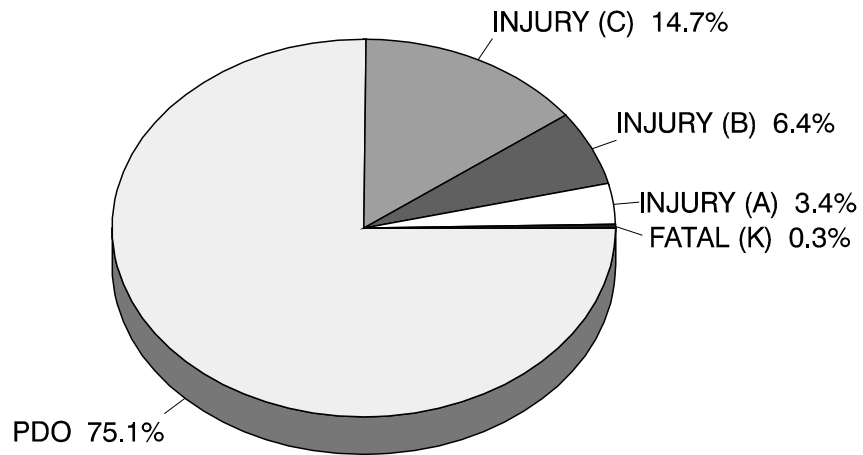
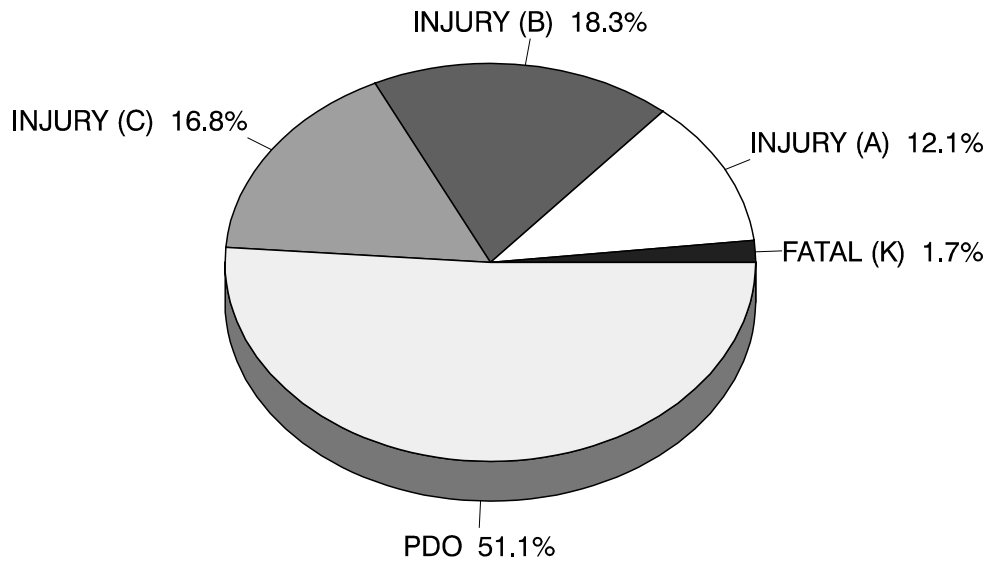


ALL CRASHES BY INJURY SEVERITY



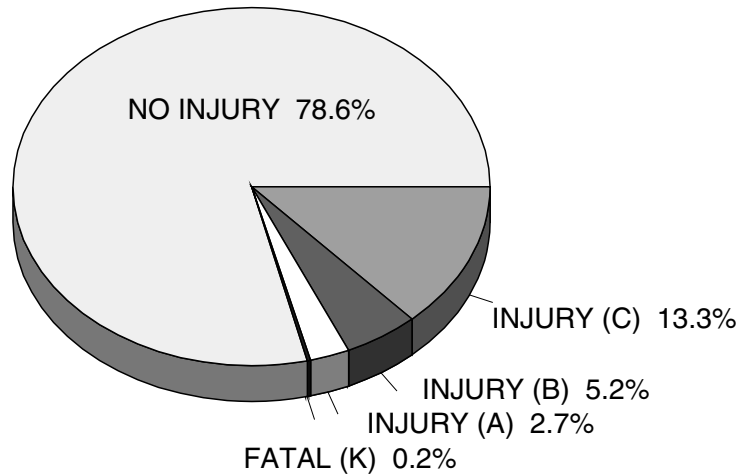
HBD CRASHES BY INJURY SEVERITY



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 almost six times more likely when one of the crash-involved operators is reported as had been drinking.

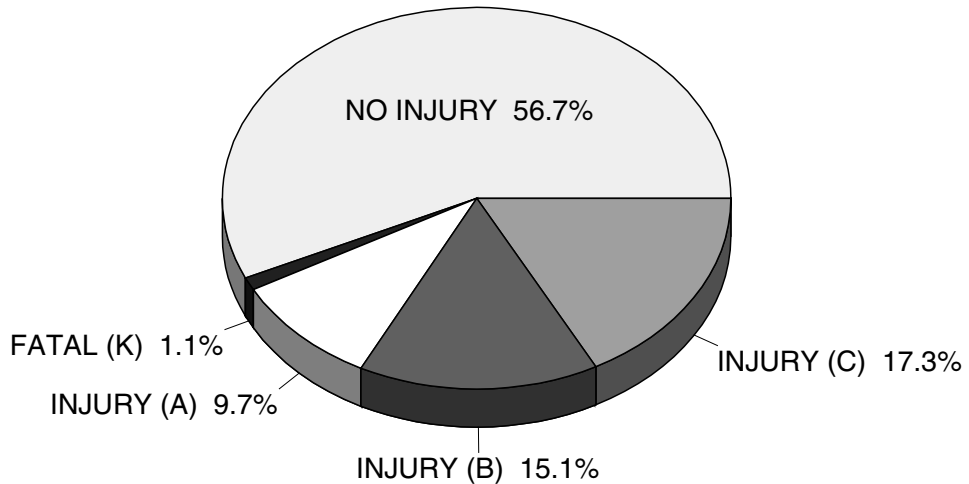
DEATH & INJURY PER CRASH INVOLVED OCCUPANT

Occupants in Crashes



The majority of people involved in crashes (78.6%) are not injured. More than half 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.

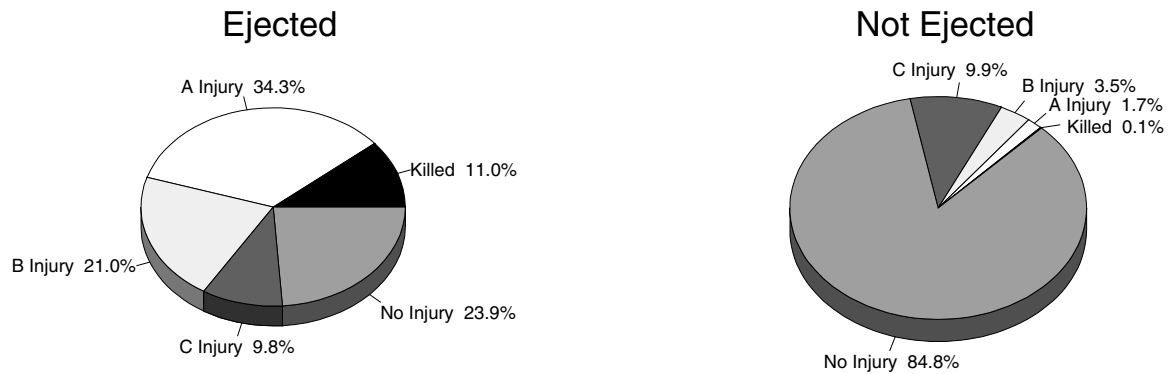
Occupants in HBD Crashes



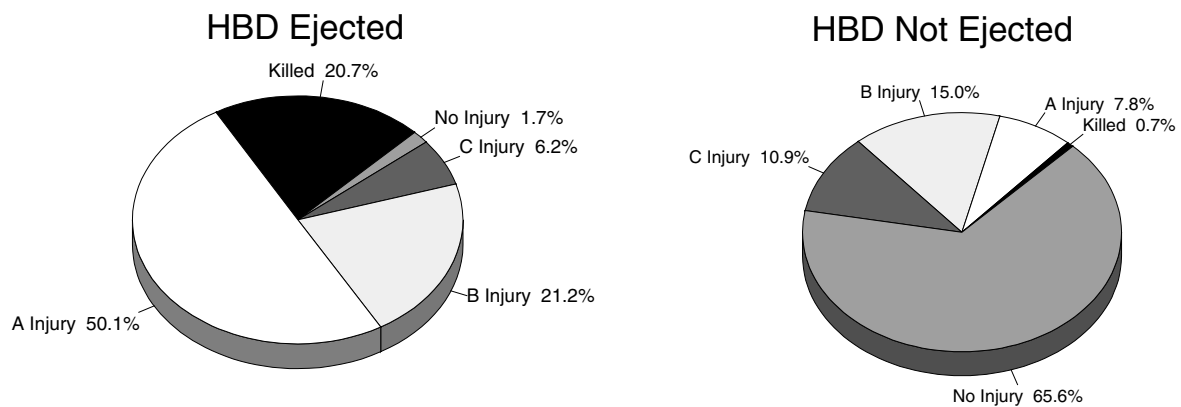
Crashes involving drinking tend to be more serious than nondrinking crashes. The percentage of fatalities is five times higher than in all crashes and the more serious injury levels are three to four times higher.

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.

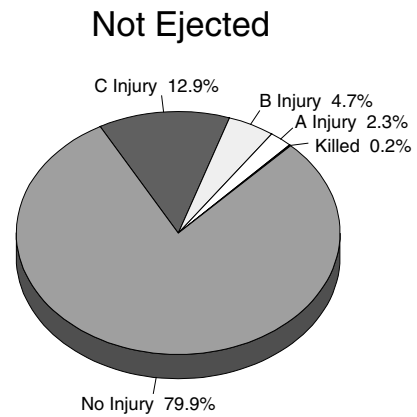
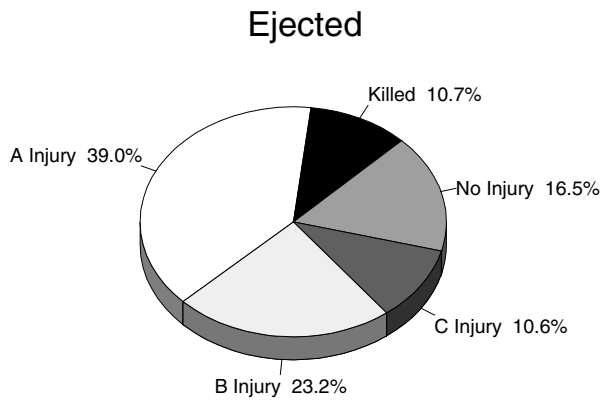


When compared to the charts above, the charts below demonstrate that the injury severity is much worse for drivers who had been drinking in both ejected, and nonejected events.

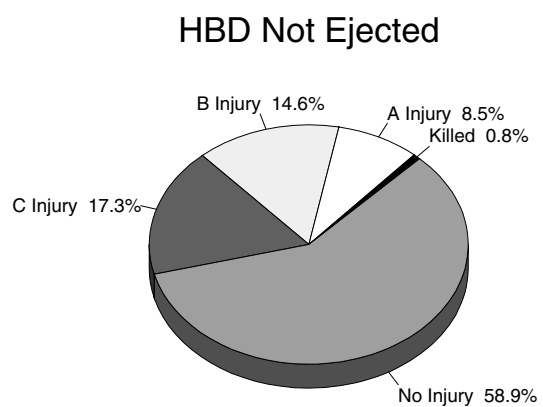
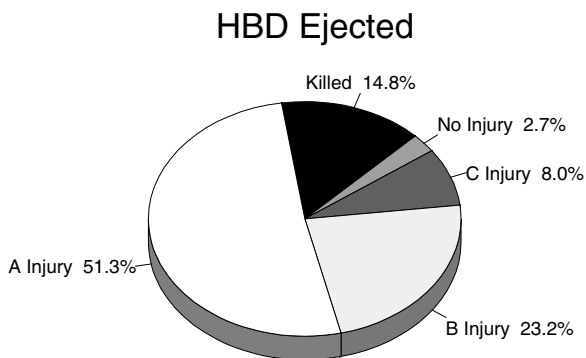


ALL OCCUPANTS and OCCUPANTS of HBD CRASHES INJURY SEVERITY - EJECTED vs. NOT EJECTED

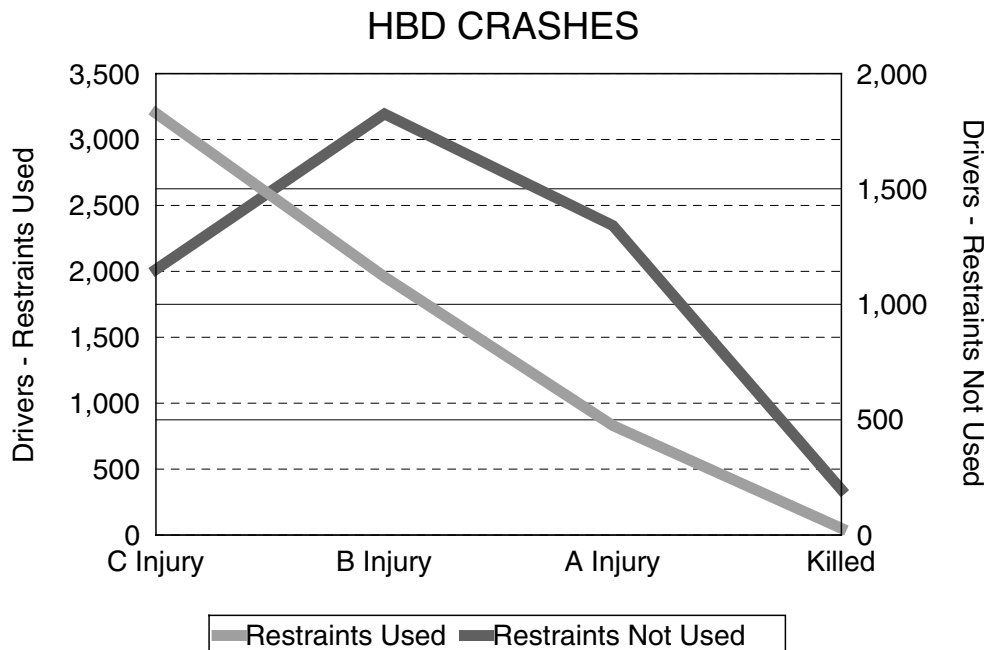
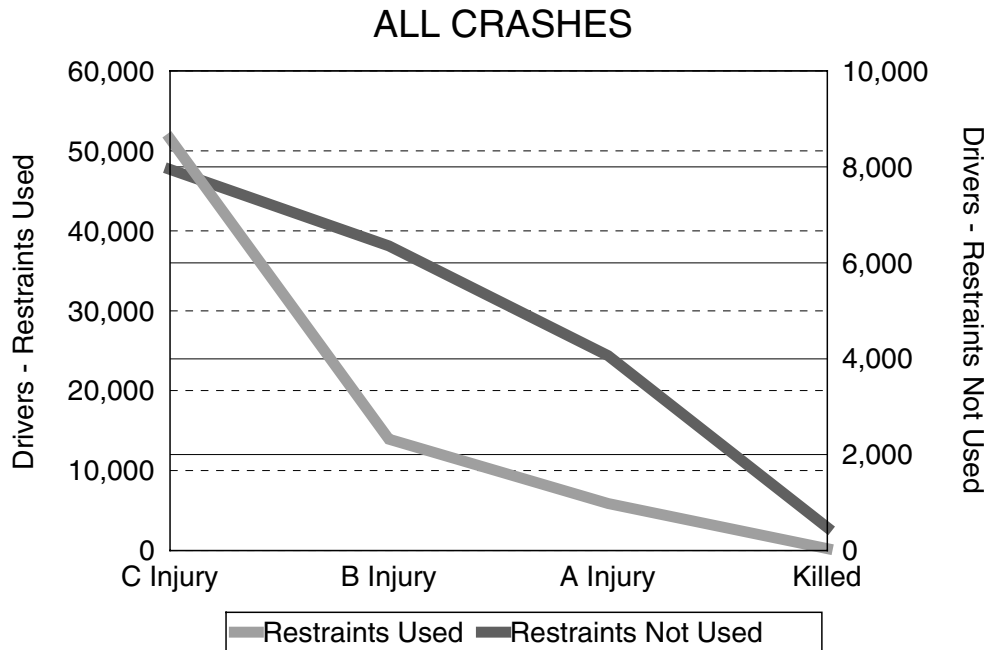
As can be seen in the two charts below, death and injury are much more likely when occupants are ejected from their vehicles.



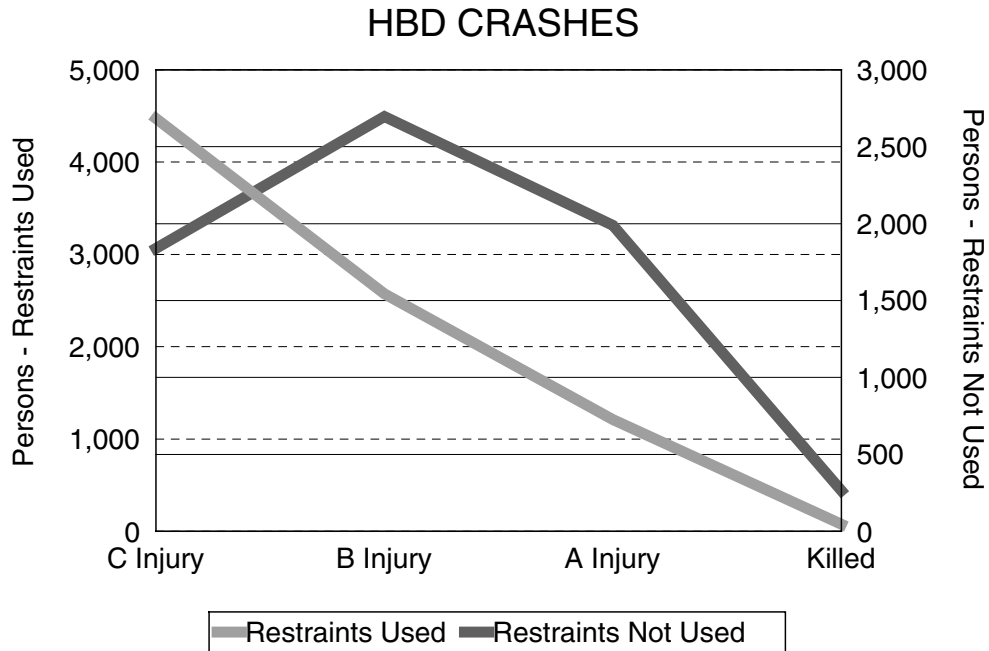
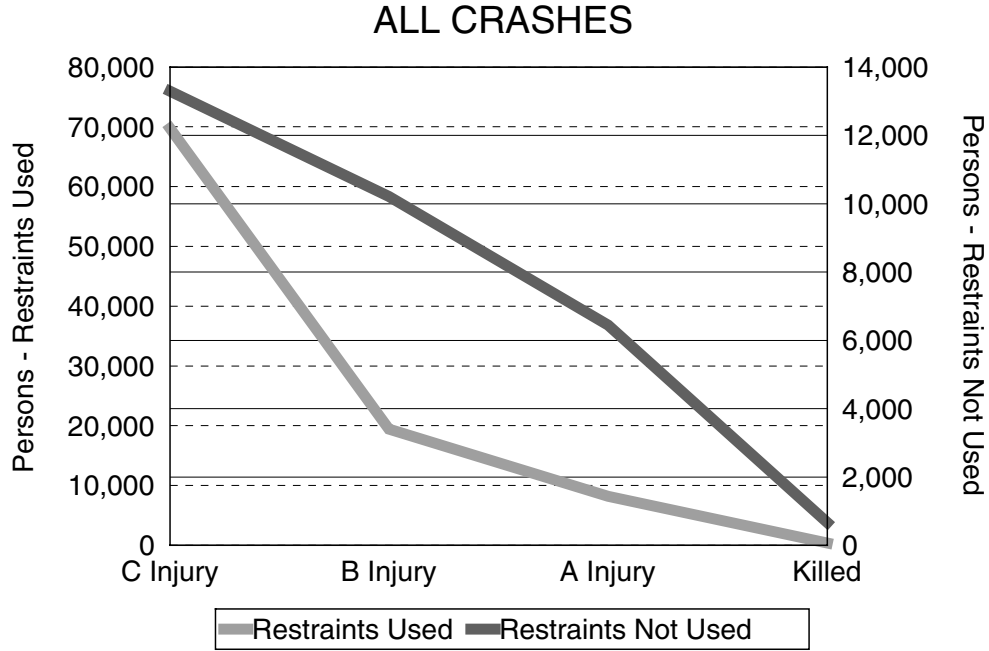
When compared to the charts above, the charts below demonstrate that the injury severity is much worse for occupants in a crash where drinking is reported in both ejected, and nonejected events.



**INJURY SEVERITY & RESTRAINT USE FOR
CRASH INVOLVED KABC DRIVERS**



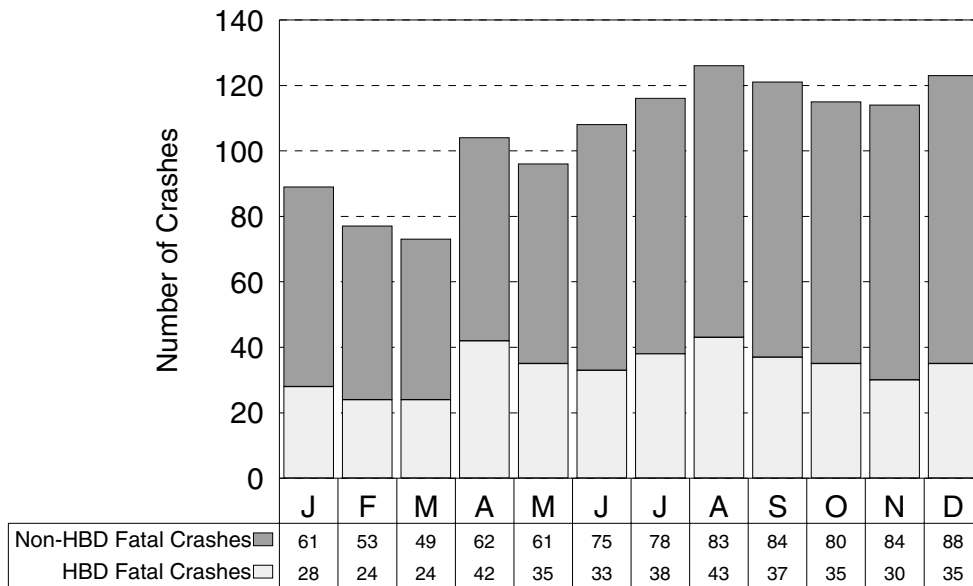
INJURY SEVERITY & RESTRAINT USE FOR CRASH INVOLVED KABC OCCUPANTS



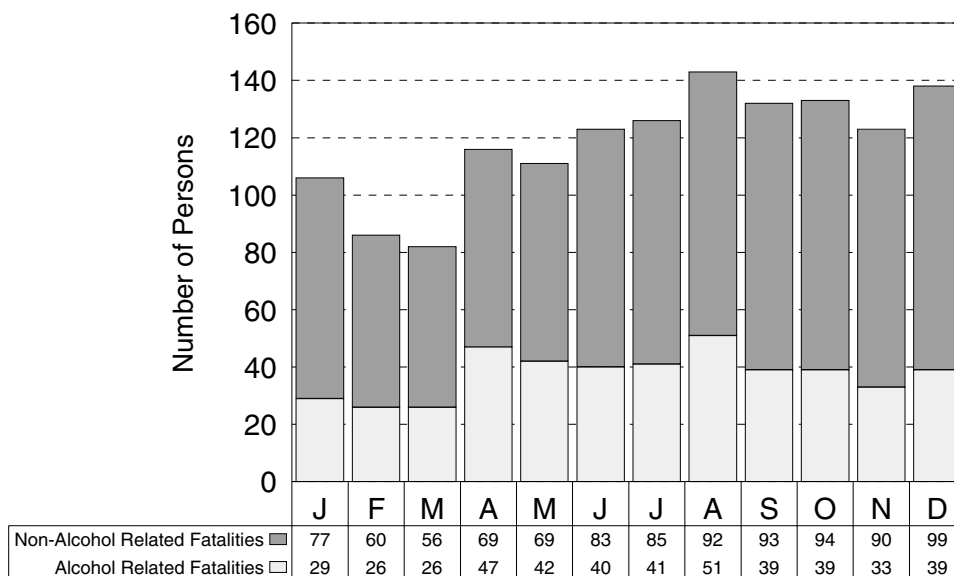
ALCOHOL INVOLVEMENT IN FATAL CRASHES

Fatal crashes were lowest in number during January, February, and March. The number of fatal crashes then increased, peaking in August. These numbers follow the increase in travel during the summer months. The number of HBD fatal crashes by month does not show a discernible trend. Total persons killed in fatal crashes closely follows the number of crashes, as would be expected.

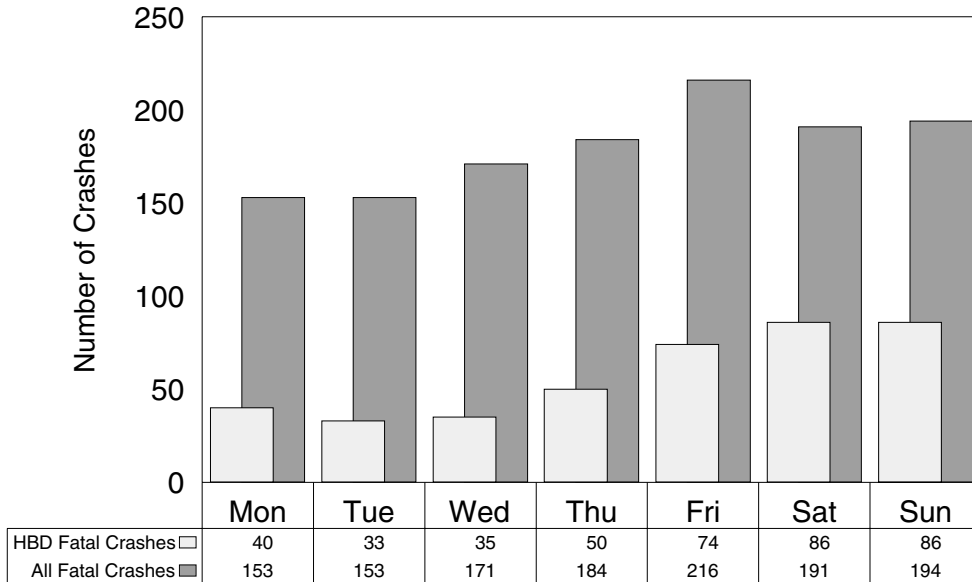
HBD Fatal Crashes by Month



Alcohol Related Fatalities by Month

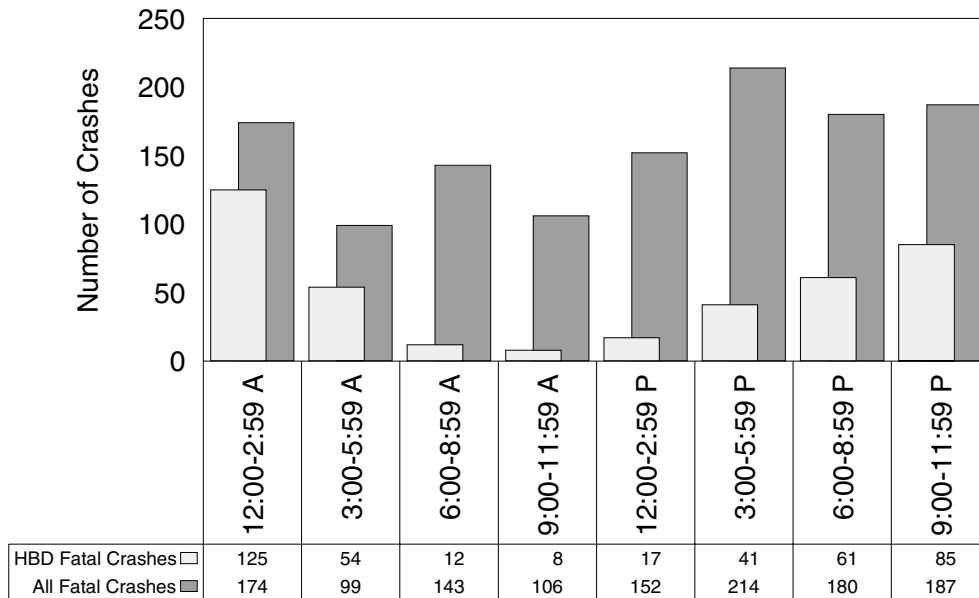


HBD Fatal Crashes by Day of Week



Friday had the most fatal crashes in 1994. Saturday and Sunday had the highest proportions of drinking related fatal crashes. Almost half of weekend fatal crashes involved drinking, while only 20.5 percent of fatal crashes on Wednesday involved drinking.

HBD Fatal Crashes by Time of Day



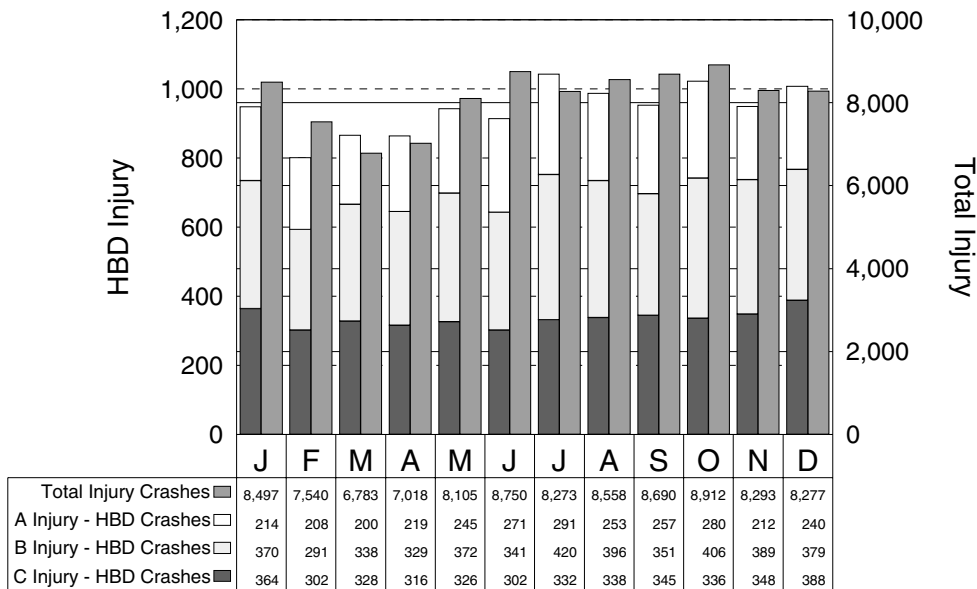
Not surprisingly, the midnight to 2:59 AM time period had the highest rate of drinking involvement (71.8%), while the late morning hours had the lowest (7.5%).

There were 7 fatal crashes where the time of day was unknown. Of these 7 fatal crashes, 1 was HBD.

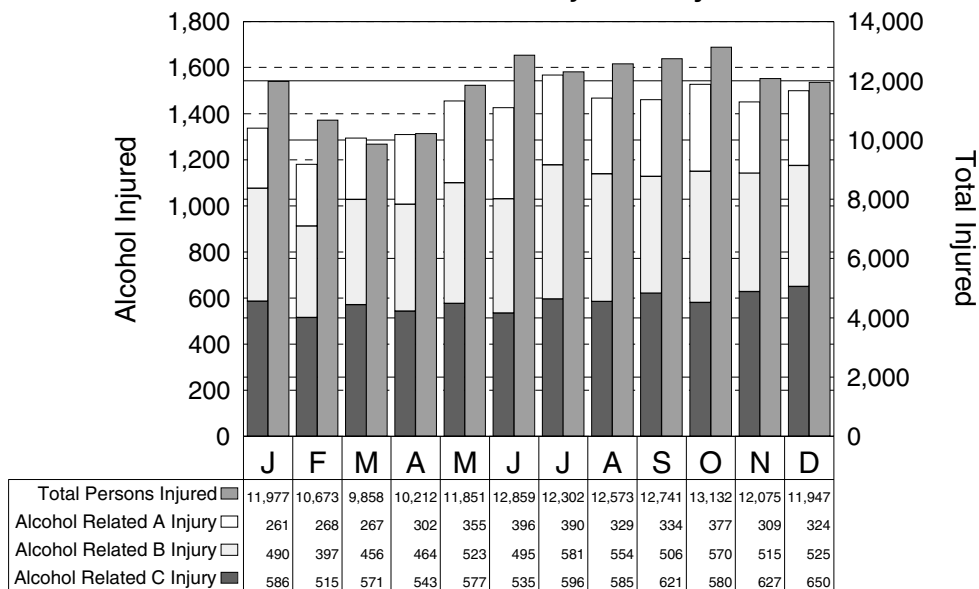
ALCOHOL INVOLVEMENT IN INJURY CRASHES

Alcohol involvement in injury crashes is an important indicator of the alcohol impaired driving problem. In 1994, HBD injury crashes were highest in July, October, and December, with over 1,000 HBD injury crashes in each of those months. The highest proportion of HBD injury crashes occurred in July with 12.6 percent of the injury crashes involving alcohol.

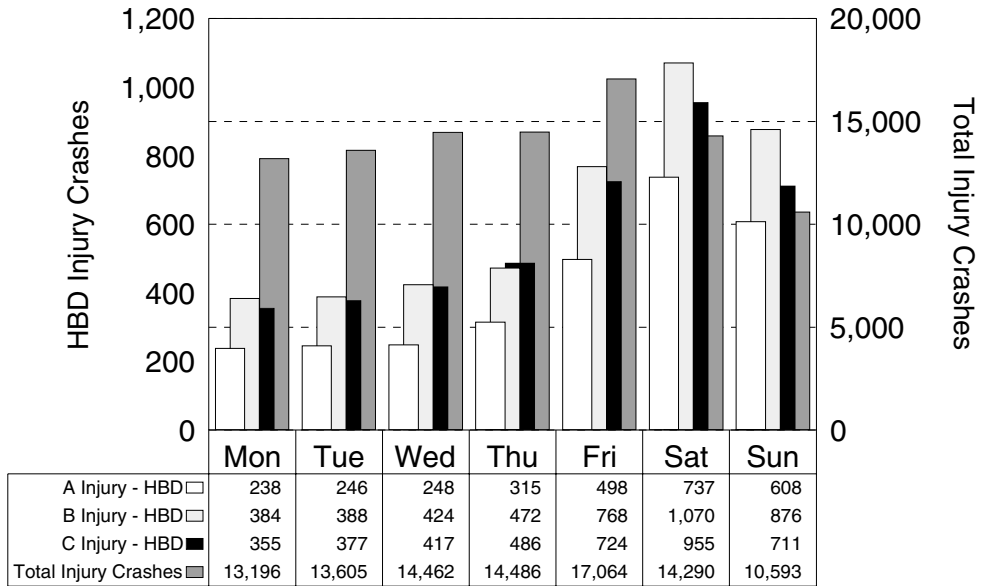
HBD Injury Crashes by Month



Alcohol Related Injuries by Month

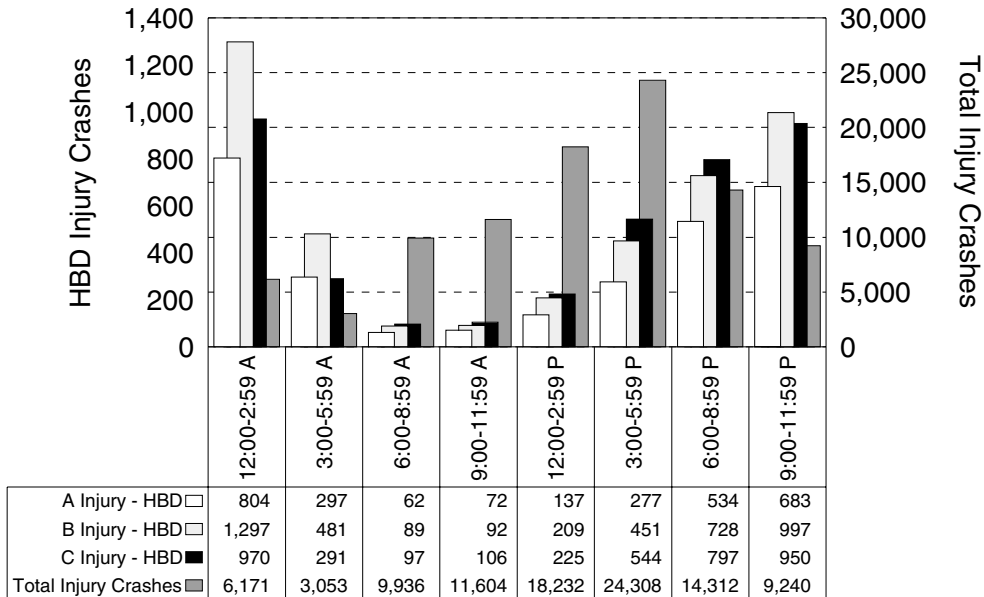


HBD Injury Crashes by Day of Week



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 6:00 PM and 2:59 AM. A particularly hazardous travel period is 12:00 AM to 2:59 AM.

INJURY EXPERIENCE FOR PERSONS WHO HAD BEEN DRINKING

BICYCLIST

	Total	Drinking in Crash	Drinking Bicyclist
Bicyclists Killed	29	3	1
Bicyclists Injured	2,740	139	91
Bicyclists in Crashes	3,298	165	105

PEDESTRIAN

	Total	Drinking in Crash	Drinking Pedestrian
Pedestrians Killed	182	52	27
Pedestrians Injured	3,502	422	266
Pedestrians in Crashes	4,014	498	306

MOTORCYCLIST

	Total	Drinking in Crash	Drinking Motorcyclist
Motorcyclists Killed	67	18	17
Motorcyclists Injured	2,598	385	322
Motorcyclists in Crashes	3,434	469	386

SNOWMOBILER

	Total	Drinking in Crash	Drinking Snowmobiler
Snowmobilers Killed	9	8	4
Snowmobilers Injured	300	283	67
Snowmobilers in Crashes	491	456	94



**MALE DRIVERS &
INJURY SEVERITY IN CRASH**

ALL CRASHES

MOST SEVERE OUTCOME IN CRASH

AGE OF DRIVER IN CRASH	Male Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
14 years and under	714	0.2	5	0.3	71	113	111	414
15 years	701	0.2	4	0.3	61	91	124	421
16 years	11,679	3.1	30	2.1	431	933	1,959	8,326
17 years	12,070	3.2	48	3.3	452	912	1,956	8,702
18 - 19 years	23,059	6.2	97	6.7	934	1,913	3,781	16,334
20 - 24 years	49,013	13.1	212	14.6	2,006	3,702	7,847	35,246
25 - 34 years	83,548	22.4	330	22.7	3,071	5,633	13,241	61,273
35 - 44 years	67,897	18.2	261	18.0	2,425	4,361	10,670	50,180
45 - 54 years	43,059	11.5	147	10.1	1,375	2,581	6,755	32,201
55 - 64 years	24,427	6.5	83	5.7	782	1,500	3,991	18,071
65 - 74 years	17,332	4.6	68	4.7	554	1,082	2,837	12,791
75 years and over	9,375	2.5	62	4.3	383	706	1,530	6,694
Not Stated	30,889	8.3	104	7.2	948	1,622	4,674	23,541
TOTAL	373,763	100.0	1,451	100.0	13,493	25,149	59,476	274,194

DRINKING DRIVER

MOST SEVERE OUTCOME IN CRASH

AGE OF DRINKING DRIVER IN CRASH	Male Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
14 years and under	31	0.2	0	0.0	2	8	7	14
15 years	21	0.1	0	0.0	4	3	3	11
16 years	136	0.7	2	0.6	16	28	18	72
17 years	269	1.4	8	2.4	37	50	38	136
18 - 19 years	972	5.2	20	5.9	132	206	129	485
20 - 24 years	3,470	18.5	76	22.6	438	675	498	1,783
25 - 34 years	5,842	31.1	108	32.0	662	1,121	940	3,011
35 - 44 years	4,039	21.5	61	18.1	479	696	712	2,091
45 - 54 years	1,813	9.6	29	8.6	197	289	316	982
55 - 64 years	759	4.0	10	3.0	59	120	139	431
65 - 74 years	377	2.0	4	1.2	30	63	69	211
75 years and over	120	0.6	2	0.6	13	22	13	70
Not Stated	953	5.1	17	5.0	98	134	168	536
TOTAL	18,802	100.0	337	100.0	2,167	3,415	3,050	9,833



**FEMALE DRIVERS &
INJURY SEVERITY IN CRASH**

ALL CRASHES

MOST SEVERE OUTCOME IN CRASH

AGE OF DRIVER IN CRASH	Female Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
14 years and under	371	0.2	1	0.2	25	54	69	222
15 years	453	0.2	3	0.6	39	47	68	296
16 years	8,755	3.6	23	4.4	367	773	1,690	5,902
17 years	8,436	3.4	17	3.3	326	692	1,609	5,792
18 - 19 years	14,604	5.9	27	5.2	513	1,188	2,892	9,984
20 - 24 years	33,101	13.5	67	12.8	1,148	2,365	6,385	23,136
25 - 34 years	57,092	23.2	95	18.2	1,877	3,685	1,1022	40,413
35 - 44 years	49,708	20.2	100	19.1	1,505	2,965	9,627	35,511
45 - 54 years	29,110	11.8	57	10.9	935	1,676	5,623	20,819
55 - 64 years	14,919	6.1	25	4.8	480	848	2,947	10,619
65 - 74 years	10,855	4.4	42	8.0	394	677	2,115	7,627
75 years and over	6,711	2.7	43	8.2	257	493	1,212	4,706
Not Stated	11,543	4.7	23	4.4	293	558	1,942	8,727
TOTAL	245,658	100.0	523	100.0	8,159	16,021	47,201	173,754

DRINKING DRIVER

MOST SEVERE OUTCOME IN CRASH

AGE OF DRINKING DRIVER IN CRASH	Female Drivers		Fatal		Injury			PDO
	Number	% of Total	Number	% of Fatal	A	B	C	
14 years and under	9	0.2	0	0.0	0	3	1	5
15 years	6	0.1	0	0.0	2	1	1	2
16 years	37	0.9	1	1.8	2	4	9	21
17 years	68	1.6	3	5.3	12	7	15	31
18 - 19 years	170	4.1	3	5.3	27	37	29	74
20 - 24 years	648	15.6	12	21.1	77	129	116	314
25 - 34 years	1,492	36.0	12	21.1	197	267	267	749
35 - 44 years	1,041	25.1	12	21.1	103	192	210	524
45 - 54 years	335	8.1	8	14.0	45	43	61	178
55 - 64 years	98	2.4	0	0.0	7	19	13	59
65 - 74 years	62	1.5	1	1.8	2	11	15	33
75 years and over	18	0.4	0	0.0	1	4	0	13
Not Stated	159	3.8	5	8.8	15	20	32	87
TOTAL	4,143	100.0	57	100.0	490	737	769	2,090

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	3	100.0	3	3	100.0
Alger	2	0	0.0	3	0	0.0
Allegan	26	10	38.5	30	11	36.7
Alpena	3	2	66.7	4	2	50.0
Antrim	4	1	25.0	5	1	20.0
Arenac	9	3	33.3	13	7	53.8
Baraga	1	0	0.0	1	0	0.0
Barry	9	4	44.4	13	5	38.5
Bay	13	8	61.5	14	8	57.1
Benzie	4	2	50.0	5	2	40.0
Berrien	32	8	25.0	34	8	23.5
Branch	11	6	54.5	11	6	54.5
Calhoun	16	8	50.0	16	8	50.0
Cass	16	6	37.5	20	9	45.0
Charlevoix	7	3	42.9	8	3	37.5
Cheboygan	1	0	0.0	1	0	0.0
Chippewa	8	3	37.5	8	3	37.5
Clare	8	4	50.0	8	4	50.0
Clinton	5	0	0.0	5	0	0.0
Crawford	2	2	100.0	2	2	100.0
Delta	4	1	25.0	6	2	33.3
Dickinson	2	1	50.0	5	1	20.0
Eaton	11	2	18.2	14	2	14.3
Emmet	9	4	44.4	9	4	44.4
Genesee	68	25	36.8	83	30	36.1
Gladwin	3	2	66.7	3	2	66.7
Gogebic	4	3	75.0	4	3	75.0
Grand Traverse	10	4	40.0	11	4	36.4
Gratiot	10	2	20.0	12	3	25.0
Hillsdale	7	3	42.9	7	3	42.9
Houghton	5	1	20.0	5	1	20.0
Huron	5	3	60.0	5	3	60.0
Ingham	28	9	32.1	31	10	32.3
Ionia	13	6	46.2	16	6	37.5
Iosco	5	3	60.0	5	3	60.0
Iron	0	0	0.0	0	0	0.0
Isabella	6	0	0.0	6	0	0.0
Jackson	25	5	20.0	30	5	16.7
Kalamazoo	30	12	40.0	33	13	39.4
Kalkaska	7	2	28.6	7	2	28.6
Kent	69	18	26.1	83	24	28.9
Keweenaw	0	0	0.0	0	0	0.0
Lake	3	2	66.7	3	2	66.7
Lapeer	16	3	18.8	16	3	18.8

**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	5	1	20.0	5	1	20.0
Lenawee	21	1	4.8	25	1	4.0
Livingston	31	12	38.7	39	13	33.3
Luce	0	0	0.0	0	0	0.0
Mackinac	4	1	25.0	4	1	25.0
Macomb	62	17	27.4	67	21	31.3
Manistee	2	1	50.0	2	1	50.0
Marquette	11	5	45.5	14	8	57.1
Mason	4	1	25.0	4	1	25.0
Mecosta	8	3	37.5	8	3	37.5
Menominee	6	3	50.0	9	4	44.4
Midland	12	3	25.0	17	5	29.4
Missaukee	3	1	33.3	3	1	33.3
Monroe	24	11	45.8	26	12	46.2
Montcalm	12	3	25.0	13	3	23.1
Montmorency	2	1	50.0	2	1	50.0
Muskegon	19	3	15.8	22	4	18.2
Newaygo	12	3	25.0	15	4	26.7
Oakland	77	22	28.6	79	23	29.1
Oceana	6	2	33.3	6	2	33.3
Ogemaw	4	2	50.0	4	2	50.0
Ontonagon	1	0	0.0	2	0	0.0
Osceola	5	0	0.0	6	0	0.0
Oscoda	2	1	50.0	3	2	66.7
Otsego	6	3	50.0	6	3	50.0
Ottawa	29	9	31.0	30	9	30.0
Presque Isle	1	0	0.0	1	0	0.0
Roscommon	11	6	54.5	13	7	53.8
Saginaw	22	10	45.5	22	10	45.5
Sanilac	9	1	11.1	11	1	9.1
Schoolcraft	3	0	0.0	3	0	0.0
Shiawassee	14	4	28.6	14	4	28.6
St. Clair	23	6	26.1	25	6	24.0
St. Joseph	11	4	36.4	13	5	38.5
Tuscola	14	4	28.6	17	4	23.5
Van Buren	14	4	28.6	15	4	26.7
Washtenaw	40	17	42.5	42	18	42.9
Wayne	204	52	25.5	224	56	25.0
Wexford	8	3	37.5	10	4	40.0
Totals	1,262	404	32.0	1,419	452	31.9

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	62	3	14	10	9	26
Alger	46	0	10	11	6	19
Allegan	292	10	35	49	41	157
Alpena	87	2	14	26	12	33
Antrim	57	1	13	11	5	27
Arenac	83	3	12	20	7	41
Baraga	41	0	8	14	3	16
Barry	169	4	26	37	20	82
Bay	379	8	47	74	52	198
Benzie	48	2	4	9	6	27
Berrien	413	8	51	83	72	199
Branch	124	6	16	24	12	66
Calhoun	411	8	44	90	63	206
Cass	175	6	31	34	16	88
Charlevoix	81	3	12	9	14	43
Cheboygan	100	0	22	20	17	41
Chippewa	137	3	21	25	17	71
Clare	86	4	13	15	9	45
Clinton	143	0	21	33	15	74
Crawford	47	2	3	10	7	25
Delta	92	1	12	21	6	52
Dickinson	93	1	16	13	12	51
Eaton	237	2	27	51	27	130
Emmet	100	4	9	24	12	51
Genesee	1,631	25	100	346	301	859
Gladwin	62	2	14	12	4	30
Gogebic	59	3	5	11	3	37
Grand Traverse	197	4	18	44	28	103
Gratiot	94	2	12	14	11	55
Hillsdale	90	3	12	20	9	46
Houghton	109	1	11	13	20	64
Huron	88	3	17	13	19	36
Ingham	584	9	61	87	90	337
Ionia	153	6	18	22	26	81
Iosco	117	3	21	18	18	57
Iron	62	0	12	9	11	30
Isabella	158	0	14	27	20	97
Jackson	413	5	53	89	64	202
Kalamazoo	502	12	71	94	73	252
Kalkaska	60	2	11	14	4	29
Kent	1,130	18	107	179	194	632
Keweenaw	14	0	5	6	1	2

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	45	2	12	11	1	19
Lapeer	249	3	35	40	39	132
Leelanau	51	1	7	14	3	26
Lenawee	202	1	14	53	30	104
Livingston	407	12	57	56	63	219
Luce	31	0	5	8	11	7
Mackinac	74	1	12	10	5	46
Macomb	1,670	17	177	287	316	873
Manistee	55	1	9	16	7	22
Marquette	218	5	27	35	21	130
Mason	75	1	14	11	12	37
Mecosta	108	3	18	28	5	54
Menominee	97	3	13	26	11	44
Midland	121	3	17	31	15	55
Missaukee	40	1	6	6	10	17
Monroe	424	11	70	83	68	192
Montcalm	228	3	44	41	30	110
Montmorency	47	1	9	8	7	22
Muskegon	416	3	53	63	65	232
Newaygo	149	3	25	30	28	63
Oakland	2,522	22	258	413	531	1,298
Oceana	87	2	8	15	18	44
Ogemaw	91	2	20	19	9	41
Ontonagon	50	0	12	9	4	25
Osceola	74	0	14	14	12	34
Oscoda	39	1	5	7	7	19
Otsego	74	3	17	14	8	32
Ottawa	401	9	37	71	64	220
Presque Isle	44	0	7	15	8	14
Roscommon	120	6	19	29	13	53
Saginaw	563	10	81	100	66	306
Sanilac	114	1	10	23	24	56
Schoolcraft	37	0	5	10	2	20
Shiawassee	213	4	27	50	35	97
St. Clair	468	6	59	96	69	238
St. Joseph	163	4	23	33	25	78
Tuscola	191	4	28	32	27	100
Van Buren	252	4	45	49	36	118
Washtenaw	575	17	59	109	108	282
Wayne	3,987	52	476	649	835	1,975
Wexford	129	3	11	33	18	64
Unknown	22	0	2	4	3	13
Totals	23,949	404	2,890	4,382	4,025	12,248