

Road Services Division 2018 Collision Data Report



King County

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Road Services Division
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Table of Contents

- Introduction 2
- 1.0 Executive Summary 3
 - 1.1 Six Year Trends 4
 - 1.2 Collision Rates and Road Miles 5
- 2.0 Collision Trends 7
 - 2.1 Fatality Rates and Fatal Collision Rates 7
 - 2.2 US, State, and Unincorporated King County Collision, Fatal Collision and Fatality Rates 9
 - 2.3 Urban versus Rural Roads - Fatal Collision and Fatality Rates 11
 - 2.4 Collisions by Road Classification 13
- 3.0 Collision Types 14
 - 3.1 Collision Type and Severity 14
 - 3.2 Fixed Object Collisions 18
 - 3.3 Pedestrian Involved Collisions 20
 - 3.4 Bicycle Involved Collisions 23
 - 3.5 Motorcycle Involved Collisions 24
- 4.0 Other Collision Information 25
 - 4.1 Estimated Economic Costs 25
 - 4.2 Month, Day of Week, and Time of Day 26
 - 4.3 Demographics 30
 - 4.4 Contributing Circumstances 31
 - 4.5 Impairment 33
 - 4.6 Speed 36
 - 4.7 Lighting Conditions 37
- Appendixes 38
 - Appendix A – Data Sources 38
 - Appendix B – Formulas used in Report 39

INTRODUCTION

The King County Department of Local Services is pleased to present the 2018 Collision Data Report. This report is prepared by the Road and Traffic Engineering unit of the Engineering Services section of the Road Services Division.

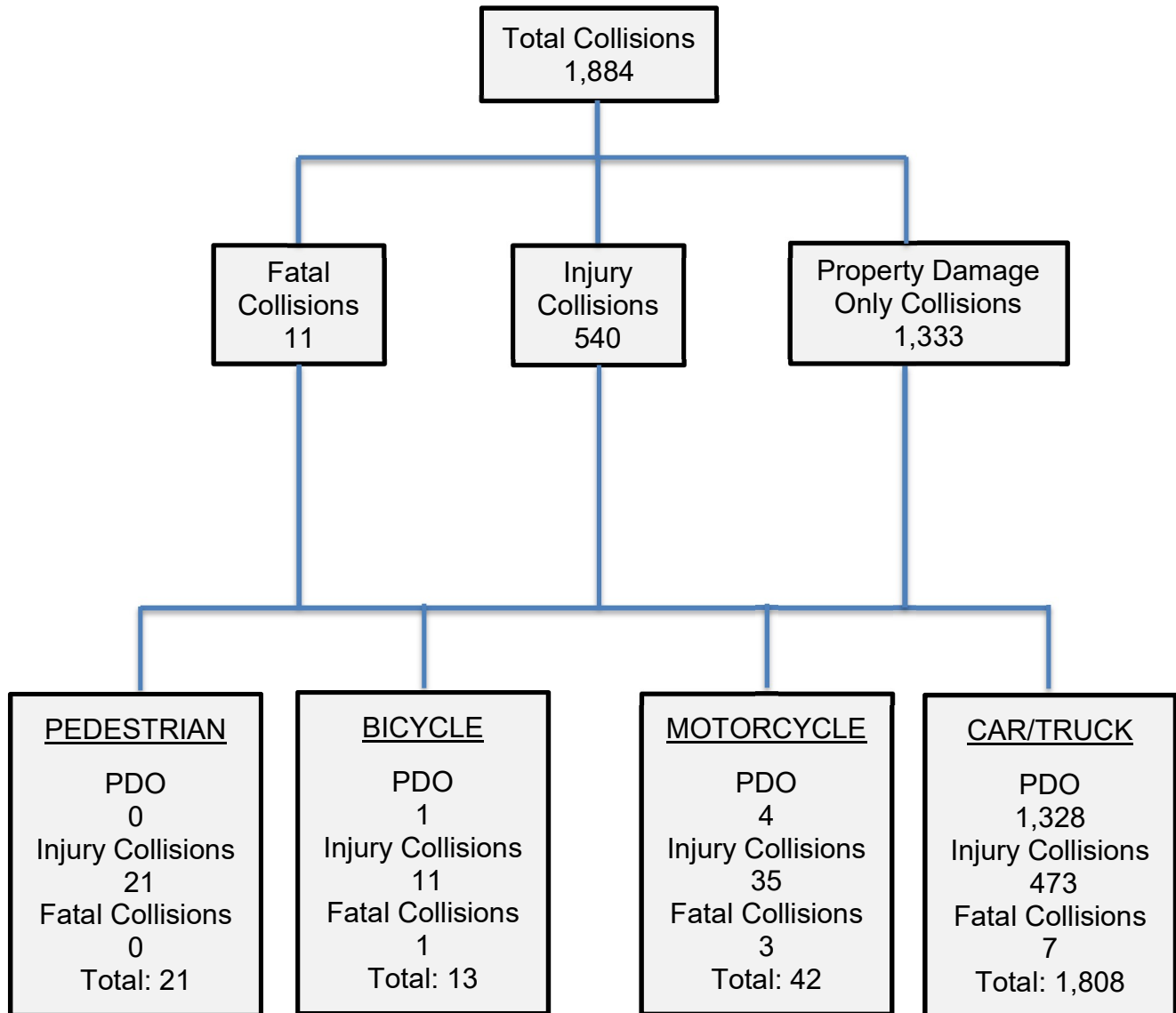
This report was prepared to provide collision and safety information to elected officials and King County staff.

The collision information provided in this report comes from the Washington State Department of Transportation (WSDOT) Collision Location Access Software (CLAS) database as of June 2019. This report covers only those collisions that occurred on a county-maintained roadway within unincorporated King County for which a State of Washington Police Traffic Collision Report was filed.

Other information used in this report is courtesy of the State of Washington's Office of Financial Management, the County Road Administration Board (CRAB), the Washington State Department of Transportation, the King County Executive's Office, the Road Services Division's Engineering Services Section and Strategic Business and Operations Section.

1.0 EXECUTIVE SUMMARY

During 2018, a total of 1,884 collisions were reported on King County maintained roadways. This included 11 fatal, 540 injury, and 1,333 property damage only collisions. The total economic cost of these collisions is estimated at \$48.3 million.



1.1 Six Year Trends

Since 2013, population and maintained road miles in unincorporated King County has declined. The population decreased from 253,100 to 247,200 (2 percent), while the number of maintained roadway miles dropped from 1,492 to 1,466 (2 percent). The number of collisions however, increased by 11 percent from 1,693 to 1,884. This crash activity increase correlates to the economic and population boom that is occurring within the Seattle Metropolitan region, which includes Snohomish, King, and Pierce counties. According to Washington State’s Office of Financial Management, the Seattle Metropolitan area has added over 340,000 new residents since 2013. This population growth is reflected in the larger number of crashes and the daily congestion which is experienced across the region.

While the number of total collisions decreased from 2017 to 2018, the proportions of severity has stayed the same. Fatal collisions made up less than one percent of the total, approximately one-third were injury collisions, and the remaining two-thirds were property damage only collisions.

Nearly 70 percent of the 2018 collisions were either fixed object (29%), rear-end (21%) or entering an intersection at an angle (18%). Over 57 percent of the fixed object crashes involved hitting a roadway ditch, utility pole, tree, or fence. There were a total of four fatalities involving fixed objects, comprising 36 percent of all fatalities.

Pedestrian and bicycle collisions made up less than three percent of all collisions. There were 13 crashes involving bicyclists, down from 18 in 2017, and 21 total pedestrian involved crashes, down from 28 in 2017.

The percentage of crashes involving motorists driving under the influence (DUI) decreased by 1.4 percent from 2017 to 2018. During 2018, there were a total of 135 DUI involved collisions (7.2%) compared to 181 (8.6%) during 2017. Of the 135 collisions, 2 were fatal, 46 incurred injuries, and 87 involved property damage only.

Table 1.1.1
Number of Collisions
By Severity

Year	PDO*	Percentage	Injury	Percentage	Fatal	Percentage	Total
2013	1,118	66.0%	564	33.3%	11	0.6%	1,693
2014	1,182	67.1%	566	32.1%	11	0.6%	1,759
2015	1,309	67.5%	612	31.6%	17	0.9%	1,938
2016	1,340	65.7%	687	33.7%	14	0.7%	2,041
2017	1,445	68.8%	645	30.7%	11	0.5%	2,101
2018	1,333	70.8%	540	28.7%	11	0.6%	1,884

*Property Damage Only

1.2 Collision Rates and Road Miles

Table 1.2.1
Road Miles By
Federal Functional Classification (FFC)

Federal Functional Class (FFC) Description	FFC	Road Miles	Annual Average Daily Traffic Volume (AADT)	Annual Million Vehicle Miles Traveled (VMT)
Rural Minor Arterial	6	41	4,600	69
Rural Major Collector	7	96	2,200	77
Rural Minor Collector	8	106	1,200	46
Rural Local Access	9	387	500	71
Urban Principal Arterial	14	37	15,800	213
Urban Minor Arterial	16	72	9,200	242
Urban Collector	17	78	3,300	94
Urban Minor Collector	18	20	2,000	15
Urban Local Access	19	629	700	161
Total		1,466		987
Overall Weighted Average			1,844	

Note: Average Annual Daily Traffic Volumes were derived using a three-year sampling of traffic count data (2016-2018) and averaging the daily totals.

Table 1.2.2
Collision Rate per Million Vehicle Miles Traveled

Year	Total Collision Reports	Annual Average Daily Traffic Volumes (AADT)	Maintained Road Miles	Annual Million Miles Driven	Collision Rate
2013	1,693	1,764	1,492	961	1.76
2014	1,759	1,792	1,493	977	1.80
2015	1,938	1,842	1,468	987	1.96
2016	2,041	1,931	1,467	1,034	1.97
2017	2,101	1,874	1,466	1,003	2.09
2018	1,884	1,844	1,466	987	1.91

Table 1.2.3
Collision Rate per 100,000 Population

Year	Population	All Collision Types		Pedestrian		Bicycle	
		# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population
2013	253,100	1,693	668.91	23	9.09	23	9.09
2014	252,050	1,759	697.87	37	14.68	16	6.35
2015	253,280	1,938	765.16	33	13.02	21	8.29
2016	245,900	2,041	830.01	37	15.05	18	7.32
2017	247,000	2,101	850.61	28	11.34	18	7.29
2018	247,200	1,884	762.14	21	8.50	13	5.26

2.0 COLLISION TRENDS

2.1 Fatality Rates and Fatal Collision Rates

Table 2.1.1
Fatality Rate per 100,000 Population

Year	Population	All Collision Types		Pedestrian		Bicycle	
		# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population
2013	253,100	12	4.74	1	0.40	1	0.40
2014	252,050	12	4.76	3	1.19	0	0.00
2015	253,280	19	7.50	3	1.18	0	0.00
2016	245,900	15	6.10	2	0.81	2	0.81
2017	247,000	11	4.45	1	0.40	0	0.00
2018	247,200	12	4.85	0	0.00	1	0.40

Table 2.1.2
Fatal Collision Rate per 100,000 Population

Year	Population	All Collision Types		Pedestrian		Bicycle	
		# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population
2013	253,100	11	4.35	1	0.40	1	0.40
2014	252,050	11	4.36	3	1.19	0	0.00
2015	253,280	17	6.71	3	1.18	0	0.00
2016	245,900	14	5.69	2	0.81	2	0.81
2017	247,000	11	4.45	1	0.40	0	0.00
2018	247,200	11	4.45	0	0.00	1	0.40

Table 2.1.3
Fatality Rate per
100 Million Vehicle Miles Traveled

Year	Number of Fatalities	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatality Rate per 100 Million Miles Traveled
2013	12	1,492	9.61	1.25
2014	12	1,493	9.77	1.23
2015	19	1,468	9.87	1.93
2016	15	1,467	10.34	1.45
2017	11	1,466	10.03	1.10
2018	12	1,466	9.87	1.22

Table 2.1.4
Fatal Collision Rate per
100 Million Vehicle Miles Traveled

Year	Number of Fatal Collisions	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatal Collision Rate per 100 Million Miles Traveled
2013	11	1,492	9.61	1.14
2014	11	1,493	9.77	1.13
2015	17	1,468	9.87	1.72
2016	14	1,467	10.34	1.35
2017	11	1,466	10.03	1.10
2018	11	1,466	9.87	1.11

2.2 US, State, and Unincorporated King County Collision, Fatal Collision and Fatality Rates

Table 2.2.1
US, State, and Unincorporated King County Collision Rates
per 100,000 Population

Year	Unincorporated King County			Washington State			United States		
	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population
2013	253,100	1,693	669	6,971,400	99,689	1,430	316,219,000	5,687,000	1,798
2014	252,050	1,759	698	6,968,200	107,634	1,545	318,857,000	6,064,000	1,901
2015	253,280	1,938	765	7,170,400	117,114	1,633	321,419,000	6,296,000	1,959
2016	245,900	2,041	830	7,183,700	122,374	1,703	323,128,000	6,821,000	2,111
2017	247,000	2,101	851	7,310,300	121,051	1,656	325,720,000	6,452,000	1,981
2018	247,200	1,884	762	7,427,500	115,994	1,562	327,167,000	6,734,000	2,058

Table 2.2.2
US, State, and Unincorporated King County Fatal Collision and
Fatality Rates per 100,000 Population

Year	Unincorporated King County			Washington State			United States		
	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 population	Fatalities per 100,000 population
2013	253,100	4.35	4.74	6,971,400	5.81	6.31	316,219,000	9.51	10.35
2014	252,050	4.36	4.76	6,968,200	6.16	6.63	318,857,000	9.41	10.25
2015	253,280	6.71	7.50	7,170,400	6.95	7.92	321,419,000	10.07	10.92
2016	245,900	5.69	6.10	7,183,700	7.13	7.37	323,128,000	10.66	11.59
2017	247,000	4.45	4.45	7,310,300	7.28	7.69	325,720,000	10.51	11.40
2018	247,200	4.45	4.85	7,427,500	6.65	7.35	327,167,000	10.29	11.17

Source: Washington State Department of Transportation and the National Highway Traffic Safety Administration

Table 2.2.3
US, State, and Unincorporated King County
Collision Rates per Million Vehicle Miles Traveled (VMT)

Year	Unincorporated King County			Washington State			United States		
	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT	100 Million VMT	Collisions	Collisions per Million VMT
2013	961	1,693	1.76	57,200	99,709	1.74	29,880	5,687,000	1.90
2014	977	1,759	1.80	58,060	107,634	1.85	30,260	6,064,000	2.00
2015	987	1,938	1.96	59,650	117,114	1.96	31,310	6,296,000	2.01
2016	1,034	2,041	1.97	60,851	122,374	2.01	32,180	6,821,000	2.12
2017	1,003	2,101	2.09	61,420	121,051	1.97	32,090	6,452,000	2.01
2018	987	1,884	1.91	62,367	115,994	1.86	32,255	6,734,000	2.09

Table 2.2.4
US, State, and Unincorporated King County Fatal Collision
and Fatality Rates per 100 Million Vehicle Miles Traveled (VMT)

Year	Unincorporated King County			Washington State			United States		
	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT
2013	9.61	1.14	1.25	572	0.70	0.76	29,880	1.01	1.10
2014	9.77	1.13	1.23	580	0.74	0.80	30,260	0.99	1.08
2015	9.87	1.72	1.93	597	0.83	0.95	31,310	1.03	1.12
2016	10.34	1.35	1.45	609	0.84	0.92	32,180	1.07	1.18
2017	10.03	1.10	1.10	614	0.87	0.92	32,090	1.07	1.16
2018	9.87	1.11	1.22	624	0.79	0.88	32,255	1.03	1.12

Source: Washington State Department of Transportation, National Highway Traffic Safety Administration, and Federal Highway Administration

2.3 Urban versus Rural Roads - Fatal Collision and Fatality Rates

Table 2.3.1
Urban versus Rural Roads in Unincorporated King County
Fatal Collision and Fatality Rates per 100,000 Population

Year	Urban Roads in Unincorporated King County					Rural Roads in Unincorporated King County				
	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population
2013	129,840	7	8	5.39	6.16	123,260	4	4	3.25	3.25
2014	126,500	7	8	5.53	6.32	125,500	4	4	3.19	3.19
2015	127,500	9	10	7.06	7.84	125,780	8	9	6.36	7.16
2016	119,900	10	11	8.34	9.17	126,000	4	4	3.17	3.17
2017	120,400	6	6	4.99	4.99	126,600	5	5	3.95	3.95
2018	120,500	7	8	5.81	6.64	126,700	4	4	3.16	3.16

Table 2.3.2
Urban versus Rural Roads in Unincorporated King County
Fatal Collision Rates per 100 Million Vehicle Miles Traveled (VMT)

Year	Fatal Collisions			Maintained Road Miles			Annual 100 Million VMT			Fatal Collision Rate per 100 Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2013	7	4	11	861	631	1,492	6.96	2.65	9.61	1.01	1.51	1.14
2014	7	4	11	862	631	1,493	7.18	2.59	9.77	1.00	1.51	1.13
2015	9	8	17	836	632	1,468	7.18	2.69	9.87	1.25	2.97	1.72
2016	10	4	14	837	630	1,467	7.54	2.80	10.34	1.33	1.42	1.35
2017	6	5	11	836	630	1,466	7.43	2.60	10.03	0.81	1.92	1.10
2018	7	4	11	836	630	1,466	7.24	2.63	9.87	0.97	1.52	1.11

Table 2.3.3
Urban versus Rural Roads in Unincorporated King County
Fatality Rates per 100 Million Vehicle Miles Traveled (VMT)

Year	Fatalities			Maintained Road Miles			Annual 100 Million VMT			Fatalities per 100 Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2013	8	4	12	861	631	1,492	6.96	2.65	9.61	1.15	1.50	1.25
2014	8	4	12	862	631	1,493	7.18	2.59	9.77	1.14	1.51	1.14
2015	10	9	19	836	632	1,468	7.18	2.69	9.87	1.39	3.35	1.93
2016	11	4	15	837	630	1,467	7.54	2.80	10.34	1.46	1.42	1.45
2017	6	5	11	836	630	1,466	7.43	2.60	10.03	0.81	1.92	1.10
2018	8	4	12	836	630	1,466	7.24	2.63	9.87	1.10	1.52	1.22

Table 2.3.4
Urban versus Rural Collision Rates
Per Million Vehicle Miles Traveled (VMT)

Year	Number of Collisions			Maintained Road Miles			Annual Million VMT			Collisions per Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2013	1,337	356	1,693	861	631	1,492	696	265	961	1.92	1.34	1.76
2014	1,418	341	1,759	862	631	1,493	718	259	977	1.97	1.32	1.80
2015	1,548	390	1,938	836	632	1,468	718	269	987	2.16	1.45	1.96
2016	1,616	425	2,041	837	630	1,467	754	280	1,034	2.14	1.52	1.97
2017	1,672	429	2,101	836	630	1,466	743	260	1,003	2.25	1.65	2.09
2018	1,514	370	1,884	836	630	1,466	724	263	987	2.09	1.41	1.91

2.4 Collisions by Road Classification

Table 2.4.1
Collisions by King County Road Classification

Year	Principal Arterial	Minor Arterial	Collector	Local Access	Total
2013	395	504	415	379	1,693
2014	445	505	401	408	1,759
2015	462	626	456	394	1,938
2016	487	602	504	448	2,041
2017	502	620	516	463	2,101
2018	475	586	437	386	1,884

Table 2.4.2
Collisions by Federal Functional Classification

	Federal Functional Classification									Total
	Rural				Urban					
	Minor Arterial	Major Collector	Minor Collector	Local Access	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Access	
Year	6	7	8	9	14	16	17	18	19	
2013	82	120	103	51	395	422	186	6	328	1,693
2014	65	112	86	78	445	440	186	17	330	1,759
2015	106	124	93	67	461	520	216	23	328	1,938
2016	88	159	104	74	487	514	226	15	374	2,041
2017	104	145	99	81	502	516	243	29	382	2,101
2018	86	125	88	71	475	500	202	22	315	1,884

3.0 COLLISION TYPES

3.1 Collision Type and Severity

Table 3.1.1
Collisions by Collision Type

Collision Type	2013	2014	2015	2016	2017	2018
Fixed Object	540	514	576	626	618	548
Rear - End	353	362	441	426	438	388
Entering at Angle	235	273	334	358	368	348
Hit Parked Car	138	146	136	151	189	142
Sideswipe	89	95	99	86	116	126
Left Turn	118	139	116	131	117	120
Animal	18	12	21	22	21	32
U-Turn	0	0	0	0	23	29
Vehicle Overturned	49	39	31	43	35	29
Head On	21	21	20	22	36	24
Pedestrian	23	37	33	37	28	21
Right Turn	19	20	17	22	27	16
Other	56	59	67	79	19	15
Backing	0	1	0	0	10	13
Bicycle	23	16	21	18	18	13
Other Object	8	3	13	10	18	10
Leaving Parked Position	0	14	11	9	11	9
Non Collision	3	8	2	1	9	1
Totals	1,693	1,759	1,938	2,041	2,101	1,884

Table 3.1.2
Fatal Collisions by Collision Type

Collision Type	2013	2014	2015	2016	2017	2018
Fixed object	8	0	7	4	6	4
Entering at angle	0	1	2	2	1	2
Bicycle	1	0	0	2	0	1
Head on	0	2	1	1	0	1
Other	0	2	2	0	0	1
Rear - end	0	1	1	1	0	1
Right Turn	0	0	0	0	1	1
Hit Parked Car	0	0	0	0	1	0
Non-Collision	0	0	0	0	1	0
Pedestrian	1	3	3	2	1	0
Sideswipe	1	0	1	2	0	0
Vehicle overturned	0	2	0	0	0	0
Totals	11	11	17	14	11	11

Table 3.1.3
2018 Collisions by Collision Type and Severity

Collision Type	PDO	Injury	Fatal	Total	Percentage
Fixed object	398	146	4	548	29.1%
Rear - end	269	118	1	388	20.6%
Entering at angle	235	111	2	348	18.5%
Hit Parked Car	131	11	0	142	7.5%
Sideswipe	102	24	0	126	6.8%
Left turn	74	46	0	120	6.4%
Animal	29	3	0	32	1.7%
U-Turn	16	13	0	29	1.5%
Vehicle overturned	13	16	0	29	1.5%
Head on	10	13	1	24	1.3%
Pedestrian	0	21	0	21	1.1%
Right Turn	15	0	1	16	0.8%
Other	8	6	1	15	0.8%
Backing	13	0	0	13	0.7%
Bicycle	1	11	1	13	0.7%
Other Object	9	1	0	10	0.5%
Leaving Parked Position	9	0	0	9	0.5%
Non-Collision	1	0	0	1	0.1%
Total	1,333	540	11	1,884	100%

Table 3.1.4
2018 Fixed Object Collisions
By First Object Struck and Severity

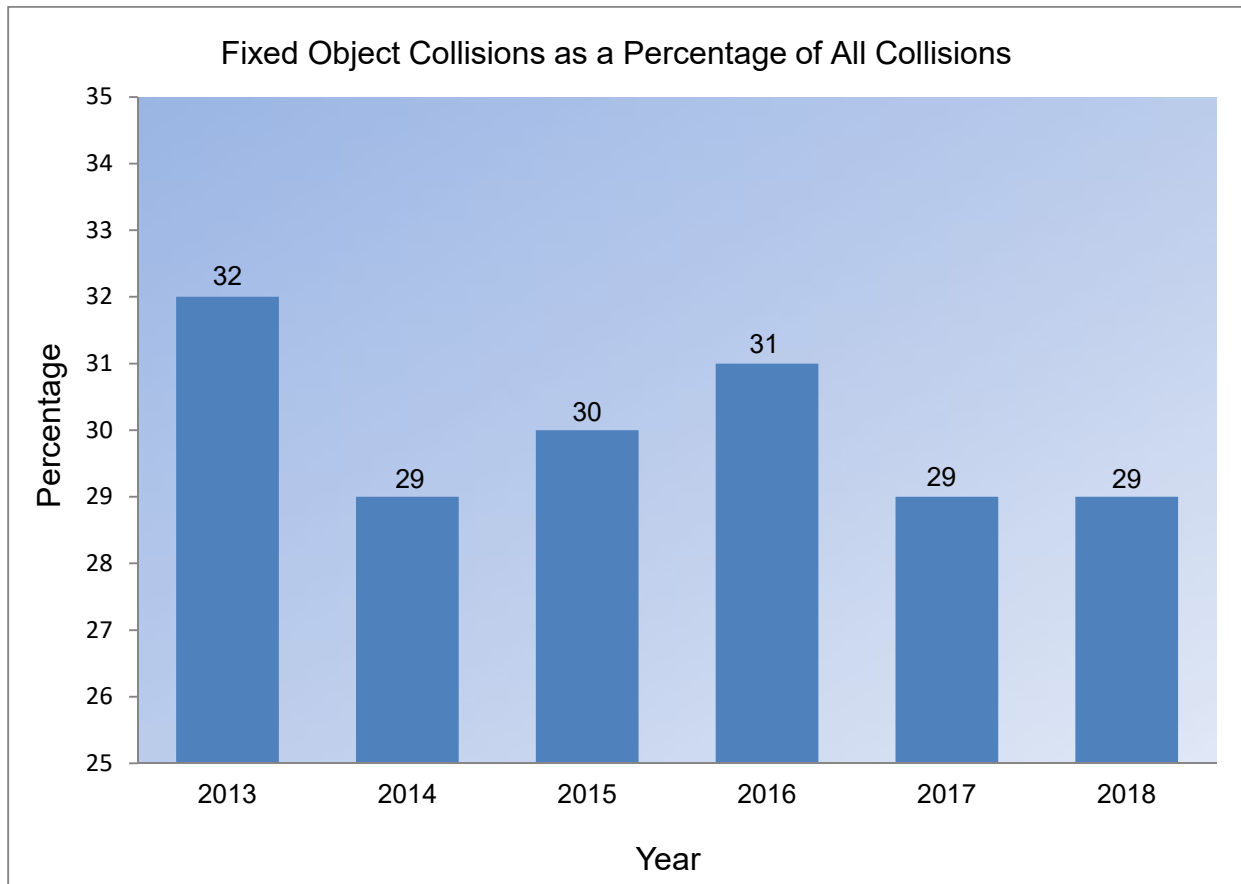
Object Struck	PDO	Injury	Fatality	Total	% of Total
Boulder (stationary)	3	1	0	4	0.7%
Building	5	1	0	6	1.1%
Concrete Barrier/Jersey Barrier - Face	1	1	0	2	0.4%
Culvert and/or other Appurtenance in Ditch	9	2	0	11	2.0%
Earth Bank or Ledge	10	12	1	23	4.2%
Fallen Tree Hit by Vehicle (on the road)	2	0	0	2	0.4%
Fence	51	13	0	64	11.7%
Fire Hydrant	6	1	0	7	1.3%
Guardrail - Face	26	7	0	33	6.0%
Guardrail - Leading End	6	0	1	7	1.3%
Guardrail - Through, Over or Under	5	1	0	6	1.1%
Guide Post	1	0	0	1	0.2%
Linear Curb	8	1	0	9	1.6%
Mailbox	28	5	0	33	6.0%
Metal Sign Post	10	2	0	12	2.2%
Over Embankment - No Guardrail Present	8	5	0	13	2.4%
Railway Signal Pole	0	1	0	1	0.2%
Retaining Wall (concrete, rock, brick, etc.)	6	1	0	7	1.3%
Roadway Ditch	77	32	0	109	19.9%
Rock Bank or Ledge	1	0	0	1	0.2%
Signal Pole	1	0	0	1	0.2%
Snow Bank	0	1	0	1	0.2%
Street Light Pole or Base	7	1	0	8	1.5%
Temporary Traffic Sign or Barricade	1	0	0	1	0.2%
Traffic Island	3	1	0	4	0.7%
Tree or Stump (stationary)	42	26	2	70	12.8%
Underside of Bridge	0	1	0	1	0.2%
Utility Pole or Box	47	24	0	71	13.0%
Wood Sign Post	34	6	0	40	7.3%
Total	398	146	4	548	100%

3.2 Fixed Object Collisions

Table 3.2.1
Collision Rate per Million Vehicle Miles Traveled (VMT) for
Collisions Involving Fixed Objects

Year	Total Number of Fixed Object Collisions			Maintained Road Miles			Annual Million VMT			Collision Rate for Fixed Object Collisions per Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2013	356	184	540	861	631	1,492	696	265	961	0.51	0.69	0.56
2014	331	183	514	862	631	1,493	718	259	977	0.47	0.70	0.53
2015	366	210	576	836	632	1,468	718	269	987	0.51	0.78	0.58
2016	399	227	626	837	630	1,467	754	280	1,034	0.53	0.81	0.61
2017	389	229	618	836	630	1,466	743	260	1,003	0.52	0.88	0.62
2018	361	187	548	836	630	1,466	724	263	987	0.50	0.71	0.56

Figure 3.2.1
Collisions Involving Fixed Objects as a
Percentage of All Collisions



3.3 Pedestrian Involved Collisions

Table 3.3.1
Pedestrian Involved Collisions by Severity

Year	Property Damage Only	Injury	Fatality	Total
2013	0	22	1	23
2014	4	30	3	37
2015	1	29	3	33
2016	2	33	2	37
2017	2	25	1	28
2018	0	21	0	21

Table 3.3.2
Pedestrian Involved Collisions by Facility Used

Year	Marked Crosswalk	Unmarked Crosswalk	In Roadway	Shoulder	Sidewalk	Other	Total
2013	7	3	9	4	0	0	23
2014	14	1	15	4	1	2	37
2015	10	2	10	5	3	3	33
2016	16	3	14	3	1	0	37
2017	10	4	12	1	0	1	28
2018	11	0	6	2	2	0	21

Table 3.3.3
Pedestrian Involved Collisions
By First Contributing Circumstance

Contributing Circumstance	2013	2014	2015	2016	2017	2018
Fail to Yield Row to Pedestrian	3	9	8	8	5	8
Other	8	5	6	4	7	5
Inattention	3	4	4	4	5	4
None	7	11	5	12	7	2
Unknown Driver Distraction	0	1	3	2	0	2
Apparently Asleep	0	0	0	1	0	0
Did Not Grant ROW to Vehicle	0	0	0	1	0	0
Disregard Flagger - Officer	0	1	1	0	0	0
Disregard Stop and Go Light	0	0	0	0	0	0
Disregard Yield Sign – Flashing Yellow	0	0	0	1	0	0
Driver Distractions Outside Vehicle	0	0	0	1	1	0
Driver Not Distracted	0	2	1	1	1	0
Driver Operating Handheld Telecommunication	0	0	0	0	0	0
Exceeding Reasonable Safe Speed	1	0	2	0	1	0
Exceeding Stated Speed Limit	0	0	1	0	0	0
Improper Turn	1	1	1	0	1	0
On Wrong Side of Road	0	0	0	1	0	0
Operating Defective Equipment	0	1	0	0	0	0
Over Centerline	0	1	0	0	0	0
Under Influence of Alcohol	0	1	1	1	0	0
Under Influence of Drugs	0	0	0	0	0	0
Total	23	37	33	37	28	21

Table 3.3.4
Age of Pedestrians Involved in Collisions

Age Range	2013	2014	2015	2016	2017	2018
Unknown	0	2	1	0	1	0
0-5	2	0	1	2	0	0
6-10	2	0	1	1	2	2
11-15	2	5	5	6	2	1
16-20	3	4	7	2	3	6
21-25	2	6	1	6	3	3
26-30	3	2	4	3	5	1
31-35	0	2	1	1	0	1
36-40	1	2	1	2	2	1
41-45	1	2	0	0	0	2
46-50	1	2	1	2	1	3
51-55	1	2	3	2	4	1
56-60	4	1	2	2	0	0
61-65	1	2	3	2	2	0
66-70	0	0	0	4	0	0
71-75	0	0	0	2	2	0
76-80	0	1	1	0	0	0
81-85	0	1	1	0	1	0
86+	0	2	0	0	0	0
Total	23	37	33	37	28	21

Table 3.3.5
Gender of Pedestrians Involved in Collisions

Year	Unknown	Female	Male	Total
2013	0	8	15	23
2014	1	14	22	37
2015	1	14	18	33
2016	0	18	19	37
2017	0	9	19	28
2018	0	12	9	21

3.4 Bicycle Involved Collisions

Table 3.4.1
Bicycle Involved Collisions by Severity

Year	Property Damage Only	Injury	Fatality	Total
2013	3	19	1	23
2014	1	15	0	16
2015	3	18	0	21
2016	1	15	2	18
2017	0	18	0	18
2018	1	11	1	13

Table 3.4.2
2018 Bicycle Involved Collisions by First Contributing Circumstance and Severity

First Contributing Circumstance	Property Damage Only	Injury	Fatality	Total
None / Driver Not Distracted	1	3	0	3
Did Not Grant ROW to Pedalcyclist	0	2	1	3
Exceeding Reasonably Safe Speed	0	3	0	3
Did Not Grant ROW to Vehicle	0	1	0	1
Inattention	0	1	0	1
Other	0	1	0	1
Total	1	11	1	13

3.5 Motorcycle Involved Collisions

Table 3.5.1
Motorcycle Involved Collisions
By Severity

Year	Property Damage Only	Injury	Fatality	Total
2013	5	38	2	45
2014	5	37	2	44
2015	13	40	4	57
2016	5	36	3	44
2017	11	42	1	54
2018	4	35	3	42

Table 3.5.2
2018 Motorcycle Involved Collisions
By First Contributing Circumstance

First Contributing Circumstance	PDO	Injury	Fatality	Total
None / Driver Not Distracted	1	9	0	10
Exceeding Stated Speed Limit Exceeding Reasonably Safe Speed	1	6	0	7
Inattention / Driver Distraction	1	4	1	6
Other	0	5	0	5
Did Not Grant R/W to Vehicle (motorcycle <i>not</i> at fault)	0	2	1	3
On Wrong Side of Road / Over Center Line	1	2	0	3
Disregard Signal / Disregard Stop Sign	0	1	1	2
Follow Too Closely	0	2	0	2
Improper Turn	0	2	0	2
Improper U-Turn	0	1	0	1
Under the Influence of Drugs or Alcohol	0	1	0	1
Total	4	35	3	42

4.0 OTHER COLLISION INFORMATION

4.1 Estimated Economic Costs

Table 4.1.1
Estimated Economic Costs of Collision Activity

Severity	2018 Collisions	Estimated Economic Costs
Property Damage Only	1,333	\$15,863,000
Possible Injury	358	\$7,983,000
Evident Injury	155	\$4,201,000
Disabling/Serious Injury	27	\$2,533,000
Fatal	11	\$17,765,000
Total	1,884	\$48,345,000

The following estimated costs per collision are used in this calculation:
Property Damage Only (no injury observed)-\$11,900; Possible Injury-\$22,300; Evident Injury-\$27,100; Disabling/Serious Injury-\$93,800; Fatality-\$1,615,000
(National Safety Council Guide to Calculating Costs of Motor-Vehicle Injuries, 2017)

4.2 Month, Day of Week, and Time of Day

Figure 4.2.1
2018 Collisions by Month

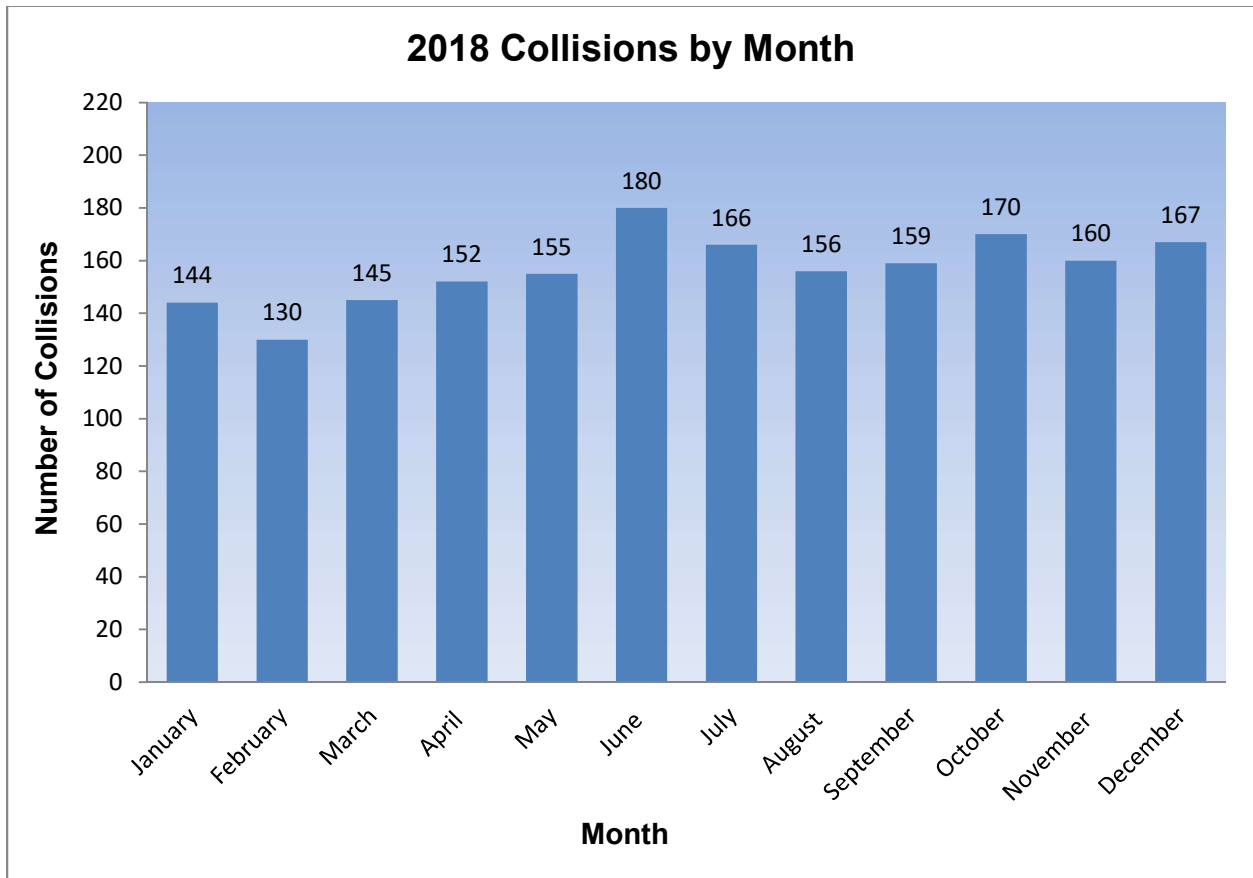


Figure 4.2.2
2018 Collisions by Day of Week

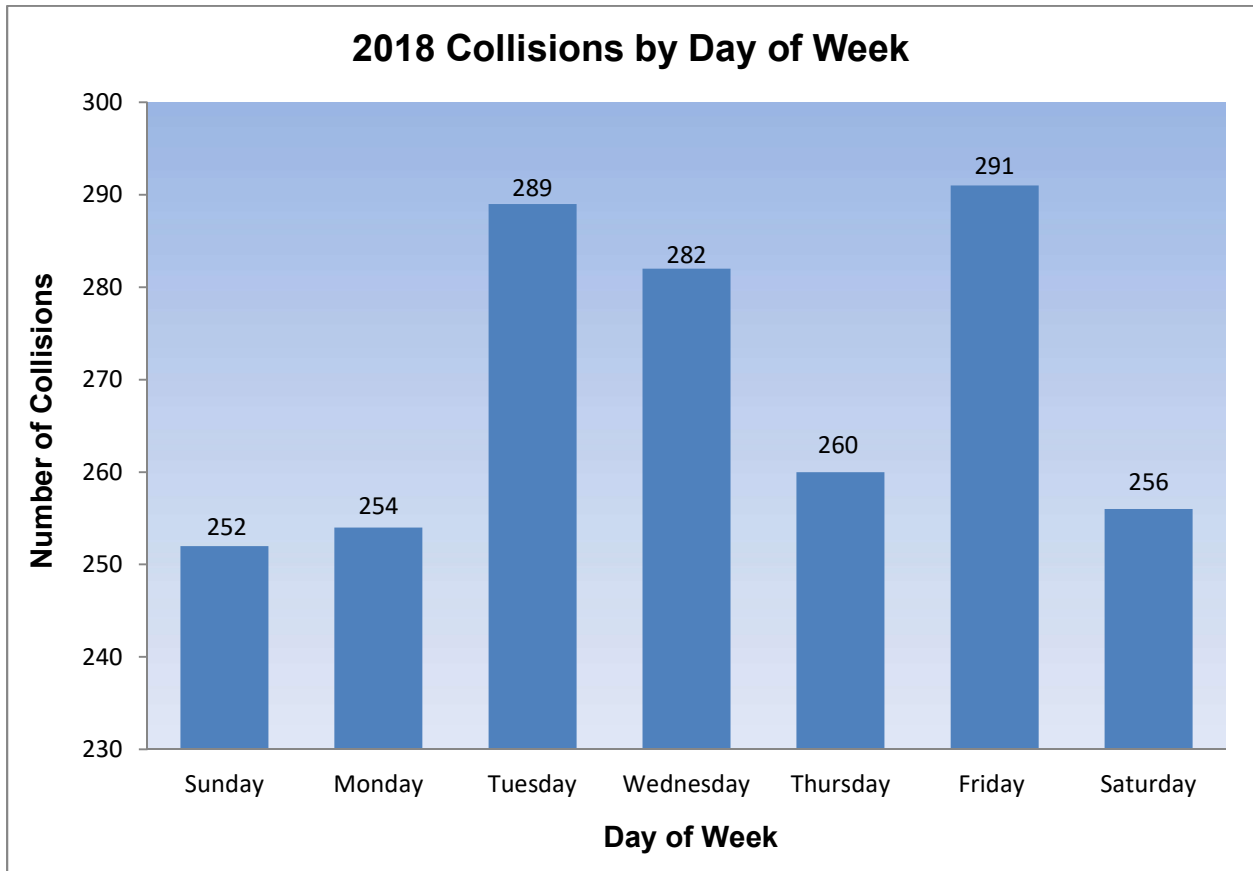


Figure 4.2.3
2018 Weekday Collisions
By Time of Day

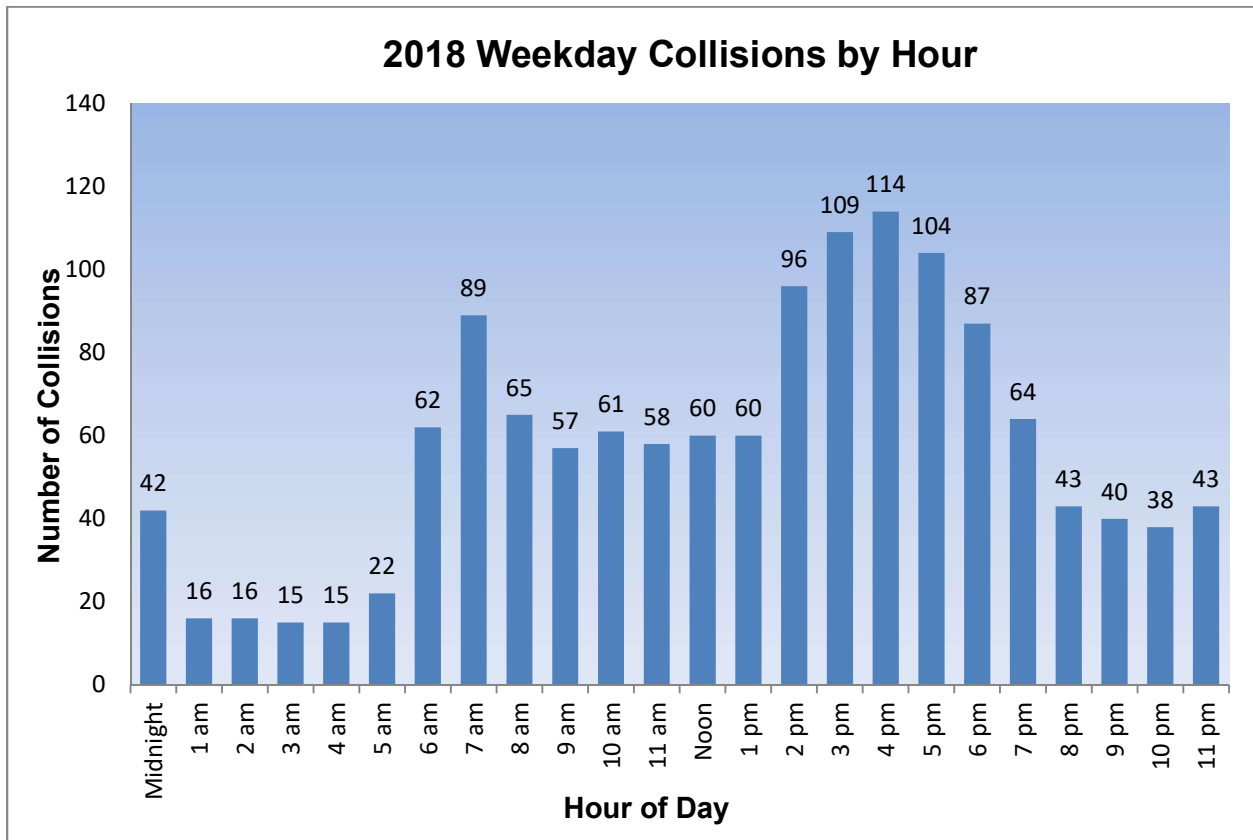
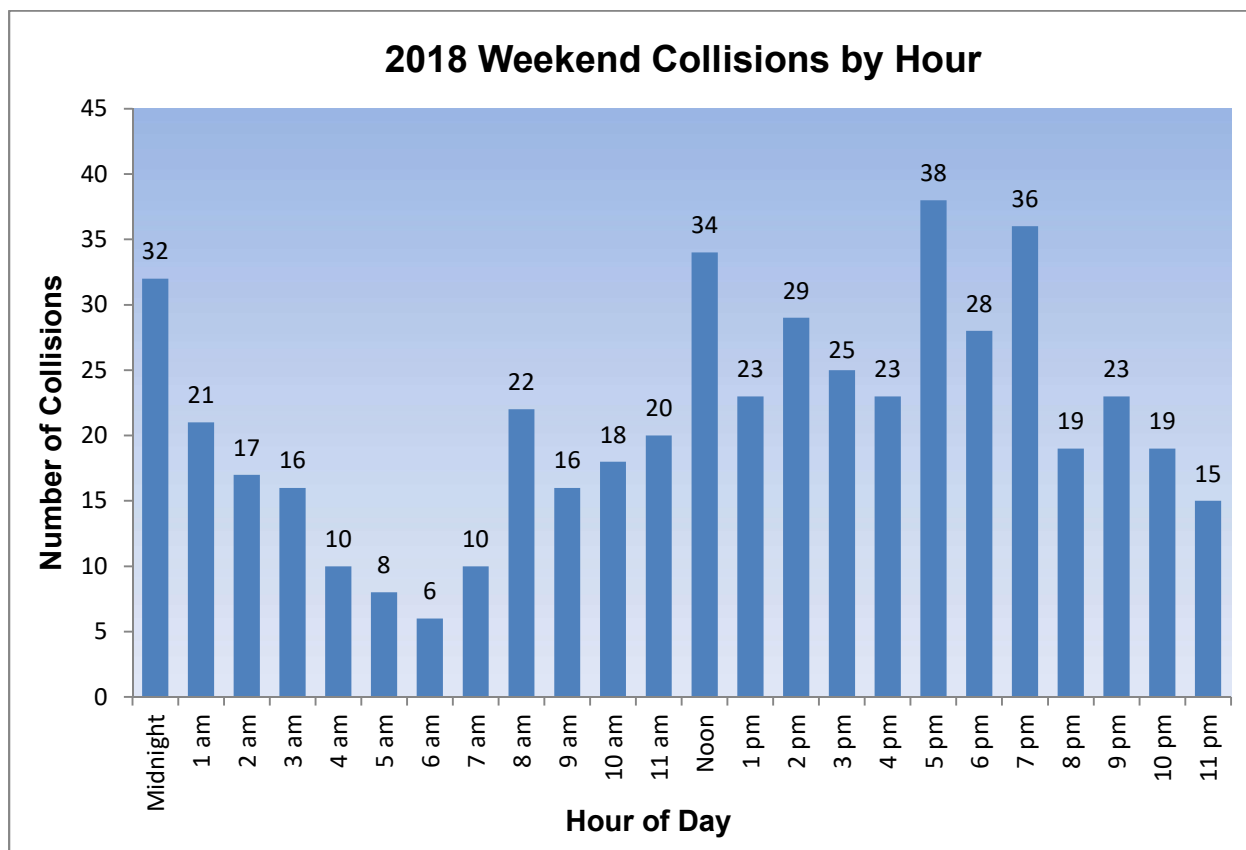
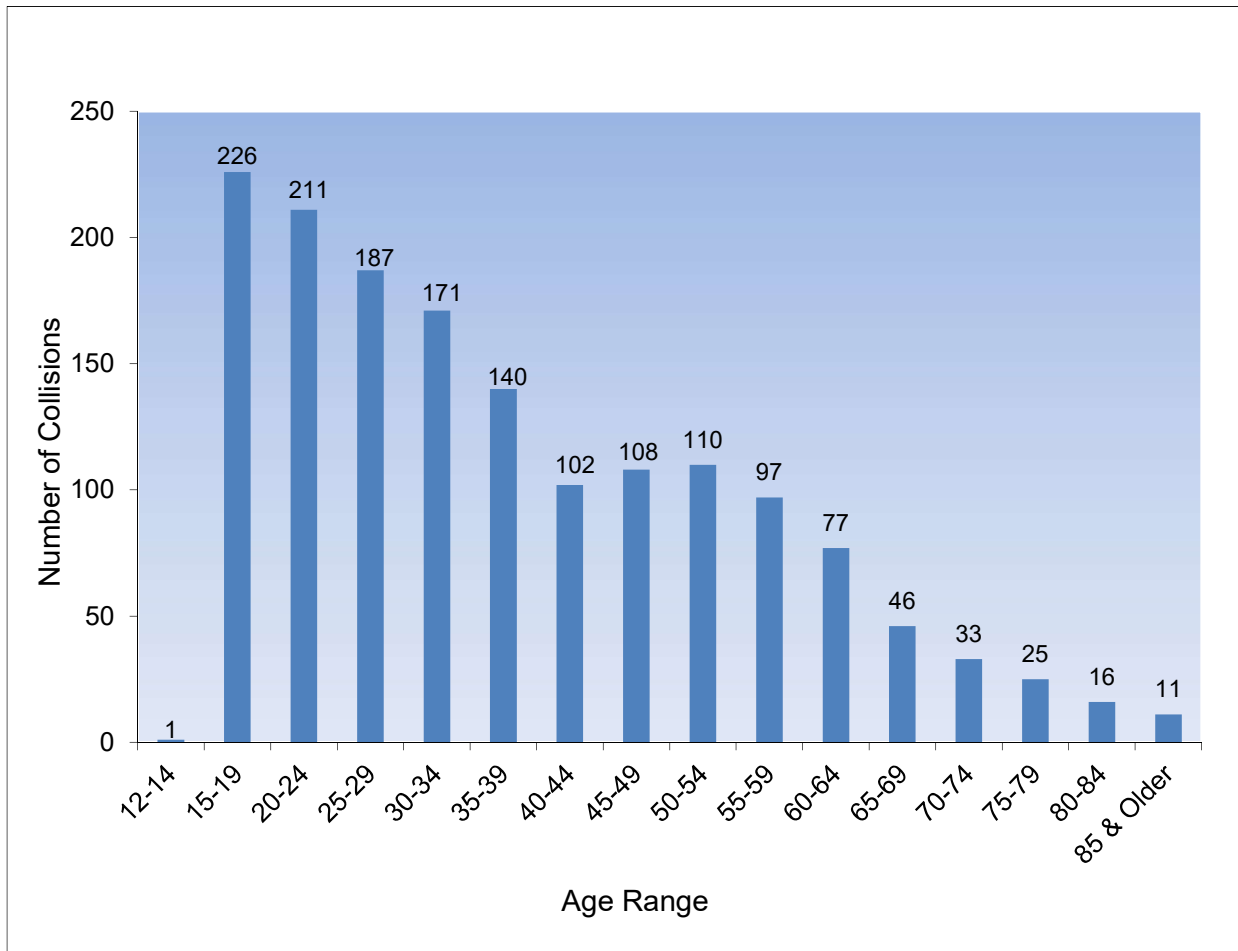


Figure 4.2.4
2018 Weekend Collisions
By Time of Day



4.3 Demographics

Figure 4.3.1
2018 Collisions by Age of Driver



Note: 323 collision reports did not disclose driver age information

4.4 Contributing Circumstances

Table 4.4.1
First Contributing Circumstance
For Drivers between ages 15 to 25 for 2018

1st Contributing Circumstance	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22	Age 23	Age 24	Age 25	Total
Inattention/Driver Distraction	6	24	15	22	9	13	9	10	6	6	13	133
Excessive Speed	2	12	10	11	7	6	5	3	7	7	11	81
Did Not Grant ROW to Vehicle	0	5	6	6	8	4	3	4	6	4	3	49
None	0	4	7	7	7	7	1	5	4	2	3	47
Follow Too Closely	0	3	5	6	3	4	4	3	3	6	4	41
Other	0	9	4	2	1	5	4	5	1	1	3	35
Under Influence of Alcohol/Drugs	0	0	1	0	2	1	6	4	10	6	2	32
Apparently Asleep/Fatigued	0	3	3	3	1	0	3	3	4	2	0	22
Improper Turn	1	2	2	0	2	1	0	1	1	0	1	11
Operating Defective Equipment	0	0	1	2	1	1	1	2	1	0	2	11
On Wrong Side of Road / Over Center Line	0	1	1	0	0	0	0	3	0	0	1	6
Disregard Stop/Go Light/Flashing Red	0	0	0	0	2	0	2	1	0	0	0	5
Operating Handheld Telecommunication/ Other Electronic Device	0	1	0	0	0	1	0	1	1	0	1	5
Driver Not Distracted	0	0	2	2	0	0	0	0	0	0	0	4
Improper U-Turn	0	0	0	0	0	2	0	0	1	1	0	4
Driver Interacting with Passengers, Animals	0	0	0	1	1	0	0	0	0	1	0	3
Improper Backing	0	0	1	1	1	0	0	0	0	0	0	3
Disregard Flagger - Officer	0	0	0	0	0	0	1	0	0	0	0	1
Driver Adjusting Audio or Entertainment	0	0	0	1	0	0	0	0	0	0	0	1
Fail to Yield ROW to Pedestrian	0	0	0	0	0	0	0	0	0	1	0	1
Had Taken Medication	0	0	0	1	0	0	0	0	0	0	0	1
Totals	9	64	58	65	45	45	39	45	45	37	44	496

Table 4.4.2
2018 Collisions by First Contributing Circumstance

First Contributing Circumstance	Fatality	Injury	PDO	Total
Inattention / Driver Distraction	2	134	307	443
Other	0	51	244	295
None	0	48	183	231
Excessive Speed	1	64	124	189
Did Not Grant ROW to Vehicle	2	59	112	173
Follow Too Closely	0	35	75	110
Under Influence of Alcohol/Drugs	2	28	65	95
Apparently Asleep/Fatigued/Ill	0	25	43	68
Improper Turn	0	19	29	48
Operating Defective Equipment	2	14	19	35
Disregard Stop/Go Light/Stop Sign - Flashing Red/Yield Sign - Flashing Yellow/Flagger - Officer	1	10	21	32
Driver Not Distracted	0	8	24	32
Over Center Line	0	8	14	22
Improper U-Turn	0	8	8	16
Improper Backing	0	0	14	14
Driver Interacting with Passengers, Animals	0	4	9	13
Improper Passing	0	1	12	13
Driver Operating Handheld Telecommunications Device/ Hands-free Wireless Telephone/ Other Electronic Device	0	5	7	12
Fail to Yield Row to Pedestrian	1	11	0	12
On Wrong Side Of Road	0	2	10	12
Not Stated	0	3	7	10
Driver Adjusting Audio or Entertainment	0	2	4	6
Failing to Signal/Improper Signal	0	1	2	3

4.5 Impairment

Table 4.5.1
Collisions Involving
Drivers Under the Influence (DUI)

Year	Fatal	% of all Fatalities	Injury	% of All Injury	Property Damage Only	% of all PDO	Total DUI Collisions	% of all Collisions
2013	2	16.7%	65	11.5%	81	7.2%	148	8.7%
2014	3	27.3%	62	11.0%	82	6.9%	148	8.4%
2015	4	23.5%	63	10.0%	72	5.5%	139	7.1%
2016	1	7.1%	67	9.8%	97	7.2%	165	8.1%
2017	3	27.3%	87	13.5%	91	6.3%	181	8.6%
2018	2	18.2%	46	8.5%	87	6.5%	135	7.2%

Figure 4.5.1
2018 Weekend Collisions for
Drivers under the Influence
By Time of Day

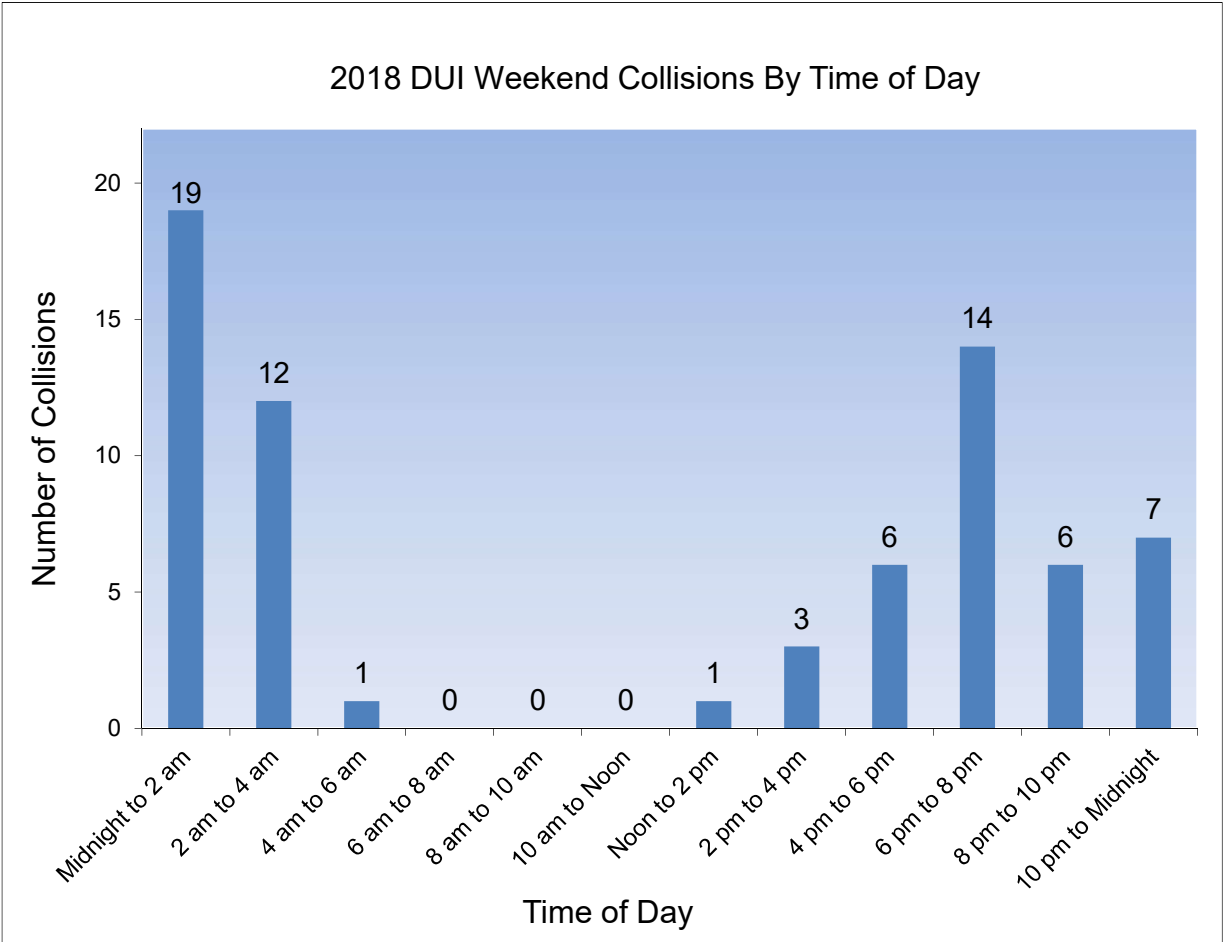
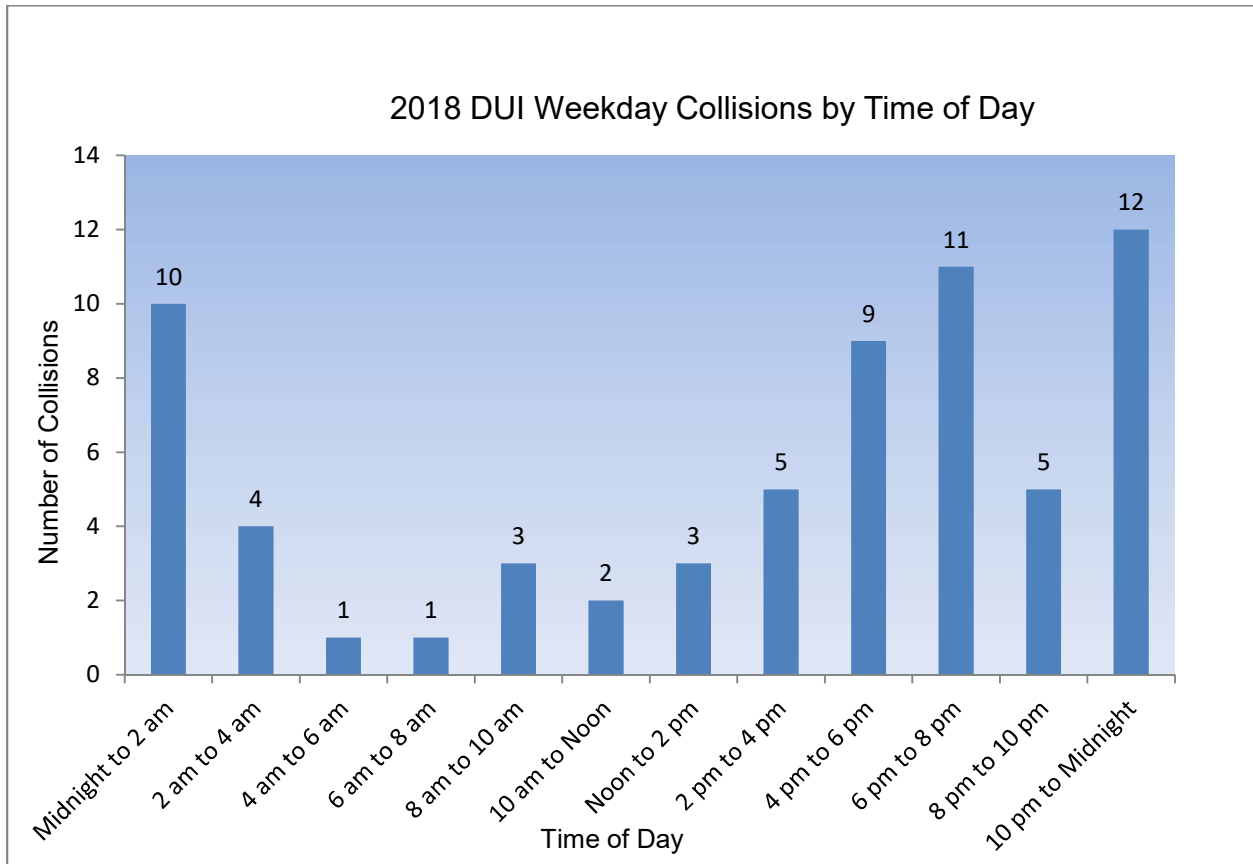


Figure 4.5.2
2018 Weekday Collisions for
Drivers under the Influence
By Time of Day



4.6 Speed

Table 4.6.1
Collisions involving Speeding as First Contributing Circumstance

Year	Fatal	% of all Fatal Collisions	Injury	% of all Injury Collisions	PDO	% of all Property Damage Only Collisions	Total	% of all Collisions
2013	4	36%	86	15%	152	14%	242	14%
2014	2	18%	85	15%	130	11%	217	12%
2015	4	24%	84	14%	160	12%	248	13%
2016	3	21%	87	13%	140	10%	230	11%
2017	4	36%	81	13%	158	11%	243	12%
2018	1	9%	64	12%	124	9%	189	10%

4.7 Lighting Conditions

Table 4.7.1
2018 Collisions By
Lighting Condition

Lighting Condition	Property Damage Only	Injury	Fatal	Total
Dark-No Street Lights	190	66	3	259
Dark-Street Lights Off	20	7	0	27
Dark-Street Lights On	237	79	0	316
Dawn	31	15	0	46
Daylight	785	358	7	1150
Dusk	38	14	1	53
Not Stated / Unknown	32	1	0	33
Totals	1,333	540	11	1,884

APPENDIXES

Appendix A – Data Sources

Collision Data

Collision information is from the Washington State Department of Transportation's (WSDOT) Crash Data and Reporting Branch of the Transportation Data, GIS & Modeling Office (TDGMO). The Crash Data and Reporting Branch is responsible for updating and maintaining all electronic collision records in Washington State. Vehicular collisions which sustain more than \$1,000 in property damage, or involve an injury or a death, are required to be reported to the Washington State Patrol by a Police Traffic Collision Report. The Washington State Patrol provides copies of the Police Traffic Collision Report to WSDOT.

Injuries are classified based on conditions present at the time of the collision except in the case of fatalities. An injury resulting in a death, within 30 days of the collision, is classified as a fatal injury.

Population Data and King County Land Area

King County's population figure is from the Washington State Office of Financial Management. King County's land area figure is from King County's Office of Policy and Regional Planning.

King County Maintained Roadway Figures

King County's maintained roadway mile figures are from King County Road Services Strategic Business and Operations Section (SBOS).

Traffic Count Data

The traffic count information used in this report was provided by King County's Road and Traffic Engineering Unit.

Estimated Cost of Collisions

The economic costs of collisions values used in this report are from the National Safety Council.

Appendix B - Formulas used in Report

Collision Rate per Million Vehicle Miles Traveled

$R = (\text{Collisions} * 10^6) / (\text{AADT} * 365 * L)$, where

Rate = Accident rate for collisions per million vehicle mile (acc/mvm)

Collisions = Total number of collisions in one year period

AADT = Annual Average Daily Traffic volume, and

L = Length of study section in miles

Collision Rate per 100,000 Population

Rate = Collisions * 100,000 / Unincorporated Population

Collisions = Total number of collisions in a one year period

Economic Cost of Collisions

The economic cost of collisions was calculated as follows:

$\text{Cost} = \$11,900 * \text{PDO} + \$22,300 * \text{P} + \$27,100 * \text{E} + \$93,800 * \text{D} + \$1,615,000 * \text{F}$,
where

PDO – Total Number of Property Damage Collisions (\$11,900/collision)

P – Total Number of Possible Injury Collisions (\$22,300/collision)

E – Total Number of Evident Injury Collisions (\$27,100/collision)

D – Total Number of Disabling/Serious Injury Collisions (\$93,800/collision)

F – Total Number of Fatal Collisions (\$1,615,000/collision)