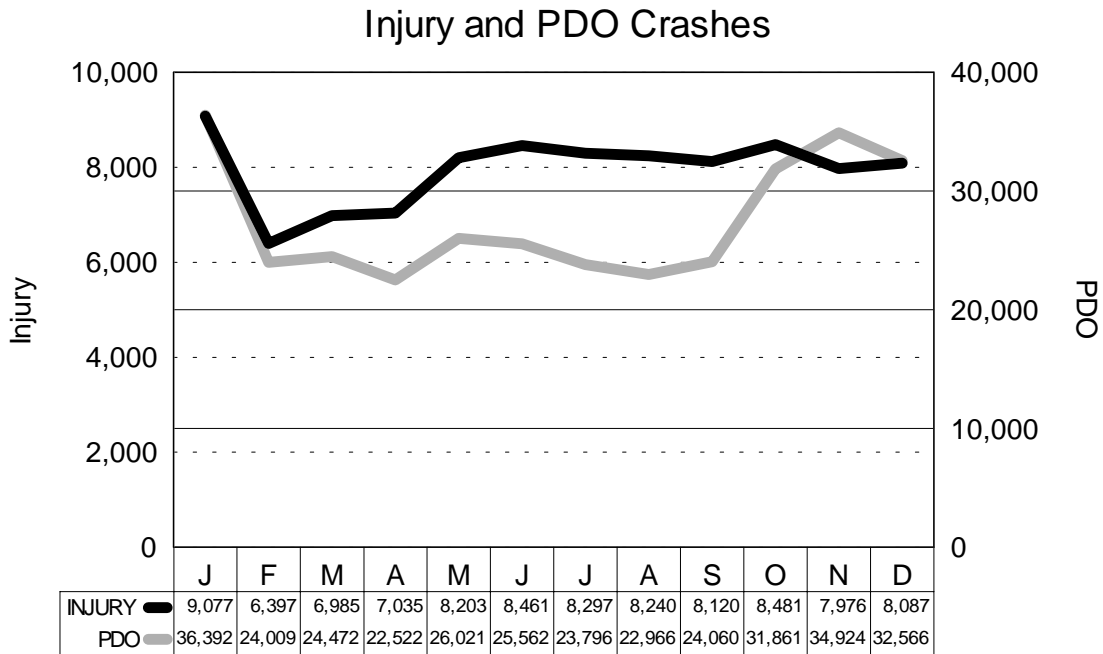
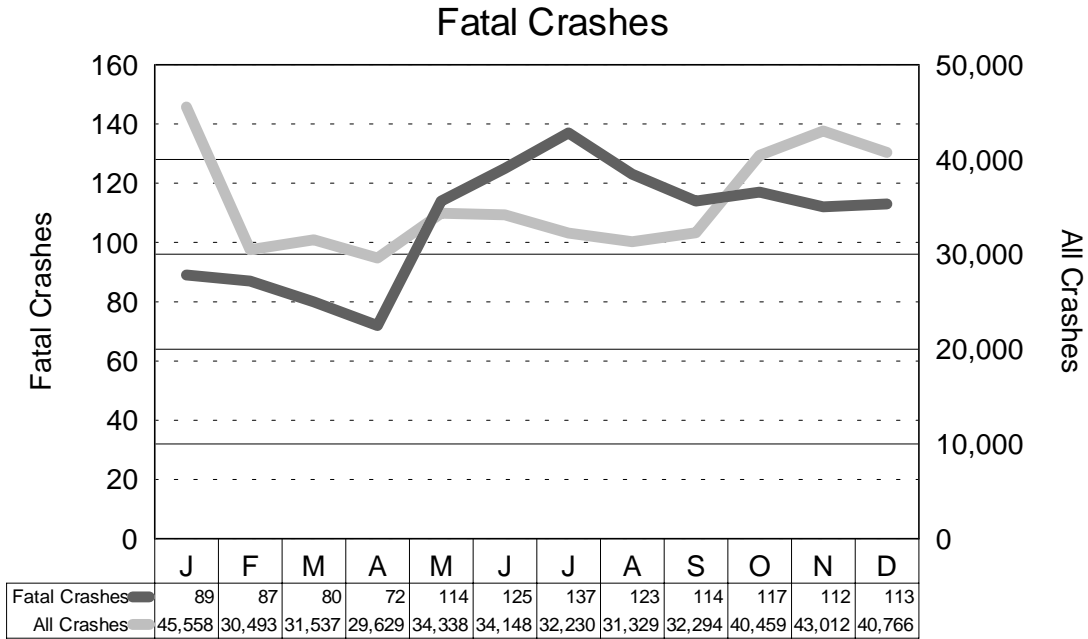


ALL CRASHES INJURY SEVERITY BY MONTH

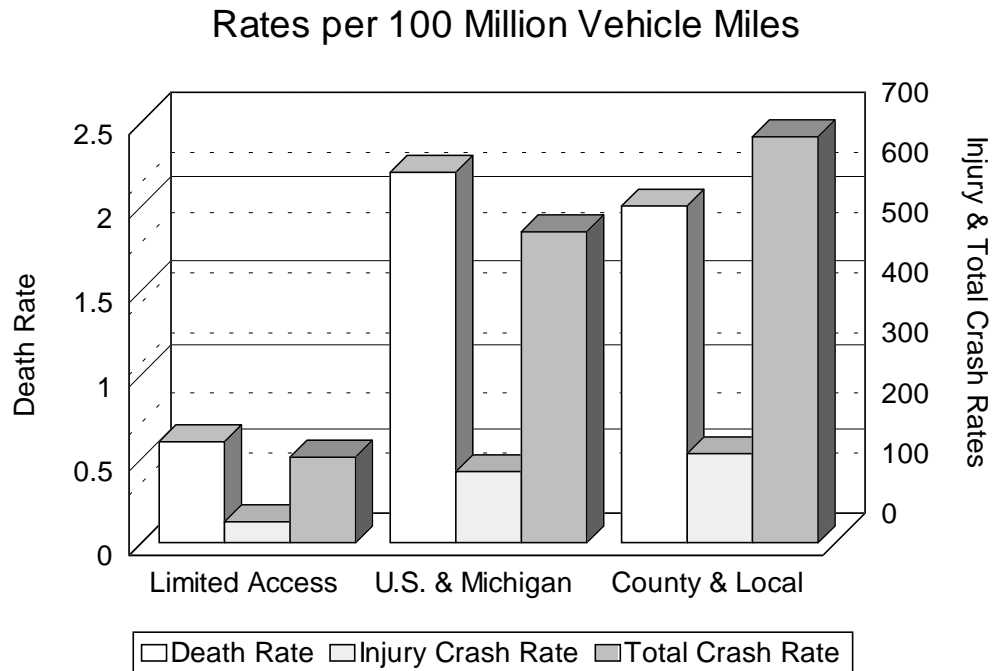


The charts on this page show that the months of April through September are peak months in terms of the ratio of the number of crashes involving death or injury to the number of noninjury crashes. That is, if a person was in a motor vehicle crash during one of these months there was a higher chance of 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 limited access highways. 1997 estimated mileage figures were provided by the Michigan Department of Transportation [11].

STATEWIDE	Estimated Mileage (Billions)	All Crashes	Injury Crashes	Deaths	Total Crash Rate	Injury Crash Rate	Death Rate
Limited Access Roadways	26.9	38,310	9,422	161	142.4	35.0	0.6
U.S. & Michigan Roads	21.0	108,606	24,829	461	517.2	118.2	2.2
County & City Roads	41.3	278,877	61,108	824	675.2	148.0	2.0
Totals	89.2	425,793	95,359	1,446	477.3	106.9	1.6



CRASH TYPE

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Single Vehicle	128,617	30.2	558	43.5	3,816	7,954	10,354	105,935
Head On	8,789	2.1	186	14.5	839	1,035	1,401	5,328
Head On - Left Turn	13,069	3.1	36	2.8	766	1,633	3,002	7,632
Angle	87,419	20.5	350	27.3	3,167	6,751	15,224	61,927
Rear End	102,009	24.0	76	5.9	1,541	4,050	21,966	74,376
Rear End - Left Turn	4,783	1.1	6	0.5	116	279	992	3,390
Rear End - Right Turn	3,278	0.8	1	0.1	21	84	504	2,668
Sideswipe - Same Direction	35,875	8.4	13	1.0	337	751	2,469	32,305
Sideswipe - Opposite Direct	12,537	2.9	15	1.2	177	406	991	10,948
Other	23,809	5.6	40	3.1	659	1,081	1,979	20,050
Unknown	5,608	1.3	2	0.2	121	231	662	4,592
Totals	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

Single Vehicle, Head On, and Angle crash types produce the highest number of fatal crashes (85.3%). Single Vehicle crashes include rollovers, which are particularly deadly crash types. Rear End - Turning and Sideswipe crashes produce the lowest number of fatal crashes (2.8%).

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	366,313	86.0	903	70.4	8,644	18,363	51,661	286,742
Median	2,756	0.6	23	1.8	135	275	477	1,846
Shoulder	16,906	4.0	74	5.8	680	1,465	2,035	12,652
Outside of Shoulder/Curb	31,364	7.4	252	19.6	1,764	3,502	4,366	21,480
Gore	723	0.2	8	0.6	41	83	110	481
Other/Unknown	7,731	1.8	23	1.8	296	567	895	5,950
Totals	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

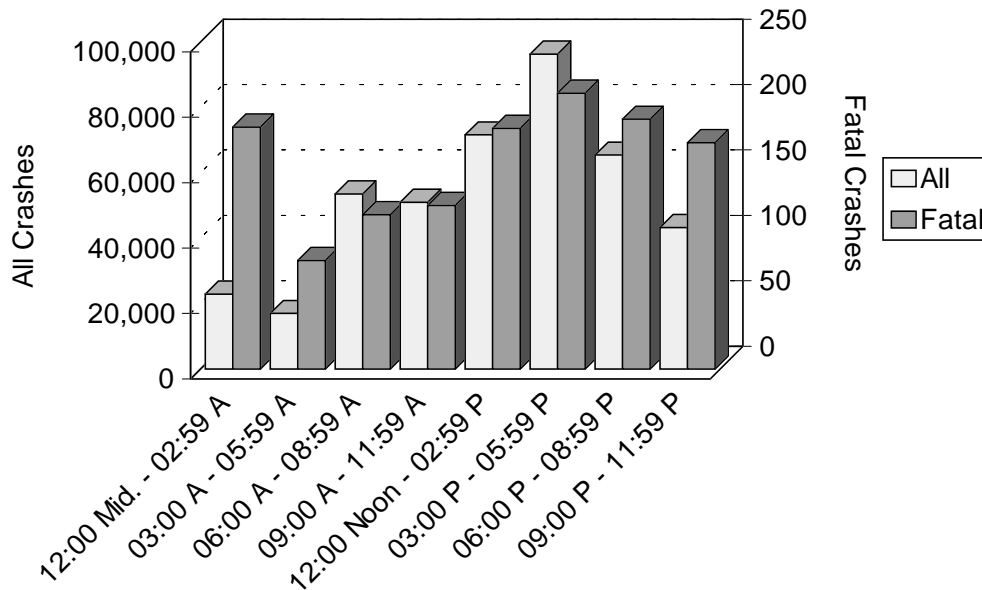
Crashes that happen outside of the normal driving lanes are overrepresented in the fatal count. Only 7.4 percent of crashes occur outside the shoulder of the road, but these crashes account for 19.6 percent of the fatal crashes.



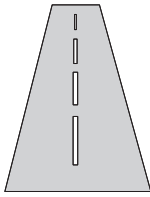
TIME AND SEVERITY

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.	22,920	5.4	185	14.4	1,079	1,909	2,411	17,336
03:00 a.m. - 05:59 a.m.	16,999	4.0	83	6.5	516	1,009	1,430	13,961
06:00 a.m. - 08:59 a.m.	53,565	12.6	118	9.2	1,207	2,361	7,010	42,869
09:00 a.m. - 11:59 a.m.	51,005	12.0	125	9.7	1,301	2,741	7,875	38,963
12:00 noon - 02:59 p.m.	71,611	16.8	184	14.3	1,854	4,225	11,931	53,417
03:00 p.m. - 05:59 p.m.	96,288	22.6	211	16.4	2,426	5,688	15,520	72,443
06:00 p.m. - 08:59 p.m.	65,436	15.4	191	14.9	1,757	3,564	8,107	51,817
09:00 p.m. - 11:59 p.m.	43,310	10.2	173	13.5	1,331	2,596	4,800	34,410
Unknown	4,659	1.1	13	1.0	89	162	460	3,935
Total	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

Time and Severity



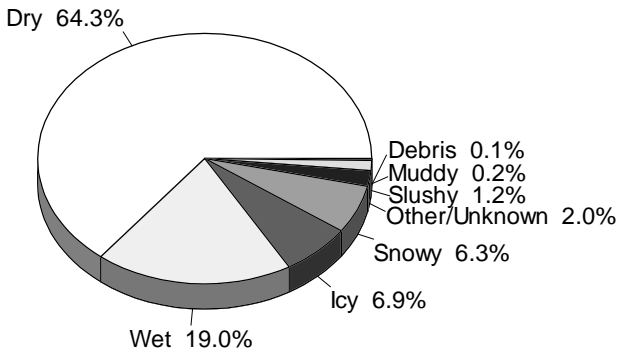
Crash frequencies peak in the late afternoon, then drop off steadily until 6:00 AM (the morning rush hour). Fatal crash frequencies rise with the frequency of other crashes, but continue at a high rate well into the early morning hours. There are proportionally more fatal crashes during the midnight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



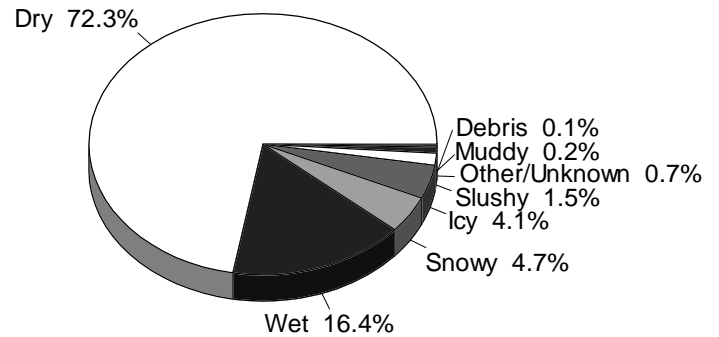
ROAD CONDITION

ROAD SURFACE CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Dry	273,945	64.3	928	72.3	7,882	16,453	37,357	211,325
Wet	80,849	19.0	210	16.4	2,094	4,512	13,494	60,539
Icy	29,572	6.9	53	4.1	711	1,422	4,017	23,369
Snowy	26,682	6.3	60	4.7	508	1,078	2,931	22,105
Muddy	766	0.2	3	0.2	22	68	97	576
Slushy	5,280	1.2	19	1.5	140	355	764	4,002
Debris	257	0.1	1	0.1	12	27	37	180
Other/Unknown	8,442	2.0	9	0.7	191	340	847	7,055
Totals	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

ALL CRASHES



FATAL CRASHES



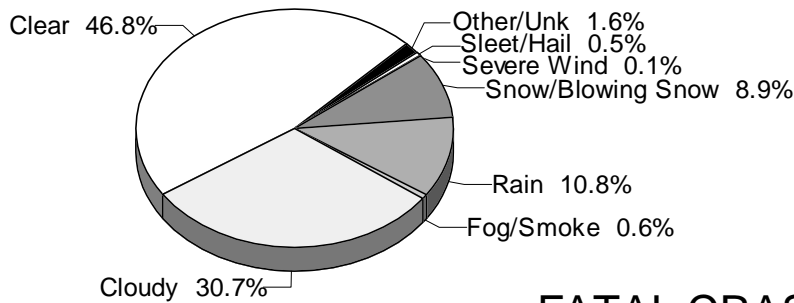
Most crashes (64.3%) and most fatal crashes (72.3%) occur on dry roads. This indicates that Michigan drivers do a good job of adjusting their driving behavior for bad road conditions.



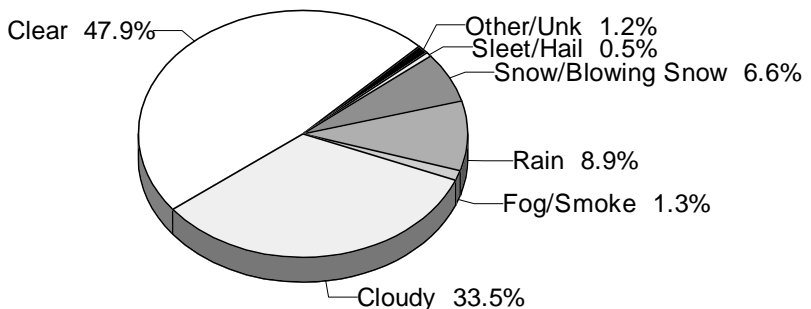
WEATHER CONDITION

WEATHER CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Clear	199,272	46.8	615	47.9	5,840	11,925	26,957	153,935
Cloudy	130,808	30.7	430	33.5	3,430	7,437	18,576	100,935
Fog/Smoke	2,606	0.6	17	1.3	104	158	262	2,065
Rain	45,838	10.8	114	8.9	1,192	2,664	7,960	33,908
Snow/Blowing Snow	38,027	8.9	85	6.6	807	1,756	4,827	30,552
Severe Wind	317	0.1	0	0.0	16	16	38	247
Sleet/Hail	2,112	0.5	7	0.5	63	126	336	1,580
Other/Unknown	6,813	1.6	15	1.2	108	173	588	5,929
Totals	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

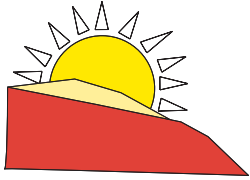
ALL CRASHES



FATAL CRASHES



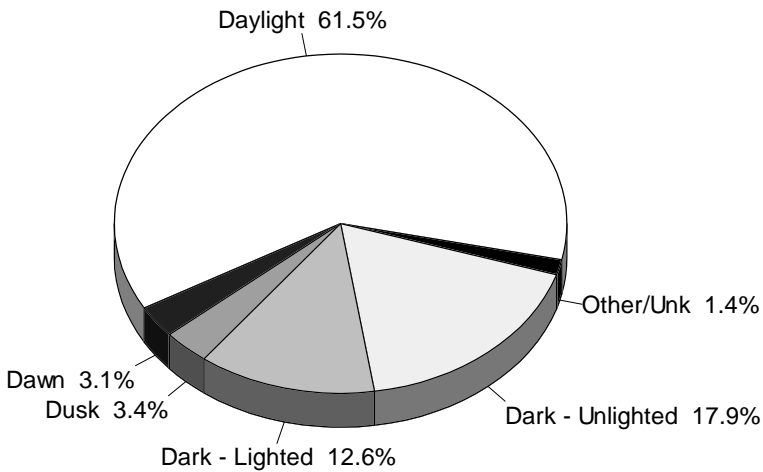
The majority of all crashes occur in good weather (46.8%) as do the majority of fatal crashes (47.9%).



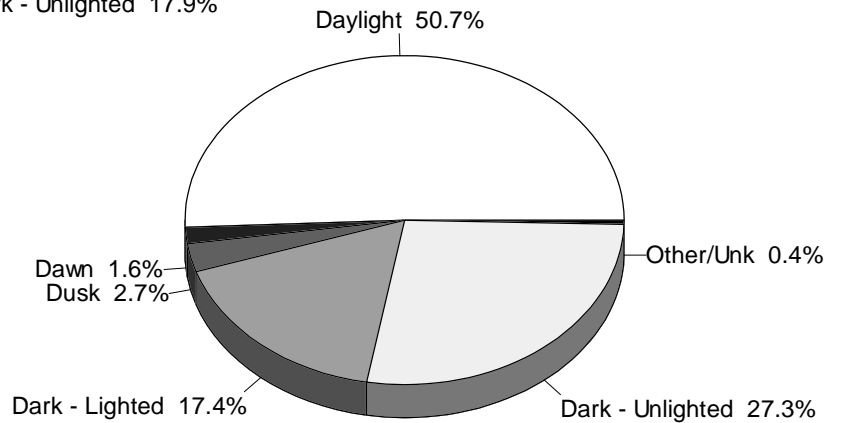
LIGHT CONDITION

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	261,949	61.5	650	50.7	7,047	15,520	42,352	196,380
Dawn	13,372	3.1	20	1.6	264	505	1,322	11,261
Dusk	14,471	3.4	35	2.7	342	733	1,767	11,594
Dark - Lighted	53,547	12.6	223	17.4	1,983	3,779	8,175	39,387
Dark - Unlighted	76,354	17.9	350	27.3	1,838	3,558	5,366	65,242
Other/Unknown	6,100	1.4	5	0.4	86	160	562	5,287
Totals	425,793	100.0	1,283	100.0	11,560	24,255	59,544	329,151

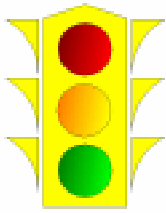
ALL CRASHES



FATAL CRASHES



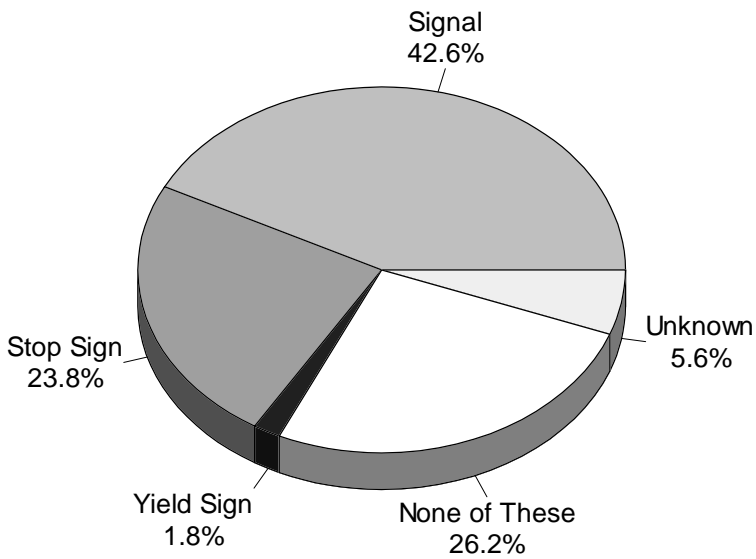
The majority (61.5%) of all crashes happen during daylight hours. Dark conditions create the greatest hazard, as they are overrepresented in fatal crashes. Areas without street lights have the highest fatality rate.



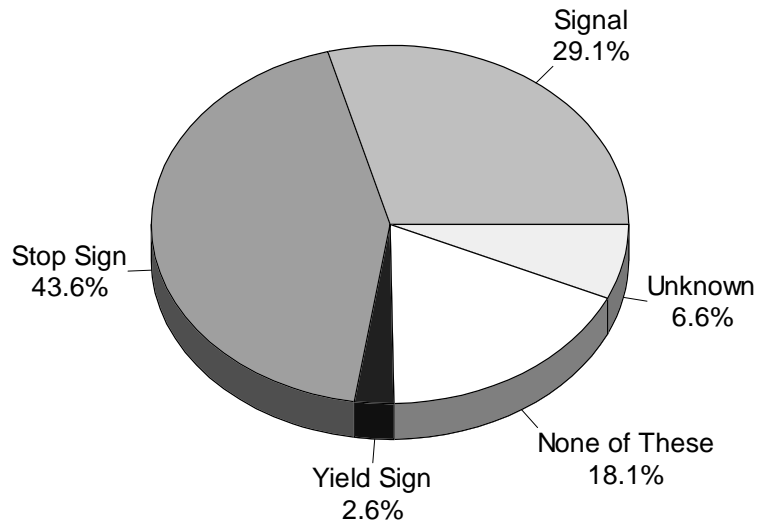
INTERSECTION CRASHES BY TRAFFIC CONTROL TYPE

TRAFFIC CONTROL TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Signal	64,273	42.6	114	29.1	1,875	4,271	13,236	44,777
Stop Sign	35,861	23.8	171	43.6	1,343	2,797	6,420	25,130
Yield Sign	2,785	1.8	10	2.6	86	199	571	1,919
None of These	39,515	26.2	71	18.1	1,112	2,432	6,521	29,379
Unknown	8,462	5.6	26	6.6	244	436	1,308	6,448
Totals	150,896	100.0	392	100.0	4,660	10,135	28,056	107,653

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 Total	Number	% of Fatal	A	B	C	
Construction/Maintenance								
Activity - On Road								
Lane Closed	2,873	43.3	6	40.0	57	127	484	2,199
Lane Open	881	13.3	1	6.7	28	47	153	652
Unk Lane Closure	173	2.6	1	6.7	4	3	25	140
Activity - Off Road								
Lane Closed	302	4.5	1	6.7	6	12	57	226
Lane Open	581	8.8	0	0.0	14	31	95	441
Unk Lane Closure	40	0.6	0	0.0	2	0	6	32
Activity - None								
Lane Closed	798	12.0	3	20.0	27	47	167	554
Lane Open	574	8.6	3	20.0	16	50	78	427
Unk Lane Closure	53	0.8	0	0.0	0	2	12	39
Activity - Unknown								
Lane Closed	144	2.2	0	0.0	2	7	18	117
Lane Open	56	0.8	0	0.0	0	3	10	43
Unk Lane Closure	163	2.5	0	0.0	6	7	25	125
Sub-Total	6,638	100.0	15	100.0	162	336	1,130	4,995
Utility								
Activity - On Road								
Lane Closed	118	28.7	2	100.0	1	7	22	86
Lane Open	88	21.4	0	0.0	6	8	12	62
Unk Lane Closure	4	1.0	0	0.0	0	1	0	3
Activity - Off Road								
Lane Closed	37	9.0	0	0.0	1	2	10	24
Lane Open	63	15.3	0	0.0	3	7	8	45
Unk Lane Closure	3	0.7	0	0.0	0	0	1	2
Activity - None								
Lane Closed	13	3.2	0	0.0	0	2	5	6
Lane Open	16	3.9	0	0.0	0	1	3	12
Unk Lane Closure	4	1.0	0	0.0	0	0	2	2
Activity - Unknown								
Lane Closed	4	1.0	0	0.0	0	1	0	3
Lane Open	5	1.2	0	0.0	0	0	1	4
Unk Lane Closure	56	13.6	0	0.0	2	1	8	45
Sub-Total	411	100.0	2	100.0	13	30	72	294
Total	7,049		17		175	366	1,202	5,289

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	989	5	87	897	0	163	204	622	8	131
Alger	471	2	99	370	0	22	202	247	3	142
Allegan	4,064	18	840	3,206	294	342	841	2,587	21	1,231
Alpena	1,429	4	223	1,202	0	309	229	891	4	313
Antrim	1,102	5	150	947	0	194	223	685	5	246
Arenac	1,108	3	190	915	157	276	80	595	3	284
Baraga	493	4	51	438	0	175	64	254	7	80
Barry	2,598	9	415	2,174	0	0	850	1,748	11	600
Bay	4,329	19	1,141	3,169	208	165	1,211	2,745	22	1,683
Benzie	669	4	117	548	0	191	89	389	4	173
Berrien	5,995	26	1,411	4,558	1,017	780	709	3,489	28	2,114
Branch	2,239	8	391	1,840	231	507	77	1,424	8	549
Calhoun	7,142	21	1,273	5,848	1,406	73	944	4,719	24	1,833
Cass	2,062	11	379	1,672	3	173	586	1,300	11	574
Charlevoix	1,299	1	176	1,122	0	364	229	706	1	259
Cheboygan	1,132	10	248	874	200	73	238	621	14	401
Chippewa	1,656	2	304	1,350	408	0	352	896	2	427
Clare	1,666	12	272	1,382	0	443	295	928	16	426
Clinton	2,890	16	508	2,366	391	572	174	1,753	18	730
Crawford	870	4	140	726	228	21	192	429	4	202
Delta	2,465	6	371	2,088	0	637	343	1,485	6	520
Dickinson	1,523	8	231	1,284	0	508	386	629	10	329
Eaton	4,605	19	889	3,697	659	176	1,323	2,447	19	1,316
Emmet	1,782	9	278	1,495	23	599	173	987	11	389
Genesee	16,330	73	4,557	11,700	1,955	439	2,422	11,514	82	6,751
Gladwin	1,195	4	163	1,028	0	0	463	732	4	233
Gogebic	645	0	117	528	0	301	30	314	0	156
Grand Traverse	3,746	16	717	3,013	0	982	392	2,372	19	1,071
Gratiot	1,830	3	286	1,541	0	478	330	1,022	3	419
Hillsdale	2,347	9	397	1,941	0	232	599	1,516	9	570
Houghton	1,320	1	222	1,097	0	428	288	604	1	310
Huron	2,074	7	291	1,776	0	0	859	1,215	7	421
Ingham	12,930	15	2824	10,091	1,908	424	2,419	8,179	15	3,866
Ionia	2,878	12	481	2,385	313	0	820	1,745	13	682
Iosco	1,346	4	184	1,158	0	303	319	724	4	260
Iron	897	4	104	789	0	206	242	449	4	135
Isabella	2,904	12	512	2,380	0	541	307	2,056	14	760
Jackson	7,439	34	1,435	5,970	1,044	374	1,143	4,878	47	2,119
Kalamazoo	9,748	20	1,967	7,761	805	671	1,202	7,070	22	2,683
Kalkaska	867	6	193	668	0	159	188	520	6	292
Kent	25,094	51	5,577	19,466	1,649	2,014	4,580	16,851	57	7,874
Keweenaw	79	1	13	65	0	22	7	50	1	13
Lake	657	6	103	548	0	116	104	437	6	155
Lapeer	3,839	18	750	3,071	247	0	1,202	2,390	19	1,147
Leelanau	714	2	108	604	0	0	273	441	3	162
Lenawee	3,809	23	812	2,974	0	887	733	2,189	29	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	5,758	14	1,306	4,438	1,201	413	711	3,433	14	1,872
Luce	329	2	53	274	0	0	166	163	2	76
Mackinac	1,008	2	142	864	243	210	211	344	2	202
Macomb	28,245	57	7,325	20,863	1,788	0	7,480	18,977	58	10,434
Manistee	1,155	1	184	970	0	286	190	679	1	259
Marquette	2,765	9	493	2,263	0	766	299	1,700	12	685
Mason	1,773	4	274	1,495	0	696	26	1,051	5	428
Mecosta	2,891	14	423	2,454	0	747	482	1,662	19	646
Menominee	1,743	2	234	1,507	0	604	142	997	2	345
Midland	3,232	16	590	2,626	0	413	446	2,373	18	853
Missaukee	815	1	104	710	0	0	292	523	2	150
Monroe	4,969	28	1,265	3,676	463	926	733	2,847	29	1,859
Montcalm	3,394	17	580	2,797	0	109	1,133	2,152	20	883
Montmorency	543	0	78	465	0	0	167	376	0	119
Muskegon	6,180	22	1,451	4,707	57	1,034	751	4,338	23	2,048
Newaygo	2,218	20	380	1,818	0	0	728	1,490	23	567
Oakland	49,330	81	12,333	36,916	6,421	2,953	7,276	32,680	93	17,207
Oceana	1,252	6	217	1,029	0	317	95	840	6	329
Ogemaw	1,310	9	198	1,103	231	0	317	762	9	293
Ontonagon	572	1	68	503	0	122	232	218	1	89
Osceola	1,662	5	187	1,470	0	471	215	976	7	275
Oscoda	535	2	59	474	0	0	173	362	2	84
Otsego	1,163	4	262	897	268	1	264	630	4	358
Ottawa	7,968	25	1,759	6,184	421	1,122	713	5,712	27	2,539
Presque Isle	770	5	87	678	0	172	202	396	6	110
Roscommon	1,279	5	232	1,042	197	101	264	717	8	355
Saginaw	8,967	21	2,083	6,863	591	0	2,679	5,697	26	2,998
St. Clair	5,704	25	1,330	4,349	746	0	1,127	3,831	29	1,997
St. Joseph	2,607	16	526	2,065	0	614	400	1,593	21	785
Sanilac	2,038	11	287	1,740	1	0	729	1,308	12	399
Schoolcraft	603	1	79	523	4	142	138	319	1	110
Shiawassee	2,640	12	632	1,996	233	2	729	1,676	12	909
Tuscola	2,349	6	446	1,897	0	0	826	1,523	6	647
Van Buren	3,112	17	699	2,396	545	0	636	1,931	17	1,052
Washtenaw	12,671	36	2,949	9,686	1,535	1,662	1,012	8,462	39	4,145
Wayne	92,962	235	23,687	69,040	10,219	5,796	11,570	65,377	261	34,706
Wexford	1,894	4	328	1,562	0	566	531	797	4	466
UNKNOWN	121	0	32	89	0	0	0	121	0	51
Totals	425,793	1,283	95,359	329,151	38,310	35,585	73,021	278,877	1,446	137,548

