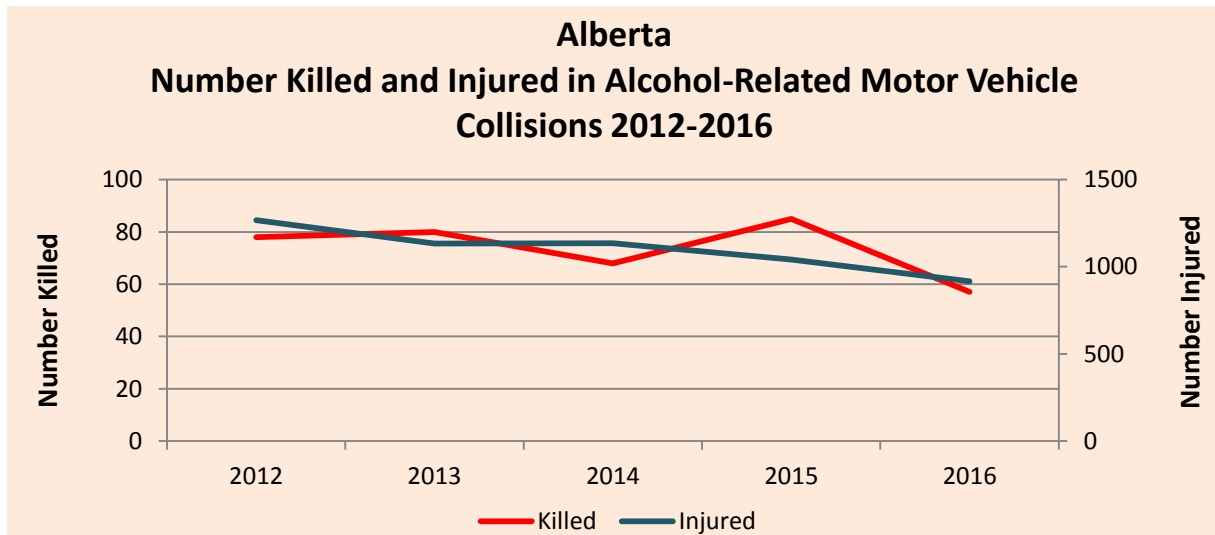
Condition of Driver	Drivers in Fatal Collisions		Drivers in Non-Fatal Injury Collisions		Total Drivers in Casualty Collisions	
	N	%	N	%	N	%
Normal	245	78.3	17,945	94.2	18,190	94.0
Had Been Drinking	15	4.8	248	1.3	263	1.4
Alcohol Impaired	36	11.5	358	1.9	394	2.0
Total Alcohol Involvement	51	16.3	606	3.2	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	19,043	100.0	19,356	100.0

Of drivers involved in injury collisions, 3.2% had consumed alcohol, compared to 16.3% in fatal collisions. Over the five year period 2012 to 2016, the proportion of drivers in fatal collisions who had consumed alcohol before the crash was highest in 2015 (19.8%).



How Many People are Killed or Injured in Collisions Involving Drinking Drivers?

- During 2016, 57 people were killed in alcohol-related collisions – this is down 16.2% from the previous record low of 68 in 2014. Another 916 were injured in 2016 – down 12.1% over 2015 with 1,042.
- From 2012 to 2016, on average each year 74 people were killed and 1,099 people were injured in collisions involving at least one driver who had consumed alcohol prior to the crash.



Who is Drinking and Driving then Crashing?

- In Alberta, nearly one in six drivers involved in fatal collisions have been drinking prior to the collision. This compares to an average of about one in 32 drivers involved in injury collisions.
- Males between 18 and 21 years of age are most likely to have been drinking before the crash.
- Male drivers are much more likely to have consumed alcohol prior to a collision compared to female drivers.
- As the severity of the collision increases, so does the likelihood the collision will involve a drinking driver.

When Do Alcohol-Involved Crashes Occur?

- In 2016, April saw the highest numbers of fatal collisions involving alcohol (17.6%) and July recorded the highest number of injury collisions (11.1%).
- The most casualty collisions involving alcohol occur on the weekends. The most likely time period for these collisions, on any day of the week, is between 11 p.m. and 3 a.m.

How Big of an Issue is Drug-Impaired Driving?

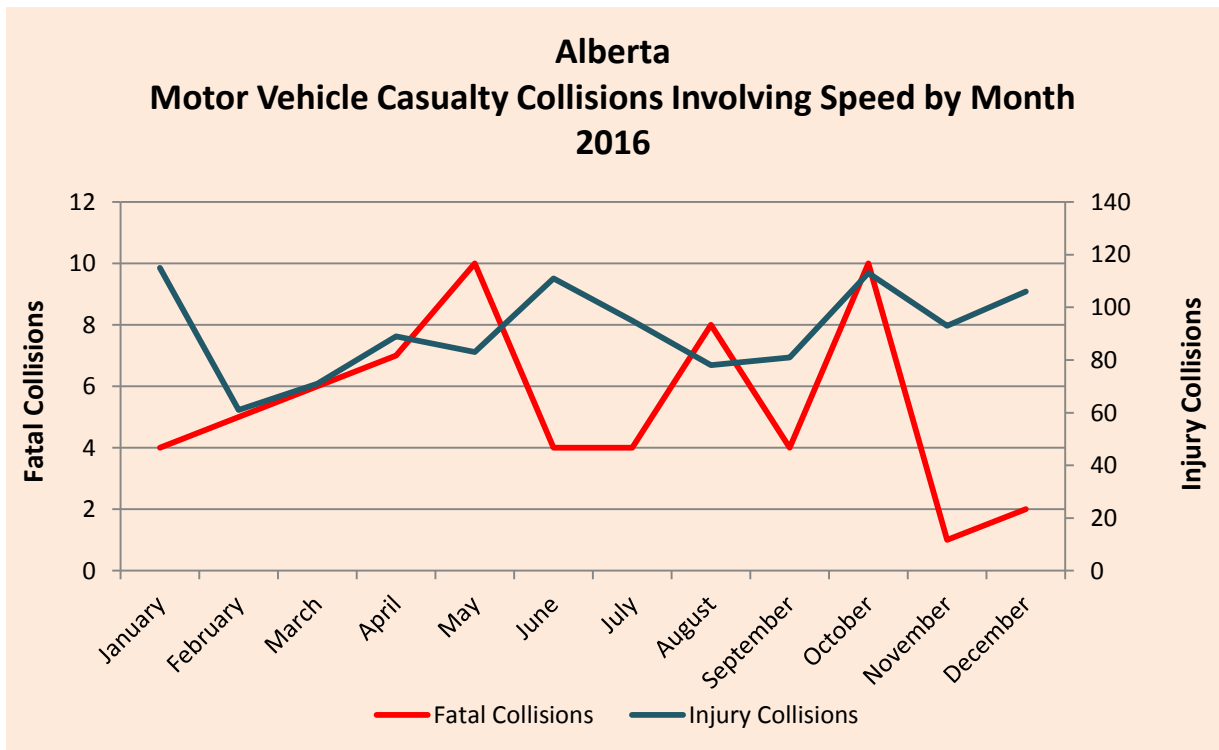
- A recent Canadian study of alcohol and drug use among drivers found that drug use in nighttime drivers exceeded that of alcohol use.
- In Canada, studies indicate that drugs are found in up to 40% of fatally injured drivers.

Speeding Drivers in Casualty Collisions 2016

Unsafe Speed	Drivers in Fatal Collisions		Drivers in Non-Fatal Injury Collisions		Total Drivers in Casualty Collisions	
	N	%	N	%	N	%
Yes	65	23.8	1,129	7.7	1,194	8.0
No	208	76.2	13,530	92.3	13,738	92.0
Total Number of Drivers	273	100.0	14,659	100.0	14,932	100.0

Nearly one quarter (23.8%) of drivers in fatal collisions were reported as travelling at an unsafe speed compared to 7.7% in injury collisions. Collisions involving these 1,194 drivers resulted in 72 fatalities and 1,699 injuries.

When are Speed-related Casualty Collisions Occurring?



The months of May and October saw the most speed-related fatal collisions. January recorded the most injury collisions involving unsafe speed.

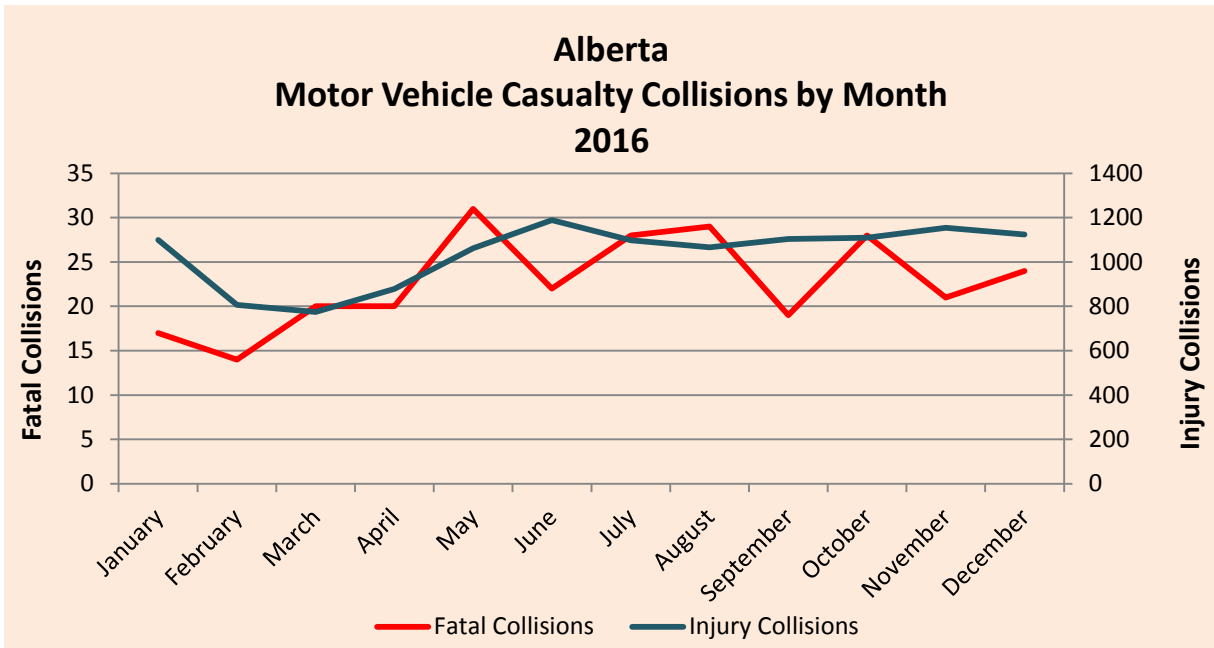
**Restraint Use of Vehicle Occupants and Injury Severity (Use versus Non-Use)
2016**

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

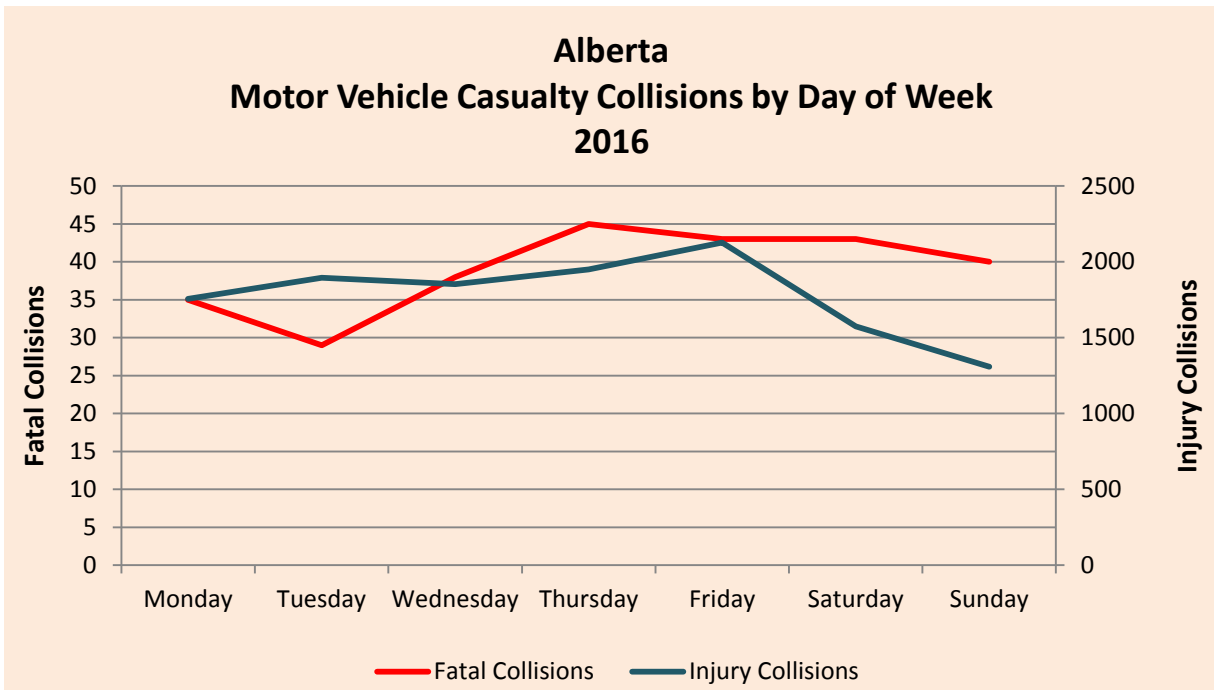
Collision involved restraint users had a much lower injury rate (6.8%) than those not using restraints (24.1%). This table illustrates the moderating effect of seat belt use on injury severity. Occupants using a restraint reduce the likelihood of sustaining an injury and the severity of injury decreases.

During 2016, 53 people who died and 375 people who sustained injuries were not properly restrained at the time of the collision.

When Did Casualty Collisions Occur?

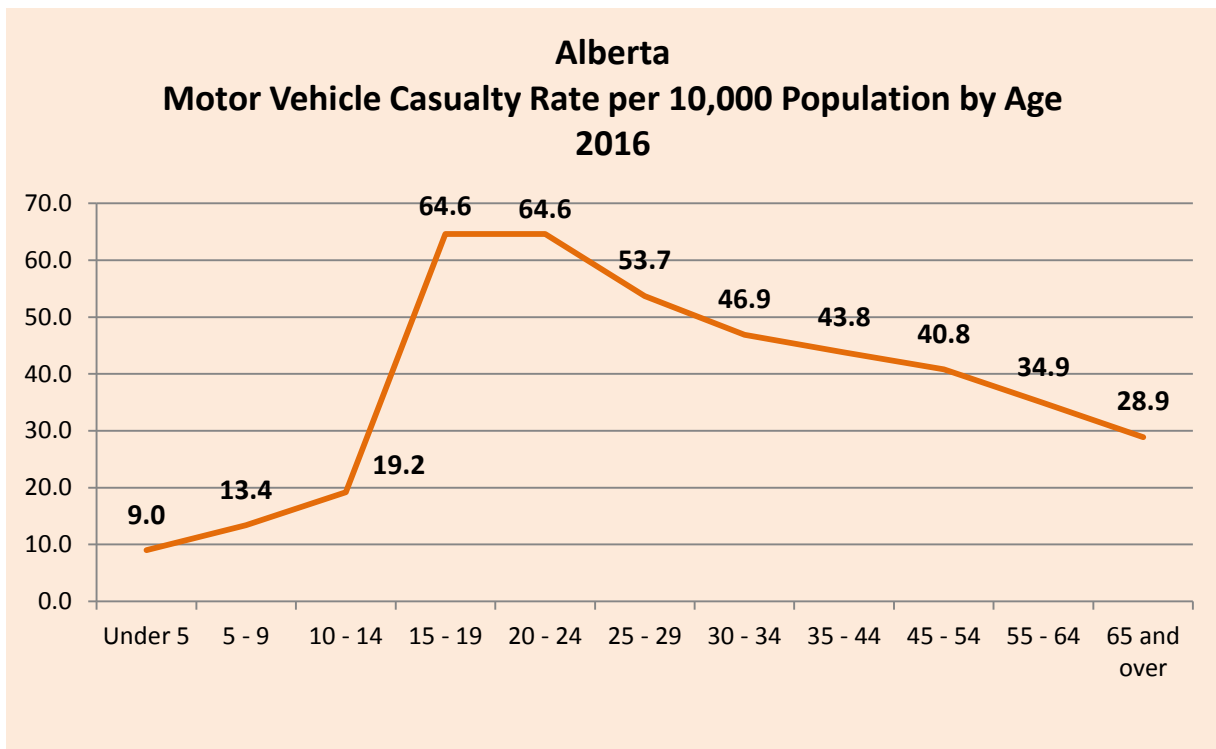
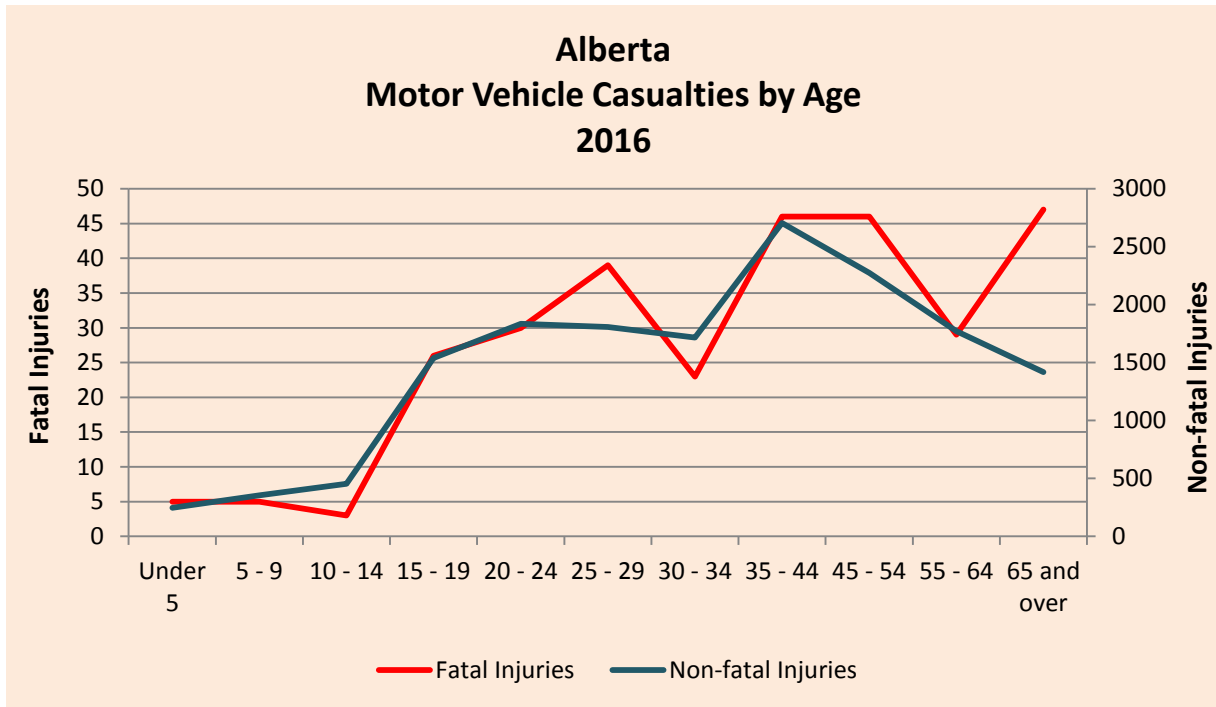


During 2016, May recorded the highest number of fatal collisions at 31 (11.4%) and June saw the highest number of injury collisions at 1,189 (9.5%).



Thursday recorded the most fatal collisions at 45 (16.5%) and Friday recorded the most injury collisions at 2,127 (17.1%).

Who Were the Victims in Casualty Collisions?

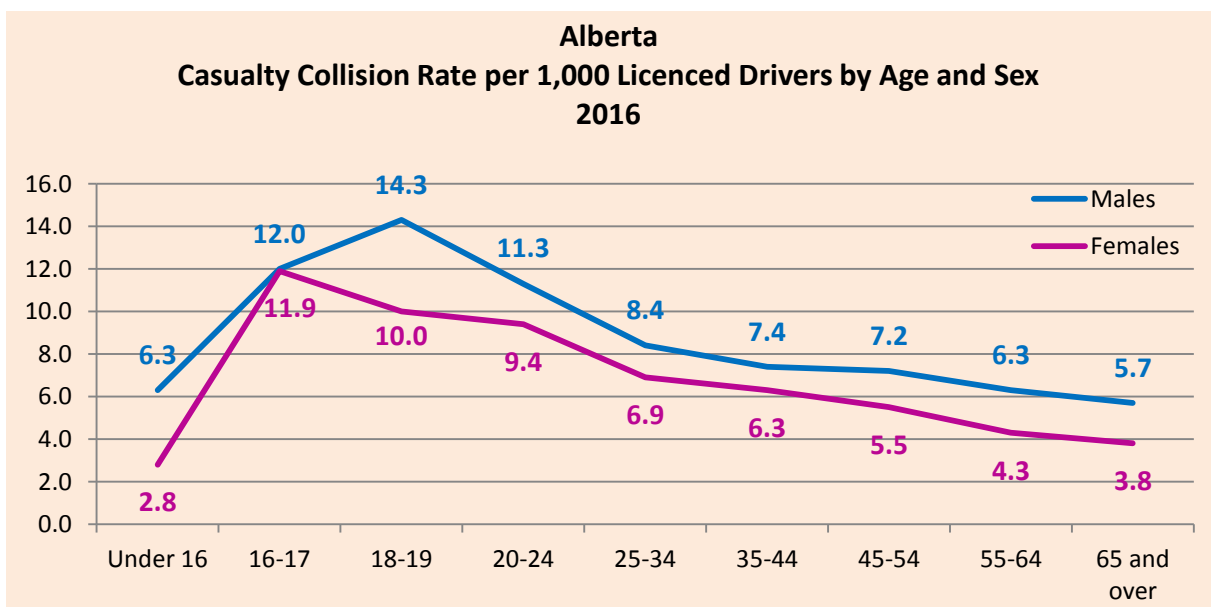


Casualty rates per 10,000 population continue to be highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 years of age and younger.

Who Were the Drivers in Casualty Collisions? 2016

Age of Driver	N	Male		Female		Total*		Rate Per 1000** Licenced Drivers	
		%	Rate Per 1000** Licenced Drivers	%	Rate Per 1000** Licenced Drivers	N	%		
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	

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.



Improper Driver Actions in Casualty Collisions 2016

Improper Actions*	Drivers in Fatal Collisions		Drivers in Non-Fatal Injury Collisions		Total Drivers in Casualty Collisions	
	N	%	N	%	N	%
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

Following too closely (31.0%), running off the road (19.5%) and making a left turn across the path of an oncoming vehicle (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.

What Types of Vehicles Were Involved in Casualty Collisions? 2016

Type of Vehicle	Vehicles in Fatal Collisions		Vehicles in Non-Fatal Injury Collisions		Total Vehicles in Casualty Collisions	
	N	%	N	%	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

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