

2004

2004

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2004

2004

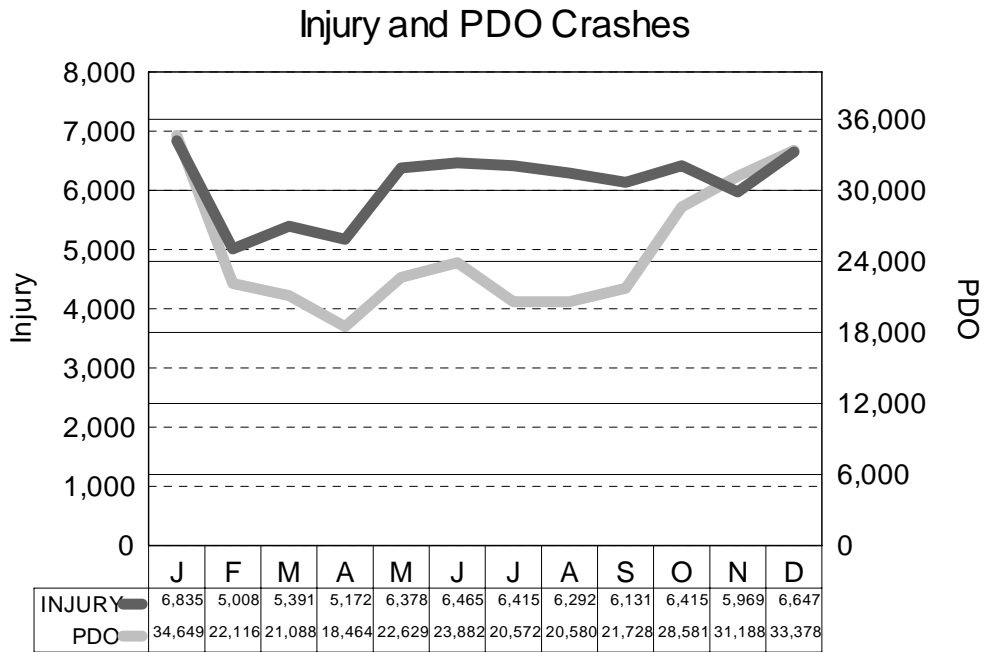
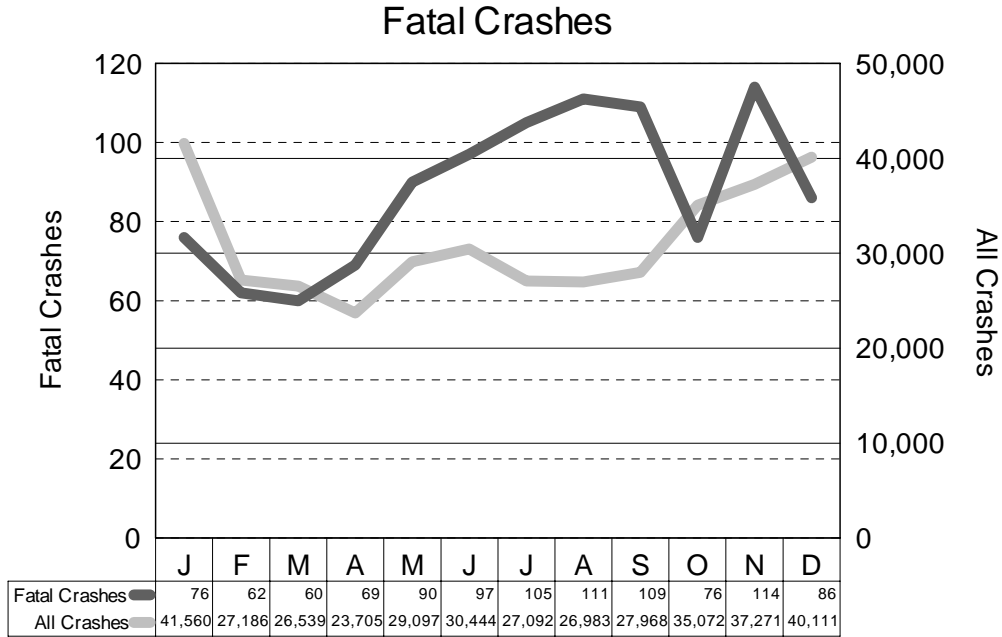
2004

2004

2004

Crash

ALL CRASHES INJURY SEVERITY BY MONTH



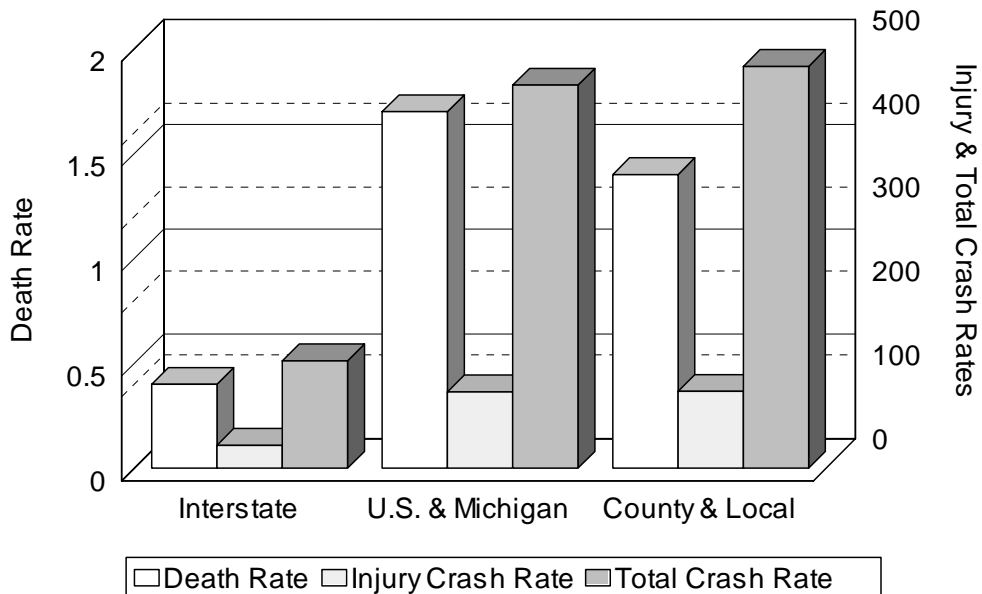
The charts on this page show the months of March through September are peak months (20.5% or above) in terms of the percent of the number of crashes involving death or injury to the number of all crashes. That is, if a person was in a motor vehicle crash during one of these months there was a higher 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. 2004 estimated mileage figures were provided by the Michigan Department of Transportation [9].

STATEWIDE	Estimated Mileage (Billions)	All Crashes	Injury Crashes	Deaths	Total Crash Rate	Injury Crash Rate	Death Rate
Interstate Routes	31.2	39,940	8,518	119	128.0	27.3	0.4
U.S. & Michigan Roads	22.5	102,747	20,478	381	456.7	91.0	1.7
County & City Roads	48.1	230,341	44,122	659	478.9	91.7	1.4
Total	101.8	373,028	73,118	1,159	366.4	71.8	1.1

Rates per 100 Million Vehicle Miles



CRASH TYPE

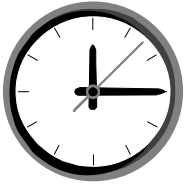
CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Single Vehicle	128,360	34.4	501	47.5	2,911	6,842	9,750	108,356
Head On	6,129	1.6	156	14.8	521	726	1,072	3,654
Head On - Left Turn	9,800	2.6	40	3.8	445	1,053	2,295	5,967
Angle	70,555	18.9	204	19.3	1,907	4,663	12,358	51,423
Rear End	91,017	24.4	65	6.2	846	2,536	17,273	70,297
Rear End - Left Turn	3,875	1.0	6	0.6	76	206	777	2,810
Rear End - Right Turn	3,202	0.9	0	0.0	18	49	466	2,669
Sideswipe - Same Direction	32,335	8.7	11	1.0	177	575	1,989	29,583
Sideswipe - Opposite Direct	9,284	2.5	23	2.2	123	278	700	8,160
Other/Unknown	18,471	5.0	49	4.6	366	668	1,452	15,936
Total	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

Single Vehicle, Head On, and Angle crash types produce the highest number of fatal crashes (81.6%). Single Vehicle crashes include rollovers, which are particularly deadly crash types. Rear End-Turning and Sideswipe crashes produce the lowest number of fatal crashes (3.8%).

RELATIONSHIP 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	305,250	81.8	698	66.2	5,050	12,213	39,418	247,871
Median	2,923	0.8	12	1.1	108	266	457	2,080
Shoulder	15,741	4.2	82	7.8	523	1,175	1,847	12,114
Outside of Shoulder/Curb	30,396	8.1	218	20.7	1,277	2,953	4,146	21,802
Gore	796	0.2	1	0.1	36	74	98	587
Other/Unknown	17,922	4.8	44	4.2	396	915	2,166	14,401
Total	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

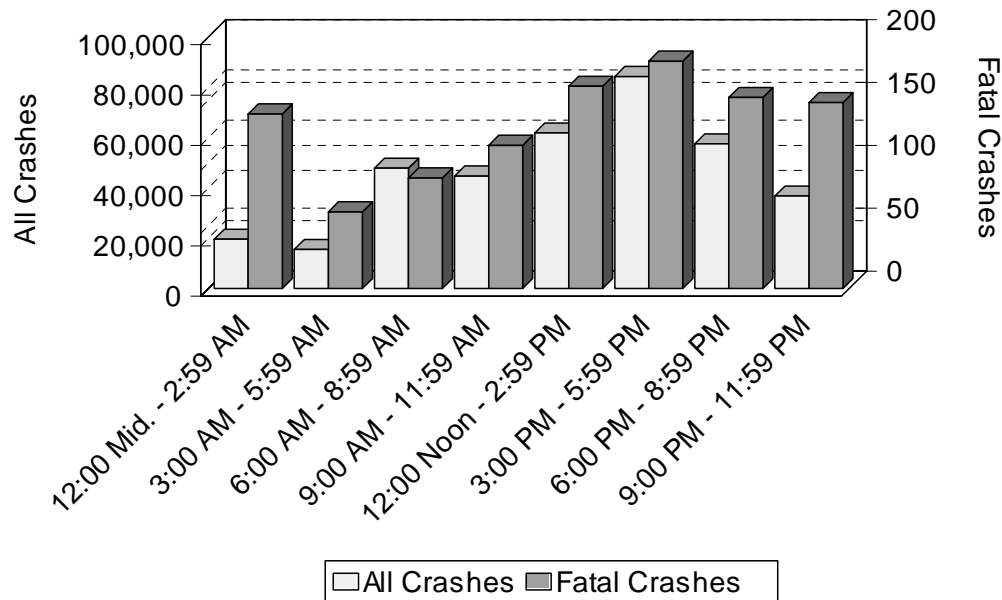
Crashes that happen outside of the normal driving lanes are overrepresented in the fatal count. Only 8.1 percent of crashes occur outside the shoulder of the road, but these crashes account for 20.7 percent of the fatal crashes.



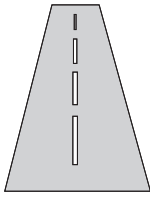
TIME AND SEVERITY

TIME OF DAY	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
12:00 Mid. - 2:59 AM	19,615	5.3	139	13.2	639	1,353	1,921	15,563
3:00 AM - 5:59 AM	15,579	4.2	61	5.8	369	773	1,262	13,114
6:00 AM - 8:59 AM	47,886	12.8	88	8.3	698	1,801	5,604	39,695
9:00 AM - 11:59 AM	44,792	12.0	114	10.8	859	2,044	6,471	35,304
12:00 Noon - 2:59 PM	61,888	16.6	161	15.3	1,220	3,095	9,710	47,702
3:00 PM - 5:59 PM	84,367	22.6	181	17.2	1,563	4,037	12,613	65,973
6:00 PM - 8:59 PM	57,607	15.4	152	14.4	1,122	2,598	6,510	47,225
9:00 PM - 11:59 PM	36,834	9.9	148	14.0	878	1,754	3,658	30,396
Unknown	4,460	1.2	11	1.0	42	141	383	3,883
Total	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

Time and Severity



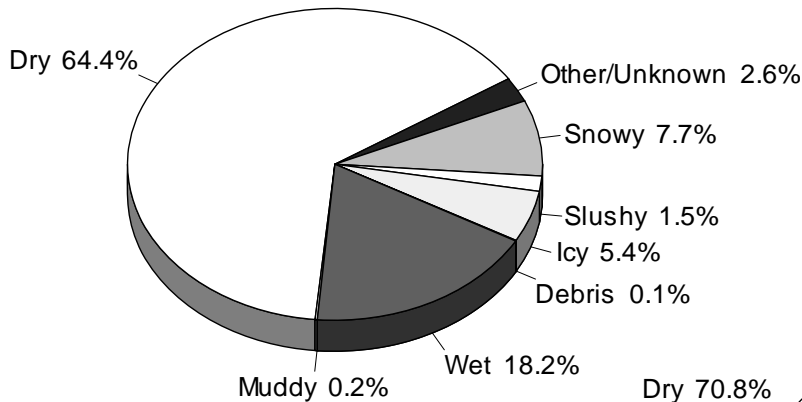
Crash frequencies peak in the late afternoon, then drop off steadily until 6:00 AM (the morning rush hour). Fatal crash frequencies rise with the frequency of other crashes, but continue at a high rate well into the early morning hours. There are proportionally more fatal crashes during the midnight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



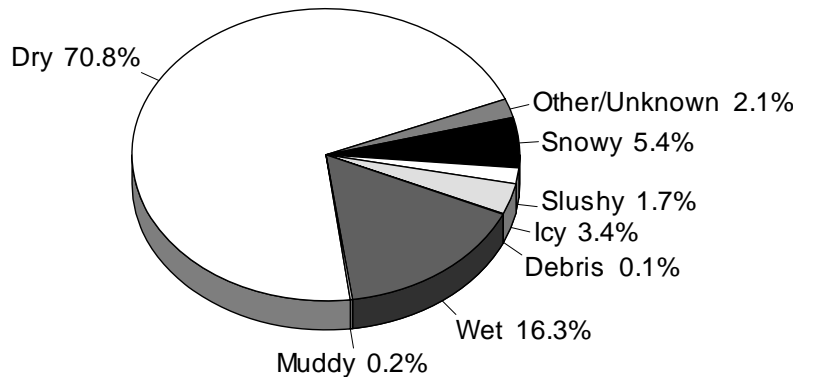
ROAD CONDITION

ROAD SURFACE CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Dry	240,056	64.4	747	70.8	5,183	12,093	31,334	190,699
Wet	67,862	18.2	172	16.3	1,219	3,028	10,009	53,434
Icy	20,046	5.4	36	3.4	330	862	2,432	16,386
Snowy	28,686	7.7	57	5.4	393	922	2,713	24,601
Muddy	588	0.2	2	0.2	14	52	63	457
Slushy	5,690	1.5	18	1.7	118	278	751	4,525
Debris	263	0.1	1	0.1	12	41	29	180
Other/Unknown	9,837	2.6	22	2.1	121	320	801	8,573
Total	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

ALL CRASHES



FATAL CRASHES



Most crashes (64.4%) and most fatal crashes (70.8%) occur on dry roads. This indicates that Michigan drivers do a good job of adjusting their driving behavior for bad road conditions.

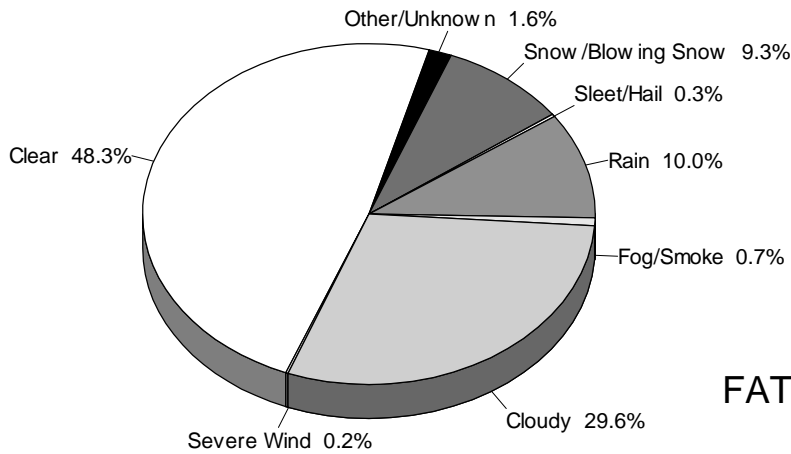


WEATHER CONDITION

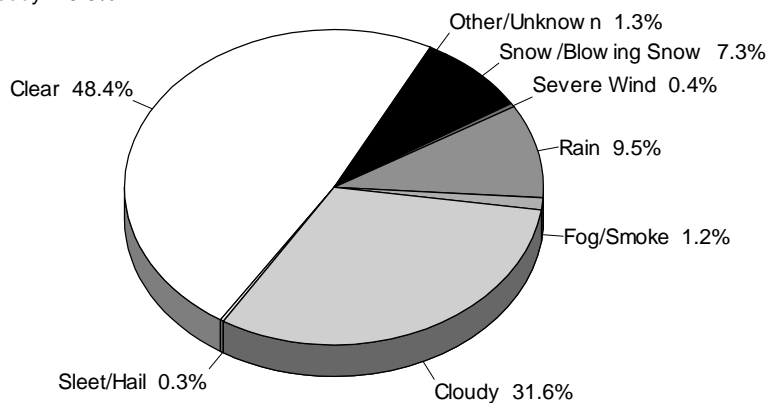
Revised August 23, 2006

WEATHER CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Clear	180,236	48.3	511	48.4	3,858	8,932	23,267	143,668
Cloudy	110,550	29.6	333	31.6	2,150	5,313	14,585	88,169
Fog/Smoke	2,692	0.7	13	1.2	71	125	242	2,241
Rain	37,163	10.0	100	9.5	712	1,720	5,569	29,062
Snow/Blowing Snow	34,749	9.3	77	7.3	518	1,318	3,901	28,935
Severe Wind	649	0.2	4	0.4	15	43	72	515
Sleet/Hail	962	0.3	3	0.3	20	56	146	737
Other/Unknown	6,027	1.6	14	1.3	46	89	350	5,528
Total	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

ALL CRASHES



FATAL CRASHES



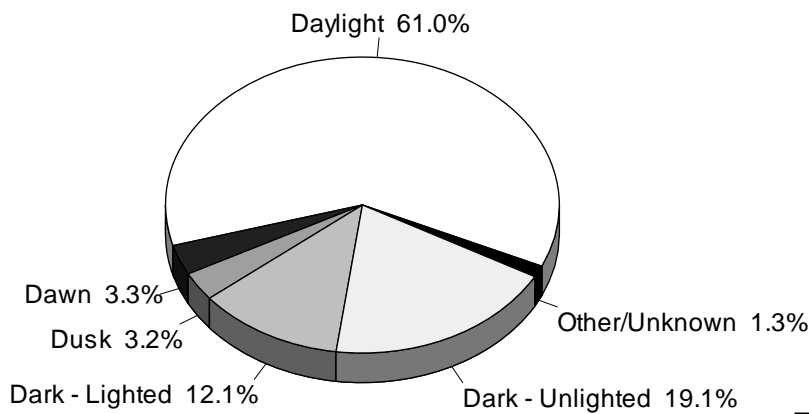
Almost half of all crashes occur in good weather (48.3%). Fog/smoke is a particularly deadly weather condition as it is overrepresented in fatal crashes.



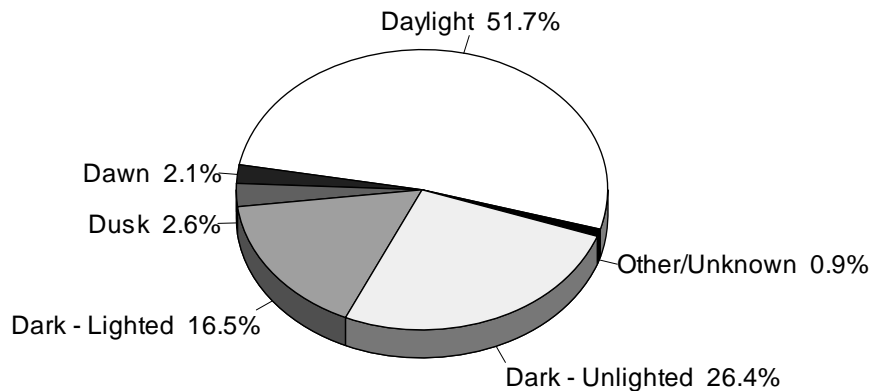
LIGHT CONDITION

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	227,444	61.0	545	51.7	4,484	11,412	34,306	176,697
Dawn	12,302	3.3	22	2.1	138	419	1,078	10,645
Dusk	11,902	3.2	27	2.6	232	502	1,304	9,837
Dark – Lighted	45,257	12.1	174	16.5	1,125	2,488	6,471	34,999
Dark – Unlighted	71,330	19.1	278	26.4	1,377	2,690	4,652	62,333
Other/Unknown	4,793	1.3	9	0.9	34	85	321	4,344
Totals	373,028	100.0	1,055	100.0	7,390	17,596	48,132	298,855

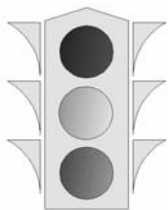
ALL CRASHES



FATAL CRASHES



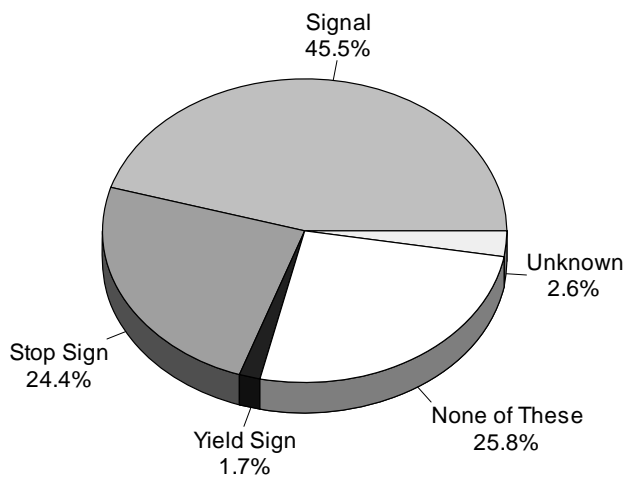
The majority (61.0%) of all crashes happen during daylight hours. Dark conditions create the greatest hazard, as they are overrepresented in fatal crashes. Areas without street lights have the higher fatality rate for dark conditions.



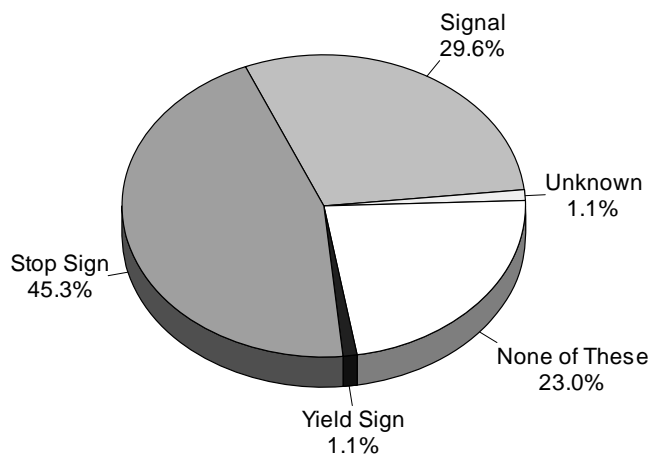
INTERSECTION CRASHES BY TRAFFIC CONTROL TYPE

TRAFFIC CONTROL TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Signal	51,491	45.5	81	29.6	963	2,714	10,121	37,612
Stop Sign	27,604	24.4	124	45.3	812	1,919	4,780	19,969
Yield Sign	1,872	1.7	3	1.1	56	120	333	1,360
None of These	29,210	25.8	63	23.0	616	1,484	4,447	22,600
Unknown	2,991	2.6	3	1.1	70	108	453	2,357
Total	113,168	100.0	274	100.0	2,517	6,345	20,134	83,898

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	3,047	48.2	8	42.1	53	116	438	2,432
Lane Open	909	14.4	3	15.8	14	31	111	750
Unknown Lane Closure	114	1.8	0	0.0	1	3	15	95
Activity - Off Road								
Lane Closed	347	5.5	0	0.0	4	21	53	269
Lane Open	421	6.7	1	5.3	9	23	66	322
Unknown Lane Closure	33	0.5	0	0.0	2	3	4	24
Activity - None								
Lane Closed	670	10.6	3	15.8	12	31	114	510
Lane Open	448	7.1	3	15.8	8	35	70	332
Unknown Lane Closure	23	0.4	0	0.0	2	0	0	21
Activity - Unknown								
Lane Closed	84	1.3	0	0.0	1	4	14	65
Lane Open	39	0.6	0	0.0	1	0	5	33
Unknown Lane Closure	188	3.0	1	5.3	2	11	28	146
Subtotal	6,323	100.0	19	100.0	109	278	918	4,999
Utility								
Activity - On Road								
Lane Closed	83	31.9	0	0.0	0	3	17	63
Lane Open	42	16.2	0	0.0	0	2	6	34
Unknown Lane Closure	3	1.2	0	0.0	0	0	1	2
Activity - Off Road								
Lane Closed	25	9.6	0	0.0	0	1	5	19
Lane Open	52	20.0	1	33.3	1	3	8	39
Unknown Lane Closure	0	0.0	0	0.0	0	0	0	0
Activity - None								
Lane Closed	9	3.5	0	0.0	0	1	3	5
Lane Open	20	7.7	1	33.3	0	0	2	17
Unknown Lane Closure	2	0.8	0	0.0	0	0	0	2
Activity - Unknown								
Lane Closed	2	0.8	0	0.0	0	0	1	1
Lane Open	1	0.4	0	0.0	0	0	0	1
Unknown Lane Closure	21	8.1	1	33.3	0	1	1	18
Subtotal	260	100.0	3	100.0	1	11	44	201
Unknown Type								
Subtotal	31,029		39		664	1,484	3,804	25,038
Total	37,612		61		774	1,773	4,766	30,238