

INJURY EXPERIENCE FOR PERSONS WHO HAD BEEN DRINKING

Alcohol and/or drug use affects the judgment and behavior of persons in addition to motor vehicle drivers. Consider the experience of drinking bicyclists, pedestrians, motorcyclists, snowmobilers, and ORV/ATV riders, when looking at crash statistics. Alcohol should not be used by anyone intending to navigate a roadway.

BICYCLIST	Total	Drinking in Crash	Drinking Bicyclist
Bicyclists Killed	25	8	5
Bicyclists Injured	2,236	104	73
Bicyclists in Crashes	2,797	127	90



PEDESTRIAN	Total	Drinking in Crash	Drinking Pedestrian
Pedestrians Killed	176	82	68
Pedestrians Injured	3108	287	190
Pedestrians in Crashes	3,677	387	272



MOTORCYCLIST	Total	Drinking in Crash	Drinking Motorcyclist
Motorcyclists Killed	77	35	32
Motorcyclists Injured	2,383	289	253
Motorcyclists in Crashes	3,215	377	326



SNOWMOBILER *	Total	Drinking in Crash	Drinking Snowmobiler
Snowmobilers Killed	10	7	7
Snowmobilers Injured	271	83	72
Snowmobilers in Crashes	489	117	102

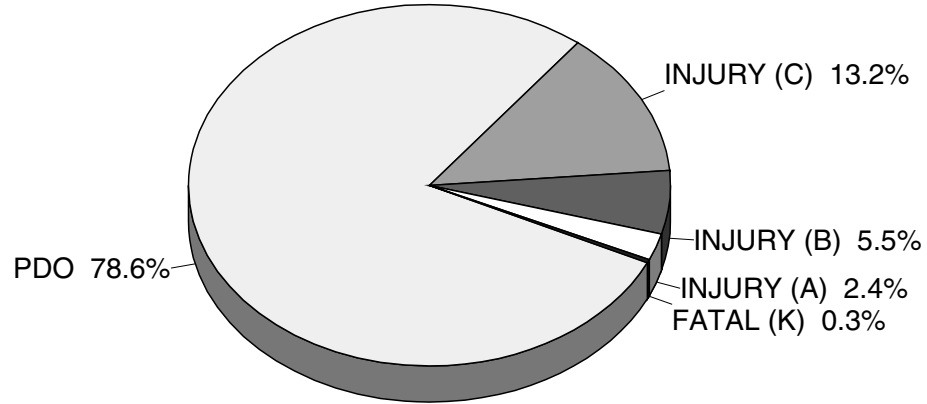


ORV/ATV RIDER *	Total	Drinking in Crash	Drinking ORV/ATV Rider
ORV/ATV Rider Killed	4	3	3
ORV/ATV Rider Injured	177	26	23
ORV/ATV Rider in Crashes	254	36	30

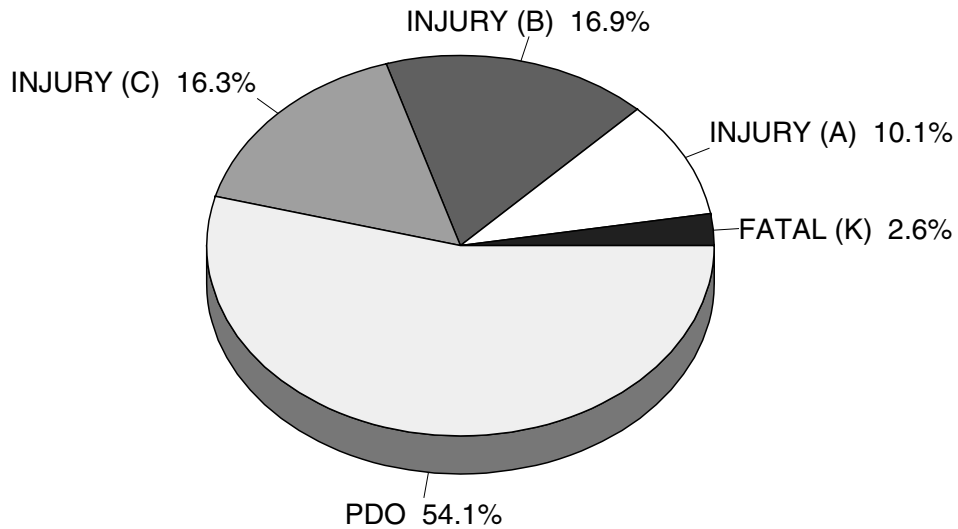


* on Michigan public roadways

ALL CRASHES BY INJURY SEVERITY



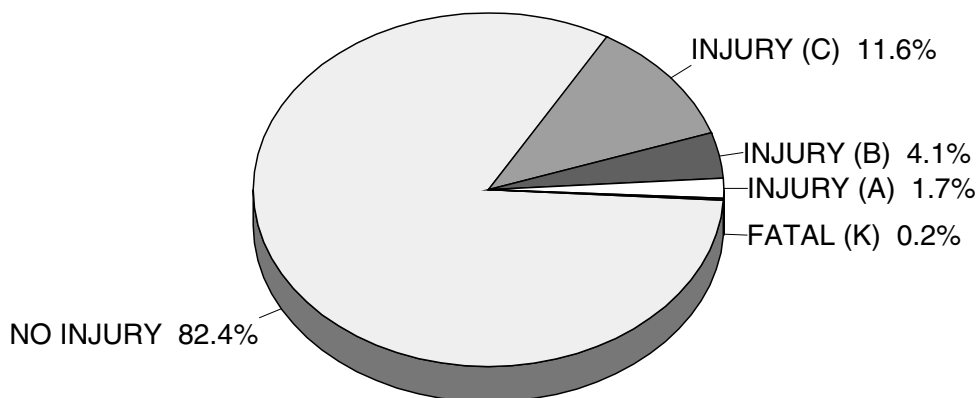
HBD CRASHES BY INJURY SEVERITY



The problem of the drinking driver, pedestrian, and/or cyclist is seen when one compares the two charts on this page. A fatality in the crash is eight times more likely when one of the crash-involved operators is reported as had been drinking.

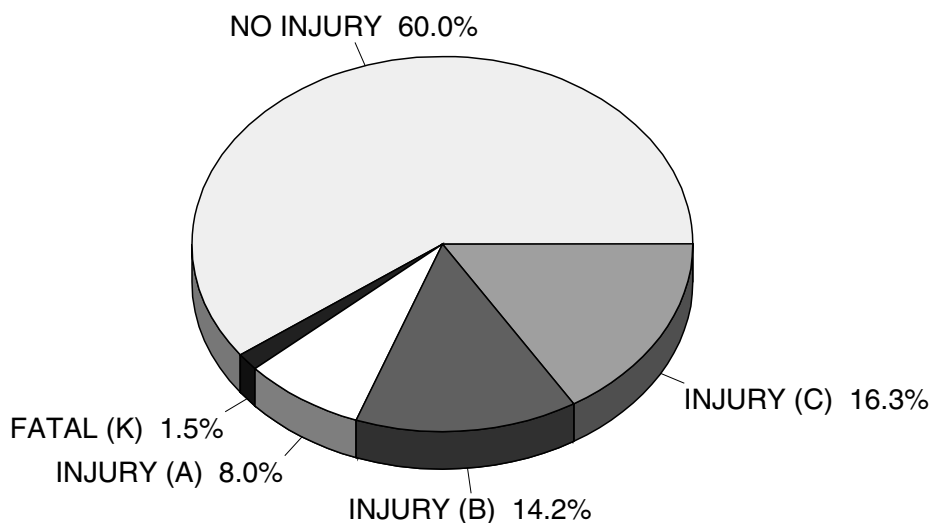
DEATH & INJURY PER CRASH INVOLVED OCCUPANT

Occupants in Crashes



The majority of occupants involved in crashes are not injured (82.4%). Two thirds of those who are injured receive only minor (C) injuries. Increased use of occupant restraints and airbags can reduce the number of killed and injured even further.

Occupants in HBD Crashes

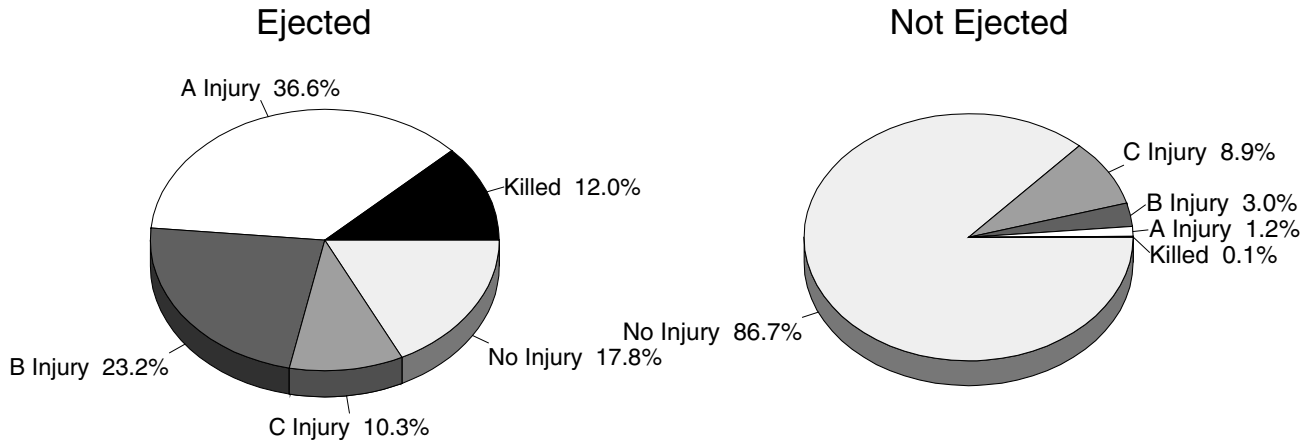


Crashes involving drinking tend to be more serious than nondrinking crashes. The percentage of fatalities is seven times higher than in all crashes and the more serious injury levels are almost four times higher.

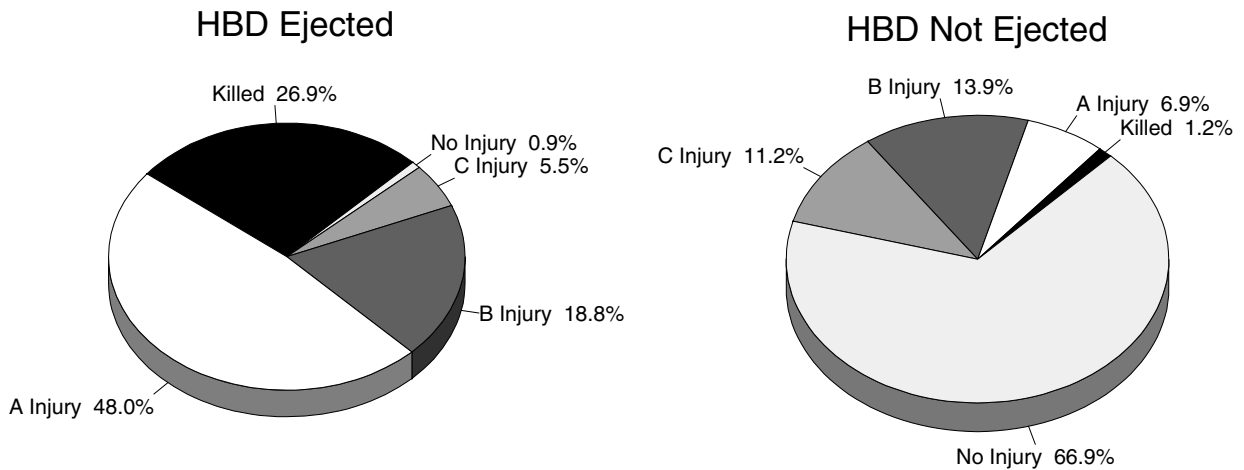
ALCOHOL

ALL DRIVERS and HBD DRIVERS INJURY SEVERITY - EJECTED vs. NOT EJECTED

As can be seen in the two charts below, death and injury are much more likely when drivers are ejected from their vehicles.

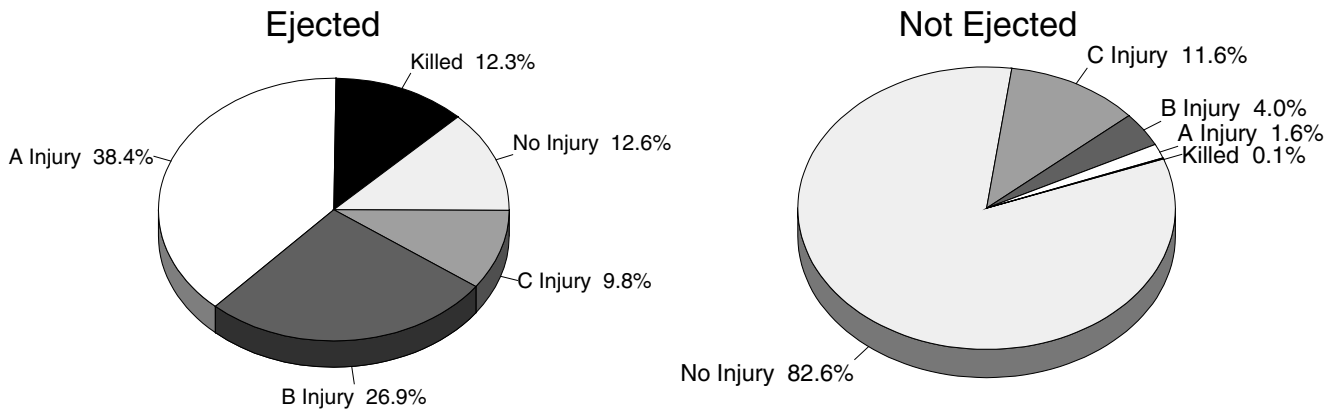


When compared to the charts above, the charts below demonstrate that the injury severity is much worse for drivers who had been drinking in both ejected, and nonejected events.

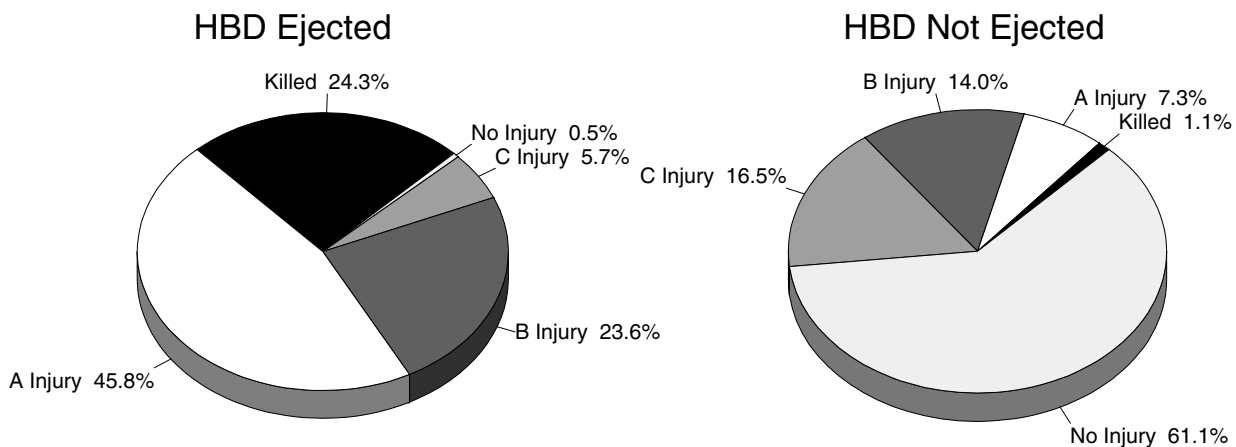


ALL OCCUPANTS and OCCUPANTS of HBD CRASHES INJURY SEVERITY - EJECTED vs. NOT EJECTED

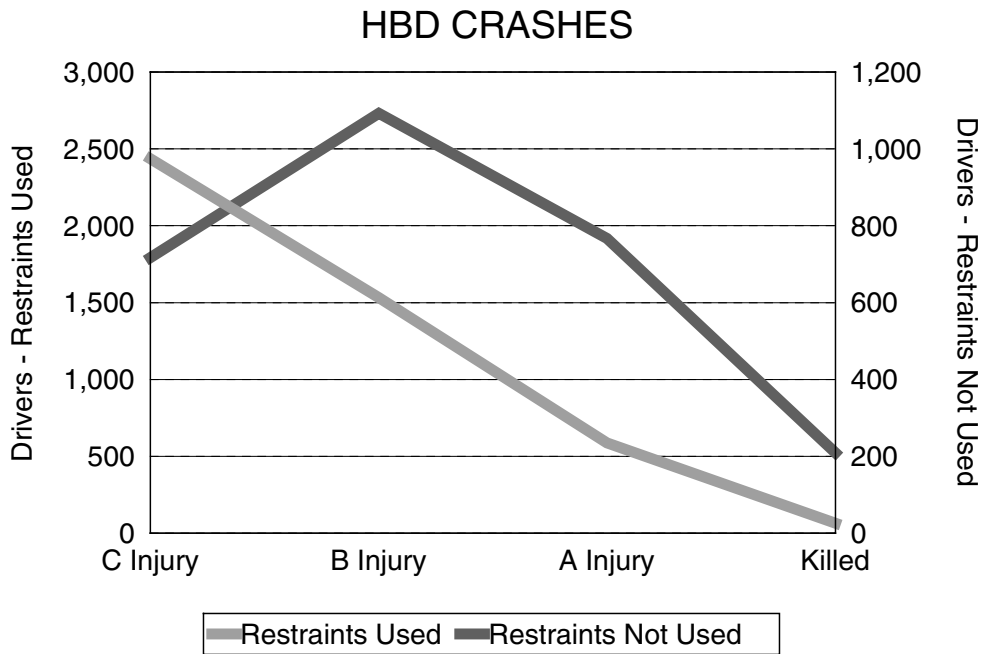
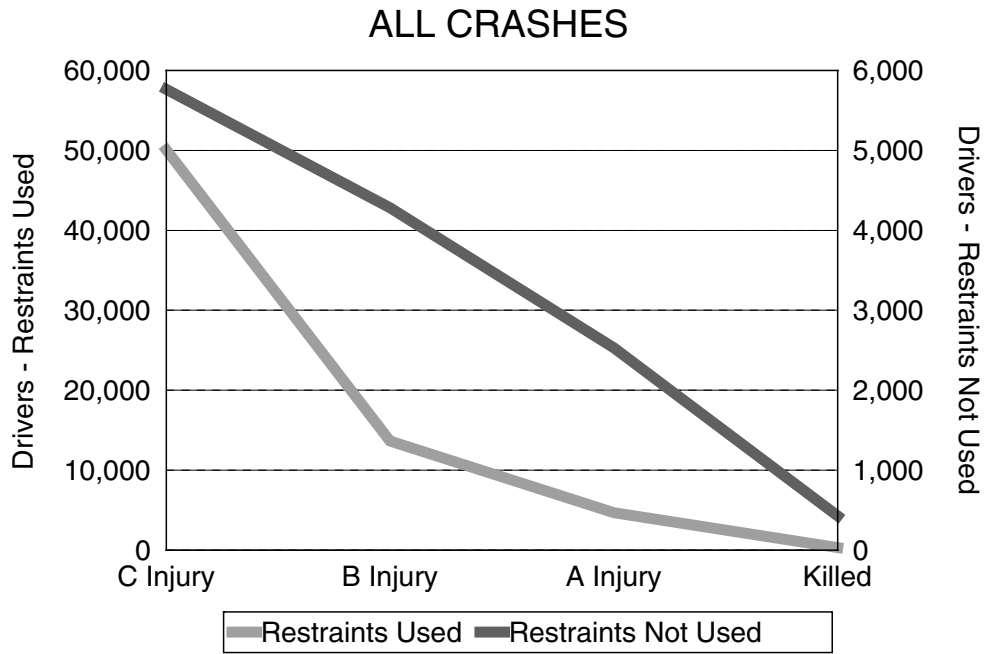
As can be seen in the two charts below, death and injury are much more likely when occupants are ejected from their vehicles.



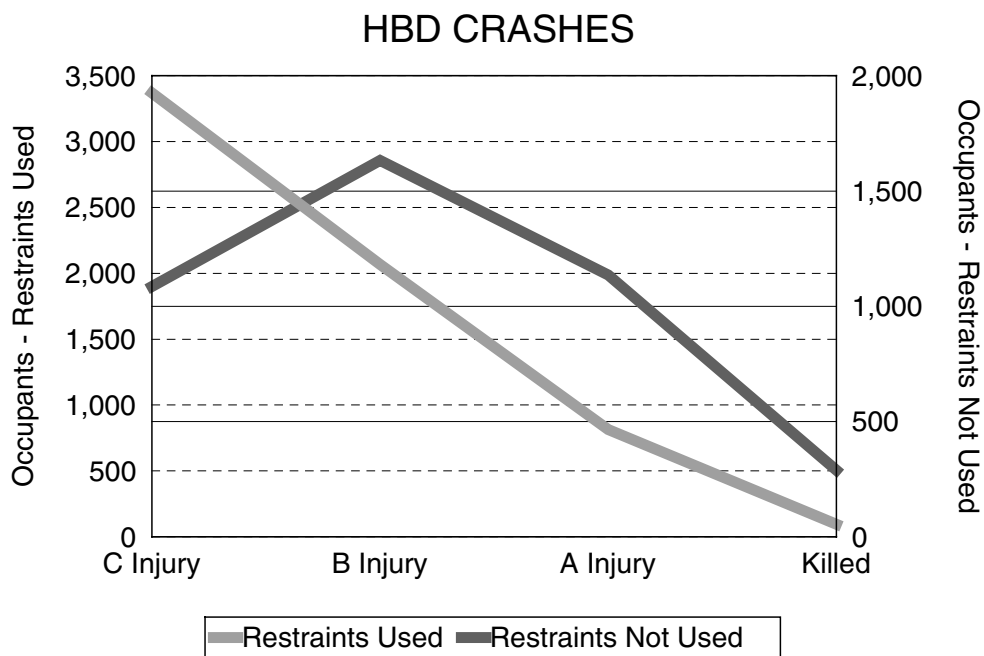
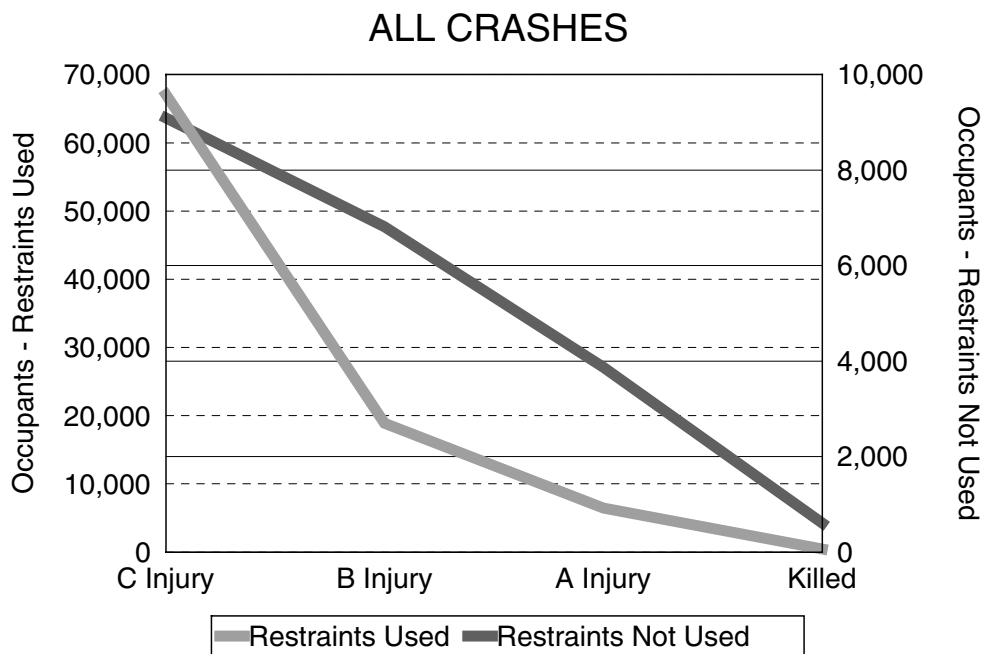
When compared to the charts above, the charts below demonstrate that the injury severity is much worse for occupants in a crash where drinking is reported in both ejected, and nonejected events.



INJURY SEVERITY & RESTRAINT USE FOR CRASH INVOLVED KABC DRIVERS



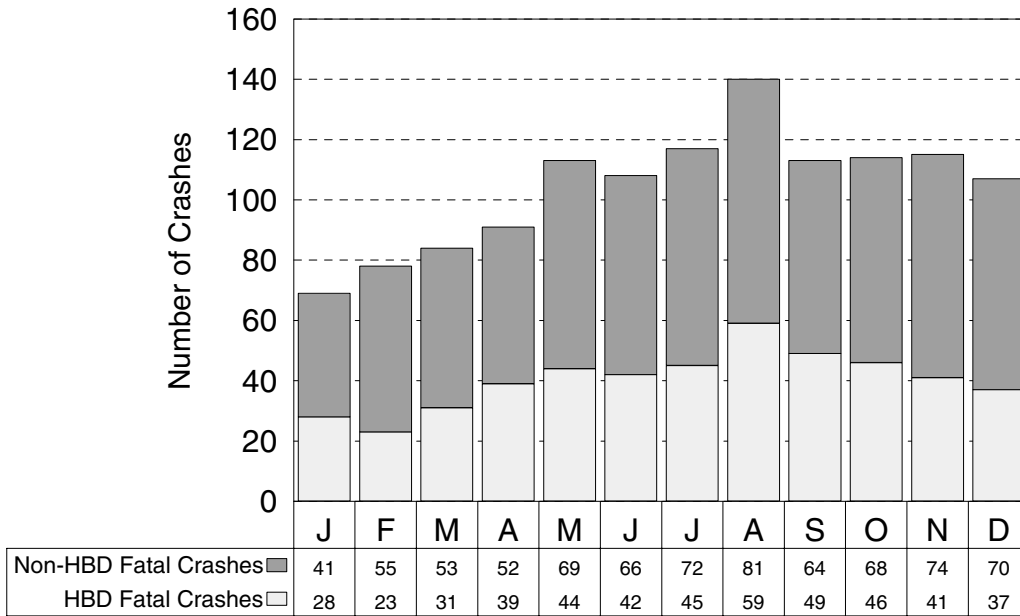
INJURY SEVERITY & RESTRAINT USE FOR CRASH INVOLVED KABC OCCUPANTS



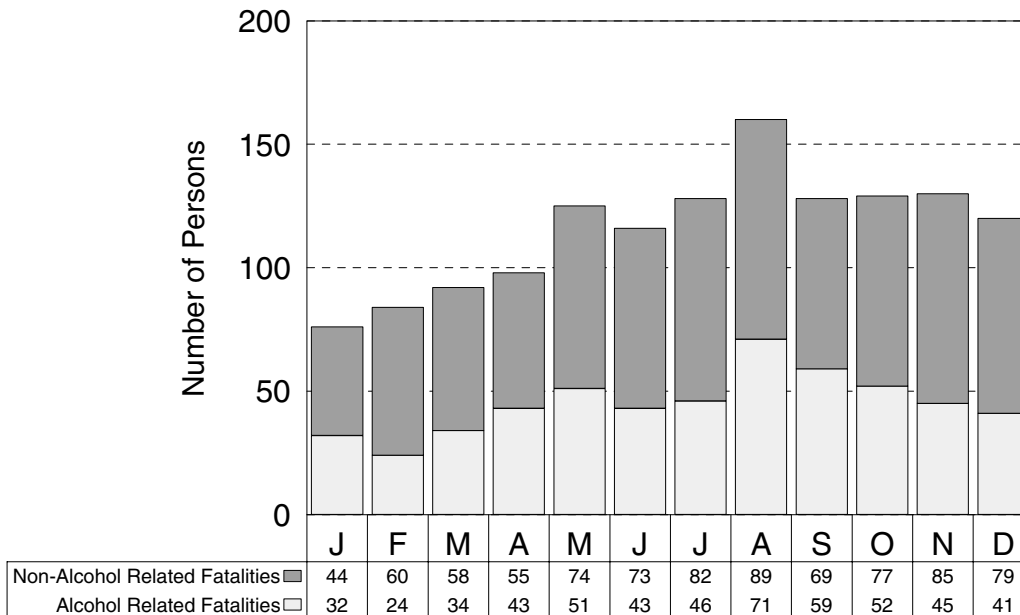
ALCOHOL INVOLVEMENT IN FATAL CRASHES

Fatal crashes were lowest in number during January, February and March. The number of fatal crashes then increased, hitting a high in July and again in August. The number of HBD fatal crashes does not show a discernable trend. Total persons killed in fatal crashes closely follows the number of crashes, as would be expected.

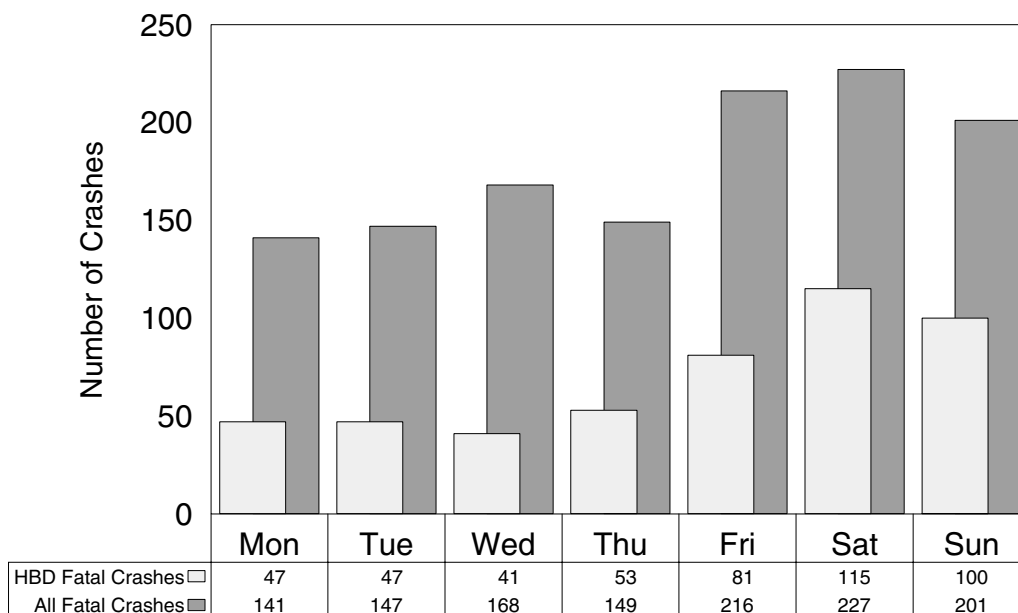
HBD Fatal Crashes by Month



Alcohol Related Fatalities by Month

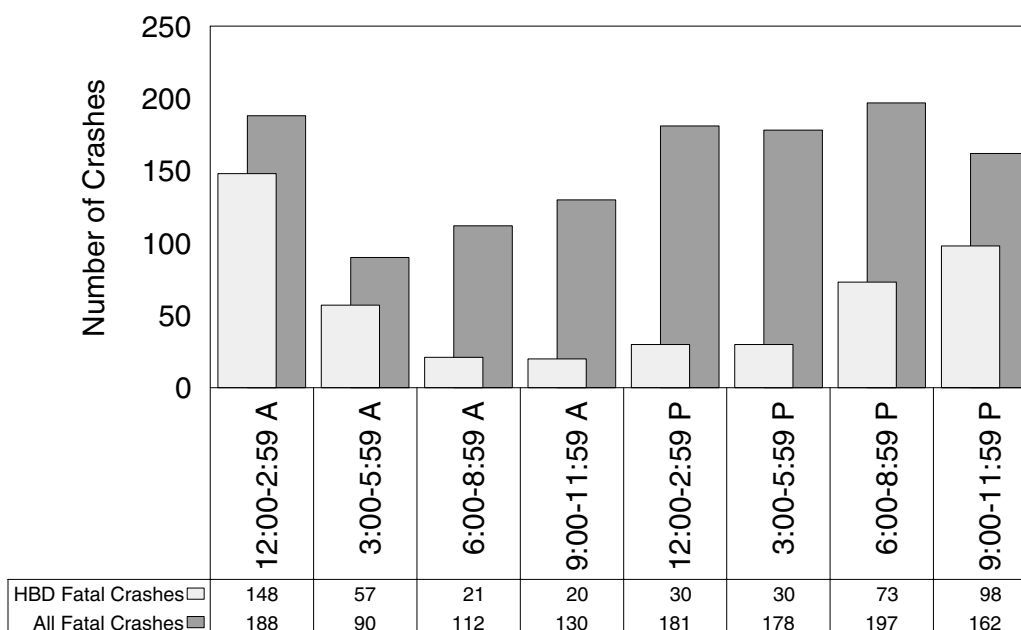


HBD Fatal Crashes by Day of Week



Saturday had the most fatal crashes in 1999. Saturday and Sunday had the highest proportions of drinking related fatal crashes. Half of the weekend fatal crashes involved drinking, while only 24.4 percent of fatal crashes on Wednesday involved drinking.

HBD Fatal Crashes by Time of Day



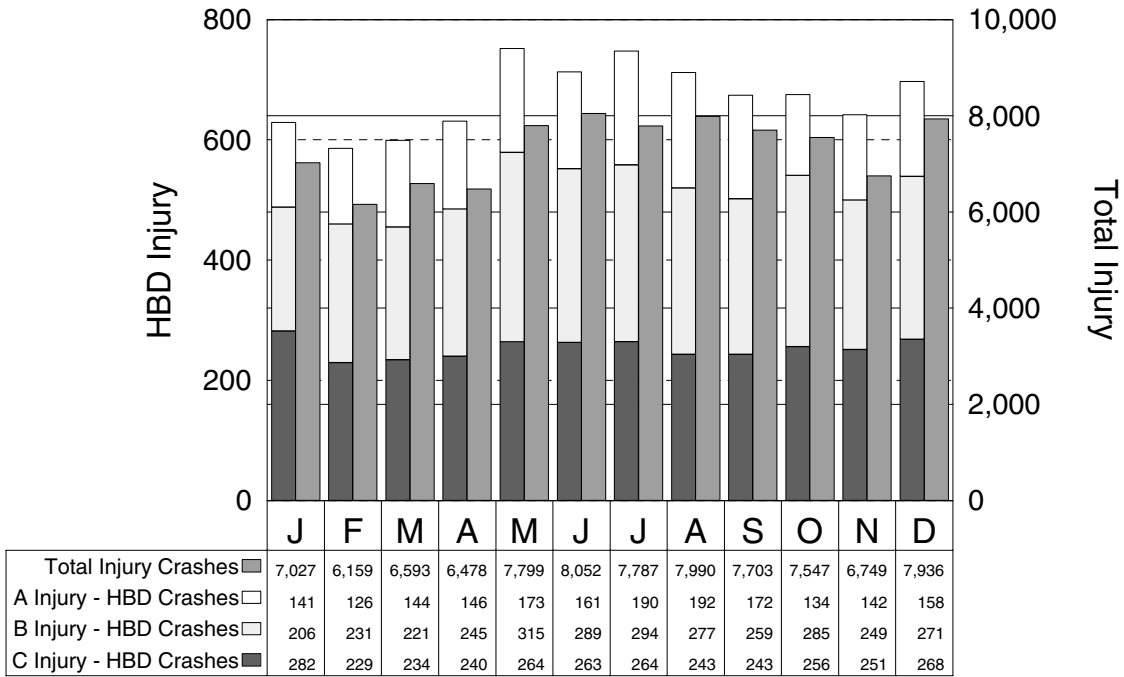
Not surprisingly, the midnight to 2:59 AM time period had the highest rate of drinking involvement (78.7%), while the late morning hours had the lowest (15.4%).

There were 11 fatal crashes where the time of day was unknown. Of these 11 fatal crashes, 7 were HBD.

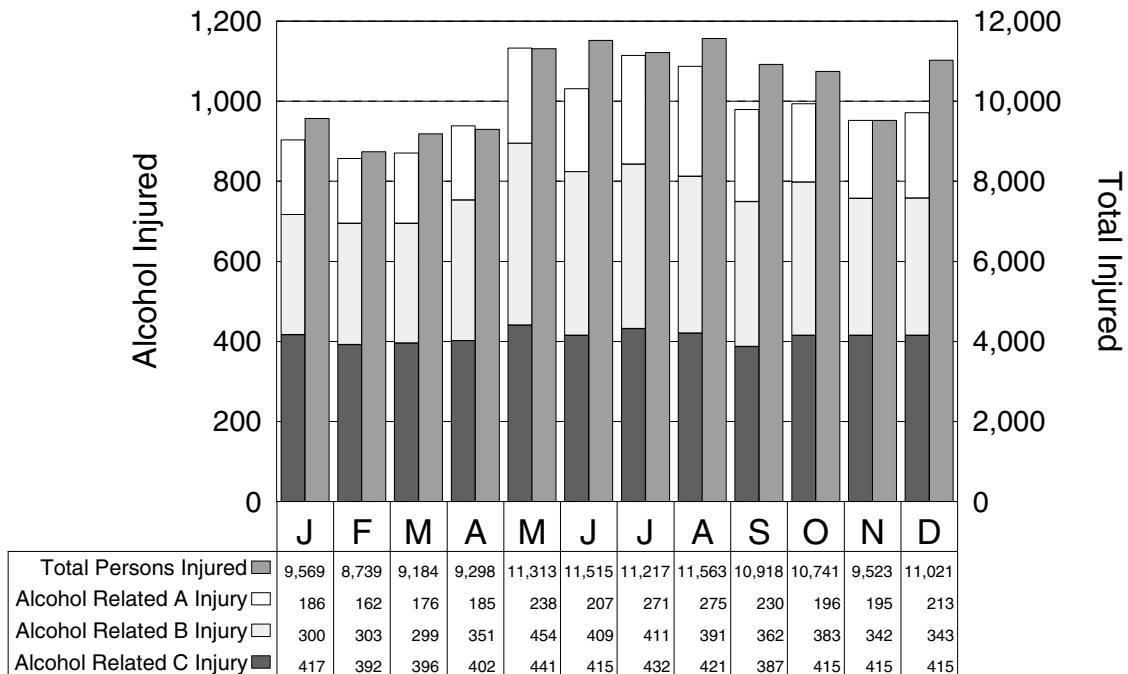
ALCOHOL INVOLVEMENT IN INJURY CRASHES

Alcohol involvement in injury crashes is an important indicator of the alcohol impaired driving problem. In 1999, the highest number of HBD injury crashes occurred in May with 752. The highest proportion of HBD injury crashes occurred in April with 9.74 percent of the injury crashes in that month involving alcohol.

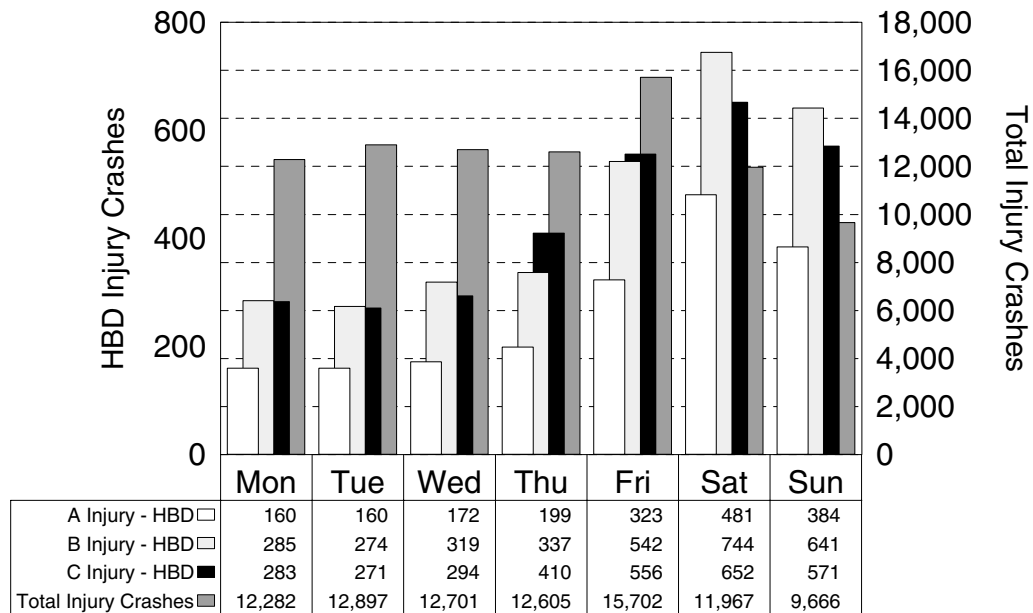
HBD Injury Crashes by Month



Alcohol Related Injuries by Month

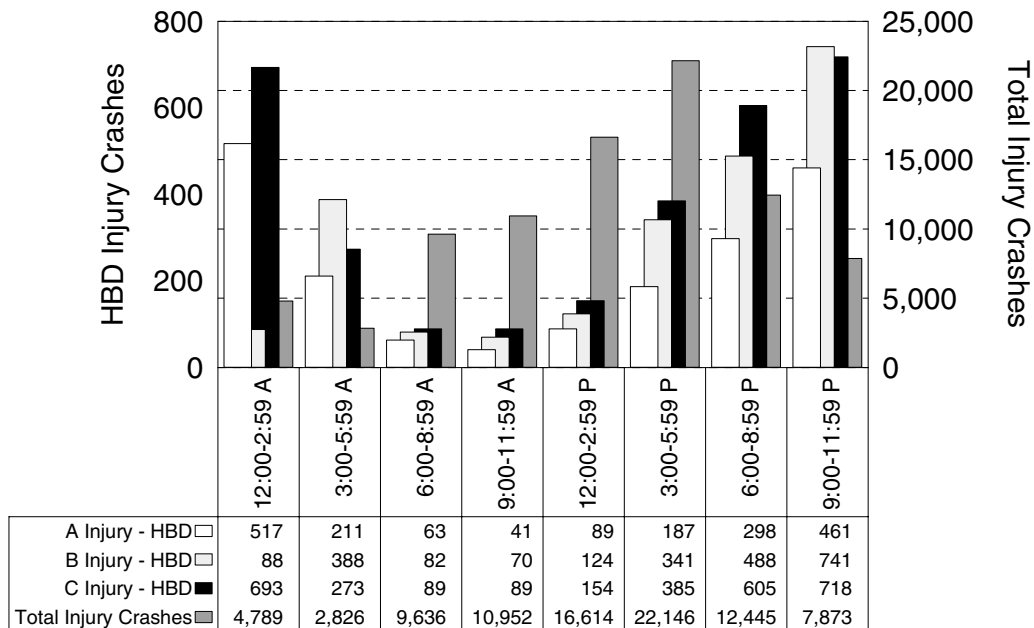


HBD Injury Crashes by Day of Week



HBD injury crashes follow the same basic trends as total crashes through the work week, but the weekend sees a dramatic increase in the proportion of HBD injury crashes to total injury crashes.

HBD Injury Crashes by Time of Day



Total injury crash frequencies peak in the hours between 12:00 PM and 5:59 PM, while HBD injury crash frequencies peak between 9:00 PM and 2:59 AM. A particularly hazardous travel period is 12:00 AM to 2:59 AM.

ALCOHOL

REPORTED AGE OF DRINKING DRIVERS INVOLVED IN CRASHES

COUNTY	All ages	0-15 years	16-20 years	21-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 yrs & over	DOB unk
Alcona	32	0	3	2	11	7	6	0	2	1	0
Alger	30	0	3	5	9	2	6	3	0	0	2
Allegan	284	1	45	40	84	65	19	6	4	2	18
Alpena	68	0	3	10	22	18	10	2	1	0	2
Antrim	52	0	6	5	21	11	2	3	0	0	4
Arenac	56	0	8	9	13	15	7	3	1	0	0
Baraga	19	0	0	3	4	6	2	3	0	0	1
Barry	135	2	15	17	42	33	16	4	0	3	3
Bay	288	0	32	44	80	71	35	15	4	2	5
Benzie	44	0	9	3	8	14	3	1	0	1	5
Berrien	316	2	22	46	66	79	33	13	8	3	44
Branch	88	0	12	17	22	19	7	1	2	0	8
Calhoun	282	0	32	56	60	69	33	9	6	1	16
Cass	142	0	8	17	41	33	9	3	2	1	28
Charlevoix	57	0	6	15	10	10	11	1	1	0	3
Cheboygan	65	0	8	7	18	16	7	4	3	0	2
Chippewa	110	0	14	20	21	28	10	4	3	0	10
Clare	68	0	7	13	13	18	9	3	2	2	1
Clinton	124	0	12	28	33	31	11	5	1	0	3
Crawford	40	0	4	5	7	13	4	1	1	0	5
Delta	91	2	18	13	18	13	14	3	1	2	7
Dickinson	44	0	6	4	7	8	6	2	1	2	8
Eaton	206	2	26	36	55	41	31	6	3	0	6
Emmet	86	0	11	9	30	18	10	5	1	1	1
Genesee	1,157	4	101	150	284	300	139	51	17	8	103
Gladwin	68	0	8	10	26	18	2	3	0	0	1
Gogebic	37	0	4	7	9	4	4	2	0	0	7
Grand Traverse	144	0	11	19	38	34	31	8	0	0	3
Gratiot	62	0	10	8	16	19	5	3	1	0	0
Hillsdale	88	1	6	19	21	20	9	1	1	1	9
Houghton	73	0	13	11	11	15	7	5	1	1	9
Huron	58	0	11	7	16	10	8	2	3	1	0
Ingham	457	1	42	101	119	99	58	13	4	2	18
Ionia	136	1	14	25	42	39	9	3	1	0	2
Iosco	80	0	15	10	15	20	10	4	3	1	2
Iron	40	0	7	8	6	6	7	0	0	0	6
Isabella	112	1	18	23	26	20	12	3	2	0	7
Jackson	363	0	33	57	93	107	43	12	5	1	12
Kalamazoo	454	1	60	74	122	104	55	12	3	3	20
Kalkaska	39	0	4	5	10	8	7	1	3	0	1
Kent	1,111	4	135	194	311	261	117	35	8	4	42
Keweenaw	10	0	0	4	4	2	0	0	0	0	0
Lake	39	0	2	7	14	7	3	4	2	0	0
Lapeer	189	0	15	38	62	37	26	6	3	0	2
Leelanau	40	0	5	11	11	7	3	0	2	0	1

**REPORTED AGE OF DRINKING DRIVERS
INVOLVED IN CRASHES (continued)**

COUNTY	All ages	0-15 years	16-20 years	21-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 yrs & over	DOB unk
Lenawee	203	0	27	30	54	30	23	3	4	1	31
Livingston	315	1	33	55	78	84	35	14	3	3	9
Luce	17	0	0	1	6	5	4	0	1	0	0
Mackinac	40	0	2	3	11	13	4	4	1	0	2
Macomb	1,316	2	122	188	375	368	140	62	19	5	35
Manistee	54	1	7	6	17	16	5	0	1	1	0
Marquette	113	1	15	24	30	21	11	2	3	0	6
Mason	62	0	4	15	17	12	6	5	1	0	2
Mecosta	114	1	14	23	28	21	15	4	2	1	5
Menominee	65	0	9	6	16	9	11	4	1	0	9
Midland	150	0	21	28	36	41	14	5	3	0	2
Missaukee	40	0	5	3	13	14	3	2	0	0	0
Monroe	314	0	41	39	74	74	35	9	4	0	38
Montcalm	151	2	20	24	45	36	16	3	2	0	3
Montmorency	17	0	1	3	4	8	0	0	0	0	1
Muskegon	269	1	37	42	62	73	34	11	0	1	8
Newaygo	128	0	14	16	38	26	20	7	1	2	4
Oakland	1,870	1	155	247	512	502	259	76	41	20	57
Oceana	92	0	10	7	36	19	8	6	1	1	4
Ogemaw	65	0	13	7	16	12	5	6	4	0	2
Ontonagon	18	0	1	6	1	6	2	0	0	0	2
Osceola	66	0	12	14	11	14	9	2	1	1	2
Oscoda	21	0	2	2	3	6	3	2	1	1	1
Otsego	57	0	6	6	21	20	1	2	0	0	1
Ottawa	375	1	56	63	111	79	31	10	4	1	19
Presque Isle	24	0	2	1	7	10	3	1	0	0	0
Roscommon	82	0	13	8	19	22	8	9	1	1	1
Saginaw	456	2	50	68	123	112	47	24	15	4	11
St. Clair	340	3	44	51	108	77	28	11	5	0	13
St. Joseph	147	0	15	21	48	33	13	3	1	1	12
Sanilac	67	0	7	18	21	8	6	2	2	1	2
Schoolcraft	27	1	4	5	7	5	2	2	0	0	1
Shiawassee	165	0	14	32	48	38	23	6	0	1	3
Tuscola	137	0	17	34	47	26	9	3	1	0	0
Van Buren	229	0	19	31	68	59	22	9	3	1	17
Washtenaw	511	1	53	88	122	125	68	21	5	0	28
Wayne	2,769	6	218	321	705	718	411	158	70	19	143
Wexford	97	1	8	12	30	23	15	3	0	2	3
UNKNOWN	2	0	0	1	1	0	0	0	0	0	0
Totals	18,469	47	1,915	2,761	4,920	4,540	2,205	759	307	111	904



MALE DRIVERS & INJURY SEVERITY IN CRASH

MOST SEVERE OUTCOME IN CRASH

AGE OF DRIVER IN CRASH	Male Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
13 years and under	375	0.1	2	0.1	30	59	63	221
14 years	185	0.0	2	0.1	10	36	31	106
15 years	647	0.2	4	0.3	39	90	93	421
16 years	9,204	2.4	20	1.4	212	645	1,425	6,902
17 years	12,217	3.2	36	2.6	302	854	1,827	9,198
18 years	13,514	3.5	49	3.5	350	945	2,039	10,131
19 years	12,386	3.2	41	3.0	338	873	1,866	9,268
20 years	10,816	2.8	38	2.7	304	726	1,589	8,159
21 - 24 years	35,304	9.2	153	11.0	997	2,254	4,999	26,901
25 - 34 years	78,981	20.6	267	19.3	2,105	4,584	11,213	60,812
35 - 44 years	73,684	19.2	268	19.4	1,942	3,836	10,554	57,084
45 - 54 years	52,236	13.6	181	13.1	1,273	2,728	7,555	40,499
55 - 64 years	28,378	7.4	96	6.9	616	1,464	4,116	22,086
65 - 69 years	8,633	2.2	38	2.7	205	466	1,306	6,618
70 - 74 years	7,796	2.0	34	2.5	204	428	1,166	5,964
75 - 79 years	5,771	1.5	34	2.5	131	363	953	4,290
80 - 84 years	3,310	0.9	27	1.9	105	241	546	2,391
85 - 89 years	1,298	0.3	12	0.9	42	92	246	906
90 years and over	322	0.1	10	0.7	11	21	50	230
Not Stated	28,676	7.5	73	5.3	628	1,336	3,763	22,876
TOTAL	383,733	100.0	1,385	100.0	9,844	22,041	55,400	295,063

NOTE: The tables on this page and page 96 exclude 69,921 drivers of unknown gender.

The crash involvement for male drivers is up 2.5 percent from 1998.

The fatal crash involvement for male drivers is down 0.4 percent from 1998.



MALE DRINKING DRIVERS & INJURY SEVERITY IN CRASH

AGE OF DRINKING DRIVER IN CRASH	MOST SEVERE OUTCOME IN CRASH							PDO
	Male Drivers		Fatal		Injury			
	Number	% of Total	Number	% of Fatal	A	B	C	
13 years and under	11	0.1	1	0.3	1	3	1	5
14 years	6	0.0	0	0.0	3	0	1	2
15 years	13	0.1	0	0.0	0	4	1	8
16 years	92	0.6	3	0.8	7	11	15	56
17 years	192	1.3	8	2.3	28	29	29	98
18 years	378	2.6	8	2.3	35	84	44	207
19 years	440	3.0	16	4.5	49	101	62	212
20 years	476	3.3	16	4.5	51	86	69	254
21 - 24 years	2,243	15.4	65	18.3	218	398	313	1,249
25 - 34 years	3,844	26.4	88	24.8	379	713	601	2,063
35 - 44 years	3,390	23.3	76	21.4	371	537	591	1,815
45 - 54 years	1,793	12.3	47	13.2	177	261	317	991
55 - 64 years	639	4.4	12	3.4	47	92	98	390
65 - 69 years	162	1.1	2	0.6	16	27	26	91
70 - 74 years	106	0.7	2	0.6	10	13	15	66
75 - 79 years	59	0.4	1	0.3	2	6	14	36
80 - 84 years	30	0.2	1	0.3	4	2	5	18
85 - 89 years	6	0.0	1	0.3	0	1	0	4
90 years and over	1	0.0	0	0.0	0	0	0	1
Not Stated	660	4.5	8	2.3	54	91	108	399
TOTAL	14,541	100.0	355	100.0	1,452	2,459	2,310	7,965

NOTE: The tables on this page and page 97 exclude 359 drinking drivers of unknown gender.

The crash involvement for male drinking drivers is down 4.8 percent from 1998.

The fatal crash involvement for male drinking drivers is down 5.8 percent from 1998.



FEMALE DRIVERS & INJURY SEVERITY IN CRASH

MOST SEVERE OUTCOME IN CRASH

AGE OF DRIVER IN CRASH	Female Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
13 years and under	211	0.1	0	0.0	16	28	38	129
14 years	106	0.0	0	0.0	11	11	17	67
15 years	518	0.2	3	0.5	24	47	95	349
16 years	7,184	2.7	17	2.9	199	566	1,305	5,097
17 years	9,012	3.4	19	3.3	243	655	1,640	6,455
18 years	9,403	3.5	14	2.4	251	607	1,662	6,869
19 years	8,605	3.2	15	2.6	228	549	1,550	6,263
20 years	7,775	2.9	11	1.9	171	506	1,367	5,720
21 - 24 years	25,573	9.7	49	8.5	593	1,555	4,477	18,899
25 - 34 years	57,160	21.6	105	18.2	1,236	3,111	10,242	42,466
35 - 44 years	54,723	20.7	107	18.5	1,187	2,835	9,438	41,156
45 - 54 years	37,209	14.0	77	13.3	816	1,835	6,587	27,894
55 - 64 years	17,667	6.7	46	8.0	399	894	3,073	13,255
65 - 69 years	5,635	2.1	15	2.6	122	284	983	4,231
70 - 74 years	5,140	1.9	30	5.2	141	289	863	3,817
75 - 79 years	4,312	1.6	23	4.0	105	263	783	3,138
80 - 84 years	2,560	1.0	15	2.6	76	204	438	1,827
85 - 89 years	919	0.3	10	1.7	26	72	159	652
90 years and over	189	0.1	0	0.0	4	12	28	145
Not Stated	11,084	4.2	22	3.8	197	505	1,592	8,768
TOTAL	264,985	100.0	578	100.0	6,045	14,828	46,337	197,197

The crash involvement for female drivers is up 2.0 percent from 1998.

The fatal crash involvement for female drivers is up 6.1 percent from 1998.



FEMALE DRINKING DRIVERS & INJURY SEVERITY IN CRASH

AGE OF DRINKING DRIVER IN CRASH	MOST SEVERE OUTCOME IN CRASH							PDO
	Female Drivers		Fatal		Injury			
	Number	% of Total	Number	% of Fatal	A	B	C	
13 years and under	3	0.1	0	0.0	0	2	0	1
14 years	1	0.0	0	0.0	1	0	0	0
15 years	12	0.3	2	2.8	5	2	2	1
16 years	32	0.9	2	2.8	3	10	2	15
17 years	43	1.2	3	4.2	6	7	4	23
18 years	60	1.7	0	0.0	6	14	11	29
19 years	92	2.6	1	1.4	19	15	13	44
20 years	90	2.5	1	1.4	10	21	16	42
21 - 24 years	470	13.2	11	15.5	48	83	83	245
25 - 34 years	1,006	28.2	22	31.0	105	175	190	514
35 - 44 years	1,103	30.9	14	19.7	98	161	202	628
45 - 54 years	377	10.6	4	5.6	34	59	83	197
55 - 64 years	112	3.1	6	8.5	8	18	15	65
65 - 69 years	27	0.8	0	0.0	5	1	5	16
70 - 74 years	10	0.3	1	1.4	0	2	2	5
75 - 79 years	8	0.2	1	1.4	0	2	0	5
80 - 84 years	4	0.1	0	0.0	0	0	1	3
85 - 89 years	1	0.0	0	0.0	0	0	0	1
90 years and over	0	0.0	0	0.0	0	0	0	0
Not Stated	118	3.3	3	4.2	9	19	22	65
TOTAL	3,569	100.0	71	100.0	357	591	651	1,899

The crash involvement for female drinking drivers is down 6.9 percent from 1998.

The fatal crash involvement for female drinking drivers is up 2.9 percent from 1998.

FATAL CRASHES AND FATALITIES WITH DRINKING INVOLVEMENT BY COUNTY

COUNTY	C R A S H E S			P E R S O N S		
	All Fatal Crashes	HBD Fatal Crashes	Percent HBD	Total Fatalities	HBD Fatalities	Percent HBD
Alcona	3	1	33.3	3	1	33.3
Alger	3	2	66.7	3	2	66.7
Allegan	21	12	57.1	23	14	60.9
Alpena	1	0	0.0	1	0	0.0
Antrim	3	1	33.3	4	2	50.0
Arenac	1	0	0.0	1	0	0.0
Baraga	2	1	50.0	2	1	50.0
Barry	11	5	45.5	11	5	45.5
Bay	22	9	40.9	25	12	48.0
Benzie	3	1	33.3	3	1	33.3
Berrien	29	6	20.7	32	7	21.9
Branch	13	7	53.8	16	8	50.0
Calhoun	25	10	40.0	27	11	40.7
Cass	18	4	22.2	20	5	25.0
Charlevoix	4	2	50.0	4	2	50.0
Cheboygan	4	3	75.0	5	4	80.0
Chippewa	3	2	66.7	3	2	66.7
Clare	6	3	50.0	7	3	42.9
Clinton	7	3	42.9	7	3	42.9
Crawford	3	2	66.7	3	2	66.7
Delta	6	5	83.3	7	6	85.7
Dickinson	2	0	0.0	2	0	0.0
Eaton	15	7	46.7	18	8	44.4
Emmet	4	0	0.0	4	0	0.0
Genesee	58	24	41.4	62	27	43.5
Gladwin	3	3	100.0	5	5	100.0
Gogebic	3	1	33.3	4	1	25.0
Grand Traverse	13	3	23.1	16	4	25.0
Gratiot	6	1	16.7	6	1	16.7
Hillsdale	12	2	16.7	14	2	14.3
Houghton	8	4	50.0	9	5	55.6
Huron	3	2	66.7	3	2	66.7
Ingham	25	7	28.0	31	9	29.0
Ionia	9	3	33.3	9	3	33.3
Iosco	5	0	0.0	6	0	0.0
Iron	2	0	0.0	2	0	0.0
Isabella	9	5	55.6	11	6	54.5
Jackson	21	4	19.0	22	4	18.2
Kalamazoo	31	9	29.0	33	9	27.3
Kalkaska	3	0	0.0	3	0	0.0
Kent	57	24	42.1	67	27	40.3
Keweenaw	0	0	---	0	0	---
Lake	3	2	66.7	3	2	66.7
Lapeer	21	9	42.9	26	13	50.0

FATAL CRASHES AND FATALITIES WITH DRINKING INVOLVEMENT BY COUNTY (continued)

COUNTY	C R A S H E S			P E R S O N S		
	All Fatal Crashes	HBD Fatal Crashes	Percent HBD	Total Fatalities	HBD Fatalities	Percent HBD
Leelanau	1	0	0.0	1	0	0.0
Lenawee	17	6	35.3	17	6	35.3
Livingston	22	9	40.9	26	10	38.5
Luce	3	2	66.7	4	2	50.0
Mackinac	4	2	50.0	7	3	42.9
Macomb	53	22	41.5	54	22	40.7
Manistee	3	1	33.3	3	1	33.3
Marquette	11	4	36.4	11	4	36.4
Mason	5	2	40.0	5	2	40.0
Mecosta	8	4	50.0	8	4	50.0
Menominee	5	1	20.0	5	1	20.0
Midland	13	7	53.8	15	9	60.0
Missaukee	3	2	66.7	4	2	50.0
Monroe	24	11	45.8	26	13	50.0
Montcalm	15	5	33.3	20	5	25.0
Montmorency	1	1	100.0	1	1	100.0
Muskegon	18	4	22.2	21	5	23.8
Newaygo	9	5	55.6	10	6	60.0
Oakland	88	38	43.2	91	39	42.9
Oceana	4	2	50.0	4	2	50.0
Ogemaw	4	2	50.0	4	2	50.0
Ontonagon	2	0	0.0	2	0	0.0
Osceola	10	7	70.0	11	8	72.7
Oscoda	1	1	100.0	1	1	100.0
Otsego	4	1	25.0	5	1	20.0
Ottawa	27	4	14.8	34	4	11.8
Presque Isle	1	0	0.0	1	0	0.0
Roscommon	3	0	0.0	3	0	0.0
Saginaw	35	9	25.7	40	9	22.5
St. Clair	24	7	29.2	28	9	32.1
St. Joseph	14	6	42.9	15	6	40.0
Sanilac	10	1	10.0	10	1	10.0
Schoolcraft	1	1	100.0	1	1	100.0
Shiawassee	10	4	40.0	11	5	45.5
Tuscola	14	9	64.3	17	12	70.6
Van Buren	17	9	52.9	20	12	60.0
Washtenaw	37	16	43.2	39	16	41.0
Wayne	217	87	40.1	234	94	40.2
Wexford	10	3	30.0	14	4	28.6
Totals	1,249	484	38.8	1,386	541	39.0

MOST SEVERE OUTCOME IN HBD CRASHES BY COUNTY

Note: While the Michigan *Traffic Crash Report* (UD-10) requests officers to report Bodily Alcohol Content (BAC) of all persons tested for alcohol after a traffic crash, only the BAC testing of deceased motor vehicle drivers and deceased railroad train engineers is required by law. Consequently, alcohol involvement in nonfatal crashes is frequently unreported, and is therefore generally believed to be higher than indicated in this table.

MOST SEVERE OUTCOME IN HBD CRASH

COUNTY	All HBD Crashes	Fatal	Injury			PDO
			A	B	C	
Alcona	32	1	4	4	7	16
Alger	30	2	2	6	3	17
Allegan	284	12	39	41	42	150
Alpena	66	0	13	8	6	39
Antrim	54	1	3	11	6	33
Arenac	56	0	11	12	4	29
Baraga	19	1	1	2	1	14
Barry	133	5	10	36	19	63
Bay	290	9	38	45	37	161
Benzie	44	1	8	5	9	21
Berrien	315	6	31	43	52	183
Branch	88	7	6	20	10	45
Calhoun	286	10	27	61	36	152
Cass	142	4	17	30	20	71
Charlevoix	57	2	3	13	8	31
Cheboygan	65	3	11	16	10	25
Chippewa	108	2	15	15	17	59
Clare	68	3	7	13	11	34
Clinton	125	3	11	24	18	69
Crawford	40	2	8	11	6	13
Delta	92	5	3	13	14	57
Dickinson	45	0	6	7	9	23
Eaton	205	7	20	36	31	111
Emmet	84	0	8	20	12	44
Genesee	1,169	24	61	211	228	645
Gladwin	68	3	9	15	12	29
Gogebic	37	1	4	4	5	23
Grand Traverse	146	3	12	23	18	90
Gratiot	62	1	10	12	4	35
Hillsdale	89	2	15	22	13	37
Houghton	71	4	9	10	7	41
Huron	58	2	12	12	6	26
Ingham	466	7	36	74	88	261
Ionia	137	3	24	22	15	73
Iosco	78	0	12	11	20	35
Iron	39	0	6	11	3	19
Isabella	112	5	15	25	11	56
Jackson	360	4	42	60	60	194
Kalamazoo	452	9	54	89	60	240
Kalkaska	40	0	4	10	4	22
Kent	1,126	24	95	174	151	682
Keweenaw	10	0	3	2	1	4

MOST SEVERE OUTCOME IN HBD CRASHES BY COUNTY (continued)

COUNTY	All HBD Crashes	MOST SEVERE OUTCOME IN HBD CRASH				
		Fatal	Injury			PDO
			A	B	C	
Lake	40	2	6	6	6	20
Lapeer	186	9	20	36	26	95
Leelanau	41	0	8	9	6	18
Lenawee	202	6	15	37	37	107
Livingston	312	9	41	65	38	159
Luce	17	2	5	3	1	6
Mackinac	43	2	2	7	6	26
Macomb	1,314	22	97	185	278	732
Manistee	53	1	6	11	4	31
Marquette	112	4	13	22	16	57
Mason	62	2	10	8	4	38
Mecosta	112	4	12	21	9	66
Menominee	68	1	8	12	10	37
Midland	152	7	16	35	22	72
Missaukee	39	2	4	11	2	20
Monroe	314	11	37	63	40	163
Montcalm	151	5	24	24	22	76
Montmorency	18	1	2	5	3	7
Muskegon	269	4	42	38	34	151
Newaygo	127	5	24	30	13	55
Oakland	1,885	38	152	282	358	1,055
Oceana	94	2	16	10	21	45
Ogemaw	65	2	7	14	5	37
Ontonagon	17	0	4	0	2	11
Osceola	70	7	7	16	12	28
Oscoda	21	1	4	2	3	11
Otsego	58	1	4	6	10	37
Ottawa	382	4	28	56	76	218
Presque Isle	23	0	5	9	0	9
Roscommon	81	0	11	16	6	48
Saginaw	457	9	55	82	58	253
St. Clair	339	7	37	66	58	171
St. Joseph	147	6	20	29	27	65
Sanilac	68	1	11	9	13	34
Schoolcraft	27	1	1	6	2	17
Shiawassee	166	4	22	35	31	74
Tuscola	136	9	16	28	19	64
Van Buren	228	9	36	50	22	111
Washtenaw	516	16	47	76	116	261
Wayne	2,837	87	268	426	516	1,540
Wexford	96	3	11	17	11	54
Unknown	2	0	0	0	0	2
Totals	18,595	484	1,879	3,142	3,037	10,053

COUNTY RANKING BY HBD FATAL CRASH RATE per 1,000 Michigan Residents

COUNTY	1999 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Osceola	22,220	1,783	10	70	7	0.3150	1
Luce	6,754	299	3	17	2	0.2961	2
Alger	10,083	609	3	30	2	0.1984	3
Lake	10,627	689	3	40	2	0.1882	4
Mackinac	11,103	928	4	43	2	0.1801	5
Branch	43,825	2,127	13	88	7	0.1597	6
Tuscola	58,195	2,229	14	136	9	0.1547	7
Missaukee	14,151	871	3	39	2	0.1413	8
Crawford	14,265	938	3	40	2	0.1402	9
Delta	38,848	2,482	6	92	5	0.1287	10
Cheboygan	24,153	1,205	4	65	3	0.1242	11
Van Buren	75,917	3,256	17	228	9	0.1186	12
Gladwin	25,697	1,196	3	68	3	0.1167	13
Allegan	103,406	3,969	21	284	12	0.1160	14
Baraga	8,672	560	2	19	1	0.1153	15
Schoolcraft	8,788	654	1	27	1	0.1138	16
Houghton	35,448	1,372	8	71	4	0.1128	17
Oscoda	8,899	434	1	21	1	0.1124	18
Newaygo	46,356	2,088	9	127	5	0.1079	19
Wexford	29,560	2,036	10	96	3	0.1015	20
Lapeer	89,391	3,763	21	186	9	0.1007	21
Clare	29,955	1,664	6	68	3	0.1002	22
Montmorency	10,014	470	1	18	1	0.0999	23
Mecosta	40,704	2,786	8	112	4	0.0983	24
St. Joseph	61,448	2,578	14	147	6	0.0976	25
Ogemaw	21,201	1,406	4	65	2	0.0943	26
Barry	54,648	2,598	11	133	5	0.0915	27
Alcona	11,147	858	3	32	1	0.0897	28
Midland	81,994	3,179	13	152	7	0.0854	29
Isabella	59,122	2,970	9	112	5	0.0846	30
Bay	109,514	4,019	22	290	9	0.0822	31
Montcalm	61,406	3,324	15	151	5	0.0814	32
Oceana	24,900	1,282	4	94	2	0.0803	33
Charlevoix	25,034	1,349	4	57	2	0.0799	34
Cass	50,129	1,957	18	142	4	0.0798	35
Monroe	144,913	4,517	24	314	11	0.0759	36
Mason	27,966	1,818	5	62	2	0.0715	37
Calhoun	141,380	6,826	25	286	10	0.0707	38
Eaton	101,612	4,462	15	205	7	0.0689	39
Benzie	15,257	684	3	44	1	0.0655	40
Marquette	62,758	2,668	11	112	4	0.0637	41
Lenawee	99,780	3,668	17	202	6	0.0601	42
Livingston	151,496	5,552	22	312	9	0.0594	43
Gogebic	17,043	579	3	37	1	0.0587	44
Huron	35,283	1,856	3	58	2	0.0567	45

COUNTY RANKING BY HBD FATAL CRASH RATE per 1,000 Michigan Residents (continued)

COUNTY	1999 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Shiawassee	72,346	2,656	10	166	4	0.0553	46
Genesee	437,349	15,789	58	1,169	24	0.0549	47
Chippewa	37,904	1,710	3	108	2	0.0528	48
Washtenaw	306,073	13,209	37	516	16	0.0523	49
Clinton	64,054	2,439	7	125	3	0.0468	50
Antrim	21,953	1,210	3	54	1	0.0456	51
Ionia	67,126	2,782	9	137	3	0.0447	52
Otsego	22,719	1,169	4	58	1	0.0440	53
Kent	550,388	26,200	57	1,126	24	0.0436	54
St. Clair	161,755	5,442	24	339	7	0.0433	55
Saginaw	209,245	8,496	35	457	9	0.0430	56
Hillsdale	47,042	2,298	12	89	2	0.0425	57
Manistee	23,665	1,354	3	53	1	0.0423	58
Wayne	2,106,495	86,863	217	2,837	87	0.0413	59
Menominee	24,449	2,195	5	68	1	0.0409	60
Grand Traverse	75,352	3,971	13	146	3	0.0398	61
Kalamazoo	229,867	10,199	31	452	9	0.0392	62
Berrien	159,709	5,986	29	315	6	0.0376	63
Oakland	1,179,978	48,976	88	1,885	38	0.0322	64
Macomb	792,082	26,447	53	1,314	22	0.0278	65
Jackson	157,271	7,023	21	360	4	0.0254	66
Gratiot	40,027	1,897	6	62	1	0.0250	67
Ingham	285,123	12,102	25	466	7	0.0246	68
Muskegon	168,037	6,035	18	269	4	0.0238	69
Sanilac	43,451	1,982	10	68	1	0.0230	70
Ottawa	230,261	7,783	27	382	4	0.0174	71
Alpena	30,615	1,493	1	66	0	0.0000	72
Arenac	16,547	1,057	1	56	0	0.0000	73
Dickinson	26,944	1,544	2	45	0	0.0000	74
Emmet	28,995	1,853	4	84	0	0.0000	75
Iosco	25,928	1,326	5	78	0	0.0000	76
Iron	12,817	1,036	2	39	0	0.0000	77
Kalkaska	15,808	913	3	40	0	0.0000	78
Keweenaw	2,142	103	0	10	0	0.0000	79
Leelanau	19,370	720	1	41	0	0.0000	80
Ontonagon	7,668	683	2	17	0	0.0000	81
Presque Isle	14,596	820	1	23	0	0.0000	82
Roscommon	23,562	1,278	3	81	0	0.0000	83
Unknown		78	0	2	0		
State Totals	9,863,775	415,675	1,249	18,595	484	0.04907	

ALCOHOL

REPORTED STATEWIDE ALCOHOL INVOLVED 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	32	1	15	16	0	2	1	29	1	20
Alger	30	2	11	17	0	1	7	22	2	14
Allegan	284	12	122	150	17	25	18	224	14	172
Alpena	66	0	27	39	0	13	2	51	0	37
Antrim	54	1	20	33	0	12	3	39	2	22
Arenac	56	0	27	29	3	7	4	42	0	44
Baraga	19	1	4	14	0	7	1	11	1	7
Barry	133	5	65	63	0	0	17	116	5	90
Bay	290	9	120	161	12	8	49	221	12	181
Benzie	44	1	22	21	0	4	8	32	1	26
Berrien	315	6	126	183	29	36	20	230	7	198
Branch	88	7	36	45	7	7	0	74	8	49
Calhoun	286	10	124	152	42	2	25	217	11	193
Cass	142	4	67	71	0	15	36	91	5	98
Charlevoix	57	2	24	31	0	3	5	49	2	31
Cheboygan	65	3	37	25	6	4	9	46	4	56
Chippewa	108	2	47	59	19	0	12	77	2	61
Clare	68	3	31	34	0	14	7	47	3	40
Clinton	125	3	53	69	17	11	5	92	3	67
Crawford	40	2	25	13	5	2	3	30	2	38
Delta	92	5	30	57	0	15	11	66	6	46
Dickinson	45	0	22	23	0	11	5	29	0	30
Eaton	205	7	87	111	20	11	42	132	8	138
Emmet	84	0	40	44	0	13	8	63	0	57
Genesee	1,169	24	500	645	119	13	150	887	27	797
Gladwin	68	3	36	29	0	0	19	49	5	53
Gogebic	37	1	13	23	0	11	2	24	1	17
Grand Traverse	146	3	53	90	0	27	8	111	4	79
Gratiot	62	1	26	35	0	13	12	37	1	39
Hillsdale	89	2	50	37	0	7	14	68	2	65
Houghton	71	4	26	41	0	11	18	42	5	33
Huron	58	2	30	26	0	0	12	46	2	53
Ingham	466	7	198	261	71	18	57	320	9	261
Ionia	137	3	61	73	19	0	16	102	3	99
Iosco	78	0	43	35	0	19	9	50	0	55
Iron	39	0	20	19	0	4	8	27	0	29
Isabella	112	5	51	56	0	7	10	95	6	78
Jackson	360	4	162	194	36	14	31	279	4	214
Kalamazoo	452	9	203	240	43	28	38	343	9	293
Kalkaska	40	0	18	22	0	6	4	30	0	22
Kent	1,126	24	420	682	67	120	117	822	27	628
Keweenaw	10	0	6	4	0	1	1	8	0	6
Lake	40	2	18	20	0	2	3	35	2	27
Lapeer	186	9	82	95	9	0	36	141	13	119
Leelanau	41	0	23	18	0	0	8	33	0	25
Lenawee	202	6	89	107	0	33	18	151	6	136

REPORTED STATEWIDE ALCOHOL INVOLVED 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	312	9	144	159	41	24	29	218	10	209
Luce	17	2	9	6	0	0	4	13	2	11
Mackinac	43	2	15	26	6	6	3	28	3	18
Macomb	1,314	22	560	732	95	0	275	944	22	855
Manistee	53	1	21	31	0	2	4	47	1	29
Marquette	112	4	51	57	0	16	12	84	4	71
Mason	62	2	22	38	0	11	2	49	2	37
Mecosta	112	4	42	66	0	15	11	86	4	55
Menominee	68	1	30	37	0	10	1	57	1	41
Midland	152	7	73	72	0	19	21	112	9	125
Missaukee	39	2	17	20	0	0	9	30	2	25
Monroe	314	11	140	163	28	43	24	219	13	198
Montcalm	151	5	70	76	0	6	31	114	5	106
Montmorency	18	1	10	7	0	0	0	18	1	14
Muskegon	269	4	114	151	2	36	28	203	5	167
Newaygo	127	5	67	55	0	0	26	101	6	103
Oakland	1,885	38	792	1,055	300	70	239	1,276	39	1,143
Oceana	94	2	47	45	0	17	3	74	2	70
Ogemaw	65	2	26	37	5	0	13	47	2	43
Ontonagon	17	0	6	11	0	1	3	13	0	7
Osceola	70	7	35	28	0	11	8	51	8	57
Oscoda	21	1	9	11	0	0	9	12	1	14
Otsego	58	1	20	37	12	0	3	43	1	29
Ottawa	382	4	160	218	19	46	21	296	4	237
Presque Isle	23	0	14	9	0	4	2	17	0	17
Roscommon	81	0	33	48	11	1	20	49	0	50
Saginaw	457	9	195	253	26	0	78	353	9	294
St. Clair	339	7	161	171	34	0	52	253	9	228
St. Joseph	147	6	76	65	0	20	21	106	6	107
Sanilac	68	1	33	34	0	0	24	44	1	45
Schoolcraft	27	1	9	17	0	1	4	22	1	14
Shiawassee	166	4	88	74	7	0	34	125	5	113
Tuscola	136	9	63	64	0	0	23	113	12	95
Van Buren	228	9	108	111	18	0	33	177	12	175
Washtenaw	516	16	239	261	56	72	29	359	16	315
Wayne	2,837	87	1,210	1,540	400	146	340	1,951	94	1,818
Wexford	96	3	39	54	0	12	15	69	4	52
UNKNOWN	2	0	0	2	0	0	0	2	0	0
Totals	18,595	484	8,058	10,053	1,601	1,146	2,343	13,505	541	11,830