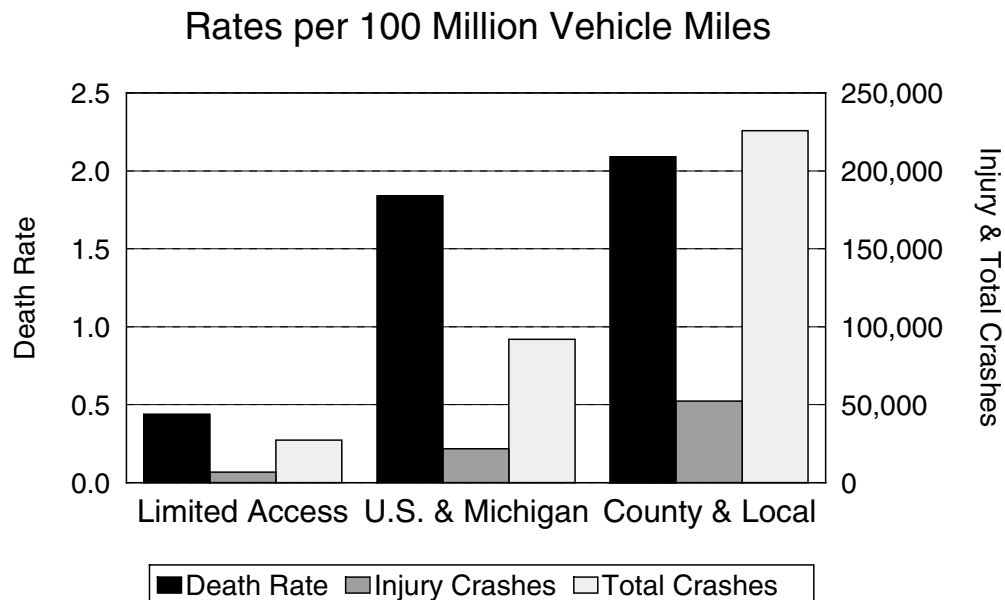


CRASH EXPERIENCE BY ROADWAY TYPE

The table below provides a detailed breakdown of estimated vehicle mileage, crashes, death rates (deaths per 100 million vehicle miles), and crash rates (crashes per 100 million vehicle miles) for the major roadway types in Michigan. All rates are highest on county and local roads and lowest on limited access highways. 1992 estimated mileage figures were provided by the Michigan Department of Transportation [3].

STATEWIDE	Estimated Mileage (Billions)	All Crashes	Injury Crashes	Deaths	Total Crash Rate	Injury Crash Rate	Death Rate
Limited Access Roadways	24.5	27,330	6,859	109	111.6	28.0	0.44
U.S. & Michigan Roads	20.1	91,879	21,841	369	457.1	108.7	1.84
County & Local Roads	39.4	225,733	52,390	822	572.9	133.0	2.09
TOTALS	84.0	344,942	81,090	1,300	410.6	96.5	1.55



CRASH TYPE

CRASH TYPE	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
Head On	37,306	10.8	255	21.6	1,960	2,656	2,758	29,677
Head On - Left Turn	16,356	4.7	73	6.2	1,104	1,699	2,772	10,708
Angle	74,706	21.7	324	27.5	3,529	6,276	11,577	53,000
Rear End	77,918	22.6	59	5.0	1,539	3,656	17,007	55,657
Rear End - Left Turn	7,147	2.1	6	0.5	151	324	928	5,738
Rear End - Right Turn	6,422	1.9	1	0.1	114	226	722	5,359
Sideswipe - Same Direction	34,103	9.9	17	1.4	399	925	2,339	30,423
Sideswipe - Opposite Direct	15,162	4.4	22	1.9	281	568	1,132	13,159
Other	66,124	19.2	397	33.7	3,146	5,197	6,426	50,958
Unknown	9,698	2.8	25	2.1	320	475	884	7,994
Totals	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

Head On, Angle, and “Other” crash types produce the highest number of fatal crashes (89.0%). The “Other” category includes single vehicle crashes, such as rollovers, which are particularly deadly crash types. Rear End and Sideswipe crashes produce the lowest number of fatal crashes (8.9%).

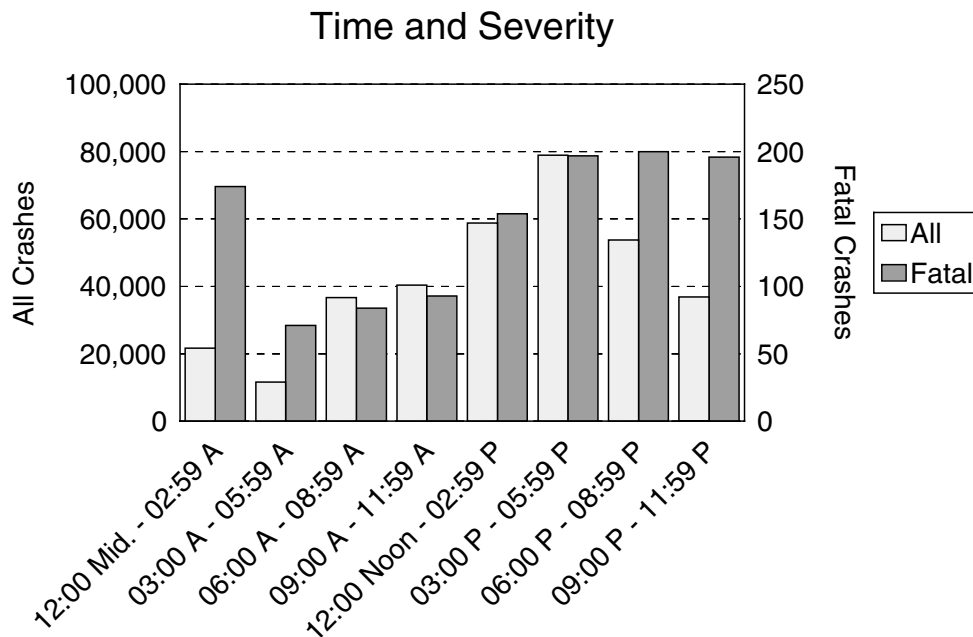
RELATION TO ROADWAY

LOCATION OF FIRST IMPACT	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
On Road	288,550	83.7	814	69.0	9,023	16,307	39,943	222,463
Median	2,194	0.6	17	1.4	162	237	304	1474
Shoulder	15,403	4.5	76	6.4	813	1,338	1,677	11,499
Outside of Shoulder/Curb	28,062	8.1	246	20.9	2,100	3,464	3,585	18,667
Gore	667	0.2	4	0.3	39	67	103	454
Other/Unknown	10,066	2.9	22	1.9	406	589	933	8,116
Totals	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

Crashes that happen outside of the normal driving lanes are overrepresented in causing fatalities. Only 8.1% of crashes occur outside the shoulder of the road, but these crashes account for 20.9% of the fatal crashes.

TIME AND SEVERITY

TIME OF DAY	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
12:00 mid. - 02:59 a.m.	21,660	6.3	174	14.8	1,347	2,168	2,303	15,668
03:00 a.m. - 05:59 a.m.	11,660	3.4	71	6.0	555	879	1,033	9,122
06:00 a.m. - 08:59 a.m.	36,651	10.6	84	7.1	1,092	1,749	4,596	29,130
09:00 a.m. - 11:59 a.m.	40,429	11.7	93	7.9	1,317	2,228	5,739	31,052
12:00 noon - 02:59 p.m.	58,845	17.1	154	13.1	1,933	3,718	9,153	43,887
03:00 p.m. - 05:59 p.m.	78,911	22.9	197	16.7	2,574	5,022	12,178	58,940
06:00 p.m. - 08:59 p.m.	53,769	15.6	200	17.0	1,902	3,371	6,682	41,614
09:00 p.m. - 11:59 p.m.	36,882	10.7	196	16.6	1,619	2,532	4,121	28,414
Unknown	6,135	1.8	10	0.8	204	335	740	4,846
Total	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

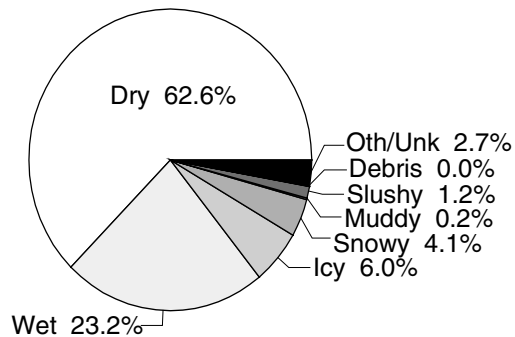


Crash frequencies peak in midafternoon and drop off by midnight, while fatal crash frequencies rise with the frequency of other crashes, but continue at a high rate well into the early morning hours. There are proportionally more fatal crashes during the midnight to 3:00 AM time period.

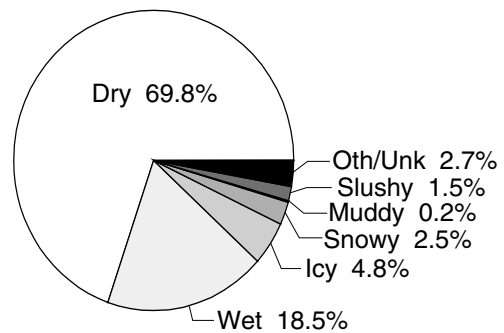
ROAD CONDITION

ROAD SURFACE CONDITION	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
Dry	215,871	62.6	823	69.8	8,391	14,621	28,516	163,520
Wet	80,094	23.2	218	18.5	2,626	4,792	12,527	59,931
Icy	20,642	6.0	57	4.8	632	1,075	2,437	16,441
Snowy	14,129	4.1	29	2.5	352	634	1,363	11,751
Muddy	704	0.2	2	0.2	24	54	93	531
Slushy	4,173	1.2	18	1.5	158	264	523	3,210
Debris	128	0.0	0	0.0	7	11	18	92
Other/Unknown	9,201	2.7	32	2.7	353	551	1,068	7,197
Totals	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

ALL CRASHES



FATAL CRASHES

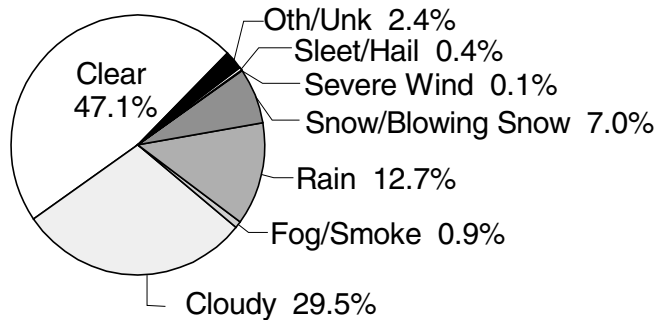


Most crashes (62.6%) and most fatal crashes (69.8%) occur on dry roads. This indicates that Michigan drivers do a good job of adjusting their driving behavior for bad road conditions.

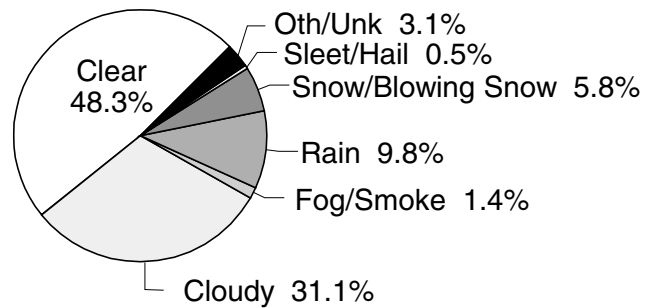
WEATHER CONDITION

WEATHER CONDITION	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
Clear	162,316	47.1	569	48.3	6,364	10,912	21,174	123,297
Cloudy	101,916	29.5	367	31.1	3,573	6,396	13,992	77,588
Fog/Smoke	3,037	0.9	17	1.4	129	189	320	2,382
Rain	43,709	12.7	115	9.8	1,489	2,816	7,164	32,125
Snow/Blowing Snow	24,061	7.0	68	5.8	631	1,164	2,760	19,438
Severe Wind	192	0.1	0	0.0	11	6	17	158
Sleet/Hail	1,420	0.4	6	0.5	54	108	207	1,045
Other/Unknown	8,291	2.4	37	3.1	292	411	911	6,640
Totals	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

ALL CRASHES



FATAL CRASHES

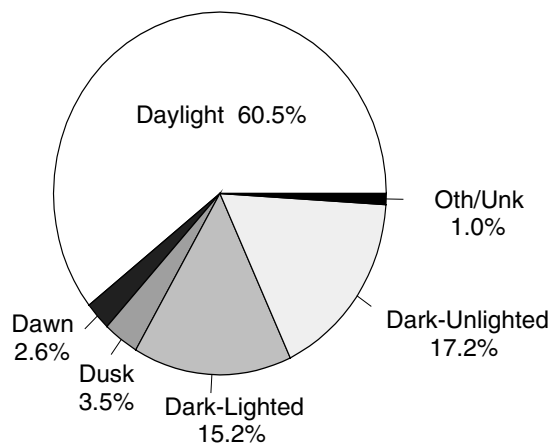


The majority of all crashes occur in good weather (47.1%) as do the majority of fatal crashes (48.3%). Of bad weather conditions, fog and smoke present the greatest hazard as they are overrepresented in fatal crashes.

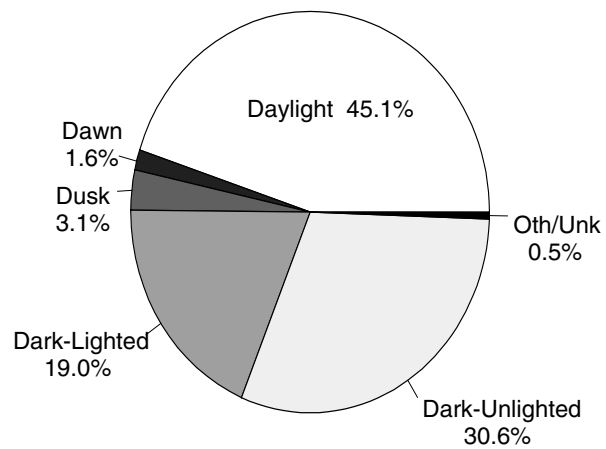
LIGHT CONDITION

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	208,796	60.5	532	45.1	7,232	13,258	31,907	155,867
Dawn	9,000	2.6	19	1.6	222	362	861	7,536
Dusk	12,079	3.5	37	3.1	338	714	1,508	9,482
Dark - Lighted	52,392	15.2	224	19.0	2,324	4,033	7,518	38,293
Dark - Unlighted	59,376	17.2	361	30.6	2,333	3,531	4,500	48,651
Other/Unknown	3,299	1.0	6	0.5	94	104	251	2,844
Totals	344,942	100.0	1,179	100.0	12,543	22,002	46,545	262,673

ALL CRASHES



FATAL CRASHES



The majority of all crashes happen during the day, while the majority of fatal crashes happen at night. Areas without street lights have the highest fatality rate.