

Speed



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Section 3: Speed

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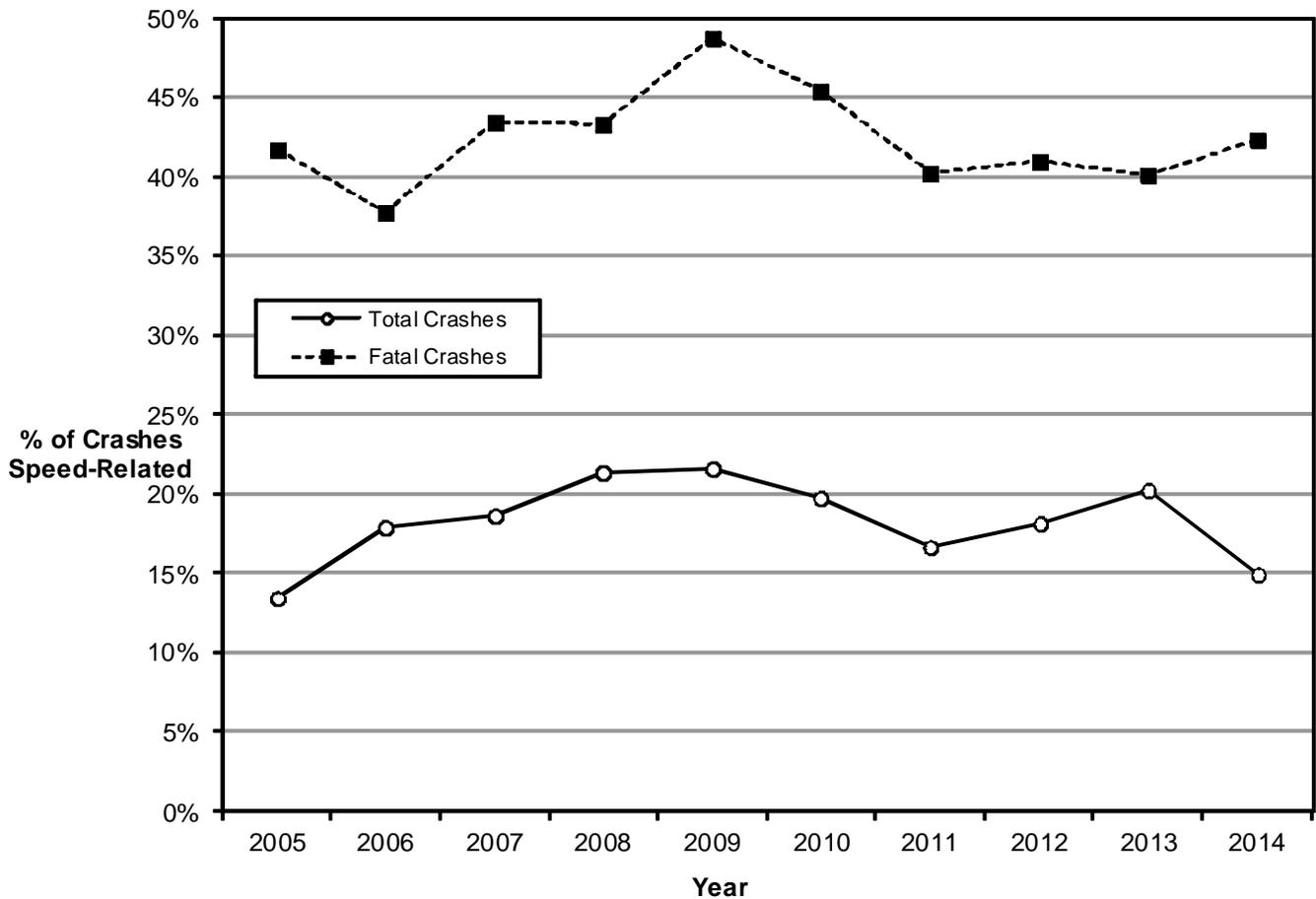
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Trends

Speed-Related Crashes (Utah 2005-2014)

Year	Speed-Related Crashes											
	Property Damage Only			Injury			Fatal			Total		
	All	Speed		All	Speed		All	Speed		All	Speed	
	#	#	%	#	#	%	#	#	%	#	#	%
2005	35,158	4,676	13.3%	19,545	2,653	13.6%	235	98	41.7%	54,938	7,427	13.5%
2006	37,674	6,450	17.1%	18,264	3,539	19.4%	249	94	37.8%	56,187	10,083	17.9%
2007	42,368	7,612	18.0%	18,619	3,687	19.8%	258	112	43.4%	61,245	11,411	18.6%
2008	38,997	8,311	21.3%	17,125	3,622	21.2%	245	106	43.3%	56,367	12,039	21.4%
2009	35,398	7,607	21.5%	15,752	3,379	21.5%	217	106	48.8%	51,367	11,092	21.6%
2010	34,155	6,591	19.3%	14,995	3,026	20.2%	218	99	45.4%	49,368	9,716	19.7%
2011	36,418	5,724	15.7%	15,645	2,885	18.4%	224	90	40.2%	52,287	8,699	16.6%
2012	34,635	6,135	17.7%	15,765	2,970	18.8%	200	83	41.5%	50,600	9,188	18.2%
2013	39,301	7,925	20.2%	16,134	3,225	20.0%	202	81	40.1%	55,637	11,231	20.2%
2014	37,388	5,302	14.2%	16,426	2,631	16.0%	222	94	42.3%	54,036	8,027	14.9%
Total	371,492	66,333	17.9%	168,270	31,617	18.8%	2,270	963	42.4%	542,032	98,913	18.2%

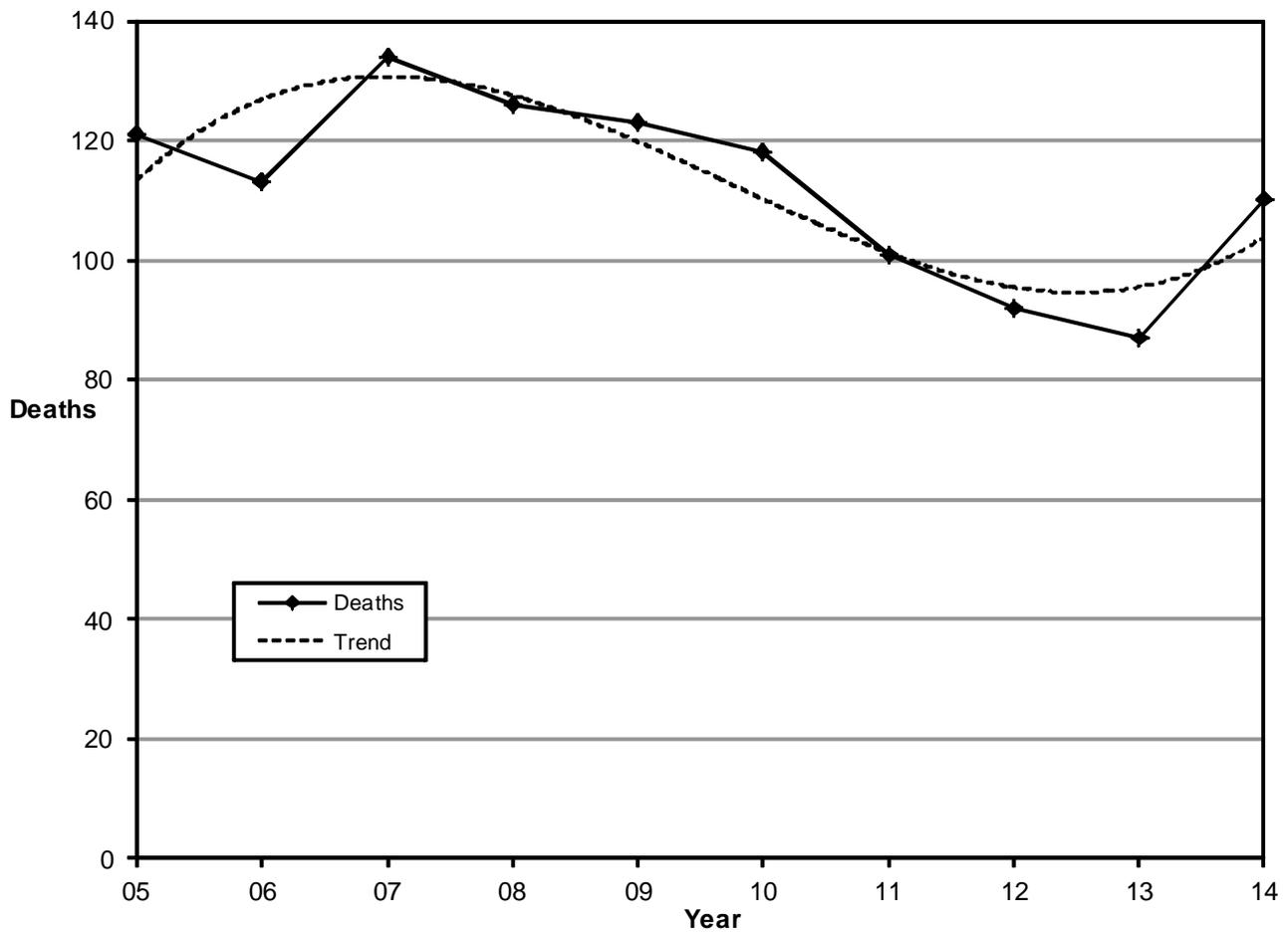


- Speed-related crashes are a concern because of the increased potential for severe injury and death.
- The 10-year trend shows that 18.2% of total crashes and 42.4% of fatal crashes in Utah are speed-related.
- 2008 had the highest number of crashes that were speed-related while 2009 had the highest percent.
- The number of speed-related fatal crashes in 2014 increased 16.0% from 2013.
- In 2014, speed-related crashes were 4.3 times more likely to be fatal than other motor vehicle crashes.

Trends

Speed-Related Deaths (Utah 2005-2014)

Year	Speed Crashes					
	Deaths			Fatal Crashes		
	All #	Speed #	%	All #	Speed #	%
2005	282	121	42.9%	235	98	41.7%
2006	287	113	39.4%	249	94	37.8%
2007	299	134	44.8%	260	112	43.1%
2008	276	126	45.7%	244	106	43.4%
2009	244	123	50.4%	217	106	48.8%
2010	253	118	46.6%	218	99	45.4%
2011	243	101	41.6%	224	90	40.2%
2012	217	92	42.4%	200	83	41.5%
2013	220	87	39.5%	202	81	40.1%
2014	256	110	43.0%	222	94	42.3%
Total	2,577	1,125	43.7%	2,271	963	42.4%



- Over the past 10 years, the percentage of deaths and fatal crashes that were speed-related has fluctuated around 43.7% of all deaths and 42.4% of fatal crashes.
- On average, 113 people die a year in Utah from speed-related crashes.

Crash Conditions

Speed-Related Crashes by County (Utah 2014)

Speed-Related Crashes								
County	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
Morgan	59	44.3	19	14.3	2	1.50	80	60.1
Daggett	9	27.8	3	9.3	0	0.00	12	37.1
Salt Lake	2,245	24.7	990	10.9	26	0.29	3,261	35.9
Summit	208	27.2	63	8.3	2	0.26	273	35.8
Wasatch	84	23.8	34	9.6	2	0.57	120	34.0
Utah	858	21.0	474	11.6	12	0.29	1,344	32.9
Duchesne	56	19.8	31	10.9	3	1.06	90	31.8
Box Elder	177	19.4	90	9.9	3	0.33	270	29.6
Cache	173	19.2	84	9.3	5	0.56	262	29.1
Sevier	57	17.8	32	10.0	0	0.00	89	27.9
Rich	10	19.9	3	6.0	1	1.99	14	27.8
Weber	285	17.3	158	9.6	5	0.30	448	27.2
Beaver	46	16.9	23	8.5	1	0.37	70	25.8
Davis	408	15.8	250	9.7	5	0.19	663	25.6
Sanpete	30	13.9	18	8.3	0	0.00	48	22.2
Iron	99	13.1	60	8.0	2	0.27	161	21.4
Garfield	12	10.5	10	8.7	2	1.75	24	21.0
Piute	4	13.8	2	6.9	0	0.00	6	20.7
Millard	64	12.7	37	7.4	0	0.00	101	20.1
Uintah	52	12.2	24	5.6	5	1.17	81	18.9
Kane	14	10.4	11	8.2	0	0.00	25	18.6
Tooele	98	11.9	48	5.8	4	0.49	150	18.2
Washington	119	8.4	98	6.9	6	0.42	223	15.7
Emery	34	9.6	19	5.3	2	0.56	55	15.5
Wayne	3	6.2	3	6.2	1	2.05	7	14.4
Juab	33	9.0	14	3.8	0	0.00	47	12.8
Carbon	26	8.0	13	4.0	2	0.62	41	12.6
San Juan	23	8.0	8	2.8	2	0.70	33	11.5
Grand	16	4.5	12	3.4	1	0.28	29	8.2
Statewide	5,302	19.2	2,631	9.5	94	0.34	8,027	29.1

- Morgan (60.1), Daggett (37.1), Salt Lake (35.9), and Summit (35.8) counties had the highest rates of speed-related total crashes per 100 million vehicle miles traveled.
- Wayne (2.05), Rich (1.99), Garfield (1.75), and Morgan (1.50) counties had the highest rates of fatal speed-related crashes per 100 million vehicle miles traveled.
- Grand (8.2), San Juan (11.5), and Carbon (12.6) counties had the lowest rates of speed-related total crashes per 100 million vehicle miles traveled.

Speed-Related Crashes by Urban/Rural Location (Utah 2014)

- Rural areas had a higher rate of total speed-related crashes per VMT and higher rate for fatal speed crashes.
- Speed-related crashes occurring in rural areas were 1.2 times more likely to result in a death than speed-related crashes in urban areas.

Speed-Related Crashes								
Location	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
Rural	2,054	26.2	577	7.3	35	0.45	2,666	33.9
Urban	4,088	20.7	1,214	6.2	59	0.30	5,361	27.2
Total	6,142	22.3	1,791	6.5	94	0.34	8,027	29.1

Crash Conditions

Percent of Crashes Speed-Related by County (Utah 2014)

Speed-Related Crashes			
County	Total	Total	
	Crashes	Speed	%
	#	#	%
Morgan	174	80	46.0%
Daggett	33	12	36.4%
Beaver	223	70	31.4%
Millard	334	101	30.2%
Sevier	333	89	26.7%
Box Elder	1,017	270	26.5%
Emery	220	55	25.0%
Rich	62	14	22.6%
Summit	1,258	273	21.7%
Wasatch	584	120	20.5%
Duchesne	463	90	19.4%
Iron	843	161	19.1%
Juab	256	47	18.4%
Utah	7,444	1,344	18.1%
Garfield	148	24	16.2%
Sanpete	318	48	15.1%
Piute	40	6	15.0%
Tooele	1,003	150	15.0%
Cache	1,808	262	14.5%
Davis	4,689	663	14.1%
Uintah	581	81	13.9%
Grand	220	29	13.2%
Salt Lake	24,833	3,261	13.1%
Kane	195	25	12.8%
San Juan	259	33	12.7%
Weber	4,037	448	11.1%
Carbon	384	41	10.7%
Wayne	67	7	10.4%
Washington	2,210	223	10.1%
Statewide	54,036	8,027	14.9%

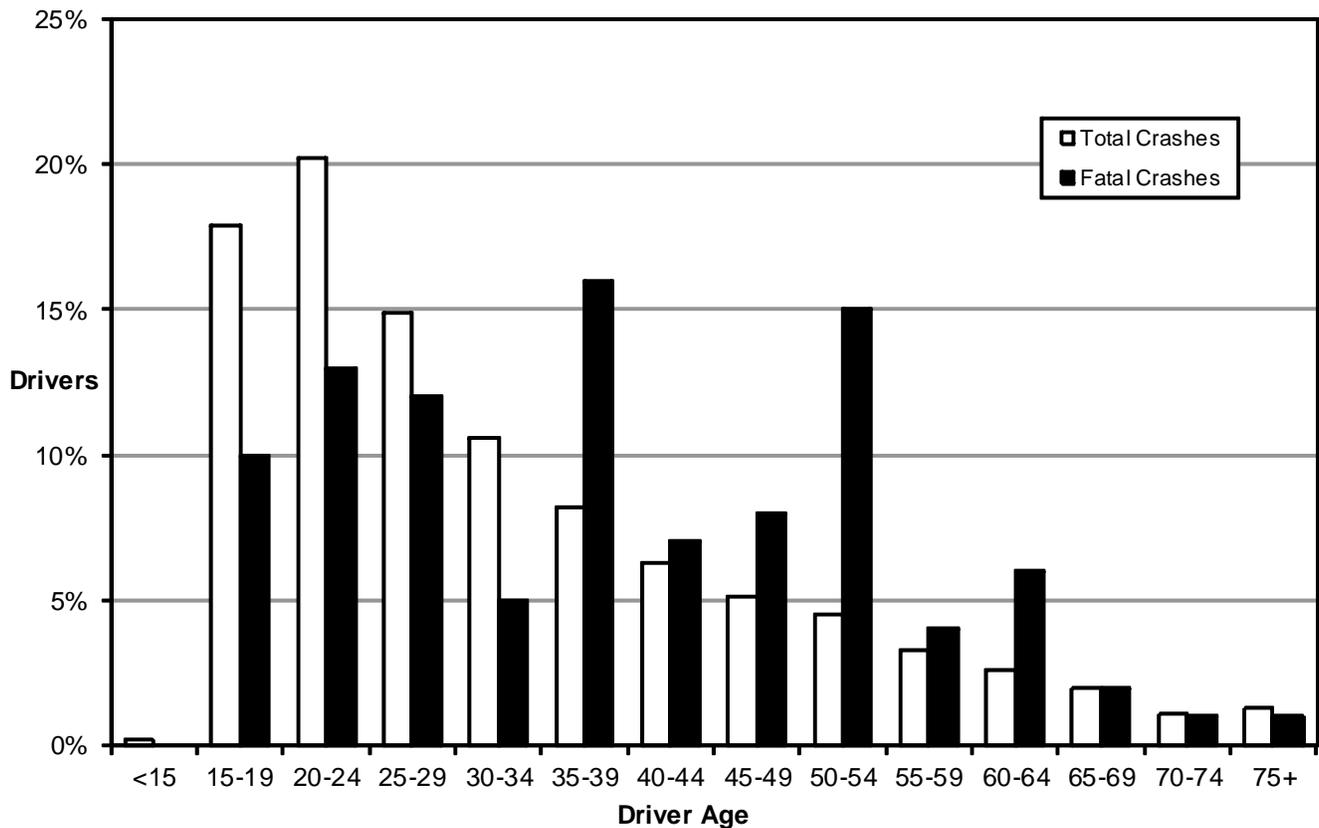


- Morgan (46.0%), Daggett (36.4%), Beaver (31.4%), and Millard (30.2%) counties had the highest percent of crashes that were speed-related.
- Washington (10.1%), Wayne (10.4%), Carbon (10.7%), and Weber (11.1%) counties had the lowest percent of crashes that were speed-related.

Crash Conditions

Age of Drivers in Speed-Related Crashes (Utah 2014)

Speed-Related Drivers								
Age	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
<15	4	0.1%	14	0.4%	0	0.0%	18	0.2%
15-19	1,077	17.8%	569	18.3%	10	10.0%	1,656	17.9%
20-24	1,255	20.8%	603	19.4%	13	13.0%	1,871	20.2%
25-29	902	14.9%	462	14.8%	12	12.0%	1,376	14.9%
30-34	624	10.3%	350	11.2%	5	5.0%	979	10.6%
35-39	508	8.4%	239	7.7%	16	16.0%	763	8.2%
40-44	366	6.1%	212	6.8%	7	7.0%	585	6.3%
45-49	302	5.0%	159	5.1%	8	8.0%	469	5.1%
50-54	263	4.4%	136	4.4%	15	15.0%	414	4.5%
55-59	196	3.2%	107	3.4%	4	4.0%	307	3.3%
60-64	161	2.7%	73	2.3%	6	6.0%	240	2.6%
65-69	117	1.9%	62	2.0%	2	2.0%	181	2.0%
70-74	62	1.0%	38	1.2%	1	1.0%	101	1.1%
75+	65	1.1%	50	1.6%	1	1.0%	116	1.3%
Unknown	134	2.2%	40	1.3%	0	0.0%	174	1.9%
Total	6,036	100.0%	3,114	100.0%	100	100.0%	9,250	100.0%



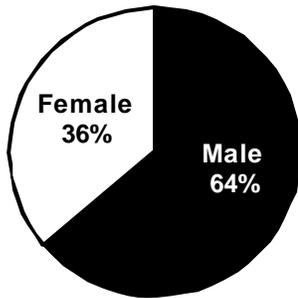
- Younger drivers (15-34 years) had the highest percentage of total speed-related crashes.
- Drivers aged 35-39, 50-54, 20-24, and 25-29 years had the highest percentage of fatal speed-related crashes.

Crash Conditions

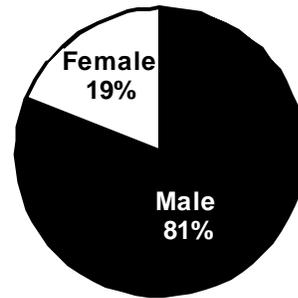
Gender of Drivers in Speed-Related Crashes (Utah 2014)

Speed-Related Drivers								
Gender	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Male	3,764	62.4%	1,927	61.9%	81	81.0%	5,772	62.4%
Female	2,108	34.9%	1,142	36.7%	19	19.0%	3,269	35.3%
Unknown	164	2.7%	45	1.4%	0	0.0%	209	2.3%
Total	6,036	100.0%	3,114	100.0%	100	100.0%	9,250	100.0%

Total Speed-Related Crashes



Fatal Speed-Related Crashes



- Male drivers represented 63.8% (of known) of the drivers in speed-related total crashes and 81.0% of the drivers in speed-related fatal crashes.



Speed-Related Crashes by Vehicle Type (Utah 2014)

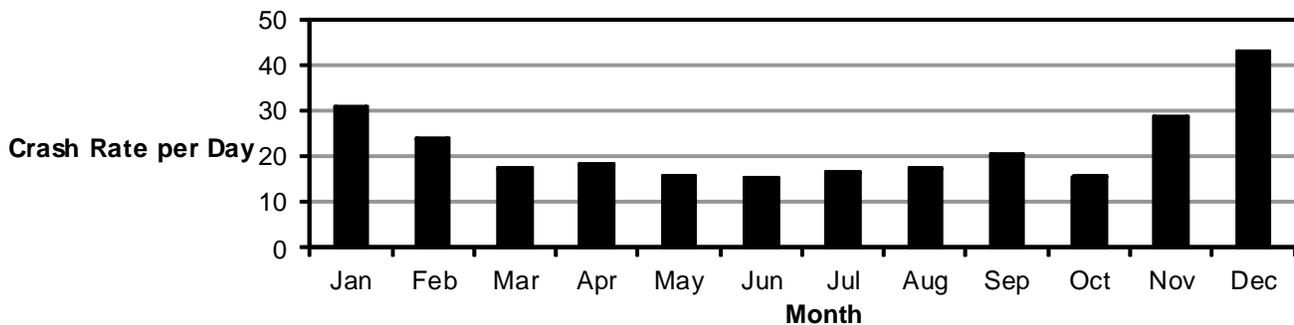
Speed-Related Vehicles								
Vehicle Type	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Passenger Car	3,580	59.2%	1,636	52.4%	35	35.0%	5,251	56.6%
SUV	1,140	18.8%	572	18.3%	17	17.0%	1,729	18.6%
Pickup Truck	927	15.3%	463	14.8%	16	16.0%	1,406	15.2%
Van	214	3.5%	141	4.5%	4	4.0%	359	3.9%
Heavy Truck	133	2.2%	79	2.5%	5	5.0%	217	2.3%
Motorcycle	6	0.1%	157	5.0%	19	19.0%	182	2.0%
Off Road Vehicle	0	0.0%	61	2.0%	4	4.0%	65	0.7%
Bus	8	0.1%	3	0.1%	0	0.0%	11	0.1%
Other	2	0.0%	0	0.0%	0	0.0%	2	0.0%
Unknown	41	0.7%	8	0.3%	0	0.0%	49	0.5%
Total	6,051	100.0%	3,120	100.0%	100	100.0%	9,271	100.0%

- For total speed-related crashes, passenger car and SUV were the leading vehicle types.
- For fatal speed-related crashes, passenger car and motorcycle were the leading vehicle types.
- Motorcycle was overrepresented in fatal speed-related crashes compared to total speed-related crashes.

Crash Conditions

Speed-Related Crashes by Month (Utah 2014)

Speed-Related Crashes								
Month	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per Day	#	Rate per Day	#	Rate per Day	#	Rate per Day
January	739	23.8	217	7.0	5	0.16	961	31.0
February	489	17.5	182	6.5	1	0.04	672	24.0
March	339	10.9	195	6.3	8	0.26	542	17.5
April	346	11.5	199	6.6	9	0.30	554	18.5
May	261	8.4	220	7.1	7	0.23	488	15.7
June	248	8.3	210	7.0	7	0.23	465	15.5
July	287	9.3	217	7.0	14	0.45	518	16.7
August	323	10.4	205	6.6	7	0.23	535	17.3
September	401	13.4	209	7.0	10	0.33	620	20.7
October	303	9.8	169	5.5	14	0.45	486	15.7
November	594	19.8	256	8.5	7	0.23	857	28.6
December	972	31.4	352	11.4	5	0.16	1,329	42.9
Total	5,302	14.5	2,631	7.2	94	0.26	8,027	22.0



- Overall, December (42.9) and January (31.0) had the highest rates of speed-related crashes per day.
- July (0.45) and October (0.45) had the highest rates per day of fatal speed-related crashes.

Speed-Related Crashes by Day of Week (Utah 2014)

Speed-Related Crashes								
Day of Week	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Sunday	510	9.6%	311	11.8%	6	6.4%	827	10.3%
Monday	724	13.7%	349	13.3%	15	16.0%	1,088	13.6%
Tuesday	773	14.6%	364	13.8%	7	7.4%	1,144	14.3%
Wednesday	827	15.6%	359	13.6%	12	12.8%	1,198	14.9%
Thursday	1,011	19.1%	443	16.8%	20	21.3%	1,474	18.4%
Friday	706	13.3%	380	14.4%	10	10.6%	1,096	13.7%
Saturday	751	14.2%	425	16.2%	24	25.5%	1,200	14.9%
Total	5,302	100.0%	2,631	100.0%	94	100.0%	8,027	100.0%

- The highest percentage of speed-related total crashes occurred on Thursday while the highest percentage of fatal crashes occurred on Saturday.
- The lowest percentage of speed-related total crashes and fatal crashes occurred on Sunday.

Crash Conditions

Speed-Related Crashes by Hour (Utah 2014)

Speed-Related Crashes								
Hour	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Midnight	96	1.8%	54	2.1%	2	2.1%	152	1.9%
1 a.m.	95	1.8%	53	2.0%	3	3.2%	151	1.9%
2 a.m.	69	1.3%	41	1.6%	1	1.1%	111	1.4%
3 a.m.	55	1.0%	43	1.6%	1	1.1%	99	1.2%
4 a.m.	75	1.4%	37	1.4%	2	2.1%	114	1.4%
5 a.m.	150	2.8%	50	1.9%	0	0.0%	200	2.5%
6 a.m.	265	5.0%	101	3.8%	5	5.3%	371	4.6%
7 a.m.	334	6.3%	122	4.6%	4	4.3%	460	5.7%
8 a.m.	377	7.1%	148	5.6%	7	7.4%	532	6.6%
9 a.m.	268	5.1%	111	4.2%	3	3.2%	382	4.8%
10 a.m.	191	3.6%	100	3.8%	1	1.1%	292	3.6%
11 a.m.	217	4.1%	83	3.2%	1	1.1%	301	3.7%
Noon	226	4.3%	121	4.6%	1	1.1%	348	4.3%
1 p.m.	242	4.6%	122	4.6%	7	7.4%	371	4.6%
2 p.m.	263	5.0%	133	5.1%	5	5.3%	401	5.0%
3 p.m.	306	5.8%	176	6.7%	6	6.4%	488	6.1%
4 p.m.	367	6.9%	203	7.7%	5	5.3%	575	7.2%
5 p.m.	482	9.1%	230	8.7%	4	4.3%	716	8.9%
6 p.m.	331	6.2%	197	7.5%	6	6.4%	534	6.7%
7 p.m.	228	4.3%	130	4.9%	6	6.4%	364	4.5%
8 p.m.	176	3.3%	101	3.8%	5	5.3%	282	3.5%
9 p.m.	189	3.6%	94	3.6%	5	5.3%	288	3.6%
10 p.m.	157	3.0%	102	3.9%	10	10.6%	269	3.4%
11 p.m.	143	2.7%	79	3.0%	4	4.3%	226	2.8%
Total	5,302	100.0%	2,631	100.0%	94	100.0%	8,027	100.0%

- Total speed-related crashes peaked in the morning (7:00 a.m. to 8:59 a.m.), with another peak in the late afternoon/evening (3:00 p.m. to 6:59 p.m.).
- Fatal speed-related crashes were highest during the 10:00 p.m., 8:00 a.m., and 1:00 p.m. hours.

Speed-Related Crashes by Speed Limit (Utah 2014)

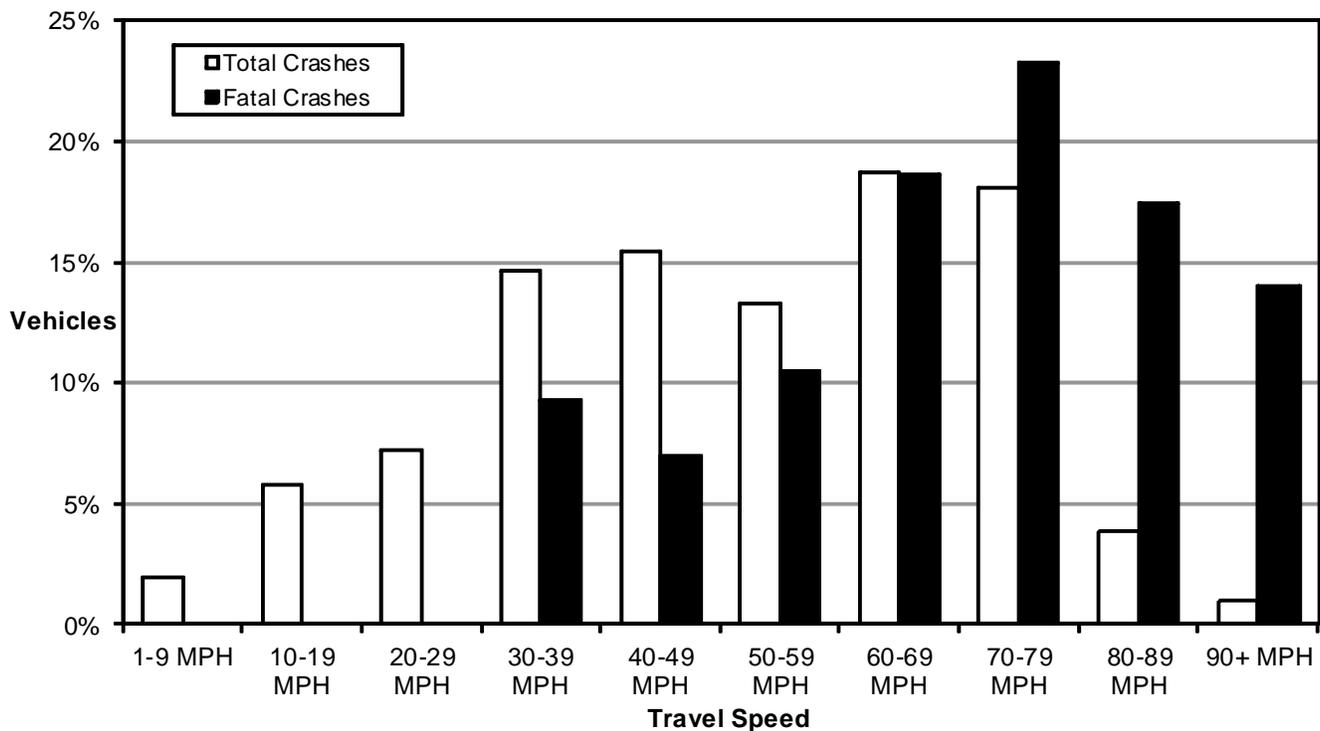
Speed-Related Vehicles								
Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
5-15 MPH	135	2.2%	36	1.2%	0	0.0%	171	1.8%
20-25 MPH	607	10.0%	377	12.1%	9	9.0%	993	10.7%
30-35 MPH	618	10.2%	444	14.2%	12	12.0%	1,074	11.6%
40-45 MPH	578	9.6%	416	13.3%	12	12.0%	1,006	10.9%
50-55 MPH	460	7.6%	258	8.3%	15	15.0%	733	7.9%
60-65 MPH	2,491	41.2%	1,038	33.3%	30	30.0%	3,559	38.4%
70-75 MPH	621	10.3%	241	7.7%	4	4.0%	866	9.3%
80 MPH	223	3.7%	111	3.6%	9	9.0%	343	3.7%
Unknown	318	5.3%	199	6.4%	9	9.0%	526	5.7%
Total	6,051	100.0%	3,120	100.0%	100	100.0%	9,271	100.0%

- When compared to all crashes, speed-related crashes were more likely to occur on roads with higher speed limits.
- Over one-half (54.5% of known) of total speed-related crashes occurred where the speed limit was 60 MPH or higher.
- Speed-related crashes with an 80 MPH speed limit were 2.7 times more likely to be fatal.

Crash Conditions

Speed-Related Crashes by Travel Speed (Utah 2014)

Speed-Related Vehicles								
Travel Speed	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
1-9 MPH	129	2.1%	35	1.1%	0	0.0%	164	1.8%
10-19 MPH	417	6.9%	78	2.5%	0	0.0%	495	5.3%
20-29 MPH	454	7.5%	163	5.2%	0	0.0%	617	6.7%
30-39 MPH	783	12.9%	454	14.6%	8	8.0%	1,245	13.4%
40-49 MPH	793	13.1%	515	16.5%	6	6.0%	1,314	14.2%
50-59 MPH	731	12.1%	390	12.5%	9	9.0%	1,130	12.2%
60-69 MPH	1,063	17.6%	517	16.6%	16	16.0%	1,596	17.2%
70-79 MPH	993	16.4%	526	16.9%	20	20.0%	1,539	16.6%
80-89 MPH	178	2.9%	136	4.4%	15	15.0%	329	3.5%
90+ MPH	27	0.4%	43	1.4%	12	12.0%	82	0.9%
Unknown	483	8.0%	263	8.4%	14	14.0%	760	8.2%
Total	6,051	100.0%	3,120	100.0%	100	100.0%	9,271	100.0%

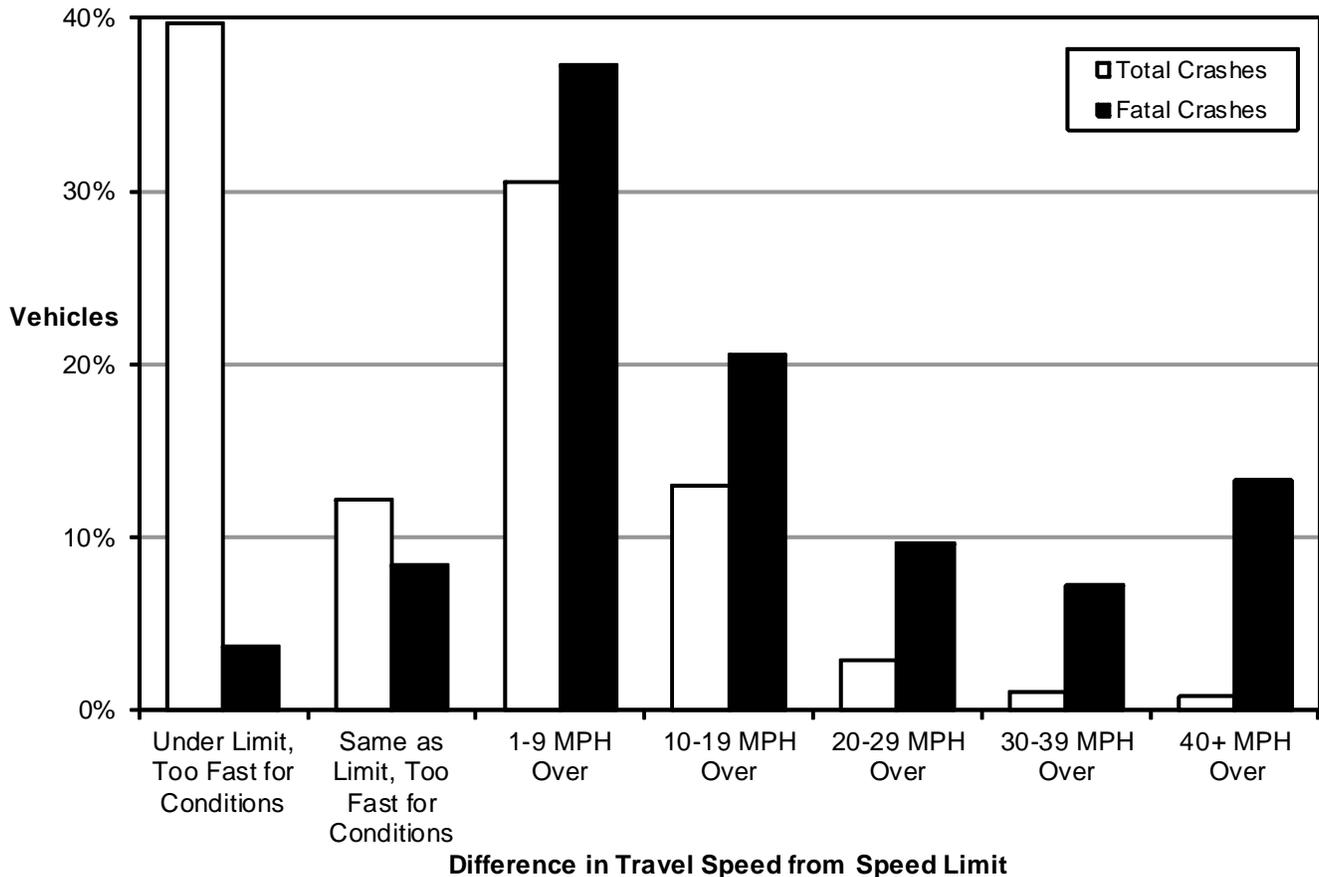


- 60-69 MPH (18.8% of known) and 70-79 MPH (18.1% of known) were the leading travel speeds of vehicles in total speed-related crashes.
- Nearly three-fourths (73.3% of known) of vehicles in fatal speed-related crashes were traveling 60+ MPH.
- Speed-related vehicles in fatal crashes were more likely to be traveling at higher speeds. Speed-related vehicles in crashes traveling 80+ MPH were 9.6 times more likely to be in a fatal crash.
- The higher the speed the greater the amount of energy that must be absorbed in a crash, hence there is more likelihood of serious injury and death. The risk of death and severe injury is a direct exponential function of speed. Drivers become increased risks to themselves and other people on the highway due to higher speeds.
- Studies show that a 5% increase in average speed leads to a 10% increase in injury crashes and a 20% increase in fatal crashes. A 5% decrease in speed leads to a 10% decrease in injury crashes and a 20% decrease in fatal crashes.

Crash Conditions

Speed-Related Crashes by Difference in Travel Speed From Speed Limit (Utah 2014)

Speed-Related Vehicles								
Travel Speed vs. Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Under Limit, Too Fast for Conditions	2,470	40.8%	834	26.7%	3	3.0%	3,307	35.7%
Same as Limit, Too Fast for Conditions	665	11.0%	334	10.7%	7	7.0%	1,006	10.9%
1-9 MPH Over Speed Limit	1,611	26.6%	902	28.9%	31	31.0%	2,544	27.4%
10-19 MPH Over Speed Limit	573	9.5%	484	15.5%	17	17.0%	1,074	11.6%
20-29 MPH Over Speed Limit	99	1.6%	138	4.4%	8	8.0%	245	2.6%
30-39 MPH Over Speed Limit	35	0.6%	44	1.4%	6	6.0%	85	0.9%
40+ MPH Over Speed Limit	20	0.3%	36	1.2%	11	11.0%	67	0.7%
Unknown	578	9.6%	348	11.2%	17	17.0%	943	10.2%
Total	6,051	100.0%	3,120	100.0%	100	100.0%	9,271	100.0%



- 4,015 vehicles in crashes were known to be traveling over the posted speed limit.
- Speed-related vehicles in fatal crashes were more likely to be exceeding the posted speed limit by greater amounts.
- Speed-related vehicles in total crashes were more likely to be traveling too fast for conditions.
- Nearly nine out of every ten speed-related vehicles (88.0% of known) in fatal crashes were traveling over the posted speed limit.
- Speed increases the crash energy by the square of the speeds. When impact speed increases from 40 to 60 MPH (a 50% increase), the energy that needs to be managed increases by 125%.