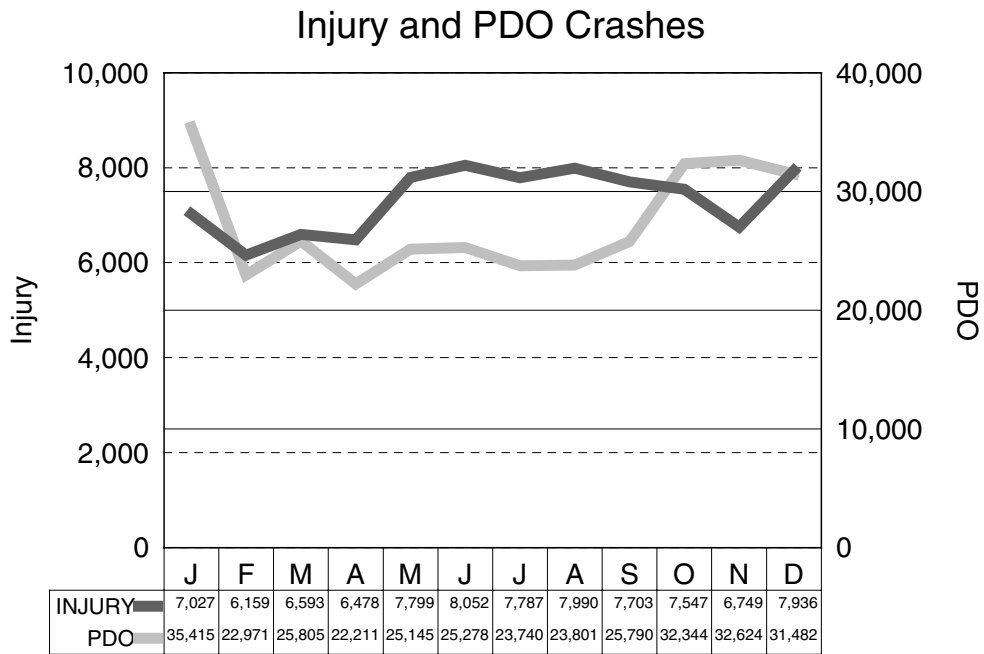
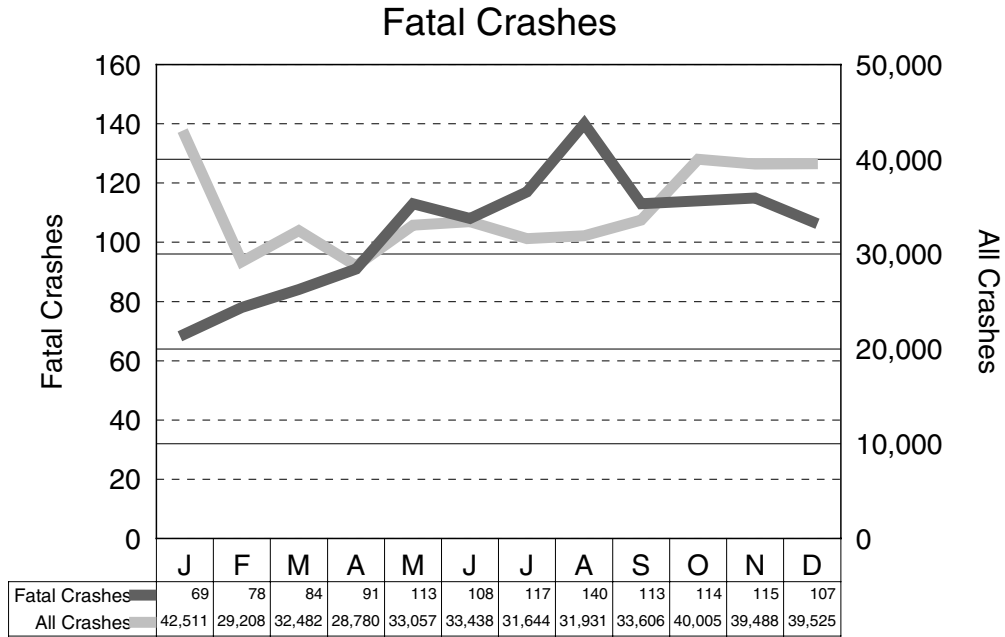


ALL CRASHES INJURY SEVERITY BY MONTH

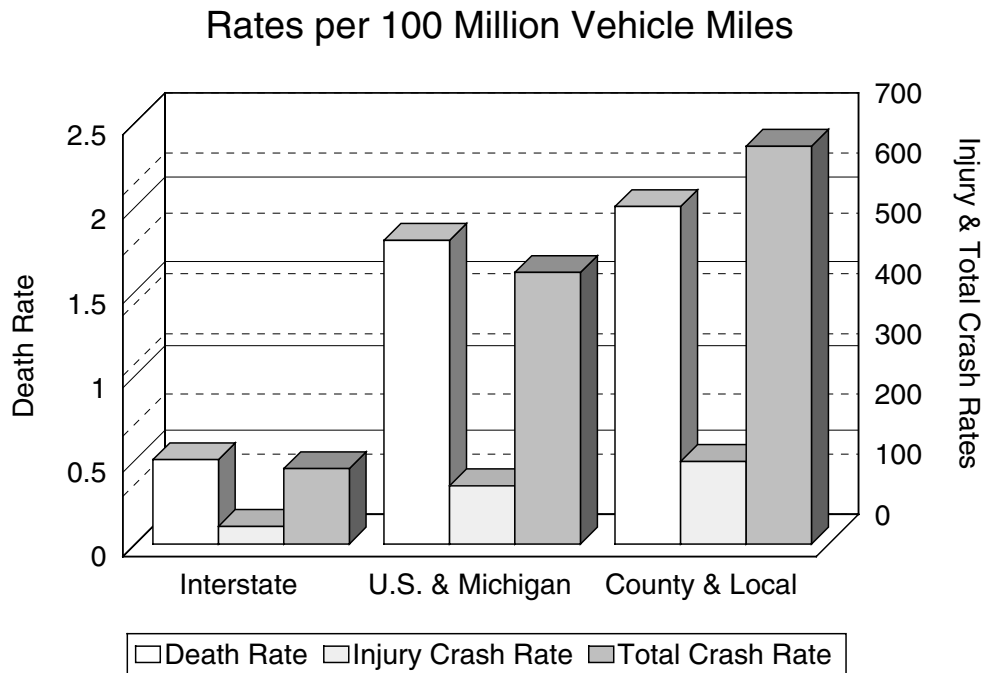


The charts on this page show that the months of June through August are peak months (24% or above) in terms of the percent of the number of crashes involving death or injury to the number of all crashes. That is, if a person was in a motor vehicle crash during one of these months there was a higher chance of that crash resulting in death or injury to one of the involved persons than if that crash happened during one of the other months.

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 lowest on interstate routes. 1999 estimated mileage figures were provided by the Michigan Department of Transportation [10].

STATEWIDE	Estimated Mileage (Billions)	All Crashes	Injury Crashes	Deaths	Total Crash Rate	Injury Crash Rate	Death Rate
Interstate Routes	28.6	35,781	8,302	150	125.1	29.0	0.5
U.S. & Michigan Roads	21.9	98,680	21,151	396	450.6	96.6	1.8
County & City Roads	42.6	281,214	58,367	840	660.1	137.0	2.0
Totals	93.1	415,675	87,820	1,386	446.5	94.3	1.5



CRASH TYPE

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Single Vehicle	126,990	30.6	575	46.0	3,552	7,864	9,729	105,270
Head On	7,685	1.8	165	13.2	661	901	1,188	4,770
Head On - Left Turn	12,854	3.1	53	4.2	700	1,561	2,893	7,647
Angle	82,951	20.0	295	23.6	2,575	6,342	14,241	59,498
Rear End	100,440	24.2	77	6.2	1,287	3,543	20,373	75,160
Rear End - Left Turn	4,608	1.1	4	0.3	108	283	908	3,305
Rear End - Right Turn	3,302	0.8	1	0.1	21	59	486	2,735
Sideswipe - Same Direction	36,227	8.7	15	1.2	297	672	2,155	33,088
Sideswipe - Opposite Direct	11,791	2.8	18	1.4	149	371	829	10,424
Other/Unknown	28,827	6.9	46	3.7	607	1,220	2,245	24,709
Totals	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

Single Vehicle, Head On, and Angle crash types produce the highest number of fatal crashes (82.9%). Single Vehicle crashes include rollovers, which are particularly deadly crash types. Rear End-Turning and Sideswipe crashes produce the lowest number of fatal crashes (3%).

RELATION TO ROADWAY

LOCATION OF FIRST IMPACT	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
On Road	361,581	87.0	850	68.1	7,282	17,120	47,906	288,423
Median	2,538	0.6	24	1.9	143	304	443	1,624
Shoulder	15,549	3.7	76	6.1	657	1,430	1,934	11,452
Outside of Shoulder/Curb	27,739	6.7	257	20.6	1,574	3,281	3,853	18,774
Gore	746	0.2	8	0.6	45	101	109	483
Other/Unknown	7,522	1.8	34	2.7	256	580	802	5,850
Totals	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

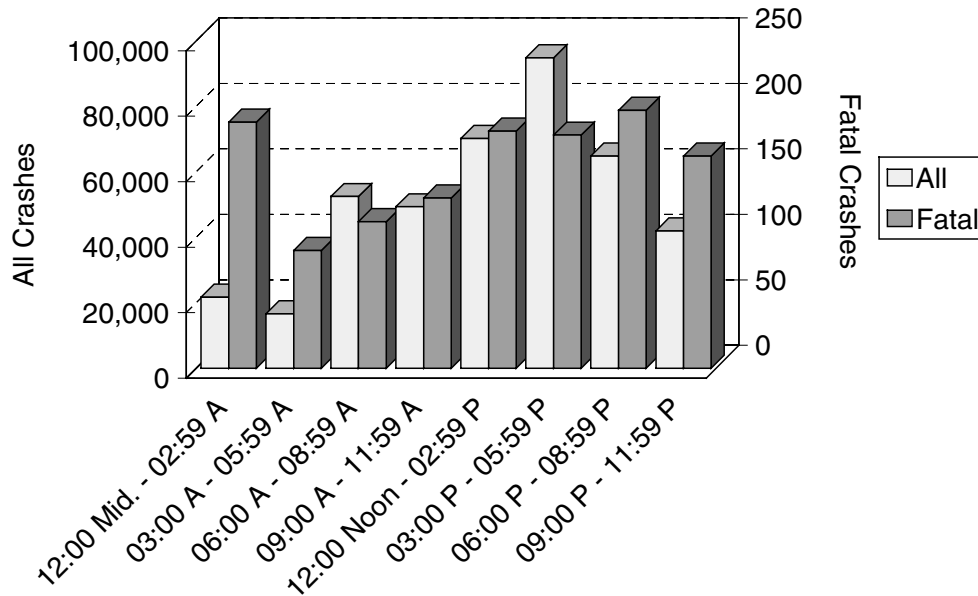
Crashes that happen outside of the normal driving lanes are overrepresented in the fatal count. Only 6.7 percent of crashes occur outside the shoulder of the road, but these crashes account for 20.6 percent of the fatal crashes.



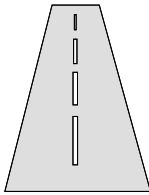
TIME AND SEVERITY

TIME OF DAY	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
12:00 mid. - 02:59 a.m.	21,740	5.2	188	15.1	914	1,737	2,138	16,763
03:00 a.m. - 05:59 a.m.	16,580	4.0	90	7.2	487	980	1,359	13,664
06:00 a.m. - 08:59 a.m.	52,436	12.6	112	9.0	960	2,233	6,443	42,688
09:00 a.m. - 11:59 a.m.	49,333	11.9	130	10.4	1,098	2,670	7,184	38,251
12:00 noon - 02:59 p.m.	70,175	16.9	181	14.5	1,586	3,913	11,115	53,380
03:00 p.m. - 05:59 p.m.	94,796	22.8	178	14.3	2,171	5,347	14,628	72,472
06:00 p.m. - 08:59 p.m.	64,812	15.6	197	15.8	1,505	3,425	7,515	52,170
09:00 p.m. - 11:59 p.m.	41,962	10.1	162	13.0	1,164	2,387	4,322	33,927
Unknown	3,841	0.9	11	0.9	72	124	343	3,291
Total	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

Time and Severity



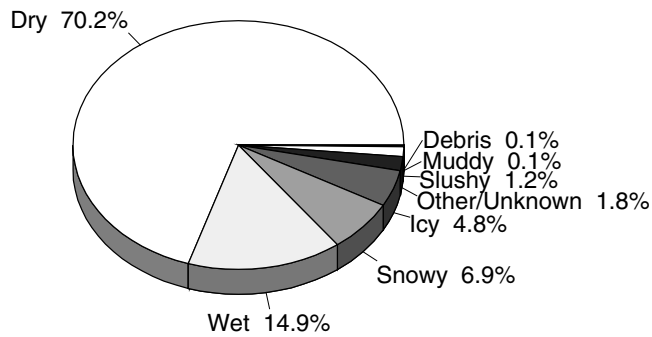
Crash frequencies peak in the late afternoon, then drop off steadily until 6:00 AM (the morning rush hour). Fatal crash frequencies rise with the frequency of other crashes, but continue at a high rate well into the early morning hours. There are proportionally more fatal crashes during the midnight to 2:59 AM time period.



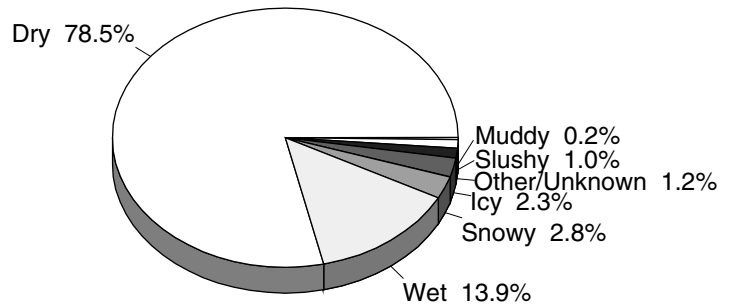
ROAD CONDITION

ROAD SURFACE CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Dry	291,845	70.2	980	78.5	7,420	16,977	38,603	227,865
Wet	62,002	14.9	174	13.9	1,426	3,326	9,417	47,659
Icy	19,795	4.8	29	2.3	417	925	2,618	15,806
Snowy	28,712	6.9	35	2.8	426	963	2,930	24,358
Muddy	558	0.1	3	0.2	21	42	63	429
Slushy	5,079	1.2	13	1.0	113	255	689	4,009
Debris	239	0.1	0	0.0	10	28	29	172
Other/Unknown	7,445	1.8	15	1.2	124	300	698	6,308
Totals	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

ALL CRASHES



FATAL CRASHES



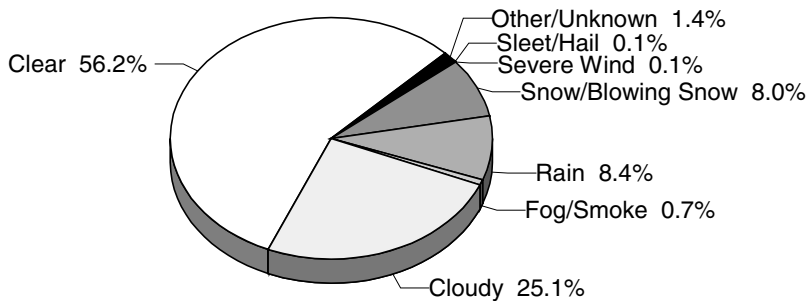
Most crashes (70.2%) and most fatal crashes (78.5%) occur on dry roads. This indicates that Michigan drivers do a good job of adjusting their driving behavior for bad road conditions.



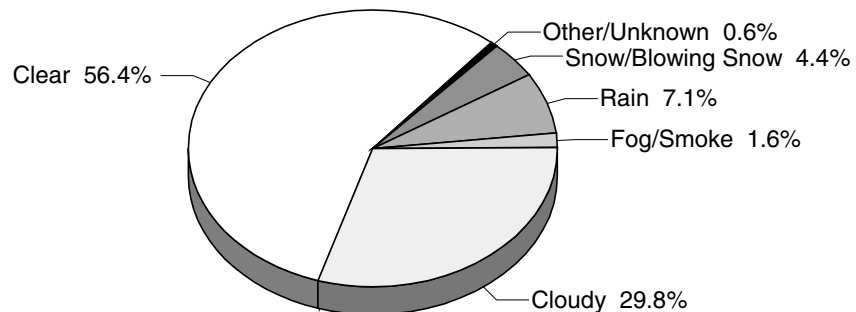
WEATHER CONDITION

WEATHER CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Clear	233,598	56.2	705	56.4	5,969	13,383	30,741	182,800
Cloudy	104,379	25.1	372	29.8	2,423	5,827	14,015	81,742
Fog/Smoke	3,064	0.7	20	1.6	106	200	288	2,450
Rain	34,744	8.4	89	7.1	798	1,932	5,545	26,380
Snow/Blowing Snow	33,182	8.0	55	4.4	557	1,286	3,876	27,408
Severe Wind	236	0.1	0	0.0	6	12	22	196
Sleet/Hail	603	0.1	0	0.0	24	42	108	429
Other/Unknown	5,869	1.4	8	0.6	74	134	452	5,201
Totals	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

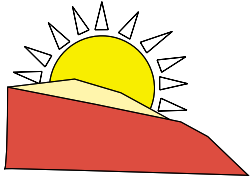
ALL CRASHES



FATAL CRASHES



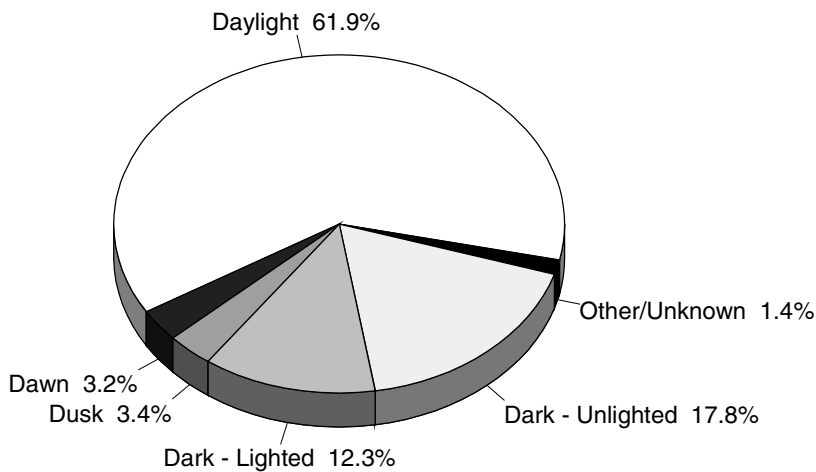
The majority of all crashes occur in good weather (56.2%) as do the majority of fatal crashes (56.4%). Fog/smoke is a particularly deadly weather condition as it is overrepresented in fatal crashes.



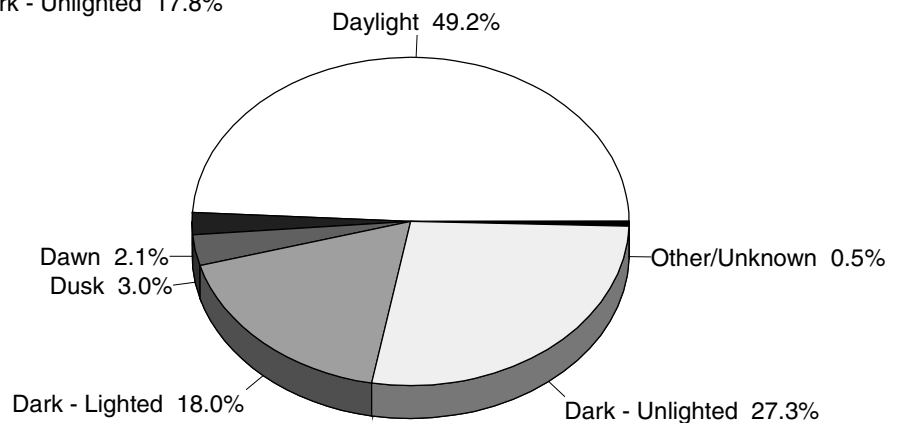
LIGHT CONDITION

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	257,475	61.9	614	49.2	6,090	14,822	39,482	196,467
Dawn	13,143	3.2	26	2.1	195	505	1,189	11,228
Dusk	14,043	3.4	37	3.0	304	659	1,489	11,554
Dark – Lighted	51,125	12.3	225	18.0	1,617	3,340	7,349	38,594
Dark – Unlighted	74,108	17.8	341	27.3	1,672	3,334	5,044	63,717
Other/Unknown	5,781	1.4	6	0.5	79	156	494	5,046
Totals	415,675	100.0	1,249	100.0	9,957	22,816	55,047	326,606

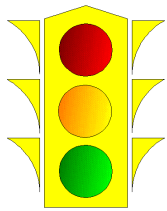
ALL CRASHES



FATAL CRASHES



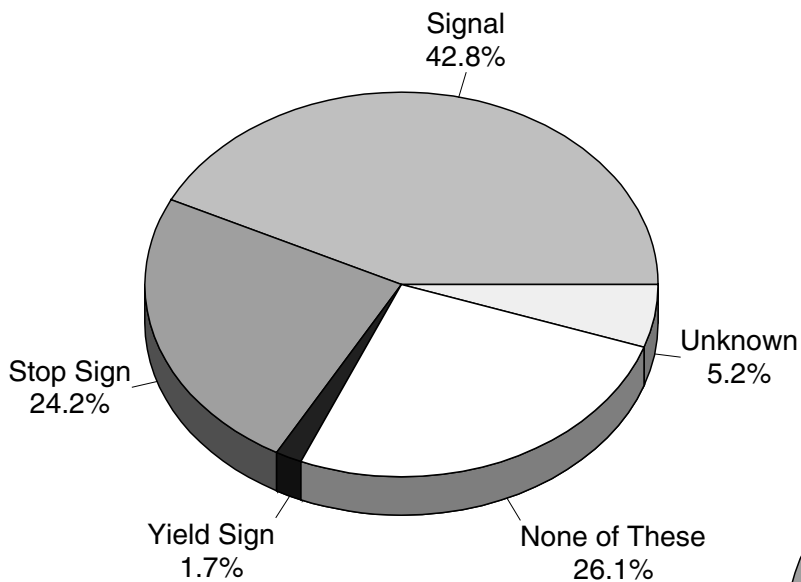
The majority (61.9%) of all crashes happen during daylight hours. Dark conditions create the greatest hazard, as they are overrepresented in fatal crashes. Areas without street lights have the highest fatality rate.



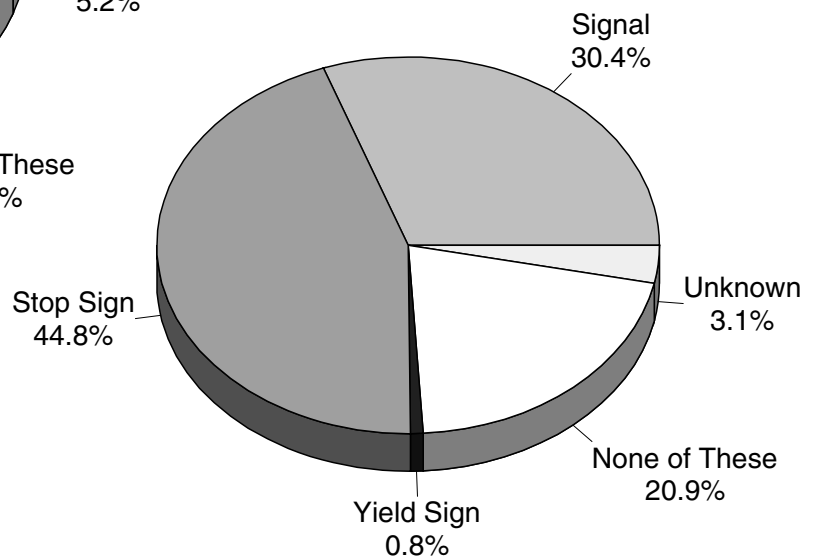
INTERSECTION CRASHES BY TRAFFIC CONTROL TYPE

TRAFFIC CONTROL TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Signal	60,411	42.8	116	30.4	1,500	3,901	11,877	43,017
Stop Sign	34,080	24.2	171	44.8	1,158	2,732	5,854	24,165
Yield Sign	2,402	1.7	3	0.8	78	211	450	1,660
None of These	36,856	26.1	80	20.9	912	2,220	5,680	27,964
Unknown	7,303	5.2	12	3.1	151	390	1,041	5,709
Totals	141,052	100.0	382	100.0	3,799	9,454	24,902	102,515

ALL CRASHES



FATAL CRASHES



Intersections with stop signs are overrepresented in fatal crashes. Driver perception, awareness, and adherence to traffic control signing are all key factors in crashes at intersections.



CONSTRUCTION ZONE CRASHES

CONSTRUCTION ZONE TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Subtotal	Number	% of Subtotal	A	B	C	
Construction/Maintenance								
Activity - On Road								
Lane Closed	3,294	47.4	7	29.2	67	126	507	2,587
Lane Open	1,039	15.0	3	12.5	29	46	154	807
Unknown Lane Closure	162	2.3	1	4.2	2	7	20	132
Activity - Off Road								
Lane Closed	354	5.1	0	0.0	4	12	72	266
Lane Open	473	6.8	4	16.7	18	20	59	372
Unknown Lane Closure	36	0.5	0	0.0	0	3	7	26
Activity - None								
Lane Closed	659	9.5	3	12.5	13	28	111	504
Lane Open	566	8.1	6	25.0	25	34	93	408
Unknown Lane Closure	37	0.5	0	0.0	2	3	6	26
Activity - Unknown								
Lane Closed	131	1.9	0	0.0	3	2	16	110
Lane Open	44	0.6	0	0.0	0	4	7	33
Unknown Lane Closure	153	2.2	0	0.0	0	5	23	125
Subtotal	6,948	100.0	24	100.0	163	290	1,075	5,396
Utility								
Activity - On Road								
Lane Closed	109	31.9	0	0.0	1	7	14	87
Lane Open	61	17.8	0	0.0	1	3	9	48
Unknown Lane Closure	5	1.5	0	0.0	0	0	0	5
Activity - Off Road								
Lane Closed	26	7.6	0	0.0	1	1	3	21
Lane Open	55	16.1	2	100.0	1	5	11	36
Unknown Lane Closure	3	0.9	0	0.0	0	0	1	2
Activity - None								
Lane Closed	9	2.6	0	0.0	0	0	2	7
Lane Open	23	6.7	0	0.0	1	2	4	16
Unknown Lane Closure	3	0.9	0	0.0	0	0	1	2
Activity - Unknown								
Lane Closed	1	0.3	0	0.0	0	0	0	1
Lane Open	2	0.6	0	0.0	0	1	0	1
Unknown Lane Closure	45	13.2	0	0.0	1	3	6	35
Subtotal	342	100.0	2	100.0	6	22	51	261
Total	7,290		26		169	312	1,126	5,657

REPORTED STATEWIDE TRAFFIC CRASHES BY COUNTY IN MICHIGAN

COUNTY	All	Fatal	Injury	Property Damage	Inter- state	US Route	State Route	Local Street	Persons Killed	Persons Injured
Alcona	858	3	64	791	0	122	141	595	3	99
Alger	609	3	97	509	0	37	225	347	3	131
Allegan	3,969	21	882	3,066	287	367	724	2,591	23	1,226
Alpena	1,493	1	224	1,268	0	287	239	967	1	316
Antrim	1,210	3	143	1,064	0	240	203	767	4	212
Arenac	1,057	1	157	899	132	232	74	619	1	233
Baraga	560	2	74	484	0	206	58	296	2	113
Barry	2,598	11	403	2,184	0	0	734	1,864	11	581
Bay	4,019	22	1,014	2,983	299	120	1,110	2,490	25	1,450
Benzie	684	3	98	583	0	146	86	452	3	128
Berrien	5,986	29	1,386	4,571	918	829	606	3,633	32	2,080
Branch	2,127	13	373	1,741	208	390	76	1,453	16	524
Calhoun	6,826	25	1,195	5,606	1,184	47	808	4,787	27	1,678
Cass	1,957	18	414	1,525	3	165	551	1,238	20	633
Charlevoix	1,349	4	186	1,159	0	345	199	805	4	246
Cheboygan	1,205	4	256	945	190	65	239	711	5	358
Chippewa	1,710	3	272	1,435	321	0	364	1,025	3	384
Clare	1,664	6	237	1,421	0	397	269	998	7	346
Clinton	2,439	7	432	2,000	345	360	136	1,598	7	612
Crawford	938	3	164	771	218	22	196	502	3	228
Delta	2,482	6	312	2,164	0	538	398	1,546	7	435
Dickinson	1,544	2	210	1,332	0	479	359	706	2	269
Eaton	4,462	15	857	3,590	617	150	1,199	2,496	18	1,259
Emmet	1,853	4	300	1,549	23	608	136	1,086	4	455
Genesee	15,789	58	4,096	11,635	1,796	401	2,217	11,375	62	6,141
Gladwin	1,196	3	189	1,004	0	0	418	778	5	288
Gogebic	579	3	90	486	0	259	29	291	4	126
Grand Traverse	3,971	13	767	3,191	0	907	396	2,668	16	1,115
Gratiot	1,897	6	322	1,569	0	510	295	1,092	6	487
Hillsdale	2,298	12	376	1,910	0	215	494	1,589	14	547
Houghton	1,372	8	237	1,127	0	401	306	665	9	328
Huron	1,856	3	262	1,591	0	0	667	1,189	3	390
Ingham	12,102	25	2,525	9,552	1,691	448	1,930	8,033	31	3,483
Ionia	2,782	9	477	2,296	303	0	747	1,732	9	678
Iosco	1,326	5	217	1,104	0	276	291	759	6	291
Iron	1,036	2	116	918	0	221	296	519	2	156
Isabella	2,970	9	481	2,480	0	325	239	2,406	11	697
Jackson	7,023	21	1,252	5,750	898	325	1,014	4,786	22	1,698
Kalamazoo	10,199	31	2,020	8,148	819	620	1,141	7,619	33	2,844
Kalkaska	913	3	134	776	0	164	174	575	3	195
Kent	26,200	57	5,709	20,434	1,706	2,143	4,396	17,955	67	7,961
Keweenaw	103	0	20	83	0	36	16	51	0	22
Lake	689	3	100	586	0	113	102	474	3	134
Lapeer	3,763	21	709	3,033	238	0	1,035	2,490	26	1,064
Leelanau	720	1	111	608	0	0	268	452	1	159
Lenawee	3,668	17	785	2,866	0	791	675	2,202	17	1,187

**REPORTED STATEWIDE TRAFFIC CRASHES
BY COUNTY IN MICHIGAN (Continued)**

COUNTY	All	Fatal	Injury	Property Damage	Inter- state	US Route	State Route	Local Street	Persons Killed	Persons Injured
Livingston	5,552	22	1,285	4,245	1,028	461	594	3,469	26	1,805
Luce	299	3	42	254	0	0	150	149	4	61
Mackinac	928	4	121	803	174	186	217	351	7	179
Macomb	26,447	53	6,545	19,849	1,735	0	6,488	18,224	54	9,282
Manistee	1,354	3	173	1,178	0	306	226	822	3	236
Marquette	2,668	11	491	2,166	0	752	266	1,650	11	692
Mason	1,818	5	283	1,530	0	597	32	1,189	5	413
Mecosta	2,786	8	324	2,454	0	678	495	1,613	8	455
Menominee	2,195	5	254	1,936	0	679	186	1,330	5	366
Midland	3,179	13	653	2,513	0	352	444	2,383	15	957
Missaukee	871	3	94	774	0	0	232	639	4	146
Monroe	4,517	24	1,181	3,312	450	742	625	2,700	26	1,728
Montcalm	3,324	15	533	2,776	0	114	1,036	2,174	20	787
Montmorency	470	1	57	412	0	0	163	307	1	76
Muskegon	6,035	18	1,390	4,627	49	1,012	686	4,288	21	1,958
Newaygo	2,088	9	365	1,714	0	0	654	1,434	10	535
Oakland	48,976	88	11,465	37,423	6,303	2,452	6,486	33,735	91	15,823
Oceana	1,282	4	211	1,067	0	306	84	892	4	280
Ogemaw	1,406	4	182	1,220	253	0	314	839	4	264
Ontonagon	683	2	49	632	0	121	257	305	2	62
Osceola	1,783	10	251	1,522	0	431	195	1,157	11	351
Oscoda	434	1	78	355	0	0	137	297	1	123
Otsego	1,169	4	236	929	293	0	228	648	5	339
Ottawa	7,783	27	1,693	6,063	436	1,095	619	5,633	34	2,407
Presque Isle	820	1	86	733	0	171	180	469	1	109
Roscommon	1,278	3	216	1,059	151	111	286	730	3	304
Saginaw	8,496	35	1,966	6,495	546	0	2,295	5,655	40	2,805
St. Clair	5,442	24	1,350	4,068	733	0	1,082	3,627	28	1,964
St. Joseph	2,578	14	507	2,057	0	640	426	1,512	15	759
Sanilac	1,982	10	289	1,683	0	0	708	1,274	10	415
Schoolcraft	654	1	90	563	0	172	170	312	1	118
Shiawassee	2,656	10	582	2,064	231	0	767	1,658	11	837
Tuscola	2,229	14	429	1,786	0	0	666	1,563	17	648
Van Buren	3,256	17	679	2,560	585	0	639	2,032	20	1,053
Washtenaw	13,209	37	2,801	10,371	1,792	1,765	928	8,724	39	3,779
Wayne	86,863	217	19,760	66,886	8,826	4,648	10,293	63,096	234	27,988
Wexford	2,036	10	350	1,676	0	558	494	984	14	492
UNKNOWN	78	0	14	64	0	0	0	78	0	18
Totals	415,675	1,249	87,820	326,606	35,781	32,656	66,024	281,214	1,386	124,601