



COLLISION STATISTICS 2017



2017 Red Deer Annual Motor Vehicle Collision Report

October 2018

Engineering Services
Box 5008, 4914 – 48th Avenue
Red Deer, AB T4N 3T4
engineering@reddeer.ca

RCMP – GRC
Red Deer City Detachment
P.O. Bag 5033
Red Deer, AB T4N 6A1
rcmp@reddeer.ca

LEGAL NOTE

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Glossary of Terms

Collisions	RCMP-reported collisions occurring on public roadways, alleys and public parking lots within the City of Red Deer's jurisdiction. Only those collisions are reported by public which result in a minimum of \$2,000 property damage or which result in injury or fatality. The collision must include at least one (1) motor vehicle. Non-vehicular collisions are not included in this report.
Public Roadway Collisions	Include all collisions occurred on any road or street within the City of Red Deer jurisdiction
Parking Lots Collisions	Include all collisions occurred on parking lots only within the City of Red Deer jurisdiction
Injury	Injuries noted by police on the collision report form. Injuries are classified as minor (scrapes, bruises, complaint of pain) or major (result in admission to hospital).
Fatality	On-scene fatalities, as well as those fatalities occurring within 30 days and which are related to the collision.
Automobile	Cars, trucks, and vans under 4,500 kilograms.
Truck	Tractor-trailers, trucks, and vans 4,500 kilograms and over.
Intersection	Defined as extending 10 metres past the legally defined limits of the outer crosswalk lines of an intersecting roadway.
Midblock	A section of roadway between two intersections.

Introduction

Engineering Services Department maintains a database of motor vehicle collisions that occur on public roads, alleys, and public parking lots within the City of Red Deer's jurisdiction. The information contained in the database for collisions that occurred prior to January 1, 2012 are obtained from the provincial Collision Report Forms completed by members of The Red Deer RCMP Detachment, and reflects reported collisions that result in property damage as well as any collision resulting in a minor, major, or fatal injury. All reported collisions that occurred from January 1, 2012 onward are received digitally from the Province of Alberta and stored in the Engineering Services database of motor vehicle collisions,

This report presents summary data on collisions that occurred from January 1 to December 31, 2017. It also provides the historical collisions and general statistics of 2015 and 2016 for comparison purpose. The collisions data includes a variety of collisions characteristics such as top 10 locations with the most collisions, date and time, age, driver condition and safety equipment used, etc.

This report was prepared based on the collision data received by Engineering Services Department from Alberta Transportation as of June 20, 2018. Statistics in this report do not include collisions that occurred in public parking lots and Unknown locations.

Significance of Collisions Statistics

The collision data is used to develop, establish, and implement systems for managing road safety. There are many major road safety-related tasks which cannot be initiated without collision data, such as:

- Developing road safety projects and programs such as education, enforcement, and communication campaigns;
- Identifying and investigating hazardous road safety situations and establishing counter-measures and priorities to correct the identified hazards or potential hazards;
- Identifying safety needs of special user groups, such as older drivers, pedestrians, bicyclists, motorcyclists, and commercial vehicles;
- Facilitating budget planning; and
- Determining collision reduction targets and hence developing road safety action plan targets.

Overview of Collision Statistics

Public Roadway Collisions: In 2017, there were 2357 reported motor vehicle collisions on public roadways in Red Deer. This figure is higher than 2016 which has 2,208 reported collisions on public roadways.

While 2017 saw a population increase of 0.59 percent over 2016, collisions per 1,000 populations also increased from 22 to 23.

In 2017, public roadway collisions per 1,000 registered vehicles also increased from 25 to 27.

In 2017, public roadway collisions (Intersection, Midblock, and Alley) have increased by 6.75 percent compared to 2016 figure.

In 2017, approximately 63.80 percent of the public roadway collisions occurred at intersections which is less than the percentage of public roadway collisions occurred at intersections in 2015 and 2016.

Injuries: In 2017 there were a total of 156 reported minor and major injuries; this is an approximate decrease of 32.17 percent over the 230 injuries reported in 2016. The 230 reported injuries in 2016 is an approximate decrease of 5.74 percent when compared to the 244 injuries reported in 2015.

Fatalities: There was one road fatality in 2017, compared to two in 2016 and two in 2015.

Pedestrians: In 2017 there were 19 reported pedestrian collisions resulting in 16 injuries. In 2016 there were 23 pedestrian collisions resulting in 17 injuries. In 2015 there were 25 reported pedestrian collisions resulting in 22 injuries. Of the 16 pedestrian collisions in 2017, 10 pedestrians were recorded as crossing the road with the right of way, and 3 pedestrians were recorded as crossing the road without the right of way.

Bicyclists: In 2017, bicycle collisions and bicycle injuries have decreased. There were 18, 33, and 15 bicycle collisions in 2015, 2016 and 2017 respectively. These collisions resulted in 11, 25 and 11 bicyclist injuries recorded in 2015, 2016 and 2017 respectively.

Month: In 2017, February was the leading month with approximately 12 percent (273 in total) of public roadway collisions; while April experienced the least number approximately 5 percent (120 in total). See Figure 4.

Day: In 2017, Friday had the highest percentage of collisions with 17.09 percent, while Sunday was the lowest with about 9.55 percent. See Figure 5.

Hour: The hours from 1501 to 1600 accounted for about 6.83 percent of all public roadway collisions, while the hour from 0401 to 0500 accounted for less than half percent. The periods of time with the highest number of collisions were from 1501 to 1600 on both on weekdays and on weekends. See Figure 6 and Figure 7.

Types of Collisions: The most common collision type was “Rear-End” seen in 30.76 percent of all public roadway collisions. “Struck Object” were the second most common types with approximately 20.54 percent. The percentage of “Struck Object” collision has increased in comparison to 2016. The percentage of “Rear-End” collision type has decreased in comparison to 2016. The percentage of “Struck Object” and “Rear-End” collisions in 2016 were approximately 17.02 percent and 33.69 percent. The most frequently recorded improper driving actions in collisions occurring on public roadways in 2017 was “Followed Too Closely”

Road Surface: 39.62 percent collisions occurred when the road surface was covered with “Slush/Snow/Ice” and 54.86 percent collisions occurred when the road surface was dry.

Age: The age group with the highest number of collisions was “25-34” accounting for 19.40% of all 2017 collisions on public roadway. The same age group accounted for the highest percentage of collisions in 2015 and 2016. The second highest age group involved in a collision was “35-44” accounting for 14.82% in 2017. The “35-44” was also the second highest age group involved in collisions in 2015 and 2016.

Alcohol: In 2017, 38 drivers/pedestrians involved in collisions were impaired by alcohol while 48 drivers/pedestrians involved in collisions were impaired by alcohol in 2016. There were 7 injuries and fatalities due to alcohol-related collisions in 2017.

Restraint Usage: In 2017, there were 18 drivers and 4 passengers involved in public roadway collisions recorded without wearing restraining devices which resulted in two injuries.

Motor Vehicle Types: Mini-Vans were involved in over 32 percent of public roadway collisions in 2017 while passenger cars represented 31.36 percent and pick-up trucks about 23.30 percent.

Parking lots and Unknown locations Collisions: in 2017, there were 1227 reported collisions occurred on parking lots and unknown locations. In 2016 and 2015, the number of reported collisions occurred on parking lots and unknown locations are 1205 and 1307 collisions.

Table 1: Public Roadway Collisions Statistics 2015-2017

Statistics	2015	2016	2017
Public Roadways Collisions	2309	2208	2357
Percentage Increase / Decrease	-13.42%	-4.37%	+6.75%
Fatal Collisions	2	2	1
Injury Collisions	215	195	139
Fatal and Injury Collisions	217	197	140
Property Damage Only Collisions	2084	2011	2217
Number of Injuries	244	230	156
Number of Fatalities	2	2	1
Pedestrian Collisions	25	23	19
Number of Pedestrian Injuries	22	17	16
Number of Pedestrian Fatalities	-	1	-
Bicycle Collisions	18	33	15
Number of Bicyclists Injuries	11	25	11
Number of Bicyclists Fatalities	-	-	-
Red Deer Population	100,807	99,832	100,418
Motor vehicles Registered in Red Deer Civic Address	93,030	89,663	86,902
Public Roadway Collisions/1000 Population	23	22	23
Public Roadway Collisions/1000 Registered Vehicles in Red Deer Civic Address	25	25	27

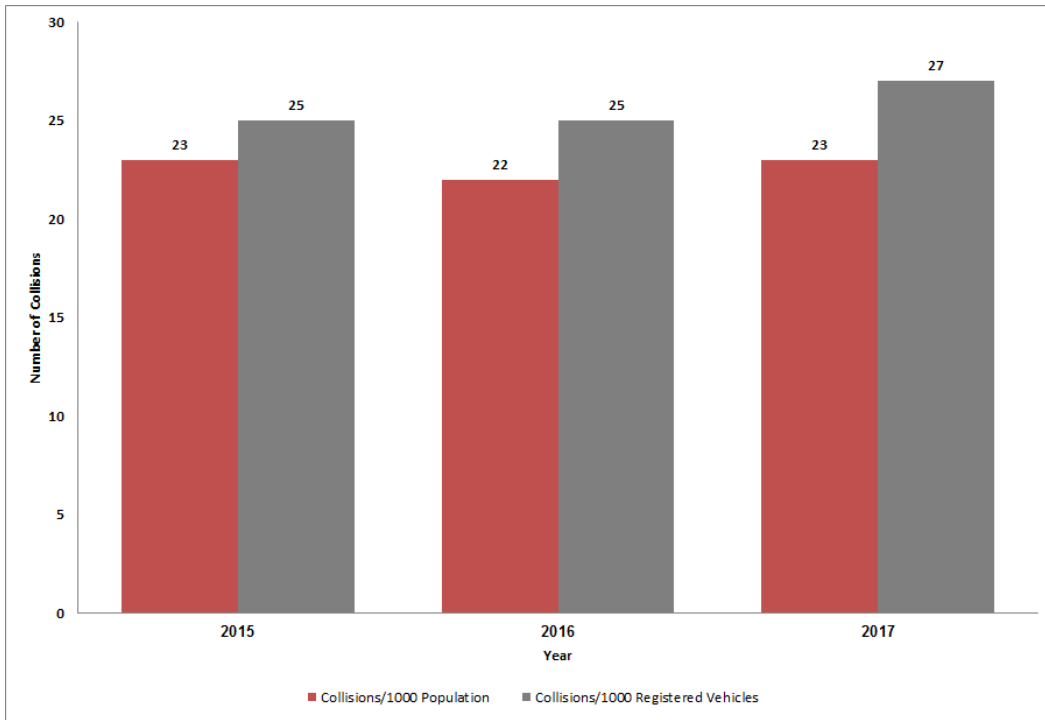


Figure 1: Public Roadway Collisions Rate Trend 2015-2017

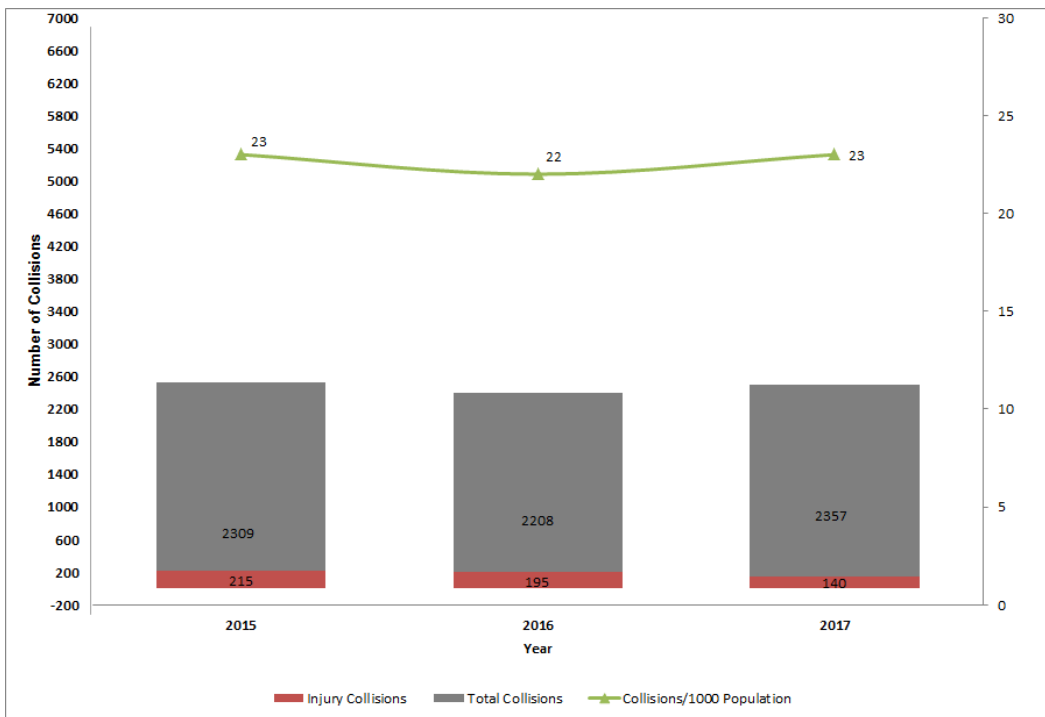


Figure 2: Public Roadway Collisions Trend 2015-2017

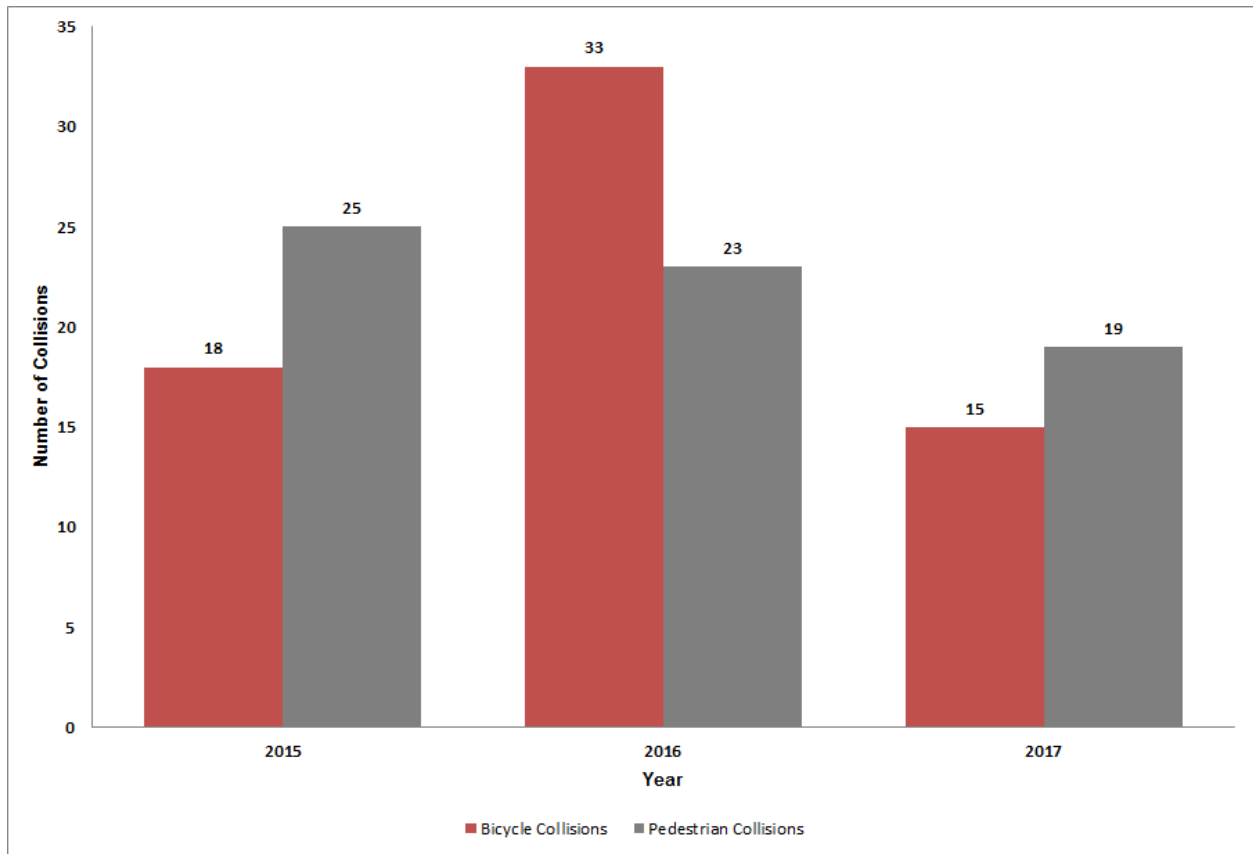


Figure 3: Pedestrian and Bicyclist Collisions on Public Roadways 2015-2017

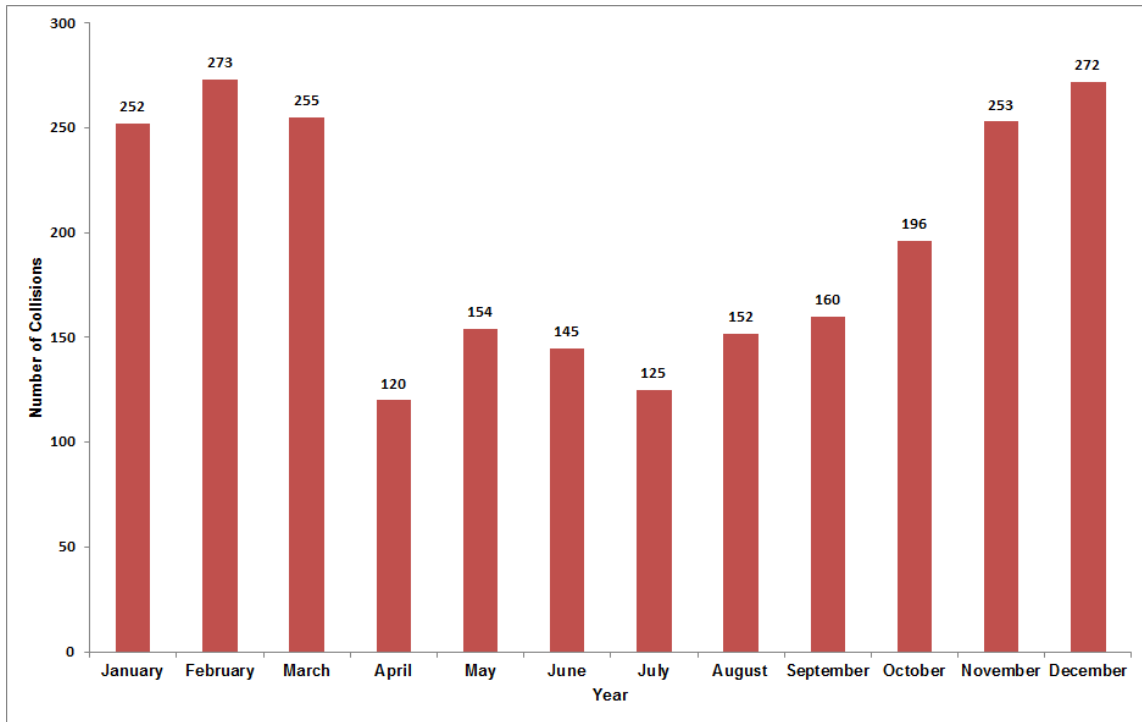


Figure 4 : 2017 Public Roadway Collisions by Month

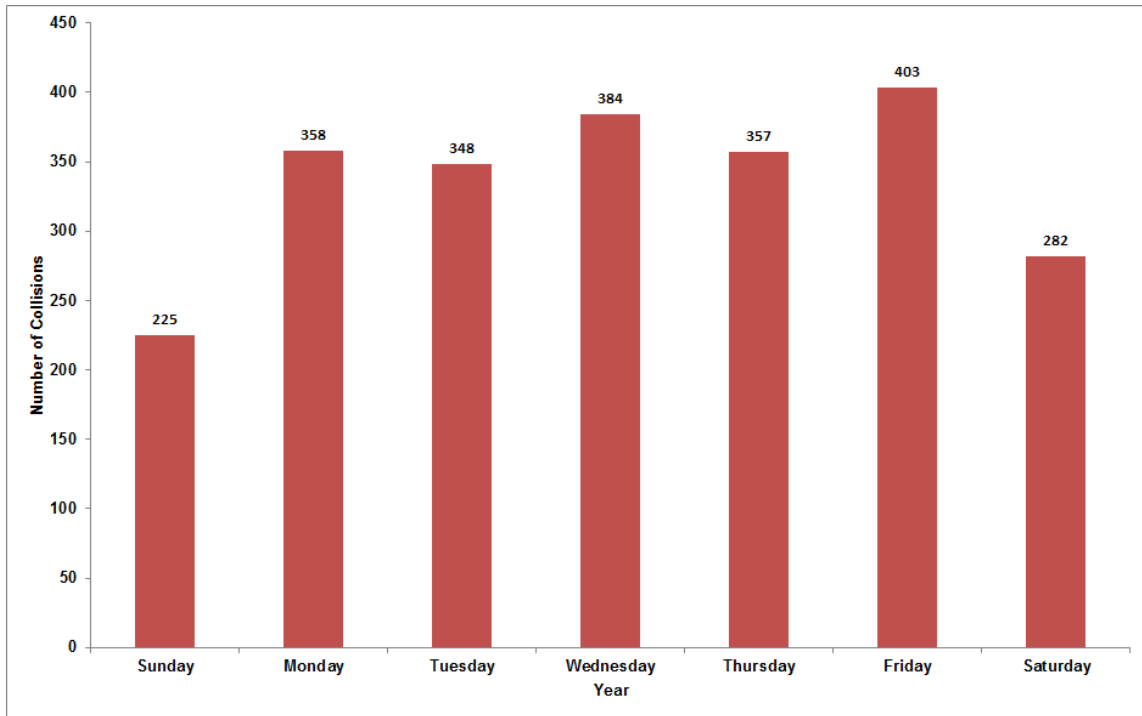


Figure 5: 2017 Public Roadway Collisions by Day of Week

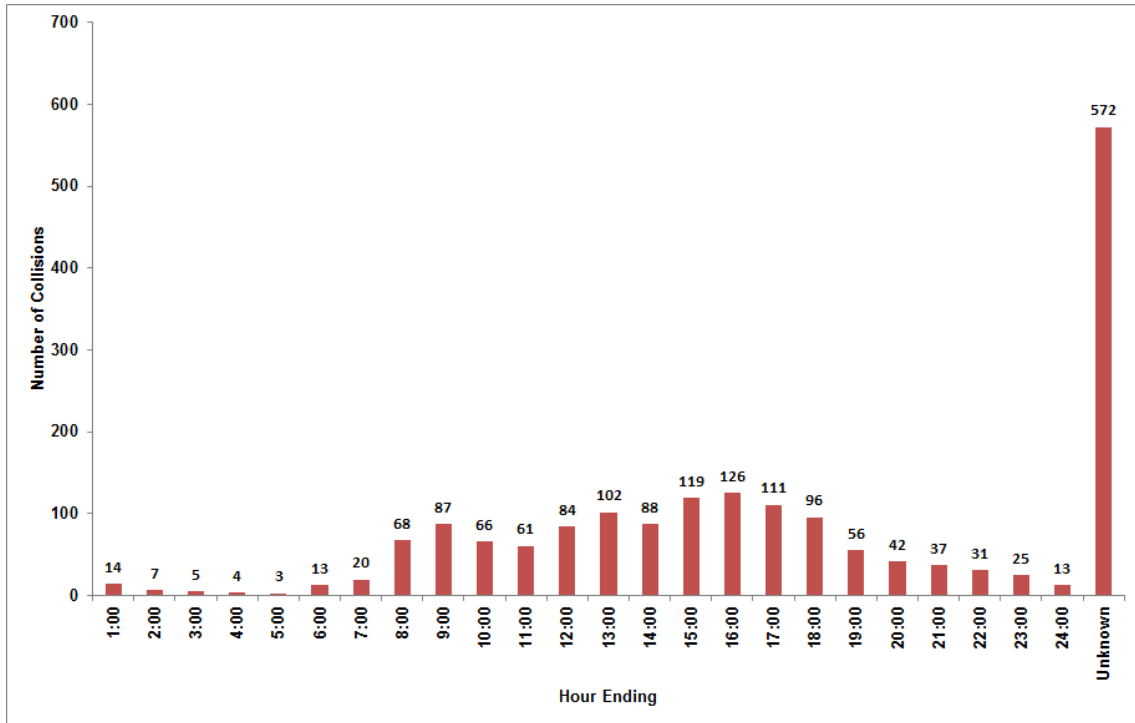


Figure 6: 2017 Public Roadway Collisions by Hour of Day (Weekdays)

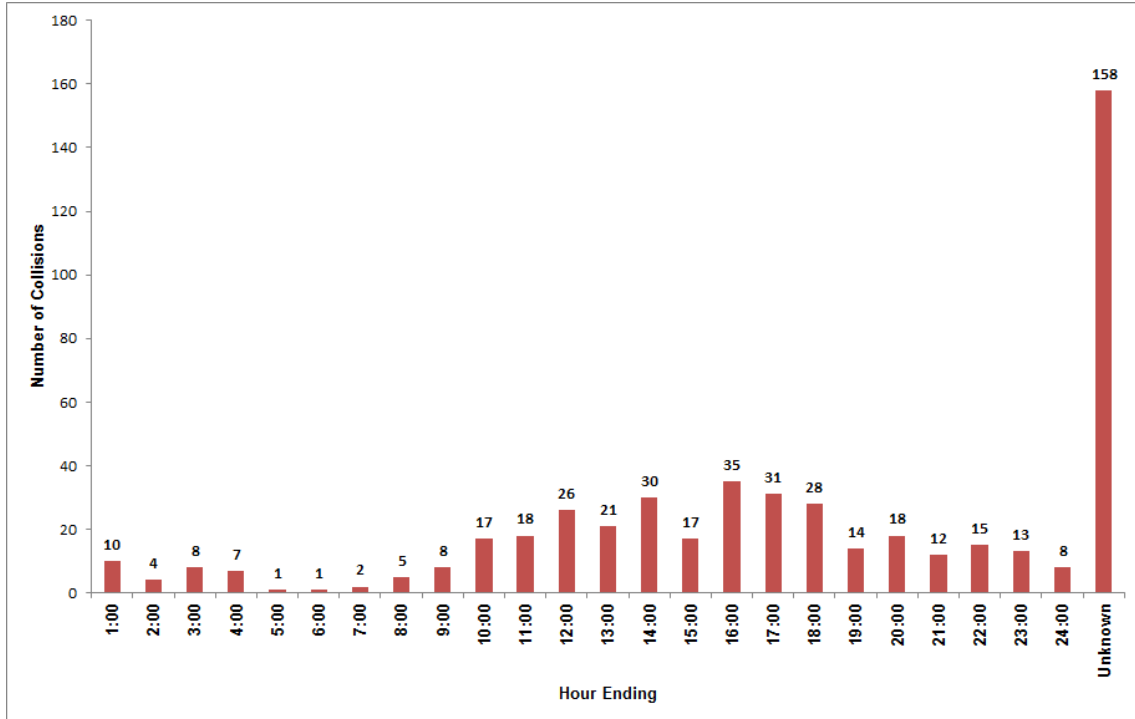


Figure 7: 2017 Public Roadway Collisions by Hour of Day (Weekends)

Public Roadway Collisions Summary

2017/01/01 TO 2017/12/31

Table 2 : Number of Collisions on Public Roadways in 2017

Statistics	2017
Motor Vehicle Collisions	2357
Motor Vehicles Involved	4630
Collisions Causing Fatalities	1
Fatalities Resulting	1
Collisions Causing Injury	139
Injuries Resulting	156
Property Damage Only Collisions	2217

Table 3: Fatalities and Injuries on Public Roadways in 2017

Travel Mode	Minor Injuries	Major Injuries	Fatal	Total
Vehicle Driver	87	18	-	105
Vehicle Passenger	19	1	-	20
Motorcyclist	3	1	1	5
Bicyclist	8	3	-	11
Pedestrian	12	4	-	16
Other, Unknown	-	-	-	-
Total	129	27	1	157

Roadway Summary

2017/01/01 TO 2017/12/31

Table 4: 2017 Collisions by Roadway Portion

Cause	Intersection	Midblock	Alley	At/Near Rail road crossing	Unknown	Total
Struck Object	131	369	9	0	10	519
Off Road Left	7	6	0	0	2	15
Right Angle	252	31	7	0	5	295
Passing-Left Turn	21	9	0	0	0	30
Left Turn- Across Path	144	8	0	0	1	153
Sideswipe - Opposite Direction	13	20	1	0	1	35
Other	13	39	0	0	7	59
Rear End	679	67	0	2	9	757
Off Road Right	11	12	0	0	1	24
Head On	11	5	2	0	0	18
Passing-Right Turn	14	6	0	0	1	21
Sideswipe - Same Direction	159	115	1	1	3	279
Backing	37	107	6	0	2	152
Total	1492	794	26	3	42	2357

Table 5: 2017 Public Roadway Collisions by Month and Road Surface Condition

Month	Dry	Wet	Slush/Snow/Ice	Loose Surface Material	Other/ Unknown	Total
January	42	5	202	0	3	252
February	42	23	205	1	2	273
March	83	4	166	0	2	255
April	100	14	5	0	1	120
May	145	8	0	0	1	154
June	130	10	0	0	5	145
July	119	5	1	0	0	125
August	145	3	0	0	4	152
September	143	11	1	1	4	160
October	179	6	10	0	1	196
November	77	10	164	0	2	253
December	88	1	180	0	3	272
Total	1293	100	934	2	28	2357

Day/Time Summary

2017/01/01 TO 2017/12/31

Table 6: 2017 Public Roadway Collisions by Hour of Day and Day of Week

Hour Ending	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
1:00	6	3	4	2	1	4	4	24
2:00	1	2	2	2	0	1	3	11
3:00	4	1	1	1	2	0	4	13
4:00	5	0	0	1	2	1	2	11
5:00	0	0	0	1	0	2	1	4
6:00	0	5	2	2	1	3	1	14
7:00	0	4	4	4	4	4	2	22
8:00	3	9	20	15	14	10	2	73
9:00	3	18	15	26	12	16	5	95
10:00	7	9	12	16	10	19	10	83
11:00	9	19	11	6	10	15	9	79
12:00	15	10	20	18	21	15	11	110
13:00	9	23	9	24	20	26	12	123
14:00	11	21	19	13	14	21	19	118
15:00	7	24	21	21	23	30	10	136
16:00	17	25	26	18	30	27	18	161
17:00	19	22	16	24	29	20	12	142
18:00	12	20	26	19	18	13	16	124
19:00	7	10	13	8	11	14	7	70
20:00	8	8	5	8	15	6	10	60
21:00	5	7	5	7	7	11	7	49
22:00	2	6	5	7	4	9	13	46
23:00	8	5	5	5	7	3	5	38
24:00	1	1	2	5	1	4	7	21
Unknown	66	106	105	131	101	129	92	730
Total	225	358	348	384	357	403	282	2357

Object Type Summary

2017/01/01 TO 2017/12/31

Table 7: Objects Involved in 2017 Motor Vehicle Collisions

Object Type	# Objects	Percentage
Passenger Car	1452	31.36%
Pick-Up/Van <4500kg	1079	23.30%
Mini-Van/MPV	1521	32.85%
Truck >4500kg	72	1.56%
Truck Tractor	17	0.37%
Motorcycle/Scooter	16	0.35%
Pedestrian	19	0.41%
Bicycle	15	0.32%
School Bus	4	0.09%
Transit Bus	11	0.24%
Intercity Bus	1	0.02%
Other Bus	2	0.04%
Fixed Object	168	3.63%
Train	0	0.00%
Animal	43	0.93%
Motorhome	2	0.04%
Construction Equipment	0	0.00%
Emergency Vehicle	5	0.11%
Farm Equipment	0	0.00%
Off-Highway Vehicle	0	0.00%
Motorized Snow Vehicle	0	0.00%
Moped	0	0.00%
Unknown	203	4.38%
Total	4630	100%

Drivers Summary

2017/01/01 TO 2017/12/31

Table 8: Age and Action of Drivers involved in 2017 Public Roadway Collisions

Driver Action	12-15	16-18	19-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total	% of Action
Driving Properly	2	43	97	191	146	116	104	51	22	3	775	33.19
Stop Sign Violation	-	1	7	11	6	5	2	1	3	4	40	1.71
Yield Sign Violation	-	-	3	5	2	1	-	1	1	1	14	0.60
Fail To Yield Right of way at Uncontrolled Intersection	-	1	-	4	5	1	1	3	1	-	16	0.69
Fail To Yield Right of way to Pedestrian	-	-	1	2	2	1	1	-	-	-	7	0.30
Followed Too Closely	1	43	62	110	58	45	48	17	9	17	410	17.56
Parked Vehicle	-	-	-	-	-	-	-	-	-	173	173	7.41
Backed Unsafely	-	3	12	13	17	14	11	10	4	3	87	3.73
Left Turn Across Path	-	10	15	24	22	18	12	5	8	2	116	4.97
Improper Lane Change	-	9	14	14	6	6	13	9	5	4	80	3.43
Disobey Traffic Signal	1	4	8	10	18	8	11	4	4	4	72	3.08
Ran Off Road	-	1	6	16	6	3	2	3	1	8	46	1.97
Improper Passing	-	2	4	3	9	6	2	2	2	9	39	1.67
Left of Centre	-	3	1	1	1	2	2	2	3	1	16	0.69
Improper Turn	-	10	12	14	11	7	8	8	2	4	76	3.25
Other, Unknown	2	22	38	35	37	30	17	17	3	167	368	15.76
Total	6	152	280	453	346	263	234	133	68	400	2335	100.00
% of Age	0.26	6.51	11.99	19.40	14.82	11.26	10.02	5.70	2.91	17.13	100.00	

Condition/Safety Summary 2017/01/01 TO 2017/12/31

Table 9: Driver/Pedestrian Condition in 2017 Public Roadway Collisions

Driver/Pedestrian Condition	Drivers/Pedestrians #	Fatal Collisions	Injury Collisions	Property Damage Collisions
Had Been Drinking	20	-	2	18
Impaired by Alcohol	18	-	5	13
Impaired by Drugs	7	-	1	6
Fatigued/Asleep	7	-	2	5
Medical Defect	7	-	1	6
Unsafe Speed	95	1	13	81

Table 10: Safety Equipment Used in 2017 Public Roadway Collisions

Safety Equipment	Drivers #	Collision Severity				Passenger #	Collision Severity			
		None	Minor	Major	Fatal		None	Minor	Major	Fatal
Lap belt only	37	34	3	-	-	4	4	-	-	-
Lap/Shoulder belt assembly	3261	3193	62	6	-	803	794	8	1	-
Shoulder belt only	25	22	3	-	-	13	12	1	-	-
Lap/Shoulder with Air Bag	92	73	14	5	-	11	6	5	-	-
Airbag	6	6	-	-	-	-	-	-	-	-
None	18	17	1	-	-	4	3	1	-	-
Other/Specify	1	1	-	-	-	176	172	4	-	-
Unknown	518	511	3	3	1	12	12	-	-	-

Pedestrian Collisions

2017/01/01 TO 2017/12/31

Table 11: Pedestrian Collisions Summary in 2017 Public Roadways Collisions

Statistics	2017
Collisions Involving Pedestrian	19
Pedestrians Involved	19
Collisions resulting in Pedestrian Injury or Fatality	16
Pedestrian Injuries	16
Pedestrian Fatalities	-

Table 12: Age and Action of Pedestrians involved in 2017 Public Roadways Collisions

Pedestrian Action	0-5	6-11	12-15	16-18	19-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total	% of Action
Crossing with Right of Way	1	-	2	1	1	-	-	2	3	-	-	-	10	52.63
Crossing without Right of Way	-	-	2	-	-	-	1	-	-	-	-	-	3	15.79
Walking/Working on Roadway	-	-	-	-	-	-	1	-	-	-	-	-	1	5.26
Getting on/off vehicle	-	-	-	1	-	-	-	-	-	1	-	-	2	10.53
Other, Unknown	1	-	-	-	-	-	-	-	1	1	-	-	3	15.79
Total	2	-	4	2	1	-	2	2	4	2	-	-	19	100.00
% of Age	10.53	0.00	21.05	10.53	5.26	0.00	10.53	10.53	21.05	10.53	-	-	100.00	

Bicycle Collisions

2017/01/01 TO 2017/12/31

Table 13: Bicyclist Collisions Summary in 2017 Public Roadways Collisions

Statistics	2017
Bicyclist Collisions	15
Bicyclists Involved	15
Collisions resulting in Bicyclist Injury or Fatality	11
Bicyclist Injuries	11
Bicyclist Fatalities	-

Table 14: Age and Action of Bicyclists involved in 2017 Public Roadway Collisions

Bicyclist Action	0-5	6-11	12-15	16-18	19-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total	% of Action
Driving Properly	1	-	2	-	-	3	-	-	-	-	-	-	6	40
Stop Sign Violation	-	-	-	-	1	-	-	-	-	-	-	-	1	6.67
Yield Sign Violation	-	-	-	-	-	-	1	-	-	-	-	-	1	6.67
Fail To Yield Right of Way at Uncontrolled Intersection	-	-	-	1	-	-	-	-	-	-	-	-	1	6.67
Fail To Yield Right of Way to Pedestrian	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
0Followed Too Closely	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Parked Vehicle	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Backed Unsafely	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Left Turn Across Path	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Improper Lane Change	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Disobey Traffic Signal	-	-	1	-	1	-	-	-	-	-	-	-	2	13.33
Ran Off Road	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Improper Passing	-	-	-	-	-	-	-	1	-	-	-	-	1	6.67
Left of Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
Improper Turn	-	-	-	-	-	-	-	-	1	-	-	-	1	6.67
Other, Unknown	-	-	-	-	-	-	-	-	-	1	-	1	2	13.33
Total	1	-	3	1	2	3	1	1	1	1	-	1	15	100.00
% of Age	6.67	0.00	20	6.67	13.33	20	6.67	6.67	6.67	6.67	0.00	6.67	100.00	