

Road Services Division 2019 Collision Data Report



King County

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Road Services Division
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INTRODUCTION

The King County Department of Local Services is pleased to present the 2019 Collision Data Report. This report is prepared by the Road and Traffic Engineering unit of the Engineering Services section of the Road Services Division.

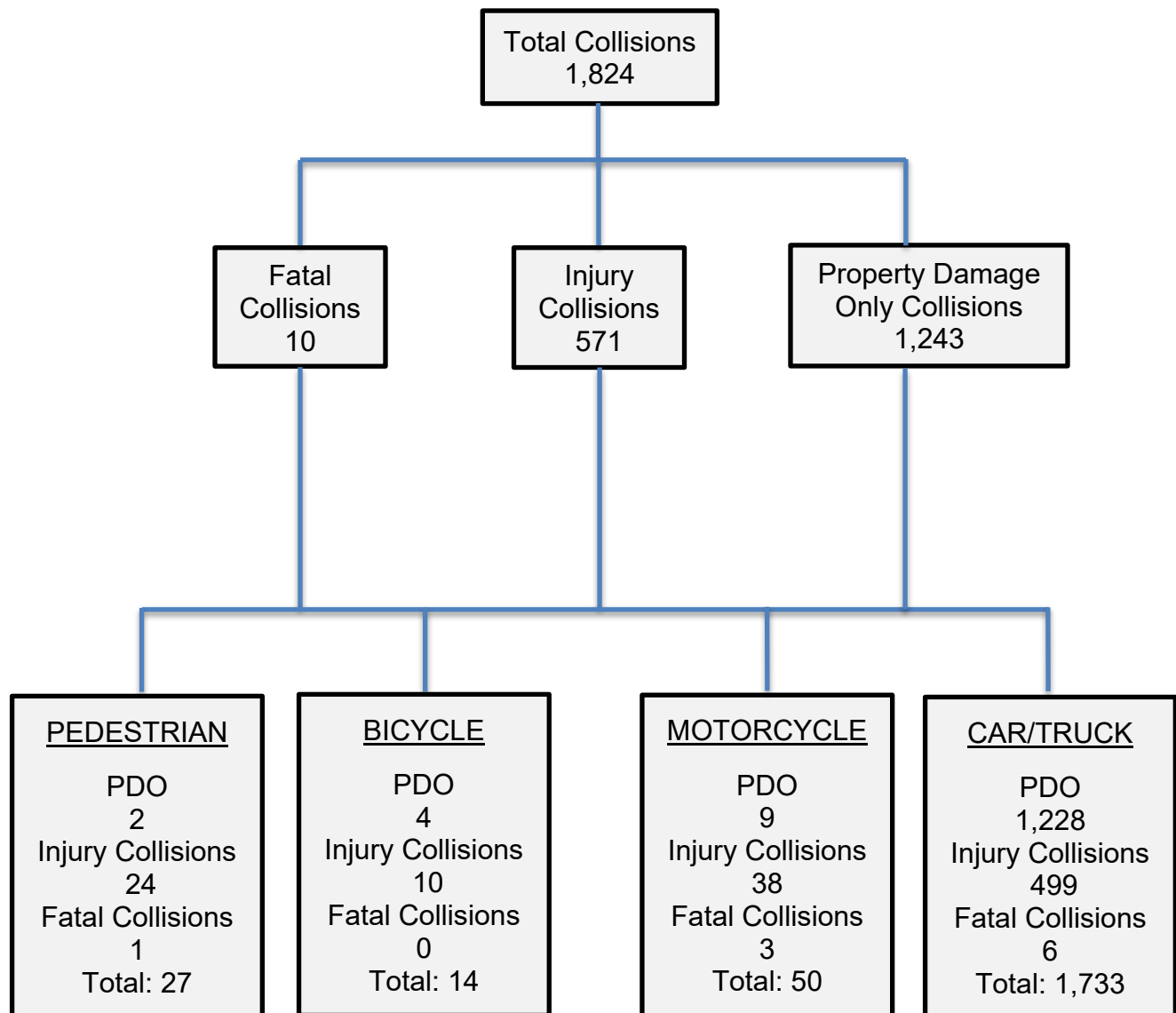
This report was prepared to provide collision and safety information to elected officials and King County staff.

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 2020. 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 2019, a total of 1,824 collisions were reported on King County maintained roadways. This included 10 fatal, 571 injury, and 1,243 property damage only collisions. The total economic cost of these collisions is estimated at \$47.7 million.



1.1 Six Year Trends

Since 2014, population and maintained road miles in unincorporated King County has declined. The population decreased from 252,050 to 248,275 (1.5 percent), while the number of maintained roadway miles dropped from 1,493 to 1,466 (2 percent). The number of collisions however, increased by 4 percent from 1,759 to 1,824. 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 353,000 new residents since 2014. 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 2018 to 2019, 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 2019 collisions were either fixed object (26%), rear-end (21%) or entering an intersection at an angle (20%). Over 55 percent of the fixed object crashes involved striking a roadway ditch, utility pole, tree, or fence. There were a total of four fatalities involving fixed objects, comprising 40 percent of all fatalities.

Pedestrian and bicycle collisions made up less than three percent of all collisions. There were 14 crashes involving bicyclists, up from 13 in 2018, and 27 total pedestrian involved crashes, up from 21 in 2018.

The percentage of crashes involving motorists driving under the influence (DUI) decreased by 1.4 percent from 2018 to 2019. During 2019, there were a total of 122 DUI involved collisions (6.7%) compared to 135 (7.2%) during 2018. Of the 122 collisions, 0 were fatal, 52 incurred injuries, and 70 involved property damage only.

**Table 1.1.1
Number of Collisions
By Severity**

Year	PDO*	Percentage	Injury	Percentage	Fatal	Percentage	Total
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
2019	1,243	68.2%	571	31.3%	10	0.5%	1,824

*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	4,900	73
Rural Major Collector	7	96	2,600	91
Rural Minor Collector	8	106	1,300	50
Rural Local Access	9	388	600	85
Urban Principal Arterial	14	37	16,900	228
Urban Minor Arterial	16	72	9,800	258
Urban Collector	17	78	3,400	97
Urban Minor Collector	18	20	2,000	15
Urban Local Access	19	628	800	183
Total		1,466		1,080
Overall Weighted Average			2,018	

Note: Average Annual Daily Traffic Volumes were derived using a three-year sampling of traffic count data (2017-2019) 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
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
2019	1,824	2,018	1,466	1,080	1.69

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
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
2019	248,300	1,824	734.60	27	10.87	14	5.64

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
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
2019	248,300	10	4.03	1	0.40	0	0.00

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
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
2019	248,300	10	4.03	1	0.40	0	0.00

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
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
2019	10	1,466	10.80	0.93

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
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
2019	10	1,466	10.80	0.93

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
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
2019	248,300	1,824	735	7,546,400	111,585	1,479	328,240,000	Not Available	Not Available

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
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
2019	248,300	4.03	4.03	7,546,400	6.63	6.96	328,240,000	Not Available	11.00

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)

	Unincorporated King County			Washington State			United States		
Year	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT	100 Million VMT	Collisions	Collisions per Million VMT
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
2019	1,080	1,824	1.69	Not Available	111,585	Not Available	32,691	Not Available	Not Available

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

	Unincorporated King County			Washington State			United States		
Year	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
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
2019	10.80	0.93	0.93	Not Available	Not Available	Not Available	32,691	Not Available	1.10

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
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
2019	121,000	6	6	4.96	4.96	127,300	4	4	3.14	3.14

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
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
2019	6	4	10	835	631	1,466	7.81	2.99	10.80	0.77	1.34	0.93

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
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
2019	6	4	10	835	631	1,466	7.81	2.99	10.80	0.77	1.34	0.93

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
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
2019	1,485	339	1,824	835	631	1,466	781	299	1,080	1.90	1.13	1.69

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
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
2019	481	519	433	391	1,824

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	
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
2019	84	122	78	55	481	435	214	19	336	1,824

3.0 COLLISION TYPES

3.1 Collision Type and Severity

Table 3.1.1
Collisions by Collision Type

Collision Type	2014	2015	2016	2017	2018	2019
Fixed Object	514	576	626	618	548	473
Rear - End	362	441	426	438	388	377
Entering at Angle	273	334	358	368	348	364
Hit Parked Car	146	136	151	189	142	148
Left Turn	139	116	131	117	120	118
Sideswipe	95	99	86	116	126	105
Head On	21	20	22	36	24	35
Pedestrian	37	33	37	28	21	27
Right Turn	20	17	22	27	16	25
Vehicle Overturned	39	31	43	35	29	24
Animal	12	21	22	21	32	23
U-Turn	0	0	0	23	29	19
Backing	1	0	0	10	13	17
Leaving Parked Position	14	11	9	11	9	16
Other Object	3	13	10	18	10	15
Bicycle	16	21	18	18	13	14
Other	59	67	79	19	15	14
Non Collision	8	2	1	9	1	10
Totals	1,759	1,938	2,041	2,101	1,884	1,824

Table 3.1.2
Fatal Collisions by Collision Type

Collision Type	2014	2015	2016	2017	2018	2019
Fixed object	0	7	4	6	4	4
Head on	2	1	1	0	1	2
Entering at angle	1	2	2	1	2	1
Left Turn	0	0	0	0	0	1
Pedestrian	3	3	2	1	0	1
Vehicle overturned	2	0	0	0	0	1
Bicycle	0	0	2	0	1	0
Other	2	2	0	0	1	0
Rear - end	1	1	1	0	1	0
Right Turn	0	0	0	1	1	0
Hit Parked Car	0	0	0	1	0	0
Non-Collision	0	0	0	1	0	0
Sideswipe	0	1	2	0	0	0
Totals	11	17	14	11	11	10

Table 3.1.3
2019 Collisions by Collision Type and Severity

Collision Type	PDO	Injury	Fatal	Total	Percentage
Fixed Object	338	131	4	473	25.9%
Rear - End	251	126	0	377	20.7%
Entering at Angle	231	132	1	364	20.0%
Hit Parked Car	135	13	0	148	8.1%
Left Turn	61	56	1	118	6.5%
Sideswipe	88	17	0	105	5.8%
Head On	13	20	2	35	1.9%
Pedestrian	2	24	1	27	1.5%
Right Turn	18	7	0	25	1.4%
Vehicle Overturned	7	16	1	24	1.3%
Animal	20	3	0	23	1.2%
U-Turn	16	3	0	19	1.0%
Backing	15	2	0	17	0.9%
Leaving Parked Position	13	3	0	16	0.9%
Other Object	13	2	0	15	0.8%
Bicycle	4	10	0	14	0.8%
Other	10	4	0	14	0.8%
Non Collision	8	2	0	10	0.5%
Total	1,243	571	10	1,824	100%

Table 3.1.4
2019 Fixed Object Collisions
By First Object Struck and Severity

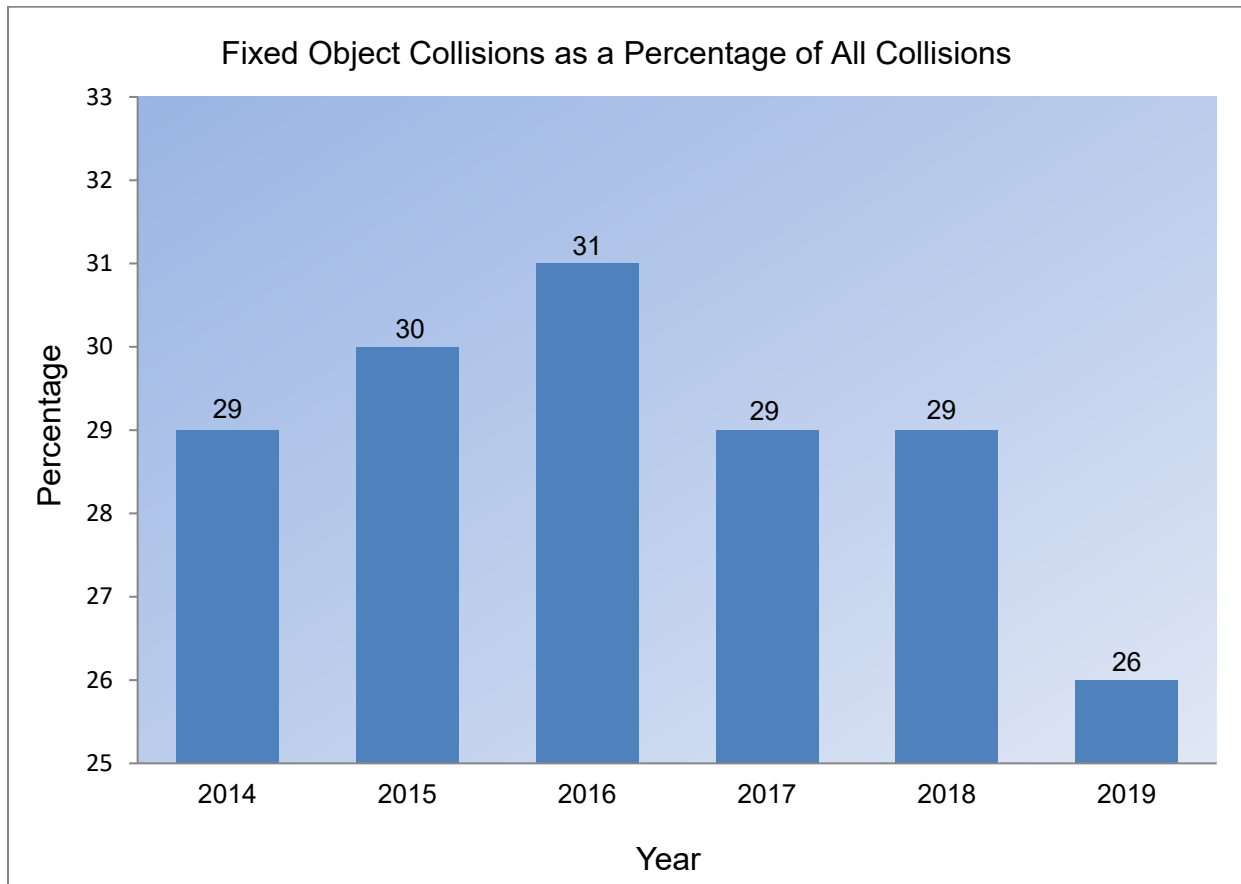
Object Struck	PDO	Injury	Fatality	Total	% of Total
Boulder (stationary)	4	4	0	8	1.7%
Bridge Rail (Face or Leading End)	3	0	1	4	0.8%
Building	4	2	0	6	1.3%
Concrete Barrier/Jersey Barrier - Face	1	0	0	1	0.2%
Culvert and/or other Appurtenance in Ditch	4	4	0	8	1.7%
Earth Bank or Ledge	13	9	0	22	4.7%
Fence	51	8	0	59	12.5%
Fire Hydrant	5	3	0	8	1.7%
Guardrail - Face	22	8	0	30	6.3%
Guardrail - Leading End	5	1	1	7	1.5%
Guardrail - Through, Over or Under	2	0	0	2	0.4%
Into River, Lake, Swamp, etc.	2	1	0	3	0.6%
Linear Curb	7	2	0	9	1.9%
Mailbox	24	2	0	26	5.5%
Metal Sign Post	11	0	0	11	2.3%
Over Embankment - No Guardrail Present	4	3	0	7	1.5%
Retaining Wall (concrete, rock, brick, etc.)	1	2	0	3	0.6%
Roadway Ditch	57	33	1	91	19.2%
Signal Pole	3	0	0	3	0.6%
Street Light Pole or Base	6	1	0	7	1.5%
Traffic Island	5	3	0	8	1.7%
Tree or Stump (stationary)	37	22	1	60	12.7%
Underside of Bridge	2	0	0	2	0.4%
Utility Pole or Box	42	12	0	54	11.4%
Wood Sign Post	23	11	0	34	7.2%
Total	338	131	4	473	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
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
2019	313	160	473	835	631	1,466	781	299	1,080	0.40	0.54	0.44

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
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
2019	2	24	1	27

Table 3.3.2
Pedestrian Involved Collisions by Facility Used

Year	Marked Crosswalk	Unmarked Crosswalk	In Roadway	Shoulder	Sidewalk	Other	Total
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
2019	9	3	8	3	0	4	27

**Table 3.3.3
Pedestrian Involved Collisions
By Driver First Contributing Circumstance**

Contributing Circumstance	2014	2015	2016	2017	2018	2019
None	11	5	12	7	2	9
Other	5	6	4	7	5	8
Fail to Yield Row to Pedestrian	9	8	8	5	8	4
Inattention	4	4	4	5	4	3
Driver Not Distracted	2	1	1	1	0	1
Driver Operating Handheld Telecommunication or Other Electronic Devices	0	0	0	0	0	1
Under Influence of Alcohol	1	1	1	0	0	1
Unknown Driver Distraction	1	3	2	0	2	0
Apparently Asleep	0	0	1	0	0	0
Did Not Grant ROW to Vehicle	0	0	1	0	0	0
Disregard Flagger - Officer	1	1	0	0	0	0
Disregard Yield Sign – Flashing Yellow	0	0	1	0	0	0
Driver Distractions Outside Vehicle	0	0	1	1	0	0
Exceeding Reasonable Safe Speed	0	2	0	1	0	0
Exceeding Stated Speed Limit	0	1	0	0	0	0
Improper Turn	1	1	0	1	0	0
On Wrong Side of Road	0	0	1	0	0	0
Operating Defective Equipment	1	0	0	0	0	0
Over Centerline	1	0	0	0	0	0
Total	37	33	37	28	21	27

**Table 3.3.4
Age of Pedestrians Involved in Collisions**

Age Range	2014	2015	2016	2017	2018	2019
Unknown	2	1	0	1	0	0
0-5	0	1	2	0	0	0
6-10	0	1	1	2	2	1
11-15	5	5	6	2	1	3
16-20	4	7	2	3	6	1
21-25	6	1	6	3	3	3
26-30	2	4	3	5	1	2
31-35	2	1	1	0	1	2
36-40	2	1	2	2	1	3
41-45	2	0	0	0	2	2
46-50	2	1	2	1	3	2
51-55	2	3	2	4	1	3
56-60	1	2	2	0	0	3
61-65	2	3	2	2	0	0
66-70	0	0	4	0	0	1
71-75	0	0	2	2	0	0
76-80	1	1	0	0	0	0
81-85	1	1	0	1	0	1
86+	2	0	0	0	0	0
Total	37	33	37	28	21	27

**Table 3.3.5
Gender of Pedestrians Involved in Collisions**

Year	Not Stated	Female	Male	Total
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
2019	0	11	16	27

3.4 Bicycle Involved Collisions

Table 3.4.1
Bicycle Involved Collisions by Severity

Year	Property Damage Only	Injury	Fatality	Total
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
2019	4	10	0	14

Table 3.4.2
2019 Bicycle Involved Collisions by First Contributing Circumstance and Severity

First Contributing Circumstance	Property Damage Only	Injury	Fatality	Total
Inattention	2	3	0	5
None / Driver Not Distracted	0	3	0	3
Other	0	2	0	2
Unknown Driver Distraction	2	0	0	2
Did Not Grant ROW to Pedalcyclist	0	1	0	1
Did Not Grant ROW to Vehicle	0	1	0	1
Total	4	10	0	14

3.5 Motorcycle Involved Collisions

Table 3.5.1
Motorcycle Involved Collisions
By Severity

Year	Property Damage Only	Injury	Fatality	Total
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
2019	9	38	3	50

Table 3.5.2
2019 Motorcycle Involved Collisions
By First Contributing Circumstance

First Contributing Circumstance	PDO	Injury	Fatality	Total
None / Driver Not Distracted	0	8	0	8
Exceeding Reasonably Safe Speed	0	6	1	7
Inattention / Driver Distraction	3	6	0	9
Other	3	5	1	9
Did Not Grant R/W to Vehicle (motorcycle <i>not</i> at fault)	0	2	1	3
Disregard Stop Sign – Flashing Red	0	1	0	1
Follow Too Closely	0	2	0	2
Improper Passing	0	3	0	3
Improper Turn	0	2	0	2
Improper U-Turn	1	1	0	2
Failing to Signal	0	1	0	1
Improper Backing	1	0	0	1
Non Motorist on Wrong Side of Road	1	0	0	1
Under the Influence of Drugs or Alcohol	0	1	0	1
Total	9	38	3	50

4.0 OTHER COLLISION INFORMATION

4.1 Estimated Economic Costs

Table 4.1.1
Estimated Economic Costs of Collision Activity

Severity	2019 Collisions	Estimated Economic Costs
Property Damage Only	1243	\$15,164,600
Possible Injury	401	\$9,142,800
Evident Injury	139	\$3,864,200
Disabling/Serious Injury	31	\$2,982,200
Fatal	10	\$16,590,000
Total	1,824	\$47,743,800

The following estimated costs per collision are used in this calculation:
Property Damage Only (no injury observed)-\$12,200; Possible Injury-\$22,800; Evident Injury-\$27,800; Disabling/Serious Injury-\$96,200; Fatality-\$1,659,000
(National Safety Council Guide to Calculating Costs of Motor-Vehicle Injuries, 2018)

4.2 Month, Day of Week, and Time of Day

Figure 4.2.1
2019 Collisions by Month

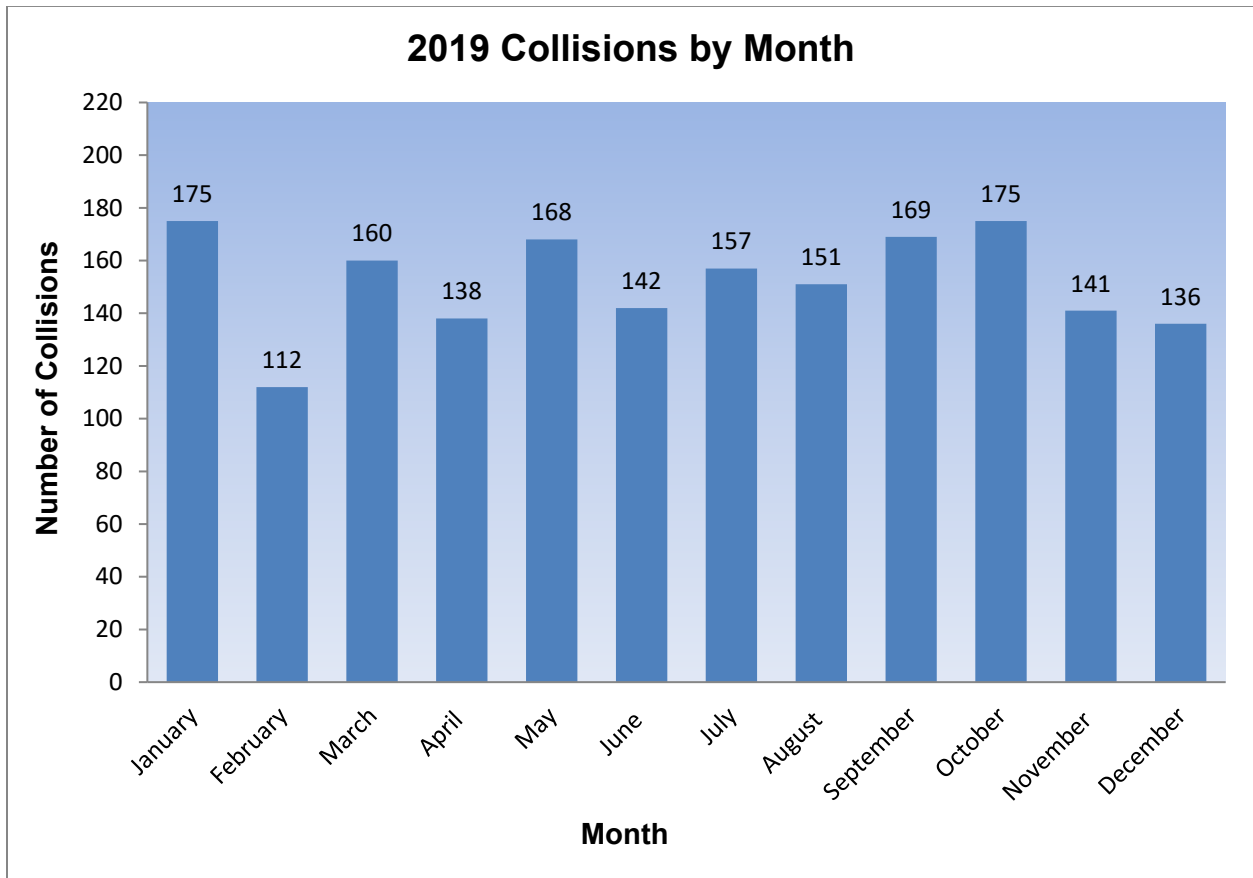


Figure 4.2.2
2019 Collisions by Day of Week

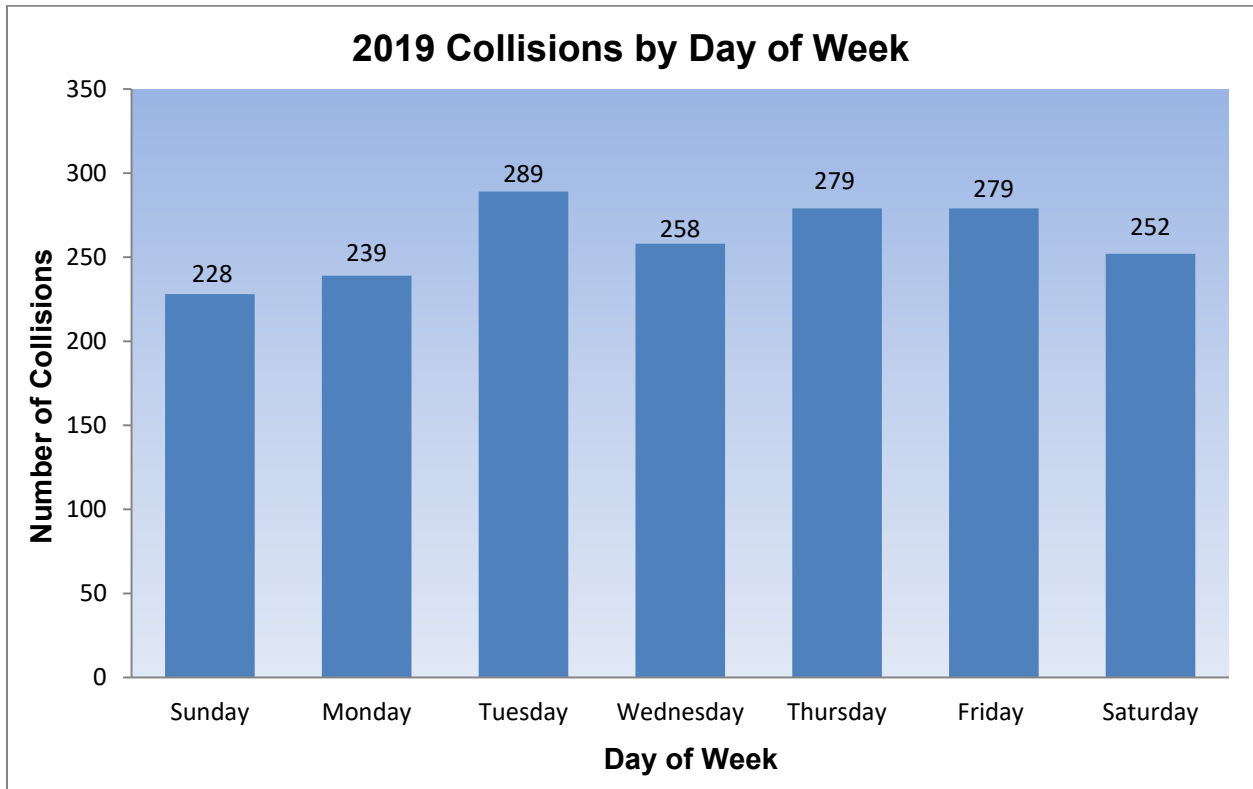


Figure 4.2.3
2019 Weekday Collisions
By Time of Day

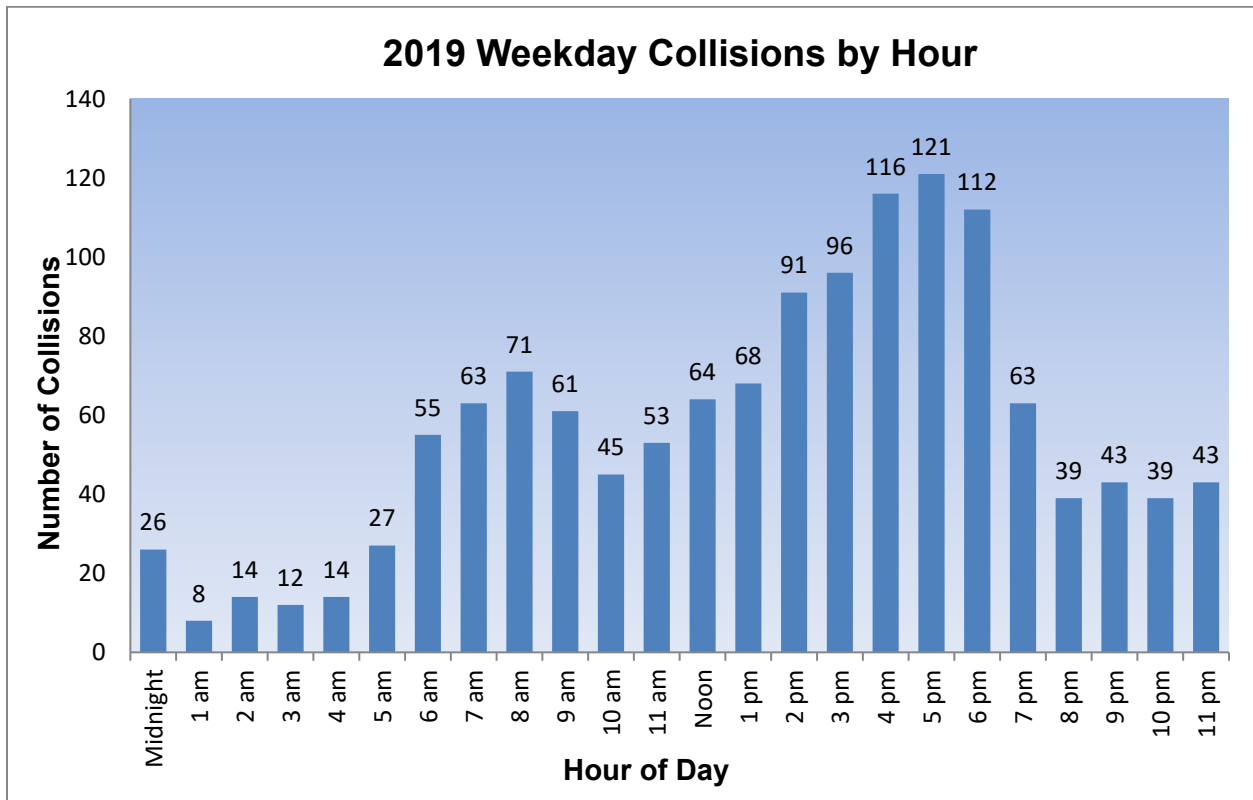
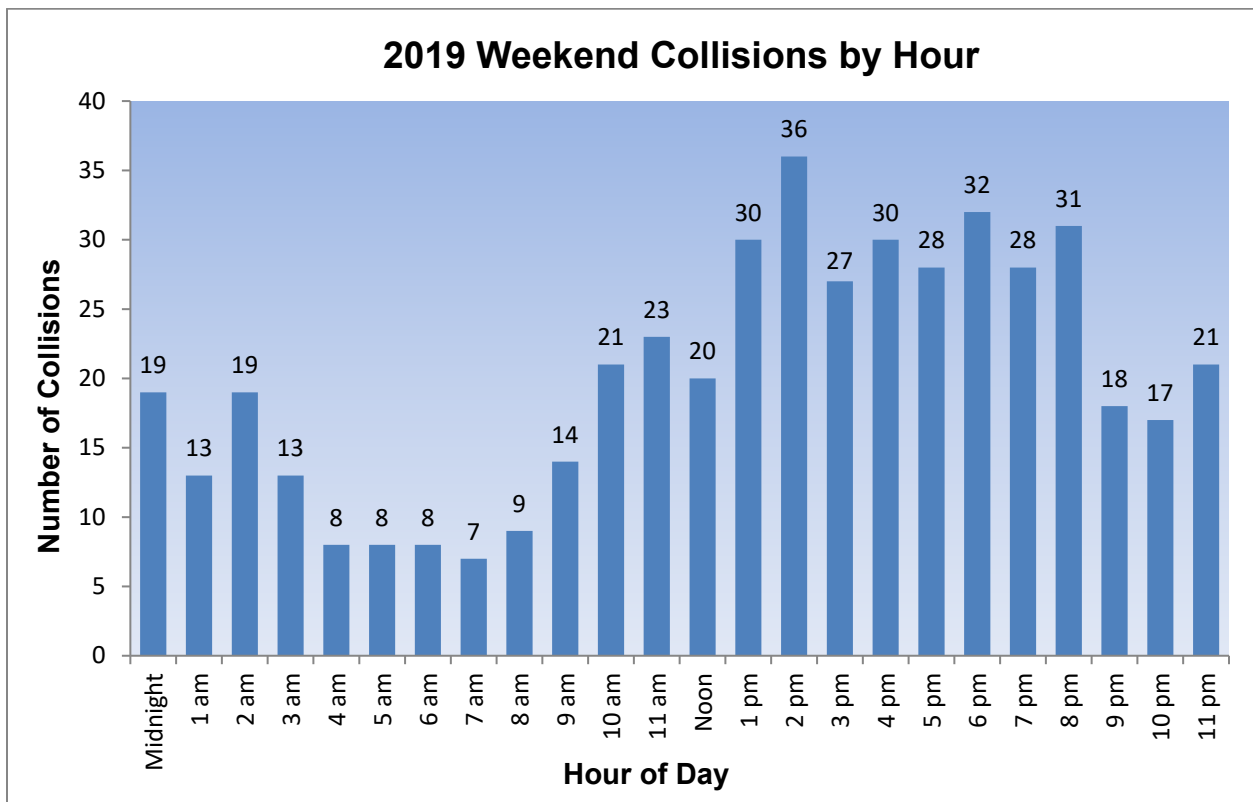
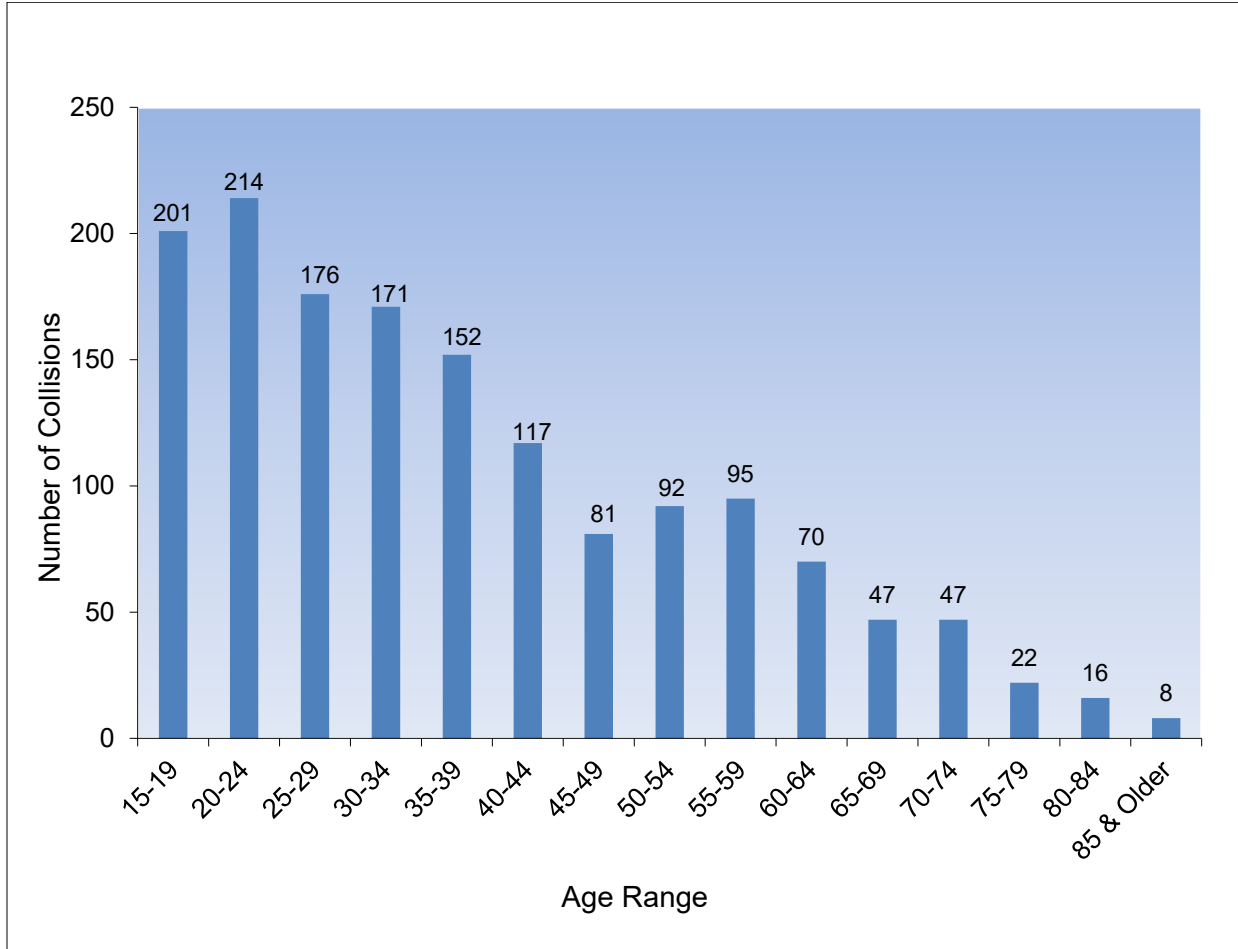


Figure 4.2.4
2019 Weekend Collisions
By Time of Day



4.3 Demographics

Figure 4.3.1
2019 Collisions by Age of Driver



Note: 315 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 2019

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	0	9	12	16	16	15	9	11	18	10	4	120
Excessive Speed	0	11	12	9	5	6	10	1	4	5	3	66
Did Not Grant ROW to Vehicle	0	6	4	6	6	8	6	7	6	4	6	59
None/Driver Not Distracted	0	3	4	5	2	6	5	7	8	7	5	52
Other	0	5	5	3	2	4	3	1	1	1	2	27
Follow Too Closely	0	3	4	4	2	0	3	4	0	2	1	23
Under Influence of Alcohol/Drugs	0	1	0	0	4	2	4	2	3	2	1	19
Improper Turn/Merge	1	4	4	1	2	0	1	0	1	0	3	17
Apparently Asleep/Fatigued	0	3	0	3	0	1	1	1	5	1	0	15
Operating Defective Equipment	0	2	2	2	1	0	0	2	3	0	0	12
Disregard Signal/Stop Sign/Yield Sign	0	2	5	2	0	0	1	0	0	0	1	11
Did Not Grant ROW to Non Motorist	0	0	0	0	0	0	2	0	0	2	0	4
Improper Passing	0	0	1	0	2	0	0	0	0	1	0	4
Improper U-Turn	0	1	0	1	0	1	0	0	1	0	0	4
Non Motorist on Wrong Side of Road	0	1	0	0	1	1	0	0	0	1	0	4
Driver Interacting with Passengers, Animals	0	0	0	0	0	0	1	0	0	0	1	2
Driver Operating Other Electronic Devices	0	0	1	0	0	0	0	0	0	0	0	1
Eating or Drinking	0	0	0	0	0	0	0	0	1	0	0	1
Grooming	0	0	0	0	0	0	0	0	1	0	0	1
Totals	1	51	54	52	43	44	46	36	52	36	27	442

Table 4.4.2
2019 Collisions by First Contributing Circumstance

First Contributing Circumstance	Fatality	Injury	PDO	Total
Inattention / Driver Distraction	0	158	328	486
Other	2	59	231	292
None	0	58	186	244
Did Not Grant ROW to Vehicle	1	68	122	191
Excessive Speed	3	55	93	151
Follow Too Closely	0	40	73	113
Under Influence of Alcohol/Drugs	0	33	46	79
Apparently Asleep/Fatigued/Ill	1	19	26	46
Improper Turn/Merge	0	15	28	43
Operating Defective Equipment	0	13	19	32
Disregard Stop/Go Light/Stop Sign - Flashing Red/Yield Sign - Flashing Yellow/Flagger - Officer	1	22	20	43
Driver Not Distracted	0	4	12	16
Over Center Line	0	4	7	11
Improper U-Turn	0	2	11	13
Eating or Drinking	0	0	3	3
Driver Interacting with Passengers, Animals	1	2	7	10
Improper Backing	0	0	8	8
Improper Passing	0	5	5	10
Driver Operating Handheld Telecommunications Device/ Hands-free Wireless Telephone/ Other Electronic Device	0	2	3	5
Did Not Grant ROW to Non Motorist	0	5	0	5
Non Motorist On Wrong Side Of Road	1	5	10	16
Not Stated	0	0	2	2
Driver Adjusting Audio or Entertainment	0	1	2	3
Failing to Signal	0	1	1	2

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
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%
2019	0	0.0%	52	2.9%	70	3.8%	122	6.7%

Figure 4.5.1
2019 Weekend Collisions for
Drivers under the Influence
By Time of Day

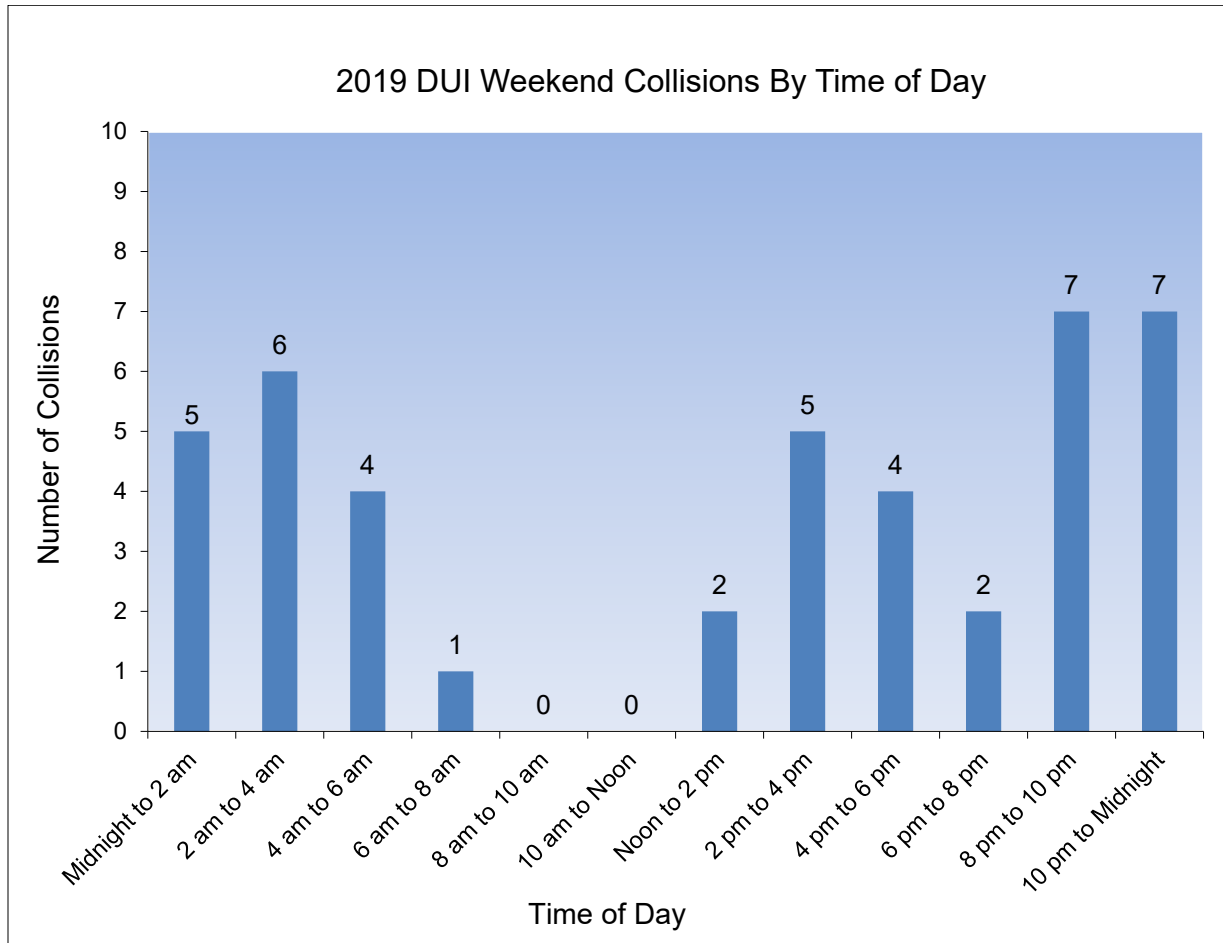
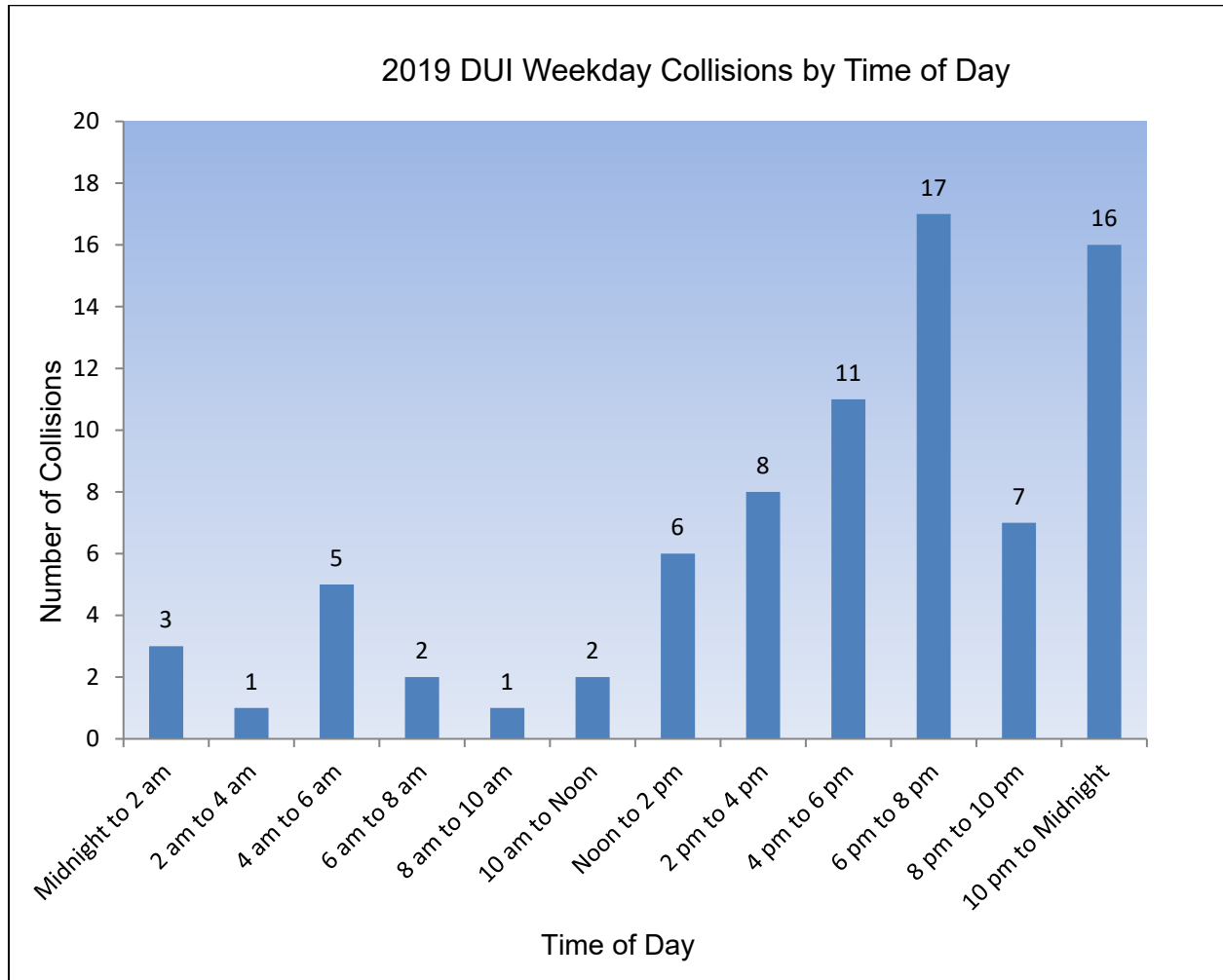


Figure 4.5.2
2019 Weekday Collisions for
Drivers under the Influence
By Time of Day



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
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%
2019	3	30%	55	10%	93	7%	151	8%

4.7 Lighting Conditions

Table 4.7.1
2019 Collisions By
Lighting Condition

Lighting Condition	Property Damage Only	Injury	Fatal	Total
Dark-No Street Lights	172	81	2	255
Dark-Street Lights Off	10	3	1	14
Dark-Street Lights On	224	85	3	312
Dawn	33	12	0	45
Daylight	736	368	2	1,106
Dusk	42	21	2	65
Not Stated / Unknown	26	1	0	27
Totals	1,243	571	10	1,824

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:

Cost = \$12,200 * PDO + \$22,800 * P + \$27,800 * E + \$96,200 * D + \$1,659,000 * F,
where

PDO – Total Number of Property Damage Collisions (\$12,200/collision)

P – Total Number of Possible Injury Collisions (\$22,800/collision)

E – Total Number of Evident Injury Collisions (\$27,800/collision)

D – Total Number of Disabling/Serious Injury Collisions (\$96,200/collision)

F – Total Number of Fatal Collisions (\$1,659,000/collision)