

## 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.

<b>BICYCLIST</b>	Total	Drinking in Crash	Drinking Bicyclist
Bicyclists Killed	28	10	3
Bicyclists Injured	2,648	135	88
Bicyclists in Crashes	3,239	160	101



<b>PEDESTRIAN</b>	Total	Drinking in Crash	Drinking Pedestrian
Pedestrians Killed	190	81	67
Pedestrians Injured	3,490	406	260
Pedestrians in Crashes	4,064	511	340



<b>MOTORCYCLIST</b>	Total	Drinking in Crash	Drinking Motorcyclist
Motorcyclists Killed	82	34	32
Motorcyclists Injured	2,324	332	285
Motorcyclists in Crashes	3,075	404	341



<b>SNOWMOBILER *</b>	Total	Drinking in Crash	Drinking Snowmobiler
Snowmobilers Killed	16	11	11
Snowmobilers Injured	421	130	125
Snowmobilers in Crashes	732	188	173

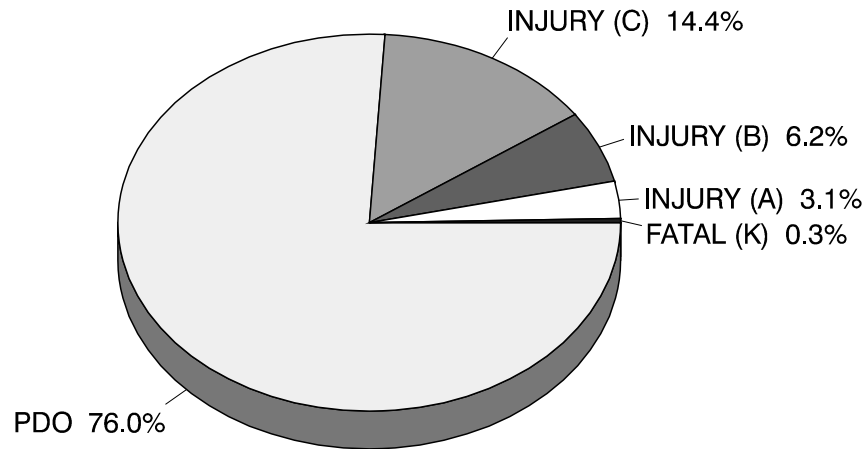


<b>ORV/ATV RIDER *</b>	Total	Drinking in Crash	Drinking ORV/ATV Rider
ORV/ATV Rider Killed	2	2	2
ORV/ATV Rider Injured	200	38	37
ORV/ATV Rider in Crashes	276	46	44

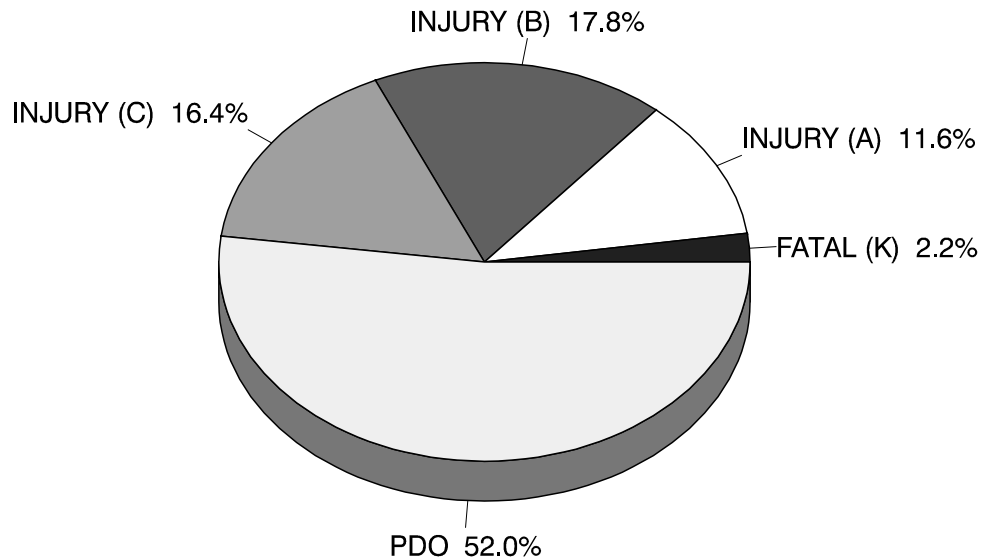


\* on-road crashes

## ALL CRASHES BY INJURY SEVERITY



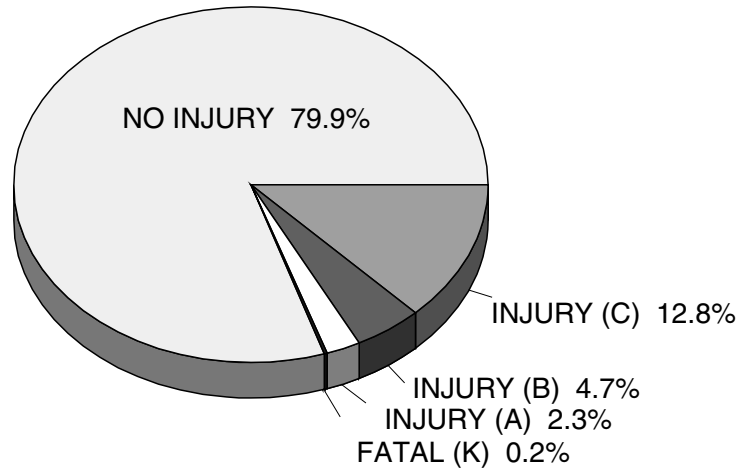
## HBD CRASHES BY INJURY SEVERITY



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

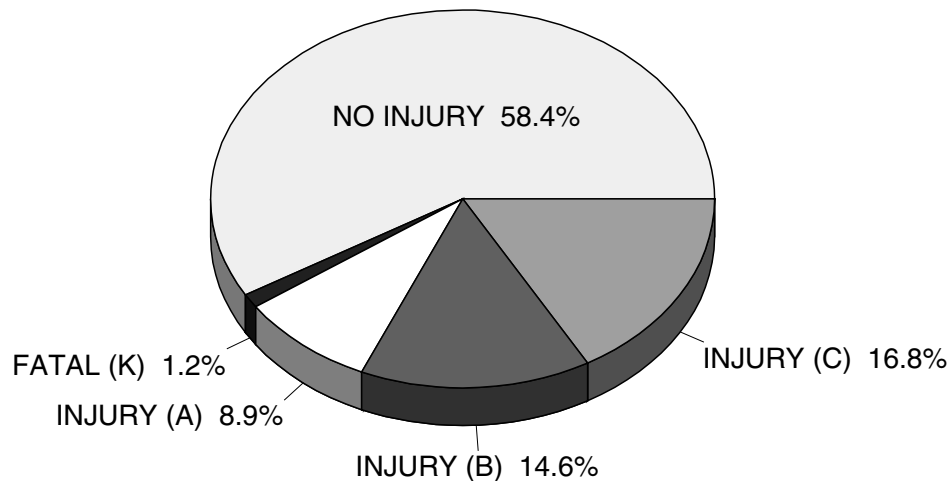
## DEATH & INJURY PER CRASH INVOLVED OCCUPANT

### Occupants in Crashes



The majority of occupants involved in crashes are not injured (79.9%). 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.

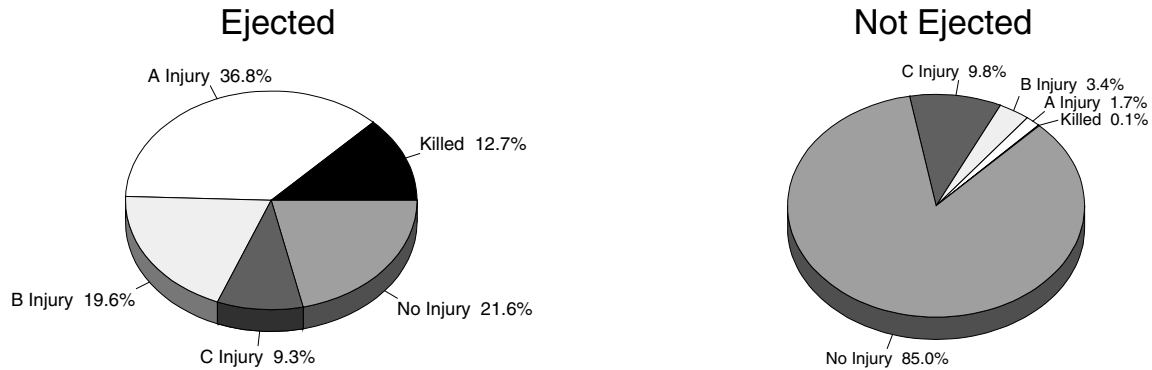
### Occupants in HBD Crashes



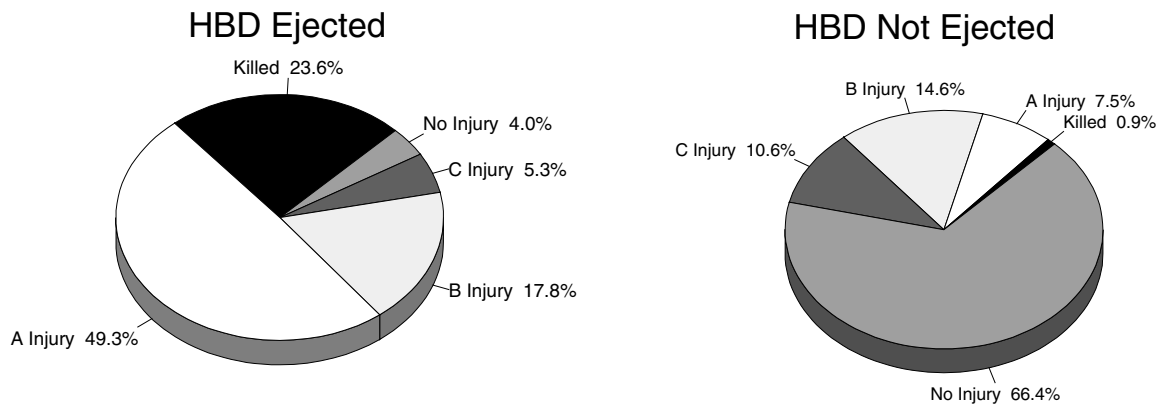
Crashes involving drinking tend to be more serious than nondrinking crashes. The percentage of fatalities is six times higher than in all crashes and the more serious injury levels are three to four times higher.

## 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.

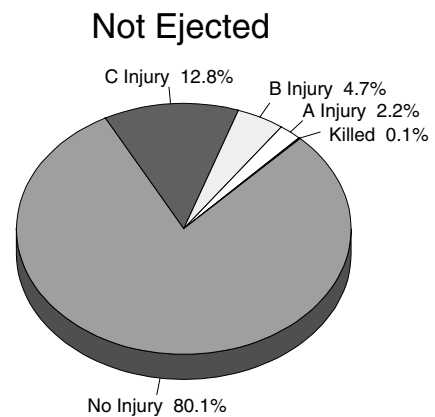
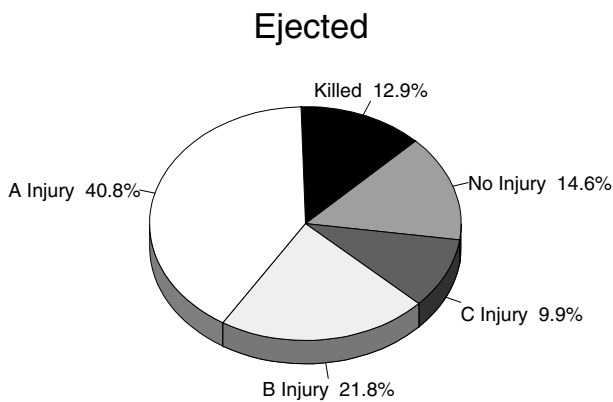


When compared to the charts above, the charts below demonstrate that the injury severity is much worse for drivers who had been drinking in both ejected, and nonejected events.

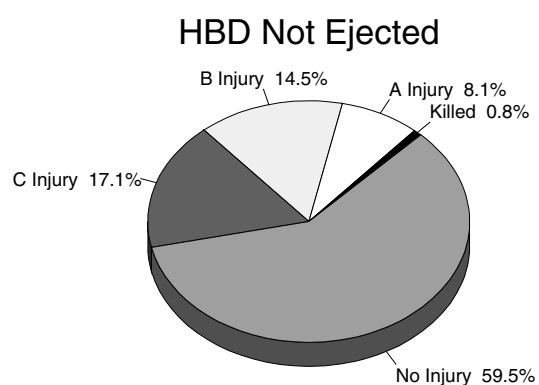
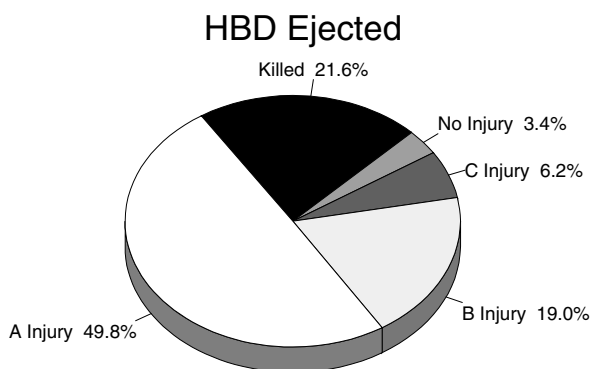


## ALL OCCUPANTS and OCCUPANTS of HBD CRASHES INJURY SEVERITY - EJECTED vs. NOT EJECTED

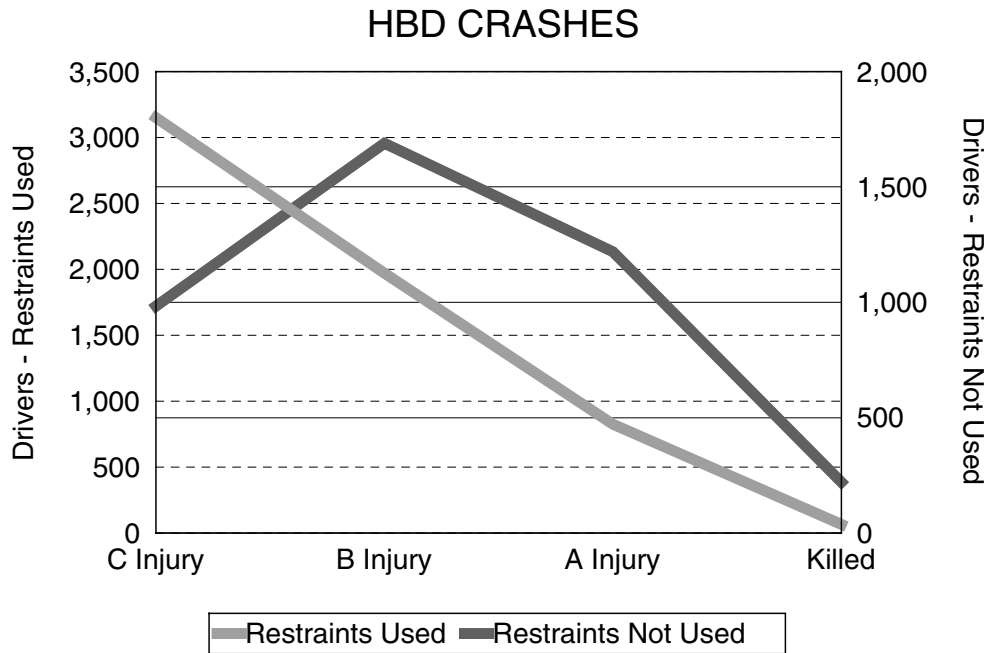
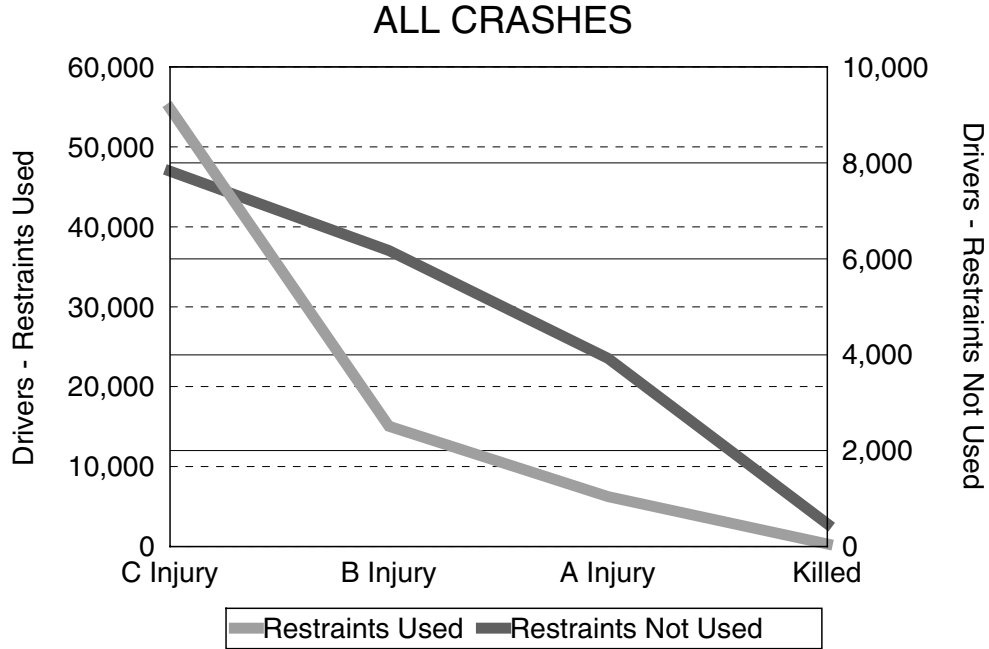
As can be seen in the two charts below, death and injury are much more likely when occupants are ejected from their vehicles.



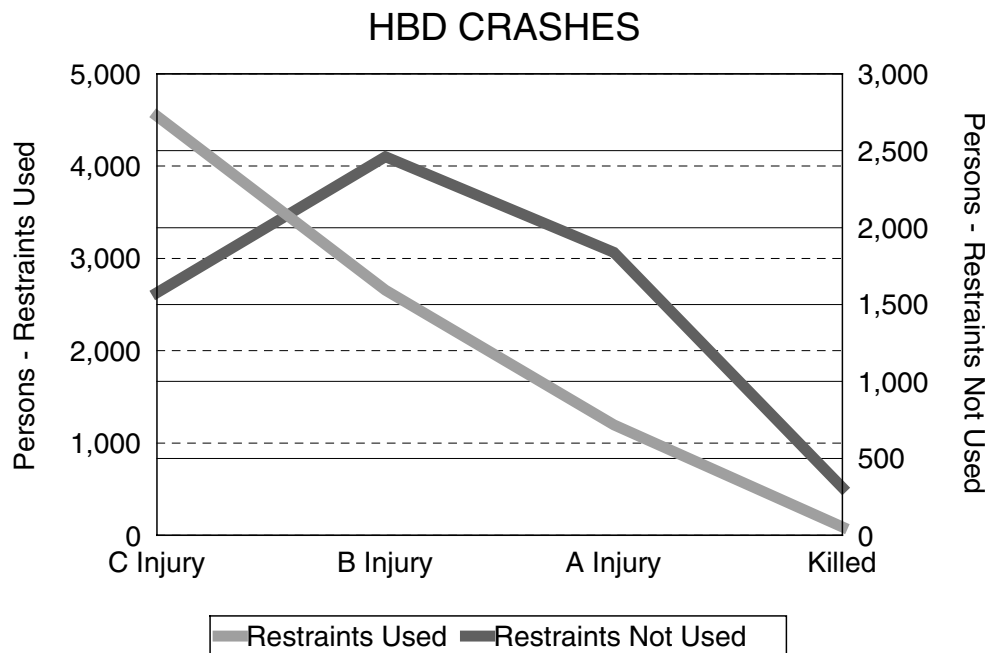
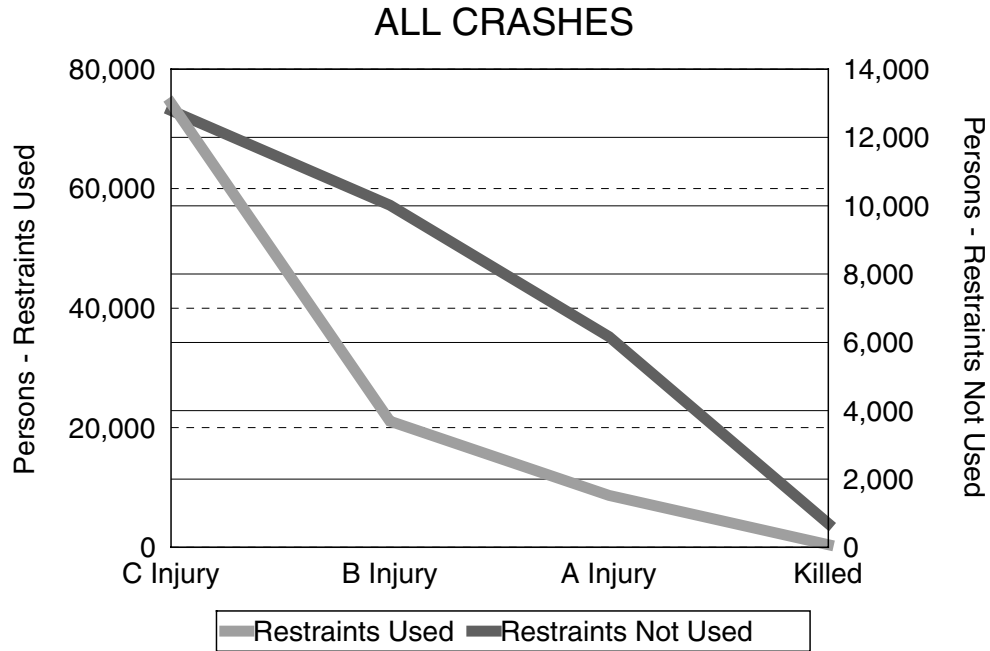
When compared to the charts above, the charts below demonstrate that the injury severity is much worse for occupants in a crash where drinking is reported in both ejected, and nonejected events.



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



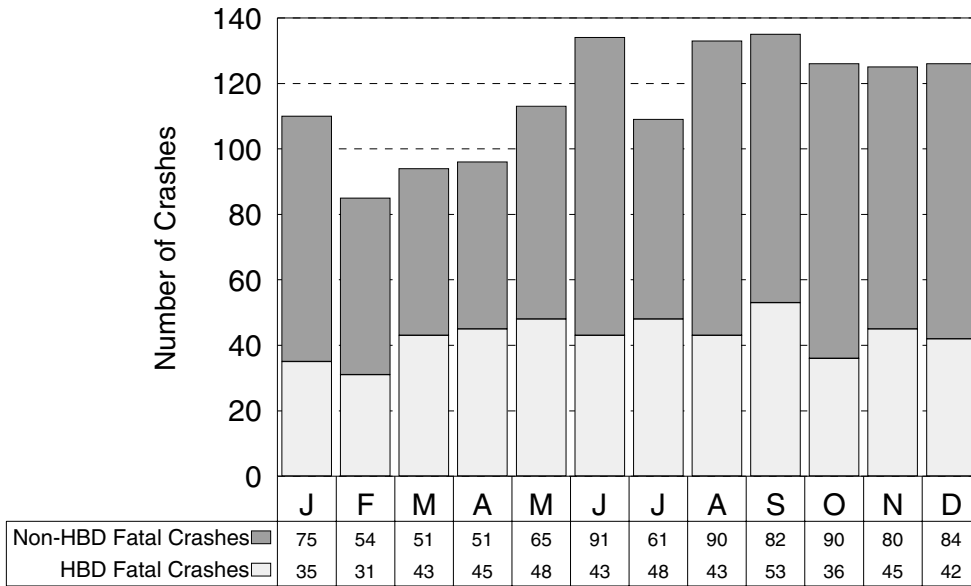
**INJURY SEVERITY & RESTRAINT USE FOR  
CRASH INVOLVED KABC OCCUPANTS**



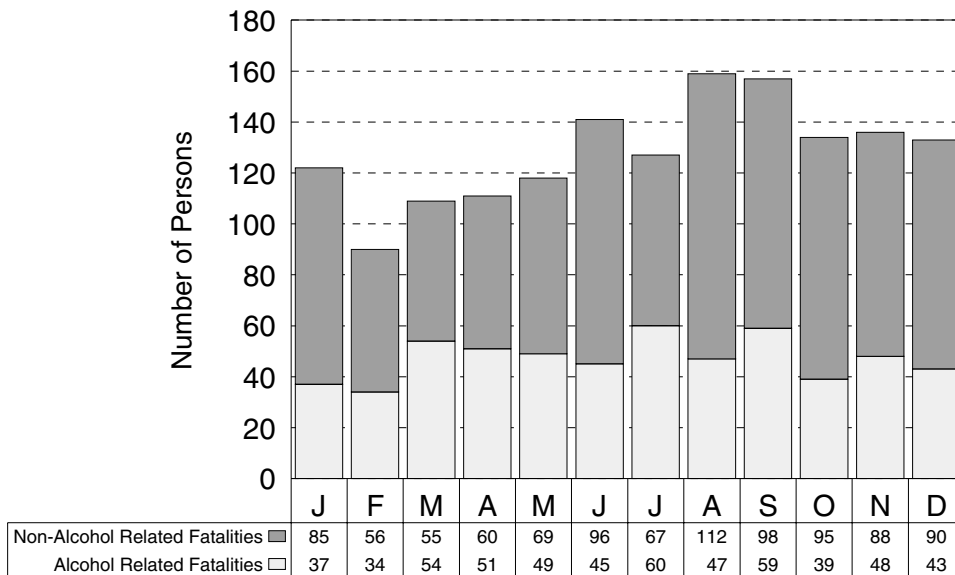
## ALCOHOL INVOLVEMENT IN FATAL CRASHES

Fatal crashes were lowest in number during February, March and April. The number of fatal crashes then increased, peaking in September. 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.

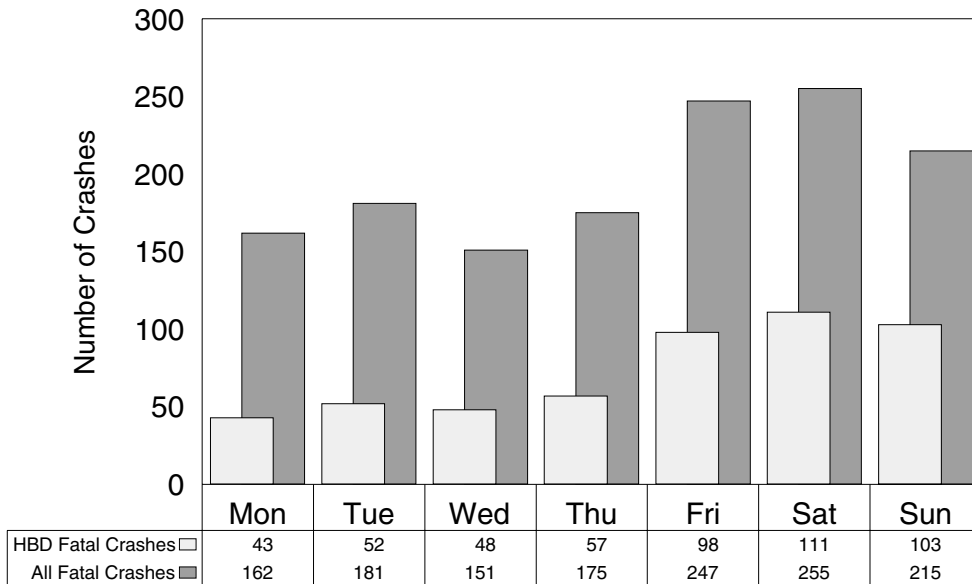
### HBD Fatal Crashes by Month



### Alcohol Related Fatalities by Month

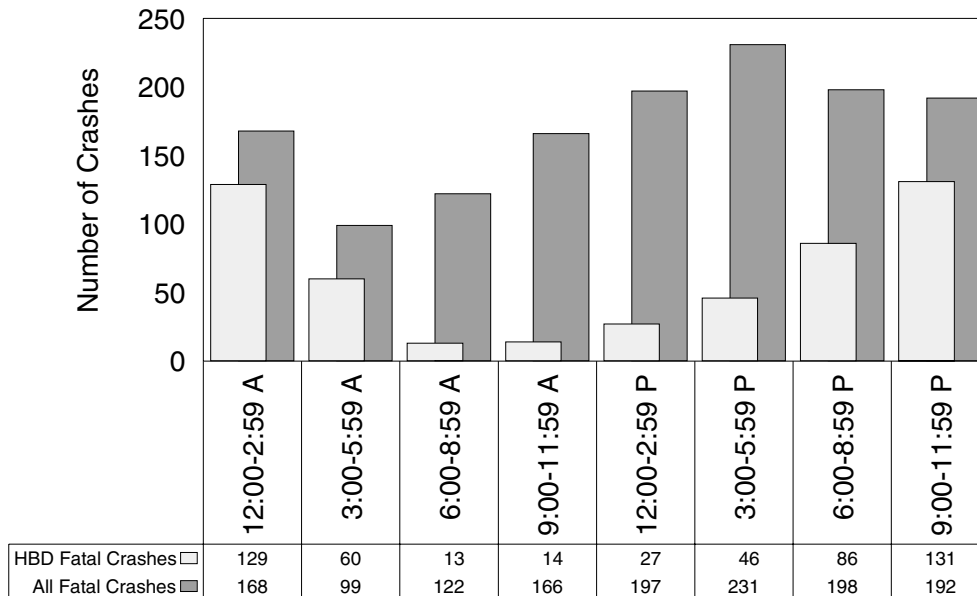


## HBD Fatal Crashes by Day of Week



Saturday had the most fatal crashes in 1995. Saturday and Sunday had the highest proportions of drinking related fatal crashes. Almost half of weekend fatal crashes involved drinking, while only 26.5 percent of fatal crashes on Monday involved drinking.

## HBD Fatal Crashes by Time of Day



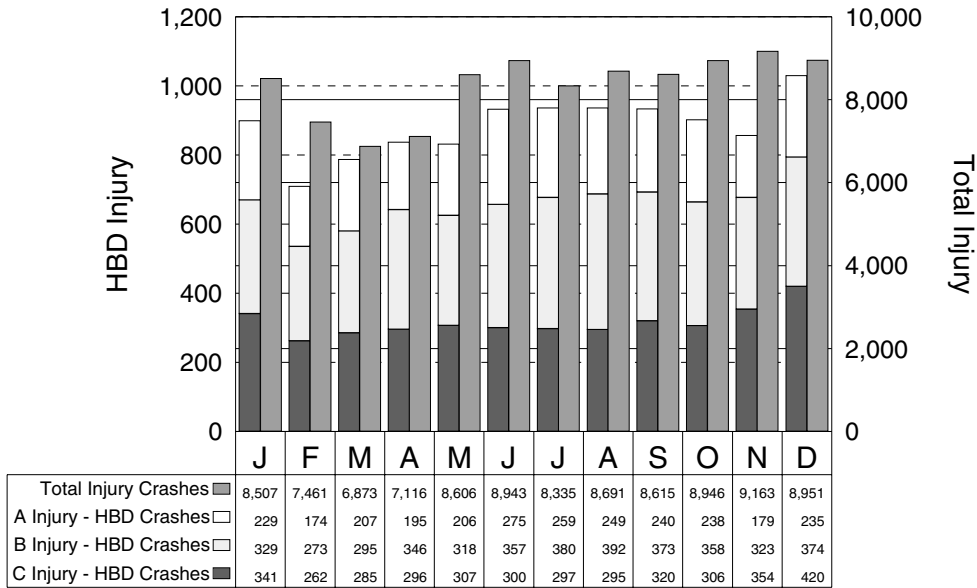
Not surprisingly, the midnight to 2:59 AM time period had the highest rate of drinking involvement (76.8%), while the late morning hours had the lowest (8.4%).

There were 13 fatal crashes where the time of day was unknown. Of these 13 fatal crashes, 6 were HBD.

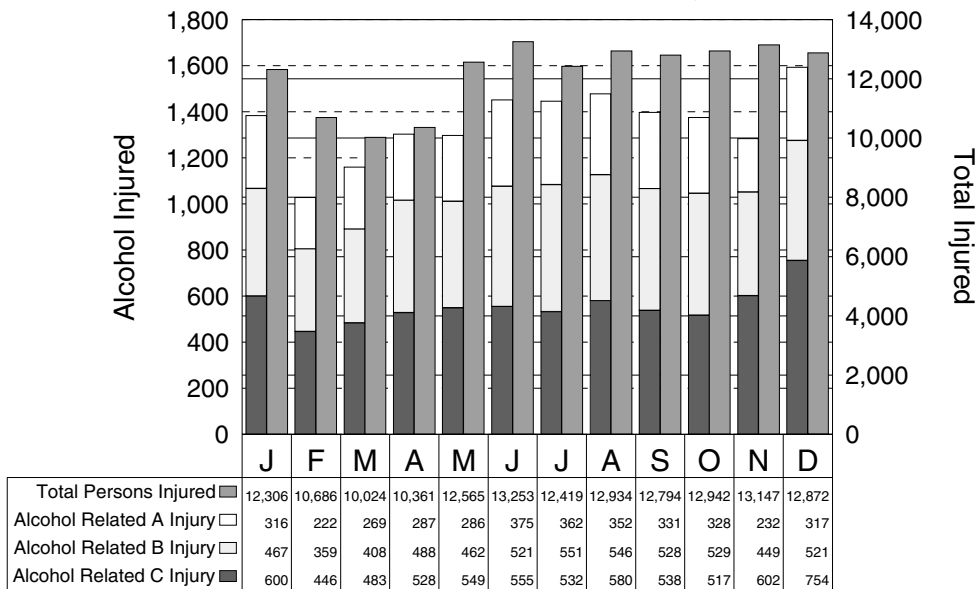
## ALCOHOL INVOLVEMENT IN INJURY CRASHES

Alcohol involvement in injury crashes is an important indicator of the alcohol impaired driving problem. In 1995, the highest number of HBD injury crashes occurred in December with 1,029. The highest proportion of HBD injury crashes also occurred in December with 11.5 percent of the injury crashes involving alcohol.

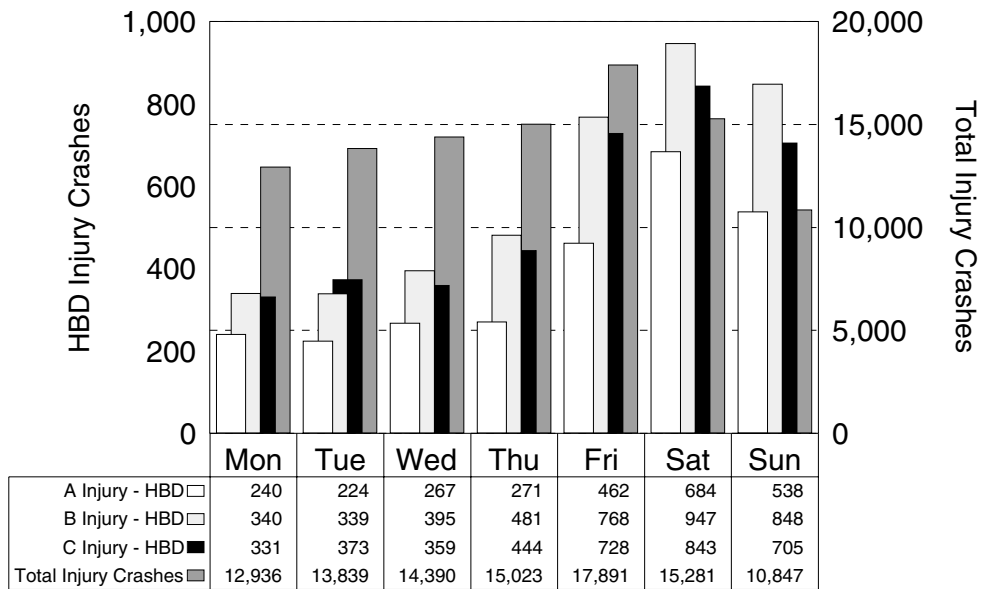
### HBD Injury Crashes by Month



### Alcohol Related Injuries by Month

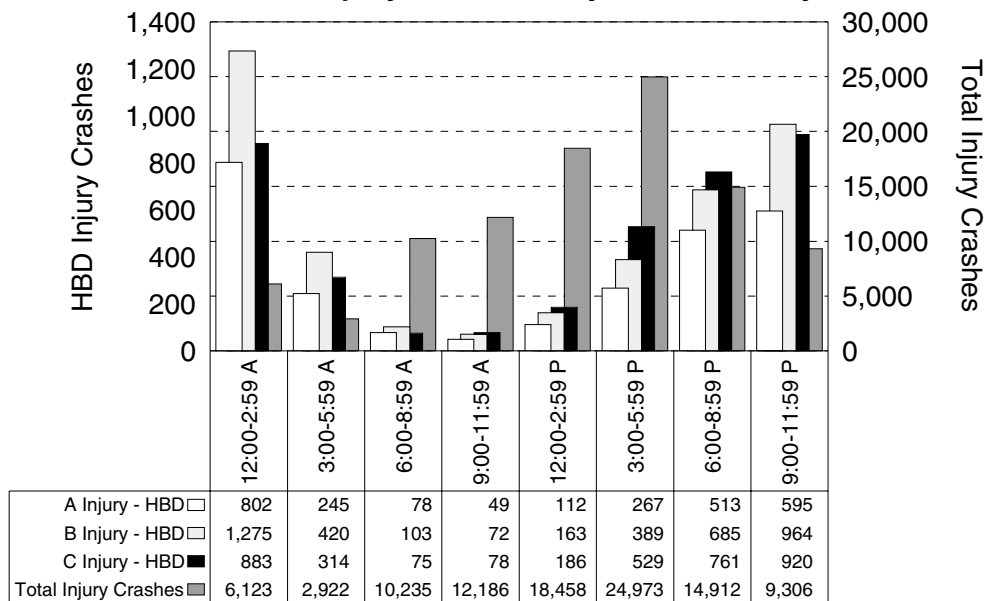


## HBD Injury Crashes by Day of Week



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.

## 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	48	0	3	10	12	14	7	0	2	0	0
Alger	35	1	1	4	8	6	2	0	1	1	11
Allegan	302	2	27	46	100	79	17	7	5	1	18
Alpena	81	0	11	14	23	15	8	5	3	0	2
Antrim	56	0	7	7	22	15	3	0	0	0	2
Arenac	56	1	5	8	16	18	5	2	1	0	0
Baraga	24	0	6	3	5	7	3	0	0	0	0
Barry	154	1	21	16	60	38	12	2	1	1	2
Bay	358	0	30	52	107	88	48	13	2	3	15
Benzie	35	0	4	5	13	8	1	3	0	0	1
Berrien	424	4	35	63	129	85	33	17	8	1	49
Branch	98	0	8	15	30	23	8	7	0	0	7
Calhoun	395	1	30	70	122	93	38	14	9	2	16
Cass	166	1	10	14	43	41	11	6	2	0	38
Charlevoix	73	0	10	10	17	19	9	3	0	0	5
Cheboygan	89	0	7	14	24	25	6	5	3	0	5
Chippewa	133	0	9	25	40	31	14	1	0	0	13
Clare	78	0	7	4	29	24	6	3	3	1	1
Clinton	110	0	13	17	38	31	5	2	2	0	2
Crawford	43	0	3	3	11	9	11	3	0	1	2
Delta	110	1	9	15	35	20	15	6	1	1	7
Dickinson	67	0	3	8	24	17	5	2	1	0	7
Eaton	200	1	23	26	84	42	15	4	2	0	3
Emmet	102	1	13	16	32	23	5	4	3	0	5
Genesee	1,511	1	105	204	481	371	170	61	31	8	79
Gladwin	84	0	6	12	26	31	6	1	0	0	2
Gogebic	55	0	5	4	14	8	3	0	2	1	18
Grand Traverse	176	0	19	24	60	52	11	7	0	0	3
Gratiot	68	0	14	10	21	14	5	1	2	1	0
Hillsdale	112	0	19	15	25	22	8	2	4	1	16
Houghton	96	0	12	18	28	16	7	3	4	2	6
Huron	78	1	9	12	28	18	6	3	0	0	1
Ingham	668	3	63	121	217	156	45	29	8	3	23
Ionia	171	2	22	28	57	47	8	4	1	0	2
Iosco	102	0	9	10	34	29	9	6	1	0	4
Iron	47	0	4	7	10	8	2	3	0	1	12
Isabella	153	0	30	29	54	24	7	5	3	1	0
Jackson	431	1	37	68	131	108	45	14	6	1	20
Kalamazoo	561	0	53	102	192	127	36	11	5	1	34
Kalkaska	54	0	4	7	14	13	8	0	2	1	5
Kent	1,198	3	130	175	402	295	99	38	14	3	39
Keweenaw	20	0	6	4	4	1	1	1	0	2	1
Lake	44	0	4	7	7	10	7	5	1	1	2
Lapeer	222	1	12	35	82	57	23	4	3	0	5
Leelanau	56	0	11	12	16	9	2	2	1	0	3

## 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	202	0	17	38	62	36	15	10	2	1	21
Livingston	383	1	48	66	126	90	33	10	3	0	6
Luce	25	0	2	5	11	3	0	0	1	0	3
Mackinac	60	1	5	7	20	14	5	2	0	0	6
Macomb	1,623	1	154	231	530	392	153	68	34	14	46
Manistee	59	0	11	3	17	9	8	6	2	0	3
Marquette	147	1	12	26	38	27	18	8	3	1	13
Mason	76	0	5	10	37	13	3	0	2	2	4
Mecosta	99	0	14	23	28	15	7	3	2	1	6
Menominee	86	0	8	9	19	16	6	1	3	0	24
Midland	172	0	15	28	64	36	17	4	4	0	4
Missaukee	35	0	5	1	12	10	2	1	2	0	2
Monroe	365	0	35	60	95	88	30	6	6	3	42
Montcalm	162	0	13	27	59	38	13	2	2	1	7
Montmorency	36	0	4	8	11	3	5	3	1	0	1
Muskegon	349	0	30	41	124	86	40	11	4	3	10
Newaygo	141	1	13	18	42	38	12	6	4	2	5
Oakland	2,552	4	203	353	799	649	262	124	45	9	104
Oceana	78	0	10	9	25	18	7	3	0	0	6
Ogemaw	83	0	12	11	27	20	9	1	0	1	2
Ontonagon	41	0	3	3	11	9	1	3	1	1	9
Osceola	85	0	6	16	27	17	10	6	1	1	1
Oscoda	49	0	2	5	15	19	3	2	3	0	0
Otsego	75	0	8	10	31	17	4	3	1	0	1
Ottawa	362	0	47	70	118	69	25	8	8	2	15
Presque Isle	30	0	3	5	6	8	3	4	1	0	0
Roscommon	93	0	8	7	31	20	9	12	2	2	2
Saginaw	514	0	46	72	163	132	50	21	12	2	16
Sanilac	90	0	16	18	27	17	7	3	0	0	2
Schoolcraft	30	0	1	4	9	9	5	0	0	0	2
Shiawassee	201	1	23	31	59	44	21	10	5	0	7
St. Clair	440	0	52	72	133	110	40	10	4	1	18
St. Joseph	176	0	16	28	60	27	15	4	3	0	23
Tuscola	173	2	20	30	55	40	15	8	1	0	2
Van Buren	205	1	20	36	59	50	20	5	2	0	12
Washtenaw	614	4	60	107	187	141	64	22	6	1	22
Wayne	3,947	9	306	460	1055	1019	468	229	110	35	256
Wexford	89	1	10	11	34	19	7	2	0	1	4
UNKNOWN	6	0	0	1	3	2	0	0	0	0	0
<b>Totals</b>	<b>23,097</b>	<b>53</b>	<b>2,132</b>	<b>3,329</b>	<b>7,156</b>	<b>5,557</b>	<b>2,207</b>	<b>930</b>	<b>417</b>	<b>123</b>	<b>1,193</b>



**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	
Under 1 year old	198	0.1	0	0.0	3	9	29	157
1 - 3 years	31	0.0	0	0.0	1	3	4	23
4 - 10 years	75	0.0	0	0.0	13	18	12	32
11 - 15 years	1,097	0.3	6	0.4	104	167	191	629
16 - 20 years	60,607	15.5	196	12.5	2,221	4,638	9,494	44,058
21 - 24 years	38,990	9.9	169	10.8	1,497	2,909	6,057	28,358
25 - 34 years	86,814	22.1	342	21.8	3,137	5,763	13,297	64,275
35 - 44 years	72,403	18.5	315	20.1	2,468	4,441	11,389	53,790
45 - 54 years	46,335	11.8	183	11.7	1,460	2,683	7,225	34,784
55 - 64 years	25,972	6.6	102	6.5	805	1,512	3,991	19,562
65 - 74 years	17,713	4.5	78	5.0	603	1,149	2,892	12,991
75 years and over	9,680	2.5	77	4.9	407	689	1,608	6,899
Not Stated	32,188	8.2	98	6.3	837	1,634	4,591	25,028
<b>TOTAL</b>	<b>392,103</b>	<b>100.0</b>	<b>1,566</b>	<b>100.0</b>	<b>13,556</b>	<b>25,615</b>	<b>60,780</b>	<b>290,586</b>

**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	
Under 1 year old	12	0.1	0	0.0	0	2	2	8
1 - 3 years	1	0.0	0	0.0	1	0	0	0
4 - 10 years	0	0.0	0	0.0	0	0	0	0
11 - 15 years	27	0.1	0	0.0	0	8	4	15
16 - 20 years	1,716	9.5	42	10.4	240	334	211	889
21 - 24 years	2,724	15.0	72	17.8	337	558	391	1,366
25 - 34 years	5,534	30.5	105	25.9	660	1,039	880	2,850
35 - 44 years	4,182	23.0	108	26.7	456	673	731	2,214
45 - 54 years	1,785	9.8	35	8.6	184	285	332	949
55 - 64 years	811	4.5	17	4.2	76	128	144	446
65 - 74 years	347	1.9	6	1.5	35	55	58	193
75 years and over	112	0.6	3	0.7	13	11	24	61
Not Stated	902	5.0	17	4.2	93	124	149	519
<b>TOTAL</b>	<b>18,153</b>	<b>100.0</b>	<b>405</b>	<b>100.0</b>	<b>2,095</b>	<b>3,217</b>	<b>2,926</b>	<b>9,510</b>



## 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	
Under 1 year old	113	0.0	0	0.0	0	5	24	84
1 - 3 years	19	0.0	0	0.0	0	2	2	15
4 - 10 years	34	0.0	0	0.0	3	6	8	17
11 - 15 years	627	0.2	4	0.6	43	68	125	387
16 - 20 years	41,813	15.9	114	17.8	1,464	3,236	8,155	28,844
21 - 24 years	27,075	10.3	49	7.7	860	1,817	5,164	19,185
25 - 34 years	60,955	23.2	118	18.4	1,922	3,887	11,815	43,213
35 - 44 years	53,838	20.5	122	19.1	1,622	3,164	10,075	38,855
45 - 54 years	32,178	12.3	75	11.7	968	1,817	6,263	23,055
55 - 64 years	15,242	5.8	41	6.4	476	912	2,972	10,841
65 - 74 years	11,157	4.2	42	6.6	376	670	2,128	7,941
75 years and over	6,796	2.6	47	7.3	261	521	1,164	4,803
Not Stated	12,730	4.8	28	4.4	300	550	2,099	9,753
<b>TOTAL</b>	<b>262,577</b>	<b>100.0</b>	<b>640</b>	<b>100.0</b>	<b>8,295</b>	<b>16,655</b>	<b>49,994</b>	<b>186,993</b>

### 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	
Under 1 year old	2	0.0	0	0.0	0	0	0	2
1 - 3 years	0	0.0	0	0.0	0	0	0	0
4 - 10 years	0	0.0	0	0.0	0	0	0	0
11 - 15 years	10	0.2	0	0.0	1	4	2	3
16 - 20 years	376	8.7	11	14.5	43	80	70	172
21 - 24 years	520	12.1	10	13.2	77	99	95	239
25 - 34 years	1,483	34.5	26	34.2	140	311	252	754
35 - 44 years	1,237	28.8	19	25.0	143	188	222	665
45 - 54 years	358	8.3	6	7.9	34	54	63	201
55 - 64 years	105	2.4	2	2.6	11	12	15	65
65 - 74 years	59	1.4	1	1.3	6	9	10	33
75 years and over	8	0.2	0	0.0	1	0	2	5
Not Stated	142	3.3	1	1.3	20	13	21	87
<b>TOTAL</b>	<b>4,300</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>	<b>476</b>	<b>770</b>	<b>752</b>	<b>2,226</b>

The tables on this page and the previous page exclude 644 drinking drivers of unknown gender.

## 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	5	4	80.0	5	4	80.0
Alger	1	1	100.0	1	1	100.0
Allegan	28	13	46.4	29	14	48.3
Alpena	4	3	75.0	5	3	60.0
Antrim	6	1	16.7	7	1	14.3
Arenac	7	5	71.4	7	5	71.4
Baraga	2	1	50.0	2	1	50.0
Barry	7	1	14.3	10	3	30.0
Bay	19	7	36.8	21	9	42.9
Benzie	3	0	0.0	4	0	0.0
Berrien	32	7	21.9	36	8	22.2
Branch	10	1	10.0	11	1	9.1
Calhoun	28	11	39.3	32	13	40.6
Cass	15	3	20.0	18	3	16.7
Charlevoix	8	4	50.0	9	5	55.6
Cheboygan	9	4	44.4	9	4	44.4
Chippewa	9	4	44.4	13	5	38.5
Clare	8	3	37.5	11	4	36.4
Clinton	6	2	33.3	7	2	28.6
Crawford	4	1	25.0	5	2	40.0
Delta	5	5	100.0	5	5	100.0
Dickinson	4	3	75.0	5	3	60.0
Eaton	11	4	36.4	12	4	33.3
Emmet	8	1	12.5	8	1	12.5
Genesee	68	28	41.2	76	34	44.7
Gladwin	4	2	50.0	6	3	50.0
Gogebic	3	1	33.3	3	1	33.3
Grand Traverse	11	2	18.2	11	2	18.2
Gratiot	9	2	22.2	12	3	25.0
Hillsdale	12	4	33.3	13	4	30.8
Houghton	3	2	66.7	3	2	66.7
Huron	8	1	12.5	10	1	10.0
Ingham	23	10	43.5	26	11	42.3
Ionia	13	5	38.5	14	5	35.7
Iosco	5	3	60.0	6	4	66.7
Iron	0	0	0.0	0	0	0.0
Isabella	11	5	45.5	11	5	45.5
Jackson	26	16	61.5	27	17	63.0
Kalamazoo	32	14	43.8	36	15	41.7
Kalkaska	7	2	28.6	8	2	25.0
Kent	51	17	33.3	54	19	35.2
Keweenaw	1	1	100.0	1	1	100.0
Lake	10	5	50.0	10	5	50.0
Lapeer	10	0	0.0	10	0	0.0

**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	2	2	100.0	2	2	100.0
Lenawee	17	2	11.8	18	2	11.1
Livingston	24	7	29.2	25	8	32.0
Luce	1	0	0.0	1	0	0.0
Mackinac	3	1	33.3	4	1	25.0
Macomb	68	27	39.7	76	32	42.1
Manistee	5	0	0.0	9	0	0.0
Marquette	13	4	30.8	17	5	29.4
Mason	5	3	60.0	5	3	60.0
Mecosta	7	1	14.3	8	1	12.5
Menominee	6	4	66.7	6	4	66.7
Midland	15	4	26.7	17	5	29.4
Missaukee	2	2	100.0	2	2	100.0
Monroe	27	15	55.6	31	19	61.3
Montcalm	15	5	33.3	18	7	38.9
Montmorency	2	0	0.0	4	0	0.0
Muskegon	31	15	48.4	33	15	45.5
Newaygo	5	2	40.0	6	2	33.3
Oakland	112	47	42.0	114	47	41.2
Oceana	6	1	16.7	6	1	16.7
Ogemaw	6	2	33.3	8	4	50.0
Ontonagon	1	1	100.0	1	1	100.0
Osceola	6	3	50.0	8	3	37.5
Oscoda	1	0	0.0	1	0	0.0
Otsego	2	1	50.0	2	1	50.0
Ottawa	29	6	20.7	37	7	18.9
Presque Isle	2	2	100.0	2	2	100.0
Roscommon	4	2	50.0	5	2	40.0
Saginaw	28	12	42.9	30	12	40.0
Sanilac	12	2	16.7	13	2	15.4
Schoolcraft	3	1	33.3	3	1	33.3
Shiawassee	15	6	40.0	16	6	37.5
St. Clair	25	7	28.0	27	7	25.9
St. Joseph	15	7	46.7	15	7	46.7
Tuscola	17	5	29.4	18	5	27.8
Van Buren	14	4	28.6	20	4	20.0
Washtenaw	44	15	34.1	49	18	36.7
Wayne	247	85	34.4	266	93	35.0
Wexford	3	0	0.0	5	0	0.0
Totals	1,386	512	36.9	1,537	566	36.8



## 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	47	4	6	6	6	25
Alger	33	1	6	5	5	16
Allegan	302	13	45	45	36	163
Alpena	81	3	4	15	11	48
Antrim	55	1	13	12	1	28
Arenac	56	5	5	14	4	28
Baraga	25	1	2	6	6	10
Barry	154	1	22	38	23	70
Bay	356	7	41	75	28	205
Benzie	35	0	6	7	6	16
Berrien	432	7	57	78	68	222
Branch	98	1	16	25	8	48
Calhoun	402	11	41	78	55	217
Cass	165	3	23	37	16	86
Charlevoix	74	4	5	8	20	37
Cheboygan	87	4	13	23	15	32
Chippewa	131	4	13	17	15	82
Clare	79	3	13	13	5	45
Clinton	110	2	15	12	13	68
Crawford	43	1	8	10	2	22
Delta	111	5	17	20	9	60
Dickinson	67	3	9	9	6	40
Eaton	199	4	34	47	25	89
Emmet	103	1	9	19	14	60
Genesee	1,498	28	109	329	252	780
Gladwin	81	2	12	13	5	49
Gogebic	55	1	7	11	4	32
Grand Traverse	178	2	20	29	22	105
Gratiot	69	2	13	11	5	38
Hillsdale	112	4	14	21	20	53
Houghton	97	2	17	12	11	55
Huron	77	1	20	14	7	35
Ingham	671	10	101	120	86	354
Ionia	168	5	30	34	10	89
Iosco	100	3	7	30	8	52
Iron	46	0	3	4	11	28
Isabella	159	5	19	32	13	90
Jackson	439	16	68	85	75	195
Kalamazoo	561	14	70	111	74	292
Kalkaska	55	2	10	10	7	26
Kent	1,202	17	111	214	201	659
Keweenaw	20	1	5	3	1	10

## 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	43	5	8	10	2	18
Lapeer	223	0	26	39	39	119
Leelanau	56	2	7	10	3	34
Lenawee	202	2	19	32	41	108
Livingston	381	7	56	64	60	194
Luce	24	0	5	5	3	11
Mackinac	60	1	12	7	10	30
Macomb	1,621	27	156	270	314	854
Manistee	60	0	10	13	6	31
Marquette	151	4	13	28	18	88
Mason	79	3	14	14	8	40
Mecosta	97	1	10	16	17	53
Menominee	83	4	11	19	6	43
Midland	170	4	25	31	13	97
Missaukee	34	2	5	4	5	18
Monroe	364	15	35	74	58	182
Montcalm	159	5	30	28	19	77
Montmorency	35	0	7	9	3	16
Muskegon	351	15	44	58	54	180
Newaygo	138	2	18	24	21	73
Oakland	2,540	47	222	419	545	1,307
Oceana	78	1	7	13	9	48
Ogemaw	84	2	15	19	9	39
Ontonagon	41	1	5	6	3	26
Osceola	83	3	12	15	10	43
Oscoda	49	0	6	12	5	26
Otsego	74	1	12	10	8	43
Ottawa	361	6	31	59	57	208
Presque Isle	30	2	3	8	2	15
Roscommon	93	2	17	15	10	49
Saginaw	516	12	53	92	75	284
Sanilac	91	2	16	18	10	45
Schoolcraft	31	1	4	6	3	17
Shiawassee	197	6	22	39	29	101
St. Clair	445	7	58	94	63	223
St. Joseph	178	7	26	36	25	84
Tuscola	174	5	23	28	22	96
Van Buren	206	4	34	44	25	99
Washtenaw	620	15	65	112	125	303
Wayne	3,974	85	467	598	824	2,000
Wexford	89	0	17	16	15	41
Unknown	6	0	1	2	0	3
Totals	23,124	512	2,686	4,118	3,783	12,025

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

COUNTY	1995 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people
Lake	9,664	644	10	43	5	0.5174
Keweenaw	1,967	116	1	20	1	0.5084
Alcona	10,587	816	5	47	4	0.3778
Arenac	16,151	1,134	7	56	5	0.3096
Cheboygan	22,854	1,146	9	87	4	0.1750
Charlevoix	23,052	1,331	8	74	4	0.1735
Menominee	24,569	1,970	6	83	4	0.1628
Missaukee	13,522	820	2	34	2	0.1479
Presque Isle	14,242	803	2	30	2	0.1404
Osceola	21,756	1,710	6	83	3	0.1379
Kalkaska	14,696	901	7	55	2	0.1361
Allegan	97,692	4,168	28	302	13	0.1331
Delta	38,655	2,432	5	111	5	0.1293
Iosco	24,482	1,322	5	100	3	0.1225
Baraga	8,493	655	2	25	1	0.1177
Ontonagon	8,639	901	1	41	1	0.1158
St. Joseph	60,684	2,711	15	178	7	0.1154
Schoolcraft	8,700	577	3	31	1	0.1149
Dickinson	27,176	1,804	4	67	3	0.1104
Mason	27,487	1,685	5	79	3	0.1091
Chippewa	36,859	1,949	9	131	4	0.1085
Leelanau	18,502	791	2	56	2	0.1081
Monroe	139,550	4,674	27	364	15	0.1075
Clare	28,078	1,672	8	79	3	0.1068
Jackson	154,010	7,085	26	439	16	0.1039
Alger	9,846	560	1	33	1	0.1016
Alpena	30,841	1,447	4	81	3	0.0973
Ogemaw	20,559	1,266	6	84	2	0.0973
Muskegon	164,459	6,473	31	351	15	0.0912
Mackinac	10,978	919	3	60	1	0.0911
Isabella	56,213	2,996	11	159	5	0.0889
Roscommon	22,593	1,195	4	93	2	0.0885
Hillsdale	45,224	2,461	12	112	4	0.0884
Tuscola	57,491	2,455	17	174	5	0.0870
Montcalm	57,866	3,302	15	159	5	0.0864
Ionia	59,846	2,752	13	168	5	0.0835
Shiawassee	72,079	2,517	15	197	6	0.0832
Gladwin	24,304	1,086	4	81	2	0.0823
Calhoun	140,689	7,138	28	402	11	0.0782
Crawford	13,523	869	4	43	1	0.0739
Genesee	436,381	16,386	68	1,498	28	0.0642
Bay	111,529	4,178	19	356	7	0.0628
Kalamazoo	227,973	10,987	32	561	14	0.0614
Marquette	65,442	2,998	13	151	4	0.0611
Cass	49,603	2,257	15	165	3	0.0605

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

COUNTY	1995 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people
Saginaw	212,295	8,997	28	516	12	0.0565
Gogebic	17,894	746	3	55	1	0.0559
Houghton	36,140	1,544	3	97	2	0.0553
Van Buren	74,591	3,165	14	206	4	0.0536
Livingston	133,601	5,506	24	381	7	0.0524
Washtenaw	292,609	12,581	44	620	15	0.0513
Midland	79,748	3,221	15	170	4	0.0502
Gratiot	39,973	1,816	9	69	2	0.0500
Antrim	20,257	1,105	6	55	1	0.0494
Otsego	20,762	1,148	2	74	1	0.0482
Sanilac	42,203	2,016	12	91	2	0.0474
Newaygo	43,587	2,197	5	138	2	0.0459
St. Clair	154,231	5,468	25	445	7	0.0454
Berrien	162,623	6,462	32	432	7	0.0430
Oceana	23,875	1,188	6	78	1	0.0419
Wayne	2,055,500	91,201	247	3,974	85	0.0414
Eaton	98,087	4,440	11	199	4	0.0408
Oakland	1,153,461	47,190	112	2,540	47	0.0407
Macomb	733,607	26,937	68	1,621	27	0.0368
Emmet	27,352	1,702	8	103	1	0.0366
Ingham	277,889	13,020	23	671	10	0.0360
Clinton	61,657	2,662	6	110	2	0.0324
Kent	525,355	24,061	51	1,202	17	0.0324
Ottawa	210,389	7,543	29	361	6	0.0285
Huron	35,224	1,966	8	77	1	0.0284
Grand Traverse	70,869	3,743	11	178	2	0.0282
Mecosta	37,725	2,904	7	97	1	0.0265
Branch	42,738	2,229	10	98	1	0.0234
Lenawee	96,706	3,775	17	202	2	0.0207
Barry	52,643	2,639	7	154	1	0.0190
Benzie	13,660	624	3	35	0	0.0000
Iron	13,177	1,092	0	46	0	0.0000
Lapeer	83,854	3,644	10	223	0	0.0000
Luce	5,599	393	1	24	0	0.0000
Manistee	22,915	1,102	5	60	0	0.0000
Montmorency	9,683	487	2	35	0	0.0000
Oscoda	8,682	508	1	49	0	0.0000
Wexford	28,686	1,865	3	89	0	0.0000
Unknown		127		6		
<b>State Totals</b>	<b>9,549,353</b>	<b>421,073</b>	<b>1,386</b>	<b>23,124</b>	<b>512</b>	<b>0.0536</b>



## Summary of Michigan's "Zero Tolerance" Law

Public Act 211 of 1994 makes it a crime for a person under the age of 21 to have any Bodily Alcohol Content (BAC) while operating a motor vehicle.

The presumptive levels for this statute are 0.02g - 0.07g BAC.

**Persons Arrested** since law began 11/1/94 (as of 5/1/96) **1,562**

### Other Statewide OUIL Arrests for Under Age 21 (not related to "Zero Tolerance" law)

	Total	Change		Total (All Ages)
*1996	1,799	2.0%	9.2% of Total OUIL Arrests	19,615
1995	1,764	69.8%	9.1% of Total OUIL Arrests	19,305
1994	1,039	-2.6%	5.9% of Total OUIL Arrests	17,468
1993	1,067		5.7% of Total OUIL Arrests	18,647

*For comparison purposes, data is for January-April for each year shown*

### Drivers Under Age 21 Involved in Traffic Crashes (by Crash Type)

	Total	Change	Fatal	Change	Injury	Change	Property	Change	
*1996	32,938	2.6%	69	-23.3%	8,411	-4.1%	24,458	5.3%	Total
	<b>575</b>	-9.6%	<b>9</b>	-35.7%	<b>249</b>	-15.0%	<b>317</b>	-3.6%	<b>HBD</b>
1995	32,100	4.2%	90	20.0%	8,772	6.6%	23,238	3.3%	Total
	<b>636</b>	3.6%	<b>14</b>	7.7%	<b>293</b>	5.8%	<b>329</b>	1.5%	<b>HBD</b>
1994	30,801	9.9%	75	15.4%	8,228	7.3%	22,498	10.8%	Total
	<b>614</b>	-3.9%	<b>13</b>	-7.1%	<b>277</b>	-5.5%	<b>324</b>	-2.4%	<b>HBD</b>
1993	28,031		65		7,668		20,298		Total
	<b>639</b>		<b>14</b>		<b>293</b>		<b>332</b>		<b>HBD</b>

*For comparison purposes, data is for January-April for each year shown*

*\*1996 data is incomplete, and is subject to change as new or revised data is reported*

**HBD** = Had Been Drinking (or Using Drugs)

**HNBD** = Had NOT Been Drinking (or Using Drugs)

Source: Michigan Department of State Police, Office of Highway Safety Planning

Data Run 5/1/96