

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	27	8	5
Bicyclists Injured	2,510	119	78
Bicyclists in Crashes	3,097	140	94



PEDESTRIAN	Total	Drinking in Crash	Drinking Pedestrian
Pedestrians Killed	172	66	59
Pedestrians Injured	3,314	322	217
Pedestrians in Crashes	3,891	406	286



MOTORCYCLIST	Total	Drinking in Crash	Drinking Motorcyclist
Motorcyclists Killed	53	22	21
Motorcyclists Injured	2,456	326	290
Motorcyclists in Crashes	3,320	396	339



SNOWMOBILER *	Total	Drinking in Crash	Drinking Snowmobiler
Snowmobilers Killed	21	18	18
Snowmobilers Injured	216	57	55
Snowmobilers in Crashes	419	97	90

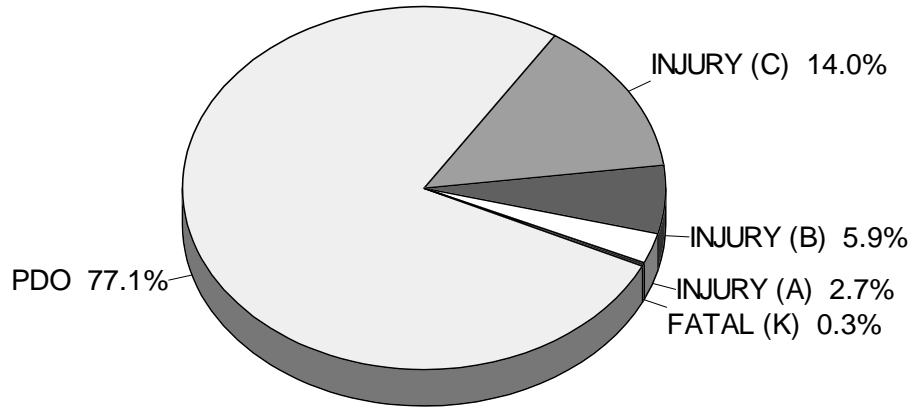


ORV/ATV RIDER *	Total	Drinking in Crash	Drinking ORV/ATV Rider
ORV/ATV Rider Killed	4	1	1
ORV/ATV Rider Injured	155	24	24
ORV/ATV Rider in Crashes	225	29	29

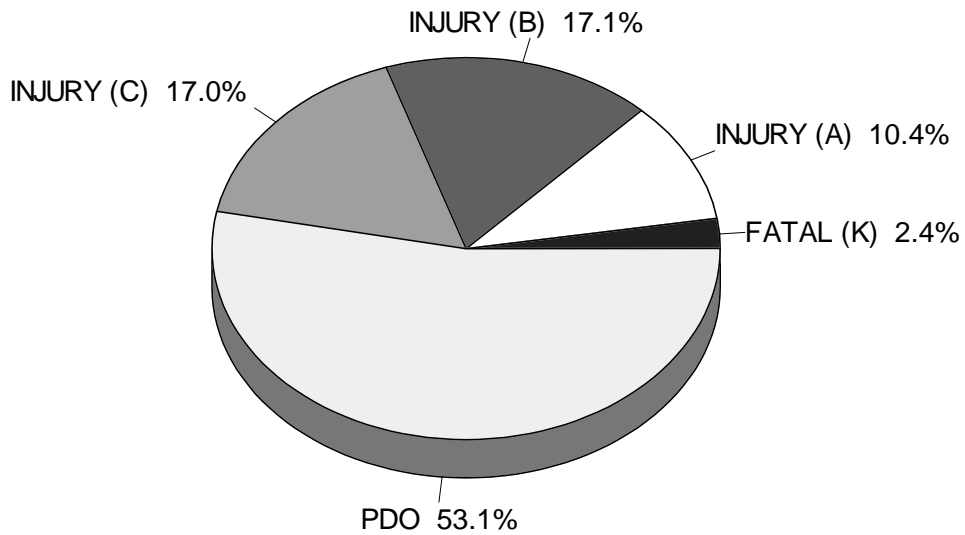


* on Michigan public roadways

ALL CRASHES BY INJURY SEVERITY



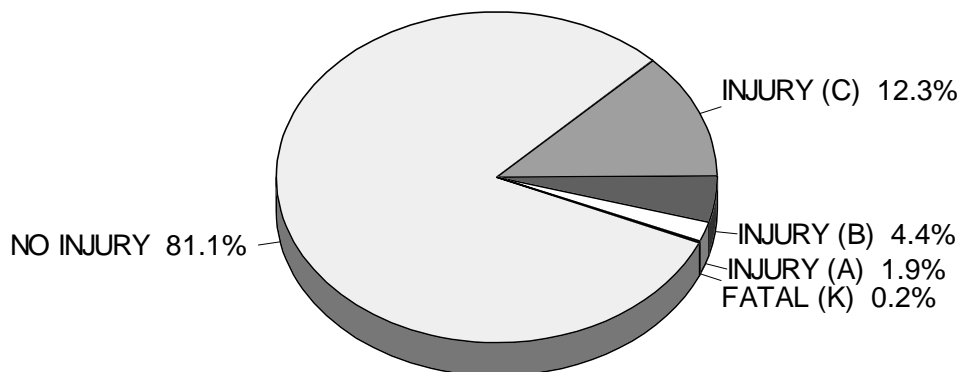
HBD CRASHES BY INJURY SEVERITY



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.

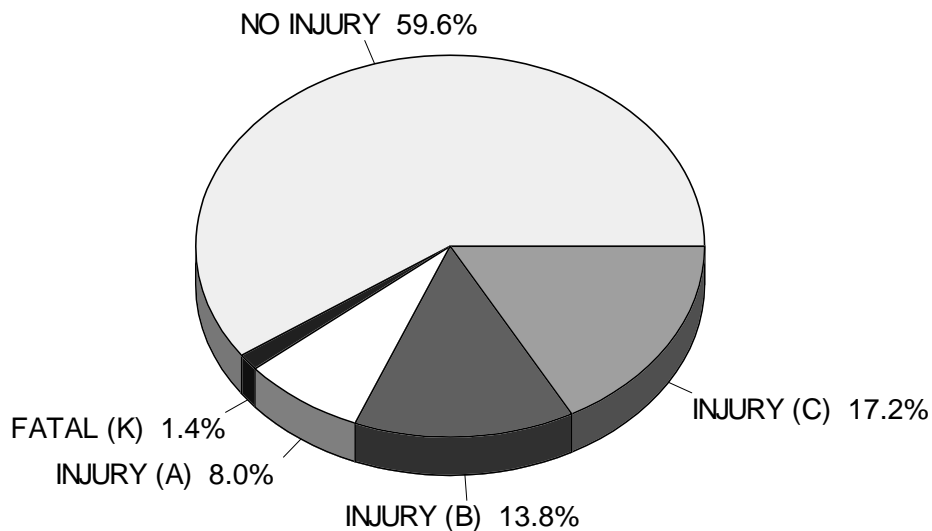
DEATH & INJURY PER CRASH INVOLVED OCCUPANT

Occupants in Crashes



The majority of occupants involved in crashes are not injured (81.1%). 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.

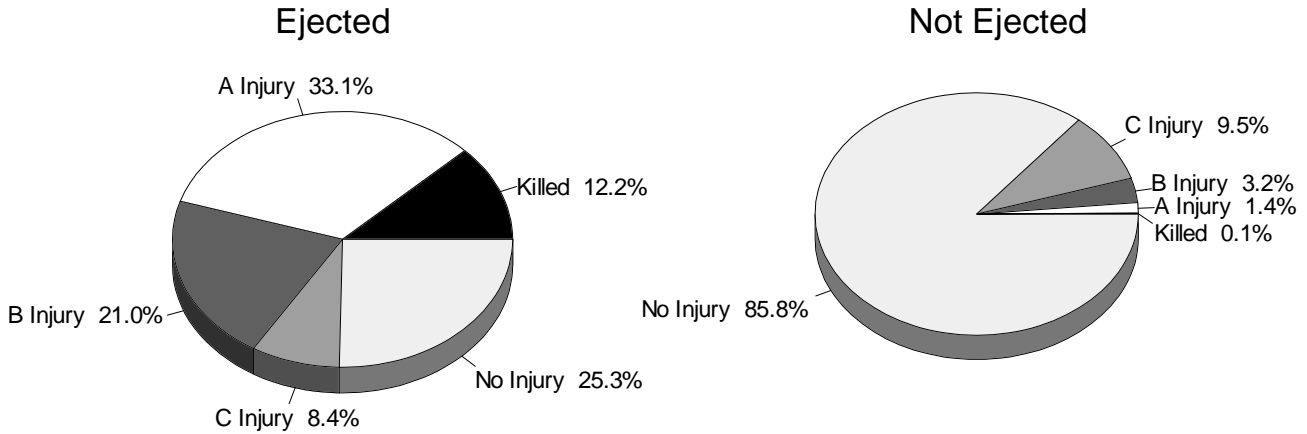
Occupants in HBD Crashes



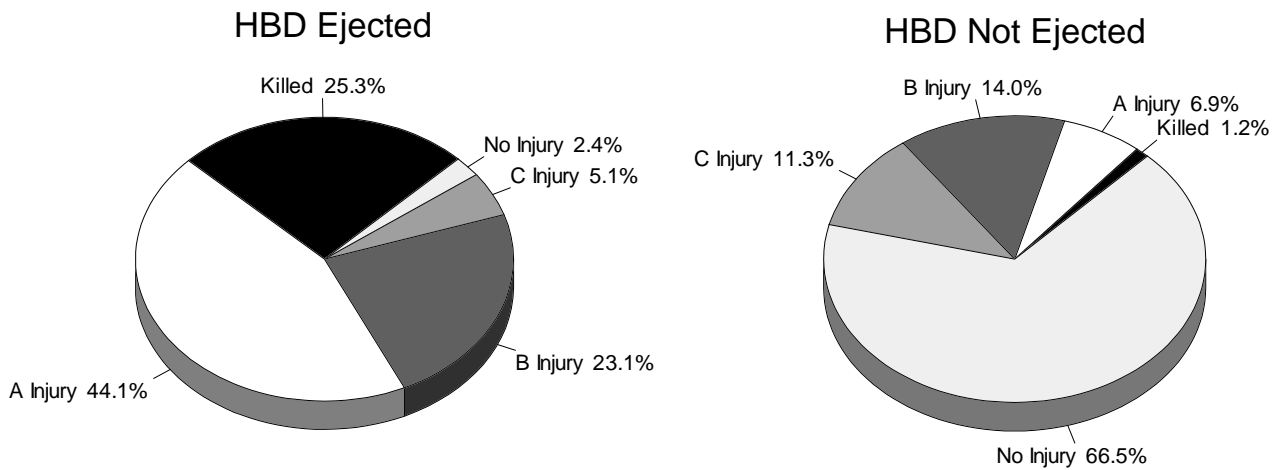
Crashes involving drinking tend to be more serious than nondrinking crashes. The percentage of fatalities is seven times higher than in all crashes and the more serious injury levels are three to four times higher.

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.

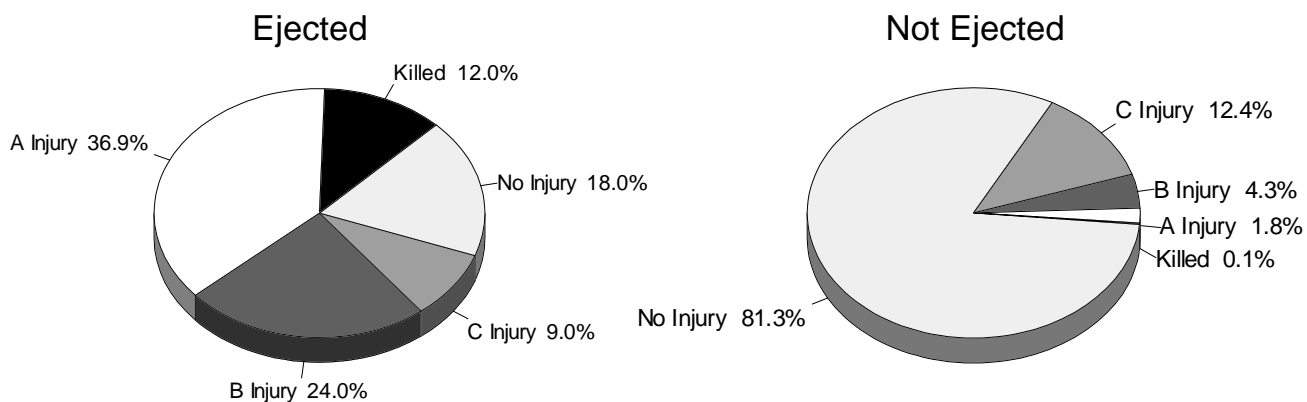


When compared to the charts above, the charts below demonstrate that the injury severity is much worse for drivers who had been drinking in both ejected, and nonejected events.

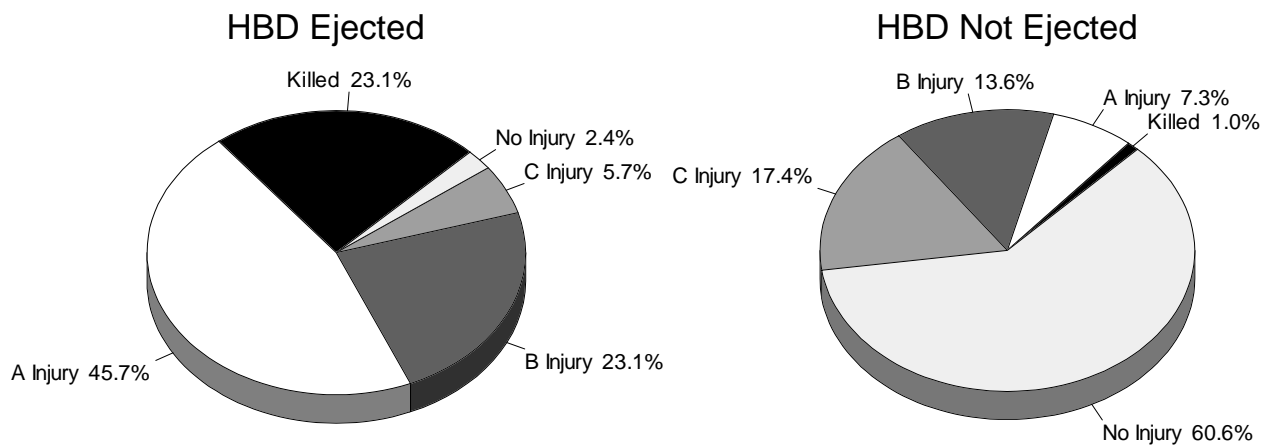


ALL OCCUPANTS and OCCUPANTS of HBD CRASHES INJURY SEVERITY - EJECTED vs. NOT EJECTED

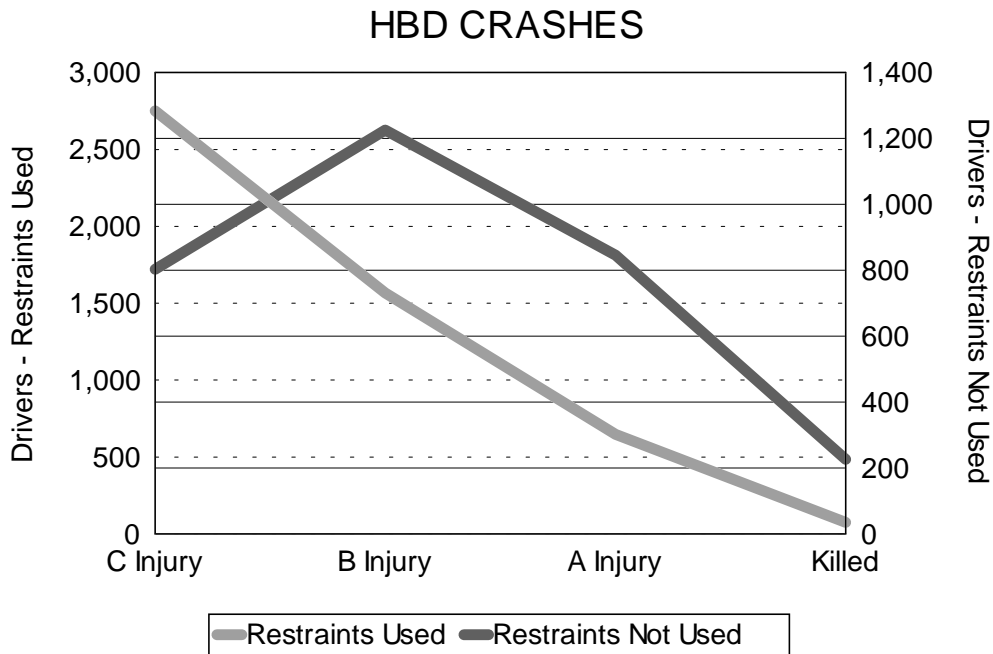
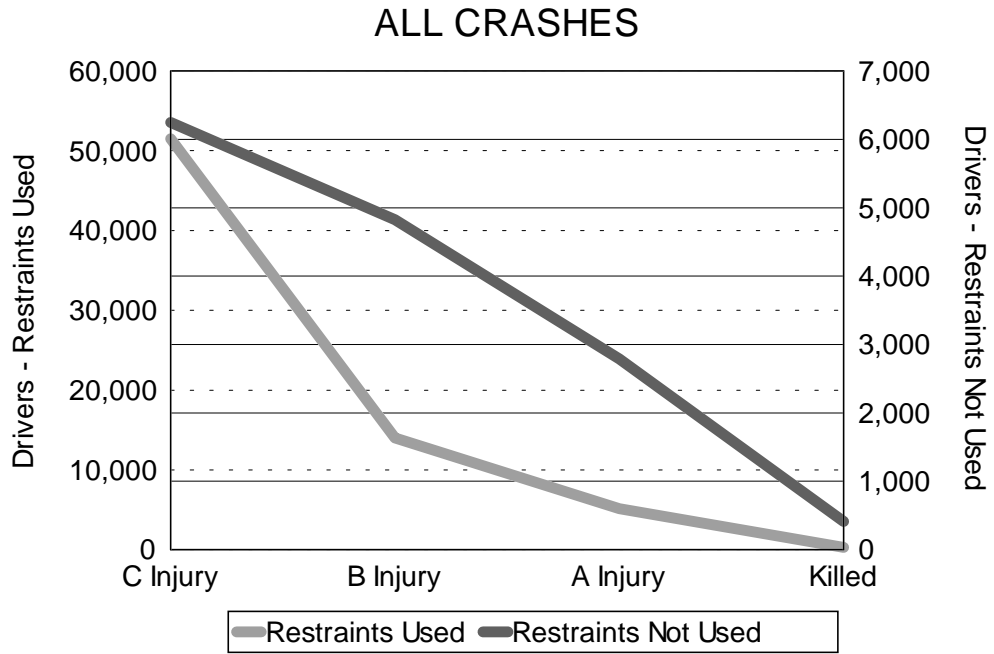
As can be seen in the two charts below, death and injury are much more likely when occupants are ejected from their vehicles.



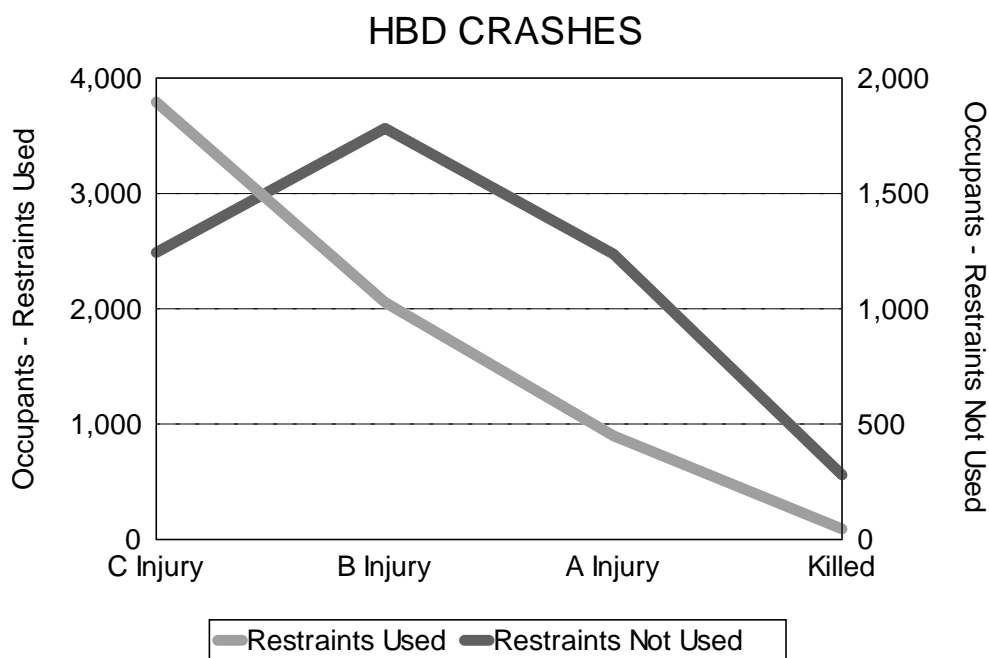
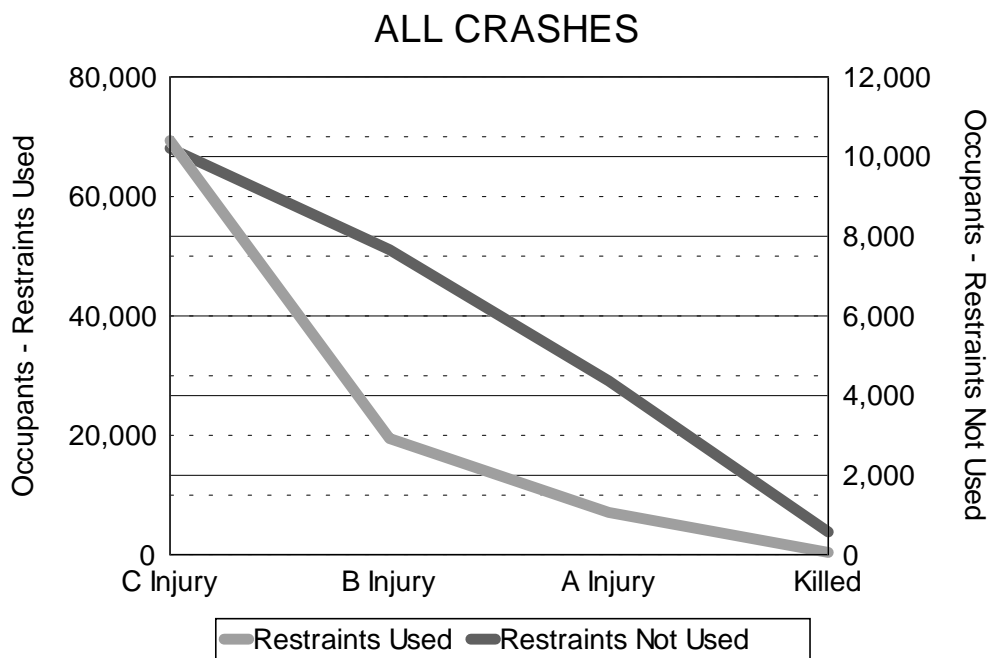
When compared to the charts above, the charts below demonstrate that the injury severity is much worse for occupants in a crash where drinking is reported in both ejected, and nonejected events.



INJURY SEVERITY & RESTRAINT USE FOR CRASH INVOLVED KABC DRIVERS



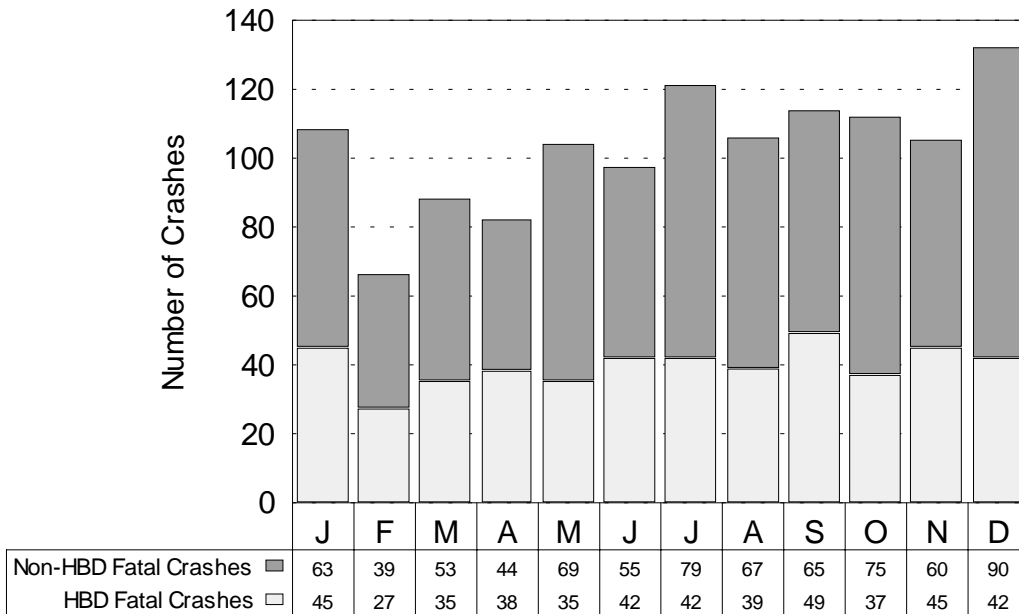
INJURY SEVERITY & RESTRAINT USE FOR CRASH INVOLVED KABC OCCUPANTS



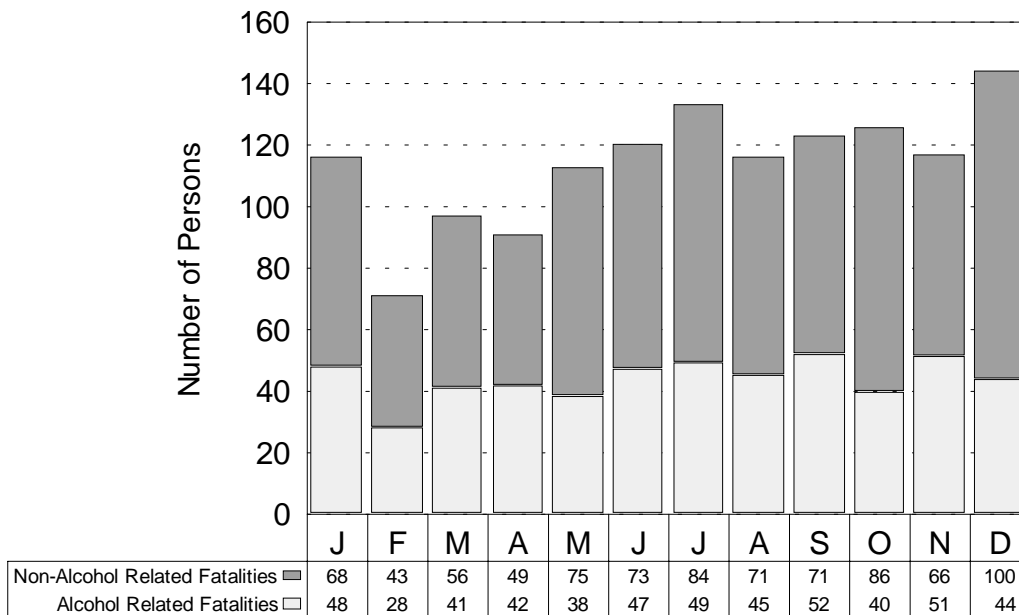
ALCOHOL INVOLVEMENT IN FATAL CRASHES

Fatal crashes were lowest in number during February, March and April. The number of fatal crashes then increased, hitting a high in July and again in December. 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.

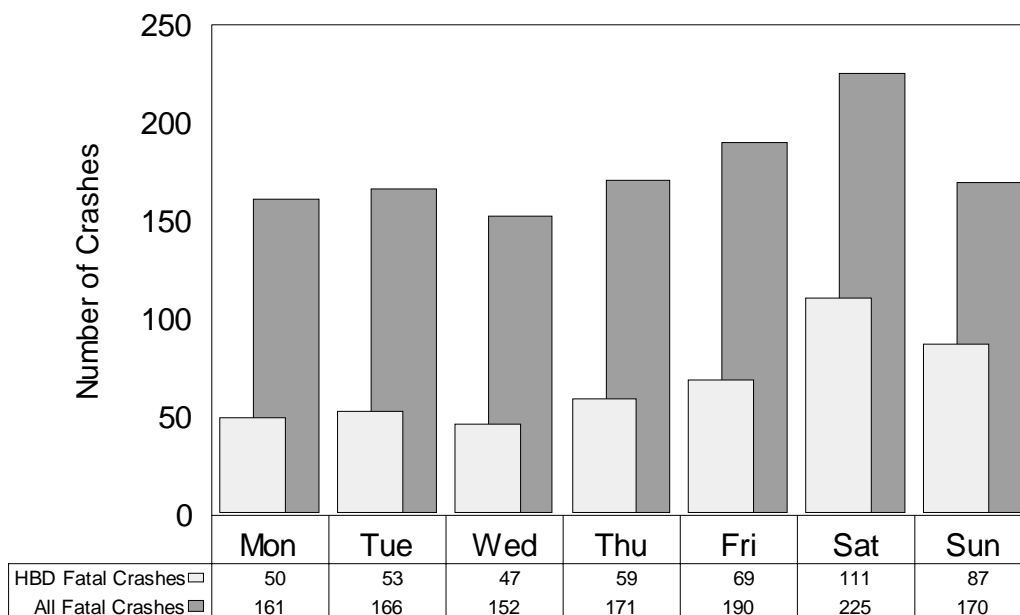
HBD Fatal Crashes by Month



Alcohol Related Fatalities by Month

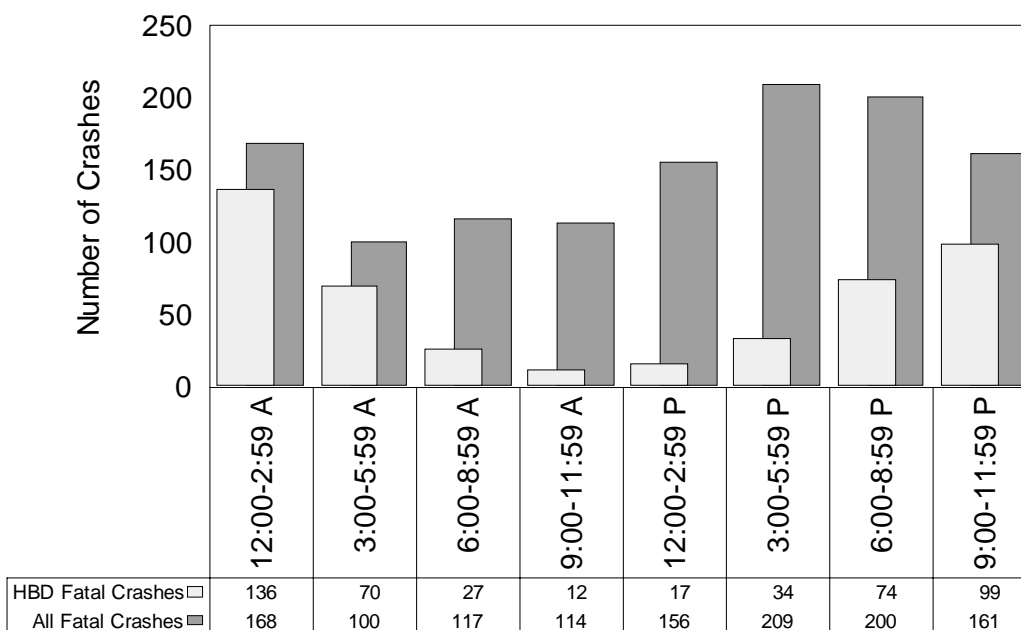


HBD Fatal Crashes by Day of Week



Saturday had the most fatal crashes in 1998. Saturday and Sunday had the highest proportions of drinking related fatal crashes. Half of the weekend fatal crashes involved drinking, while only 30.9 percent of fatal crashes on Wednesday involved drinking.

HBD Fatal Crashes by Time of Day



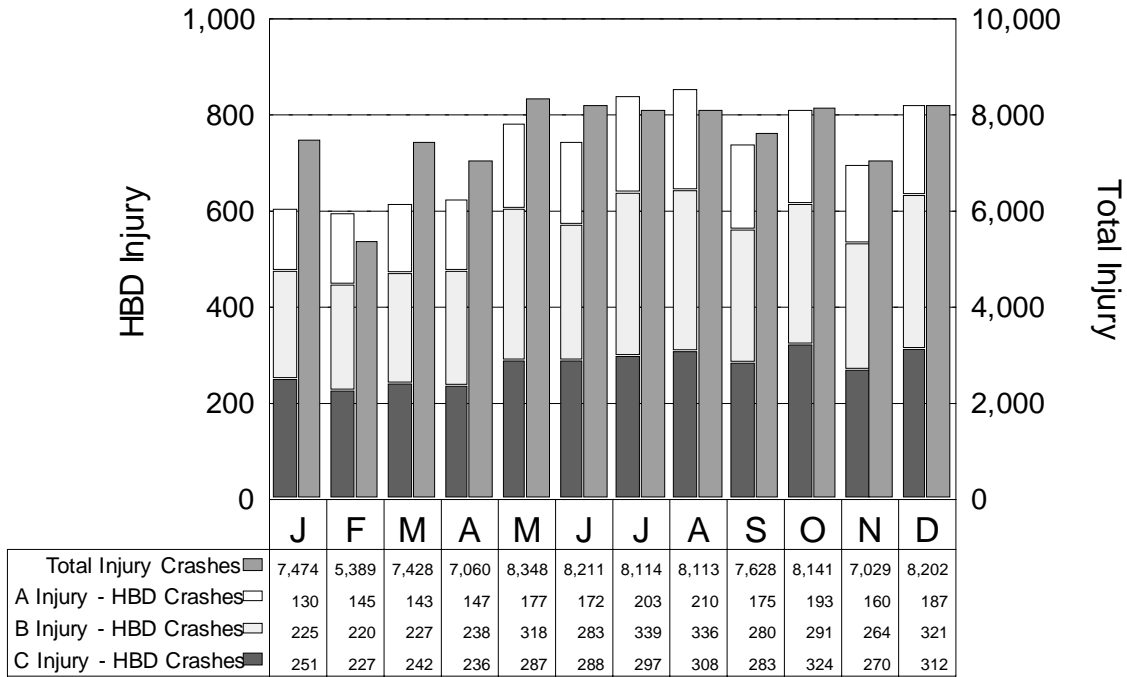
Not surprisingly, the midnight to 2:59 AM time period had the highest rate of drinking involvement (81.0%), while the late morning hours had the lowest (10.5%).

There were 10 fatal crashes where the time of day was unknown. Of these 10 fatal crashes, 7 were HBD.

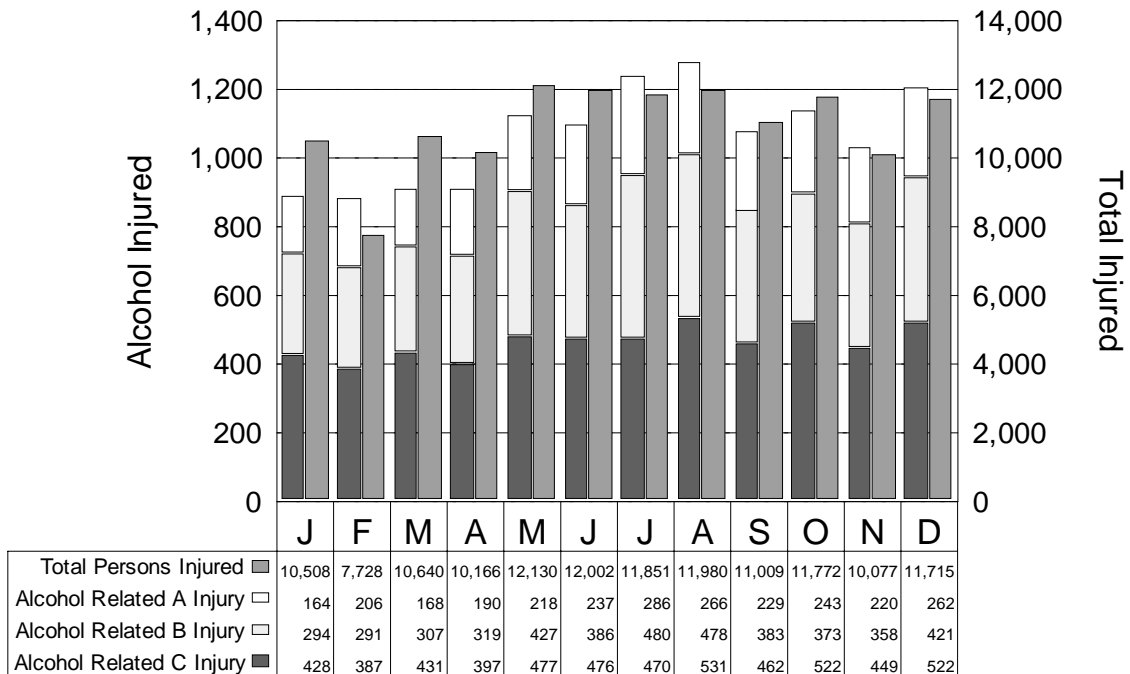
ALCOHOL INVOLVEMENT IN INJURY CRASHES

Alcohol involvement in injury crashes is an important indicator of the alcohol impaired driving problem. In 1998, the highest number of HBD injury crashes occurred in August with 854. The highest proportion of HBD injury crashes occurred in February with 10.99 percent of the injury crashes in that month involving alcohol.

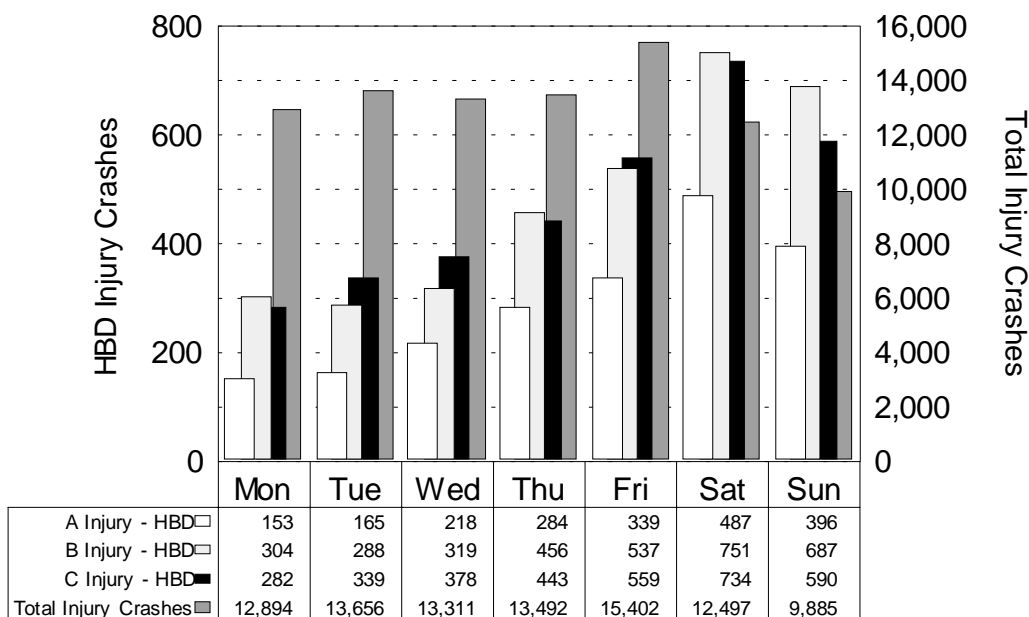
HBD Injury Crashes by Month



Alcohol Related Injuries by Month

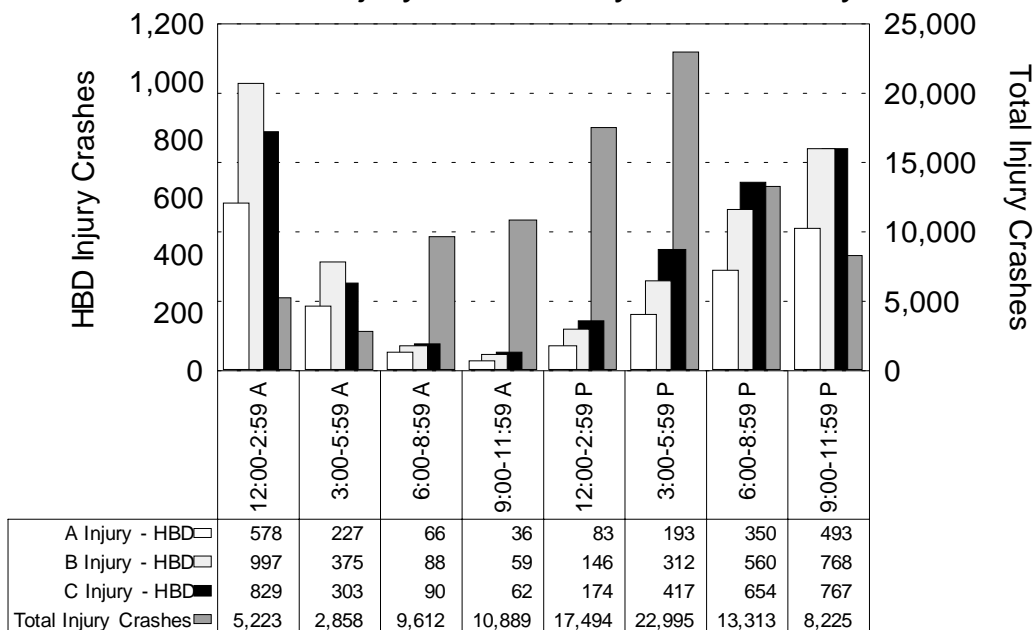


HBD Injury Crashes by Day of Week



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.

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	4	3	12	5	6	0	2	0	0
Alger	31	0	4	5	7	10	2	0	2	0	1
Allegan	267	0	29	46	79	70	14	9	2	2	16
Alpena	80	0	8	15	20	17	8	3	3	1	5
Antrim	59	0	6	12	13	17	3	2	2	0	4
Arenac	57	0	11	2	16	15	8	1	2	0	2
Baraga	34	1	5	7	9	7	3	1	0	0	1
Barry	140	0	12	20	46	31	19	5	2	2	3
Bay	336	0	34	60	83	98	23	18	7	5	8
Benzie	45	0	4	9	9	13	7	2	0	0	1
Berrien	328	0	27	41	77	70	32	11	11	7	52
Branch	92	0	17	20	24	13	7	3	2	0	6
Calhoun	318	2	27	47	107	58	35	18	4	5	15
Cass	130	0	10	14	33	29	9	2	2	0	31
Charlevoix	59	0	3	13	17	13	6	1	3	1	2
Cheboygan	64	0	9	7	15	19	8	2	2	0	2
Chippewa	87	1	9	13	21	19	8	4	2	0	10
Clare	70	0	3	7	19	16	13	8	1	2	1
Clinton	142	0	30	29	40	19	12	7	1	2	2
Crawford	38	0	7	7	4	14	1	0	3	1	1
Delta	80	0	7	10	30	19	2	5	2	1	4
Dickinson	49	0	6	5	13	6	0	2	2	1	14
Eaton	201	0	22	36	66	42	18	8	2	0	7
Emmet	75	0	8	17	21	14	10	0	1	2	2
Genesee	1,329	4	112	160	307	324	174	59	26	7	156
Gladwin	78	0	6	11	22	25	5	5	2	0	2
Gogebic	42	0	1	4	11	3	7	3	1	1	11
Grand Traverse	169	0	11	19	60	40	18	12	0	2	7
Gratiot	70	0	11	9	20	15	7	3	2	0	3
Hillsdale	93	0	9	16	22	27	9	3	0	1	6
Houghton	69	0	14	12	14	10	9	1	2	1	6
Huron	62	0	9	11	17	11	6	3	1	2	2
Ingham	437	1	55	74	124	105	40	15	6	0	17
Ionia	132	0	22	22	47	25	10	2	2	1	1
Iosco	83	0	9	5	32	25	4	3	1	2	2
Iron	42	0	6	3	9	9	4	2	2	0	7
Isabella	94	0	16	21	25	16	10	1	2	1	2
Jackson	382	3	40	55	99	97	47	7	9	5	20
Kalamazoo	520	1	66	98	150	114	47	17	5	2	20
Kalkaska	47	0	6	8	15	15	2	0	0	0	1
Kent	1,098	4	152	178	332	233	123	34	4	5	33
Keweenaw	10	0	2	0	2	3	1	0	0	0	2
Lake	37	1	4	3	11	8	5	2	1	0	2
Lapeer	207	1	20	31	63	53	22	9	2	1	5
Leelanau	55	0	9	8	15	12	6	0	1	0	4

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	187	2	25	30	53	40	15	3	2	0	17
Livingston	343	2	41	56	100	96	30	8	0	2	8
Luce	16	0	4	2	4	0	2	2	1	0	1
Mackinac	54	0	5	7	11	16	9	6	0	0	0
Macomb	1,508	3	146	194	424	421	166	70	28	11	45
Manistee	63	2	6	10	16	19	6	2	0	0	2
Marquette	136	0	22	25	29	32	13	4	2	2	7
Mason	44	0	2	5	16	6	7	1	4	1	2
Mecosta	98	0	16	18	26	20	10	5	1	1	1
Menominee	73	0	10	7	14	14	5	3	1	0	19
Midland	134	1	16	22	38	35	13	3	4	1	1
Missaukee	35	0	5	4	9	9	5	1	2	0	0
Monroe	309	1	35	38	78	60	33	8	5	5	46
Montcalm	158	0	22	35	49	34	9	4	2	0	3
Montmorency	29	0	3	6	8	9	2	0	1	0	0
Muskegon	326	1	31	51	91	83	45	9	5	2	8
Newaygo	117	3	18	13	34	28	11	4	2	0	4
Oakland	1,958	7	167	248	567	513	265	79	33	13	66
Oceana	73	1	11	15	20	15	6	0	1	0	4
Ogemaw	52	0	7	5	15	14	4	5	1	0	1
Ontonagon	29	0	3	4	8	8	2	0	0	0	4
Osceola	62	1	7	11	11	22	4	3	1	1	1
Oscoda	26	0	2	4	3	8	7	1	1	0	0
Otsego	50	0	4	4	21	13	5	2	0	0	1
Ottawa	347	0	54	63	98	67	33	10	6	2	14
Presque Isle	29	0	4	4	4	8	3	2	1	0	3
Roscommon	73	0	7	7	23	17	9	4	4	0	2
Saginaw	446	2	47	65	121	112	53	21	8	4	13
St. Clair	360	0	47	53	105	91	35	11	6	6	6
St. Joseph	148	0	19	24	39	34	11	5	1	0	15
Sanilac	80	0	13	14	15	24	7	2	3	0	2
Schoolcraft	20	0	3	2	5	4	1	2	1	0	2
Shiawassee	202	1	27	29	62	50	18	8	5	0	2
Tuscola	121	0	10	23	37	27	11	8	0	0	5
Van Buren	205	0	24	33	67	38	19	8	2	1	13
Washtenaw	512	0	65	81	117	132	61	22	7	2	25
Wayne	3,101	9	242	336	813	835	431	194	77	27	137
Wexford	89	0	10	9	31	21	11	2	2	0	3
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0
Totals	19,483	55	2,062	2,750	5,360	4,779	2,187	815	349	144	982



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	395	0.1	1	0.1	42	46	66	240
14 years	190	0.1	2	0.1	24	23	27	114
15 years	680	0.2	5	0.4	39	90	112	434
16 years	9,251	2.5	27	1.9	249	723	1,395	6,857
17 years	12,274	3.3	31	2.2	392	899	1,895	9,057
18 years	13,286	3.5	33	2.4	435	938	2,012	9,868
19 years	11,746	3.1	40	2.9	346	854	1,840	8,666
20 years	10,266	2.7	44	3.2	331	743	1,590	7,558
21 - 24 years	34,390	9.2	137	9.8	1,097	2,351	5,206	25,599
25 - 34 years	78,971	21.1	309	22.2	2,423	4,875	11,971	59,393
35 - 44 years	71,420	19.1	261	18.8	2,067	4,156	10,763	54,173
45 - 54 years	48,814	13.0	177	12.7	1,340	2,683	7,437	37,177
55 - 64 years	26,681	7.1	104	7.5	715	1,469	4,066	20,327
65 - 69 years	9,114	2.4	43	3.1	250	516	1,398	6,907
70 - 74 years	7,773	2.1	32	2.3	210	494	1,261	5,776
75 - 79 years	5,511	1.5	28	2.0	182	380	895	4,026
80 - 84 years	3,238	0.9	21	1.5	99	249	529	2,340
85 - 89 years	1,218	0.3	12	0.9	55	95	194	862
90 years and over	374	0.1	6	0.4	14	27	49	278
Not Stated	28,913	7.7	78	5.6	689	1,372	3,981	22,793
TOTAL	374,505	100.0	1,391	100.0	10,999	22,983	56,687	282,445

NOTE: The tables on this page and page 86 exclude 66,708 drivers of unknown gender.

The crash involvement for male drivers is down 5.0 percent from 1997.

The fatal crash involvement for male drivers is down 2.7 percent from 1997.



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	15	0.1	0	0.0	1	2	5	7
14 years	9	0.1	0	0.0	1	2	1	5
15 years	20	0.1	1	0.3	1	4	3	11
16 years	101	0.7	0	0.0	8	19	18	56
17 years	219	1.4	5	1.3	26	46	29	113
18 years	389	2.5	5	1.3	42	66	62	214
19 years	467	3.1	17	4.5	50	88	60	252
20 years	494	3.2	14	3.7	56	107	64	253
21 - 24 years	2,274	14.9	61	16.2	237	401	338	1,237
25 - 34 years	4,147	27.1	107	28.4	466	752	651	2,171
35 - 44 years	3,568	23.4	86	22.8	366	572	632	1,912
45 - 54 years	1,745	11.4	45	11.9	163	262	335	940
55 - 64 years	700	4.6	15	4.0	49	114	127	395
65 - 69 years	176	1.2	6	1.6	25	16	26	103
70 - 74 years	115	0.8	5	1.3	11	13	21	65
75 - 79 years	68	0.4	1	0.3	4	5	16	42
80 - 84 years	46	0.3	1	0.3	2	7	3	33
85 - 89 years	3	0.0	0	0.0	1	1	1	0
90 years and over	4	0.0	1	0.3	0	1	0	2
Not Stated	720	4.7	7	1.9	64	100	113	436
TOTAL	15,280	100.0	377	100.0	1,573	2,578	2,505	8,247

NOTE: The tables on this page and page 87 exclude 370 drinking drivers of unknown gender.

The crash involvement for male drinking drivers is down 3.9 percent from 1997.

The fatal crash involvement for male drinking drivers is up 1.3 percent from 1997.



FEMALE DRIVERS & INJURY SEVERITY IN CRASH

AGE OF 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	214	0.1	1	0.2	7	21	53	132
14 years	110	0.0	0	0.0	5	10	24	71
15 years	516	0.2	5	0.9	25	60	90	336
16 years	7,433	2.9	15	2.8	238	561	1,433	5,186
17 years	9,206	3.5	21	3.9	275	663	1,749	6,498
18 years	9,067	3.5	18	3.3	263	671	1,715	6,400
19 years	8,065	3.1	20	3.7	206	579	1,533	5,727
20 years	7,286	2.8	10	1.8	192	502	1,388	5,194
21 - 24 years	24,472	9.4	33	6.1	675	1,630	4,643	17,491
25 - 34 years	57,263	22.0	97	17.8	1,449	3,304	10,869	41,544
35 - 44 years	53,407	20.6	107	19.6	1,333	3,034	9,670	39,263
45 - 54 years	35,309	13.6	82	15.0	876	1,859	6,495	25,997
55 - 64 years	17,148	6.6	43	7.9	434	985	3,215	12,471
65 - 69 years	5,680	2.2	14	2.6	144	300	1,082	4,140
70 - 74 years	5,170	2.0	18	3.3	146	320	962	3,724
75 - 79 years	4,201	1.6	27	5.0	138	314	788	2,934
80 - 84 years	2,506	1.0	18	3.3	108	179	453	1,748
85 - 89 years	898	0.3	4	0.7	33	74	147	640
90 years and over	210	0.1	0	0.0	15	12	31	152
Not Stated	11,682	4.5	12	2.2	233	547	1,783	9,107
TOTAL	259,843	100.0	545	100.0	6,795	15,625	48,123	188,755

The crash involvement for female drivers is down 4.2 percent from 1997.

The fatal crash involvement for female drivers is down 6.0 percent from 1997.



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	2	0.1	0	0.0	0	0	1	1
14 years	3	0.1	0	0.0	0	1	0	2
15 years	6	0.2	1	1.4	0	0	2	3
16 years	29	0.8	1	1.4	2	9	5	12
17 years	60	1.6	2	2.9	10	12	15	21
18 years	91	2.4	7	10.1	12	11	9	52
19 years	92	2.4	0	0.0	8	17	26	41
20 years	96	2.5	1	1.4	12	27	12	44
21 - 24 years	454	11.8	5	7.2	49	95	74	231
25 - 34 years	1,142	29.8	16	23.2	129	181	224	592
35 - 44 years	1,160	30.3	22	31.9	114	199	232	593
45 - 54 years	407	10.6	8	11.6	35	65	74	225
55 - 64 years	104	2.7	2	2.9	6	15	23	58
65 - 69 years	25	0.7	0	0.0	3	3	3	16
70 - 74 years	27	0.7	1	1.4	2	5	8	11
75 - 79 years	16	0.4	2	2.9	2	2	2	8
80 - 84 years	2	0.1	0	0.0	1	0	0	1
85 - 89 years	2	0.1	0	0.0	0	1	0	1
90 years and over	0	0.0	0	0.0	0	0	0	0
Not Stated	115	3.0	1	1.4	11	19	16	68
TOTAL	3,833	100.0	69	100.0	396	662	726	1,980

The crash involvement for female drivers is down 0.2 percent from 1997.

The fatal crash involvement for female drinking drivers is up 3.0 percent from 1997.

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	2	0	0.0	2	0	0.0
Alger	3	0	0.0	3	0	0.0
Allegan	18	7	38.9	23	7	30.4
Alpena	2	2	100.0	2	2	100.0
Antrim	4	2	50.0	4	2	50.0
Arenac	5	4	80.0	6	5	83.3
Baraga	1	0	0.0	1	0	0.0
Barry	8	3	37.5	8	3	37.5
Bay	16	4	25.0	17	5	29.4
Benzie	2	1	50.0	2	1	50.0
Berrien	35	14	40.0	39	17	43.6
Branch	11	4	36.4	12	5	41.7
Calhoun	20	8	40.0	23	8	34.8
Cass	7	0	0.0	9	0	0.0
Charlevoix	8	1	12.5	8	1	12.5
Cheboygan	8	3	37.5	10	3	30.0
Chippewa	8	3	37.5	8	3	37.5
Clare	5	4	80.0	5	4	80.0
Clinton	8	2	25.0	8	2	25.0
Crawford	5	3	60.0	5	3	60.0
Delta	8	2	25.0	12	4	33.3
Dickinson	2	0	0.0	3	0	0.0
Eaton	18	7	38.9	19	7	36.8
Emmet	6	3	50.0	7	4	57.1
Genesee	57	34	59.6	62	36	58.1
Gladwin	4	2	50.0	8	2	25.0
Gogebic	2	0	0.0	3	0	0.0
Grand Traverse	13	4	30.8	14	4	28.6
Gratiot	10	1	10.0	12	1	8.3
Hillsdale	9	1	11.1	10	1	10.0
Houghton	5	2	40.0	6	2	33.3
Huron	5	2	40.0	5	2	40.0
Ingham	18	8	44.4	20	9	45.0
Ionia	9	5	55.6	10	5	50.0
Iosco	7	5	71.4	7	5	71.4
Iron	3	1	33.3	3	1	33.3
Isabella	16	8	50.0	17	8	47.1
Jackson	28	17	60.7	29	18	62.1
Kalamazoo	21	4	19.0	23	4	17.4
Kalkaska	6	3	50.0	6	3	50.0
Kent	45	14	31.1	56	17	30.4
Keweenaw	1	1	100.0	1	1	100.0
Lake	5	2	40.0	7	2	28.6
Lapeer	14	4	28.6	16	5	31.3

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	3	0	0.0	3	0	0.0
Lenawee	19	7	36.8	22	9	40.9
Livingston	14	4	28.6	17	5	29.4
Luce	0	0	0.0	0	0	0.0
Mackinac	2	1	50.0	2	1	50.0
Macomb	52	26	50.0	55	29	52.7
Manistee	2	1	50.0	2	1	50.0
Marquette	6	2	33.3	10	4	40.0
Mason	4	0	0.0	4	0	0.0
Mecosta	8	4	50.0	9	4	44.4
Menominee	4	1	25.0	4	1	25.0
Midland	13	4	30.8	14	4	28.6
Missaukee	2	1	50.0	2	1	50.0
Monroe	21	10	47.6	23	12	52.2
Montcalm	16	6	37.5	20	7	35.0
Montmorency	0	0	0.0	0	0	0.0
Muskegon	31	15	48.4	34	15	44.1
Newaygo	9	4	44.4	11	6	54.5
Oakland	86	32	37.2	92	35	38.0
Oceana	5	2	40.0	5	2	40.0
Ogemaw	7	3	42.9	7	3	42.9
Ontonagon	2	0	0.0	2	0	0.0
Osceola	8	3	37.5	9	3	33.3
Oscoda	3	1	33.3	3	1	33.3
Otsego	4	3	75.0	4	3	75.0
Ottawa	31	11	35.5	31	11	35.5
Presque Isle	3	2	66.7	4	3	75.0
Roscommon	8	4	50.0	8	4	50.0
Saginaw	24	7	29.2	26	8	30.8
St. Clair	20	10	50.0	22	11	50.0
St. Joseph	10	2	20.0	13	2	15.4
Sanilac	4	0	0.0	5	0	0.0
Schoolcraft	3	1	33.3	4	1	25.0
Shiawassee	10	2	20.0	11	2	18.2
Tuscola	17	5	29.4	21	6	28.6
Van Buren	17	7	41.2	18	7	38.9
Washtenaw	32	5	15.6	34	7	20.6
Wayne	238	91	38.2	255	101	39.6
Wexford	9	4	44.4	10	4	40.0
Totals	1,235	476	38.5	1,367	525	38.4

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	31	0	5	7	1	18
Alger	31	0	1	6	2	22
Allegan	261	7	32	50	37	135
Alpena	82	2	11	15	14	40
Antrim	59	2	3	12	9	33
Arenac	56	4	8	11	11	22
Baraga	35	0	8	6	4	17
Barry	140	3	18	31	15	73
Bay	334	4	44	69	41	176
Benzie	44	1	5	14	2	22
Berrien	328	14	28	54	60	172
Branch	92	4	12	13	12	51
Calhoun	321	8	34	46	46	187
Cass	128	0	22	29	11	66
Charlevoix	60	1	8	14	7	30
Cheboygan	65	3	5	17	6	34
Chippewa	88	3	13	17	7	48
Clare	70	4	11	11	7	37
Clinton	139	2	16	39	19	63
Crawford	38	3	5	7	2	21
Delta	80	2	6	16	14	42
Dickinson	49	0	9	6	7	27
Eaton	200	7	22	36	33	102
Emmet	73	3	5	16	10	39
Genesee	1,328	34	66	253	270	705
Gladwin	77	2	13	19	8	35
Gogebic	42	0	5	9	2	26
Grand Traverse	176	4	17	19	35	101
Gratiot	71	1	9	10	12	39
Hillsdale	94	1	8	21	13	51
Houghton	69	2	15	14	6	32
Huron	61	2	14	6	2	37
Ingham	450	8	54	66	67	255
Ionia	135	5	24	21	27	58
Iosco	84	5	15	23	4	37
Iron	42	1	4	9	6	22
Isabella	91	8	10	17	9	47
Jackson	387	17	32	65	72	201
Kalamazoo	523	4	54	91	73	301
Kalkaska	46	3	7	9	2	25
Kent	1,110	14	91	176	187	642
Keweenaw	10	1	2	2	2	3

MOST SEVERE OUTCOME IN HBD CRASHES BY COUNTY (continued)

MOST SEVERE OUTCOME IN HBD CRASH

COUNTY	All HBD Crashes	Fatal	Injury			PDO
			A	B	C	
Lake	36	2	5	6	4	19
Lapeer	205	4	25	44	29	103
Leelanau	54	0	9	15	2	28
Lenawee	190	7	22	35	23	103
Livingston	343	4	40	60	35	204
Luce	15	0	1	3	2	9
Mackinac	53	1	9	8	3	32
Macomb	1,516	26	127	210	299	854
Manistee	58	1	14	9	5	29
Marquette	134	2	18	26	15	73
Mason	44	0	5	6	9	24
Mecosta	96	4	16	16	17	43
Menominee	73	1	10	14	7	41
Midland	139	4	14	33	28	60
Missaukee	35	1	4	8	3	19
Monroe	308	10	33	61	54	150
Montcalm	160	6	25	28	18	83
Montmorency	28	0	5	8	0	15
Muskegon	326	15	46	55	39	171
Newaygo	117	4	16	26	9	62
Oakland	1,962	32	182	309	399	1040
Oceana	75	2	14	14	10	35
Ogemaw	52	3	13	4	11	21
Ontonagon	27	0	3	5	2	17
Osceola	61	3	9	10	6	33
Oscoda	27	1	5	8	3	10
Otsego	51	3	5	9	10	24
Ottawa	345	11	32	56	54	192
Presque Isle	28	2	5	5	5	11
Roscommon	72	4	10	16	8	34
Saginaw	448	7	61	61	82	237
St. Clair	360	10	33	61	55	201
St. Joseph	144	2	11	31	32	68
Sanilac	79	0	12	12	23	32
Schoolcraft	20	1	3	9	2	5
Shiawassee	199	2	36	46	26	89
Tuscola	122	5	15	23	15	64
Van Buren	208	7	35	38	36	92
Washtenaw	514	5	44	98	103	264
Wayne	3,150	91	285	469	663	1642
Wexford	90	4	14	15	5	52
Unknown	0	0	0	0	0	0
Totals	19,564	476	2,042	3,342	3,325	10,379

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

COUNTY	1998 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Keweenaw	2,077	94	1	10	1	0.4815	1
Arenac	16,413	1,093	5	56	4	0.2437	2
Crawford	14,150	910	5	38	3	0.2120	3
Iosco	25,111	1,374	7	84	5	0.1991	4
Kalkaska	15,568	769	6	46	3	0.1927	5
Lake	10,475	684	5	36	2	0.1909	6
Roscommon	23,467	1,254	8	72	4	0.1705	7
Ogemaw	21,193	1,281	7	52	3	0.1416	8
Presque Isle	14,424	701	3	28	2	0.1387	9
Isabella	58,026	2,286	16	91	8	0.1379	10
Wexford	29,185	1,840	9	90	4	0.1371	11
Osceola	22,106	1,604	8	61	3	0.1357	12
Otsego	22,129	1,095	4	51	3	0.1356	13
Clare	29,578	1,697	5	70	4	0.1352	14
Cheboygan	23,738	1,018	8	65	3	0.1264	15
Schoolcraft	8,805	518	3	20	1	0.1136	16
Oscoda	8,882	563	3	27	1	0.1126	17
Jackson	156,157	6,906	28	387	17	0.1089	18
Emmet	28,677	1,567	6	73	3	0.1046	19
Mecosta	40,006	2,701	8	96	4	0.1000	20
Montcalm	60,559	3,270	16	160	6	0.0991	21
Antrim	21,522	1,043	4	59	2	0.0929	22
Van Buren	75,666	2,889	17	208	7	0.0925	23
Branch	43,634	2,126	11	92	4	0.0917	24
Mackinac	11,097	784	2	53	1	0.0901	25
Muskegon	166,748	6,004	31	326	15	0.0900	26
Berrien	160,245	5,770	35	328	14	0.0874	27
Newaygo	45,784	2,108	9	117	4	0.0874	28
Tuscola	58,181	2,151	17	122	5	0.0859	29
Ionia	61,700	2,803	9	135	5	0.0810	30
Oceana	24,833	1,232	5	75	2	0.0805	31
Chippewa	37,968	1,398	8	88	3	0.0790	32
Gladwin	25,333	1,166	4	77	2	0.0789	33
Genesee	436,084	16,280	57	1,328	34	0.0780	34
Iron	12,883	1,006	3	42	1	0.0776	35
Missaukee	13,892	842	2	35	1	0.0720	36
Lenawee	98,412	3,594	19	190	7	0.0711	37
Monroe	143,499	4,301	21	308	10	0.0697	38
Eaton	101,090	4,265	18	200	7	0.0692	39
Allegan	101,662	3,748	18	261	7	0.0689	40
Benzie	14,678	682	2	44	1	0.0681	41
Alpena	30,405	1,392	2	82	2	0.0658	42
St. Clair	159,769	5,372	20	360	10	0.0626	43
Calhoun	141,005	6,346	20	321	8	0.0567	44
Huron	35,303	2,076	5	61	2	0.0567	45
Houghton	35,719	1,256	5	69	2	0.0560	46

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

COUNTY	1998 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Barry	54,535	2,518	8	140	3	0.0550	47
Grand Traverse	74,134	3,778	13	176	4	0.0540	48
Delta	38,947	2,252	8	80	2	0.0514	49
Ottawa	224,357	7,742	31	345	11	0.0490	50
Midland	81,842	3,268	13	139	4	0.0489	51
Lapeer	88,270	3,843	14	205	4	0.0453	52
Wayne	2,118,129	85,378	238	3,150	91	0.0430	53
Manistee	23,330	1,114	2	58	1	0.0429	54
Charlevoix	24,436	1,246	8	60	1	0.0409	55
Menominee	24,468	1,858	4	73	1	0.0409	56
Bay	110,048	4,094	16	334	4	0.0363	57
Saginaw	210,101	8,392	24	448	7	0.0333	58
Macomb	787,698	26,669	52	1,516	26	0.0330	59
St. Joseph	61,226	2,367	10	144	2	0.0327	60
Marquette	61,565	2,446	6	134	2	0.0325	61
Clinton	63,379	2,692	8	139	2	0.0316	62
Ingham	285,214	11,710	18	450	8	0.0280	63
Shiawassee	72,569	2,555	10	199	2	0.0276	64
Livingston	146,165	5,301	14	343	4	0.0274	65
Oakland	1,176,488	47,445	86	1,962	32	0.0272	66
Kent	545,166	25,181	45	1,110	14	0.0257	67
Gratiot	40,126	1,840	10	71	1	0.0249	68
Hillsdale	46,614	2,320	9	94	1	0.0215	69
Kalamazoo	229,660	10,023	21	523	4	0.0174	70
Washtenaw	303,069	12,227	32	514	5	0.0165	71
Alcona	11,108	923	2	31	0	0.0000	72
Alger	9,887	403	3	31	0	0.0000	73
Baraga	8,413	510	1	35	0	0.0000	74
Cass	49,693	2,053	7	128	0	0.0000	75
Dickinson	27,074	1,494	2	49	0	0.0000	76
Gogebic	17,097	612	2	42	0	0.0000	77
Leelanau	19,142	621	3	54	0	0.0000	78
Luce	6,640	266	0	15	0	0.0000	79
Mason	27,950	1,681	4	44	0	0.0000	80
Montmorency	10,011	505	0	28	0	0.0000	81
Ontonagon	7,878	576	2	27	0	0.0000	82
Sanilac	42,975	1,951	4	79	0	0.0000	83
Unknown		53	0	0	0		
State Totals	9,817,242	403,766	1,235	19,564	476	0.04849	

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	31	0	13	18	0	1	1	29	0	16
Alger	31	0	9	22	0	0	10	21	0	12
Allegan	261	7	119	135	10	19	20	212	7	168
Alpena	82	2	40	40	0	14	8	60	2	50
Antrim	59	2	24	33	0	4	4	51	2	33
Arenac	56	4	30	22	6	11	2	37	5	39
Baraga	35	0	18	17	0	5	4	26	0	27
Barry	140	3	64	73	0	0	25	115	3	98
Bay	334	4	154	176	16	9	68	241	5	199
Benzie	44	1	21	22	0	5	7	32	1	25
Berrien	328	14	142	172	31	32	37	228	17	211
Branch	92	4	37	51	2	12	3	75	5	53
Calhoun	321	8	126	187	44	3	34	240	8	162
Cass	128	0	62	66	0	14	30	84	0	80
Charlevoix	60	1	29	30	0	3	10	47	1	37
Cheboygan	65	3	28	34	5	2	8	50	3	43
Chippewa	88	3	37	48	16	0	9	63	3	54
Clare	70	4	29	37	0	5	10	55	4	49
Clinton	139	2	74	63	16	19	7	97	2	103
Crawford	38	3	14	21	5	1	5	27	3	21
Delta	80	2	36	42	0	15	8	57	4	52
Dickinson	49	0	22	27	0	9	8	32	0	31
Eaton	200	7	91	102	19	6	29	146	7	132
Emmet	73	3	31	39	0	14	4	55	4	45
Genesee	1,328	34	589	705	97	35	160	1,036	36	894
Gladwin	77	2	40	35	0	0	16	61	2	53
Gogebic	42	0	16	26	0	11	1	30	0	18
Grand Traverse	176	4	71	101	0	26	15	135	4	106
Gratiot	71	1	31	39	0	13	5	53	1	38
Hillsdale	94	1	42	51	0	10	9	75	1	51
Houghton	69	2	35	32	0	15	9	45	2	49
Huron	61	2	22	37	0	0	14	47	2	34
Ingham	450	8	187	255	58	13	66	313	9	263
Ionia	135	5	72	58	12	0	19	104	5	89
Iosco	84	5	42	37	0	16	9	59	5	62
Iron	42	1	19	22	0	6	7	29	1	29
Isabella	91	8	36	47	0	5	13	73	8	56
Jackson	387	17	169	201	37	19	28	303	18	243
Kalamazoo	523	4	218	301	36	33	50	404	4	319
Kalkaska	46	3	18	25	0	3	5	38	3	28
Kent	1,110	14	454	642	55	99	127	829	17	620
Keweenaw	10	1	6	3	0	2	0	8	1	8
Lake	36	2	15	19	0	7	2	27	2	22
Lapeer	205	4	98	103	15	0	35	155	5	141
Leelanau	54	0	26	28	0	0	18	36	0	40
Lenawee	190	7	80	103	0	40	11	139	9	111

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	343	4	135	204	45	24	24	250	5	183
Luce	15	0	6	9	0	0	3	12	0	8
Mackinac	53	1	20	32	7	6	4	36	1	28
Macomb	1,516	26	636	854	106	0	338	1,072	29	931
Manistee	58	1	28	29	0	6	7	45	1	34
Marquette	134	2	59	73	0	27	12	95	4	90
Mason	44	0	20	24	0	12	0	32	0	27
Mecosta	96	4	49	43	0	23	8	65	4	75
Menominee	73	1	31	41	0	17	3	53	1	39
Midland	139	4	75	60	0	13	19	107	4	108
Missaukee	35	1	15	19	0	0	5	30	1	19
Monroe	308	10	148	150	30	38	25	215	12	237
Montcalm	160	6	71	83	0	8	30	122	7	107
Montmorency	28	0	13	15	0	0	7	21	0	19
Muskegon	326	15	140	171	3	42	37	244	15	228
Newaygo	117	4	51	62	0	0	21	96	6	73
Oakland	1,962	32	890	1,040	279	81	234	1,368	35	1,391
Oceana	75	2	38	35	0	11	3	61	2	58
Ogemaw	52	3	28	21	7	0	4	41	3	43
Ontonagon	27	0	10	17	0	3	6	18	0	14
Osceola	61	3	25	33	0	11	6	44	3	31
Oscoda	27	1	16	10	0	0	9	18	1	27
Otsego	51	3	24	24	8	0	11	32	3	35
Ottawa	345	11	142	192	14	28	22	281	11	212
Presque Isle	28	2	15	11	0	3	0	25	3	35
Roscommon	72	4	34	34	5	5	14	48	4	51
Saginaw	448	7	204	237	24	0	92	332	8	287
St. Clair	360	10	149	201	33	0	64	263	11	208
St. Joseph	144	2	74	68	0	21	19	104	2	101
Sanilac	79	0	47	32	0	0	18	61	0	67
Schoolcraft	20	1	14	5	0	2	2	16	1	20
Shiawassee	199	2	108	89	15	0	48	136	2	161
Tuscola	122	5	53	64	0	0	22	100	6	71
Van Buren	208	7	109	92	15	0	42	151	7	164
Washtenaw	514	5	245	264	50	68	30	366	7	331
Wayne	3,150	91	1,417	1,642	493	164	359	2,134	101	2,175
Wexford	90	4	34	52	0	12	18	60	4	56
UNKNOWN	0	0	0	0	0	0	0	0	0	0
Totals	19,564	476	8,709	10,379	1,614	1,181	2,536	14,233	525	12,758