

# 2000 Michigan Traffic Crash Facts



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# 2000 Michigan Traffic Crash Facts

A summary of traffic crashes on Michigan roadways in calendar year 2000

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## PREFACE

### \*\*Special Note\*\*

As you review the 2000 Michigan Traffic Crash Facts, you will notice some graphs and charts are missing data. In addition, **the information provided for alcohol contains data for alcohol-related crashes only. This figure DOES NOT include the combined number for alcohol and drug related crashes as has been reported in prior years. Alcohol-related crash data for 2000 CANNOT be compared with prior years.**

Revisions were made to the reporting form in 2000. During the processing of 2000 crash data, errors occurred which compromised the reliability of certain data elements. These errors were not detected early enough to reprocess the entire year of traffic crash reports. Among the data elements affected was alcohol/drug related crashes, farm equipment crashes and the new driver condition data element (i.e. cell phone use, fatigue, etc.) collected for the first time in January 2000.

In addition, the state's new roadway location index was not yet completed which prevented the system from being able to identify the roadway type of some crashes. The location index will soon be ready, however, we could not delay the issuance of the 2000 book for that length of time.

In order to provide the data with which readers have become most familiar, and attempt to assure a high level of accuracy, the book retains the format used in the past. There is a note with each chart and graph that could be produced but had to be presented incomplete.

We regret any inconvenience that this may cause and assure you that the state is making every effort to assure that corrective action is taken to improve future crash data quality.



## EXECUTIVE SUMMARY

*The 2000 traffic fatality count was 1,382, down 0.3 percent from the 1999 figure of 1,386. Compared with 1999, injuries were down 2.2 percent and total crashes were up 2.2 percent. These figures translated into a death rate of 1.5 per 100 million miles of travel, the same as the 1999 death rate. Nationally, fatalities were up 4.1 percent.*

*Exposure factors in 2000 showed increases in vehicle registrations, the number of drivers on Michigan roads, and travel mileage. They included motor vehicle registrations up 1.9 percent to 8.56 million, the number of licensed drivers is up 0.9 percent to 7.04 million, and vehicle travel mileage up 2.0 percent to 94.92 billion.*

*Consumption of alcohol continues to be a major factor in Michigan crashes, particularly the more serious crashes. In 2000, 4.1 percent of all crashes, including property damage only, were reported to involve drinking, and 20.8 percent resulted in injury or death. However, 44.1 percent of alcohol-related crashes involved injury or death, and 32.9 percent of fatal crashes involved drinking. Over 62.2 percent of alcohol-related fatal crashes involved only one vehicle, whereas only 31.1 percent of all crashes involved one vehicle.*

*Data on crashes in this book was obtained from 2000 Michigan Traffic Crash Report Forms (UD-10) submitted by local police departments, sheriff jurisdictions, and the Department of State Police. Other related information was obtained from the Departments of Transportation, State, and Community Health.*

*The University of Michigan Transportation Research Institute produced this publication with data on file at the Michigan Department of State Police as of June 22, 2001. We acknowledge, with appreciation, all involved agencies for their assistance.*



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





## UD-10 (FRONT)

## UD-10 (BACK)

**MICHIGAN VEHICLE CODE**  
**Public Act 300 of 1949**

Edited by the Office of Highway Safety Planning for discussion purposes.  
*Editorial remarks by OHSP appear in italic print.*

**MCL 257.622, Amended 1967** - The driver of a motor vehicle involved in an accident that injures or kills any person, or that damages property to an apparent extent totaling \$400 or more, shall immediately report that accident at the nearest or most convenient police station, or to the nearest or most convenient police officer. The officer receiving the report, or his or her commanding officer, shall immediately forward each report to the director of State Police on forms prescribed by the director of State Police (*State of Michigan Traffic Crash Report, also known as the UD-10*). The forms shall be completed in full by the investigating officer. The director of State Police shall analyze each report relative to the cause of the reported accident and shall prepare information compiled from reports filed under this section for public use. A copy of the report . . . shall be retained for at least three years at the local police department, sheriff's department, or local state police post making the report. (*As the repository of UD-10s submitted by all Michigan law enforcement agencies, the Department of State Police microfilms all UD-10s received at its Criminal Justice Data Center. The Data Center retains a microfilm copy of UD-10s for a period including the current processing year plus the three previous years. Microfilm copies and electronic databases containing information from individual UD-10s for crashes prior to this time period are purged.*)

**MCL 257.624, Amended 1980** - (1) A report required by this chapter shall not be available for use in a court action, but a report shall be for the purpose of furnishing statistical information regarding the number and cause of accidents.

(2) The Office of Highway Safety Planning (OHSP) may authorize scientific studies and research for the reduction of death, injury, and property losses. All information, records of interviews, written reports, statements, notes, memoranda, or other data collected pursuant to the scientific studies and research conducted by the state, or by other persons, agencies, or organizations authorized by OHSP shall be used solely for the purpose of medical or scientific research and shall not disclose the name or identity of a person unless the person authorizes, in writing, the use of his or her name or identity. If a subject of the research study is deceased, the executor or heir of the deceased person may authorize, in writing, the disclosure of the deceased's name or identity. The furnishing of information to OHSP or to a representative of an authorized study or research project shall not subject a person, hospital, sanitarium, rest home, nursing home, or other person or agency furnishing the information to any action for damages or other relief. The information, records, reports, statements, notes, memoranda, or other data shall not be admissible as evidence in a court or before any other tribunal, board, agency, or person. A person participating in an authorized study or research project shall not disclose, directly or indirectly, the information so obtained except in strict conformity with the research project.




## ABBREVIATIONS & ACRONYMS

- **BAC** **Bodily Alcohol Content** (formerly referred to as Blood Alcohol Content or Blood Alcohol Concentration). Determination of percent by weight of ethyl alcohol in blood. Usually measured in grams.
- **CJDC** **Criminal Justice Data Center.** A division of the Michigan Department of State Police that administers data on the mainframe computer.
- **CJIC** **Criminal Justice Information Center.** A division of the Michigan Department of State Police formerly known as the Central Records Division.
- **CRD** **Child Restraint Device.** Also called child safety seats.
- **FHWA** **Federal Highway Administration.** A part of the United States Department of Transportation.
- **GDL** **Graduated Driver Licensing**
- **HBD** **Had Been Drinking** and/or under the influence of drugs.
- **HNBD** **Had Not Been Drinking** and/or under the influence of drugs.
- **KABC** Injury severity scale for traffic crash-related injuries: **K - Fatal, A - Incapacitating, B - Nonincapacitating, C - Possible.** See Glossary for definitions.
- **MALI** **Michigan Accident Location Index** (pronounced "MAY-lie")
- **MDCH** **Michigan Department of Community Health** (formerly Michigan Department of Public Health)
- **MDOS** **Michigan Department of State**
- **MDOT** **Michigan Department of Transportation** (pronounced "EM-dot")
- **NHTSA** **National Highway Traffic Safety Administration** (pronounced "NIT-zah"). A part of the United States Department of Transportation.
- **OHSP** **Office of Highway Safety Planning.** A division of the Michigan Department of State Police.
- **OUIL** **Operating Under the Influence of Liquor.** More serious of the drinking and driving violations in Michigan. Refers to driving with bodily alcohol content of 0.10g or more.
- **OWI** **Operating While Impaired.** Less serious of the drinking and driving violations in Michigan. Refers to driving with bodily alcohol content levels of 0.08g or 0.09g.
- **PDO** **Property Damage Only.** Refers to a traffic crash lacking personal injuries.
- **UD-10** Form number ascribed to *Michigan Traffic Crash Report* form, official document used to report traffic crashes in Michigan.
- **UMTRI** **University of Michigan Transportation Research Institute** (pronounced "UM-tree")
- **USDOT** **United States Department of Transportation**
- **VMT** **Vehicle Miles Traveled.** The estimated total number of miles traveled annually by motor vehicles on Michigan trafficways.



## GLOSSARY

- **Bicyclist** – “Bicycle” means a device propelled by human power upon which a person may ride, having either two or three wheels in a tandem or tricycle arrangement, all of which are over 14 inches in diameter.
- **Bus** - Any passenger-carrying vehicle designed to transport 16 or more passengers, including the driver.
- **Crash Rate** - The number of crashes per 100 million vehicle miles traveled.
- **Crash Type** - A crash is typed by the first injury or damage-producing event, which may or may not be the most serious or significant event.
- **Death Rate** - Deaths per 100 million vehicle miles.
- **Driver/Operator** - The person who is in actual physical control of a vehicle in transit.
- **Drivers of Record** - Includes all valid drivers, plus any invalid drivers with any conviction; FAC/FCJ (Failure to Appear in Court/Failure to Comply with Judgment), crash involvement, or action during the listed time period.
- **Fatal Crash** - A fatality is counted when a person dies due to injuries from a traffic crash. Prior to 1979 deaths were counted if they occurred up to one year after the crash, in 1979 this time period was reduced to 90 days. In 1988 this was further reduced to 30 days.
- **Graduated Driver Licensing** - Michigan Public Act 387 effective April 1, 1997, phasing in teenage driving privileges.
- **Had Been Drinking (HBD) Crash** - Drinking prior to the crash by a driver, pedestrian, or cyclist as reported by the police, the coroner, or other accepted authorities. Beginning with year 2000 data, the information provided for alcohol contains data for alcohol-related crashes only. This figure DOES NOT include the combined number for alcohol and drug related crashes as has been reported in prior years. 
- **Harmful Event** - A harmful event is an occurrence of injury or damage.
- **Holiday** - Refers to the length of the Holiday weekend period, including the hours of 6:00 PM to midnight of the day preceding the Holiday. Please refer to the table below for the time period connected to Holidays falling on a given day of the week.

Holiday Day	Time Period		Number of Days
	From	To	
Sunday	6:00 PM FRI	- 23:59 PM MON	3 1/4
Monday	6:00 PM FRI	- 23:59 PM MON	3 1/4
Tuesday	6:00 PM FRI	- 23:59 PM TUE	4 1/4
Wednesday	6:00 PM TUE	- 23:59 PM WED	1 1/4
Thursday	6:00 PM WED	- 23:59 PM SUN	4 1/4
Friday	6:00 PM THU	- 23:59 PM SUN	3 1/4
Saturday	6:00 PM THU	- 23:59 PM SUN	3 1/4

- **Injury Severity**
  - K (Fatal)** - Any injury that results in death.
  - A (Incapacitating Injury)** - Any injury, other than a fatal injury, that prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.
  - B (Nonincapacitating Injury)** - Any injury not incapacitating but evident to observers at the scene of the crash in which the injury occurred.
  - C (Possible Injury)** - Any injury reported or claimed that is not a fatal injury, incapacitating injury or nonincapacitating injury.
- **In Transport** - Denotes a motor vehicle in motion or on a roadway.

## GLOSSARY (continued)

- **Licensed Drivers** - All valid Michigan drivers on file including; suspended, revoked, and denied drivers (as long as their license has not expired).
- **Most Severe Outcome in Crash** - The most severe injury sustained by any person involved in the crash, or property damage only.
- **Most Severe Outcome in Vehicle** - The most severe injury sustained by any person in the vehicle, or property damage only.
- **Motor Vehicle Crash** - A crash that involves a motor vehicle in transport on a public trafficway (in Michigan) and results in injury, death or at least \$400.00 in property damage.
- **Noncollision** - A crash that does not involve a collision with another motor vehicle. Types of noncollision crashes include; explosion or fire in vehicle, rollover, immersion, etc.
- **Occupant** - Any injured or killed person in or on a motor vehicle, *including* the driver.
- **Passenger** - Any injured or killed person in or on a motor vehicle, *excluding* the driver.
- **Pedestrian** - Any person on foot; person on skis, skates or roller blades; rider of horse; horse and buggy (each occupant including the driver will be listed as a separate pedestrian unit); nonmotorized wheelchair.
- **Property Damage Only (PDO) Crash** - A crash that results in no fatalities or injuries, with a value of \$400.00 as a reporting threshold.
- **Traffic Unit** - Anything in transit on a public trafficway (i.e., motor vehicle, motorcycle, bicycle, pedestrian, snowmobile, farm equipment).
- **Transition Area** - Increase or decrease in the number or travel lanes.
- **Valid Drivers** - Excludes non-valid categories such as no license, out-of-state drivers with Michigan violations, deceased, and licenses expired three months prior to Department of State run date.
- **“Zero Tolerance”** - Law which began November 1, 1994, making it illegal for any person in Michigan under the age of 21 to consume alcohol in the presence of a law enforcement officer, or to have a BAC of 0.02 percent or more. Sometimes referred to as Michigan’s “Point Oh Two” law.



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<i>Traffic Crash Summary • Alcohol Involved Traffic Crash Summary</i>	
<i>Deer Involved/Associated Traffic Crash Summary • 1996 - 2000 County Rankings</i>	

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# Quick Facts & Figures



## 2000 QUICK FACTS

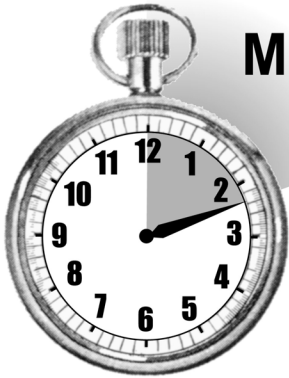
- ★ Some exposure factor comparisons between 2000 and 1999 show motor vehicle registrations rose **1.9** percent, number of licensed drivers on Michigan roads increased **0.9** percent, and vehicle mileage increased **2.0** percent.
- ★ The 2000 death rate stayed at **1.5** deaths per 100 million miles of travel. This is the same as the 1999 death rate, and below the ten-year average of **1.6** (1991-2000).
- ★ There were **1,382** persons killed and **121,826** persons injured in **424,852** reported motor vehicle traffic crashes in Michigan during 2000. Compared with 1999 experience, deaths decreased **0.3** percent, injuries decreased **2.2** percent, and total reported crashes showed an increase of **2.2** percent.
- ★ This year's death toll of **1,382** was down **0.3** percent from the 1999 figure of **1,386**.
- ★ The **1,382** persons killed were the result of **1,237** fatal crashes for an average of **1.1** deaths per fatal crash.
- ★ There were **424,852** reported crashes of which **1,237** were fatal, **87,043** were personal injury, and **336,572** were property damage only crashes.
- ★ Of all fatal crashes, **30.9** percent occurred at intersections.
- ★ Of all fatal crashes, **32.9** percent involved at least one drinking operator or pedestrian.
- ★ Excessive speed was indicated as the hazardous action by **11.8** percent of the drivers involved in fatal crashes.
- ★ In 2000 there were **133,790** single vehicle crashes, an increase of **5.4** percent over last year's count of **126,990**.
- ★ Of the **424,852** total crashes, **133,790 (31.5%)** involved one vehicle.
- ★ Of the **1,237** fatal crashes, **560 (45.3%)** involved one vehicle.
- ★ Of the **407** alcohol-related fatal crashes, **253 (62.2%)** involved one vehicle. This is a **21.2** percent decrease from last year's figure of **321** single vehicle, alcohol-related fatal crashes.
- ★ Of the **2,062** drivers involved in fatal crashes, **15.1** percent were under 21 years of age and **24.0** percent of all drivers involved in fatal crashes were under 25 years of age.
- ★ In the last five years (1996-2000), **7,086** persons have been killed in Michigan traffic crashes. This is an average of **1,417** per year. During the previous five-year period (1995-1999), **7,241** persons were killed, for an average of **1,448** per year.
- ★ Of the **9,938,444** persons living in Michigan [1] one out of every **7,191** was killed in a traffic crash; one out of every **82** persons was injured.
- ★ For each person killed there were **88.2** persons injured.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

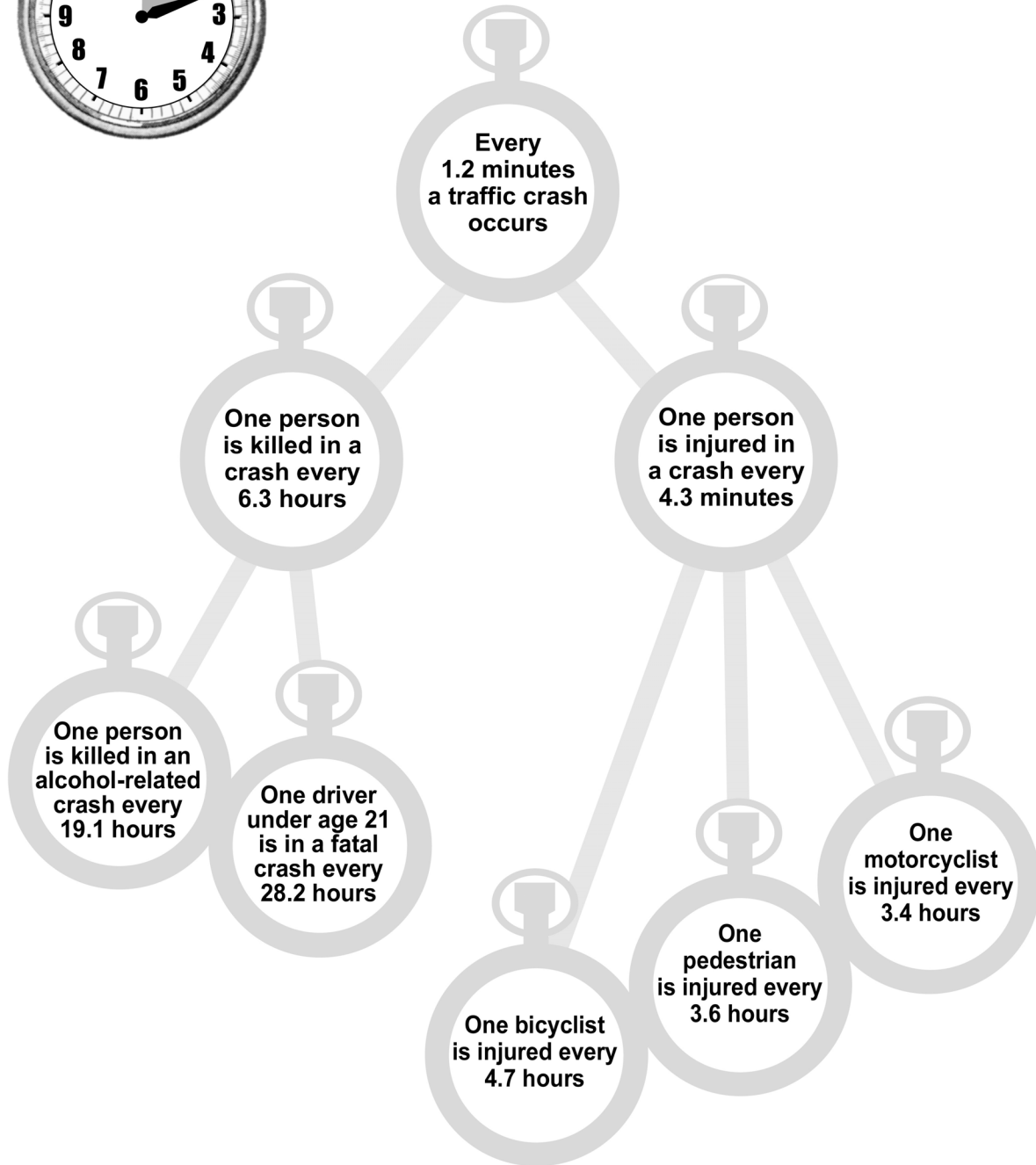
- ★ There were **121,826** persons injured, crippled, or maimed in crashes.
- ★ According to figures provided by the Michigan Department of Community Health [2], accidental death for children in motor vehicle crashes routinely outpaces the next two most frequent causes: fire and drowning.
- ★ According to the Michigan Department of Community Health, four out of five accidental deaths for teenagers and young adults (ages 15-24) are due to motor vehicle crashes.
- ★ The pedestrian death toll for Michigan stands at **168** persons. This represents a decrease of **8** deaths under the 1999 figure.
- ★ For each pedestrian killed, there were **14.4** pedestrians injured.
- ★ Of the pedestrians killed, **36.9** percent were killed while crossing streets other than at intersections.
- ★ Of all pedestrians killed, **20.8** percent were under the age of 21 years and **22.0** percent were 55 and older.
- ★ During the past five years, a total of **875** pedestrians have been killed, an average of **175** per year.
- ★ During the past five years, a total of **142** bicyclists have been killed, an average of **28** per year.
- ★ Children under the age of 16 accounted for **48.3** percent of the bicycle deaths.
- ★ Of the **763,748** drivers and injured passengers involved in crashes, **616,715** or **80.7** percent were *reported* to have been using occupant restraints. Restraint usage among fatal victims, where usage was known, was reported to be **54.1** percent in 2000.
- ★ Motor vehicle occupants age 75 to 100 had the highest reported restraint usage (**94.6%**) among age groups. Children age 11 to 15 had the lowest reported restraint usage (**74.0%**).
- ★ The economic loss in Michigan traffic crashes amounted to **\$9,745,828,786**.

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# Michigan's Crash Watch 2000



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## WHO DIED IN MICHIGAN MOTOR VEHICLE CRASHES IN 2000?

### THE DAILY TOLL

- ★ **Four people died everyday.**
- ★ Between one and two persons died in an alcohol-related crash everyday.
- ★ The daily economic cost to Michigan residents was:  
\$ \$ \$ \$ \$ **26.7 MILLION DOLLARS** \$ \$ \$ \$ \$  
12.2 million - for fatalities  
12.8 million - for injuries  
1.7 million - for property damage

### THE ANNUAL TOLL

- ★ The economic cost of motor vehicle crashes to Michigan residents was \$9.7 billion last year.
- ★ \$4.4 billion in economic loss was due to Michigan motor vehicle fatalities.
- ★ Alcohol-related fatalities amounted to 459 people in 2000.
- ★ 1,382 people died in 2000 in a motor vehicle crash.
- ★ **Every 6 hours and 20 minutes one person died in a motor vehicle crash.**

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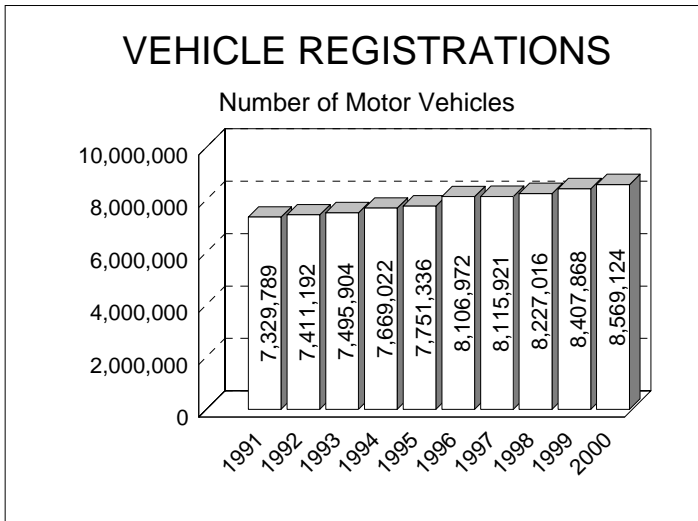
2000

# **Historical Information**

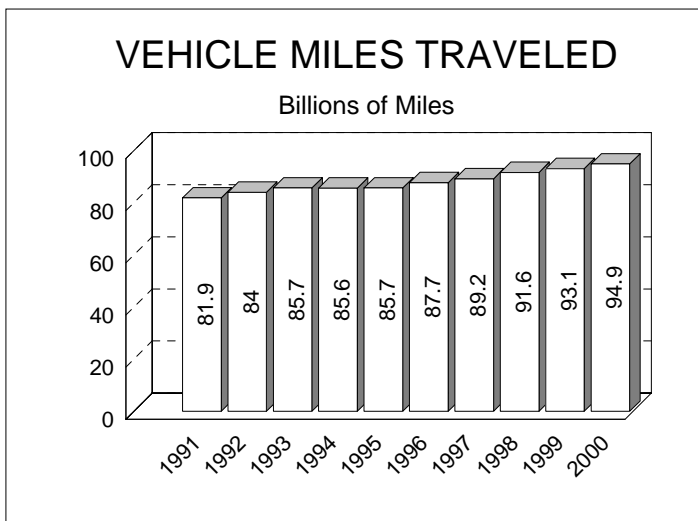
**10-, 5-, and 1-year**



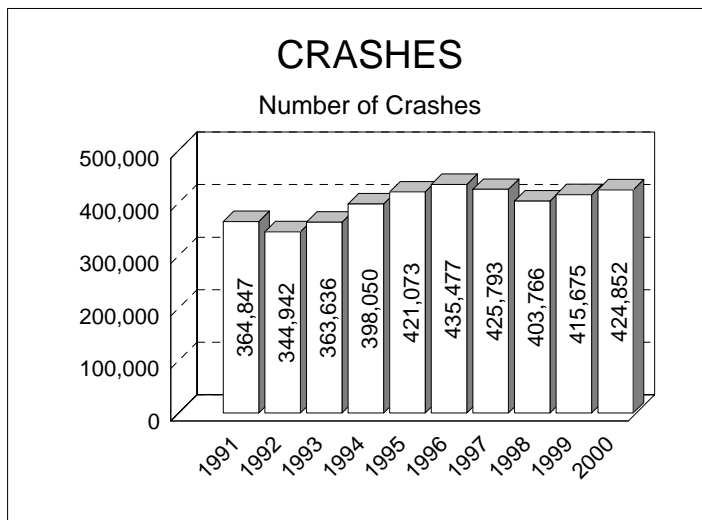
# 10 YEAR



Vehicle registrations have been increasing steadily since 1991, reaching 8,569,124 in 2000.



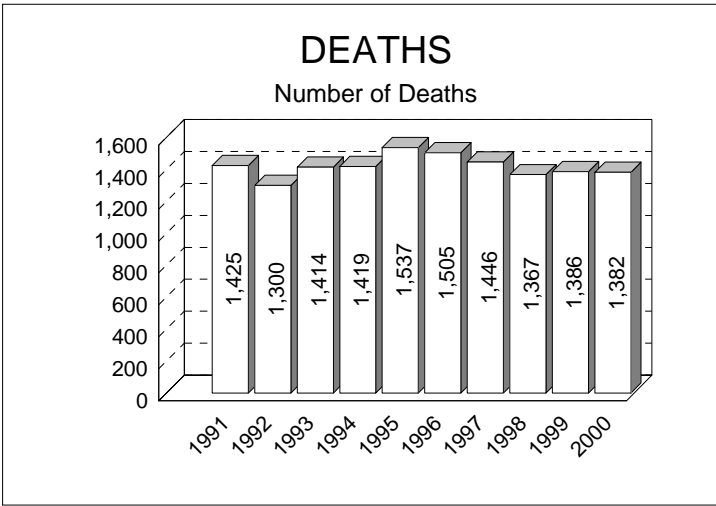
Vehicle miles of travel have increased 15.9 percent since 1991, reaching 94.9 billion miles in 2000.



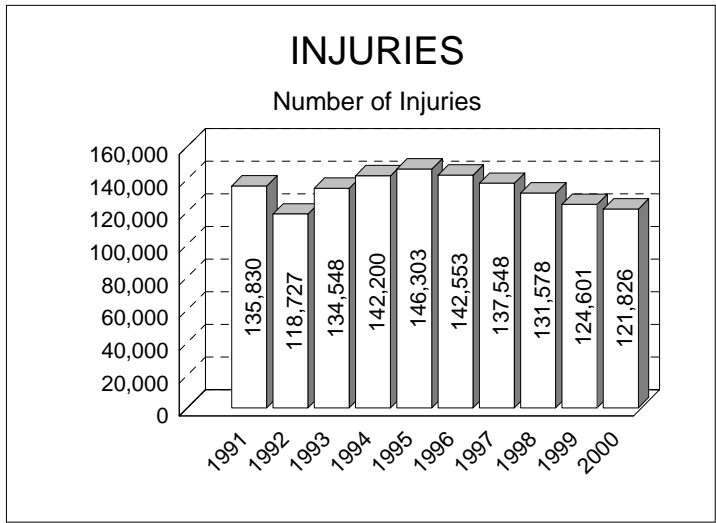
There were 424,852 total crashes statewide in 2000, a 2.2 percent increase from 1999.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

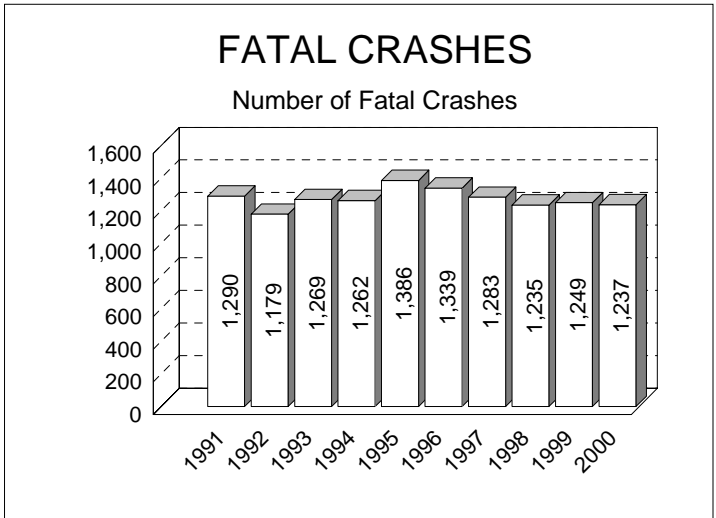
# 10 YEAR TRENDS (continued)



Number of deaths has remained below the high of 1,563 in 1990. In 2000, 1,382 people died in motor vehicle crashes, a decrease of 0.3 percent from 1999.



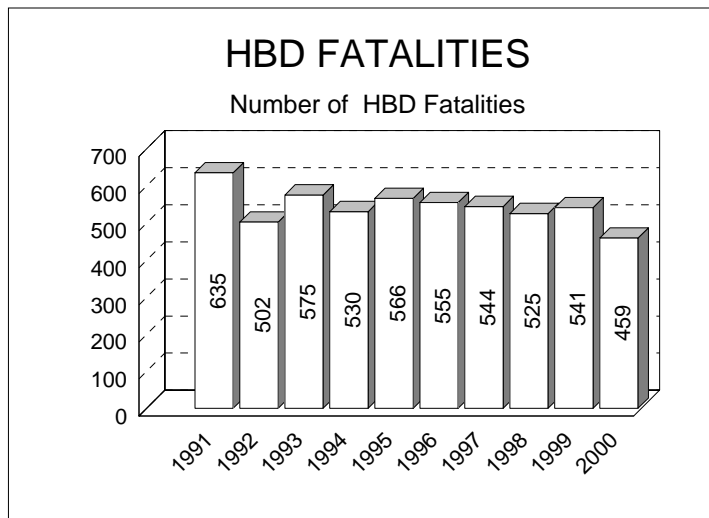
121,826 people received nonfatal injuries in Michigan motor vehicle crashes in 2000, down 2.2 percent from 124,601 in 1999.



In 2000, there were 1,237 fatal crashes, down 10.8 percent from the high of 1,386 in 1995.

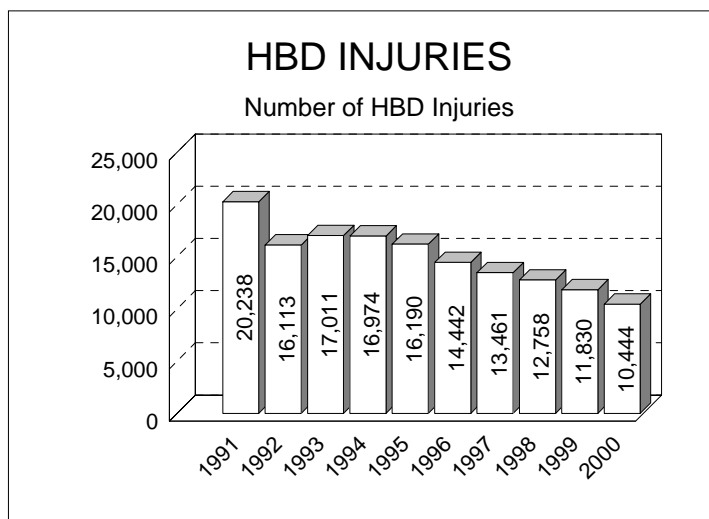
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

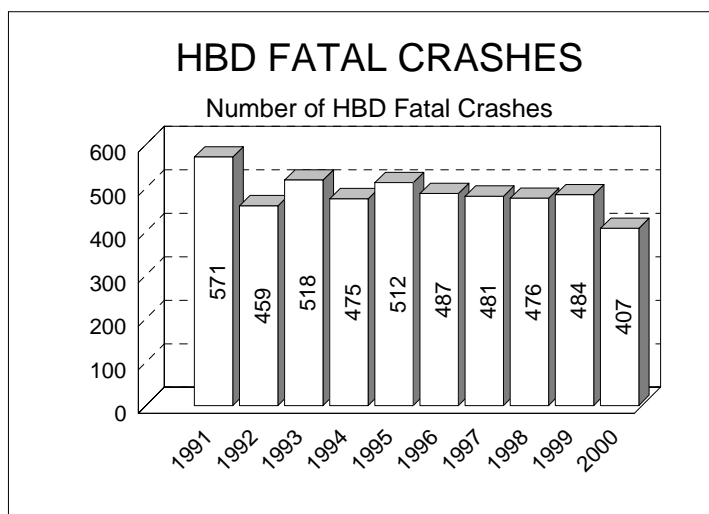


Deaths in alcohol-related crashes have decreased over the last ten years. There were 459 HBD fatalities in 2000.

**Note:** The information provided for alcohol contains data for alcohol-related crashes only. This figure DOES NOT include the combined number for alcohol and drug related crashes as has been reported in prior years.



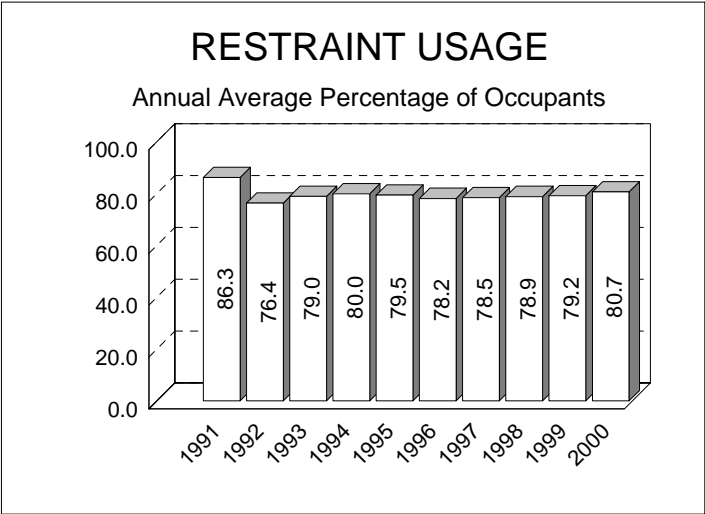
Mirroring the trend in deaths, HBD injuries have decreased over the last ten years. There were 10,444 injuries in 2000.



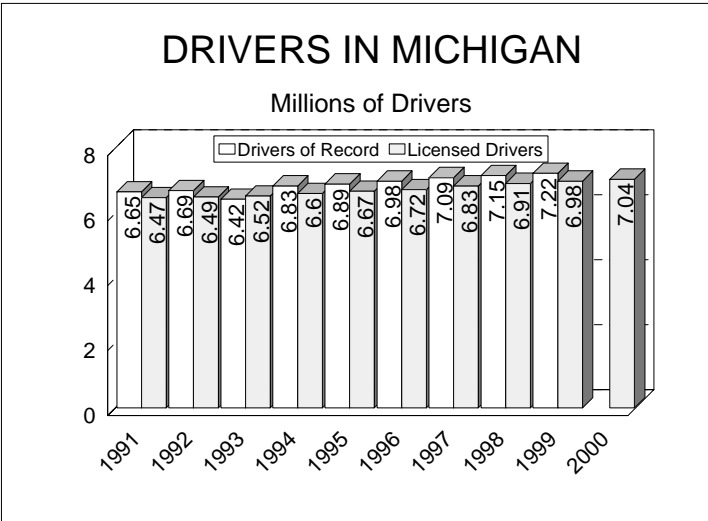
Alcohol involvement in fatal crashes has decreased 28.7 percent since 1991. In 2000, there were 407 HBD fatal crashes.

**CAUTION:** The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.

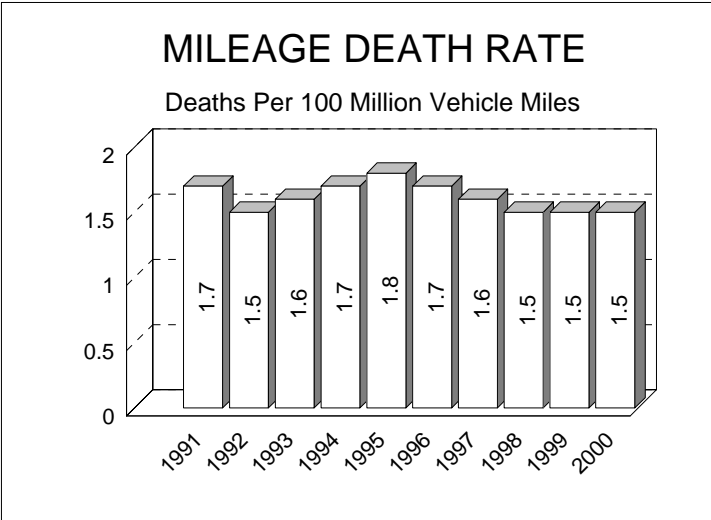
# 10 YEAR TRENDS (continued)



The percentage of motor vehicle occupants using restraints as reported by police in traffic crashes increased dramatically following implementation of Michigan's safety belt use law in July 1985. The ten-year average percentage is 79.7.



Drivers of Record data is no longer available from the Michigan Department of State. Beginning with this year's Michigan Traffic Crash Facts, we are using licensed drivers (as defined by the Michigan Department of State, Office of Policy and Planning) for the total number of drivers on Michigan Roads. For a definition of licensed drivers, please refer to the Glossary.

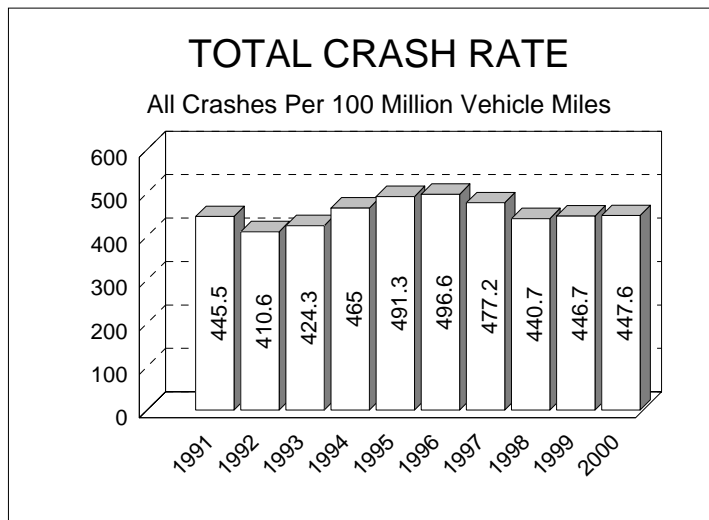


The 1.5 death rate in 2000 is an 11.8 percent decrease from 1991.

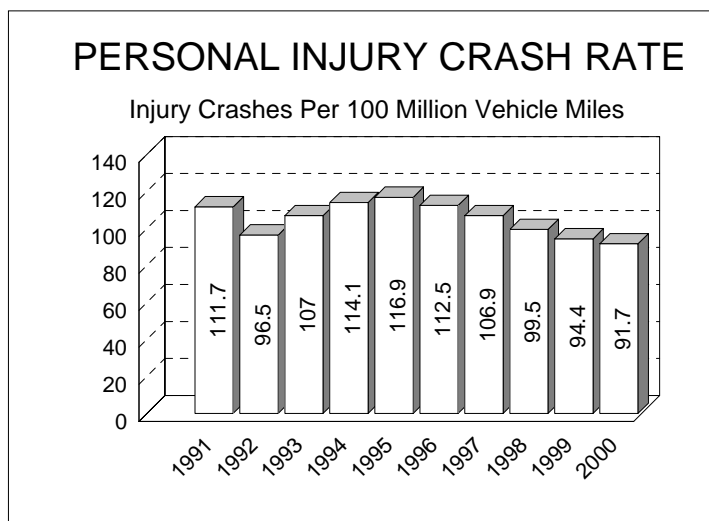
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



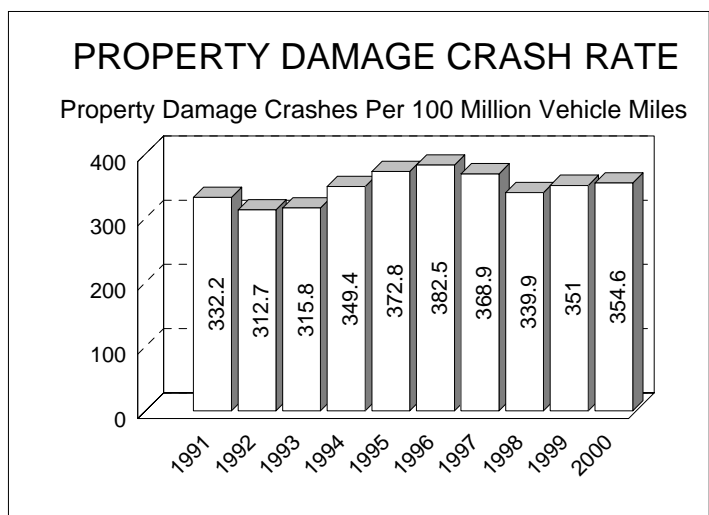
# 10 YEAR



The 447.6 total crash rate in 2000 is a 0.2 percent increase from 1999, and an 0.5 percent increase from 1991.



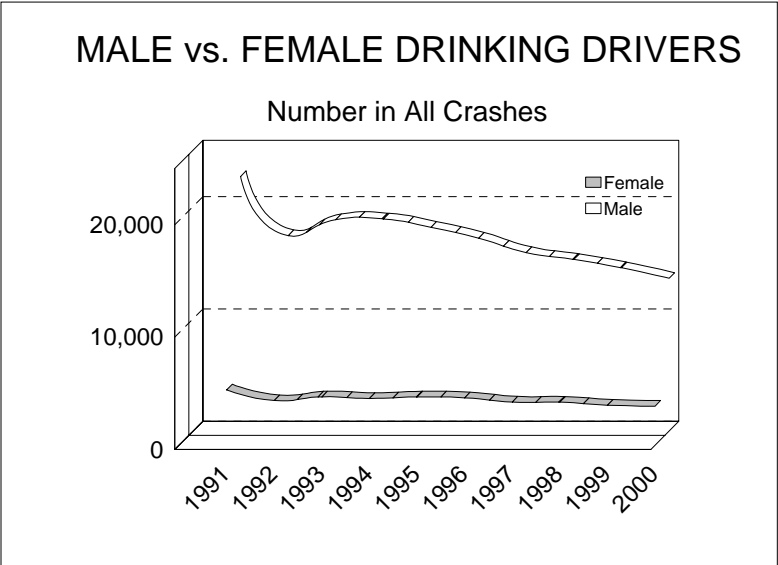
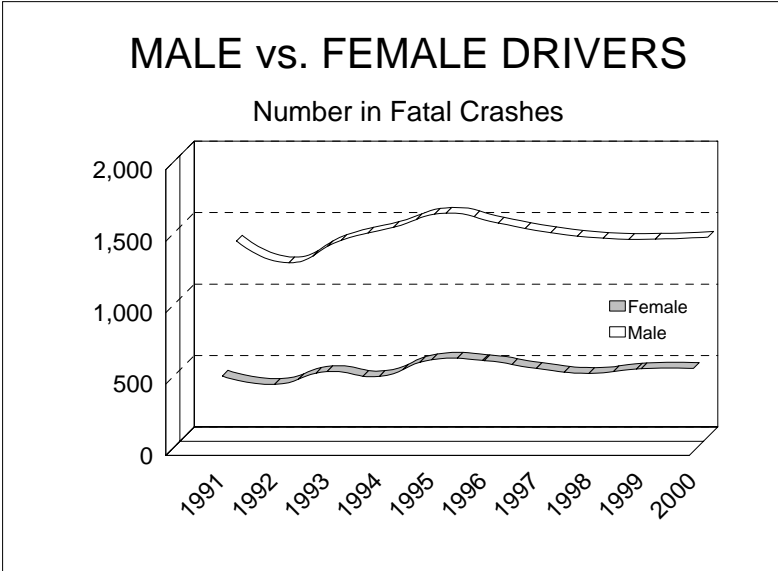
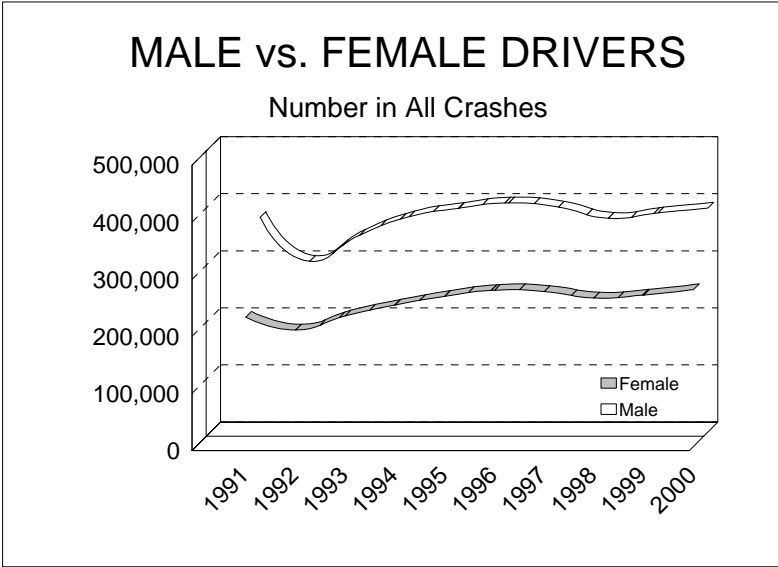
The 91.7 personal injury crash rate in 2000 is a 2.8 percent decrease from 1999, and a 17.9 percent decrease from 1991.



The 354.6 property damage crash rate in 2000 is a 1.0 percent increase from 1999, and a 6.7 percent increase from 1991.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR TRENDS (continued)



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

DRIVERS IN ALL CRASHES		
	Male	Female
1991	376,157	226,136
1992	299,006	203,795
1993	344,859	228,287
1994	377,212	247,333
1995	392,103	262,577
1996	401,350	273,361
1997	394,044	271,131
1998	374,505	259,843
1999	383,733	264,985
2000	392,347	274,675

The crash data collection form (UD-10) was changed in 1992. Prior to 1992, drivers whose gender was not identified were coded as male. 9.3% of all drivers were coded as unknown gender in 2000.

DRIVERS IN FATAL CRASHES		
	Male	Female
1991	1,371	526
1992	1,219	468
1993	1,376	557
1994	1,468	524
1995	1,566	640
1996	1,497	634
1997	1,430	580
1998	1,391	545
1999	1,385	578
2000	1,399	580

Male drivers make up 67.8 percent of all drivers in fatal crashes.

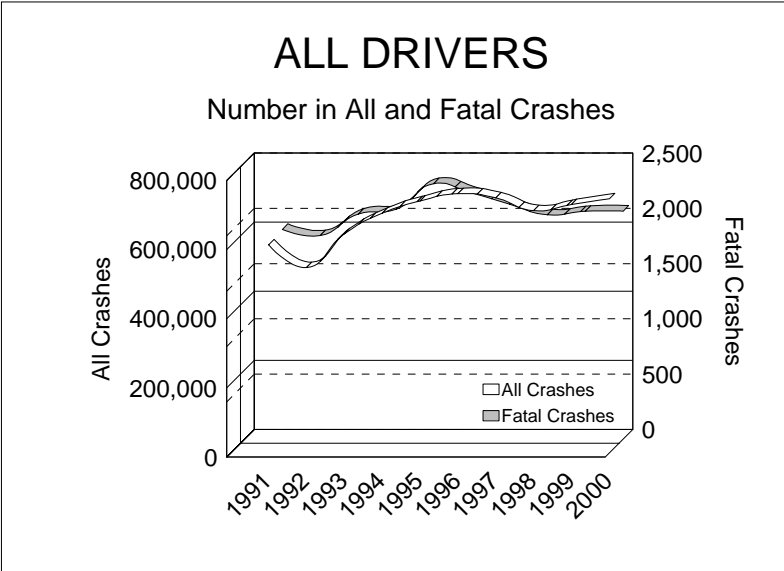
Female driver involvement in fatal crashes generally follows overall fatal crash trends.

DRINKING DRIVERS IN ALL CRASHES		
	Male	Female
1991	22,679	4,930
1992	17,414	3,976
1993	18,831	4,308
1994	18,889	4,163
1995	18,153	4,300
1996	17,186	4,225
1997	15,901	3,842
1998	15,280	3,833
1999	14,541	3,569
2000	13,609	3,474

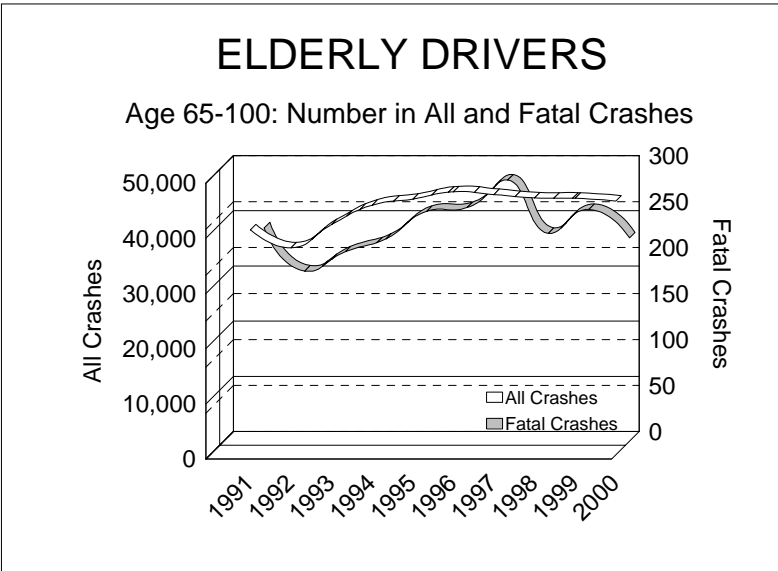
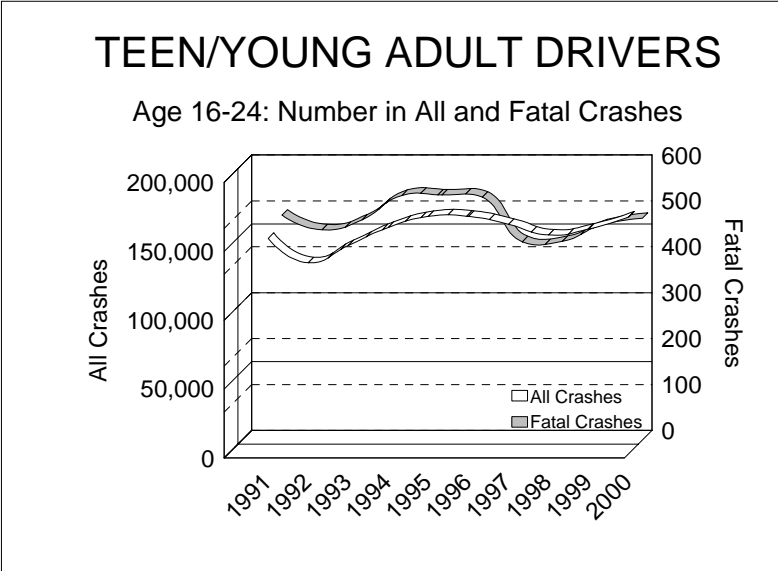
**Note:** The information provided for alcohol contains data for alcohol-related crashes only. This figure DOES NOT include the combined number for alcohol and drug related crashes as has been reported in prior years.

Males drivers have always accounted for the majority of all drinking drivers.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## 10 YEAR TRENDS (continued)



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

ALL DRIVERS		
	All Crashes	Fatal Crashes
1991	602,293	1,897
1992	536,279	1,841
1993	633,930	2,035
1994	693,575	2,078
1995	729,050	2,311
1996	750,103	2,226
1997	737,939	2,124
1998	701,056	2,029
1999	718,639	2,061
2000	735,664	2,062

Driver involvement in all crashes increased 22.1 percent over the ten-year period.

Driver involvement in fatal crashes increased 8.7 percent over the ten-year period.

TEEN/YOUNG ADULT DRIVERS		
	All Crashes	Fatal Crashes
1991	156,548	490
1992	138,781	458
1993	151,284	480
1994	164,421	533
1995	172,373	534
1996	172,442	529
1997	166,693	432
1998	158,887	433
1999	163,239	469
2000	172,059	483

Teen/young adult drivers (age 16-24) represent 14.8 percent of the licensed drivers in 2000.

The number of teen/young adult drivers in all crashes has increased by 9.9 percent since 1991. Their involvement in fatal crashes decreased 1.4 percent during the same time period.

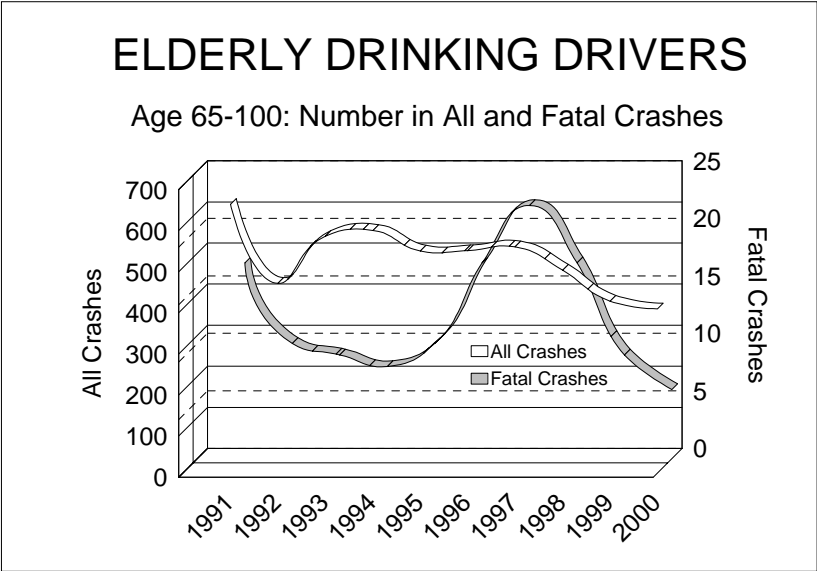
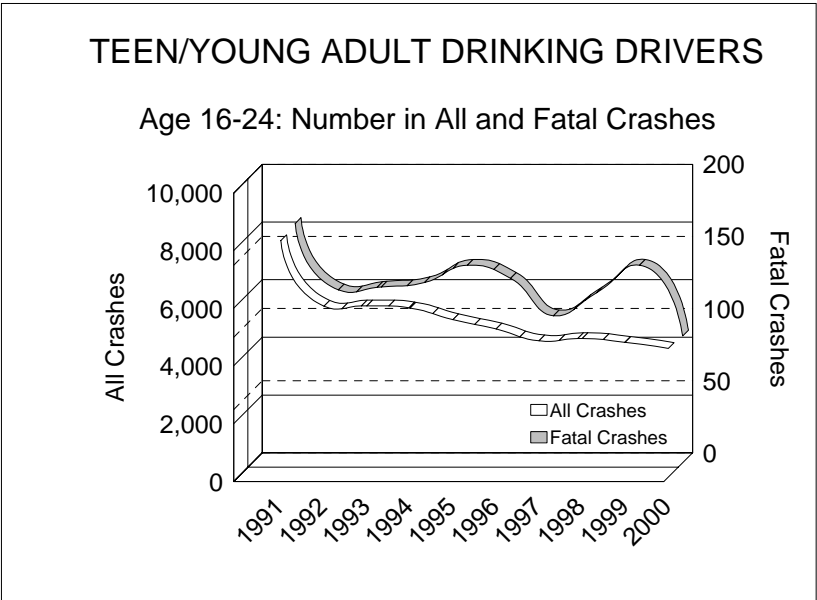
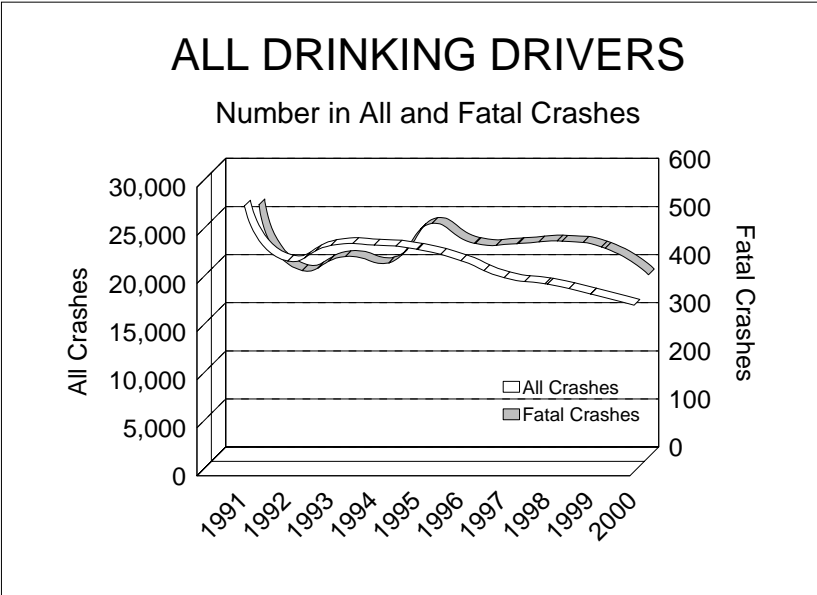
ELDERLY DRIVERS		
	All Crashes	Fatal Crashes
1991	40,795	232
1992	37,539	185
1993	41,753	206
1994	45,280	220
1995	46,371	250
1996	47,695	254
1997	47,190	284
1998	46,582	226
1999	46,519	252
2000	46,023	221

Elderly drivers (age 65-100) represent 14.1 percent of the licensed drivers in 2000.

The number of drivers age 65 and older in all crashes has increased 12.8 percent since 1991. Their involvement in fatal crashes decreased 4.7 percent during the same time period.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR TRENDS (continued)



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

DRINKING DRIVERS		
	All Crashes	Fatal Crashes
1991	27,609	525
1992	21,879	388
1993	23,500	417
1994	23,546	404
1995	23,097	486
1996	21,919	444
1997	20,139	444
1998	19,483	449
1999	18,469	434
2000	17,295	379

Drinking driver involvement in all crashes and fatal crashes continues to decrease.

**Note:** The information provided for alcohol contains data for alcohol-related crashes only. This figure DOES NOT include the combined number for alcohol and drug related crashes as has been reported in prior years.

TEEN/YOUNG ADULT DRINKING DRIVERS		
	All Crashes	Fatal Crashes
1991	8,210	166
1992	5,934	120
1993	5,947	122
1994	5,868	125
1995	5,461	137
1996	5,142	128
1997	4,731	102
1998	4,812	118
1999	4,676	137
2000	4,470	88

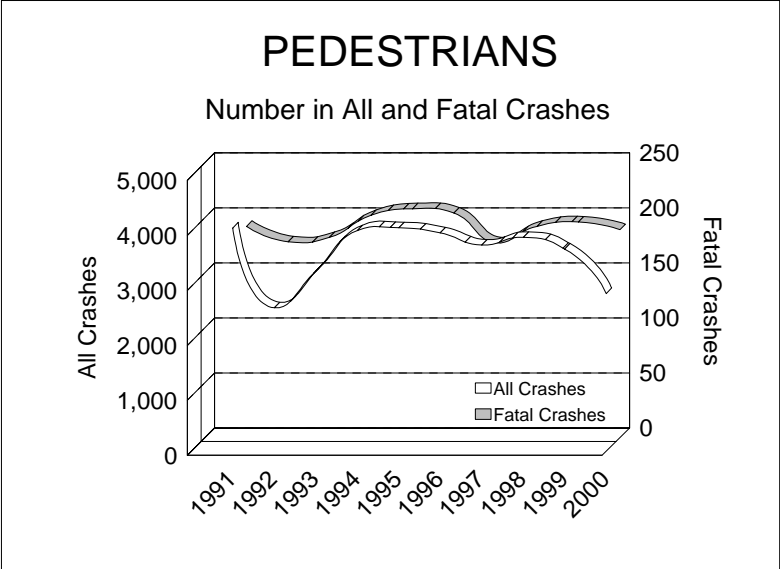
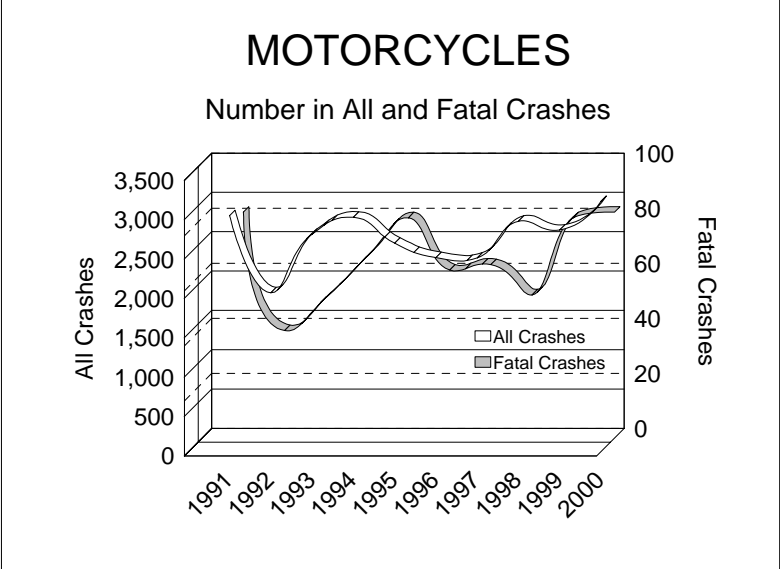
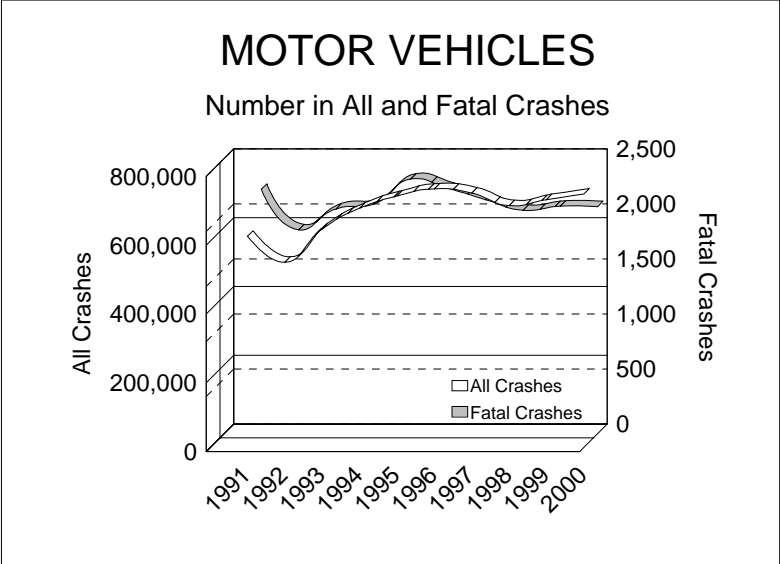
Following the trend for all drinking drivers, the number of teen/young adult drinking drivers in all crashes and fatal crashes continues to decrease.

ELDERLY DRINKING DRIVERS		
	All Crashes	Fatal Crashes
1991	654	17
1992	461	10
1993	576	9
1994	590	8
1995	540	10
1996	541	17
1997	550	22
1998	493	17
1999	418	9
2000	399	6

Following the trend for all drinking drivers, the number of elderly drinking drivers in all crashes and fatal crashes continues to decrease.

**CAUTION:** The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.

# 10 YEAR TRENDS (continued)



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



# 10 YEAR

MOTOR VEHICLES		
	All Crashes	Fatal Crashes
1991	613,936	2,220
1992	538,025	1,851
1993	635,711	2,042
1994	695,423	2,084
1995	730,952	2,313
1996	751,804	2,229
1997	739,538	2,126
1998	702,680	2,029
1999	720,393	2,066
2000	736,219	2,062

There has been a 7.1 percent decline in the number of motor vehicles involved in fatal crashes from 2,220 in 1991 to 2,062 in 2000.

MOTORCYCLES		
	All Crashes	Fatal Crashes
1991	3,001	82
1992	2,022	39
1993	2,768	51
1994	2,982	66
1995	2,651	80
1996	2,468	61
1997	2,465	63
1998	2,931	52
1999	2,820	80
2000	3,180	82

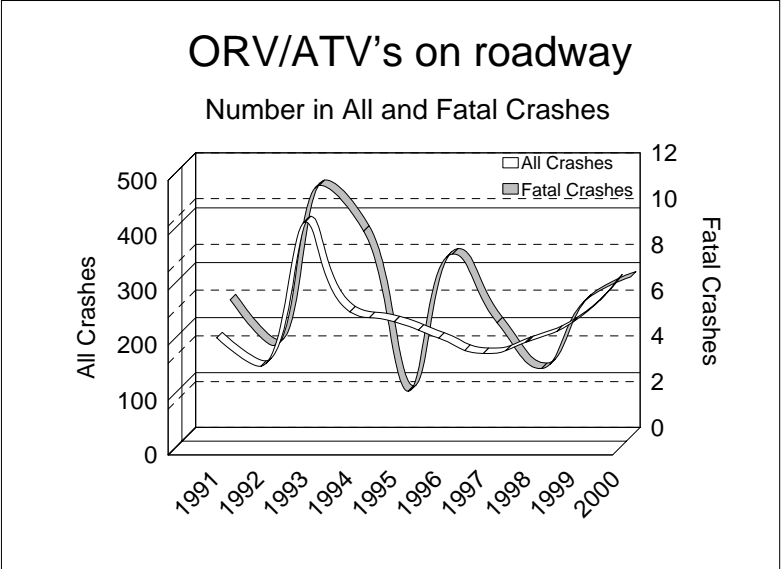
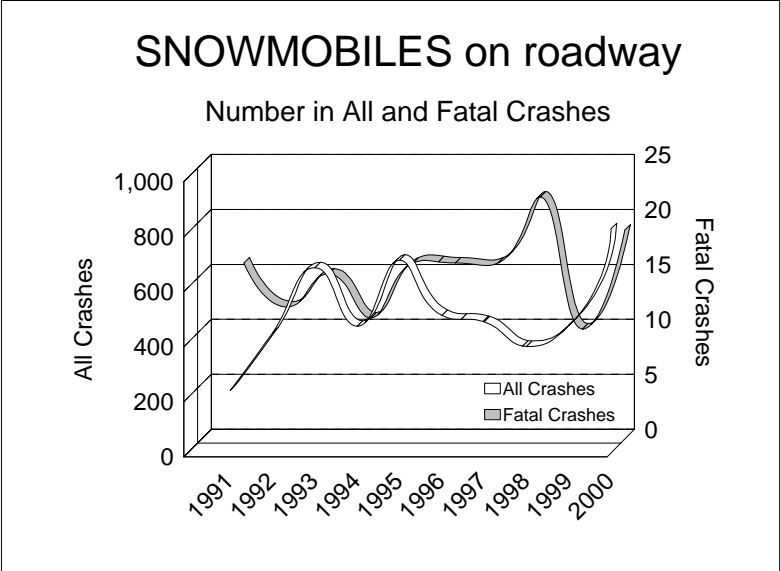
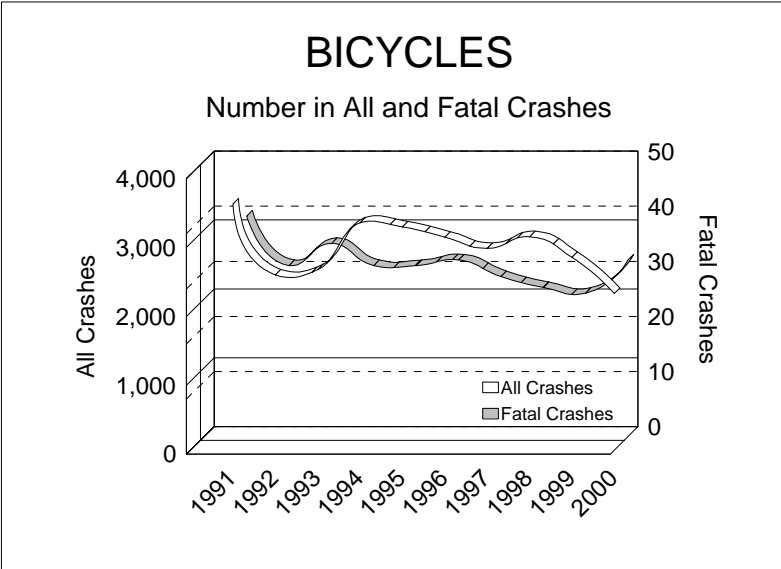
The number of motorcycles involved in fatal crashes has fluctuated over the ten-year period with a high of 82 in 1991 and again in 2000.

PEDESTRIANS		
	All Crashes	Fatal Crashes
1991	4,061	192
1992	2,609	178
1993	3,275	182
1994	4,014	202
1995	4,064	208
1996	3,971	204
1997	3,749	177
1998	3,891	192
1999	3,677	196
2000	2,868	189

There were 189 pedestrians involved in fatal crashes in 2000, up 6.8 percent from the ten-year low of 177 in 1997.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR TRENDS (continued)



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

<b>BICYCLES</b>		
	All Crashes	Fatal Crashes
1991	3,573	40
1992	2,544	31
1993	2,620	35
1994	3,298	31
1995	3,239	31
1996	3,091	32
1997	2,929	29
1998	3,097	27
1999	2,797	26
2000	2,271	32

There were 32 bicycles involved in fatal crashes in 2000.

<b>SNOWMOBILES on Michigan roadways</b>		
	All Crashes	Fatal Crashes
1991	227	16
1992	437	12
1993	673	15
1994	460	11
1995	700	16
1996	499	16
1997	476	16
1998	387	22
1999	463	10
2000	815	19

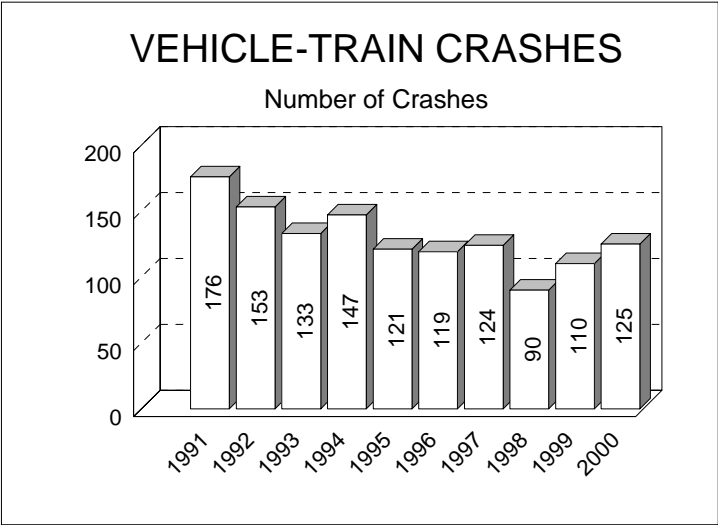
The number of snowmobiles involved in all crashes on Michigan public roadways has increased by 259.0 percent over the ten-year period.

<b>ORV/ATV's on Michigan roadways</b>		
	All Crashes	Fatal Crashes
1991	206	6
1992	154	4
1993	417	11
1994	253	9
1995	235	2
1996	205	8
1997	177	5
1998	199	3
1999	234	6
2000	311	7

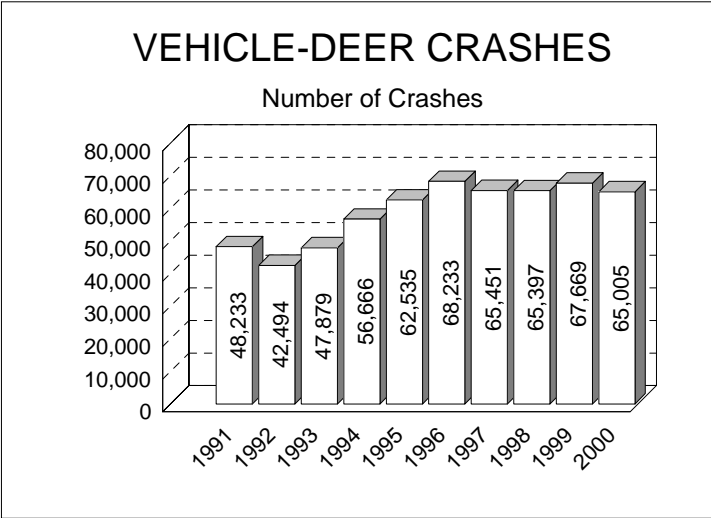
There were 7 ORV/ATV's involved in fatal crashes on Michigan public roadways in 2000.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

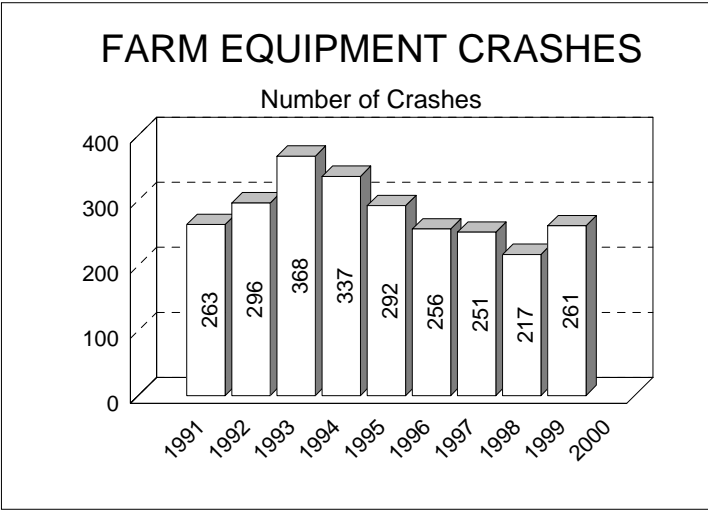
# 10 YEAR TRENDS (continued)



125 vehicle-train crashes occurred in 2000, a decrease of 29.0 percent in the ten-year period.



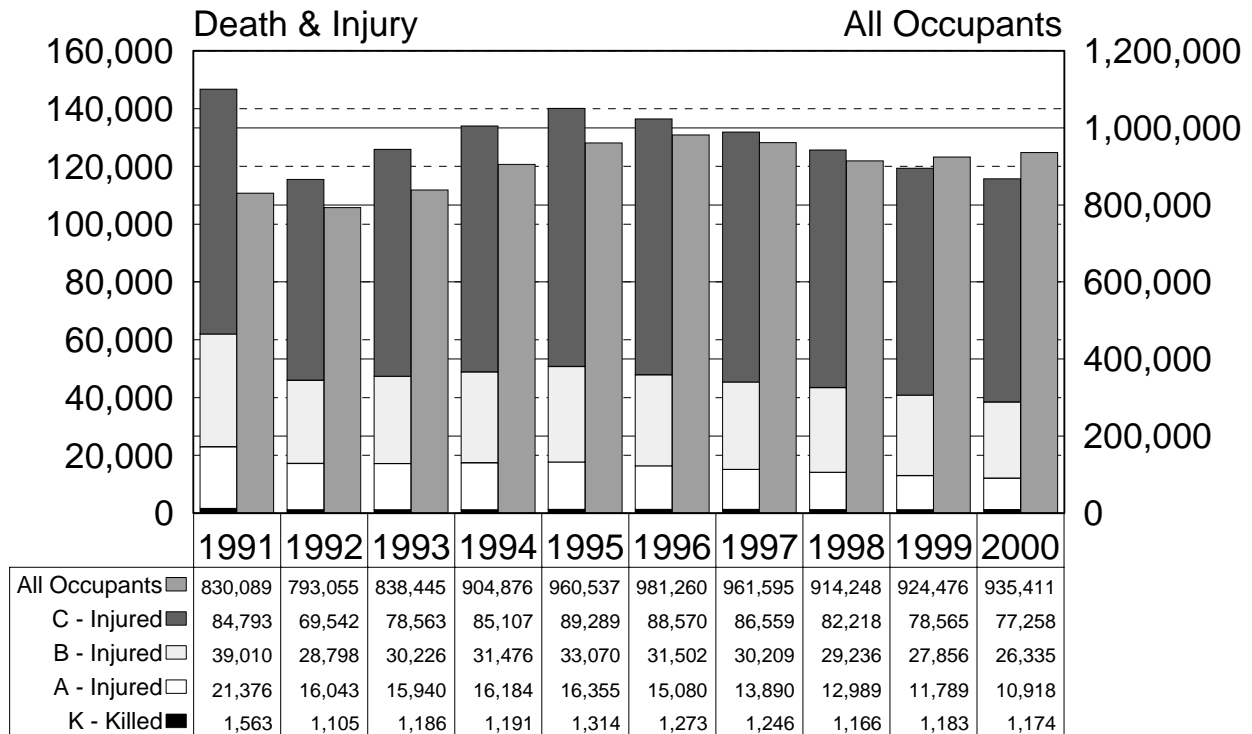
There has been a 34.8 percent rise from 48,233 vehicle-deer crashes in 1991 to 65,005 in 2000.



Data not available for calendar year 2000 farm equipment crashes. Please refer to the preface for details.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## DEATH AND INJURY PER CRASH INVOLVED OCCUPANT

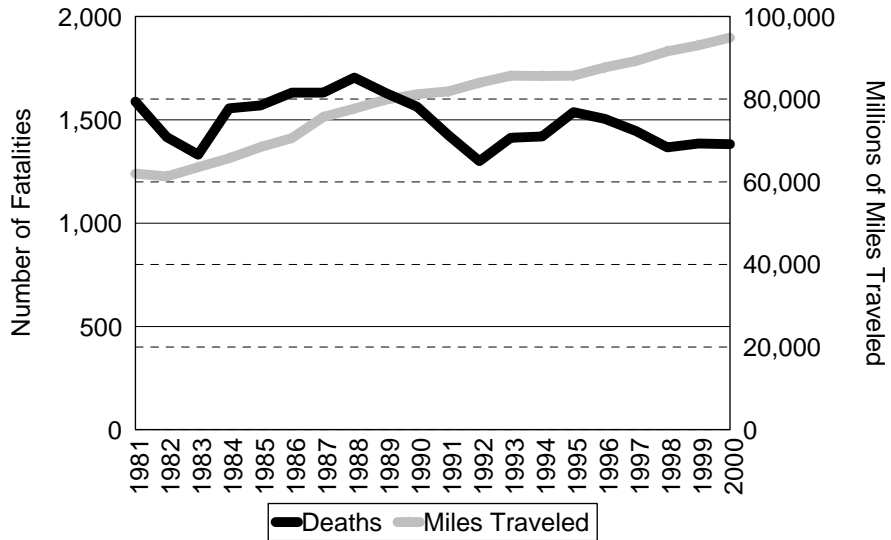


The proportion of death and injury to crash involved occupants has decreased over the last ten years. In 2000, 1,174 occupants of motor vehicles were fatally injured, 10,918 suffered an A (incapacitating) injury, 26,335 sustained a B (nonincapacitating) injury, and 77,258 sustained a C (possible) injury.

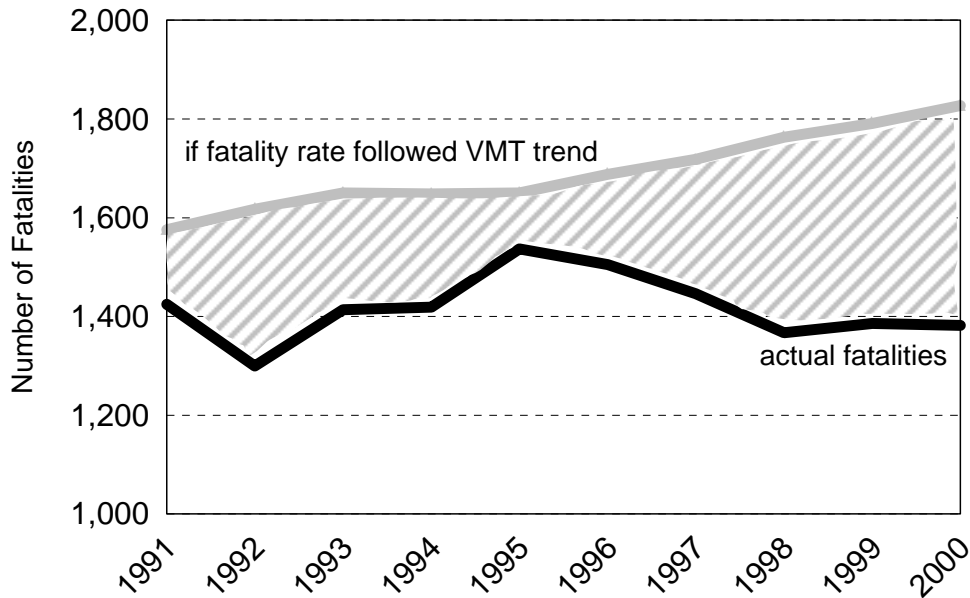
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR

## FATALITIES AND VMT TRENDS

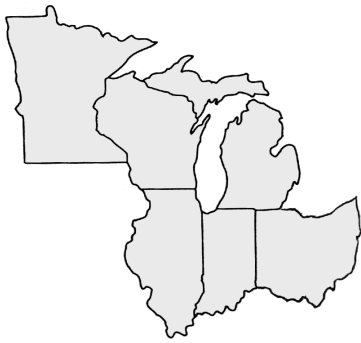


## 10 Year Highlight



In the 1980's, the number of fatalities had been steadily increasing, following the VMT trend. A dramatic reversal in the fatality rate began in 1989. A projection of losses that would have been incurred if the fatality rate had continued to follow the VMT trend is provided above.

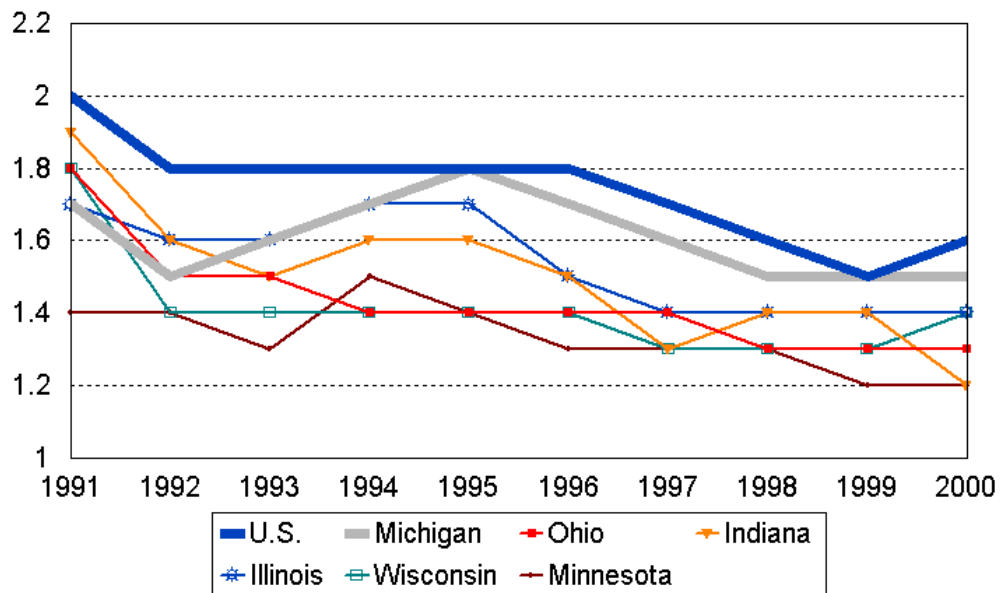
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



# 10 YEAR

## MILEAGE DEATH RATES 1991 - 2000

Comparison - Michigan to U.S. and Surrounding States



The chart above shows the reduction in mileage death rates (motor vehicle traffic deaths per 100,000,000 vehicle miles) for Michigan, its neighboring states and the U.S. over the last ten years.

	U.S.	Michigan	Ohio	Indiana	Illinois	Wisconsin	Minnesota
1991	2.0	1.7	1.8	1.9	1.7	1.8	1.4
1992	1.8	1.5	1.5	1.6	1.6	1.4	1.4
1993	1.8	1.6	1.5	1.5	1.6	1.4	1.3
1994	1.8	1.7	1.4	1.6	1.7	1.4	1.5
1995	1.8	1.8	1.4	1.6	1.7	1.4	1.4
1996	1.8	1.7	1.4	1.5	1.5	1.4	1.3
1997	1.7	1.6	1.4	1.3	1.4	1.3	1.3
1998	1.6	1.5	1.3	1.4	1.4	1.3	1.3
1999	1.5	1.5	1.3	1.4	1.4	1.3	1.2
2000	1.6	1.5	1.3	1.2	1.4	1.4	1.2

U.S. data for this table and tables on the following page were provided by the National Safety Council [3]. State data for this table and tables on the following page were provided by Ohio [4], Indiana [5], Illinois [6], Wisconsin [7], and Minnesota [8].

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 10 YEAR



## MICHIGAN AND SURROUNDING STATES COMPARISON OF FATALITIES AND VMT

Year	U.S. Persons Killed	Michigan Persons Killed	Ohio Persons Killed	Indiana Persons Killed	Illinois Persons Killed	Wisconsin Persons Killed	Minnesota Persons Killed
1991	43,536	1,425	1,635	1,022	1,448	795	531
1992	40,982	1,300	1,440	901	1,384	645	581
1993	41,893	1,414	1,484	901	1,392	703	538
1994	42,700	1,419	1,368	974	1,554	706	644
1995	43,900	1,537	1,357	960	1,586	739	597
1996	43,300	1,505	1,395	982	1,477	759	576
1997	43,200	1,446	1,439	936	1,393	721	600
1998	41,200	1,367	1,423	978	1,393	709	650
1999	41,300	1,386	1,430	1,017	1,456	744	626
2000	43,000	1,382	1,361	875	1,418	801	625

Based on provisional numbers, the National Safety Council estimates a national increase in traffic fatalities of 4.1 percent between 1999 (41,300) and 2000 (43,000).

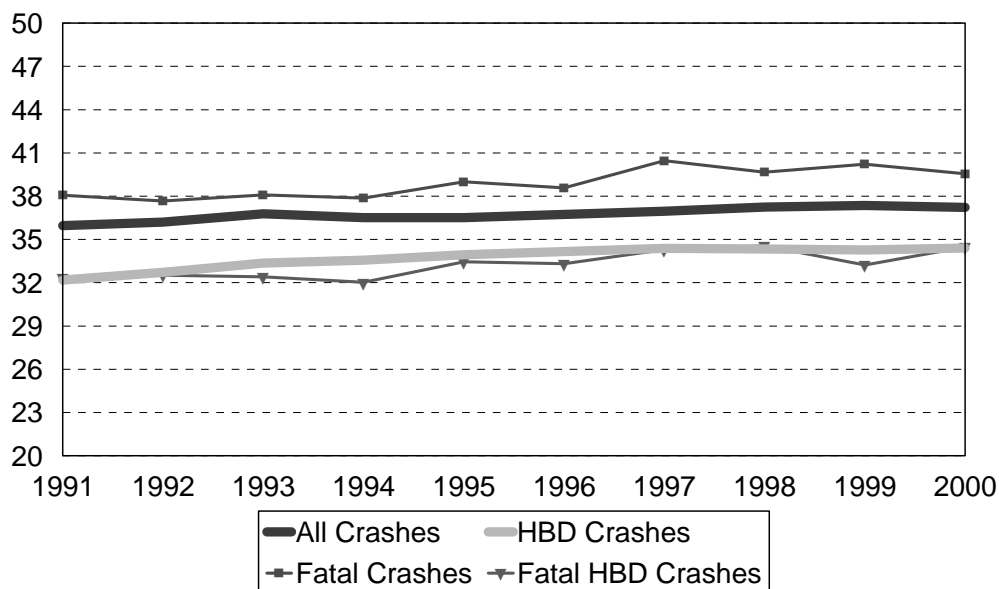
Year	U.S. VMT	Michigan VMT	Ohio VMT	Indiana VMT	Illinois VMT	Wisconsin VMT	Minnesota VMT
1991	2,172	81.9	93.0	54.3	85.7	45.5	39.3
1992	2,240	84.0	95.2	57.1	87.9	47.5	41.3
1993	2,289	85.7	97.5	60.5	89.8	48.8	42.3
1994	2,347	85.6	99.0	62.1	92.1	50.3	43.4
1995	2,405	85.7	99.7	62.0	94.3	51.4	44.1
1996	2,467	87.7	102.8	66.0	96.9	52.6	45.2
1997	2,531	89.2	104.8	70.4	98.7	53.7	46.9
1998	2,618	91.6	106.0	70.7	100.9	56.0	48.5
1999	2,679	93.1	106.4	71.5	101.8	57.0	50.7
2000	2,688	94.9	106.5	72.3	102.9	57.3	52.4

VMT described in billions of miles

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## AVERAGE AGE OF DRIVERS IN CRASHES 1991 - 2000



Reflecting the demographic trend of increasing age in the general population, the average age of crash-involved drivers has also increased. An aging driving population has implications for law enforcement prioritizing, highway design, traffic signing considerations, and Emergency Medical System procedures.

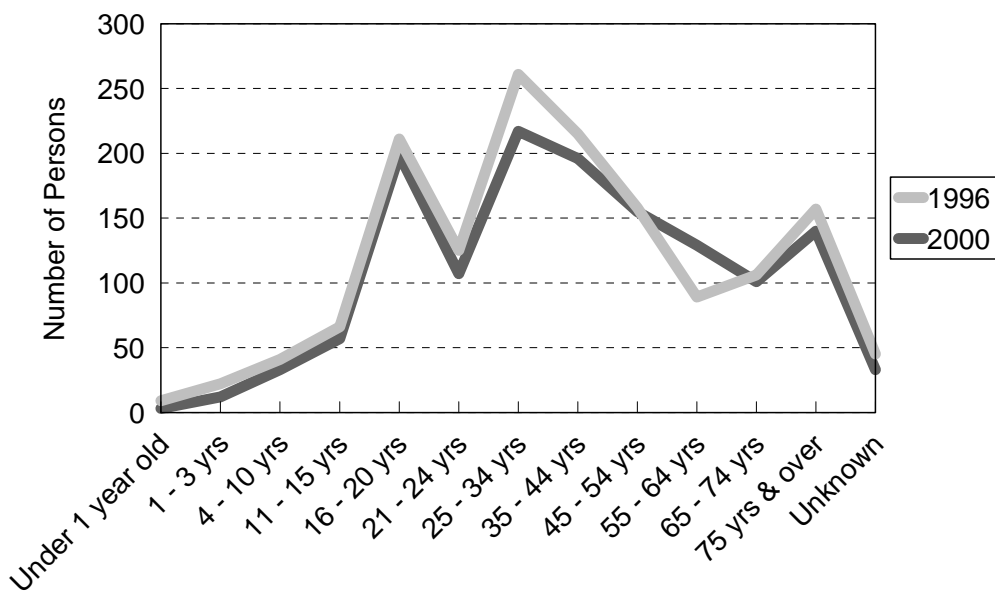
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## TREND DATA FOR FATALITIES

TREND DATA FOR FATALITIES	1996	1997	1998	1999	2000
Age of Persons Killed, Total					
Under 1 year old	9	1	3	4	3
1 - 3 years	22	13	14	19	12
4 - 10 years	41	43	44	34	33
11 - 15 years	66	42	46	48	57
16 - 20 years	211	168	171	153	199
21 - 24 years	125	103	117	129	107
25 - 34 years	261	245	219	215	217
35 - 44 years	215	174	213	231	196
45 - 54 years	158	133	166	172	155
55 - 64 years	89	86	99	100	129
65 - 74 years	106	111	99	93	101
75 years and over	157	158	147	150	140
Unknown	45	169	29	38	33
Totals	1,505	1,446	1,367	1,386	1,382

Age of Persons Killed, Total



The chart above shows the total number of deaths in motor vehicle crashes in Michigan by age, comparing 1996 with 2000.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 5

## YEAR

TREND DATA FOR FATALITIES	1996	1997	1998	1999	2000
<b>Age of Drivers Involved in Fatal Crashes</b>					
13 years and under	2	1	2	2	0
14 years	3	4	2	2	3
15 years	0	7	10	7	8
16 years	55	58	42	37	49
17 years	58	43	53	55	66
18 years	70	72	52	63	69
19 years	59	52	61	59	63
20 years	61	39	54	51	53
21 - 24 years	226	168	171	204	183
25 - 34 years	501	463	410	378	398
35 - 44 years	392	347	374	376	317
45 - 54 years	254	239	261	264	278
55 - 64 years	108	156	149	145	178
65 - 69 years	66	72	58	56	50
70 - 74 years	58	64	52	65	60
75 - 79 years	50	64	55	57	41
80 - 84 years	48	51	39	42	42
85 - 89 years	22	30	16	22	24
90 years and over	10	3	6	10	4
Unknown	183	191	162	166	176
Totals	2,226	2,124	2,029	2,061	2,062

<b>Age of Drivers Involved in Single Vehicle Fatal Crashes</b>					
13 years and under	1	0	1	2	0
14 years	0	3	2	2	3
15 years	0	4	4	2	3
16 years	20	23	12	12	15
17 years	19	18	18	21	25
18 years	21	30	19	19	26
19 years	21	14	24	18	20
20 years	22	10	21	21	15
21 - 24 years	79	46	65	72	74
25 - 34 years	128	149	127	118	127
35 - 44 years	104	87	104	108	82
45 - 54 years	49	54	75	73	67
55 - 64 years	29	35	35	24	40
65 - 69 years	17	19	17	12	8
70 - 74 years	12	12	9	9	11
75 - 79 years	16	10	8	9	11
80 - 84 years	11	7	9	4	4
85 - 89 years	2	3	0	6	0
90 years and over	1	2	0	1	0
Unknown	49	35	34	39	32
Totals	601	561	584	572	563

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 5 YEAR

TREND DATA FOR FATALITIES	1996	1997	1998	1999	2000
<b>Age of Bicyclists Killed</b>					
Under 1 year old	0	0	0	0	0
1 - 3 years	0	0	0	0	0
4 - 10 years	3	5	6	1	5
11 - 15 years	9	5	5	11	9
16 - 20 years	1	2	0	2	1
21 - 24 years	1	0	1	1	0
25 - 34 years	6	4	4	0	4
35 - 44 years	4	2	5	4	1
45 - 54 years	3	5	3	3	3
55 - 64 years	2	0	0	2	3
65 - 74 years	2	3	1	0	2
75 years and over	1	3	2	1	1
Unknown	0	0	0	0	0
Totals	32	29	27	25	29

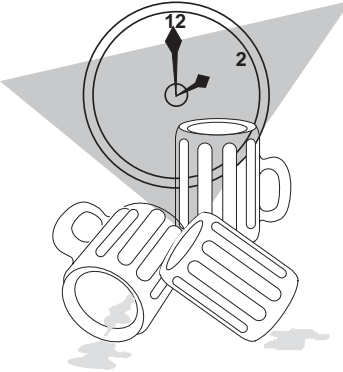
<b>Age of Pedestrians Killed</b>					
Under 1 year old	1	0	0	1	0
1 - 3 years	5	1	6	8	6
4 - 10 years	14	16	17	20	11
11 - 15 years	10	9	9	7	10
16 - 20 years	11	10	9	6	8
21 - 24 years	5	8	4	6	9
25 - 34 years	26	27	22	25	11
35 - 44 years	35	32	30	37	45
45 - 54 years	35	26	20	31	31
55 - 64 years	22	6	15	15	12
65 - 74 years	12	17	14	8	12
75 years and over	14	14	25	12	13
Unknown	2	1	1	0	0
Totals	192	167	172	176	168

<b>Action of Pedestrians Killed</b>					
Crossing at intersection	22	14	16	10	21
Cross not at intersection	65	72	80	66	62
Getting on/off vehicle	1	1	1	4	1
In road with traffic	26	19	13	15	19
In road against traffic	1	4	3	9	6
Standing or lying in road	21	13	14	17	15
Pushing/working on vehicle	2	3	1	2	1
Other working in road	1	1	0	0	4
Playing in road	1	3	3	2	0
In road for other reason	15	7	8	12	10
Not in road	10	10	9	20	13
Other/Unknown	27	20	24	19	16
Totals	192	167	172	176	168

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 5 YEAR

## FATAL CRASHES AND PERSONS KILLED FOR SELECTED HOLIDAY PERIODS IN MICHIGAN

HOLIDAY PERIOD	Fatal Crashes	Persons Killed	SUMMARY 2000
Memorial Day 2000 (3) MON 1999 (3) MON 1998 (3) MON 1997 (3) MON 1996 (3) MON	18 [11] 15 [9] 18 [7] 14 [8] 10 [7]	18 [11] 17 [10] 21 [8] 16 [9] 11 [7]	<p>This table shows traffic death tolls in Michigan for the past five years for the major holiday periods.</p> <p>Based on the <i>total 2000</i> experience, deaths averaged <b>3.78</b> per day. Alcohol-related deaths averaged <b>1.25</b> per day.</p> <p>Based on the <i>2000 holiday period</i> experience, deaths averaged <b>5.1</b> per day. Alcohol-related deaths averaged <b>2.0</b> per day.</p> 
Fourth of July 2000 (4) TUE 1999 (3) SUN 1998 (3) SAT 1997 (3) FRI 1996 (4) THU	14 [3] 15 [8] 15 [9] 14 [9] 24 [8]	21 [3] 15 [8] 16 [10] 16 [10] 27 [8]	
Labor Day 2000 (3) MON 1999 (3) MON 1998 (3) MON 1997 (3) MON 1996 (3) MON	20 [11] 18 [12] 20 [13] 15 [8] 21 [15]	27 [14] 21 [14] 22 [13] 19 [10] 27 [20]	
Thanksgiving 2000 (4) THU 1999 (4) THU 1998 (4) THU 1997 (4) THU 1996 (4) THU	11 [5] 20 [9] 19 [10] 18 [6] 18 [8]	12 [5] 22 [9] 22 [10] 20 [6] 23 [8]	
Christmas 2000 (3) MON 1999 (3) SAT 1998 (3) FRI 1997 (4) THU 1996 (1) WED	10 [2] 12 [6] 8 [2] 11 [3] 4 [0]	11 [2] 16 [6] 8 [2] 13 [3] 6 [0]	
New Years 2000 (3) MON 1999 (3) SAT 1998 (3) FRI 1997 (4) THU 1996 (1) WED	12 [5] 19 [10] 12 [2] 18 [8] 4 [0]	13 [5] 22 [12] 12 [2] 21 [11] 5 [0]	

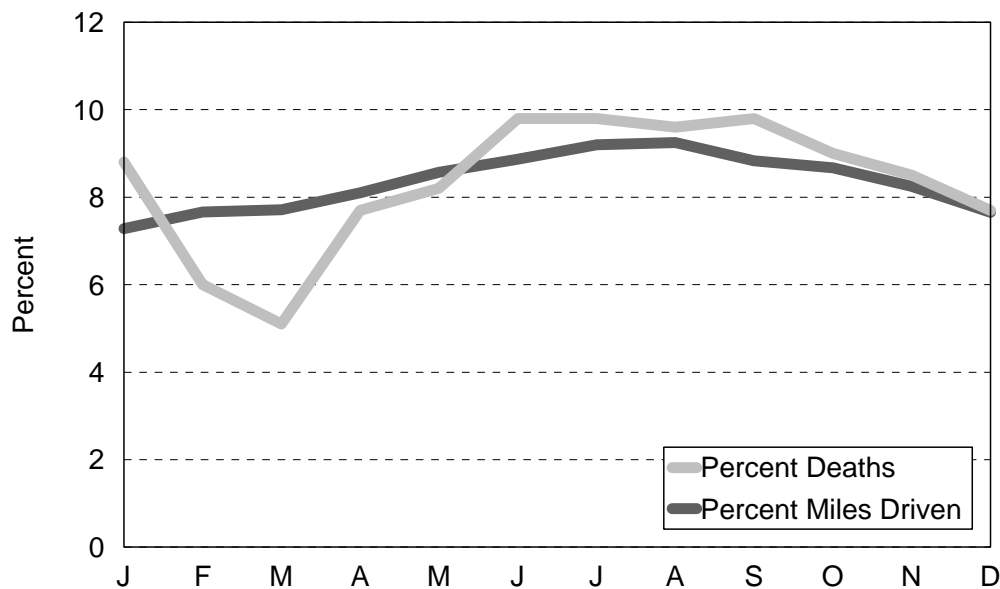
Figures in parentheses in the 1<sup>st</sup> column show number of full days in each holiday period. Deaths are for these days plus six hours of the preceding day.  
Figures in brackets in the 2<sup>nd</sup> and 3<sup>rd</sup> columns show the number of alcohol-related fatal crashes and deaths.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## MOTOR VEHICLE DEATHS AND MILEAGE BY MONTH

Month	TRAFFIC DEATHS					2000 PERCENTAGES	
	1996	1997	1998	1999	2000	Percent Deaths	Percent Miles Driven
January	131	102	116	76	121	8.8	7.28
February	98	106	71	84	83	6.0	7.66
March	103	85	97	92	70	5.1	7.71
April	98	80	91	98	107	7.7	8.10
May	128	128	113	125	114	8.2	8.57
June	135	140	120	116	136	9.8	8.87
July	146	166	133	128	135	9.8	9.20
August	121	130	116	160	133	9.6	9.25
September	138	128	123	128	135	9.8	8.83
October	135	134	126	129	124	9.0	8.67
November	136	125	117	130	118	8.5	8.25
December	136	122	144	120	106	7.7	7.65
Totals	1,505	1,446	1,367	1,386	1,382	100.0	100.0

Percent Deaths & Percent Miles Driven



The above chart shows that the *percent deaths* were lower for the months of February, March, April and May than for the other months in 2000 when compared to the *percent miles driven*.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





## 1999 - 2000 SUMMARY TRENDS

- ★ Michigan experienced a **0.3** percent decrease in traffic fatalities, as well as a **2.2** percent decrease in injuries and a **2.2** percent increase in crashes.
- ★ Deaths among vehicle occupants (drivers and passengers) decreased **1.5** percent.
- ★ Persons sustaining "A" level injuries (the most serious) decreased **8.0** percent.

	1999	2000	% CHANGE
<b>NUMBER OF CRASHES</b>			
Fatal Crashes .....	1,249	1,237	-1.0
Personal Injury Crashes .....	87,820	87,043	-0.9
Property Damage Crashes .....	326,606	336,572	3.1
<b>Total</b>	<b>415,675</b>	<b>424,852</b>	<b>2.2</b>
<b>ALCOHOL-INVOLVED CRASHES</b>			
Fatal Crashes .....	484	407	
Personal Injury Crashes .....	8,058	7,222	
Property Damage Crashes .....	10,053	9,686	
<b>Total</b>	<b>18,595</b>	<b>17,315</b>	
<b>ALCOHOL-INVOLVED FATAL CRASHES</b>			
Had Been Drinking (HBD) .....	484 (38.8)	407 (32.9)	
Had Not (HNBD)/Not Known If Drinking .....	765 (61.2)	830 (67.1)	
<b>PERSONS IN CRASHES</b>			
Killed .....	1,386	1,382	-0.3
Injured .....	124,601	121,826	-2.2
Not Injured .....	560,035	578,140	3.2
Unknown Injury .....	74,855	73,771	-1.4
<b>Total</b>	<b>760,877</b>	<b>775,119</b>	<b>1.9</b>
<b>PERSONS IN ALCOHOL-INVOLVED CRASHES</b>			
Killed .....	541	459	
Injured .....	11,830	10,444	
Not Injured .....	17,745	16,869	
Unknown Injury .....	2,302	2,084	
<b>Total</b>	<b>32,418</b>	<b>29,856</b>	
<b>PERSONS INJURED BY GENDER</b>			
Male .....	60,565	58,905	-2.7
Female .....	64,036	62,921	-1.7
<b>Total</b>	<b>124,601</b>	<b>121,826</b>	<b>-2.2</b>
<b>PERSONS INJURED BY SEVERITY</b>			
"A" Injury .....	13,002	11,956	-8.0
"B" Injury .....	30,259	29,090	-3.9
"C" Injury .....	81,340	80,780	-0.7
<b>Total</b>	<b>124,601</b>	<b>121,826</b>	<b>-2.2</b>

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# 1

## YEAR

### 1999 - 2000 SUMMARY TRENDS (continued)

	1999	2000	% CHANGE
<b>PERSONS KILLED BY GENDER</b>			
Male .....	909	915	0.7
Female .....	477	467	-2.1
<b>Total</b>	<b>1,386</b>	<b>1,382</b>	<b>-0.3</b>
<b>PERSONS KILLED</b>			
Driver .....	764	729	-4.6
Passenger .....	308	327	6.2
Pedestrian .....	176	168	-4.5
Bicyclist .....	25	29	16.0
Motorcyclist .....	77	78	1.3
Farm Equipment .....	0	6	---
Train Engineer .....	0	0	---
Snowmobile .....	10	17	70.0
ORV/ATV .....	4	8	100.0
Other/Unknown .....	22	20	-9.1
<b>Total</b>	<b>1,386</b>	<b>1,382</b>	<b>-0.3</b>
<b>RESTRAINT USE BY DRIVER</b>			
“Reported Restrained” - Killed .....	314	346	10.2
“Reported Not Restrained” - Killed .....	370	293	-20.8
“Reported Restrained” - Injured .....	69,020	69,466	0.6
“Reported Not Restrained” - Injured .....	8,134	5,488	-32.5
<b>RESTRAINT USE BY INJURED PASSENGER</b>			
“Reported Restrained” -Killed .....	116	156	34.5
“Reported Not Restrained” - Killed.....	170	133	-21.8
“Reported Restrained” - Injured .....	23,301	23,793	2.1
“Reported Not Restrained” - Injured .....	6,510	4,676	-28.2
<b>DRIVER AGE 16-19 INVOLVED</b>			
Fatal Crashes .....	204	230	12.7
Personal Injury Crashes .....	19,710	19,440	-1.4
Property Damage Crashes .....	56,295	59,534	5.8
<b>Total All Crashes</b>	<b>76,209</b>	<b>79,204</b>	<b>3.9</b>
Persons Killed .....	228	272	19.3
Persons Injured .....	30,113	28,989	-3.7
<b>DRIVER AGE 65 &amp; OVER INVOLVED</b>			
Fatal Crashes .....	239	215	-10.0
Personal Injury Crashes .....	10,943	10,629	-2.9
Property Damage Crashes .....	33,233	33,098	-0.4
<b>Total All Crashes</b>	<b>44,415</b>	<b>43,942</b>	<b>-1.1</b>
Persons Killed .....	265	238	-10.2
Persons Injured .....	16,413	15,796	-3.8

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## MORE MICHIGAN CRASH FACTS

CRASH FACTS	1999	2000	% Change
Licensed Drivers	6,975,495	7,040,412	0.9
Registered Vehicles in Michigan	8,407,868	8,569,124	1.9
Michigan Population	9,863,775	9,938,444	0.8
Drivers Involved in Crashes	718,639	735,664	2.4
Vehicles Involved in Crashes	720,393	736,219	2.2
Injured Occupants Involved in Crashes	924,476	935,411	1.2
Estimated MV Mileage Traveled (thousands)	93,060,302	94,915,070	2.0
Death Rate Per 100 Million Vehicle Miles	1.5	1.5	0.0
Fatal Crash Rate Per 100 Million Veh Miles	1.3	1.3	0.0

Vehicle mileage increased 2.0 percent and the death rate per 100 million vehicle miles remained at 1.5.



## 2000 COST OF CRASHES IN MICHIGAN

The cost estimate for Michigan crashes in 2000 is **\$9,746,000,000**. This estimate is based on the National Safety Council's cost estimating procedures. Average comprehensive costs are based on the following figures:

Comprehensive Costs, 2000	
Death .....	\$3,214,290
Incapacitating injury .....	\$159,449
Nonincapacitating evident injury .....	\$41,027
Possible injury .....	\$19,528
No injury .....	\$1,861

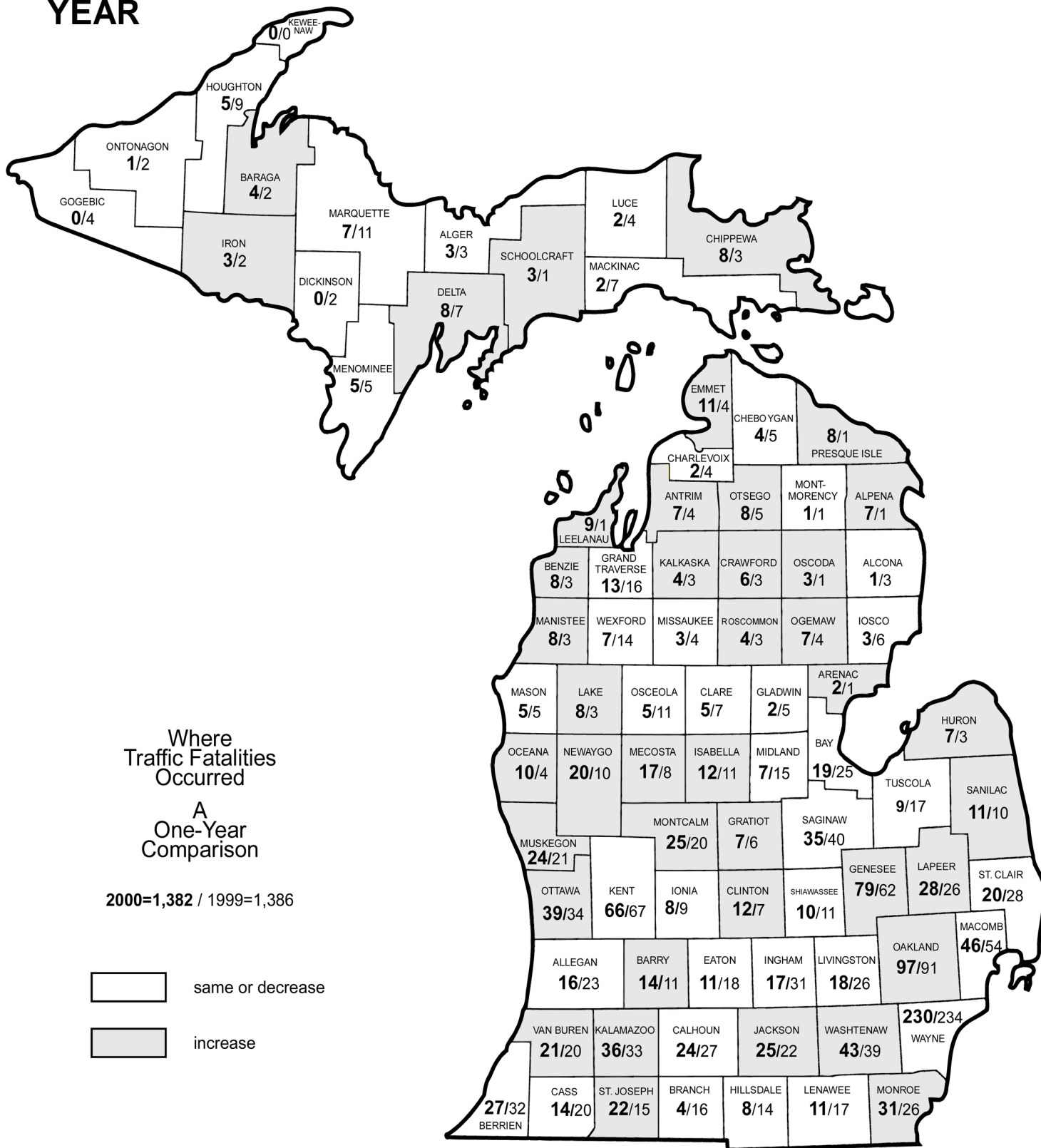
These cost estimates are not intended for comparisons to previous years.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

1

WHERE TRAFFIC FATALITIES OCCURRED

YEAR



CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.

# MOTOR VEHICLE TRAFFIC DEATHS IN MICHIGAN BY MONTH

Revised December 18, 2006

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1949	101	82	160	91	110	99	116	138	169	144	149	136	1,441
1950	105	84	87	139	122	125	153	152	157	174	154	153	1,605
1951	131	103	103	117	119	137	170	163	158	146	160	133	1,640
1952	81	121	125	94	145	169	140	184	181	152	166	178	1,736
1953	139	116	136	132	134	173	176	183	187	187	167	175	1,905
1954	130	126	100	119	149	132	182	167	168	167	153	200	1,793
1955	134	117	116	160	157	192	169	209	160	204	208	190	2,016
1956	166	136	132	140	133	115	149	159	169	144	145	158	1,746
1957	121	98	118	118	130	122	127	152	123	143	135	161	1,548
1958	94	90	95	89	92	112	120	134	132	113	165	146	1,382
1959	76	69	91	126	126	124	148	128	155	125	144	161	1,473
1960	139	76	102	105	107	133	159	154	137	186	152	154	1,604
1961	105	99	113	138	133	114	141	166	128	139	148	143	1,567
1962	94	70	115	110	123	147	166	175	170	172	118	114	1,574
1963	107	95	124	142	148	173	188	177	163	179	196	195	1,887
1964	170	159	158	144	164	167	217	197	177	199	177	193	2,122
1965	153	113	135	143	156	181	211	220	193	214	172	245	2,136
1966	147	156	179	151	207	204	212	206	203	220	205	208	2,298
1967	130	105	141	162	187	140	210	189	223	230	216	204	2,137
1968	130	147	164	150	240	214	208	233	209	248	283	166	2,392
1969	137	158	173	169	239	236	218	254	230	236	219	218	2,487
1970	167	143	160	141	214	205	197	204	213	217	178	138	2,177
1971	137	124	155	144	187	212	222	227	155	209	202	178	2,152
1972	156	161	155	150	204	209	225	210	225	219	174	170	2,258
1973	187	156	173	140	180	230	225	201	204	209	171	137	2,213
1974	111	112	107	116	144	197	189	178	200	195	201	125	1,875
1975	120	97	112	93	149	169	195	203	190	162	161	160	1,811
1976	118	102	134	150	163	169	196	227	189	171	174	162	1,955
1977	126	87	122	143	184	179	223	194	164	189	181	158	1,950
1978	98	104	128	177	178	203	206	229	214	199	183	157	2,076
1979	102	103	129	152	146	155	190	171	174	187	171	169	1,849
1980	117	131	109	116	153	170	142	183	192	152	133	176	1,774
1981	99	100	108	116	116	155	159	171	149	155	113	148	1,589
1982	98	79	93	91	114	121	154	153	128	144	131	111	1,417
1983	113	94	83	91	91	127	121	117	131	153	115	95	1,331
1984	93	84	104	94	125	143	175	174	135	153	134	142	1,556
1985	108	91	77	133	137	167	146	136	131	135	161	147	1,569
1986	86	77	103	127	131	175	186	176	131	144	159	137	1,632
1987	91	104	99	106	138	165	151	176	149	164	161	128	1,632
1988	129	107	103	104	145	152	175	158	178	159	127	167	1,704
1989	138	102	94	96	123	156	156	177	155	146	123	164	1,630
1990	99	84	122	94	135	151	165	170	141	147	130	125	1,563
1991	103	79	115	106	129	145	130	141	125	129	104	119	1,425
1992	83	81	83	86	100	122	134	119	123	129	120	120	1,300
1993	123	91	89	72	127	103	149	140	131	146	134	109	1,414
1994	106	86	82	116	111	123	126	143	132	133	123	138	1,419
1995	122	90	109	111	118	141	127	159	157	134	136	133	1,537
1996	131	98	103	98	128	135	146	121	138	135	136	136	1,505
1997	102	106	85	80	128	140	166	130	128	134	125	122	1,446
1998	116	71	97	91	113	120	133	116	123	126	117	144	1,367
1999	76	84	92	98	125	116	128	160	128	129	130	120	1,386
2000	121	83	70	107	114	136	135	133	135	124	118	106	1,382

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## MOTOR VEHICLE TRAFFIC CRASH AND RELATED DATA

Year	Deaths	Injuries	Crashes	Estimated Mileage (Millions)	Motor Vehicle Registrations*	Death Rate Per 100 million miles of travel
1949	1,441	41,197	143,197	19,990.4	2,203,375	7.2
1950	1,605	45,734	161,750	21,494.5	2,439,593	7.5
1951	1,640	48,418	176,587	22,668.1	2,560,652	7.2
1952	1,736	49,119	160,829	23,093.1	2,586,834	7.5
1953	1,905	57,834	184,174	25,346.9	2,808,921	7.5
1954	1,793	56,444	185,534	26,041.2	2,889,740	6.9
1955	2,016	62,234	196,812	28,282.5	3,149,323	7.1
1956	1,746	61,158	197,995	28,429.3	3,173,704	6.1
1957	1,548	60,067	191,915	29,252.2	3,256,150	5.3
1958	1,382	57,767	177,934	29,411.3	3,157,441	4.7
1959	1,473	64,873	198,771	30,679.0	3,252,492	4.8
1960	1,604	91,026	209,724	31,842.4	3,352,234	5.0
1961	1,567	93,350	199,973	32,101.5	3,395,736	4.9
1962	1,574	108,143	233,078	34,498.0	3,498,758	4.6
1963	1,887	126,896	261,794	36,452.2	3,646,080	5.2
1964	2,122	144,623	284,444	38,617.6	3,860,791	5.5
1965	2,136	155,258	310,598	40,857.4	4,066,826	5.2
1966	2,298	156,694	302,880	43,940.1	4,133,199	5.2
1967	2,137	151,297	299,004	45,053.6	4,161,573	4.7
1968	2,392	160,413	305,495	48,047.4	4,327,885	5.0
1969	2,487	175,400	331,223	50,904.9	4,560,097	4.9
1970	2,177	161,719	313,715	53,148.1	4,683,919	4.1
1971	2,152	157,664	314,015	55,539.7	4,835,146	3.9
1972	2,258	178,929	359,745	57,817.1	5,160,985	3.9
1973	2,213	169,485	350,864	58,478.4	5,442,233	3.8
1974	1,875	141,132	324,763	55,748.7	5,652,406	3.4
1975	1,811	147,299	333,560	56,260.5	5,744,441	3.2
1976	1,955	162,894	365,600	61,638.0	5,861,908	3.2
1977	1,950	166,389	374,751	64,853.0	6,138,732	3.0
1978	2,076	169,202	389,193	67,380.0	6,436,365	3.1
1979	1,849	162,571	366,435	64,882.3	6,536,246	2.8
1980	1,774	144,972	314,594	61,190.1	6,570,735	2.9
1981	1,589	136,455	302,831	62,000.0	6,140,286	2.6
1982	1,417	130,061	294,971	61,321.0	6,400,942	2.3
1983	1,331	135,811	300,797	63,560.1	6,443,499	2.1
1984	1,556	150,740	335,193	65,727.0	6,509,192	2.4
1985	1,569	157,417	386,904	68,413.0	6,857,364	2.3
1986	1,632	158,032	400,694	70,622.0	6,952,263	2.3
1987	1,632	156,318	397,224	75,715.0	7,061,339	2.2
1988	1,704	155,713	410,437	77,700.0	7,196,609	2.2
1989	1,630	154,537	417,252	79,900.0	7,233,823	2.0
1990	1,563	145,179	387,180	81,200.0	7,300,853	1.9
1991	1,425	135,830	364,847	81,900.0	7,329,789	1.7
1992	1,300	118,727	344,942	84,000.0	7,411,192	1.5
1993	1,414	134,548	363,636	85,700.0	7,495,904	1.6
1994	1,419	142,200	398,050	85,600.0	7,669,022	1.7
1995	1,537	146,303	421,073	85,699.6	7,751,336	1.8
1996	1,505	142,553	435,477	87,700.0	8,106,972	1.7
1997	1,446	137,548	425,793	89,232.0	8,115,921	1.6
1998	1,367	131,578	403,766	91,616.0	8,227,016	1.5
1999	1,386	124,601	415,675	93,060.3	8,407,868	1.5
2000	1,382	121,826	424,852	94,915.1	8,569,124	1.5

\* Excludes trailers and trailer coaches

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2000

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2000

# **Special Focus**

**Heavy Truck/  
Bus  
Age  
Alcohol  
Deer**





## HEAVY TRUCK/BUS

The crashes highlighted in this section all involve a heavy truck/bus - defined as having a Gross Vehicle Weight Rating (GVWR) over 10,000 lbs. These vehicles require a Commercial Driver's License (CDL).

Heavy truck/bus crashes differ from other vehicle crashes in a number of ways, many reflecting the size and use of these vehicles. When compared to the overall crash picture, heavy truck/bus crashes involve:

- More turning, backing and changing lanes (see Driver Action Prior)
- More overturns, separation of units, jackknife, cargo loss/shift and other non-collisions (see Most Harmful Event)
- Fewer single-vehicle crashes but more sideswipes (see Crash Type)
- Fewer drivers indicated to be speeding and failing to yield, but more drivers indicated to be making backing, lane use and turning errors (see Hazardous Action, Citation)
- More on road crashes (see Location of First Impact in Crash - On Road)
- More crashes between the hours of 6:00 AM and 5:59 PM, but fewer crashes between 6:00 PM and 5:59 AM (see Time of Day)
- More weekday crashes (see Day of Week)

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## HEAVY TRUCK/BUS INVOLVED CRASHES

HEAVY TRUCK/BUS DRIVER ACTION PRIOR TO CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Going straight ahead	9,375	45.1	103	63.2	2,033	50.8
Turning left	1,728	8.3	11	6.7	296	7.4
Turning right	1,758	8.4	4	2.5	193	4.8
Stopped on roadway	1,487	7.1	13	8.0	328	8.2
In prior crash	19	0.1	0	0.0	6	0.2
Changing lanes	889	4.3	0	0.0	141	3.5
Backing	1,444	6.9	1	0.6	77	1.9
Slowing/stopping on roadway	1,451	7.0	7	4.3	400	10.0
Slowing/stopping other	26	0.1	0	0.0	3	0.1
Starting up on roadway	458	2.2	5	3.1	103	2.6
Starting up other	22	0.1	1	0.6	2	0.0
Entering parking	46	0.2	0	0.0	2	0.0
Leaving parking	39	0.2	0	0.0	6	0.1
Entering roadway	231	1.1	0	0.0	49	1.2
Leaving roadway	42	0.2	0	0.0	11	0.3
Making U-turn	50	0.2	0	0.0	7	0.2
Overtaking or passing	168	0.8	1	0.6	24	0.6
Avoiding object	20	0.1	0	0.0	3	0.1
Avoiding animal	10	0.0	0	0.0	1	0.0
Avoiding pedestrian	4	0.0	2	1.2	1	0.0
Avoiding vehicle (front/back)	297	1.4	9	5.5	65	1.6
Avoiding vehicle (angle)	74	0.4	2	1.2	26	0.6
Driverless moving	21	0.1	0	0.0	1	0.0
Parked	478	2.3	4	2.5	95	2.4
Crossing at intersection	4	0.0	0	0.0	3	0.1
Crossing not at intersection	4	0.0	0	0.0	3	0.1
Getting on/off vehicle	2	0.0	0	0.0	2	0.0
In roadway with traffic	0	0.0	0	0.0	0	0.0
In roadway against traffic	0	0.0	0	0.0	0	0.0
Standing/lying in roadway	0	0.0	0	0.0	0	0.0
Pushing/working on vehicle	0	0.0	0	0.0	0	0.0
Other working in roadway	2	0.0	0	0.0	1	0.0
Playing in roadway	0	0.0	0	0.0	0	0.0
In roadway other reason	0	0.0	0	0.0	0	0.0
Not in roadway	0	0.0	0	0.0	0	0.0
Other	30	0.1	0	0.0	5	0.1
Unknown	633	3.0	0	0.0	114	2.8
<b>Total</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

MOST HARMFUL EVENT IN A NONCOLLISION	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Loss of control	99	0.5	0	0.0	19	0.5
Cross center/median	29	0.1	1	0.6	8	0.2
Ran off road left	31	0.1	0	0.0	3	0.1
Ran off road right	50	0.2	0	0.0	9	0.2
Re-enter road	3	0.0	0	0.0	0	0.0
Overturn	295	1.4	4	2.5	133	3.3
Separation of units	73	0.4	0	0.0	11	0.3
Fire/explosion	39	0.2	2	1.2	4	0.1
Immersion	3	0.0	0	0.0	0	0.0
Jackknife	133	0.6	0	0.0	12	0.3
Downhill runaway	2	0.0	0	0.0	0	0.0
Cargo loss/shift	250	1.2	0	0.0	17	0.4
Individual fell off	15	0.1	1	0.6	5	0.1
Other noncollision	195	0.9	1	0.6	20	0.5
<b>NONCOLLISION Subtotal</b>	<b>1,217</b>	<b>5.8</b>	<b>9</b>	<b>5.5</b>	<b>241</b>	<b>6.0</b>

MOST HARMFUL EVENT IN A COLLISION WITH A NONFIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Pedestrian	62	0.3	15	9.2	39	1.0
Pedalcycle	21	0.1	1	0.6	16	0.4
Motor vehicle in transport	14,737	70.8	129	79.1	3,177	79.4
Parked motor vehicle	906	4.4	1	0.6	33	0.8
Railway train	20	0.1	1	0.6	7	0.2
Animal	519	2.5	0	0.0	3	0.1
Other nonfixed objects	233	1.1	2	1.2	21	0.5
<b>COLLISION NONFIXED Subtotal</b>	<b>16,498</b>	<b>79.3</b>	<b>149</b>	<b>91.4</b>	<b>3,296</b>	<b>82.4</b>

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

MOST HARMFUL EVENT IN A COLLISION WITH A FIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Bridge/pier/abutment	129	0.6	0	0.0	17	0.4
Bridge parapet end	15	0.1	0	0.0	3	0.1
Bridge rail	27	0.1	0	0.0	4	0.1
Guardrail face	60	0.3	0	0.0	8	0.2
Guardrail end	17	0.1	0	0.0	2	0.0
Median barrier	49	0.2	0	0.0	23	0.6
Highway traffic sign post	87	0.4	0	0.0	0	0.0
Signal post	28	0.1	0	0.0	0	0.0
Luminaire/light support	57	0.3	0	0.0	1	0.0
Utility pole	163	0.8	0	0.0	11	0.3
Other pole	39	0.2	0	0.0	2	0.0
Culvert	11	0.1	0	0.0	4	0.1
Curb	16	0.1	0	0.0	2	0.0
Ditch	172	0.8	0	0.0	36	0.9
Embankment	41	0.2	0	0.0	10	0.2
Fence	26	0.1	0	0.0	1	0.0
Mailbox	24	0.1	0	0.0	1	0.0
Tree	134	0.6	2	1.2	27	0.7
Rail crossing signal	31	0.1	0	0.0	0	0.0
Building	25	0.1	0	0.0	4	0.1
Traffic island	1	0.0	0	0.0	0	0.0
Fire hydrant	42	0.2	0	0.0	0	0.0
Impact attenuator	0	0.0	0	0.0	0	0.0
Other fixed object	279	1.3	0	0.0	12	0.3
<b>COLLISION FIXED Subtotal</b>	<b>1,473</b>	<b>7.1</b>	<b>2</b>	<b>1.2</b>	<b>168</b>	<b>4.2</b>

	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Unknown Event	1,624	7.8	3	1.8	296	7.4
<b>TOTAL MOST HARMFUL EVENT</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Single Vehicle	2,694	12.9	19	11.7	343	8.6
Head On	356	1.7	35	21.5	122	3.0
Head On - Left Turn	254	1.2	7	4.3	106	2.6
Angle	3,503	16.8	53	32.5	1,017	25.4
Rear End	4,842	23.3	33	20.2	1,365	34.1
Rear End - Left Turn	210	1.0	3	1.8	61	1.5
Rear End - Right Turn	204	1.0	0	0.0	44	1.1
Sideswipe - Same Direction	5,123	24.6	3	1.8	527	13.2
Sideswipe - Opposite Direct	1,226	5.9	5	3.1	130	3.2
Other	2,246	10.8	5	3.1	265	6.6
Unknown	154	0.7	0	0.0	21	0.5
<b>Total</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>

HAZARDOUS ACTION OF HEAVY TRUCK/BUS	Truck/Bus Crashes		Fatal Crashes		Injury Crashes		Hazardous Citation Issued	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury	Number of Heavy Trucks	% of Issued
None	9,609	46.2	118	72.4	2,041	51.0	49	1.4
Speed too fast	662	3.2	5	3.1	164	4.1	302	8.5
Speed too slow	21	0.1	0	0.0	8	0.2	10	0.3
Failed to yield	1,087	5.2	8	4.9	289	7.2	484	13.6
Disregard traffic control	245	1.2	3	1.8	117	2.9	158	4.4
Drove wrong way	9	0.0	0	0.0	2	0.0	3	0.1
Drove left of center	103	0.5	3	1.8	19	0.5	35	1.0
Improper passing	169	0.8	1	0.6	13	0.3	34	1.0
Improper lane use	1,107	5.3	1	0.6	132	3.3	318	9.0
Improper turn	890	4.3	0	0.0	63	1.6	262	7.4
Improper/no signal	33	0.2	0	0.0	3	0.1	4	0.1
Improper backing	1,220	5.9	0	0.0	49	1.2	364	10.2
Unable to stop in assured clear distance	2,060	9.9	9	5.5	625	15.6	888	25.0
Reckless driving	22	0.1	0	0.0	5	0.1	11	0.3
Careless/Negligent driving	144	0.7	1	0.6	46	1.1	96	2.7
Other	2,023	9.7	2	1.2	210	5.2	411	11.6
Unknown	1,408	6.8	12	7.4	215	5.4	123	3.5
<b>Total</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>	<b>3,552</b>	<b>100.0</b>

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

RELATIONSHIP TO ROADWAY (LOCATION OF FIRST IMPACT IN CRASH)	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
On Road	18,920	90.9	150	92.0	3,671	91.8
Median	121	0.6	1	0.6	27	0.7
Shoulder	691	3.3	7	4.3	147	3.7
Outside of Shoulder/Curb	717	3.4	5	3.1	111	2.8
Gore	22	0.1	0	0.0	4	0.1
Other/Unknown	341	1.6	0	0.0	41	1.0
<b>Total</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>

TIME OF DAY IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
12:00 mid. - 02:59 a.m.	570	2.7	8	4.9	138	3.4
03:00 a.m. - 05:59 a.m.	700	3.4	4	2.5	143	3.6
06:00 a.m. - 08:59 a.m.	3,575	17.2	24	14.7	680	17.0
09:00 a.m. - 11:59 a.m.	4,339	20.8	23	14.1	776	19.4
12:00 noon - 02:59 p.m.	4,689	22.5	18	11.0	915	22.9
03:00 p.m. - 05:59 p.m.	4,115	19.8	33	20.2	728	18.2
06:00 p.m. - 08:59 p.m.	1,413	6.8	12	7.4	272	6.8
09:00 p.m. - 11:59 p.m.	817	3.9	7	4.3	167	4.2
Unknown	594	2.9	34	20.9	182	4.5
<b>Total</b>	<b>20,812</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>4,001</b>	<b>100.0</b>

ROADWAY TYPE IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Interstate Routes U.S. & Michigan Roads County & City Roads	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.					
<b>Total</b>	<b>20,812</b>		<b>163</b>		<b>4,001</b>	

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

DAY OF WEEK IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Sunday	575	2.8	6	3.7	121	3.0
Monday	3,605	17.3	29	17.8	650	16.2
Tuesday	3,959	19.0	37	22.7	714	17.8
Wednesday	3,755	18.0	24	14.7	726	18.1
Thursday	3,857	18.5	25	15.3	725	18.1
Friday	3,875	18.6	32	19.6	788	19.7
Saturday	1,186	5.7	10	6.1	277	6.9
Total	20,812	100.0	163	100.0	4,001	100.0

DRIVER GENDER IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Male	17,160	82.5	144	88.3	3,373	84.3
Female	2,236	10.7	11	6.7	432	10.8
Unknown	1,416	6.8	8	4.9	196	4.9
Total	20,812	100.0	163	100.0	4,001	100.0

NUMBER OF OCCUPANTS in Heavy Truck/Bus	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
1 occupant	15,908	76.4	130	79.8	3,035	75.9
2 occupants	1,725	8.3	14	8.6	358	8.9
3 occupants	366	1.8	3	1.8	87	2.2
4 occupants	181	0.9	0	0.0	35	0.9
5 occupants	123	0.6	1	0.6	28	0.7
6 + occupants	1,039	5.0	4	2.5	245	6.1
0 occupants	490	2.4	7	4.3	97	2.4
Unknown	980	4.7	4	2.5	116	2.9
Total	20,812	100.0	163	100.0	4,001	100.0

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## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

VEHICLE TYPES Involved in Crash with Heavy Truck/Bus	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Vehicles	% of Subtotal	Number of Vehicles	% of Fatal	Number of Vehicles	% of Injury
Passenger Car and Station Wagon	12,910	71.3	114	59.7	3,023	71.3
Van and Motorhome	1,587	8.8	21	11.0	323	7.6
Pickup	2,638	14.6	27	14.1	636	15.0
Small Truck (under 10,000 lbs.)	427	2.4	2	1.0	84	2.0
Motorcycle	24	0.1	2	1.0	19	0.4
Moped	2	0.0	0	0.0	1	0.0
Go Cart	0	0.0	0	0.0	0	0.0
Snowmobile	12	0.1	1	0.5	6	0.1
Off Road Vehicle	1	0.0	0	0.0	0	0.0
Other	90	0.5	1	0.5	27	0.6
Unknown	414	2.3	23	12.0	119	2.8
Subtotal	18,105	100.0	191	100.0	4,238	100.0

HEAVY TRUCK/BUS VEHICLE TYPES	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Subtotal	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Commercial Vehicle: Group A	9,391	45.1	99	60.7	1,955	48.9
Commercial Vehicle: Group B	4,484	21.5	35	21.5	887	22.2
Commercial Vehicle: Group C	675	3.2	2	1.2	137	3.4
Other Truck	1,151	5.5	9	5.5	226	5.6
Unknown Truck	5,111	24.6	18	11.0	796	19.9
Subtotal	20,812	100.0	163	100.0	4,001	100.0

Total Vehicle Types in Heavy Truck/Bus Crashes	38,917		354		8,239	
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Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

Hazardous Citation Issued	Heavy Truck/Bus			Passenger Vehicles Involved with Heavy Trucks						
	Single Vehicle Crash		Multi-Vehicle Crash	Single Vehicle Crash		Multi-Vehicle All Crashes		Multi-Vehicle Heavy Truck /Bus Involved Crash		
	Number of Vehicles	% of citation	Number of Vehicles	% of citation	Number of Vehicles	% of citation	Number of Vehicles	% of citation		
None	12	1.6	37	1.3	273	1.3	1,247	1.1	35	1.2
Speed too fast	206	26.9	96	3.4	9,108	43.4	5,077	4.7	372	12.4
Speed too slow	2	0.3	8	0.3	42	0.2	299	0.3	18	0.6
Failed to yield	1	0.1	483	17.3	102	0.5	32,806	30.1	648	21.6
Disregard traffic control	7	0.9	151	5.4	145	0.7	8,103	7.4	182	6.1
Drove wrong way	0	0.0	3	0.1	19	0.1	154	0.1	4	0.1
Drove left of center	6	0.8	29	1.0	214	1.0	1,124	1.0	68	2.3
Improper passing	6	0.8	28	1.0	74	0.4	1,250	1.1	117	3.9
Improper lane use	42	5.5	276	9.9	442	2.1	4,445	4.1	271	9.0
Improper turn	54	7.1	208	7.5	103	0.5	2,906	2.7	82	2.7
Improper/no signal	1	0.1	3	0.1	12	0.1	216	0.2	10	0.3
Improper backing	69	9.0	295	10.6	1,314	6.3	1,855	1.7	34	1.1
Unable to stop in assured clear distance	47	6.1	841	30.2	1,294	6.2	43,144	39.5	774	25.8
Reckless driving	6	0.8	5	0.2	562	2.7	314	0.3	11	0.4
Careless/Negligent driving	85	11.1	11	0.4	2,442	11.6	820	0.8	75	2.5
Other	167	21.8	242	8.7	3,232	15.4	3,832	3.5	195	6.5
Unknown	54	7.1	69	2.5	1,600	7.6	1,507	1.4	109	3.6
Total Cited Vehicles	765	100.0	2,785	100.0	20,978	100.0	109,099	100.0	3,005	100.0
Percent of Total Vehicles		17.5		17.0		11.8		22.0		18.5
Vehicles with No Citation Issued	3,608	82.5	13,634	83.0	156,118	88.2	387,189	78.0	13,226	81.5
Total Vehicles Involved	4,373	100.0	16,419	100.0	177,096	100.0	496,288	100.0	16,231	100.0

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## SPECIAL FOCUS - AGE

### Drivers on Michigan Roads:

The following tables describe driver actions and crash characteristics for motor vehicle drivers age 16-24; 25-64; and 65-100. These tables are provided to demonstrate the differences in the nature of the crashes for these age groups.

Generally, younger drivers are more involved in single-vehicle and off road crashes. Older drivers are more involved in angle type crashes, and are more likely to commit "Failed to Yield" as a hazardous action while younger drivers are more likely to be speeding. Younger drivers are least likely to be alone in their car at the time of the crash.

For more information on age and the crash experience please visit the Michigan Traffic Crash Facts section of the OHSP web site [www.ohsp.state.mi.us](http://www.ohsp.state.mi.us)



### Nationally:

*According to the American Academy of Pediatrics [9], motor vehicle-related crashes remain the leading cause of death in youth from 16 through 20 years of age, resulting in more than 5,000 such deaths annually. This age group constitutes only 7 percent of the U.S. population yet accounts for 14 percent of all motor vehicle-related deaths. Youth 16 through 19 years of age constitute 5 percent of all licensed drivers and 3 percent of all vehicle miles traveled, yet teenage drivers are involved in 15 percent of the crashes in which they or other occupants are killed. The motor vehicle fatality rate of teenagers is higher than that of any other age group; on a per-mile-driven basis, 16-year-old drivers are more than 20 times as likely to have a crash as is the general population of drivers, and 17-year-old drivers are more than 6 times as likely.*

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## DRIVER AGE 16-24

DRIVER ACTION PRIOR TO CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Going straight ahead	94,487	54.9	367	76.0	23,705	57.1
Turning left	15,215	8.8	27	5.6	4,276	10.3
Turning right	4,928	2.9	2	0.4	742	1.8
Stopped on roadway	13,925	8.1	9	1.9	3,600	8.7
In prior crash	286	0.2	0	0.0	82	0.2
Changing lanes	4,326	2.5	11	2.3	710	1.7
Backing	3,773	2.2	0	0.0	233	0.6
Slowing/stopping on roadway	17,116	9.9	8	1.7	3,824	9.2
Slowing/stopping other	214	0.1	0	0.0	39	0.1
Starting up on roadway	3,523	2.0	5	1.0	898	2.2
Starting up other	85	0.0	1	0.2	27	0.1
Entering parking	192	0.1	0	0.0	24	0.1
Leaving parking	673	0.4	1	0.2	106	0.3
Entering roadway	3,352	1.9	8	1.7	818	2.0
Leaving roadway	409	0.2	5	1.0	137	0.3
Making U-turn	388	0.2	1	0.2	87	0.2
Overtaking or passing	1,760	1.0	14	2.9	411	1.0
Avoiding object	319	0.2	1	0.2	98	0.2
Avoiding animal	651	0.4	2	0.4	191	0.5
Avoiding pedestrian	50	0.0	2	0.4	24	0.1
Avoiding vehicle (front/back)	1,847	1.1	8	1.7	430	1.0
Avoiding vehicle (angle)	774	0.4	3	0.6	201	0.5
Driverless moving	37	0.0	0	0.0	4	0.0
Parked	616	0.4	2	0.4	62	0.1
Crossing at intersection	37	0.0	0	0.0	32	0.1
Crossing not at intersection	22	0.0	0	0.0	21	0.1
Getting on/off vehicle	2	0.0	0	0.0	1	0.0
In roadway with traffic	9	0.0	0	0.0	7	0.0
In roadway against traffic	2	0.0	0	0.0	2	0.0
Standing/lying in roadway	11	0.0	0	0.0	5	0.0
Pushing/working on vehicle	6	0.0	0	0.0	1	0.0
Other working in roadway	2	0.0	0	0.0	2	0.0
Playing in roadway	1	0.0	0	0.0	1	0.0
In roadway other reason	12	0.0	0	0.0	10	0.0
Not in roadway	5	0.0	0	0.0	3	0.0
Other	123	0.1	1	0.2	41	0.1
Unknown	2,881	1.7	5	1.0	696	1.7
<b>Total Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## DRIVER AGE 16-24 (continued)

<b>MOST HARMFUL EVENT IN A NONCOLLISION</b>	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Loss of control	1,413	0.8	0	0.0	395	1.0
Cross center/median	233	0.1	1	0.2	64	0.2
Ran off road left	306	0.2	0	0.0	78	0.2
Ran off road right	565	0.3	1	0.2	114	0.3
Re-enter road	40	0.0	0	0.0	9	0.0
Overturn	3,585	2.1	36	7.5	1,720	4.1
Separation of units	298	0.2	2	0.4	68	0.2
Fire/explosion	192	0.1	2	0.4	26	0.1
Immersion	18	0.0	1	0.2	2	0.0
Jackknife	66	0.0	0	0.0	7	0.0
Downhill runaway	13	0.0	0	0.0	4	0.0
Cargo loss/shift	101	0.1	0	0.0	11	0.0
Individual fell off	134	0.1	4	0.8	106	0.3
Other noncollision	453	0.3	0	0.0	86	0.2
<b>NONCOLLISION Subtotal</b>	<b>7,417</b>	<b>4.3</b>	<b>47</b>	<b>9.7</b>	<b>2,690</b>	<b>6.5</b>

Teens and young adults have the highest incidence of overturn in fatal crashes when compared to the other two age groups (25-64 and 65-100).

<b>MOST HARMFUL EVENT IN A COLLISION WITH A NONFIXED OBJECT</b>	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Pedestrian	625	0.4	44	9.1	507	1.2
Pedalcycle	465	0.3	10	2.1	354	0.9
Motor vehicle in transport	120,457	70.0	278	57.6	30,236	72.8
Parked motor vehicle	3,448	2.0	4	0.8	400	1.0
Railway train	37	0.0	2	0.4	14	0.0
Animal	11,371	6.6	1	0.2	256	0.6
Other nonfixed objects	1,204	0.7	2	0.4	157	0.4
<b>COLLISION NONFIXED Subtotal</b>	<b>137,607</b>	<b>80.0</b>	<b>341</b>	<b>70.6</b>	<b>31,924</b>	<b>76.8</b>

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### DRIVER AGE 16-24 (continued)

MOST HARMFUL EVENT IN A COLLISION WITH A FIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Bridge/pier/abutment	194	0.1	3	0.6	47	0.1
Bridge parapet end	35	0.0	0	0.0	9	0.0
Bridge rail	171	0.1	0	0.0	34	0.1
Guardrail face	1,135	0.7	1	0.2	242	0.6
Guardrail end	202	0.1	1	0.2	62	0.1
Median barrier	1,147	0.7	4	0.8	336	0.8
Highway traffic sign post	1,011	0.6	2	0.4	81	0.2
Signal post	87	0.1	0	0.0	11	0.0
Luminaire/light support	205	0.1	1	0.2	43	0.1
Utility pole	1,297	0.8	6	1.2	500	1.2
Other pole	382	0.2	1	0.2	57	0.1
Culvert	263	0.2	1	0.2	102	0.2
Curb	745	0.4	0	0.0	96	0.2
Ditch	3,295	1.9	5	1.0	859	2.1
Embankment	759	0.4	1	0.2	219	0.5
Fence	518	0.3	1	0.2	64	0.2
Mailbox	918	0.5	1	0.2	60	0.1
Tree	4,487	2.6	55	11.4	1,709	4.1
Rail crossing signal	19	0.0	0	0.0	6	0.0
Building	235	0.1	4	0.8	77	0.2
Traffic island	19	0.0	0	0.0	0	0.0
Fire hydrant	196	0.1	0	0.0	35	0.1
Impact attenuator	12	0.0	0	0.0	6	0.0
Other fixed object	1,141	0.7	1	0.2	253	0.6
<b>COLLISION FIXED Subtotal</b>	<b>18,473</b>	<b>10.7</b>	<b>88</b>	<b>18.2</b>	<b>4,908</b>	<b>11.8</b>

Teens and young adults have the highest incidence of collision with ditches and trees in crashes when compared to the other two age groups.

	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Unknown Event	8,562	5.0	7	1.4	2,029	4.9
<b>TOTAL MOST HARMFUL EVENT</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

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## DRIVER AGE 16-24 (continued)

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Single Vehicle	35,825	20.8	175	36.2	7,603	18.3
Head On	3,350	1.9	88	18.2	1,353	3.3
Head On - Left Turn	7,242	4.2	27	5.6	2,856	6.9
Angle	41,404	24.1	130	26.9	11,776	28.3
Rear End	53,981	31.4	18	3.7	13,450	32.4
Rear End - Left Turn	2,725	1.6	8	1.7	815	2.0
Rear End - Right Turn	1,691	1.0	0	0.0	273	0.7
Sideswipe - Same Direction	13,927	8.1	14	2.9	1,356	3.3
Sideswipe - Opposite Direct	4,543	2.6	11	2.3	681	1.6
Other	6,532	3.8	12	2.5	1,195	2.9
Unknown	839	0.5	0	0.0	193	0.5
<b>Total Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

Teen and young adult drivers are involved in the largest proportion of single vehicle fatal crashes when compared to the other two age groups.

RELATIONSHIP TO ROADWAY (LOCATION OF FIRST IMPACT IN CRASH)	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
On Road	150,198	87.3	367	76.0	35,340	85.1
Median	1,094	0.6	4	0.8	322	0.8
Shoulder	6,196	3.6	28	5.8	1,570	3.8
Outside of Shoulder/Curb	12,031	7.0	74	15.3	3,605	8.7
Gore	325	0.2	0	0.0	105	0.3
Other/Unknown	2,215	1.3	10	2.1	609	1.5
<b>Total Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

When compared to the other two age groups in all crashes, teen and young adult drivers have the highest incidence of crashes where the first impact is on the shoulder of the roadway or outside the shoulder/curb.

ROADWAY TYPE IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Interstate Routes U.S. & Michigan Roads County & City Roads	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.					
<b>Total Drivers</b>	<b>172,059</b>		<b>483</b>		<b>41,551</b>	

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## DRIVER AGE 16-24 (continued)

TIME OF DAY IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
12:00 mid. - 02:59 a.m.	9,183	5.3	52	10.8	2,399	5.8
03:00 a.m. - 05:59 a.m.	4,316	2.5	23	4.8	1,058	2.5
06:00 a.m. - 08:59 a.m.	18,504	10.8	48	9.9	4,166	10.0
09:00 a.m. - 11:59 a.m.	17,146	10.0	28	5.8	4,113	9.9
12:00 noon - 02:59 p.m.	30,935	18.0	36	7.5	7,740	18.6
03:00 p.m. - 05:59 p.m.	44,291	25.7	82	17.0	10,614	25.5
06:00 p.m. - 08:59 p.m.	26,368	15.3	59	12.2	6,130	14.8
09:00 p.m. - 11:59 p.m.	18,014	10.5	44	9.1	4,207	10.1
Unknown	3,302	1.9	111	23.0	1,124	2.7
<b>Total Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

6:00 PM to 2:59 AM shows the highest involvement for teen and young adult drivers in all crashes compared to the other two age groups.

HAZARDOUS ACTION	All Crashes		Fatal Crashes		Injury Crashes		Hazardous Citation Issued	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury	Number	% of Issued
None	72,771	42.3	183	37.9	15,487	37.3	464	0.9
Speed too fast	16,685	9.7	85	17.6	4,542	10.9	7,004	14.1
Speed too slow	318	0.2	1	0.2	88	0.2	147	0.3
Failed to yield	19,295	11.2	30	6.2	5,505	13.2	11,698	23.5
Disregard traffic control	4,282	2.5	28	5.8	1,841	4.4	2,817	5.7
Drove wrong way	94	0.1	1	0.2	47	0.1	43	0.1
Drove left of center	1,016	0.6	27	5.6	376	0.9	446	0.9
Improper passing	1,181	0.7	2	0.4	197	0.5	496	1.0
Improper lane use	3,305	1.9	7	1.4	424	1.0	1,639	3.3
Improper turn	2,022	1.2	1	0.2	378	0.9	1,003	2.0
Improper/no signal	250	0.1	0	0.0	47	0.1	75	0.2
Improper backing	2,764	1.6	0	0.0	118	0.3	1,020	2.0
Unable to stop in assured clear distance	31,454	18.3	12	2.5	7,602	18.3	17,303	34.7
Reckless driving	776	0.5	11	2.3	323	0.8	420	0.8
Careless\Negligent driving	2,396	1.4	17	3.5	935	2.3	1,524	3.1
Other	7,512	4.4	31	6.4	1,982	4.8	2,440	4.9
Unknown	5,938	3.5	47	9.7	1,659	4.0	1,308	2.6
<b>Total Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>	<b>49,847</b>	<b>100.0</b>

Compared to the other two age groups, teen and young adult drivers have the highest incidence of fatal crashes when their speed is too fast.

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## DRIVER AGE 16-24 (continued)

DAY OF WEEK IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Sunday	17,936	10.4	59	12.2	4,518	10.9
Monday	24,059	14.0	61	12.6	5,789	13.9
Tuesday	24,762	14.4	62	12.8	5,795	13.9
Wednesday	24,100	14.0	61	12.6	5,716	13.8
Thursday	27,146	15.8	61	12.6	6,414	15.4
Friday	31,073	18.1	73	15.1	7,415	17.8
Saturday	22,983	13.4	106	21.9	5,904	14.2
Total Drivers	172,059	100.0	483	100.0	41,551	100.0

The weekend shows higher involvement of teen and young adult drivers in all crashes when compared to the other two age groups.

DRIVER GENDER IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Male	98,364	57.2	326	67.5	22,547	54.3
Female	71,875	41.8	156	32.3	18,549	44.6
Unknown	1,820	1.1	1	0.2	455	1.1
Total Drivers	172,059	100.0	483	100.0	41,551	100.0

NUMBER OF OCCUPANTS IN MOTOR VEHICLE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
1 occupant	113,883	66.2	262	54.2	25,017	60.2
2 occupants	38,046	22.1	129	26.7	10,369	25.0
3 occupants	10,594	6.2	54	11.2	3,331	8.0
4 occupants	4,062	2.4	23	4.8	1,397	3.4
5 occupants	1,131	0.7	5	1.0	426	1.0
6 + occupants	423	0.2	8	1.7	161	0.4
0 occupants	935	0.5	0	0.0	129	0.3
Unknown	2,985	1.7	2	0.4	721	1.7
Total Drivers	172,059	100.0	483	100.0	41,551	100.0

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## DRIVER AGE 16-24 (continued)

VEHICLE TYPE CRASH INVOLVEMENT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Passenger Car and Station Wagon	132,211	76.8	362	74.9	32,272	77.7
Van and Motorhome	6,273	3.6	15	3.1	1,562	3.8
Pickup	27,015	15.7	68	14.1	5,679	13.7
Small Truck (under 10,000 lbs.)	3,289	1.9	10	2.1	722	1.7
Motorcycle	695	0.4	9	1.9	532	1.3
Moped	63	0.0	1	0.2	45	0.1
Go Cart	4	0.0	1	0.2	3	0.0
Snowmobile	156	0.1	1	0.2	95	0.2
Off Road Vehicle	96	0.1	3	0.6	77	0.2
Other	222	0.1	0	0.0	72	0.2
Unknown	932	0.5	1	0.2	283	0.7
CDL Truck/Bus (breakdown below)	1,103	0.6	12	2.5	209	0.5
<b>Total Number of Drivers</b>	<b>172,059</b>	<b>100.0</b>	<b>483</b>	<b>100.0</b>	<b>41,551</b>	<b>100.0</b>

Special Note: School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

CDL Truck/Bus Sub-category Types	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Commercial Vehicle: Group A	344	31.2	5	41.7	72	34.4
Commercial Vehicle: Group B	302	27.4	4	33.3	50	23.9
Commercial Vehicle: Group C	58	5.3	0	0.0	14	6.7
Other Truck	161	14.6	2	16.7	36	17.2
Unknown Truck	238	21.6	1	8.3	37	17.7
<b>Total Number of Drivers</b>	<b>1,103</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>209</b>	<b>100.0</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

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## DRIVER AGE 25-64

DRIVER ACTION PRIOR TO CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Going straight ahead	222,716	53.9	899	76.8	50,325	53.5
Turning left	28,504	6.9	51	4.4	7,576	8.0
Turning right	11,488	2.8	13	1.1	1,815	1.9
Stopped on roadway	50,639	12.3	41	3.5	13,767	14.6
In prior crash	571	0.1	2	0.2	198	0.2
Changing lanes	8,596	2.1	16	1.4	1,282	1.4
Backing	10,490	2.5	3	0.3	542	0.6
Slowing/stopping on roadway	40,639	9.8	31	2.6	9,776	10.4
Slowing/stopping other	564	0.1	2	0.2	127	0.1
Starting up on roadway	8,288	2.0	9	0.8	1,945	2.1
Starting up other	236	0.1	0	0.0	48	0.1
Entering parking	535	0.1	0	0.0	53	0.1
Leaving parking	1,399	0.3	1	0.1	269	0.3
Entering roadway	5,879	1.4	5	0.4	1,312	1.4
Leaving roadway	681	0.2	8	0.7	228	0.2
Making U-turn	815	0.2	4	0.3	182	0.2
Overtaking or passing	3,085	0.7	19	1.6	588	0.6
Avoiding object	555	0.1	1	0.1	143	0.2
Avoiding animal	866	0.2	0	0.0	199	0.2
Avoiding pedestrian	97	0.0	8	0.7	30	0.0
Avoiding vehicle (front/back)	3,783	0.9	40	3.4	1,001	1.1
Avoiding vehicle (angle)	1,665	0.4	7	0.6	430	0.5
Driverless moving	93	0.0	0	0.0	12	0.0
Parked	2,676	0.6	3	0.3	255	0.3
Crossing at intersection	89	0.0	1	0.1	63	0.1
Crossing not at intersection	60	0.0	1	0.1	53	0.1
Getting on/off vehicle	8	0.0	0	0.0	5	0.0
In roadway with traffic	16	0.0	0	0.0	12	0.0
In roadway against traffic	13	0.0	0	0.0	8	0.0
Standing/lying in roadway	23	0.0	0	0.0	14	0.0
Pushing/working on vehicle	9	0.0	0	0.0	3	0.0
Other working in roadway	8	0.0	0	0.0	5	0.0
Playing in roadway	1	0.0	0	0.0	0	0.0
In roadway other reason	22	0.0	0	0.0	16	0.0
Not in roadway	15	0.0	0	0.0	12	0.0
Other	271	0.1	0	0.0	78	0.1
Unknown	7,675	1.9	6	0.5	1,758	1.9
Total Drivers	413,070	100.0	1,171	100.0	94,130	100.0

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## DRIVER AGE 25-64 (continued)

<b>MOST HARMFUL EVENT IN A NONCOLLISION</b>	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Loss of control	2,582	0.6	3	0.3	660	0.7
Cross center/median	493	0.1	2	0.2	116	0.1
Ran off road left	494	0.1	0	0.0	120	0.1
Ran off road right	963	0.2	0	0.0	216	0.2
Re-enter road	74	0.0	1	0.1	23	0.0
Overturn	4,675	1.1	74	6.3	2,314	2.5
Separation of units	731	0.2	2	0.2	156	0.2
Fire/explosion	505	0.1	6	0.5	63	0.1
Immersion	33	0.0	1	0.1	8	0.0
Jackknife	243	0.1	0	0.0	24	0.0
Downhill runaway	31	0.0	0	0.0	7	0.0
Cargo loss/shift	510	0.1	0	0.0	44	0.0
Individual fell off	259	0.1	9	0.8	207	0.2
Other noncollision	1,214	0.3	1	0.1	209	0.2
<b>NONCOLLISION Subtotal</b>	<b>12,807</b>	<b>3.1</b>	<b>99</b>	<b>8.5</b>	<b>4,167</b>	<b>4.4</b>

<b>MOST HARMFUL EVENT IN A COLLISION WITH A NONFIXED OBJECT</b>	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Pedestrian	1,454	0.4	97	8.3	1,201	1.3
Pedalcycle	1,392	0.3	17	1.5	1,071	1.1
Motor vehicle in transport	289,352	70.0	756	64.6	73,222	77.8
Parked motor vehicle	7,479	1.8	13	1.1	798	0.8
Railway train	102	0.0	6	0.5	42	0.0
Animal	45,130	10.9	1	0.1	939	1.0
Other nonfixed objects	4,251	1.0	5	0.4	399	0.4
<b>COLLISION NONFIXED Subtotal</b>	<b>349,160</b>	<b>84.5</b>	<b>895</b>	<b>76.4</b>	<b>77,672</b>	<b>82.5</b>

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### DRIVER AGE 25-64 (continued)

MOST HARMFUL EVENT IN A COLLISION WITH A FIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Bridge/pier/abutment	418	0.1	3	0.3	112	0.1
Bridge parapet end	120	0.0	0	0.0	17	0.0
Bridge rail	333	0.1	0	0.0	83	0.1
Guardrail face	1,899	0.5	3	0.3	408	0.4
Guardrail end	289	0.1	4	0.3	80	0.1
Median barrier	1,943	0.5	3	0.3	647	0.7
Highway traffic sign post	1,524	0.4	3	0.3	135	0.1
Signal post	170	0.0	0	0.0	25	0.0
Luminaire/light support	354	0.1	1	0.1	90	0.1
Utility pole	1,908	0.5	14	1.2	685	0.7
Other pole	575	0.1	0	0.0	112	0.1
Culvert	366	0.1	2	0.2	119	0.1
Curb	1,073	0.3	3	0.3	174	0.2
Ditch	4,283	1.0	10	0.9	1,131	1.2
Embankment	1,099	0.3	7	0.6	333	0.4
Fence	714	0.2	4	0.3	102	0.1
Mailbox	1,127	0.3	1	0.1	77	0.1
Tree	5,797	1.4	82	7.0	2,060	2.2
Rail crossing signal	53	0.0	0	0.0	8	0.0
Building	374	0.1	5	0.4	145	0.2
Traffic island	32	0.0	0	0.0	9	0.0
Fire hydrant	283	0.1	1	0.1	60	0.1
Impact attenuator	29	0.0	0	0.0	10	0.0
Other fixed object	2,035	0.5	7	0.6	424	0.5
<b>COLLISION FIXED Subtotal</b>	<b>26,798</b>	<b>6.5</b>	<b>153</b>	<b>13.1</b>	<b>7,046</b>	<b>7.5</b>

	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Unknown Event	24,305	5.9	24	2.0	5,245	5.6
<b>TOTAL MOST HARMFUL EVENT</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>

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## DRIVER AGE 25-64 (continued)

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Single Vehicle	82,305	19.9	316	27.0	11,593	12.3
Head On	7,834	1.9	259	22.1	3,145	3.3
Head On - Left Turn	14,944	3.6	60	5.1	5,867	6.2
Angle	92,401	22.4	342	29.2	26,934	28.6
Rear End	134,224	32.5	97	8.3	35,356	37.6
Rear End - Left Turn	5,450	1.3	13	1.1	1,512	1.6
Rear End - Right Turn	4,558	1.1	0	0.0	765	0.8
Sideswipe - Same Direction	37,652	9.1	23	2.0	3,755	4.0
Sideswipe - Opposite Direct	11,913	2.9	21	1.8	1,668	1.8
Other	19,308	4.7	39	3.3	3,038	3.2
Unknown	2,481	0.6	1	0.1	497	0.5
<b>Total Drivers</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>

RELATIONSHIP TO ROADWAY (LOCATION OF FIRST IMPACT IN CRASH)	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
On Road	380,142	92.0	940	80.3	85,216	90.5
Median	1,988	0.5	12	1.0	657	0.7
Shoulder	9,783	2.4	64	5.5	2,393	2.5
Outside of Shoulder/Curb	15,924	3.9	140	12.0	4,628	4.9
Gore	522	0.1	5	0.4	137	0.1
Other/Unknown	4,711	1.1	10	0.9	1,099	1.2
<b>Total Drivers</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>

ROADWAY TYPE IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Interstate Routes U.S. & Michigan Roads County & City Roads	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.					
<b>Total Drivers</b>	<b>413,070</b>		<b>1,171</b>		<b>94,130</b>	

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



### DRIVER AGE 25-64 (continued)

TIME OF DAY IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
12:00 mid. - 02:59 a.m.	14,188	3.4	111	9.5	3,606	3.8
03:00 a.m. - 05:59 a.m.	13,452	3.3	56	4.8	2,276	2.4
06:00 a.m. - 08:59 a.m.	60,316	14.6	103	8.8	12,028	12.8
09:00 a.m. - 11:59 a.m.	52,319	12.7	109	9.3	12,113	12.9
12:00 noon - 02:59 p.m.	73,729	17.8	131	11.2	18,302	19.4
03:00 p.m. - 05:59 p.m.	102,898	24.9	165	14.1	24,234	25.7
06:00 p.m. - 08:59 p.m.	57,191	13.8	142	12.1	12,030	12.8
09:00 p.m. - 11:59 p.m.	30,545	7.4	110	9.4	6,533	6.9
Unknown	8,432	2.0	244	20.8	3,008	3.2
<b>Total Drivers</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>

HAZARDOUS ACTION	All Crashes		Fatal Crashes		Injury Crashes		Hazardous Citation Issued	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury	Number	% of Issued
None	240,821	58.3	597	51.0	51,273	54.5	968	1.3
Speed too fast	20,546	5.0	138	11.8	5,664	6.0	6,826	9.5
Speed too slow	553	0.1	3	0.3	149	0.2	188	0.3
Failed to yield	32,246	7.8	65	5.6	8,914	9.5	17,109	23.7
Disregard traffic control	7,740	1.9	46	3.9	3,267	3.5	4,521	6.3
Drove wrong way	229	0.1	8	0.7	75	0.1	101	0.1
Drove left of center	1,989	0.5	48	4.1	677	0.7	823	1.1
Improper passing	2,357	0.6	10	0.9	328	0.3	849	1.2
Improper lane use	7,470	1.8	7	0.6	915	1.0	3,059	4.2
Improper turn	4,273	1.0	6	0.5	721	0.8	1,726	2.4
Improper/no signal	518	0.1	0	0.0	75	0.1	136	0.2
Improper backing	7,886	1.9	2	0.2	275	0.3	2,171	3.0
Unable to stop in assured clear distance	53,081	12.9	27	2.3	13,044	13.9	25,532	35.4
Reckless driving	837	0.2	11	0.9	355	0.4	415	0.6
Careless/Negligent driving	2,647	0.6	30	2.6	966	1.0	1,582	2.2
Other	16,072	3.9	87	7.4	3,957	4.2	4,517	6.3
Unknown	13,805	3.3	86	7.3	3,475	3.7	1,697	2.3
<b>Total Drivers</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>	<b>72,220</b>	<b>100.0</b>

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## DRIVER AGE 25-64 (continued)

DAY OF WEEK IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Sunday	36,082	8.7	160	13.7	8,652	9.2
Monday	60,274	14.6	132	11.3	13,464	14.3
Tuesday	63,017	15.3	158	13.5	13,939	14.8
Wednesday	62,181	15.1	140	12.0	13,842	14.7
Thursday	66,148	16.0	160	13.7	14,901	15.8
Friday	74,997	18.2	205	17.5	16,963	18.0
Saturday	50,371	12.2	216	18.4	12,369	13.1
Total Drivers	413,070	100.0	1,171	100.0	94,130	100.0

DRIVER GENDER IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Male	236,488	57.3	832	71.1	51,367	54.6
Female	171,863	41.6	329	28.1	41,653	44.3
Unknown	4,719	1.1	10	0.9	1,110	1.2
Total Drivers	413,070	100.0	1,171	100.0	94,130	100.0

NUMBER OF OCCUPANTS IN MOTOR VEHICLE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
1 occupant	302,961	73.3	772	65.9	64,250	68.3
2 occupants	65,774	15.9	261	22.3	17,787	18.9
3 occupants	20,041	4.9	81	6.9	5,893	6.3
4 occupants	8,539	2.1	32	2.7	2,553	2.7
5 occupants	2,879	0.7	9	0.8	917	1.0
6 + occupants	2,350	0.6	6	0.5	685	0.7
0 occupants	3,285	0.8	2	0.2	399	0.4
Unknown	7,241	1.8	8	0.7	1,646	1.7
Total Drivers	413,070	100.0	1,171	100.0	94,130	100.0

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## DRIVER AGE 25-64 (continued)

VEHICLE TYPE CRASH INVOLVEMENT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Passenger Car and Station Wagon	267,913	64.9	602	51.4	62,541	66.4
Van and Motorhome	40,018	9.7	94	8.0	9,229	9.8
Pickup	72,579	17.6	234	20.0	14,080	15.0
Small Truck (under 10,000 lbs.)	11,812	2.9	27	2.3	2,505	2.7
Motorcycle	2,187	0.5	67	5.7	1,633	1.7
Moped	122	0.0	4	0.3	79	0.1
Go Cart	3	0.0	0	0.0	3	0.0
Snowmobile	424	0.1	16	1.4	218	0.2
Off Road Vehicle	116	0.0	2	0.2	79	0.1
Other	1,296	0.3	7	0.6	280	0.3
Unknown	2,832	0.7	6	0.5	758	0.8
CDL Truck/Bus (breakdown below)	13,768	3.3	112	9.6	2,725	2.9
<b>Total Number of Drivers</b>	<b>413,070</b>	<b>100.0</b>	<b>1,171</b>	<b>100.0</b>	<b>94,130</b>	<b>100.0</b>

Special Note: School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

CDL Truck/Bus Sub-category Types	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Commercial Vehicle: Group A	5,639	41.0	65	58.0	1,173	43.0
Commercial Vehicle: Group B	3,759	27.3	28	25.0	768	28.2
Commercial Vehicle: Group C	559	4.1	1	0.9	109	4.0
Other Truck	846	6.1	7	6.3	161	5.9
Unknown Truck	2,965	21.5	11	9.8	514	18.9
<b>Total Number of Drivers</b>	<b>13,768</b>	<b>100.0</b>	<b>112</b>	<b>100.0</b>	<b>2,725</b>	<b>100.0</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

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## DRIVER AGE 65-100

DRIVER ACTION PRIOR TO CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Going straight ahead	22,750	49.4	147	66.5	5,633	50.3
Turning left	5,617	12.2	30	13.6	1,714	15.3
Turning right	1,699	3.7	0	0.0	253	2.3
Stopped on roadway	4,433	9.6	3	1.4	1,241	11.1
In prior crash	41	0.1	0	0.0	24	0.2
Changing lanes	1,304	2.8	5	2.3	136	1.2
Backing	1,545	3.4	2	0.9	73	0.7
Slowing/stopping on roadway	3,385	7.4	3	1.4	903	8.1
Slowing/stopping other	52	0.1	0	0.0	15	0.1
Starting up on roadway	1,273	2.8	11	5.0	342	3.1
Starting up other	44	0.1	1	0.5	13	0.1
Entering parking	114	0.2	0	0.0	14	0.1
Leaving parking	287	0.6	0	0.0	47	0.4
Entering roadway	1,332	2.9	10	4.5	296	2.6
Leaving roadway	72	0.2	2	0.9	22	0.2
Making U-turn	170	0.4	1	0.5	55	0.5
Overtaking or passing	317	0.7	1	0.5	57	0.5
Avoiding object	38	0.1	1	0.5	5	0.0
Avoiding animal	23	0.0	0	0.0	4	0.0
Avoiding pedestrian	8	0.0	0	0.0	4	0.0
Avoiding vehicle (front/back)	242	0.5	2	0.9	64	0.6
Avoiding vehicle (angle)	118	0.3	0	0.0	37	0.3
Driverless moving	5	0.0	0	0.0	2	0.0
Parked	248	0.5	0	0.0	23	0.2
Crossing at intersection	20	0.0	0	0.0	18	0.2
Crossing not at intersection	5	0.0	0	0.0	5	0.0
Getting on/off vehicle	2	0.0	0	0.0	1	0.0
In roadway with traffic	2	0.0	0	0.0	0	0.0
In roadway against traffic	1	0.0	0	0.0	0	0.0
Standing/lying in roadway	1	0.0	0	0.0	0	0.0
Pushing/working on vehicle	0	0.0	0	0.0	0	0.0
Other working in roadway	0	0.0	0	0.0	0	0.0
Playing in roadway	0	0.0	0	0.0	0	0.0
In roadway other reason	1	0.0	0	0.0	0	0.0
Not in roadway	0	0.0	0	0.0	0	0.0
Other	19	0.0	0	0.0	4	0.0
Unknown	855	1.9	2	0.9	203	1.8
Total Drivers	46,023	100.0	221	100.0	11,208	100.0

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## DRIVER AGE 65-100 (continued)

<b>MOST HARMFUL EVENT IN A NONCOLLISION</b>	<b>All Crashes</b>		<b>Fatal Crashes</b>		<b>Injury Crashes</b>	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Loss of control	232	0.5	0	0.0	60	0.5
Cross center/median	70	0.2	0	0.0	19	0.2
Ran off road left	51	0.1	0	0.0	7	0.1
Ran off road right	73	0.2	0	0.0	13	0.1
Re-enter road	8	0.0	0	0.0	2	0.0
Overturn	241	0.5	9	4.1	124	1.1
Separation of units	86	0.2	0	0.0	17	0.2
Fire/explosion	29	0.1	0	0.0	5	0.0
Immersion	7	0.0	0	0.0	2	0.0
Jackknife	21	0.0	0	0.0	5	0.0
Downhill runaway	7	0.0	0	0.0	1	0.0
Cargo loss/shift	29	0.1	0	0.0	1	0.0
Individual fell off	11	0.0	1	0.5	6	0.1
Other noncollision	94	0.2	0	0.0	20	0.2
<b>NONCOLLISION Subtotal</b>	<b>959</b>	<b>2.1</b>	<b>10</b>	<b>4.5</b>	<b>282</b>	<b>2.5</b>

<b>MOST HARMFUL EVENT IN A COLLISION WITH A NONFIXED OBJECT</b>	<b>All Crashes</b>		<b>Fatal Crashes</b>		<b>Injury Crashes</b>	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Pedestrian	197	0.4	3	1.4	172	1.5
Pedalcycle	221	0.5	4	1.8	182	1.6
Motor vehicle in transport	35,001	76.1	169	76.5	9,150	81.6
Parked motor vehicle	1,198	2.6	2	0.9	95	0.8
Railway train	16	0.0	4	1.8	6	0.1
Animal	3,356	7.3	0	0.0	63	0.6
Other nonfixed objects	372	0.8	0	0.0	42	0.4
<b>COLLISION NONFIXED Subtotal</b>	<b>40,361</b>	<b>87.7</b>	<b>182</b>	<b>82.4</b>	<b>9,710</b>	<b>86.6</b>

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

### DRIVER AGE 65-100 (continued)

MOST HARMFUL EVENT IN A COLLISION WITH A FIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Bridge/pier/abutment	17	0.0	0	0.0	2	0.0
Bridge parapet end	14	0.0	0	0.0	1	0.0
Bridge rail	20	0.0	0	0.0	4	0.0
Guardrail face	100	0.2	0	0.0	21	0.2
Guardrail end	17	0.0	0	0.0	7	0.1
Median barrier	63	0.1	1	0.5	28	0.2
Highway traffic sign post	135	0.3	0	0.0	19	0.2
Signal post	8	0.0	0	0.0	1	0.0
Luminaire/light support	33	0.1	1	0.5	13	0.1
Utility pole	165	0.4	1	0.5	80	0.7
Other pole	50	0.1	1	0.5	11	0.1
Culvert	37	0.1	2	0.9	18	0.2
Curb	84	0.2	0	0.0	8	0.1
Ditch	304	0.7	2	0.9	83	0.7
Embankment	67	0.1	1	0.5	25	0.2
Fence	71	0.2	0	0.0	11	0.1
Mailbox	99	0.2	0	0.0	8	0.1
Tree	460	1.0	11	5.0	188	1.7
Rail crossing signal	9	0.0	0	0.0	0	0.0
Building	82	0.2	1	0.5	42	0.4
Traffic island	2	0.0	0	0.0	0	0.0
Fire hydrant	28	0.1	0	0.0	10	0.1
Impact attenuator	3	0.0	0	0.0	2	0.0
Other fixed object	163	0.4	1	0.5	35	0.3
<b>COLLISION FIXED Subtotal</b>	<b>2,031</b>	<b>4.4</b>	<b>22</b>	<b>10.0</b>	<b>617</b>	<b>5.5</b>

	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Total	Number	% of Total
Unknown Event	2,672	5.8	7	3.2	599	5.3
<b>TOTAL MOST HARMFUL EVENT</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>

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## DRIVER AGE 65-100 (continued)

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Single Vehicle	6,099	13.3	34	15.4	960	8.6
Head On	869	1.9	52	23.5	377	3.4
Head On - Left Turn	2,477	5.4	15	6.8	974	8.7
Angle	14,878	32.3	91	41.2	4,223	37.7
Rear End	11,829	25.7	17	7.7	3,380	30.2
Rear End - Left Turn	651	1.4	2	0.9	199	1.8
Rear End - Right Turn	404	0.9	0	0.0	77	0.7
Sideswipe - Same Direction	4,871	10.6	5	2.3	412	3.7
Sideswipe - Opposite Direct	1,434	3.1	2	0.9	193	1.7
Other	2,214	4.8	3	1.4	357	3.2
Unknown	297	0.6	0	0.0	56	0.5
<b>Total Drivers</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>

Elderly drivers have the highest incidence of angle type crashes when compared to the other two age groups (16-24 and 25-64) in all crashes and fatal crashes.

RELATIONSHIP TO ROADWAY (LOCATION OF FIRST IMPACT IN CRASH)	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
On Road	43,271	94.0	193	87.3	10,435	93.1
Median	114	0.2	2	0.9	37	0.3
Shoulder	803	1.7	11	5.0	187	1.7
Outside of Shoulder/Curb	1,284	2.8	11	5.0	416	3.7
Gore	37	0.1	0	0.0	11	0.1
Other/Unknown	514	1.1	4	1.8	122	1.1
<b>Total Drivers</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>

ROADWAY TYPE IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Interstate Routes U.S. & Michigan Roads County & City Roads	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.					
<b>Total Drivers</b>	<b>46,023</b>		<b>221</b>		<b>11,208</b>	

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



### DRIVER AGE 65-100 (continued)

TIME OF DAY IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
12:00 mid. - 02:59 a.m.	435	0.9	13	5.9	86	0.8
03:00 a.m. - 05:59 a.m.	391	0.8	5	2.3	51	0.5
06:00 a.m. - 08:59 a.m.	3,472	7.5	17	7.7	768	6.9
09:00 a.m. - 11:59 a.m.	9,719	21.1	36	16.3	2,343	20.9
12:00 noon - 02:59 p.m.	12,415	27.0	43	19.5	3,282	29.3
03:00 p.m. - 05:59 p.m.	11,824	25.7	48	21.7	2,941	26.2
06:00 p.m. - 08:59 p.m.	5,104	11.1	24	10.9	1,093	9.8
09:00 p.m. - 11:59 p.m.	1,839	4.0	9	4.1	337	3.0
Unknown	824	1.8	26	11.8	307	2.7
<b>Total Drivers</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>

9:00 AM to 2:59 PM shows the highest involvement for elderly drivers compared to the other two age groups.

HAZARDOUS ACTION	All Crashes		Fatal Crashes		Injury Crashes		Hazardous Citation Issued	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury	Number	% of Issued
None	22,339	48.5	73	33.0	5,008	44.7	79	0.8
Speed too fast	1,232	2.7	5	2.3	342	3.1	331	3.5
Speed too slow	60	0.1	2	0.9	14	0.1	23	0.2
Failed to yield	8,252	17.9	55	24.9	2,389	21.3	4,087	43.2
Disregard traffic control	1,515	3.3	15	6.8	614	5.5	879	9.3
Drove wrong way	53	0.1	6	2.7	15	0.1	24	0.3
Drove left of center	298	0.6	11	5.0	108	1.0	124	1.3
Improper passing	275	0.6	1	0.5	32	0.3	83	0.9
Improper lane use	1,362	3.0	6	2.7	134	1.2	493	5.2
Improper turn	915	2.0	3	1.4	185	1.7	383	4.0
Improper/no signal	64	0.1	0	0.0	15	0.1	19	0.2
Improper backing	1,233	2.7	1	0.5	37	0.3	239	2.5
Unable to stop in assured clear distance	4,734	10.3	6	2.7	1,401	12.5	2,061	21.8
Reckless driving	13	0.0	1	0.5	7	0.1	5	0.1
Careless\Negligent driving	256	0.6	4	1.8	101	0.9	113	1.2
Other	1,811	3.9	12	5.4	439	3.9	374	4.0
Unknown	1,611	3.5	20	9.0	367	3.3	148	1.6
<b>Total Drivers</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>	<b>9,465</b>	<b>100.0</b>

Compared to the other two age groups, elderly drivers have the highest incidence of failed to yield, disregard of traffic control, improper lane use, improper turn, and improper backing as a hazardous action in all crashes.

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## DRIVER AGE 65-100 (continued)

DAY of WEEK IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Sunday	3,961	8.6	24	10.9	958	8.5
Monday	6,985	15.2	39	17.6	1,760	15.7
Tuesday	7,126	15.5	25	11.3	1,750	15.6
Wednesday	7,141	15.5	45	20.4	1,701	15.2
Thursday	7,205	15.7	32	14.5	1,768	15.8
Friday	8,334	18.1	32	14.5	2,006	17.9
Saturday	5,271	11.5	24	10.9	1,265	11.3
Total Drivers	46,023	100.0	221	100.0	11,208	100.0

DRIVER GENDER IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Male	26,958	58.6	147	66.5	6,254	55.8
Female	18,525	40.3	74	33.5	4,823	43.0
Unknown	540	1.2	0	0.0	131	1.2
Total Drivers	46,023	100.0	221	100.0	11,208	100.0

NUMBER OF OCCUPANTS IN MOTOR VEHICLE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
1 occupant	33,275	72.3	138	62.4	7,704	68.7
2 occupants	9,959	21.6	76	34.4	2,759	24.6
3 occupants	1,078	2.3	5	2.3	338	3.0
4 occupants	408	0.9	2	0.9	121	1.1
5 occupants	98	0.2	0	0.0	32	0.3
6 + occupants	103	0.2	0	0.0	34	0.3
0 occupants	322	0.7	0	0.0	38	0.3
Unknown	780	1.7	0	0.0	182	1.6
Total Drivers	46,023	100.0	221	100.0	11,208	100.0

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## DRIVER AGE 65-100 (continued)

VEHICLE TYPE CRASH INVOLVEMENT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Passenger Car and Station Wagon	36,230	78.7	178	80.5	8,961	80.0
Van and Motorhome	3,477	7.6	9	4.1	859	7.7
Pickup	4,919	10.7	23	10.4	1,057	9.4
Small Truck (under 10,000 lbs.)	644	1.4	4	1.8	130	1.2
Motorcycle	38	0.1	3	1.4	25	0.2
Moped	10	0.0	0	0.0	7	0.1
Go Cart	0	0.0	0	0.0	0	0.0
Snowmobile	6	0.0	0	0.0	3	0.0
Off Road Vehicle	4	0.0	0	0.0	2	0.0
Other	66	0.1	0	0.0	18	0.2
Unknown	288	0.6	0	0.0	86	0.8
CDL Truck/Bus (breakdown below)	341	0.7	4	1.8	60	0.5
<b>Total Number of Drivers</b>	<b>46,023</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>11,208</b>	<b>100.0</b>

Special Note: School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

CDL Truck/Bus Sub-category Types	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Drivers	% of Total	Number	% of Fatal	Number	% of Injury
Commercial Vehicle: Group A	107	31.4	2	50.0	23	38.3
Commercial Vehicle: Group B	101	29.6	1	25.0	17	28.3
Commercial Vehicle: Group C	36	10.6	1	25.0	7	11.7
Other Truck	19	5.6	0	0.0	6	10.0
Unknown Truck	78	22.9	0	0.0	7	11.7
<b>Total Number of Drivers</b>	<b>341</b>	<b>100.0</b>	<b>4</b>	<b>100.0</b>	<b>60</b>	<b>100.0</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

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## 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	29	4	4
Bicyclists Injured	1,860	81	61
Bicyclists in Crashes	2,271	95	74



<b>PEDESTRIAN</b>	Total	Drinking in Crash	Drinking Pedestrian
Pedestrians Killed	168	61	51
Pedestrians Injured	2,424	225	142
Pedestrians in Crashes	2,868	297	202



<b>MOTORCYCLIST</b>	Total	Drinking in Crash	Drinking Motorcyclist
Motorcyclists Killed	78	26	23
Motorcyclists Injured	2,541	257	216
Motorcyclists in Crashes	3,527	325	267



<b>SNOWMOBILER *</b>	Total	Drinking in Crash	Drinking Snowmobiler
Snowmobilers Killed	17	10	10
Snowmobilers Injured	395	82	75
Snowmobilers in Crashes	867	119	105



<b>ORV/ATV RIDER *</b>	Total	Drinking in Crash	Drinking ORV/ATV Rider
ORV/ATV Rider Killed	8	3	3
ORV/ATV Rider Injured	253	40	40
ORV/ATV Rider in Crashes	364	51	47

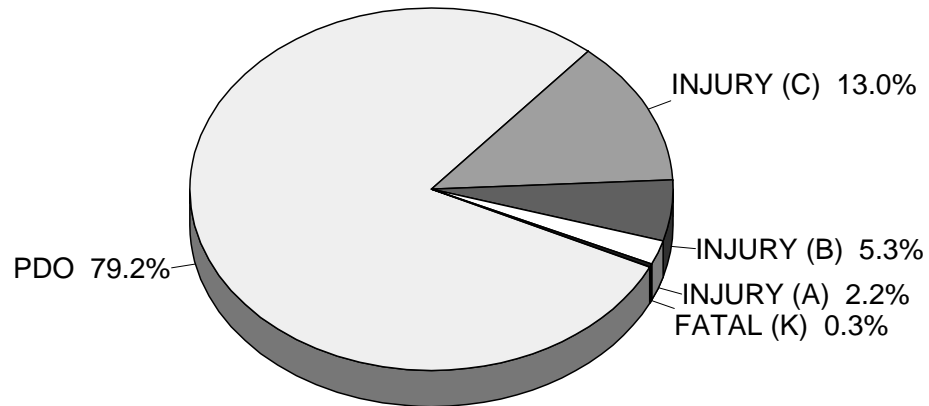


\* on Michigan public roadways

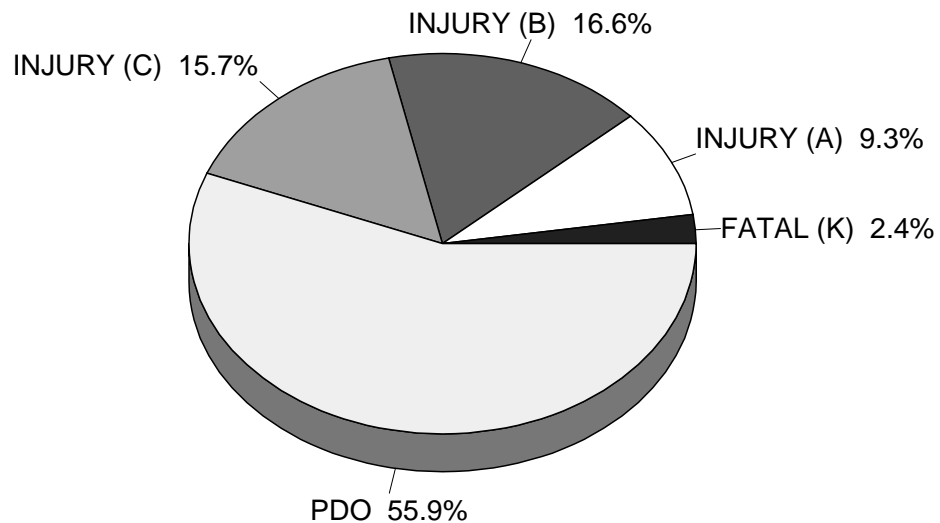
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# ALCOHOL

## ALL CRASHES BY INJURY SEVERITY



## HBD CRASHES BY INJURY SEVERITY

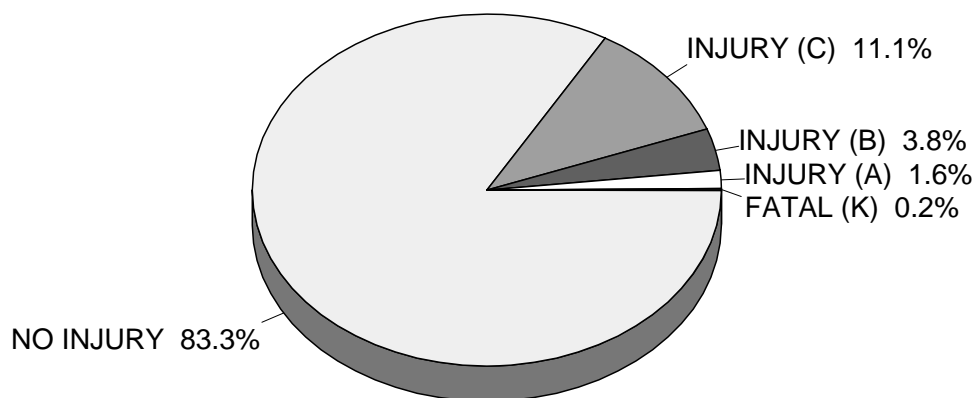


The problem of the drinking driver, pedestrian, and/or cyclist is seen when one compares the two charts on this page. A fatality in the crash is eight times more likely when one of the crash-involved operators is reported as had been drinking.

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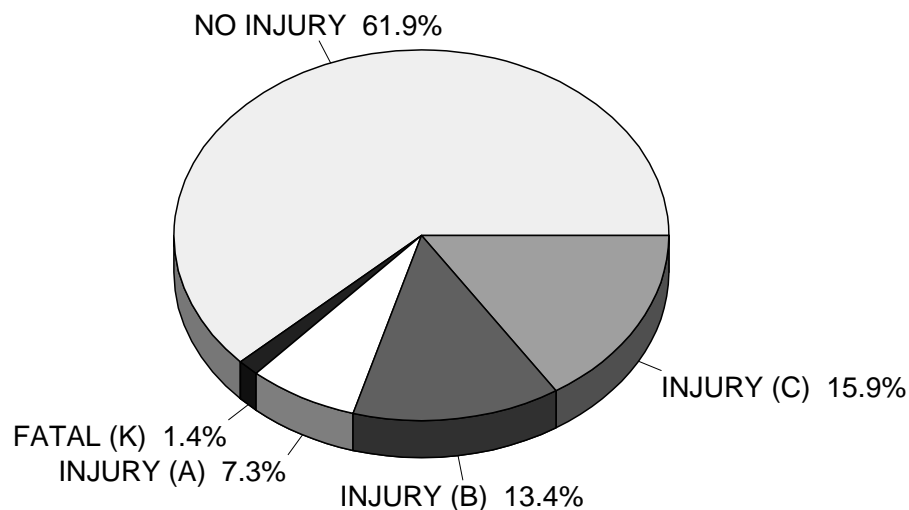
## DEATH & INJURY PER CRASH INVOLVED OCCUPANT

### Occupants in Crashes



The majority of occupants involved in crashes are not injured (83.3%). 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.

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# ALCOHOL

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

Data not available for calendar year 2000 ejection information. Please refer to the preface for details.

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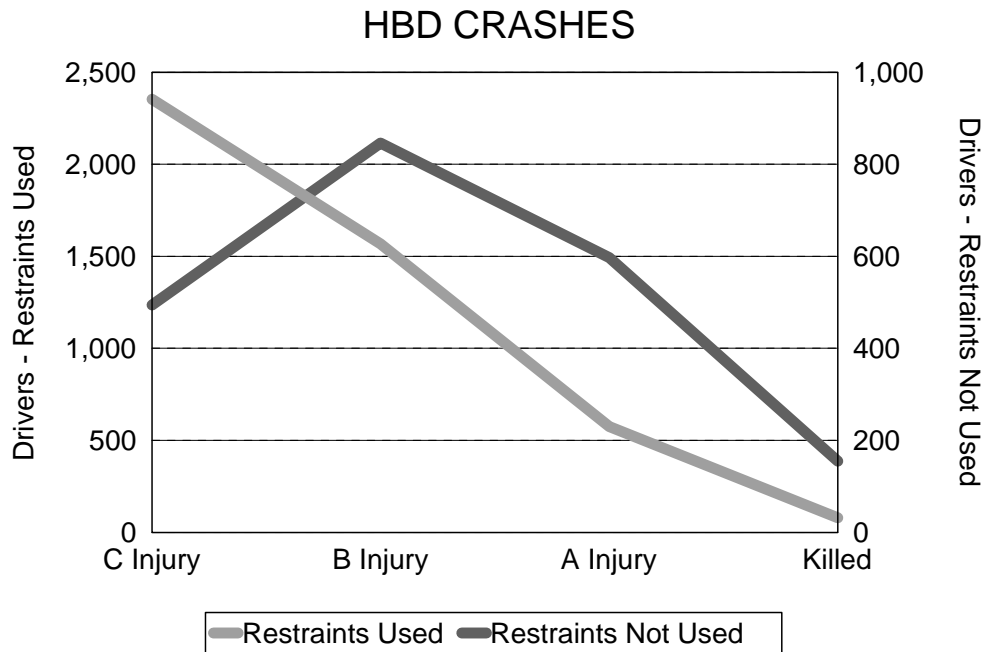
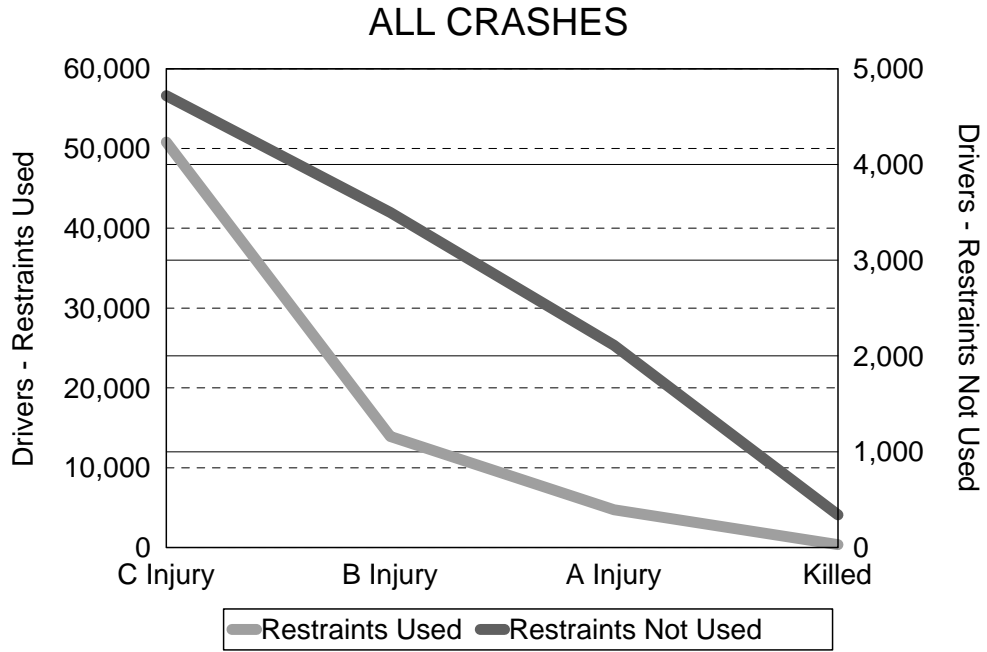


## ***ALL OCCUPANTS and OCCUPANTS of HBD CRASHES*** **INJURY SEVERITY - EJECTED vs. NOT EJECTED**

Data not available for calendar year 2000 ejection information. Please refer to the preface for details.

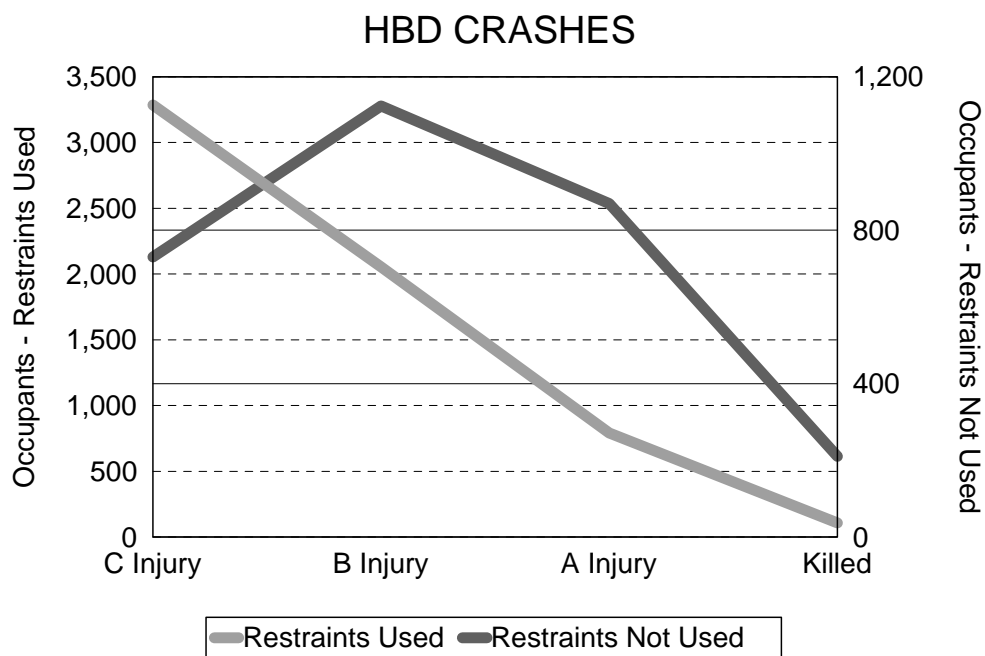
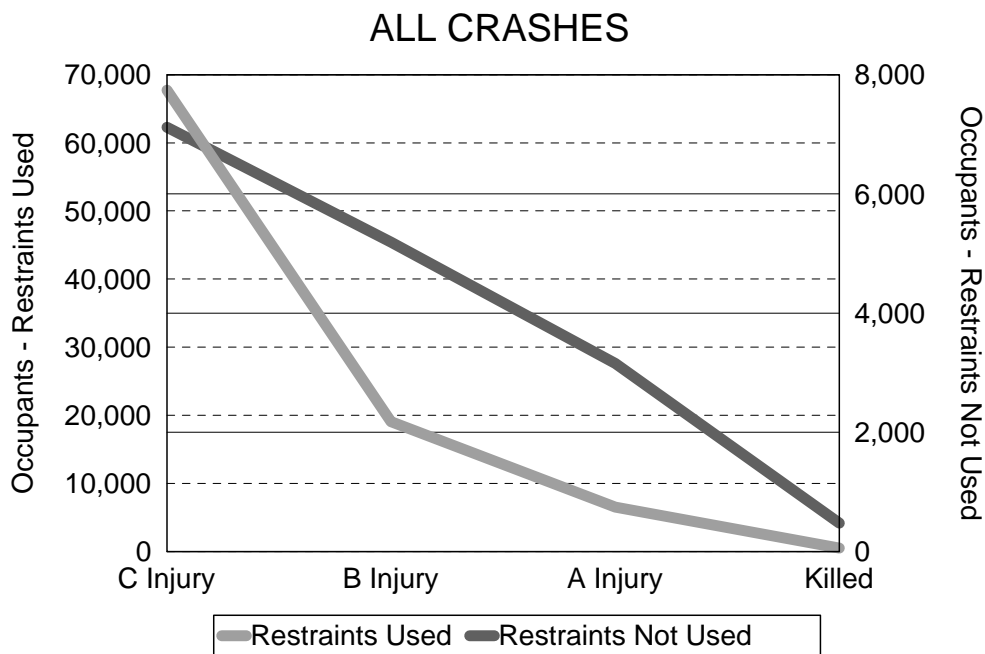
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

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



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

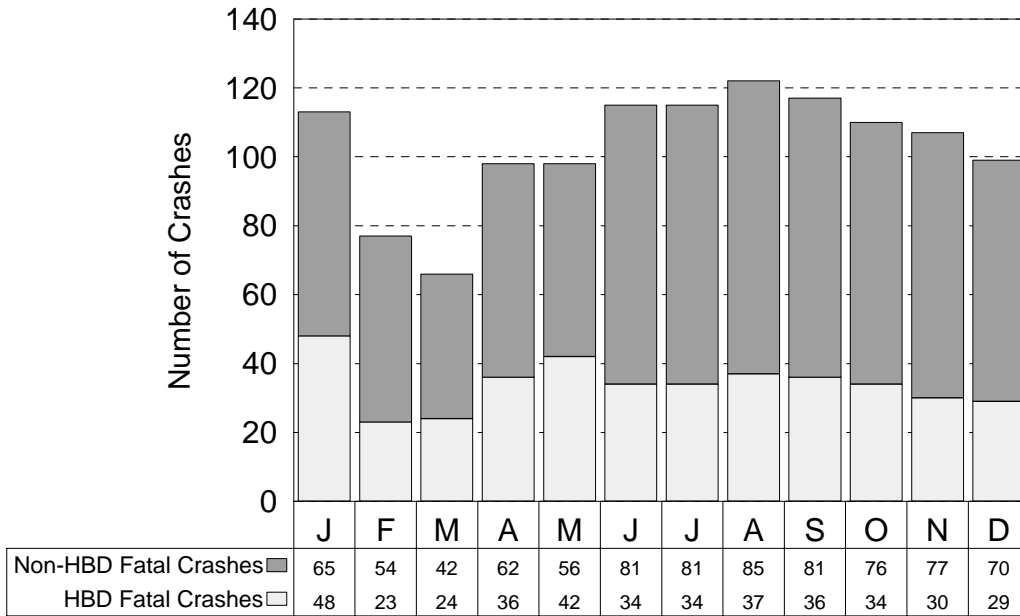


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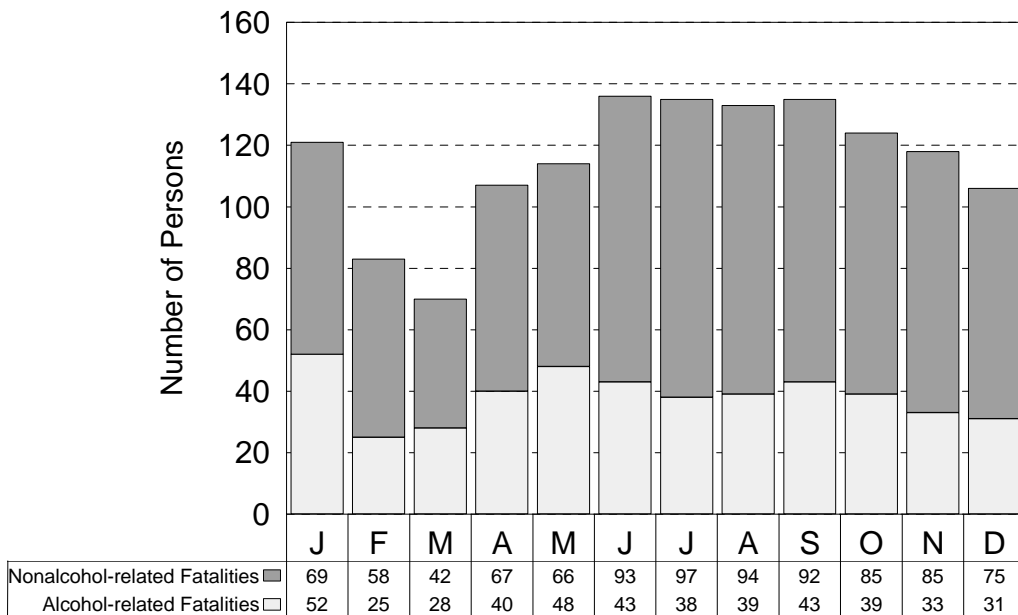
## ALCOHOL INVOLVEMENT IN FATAL CRASHES

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

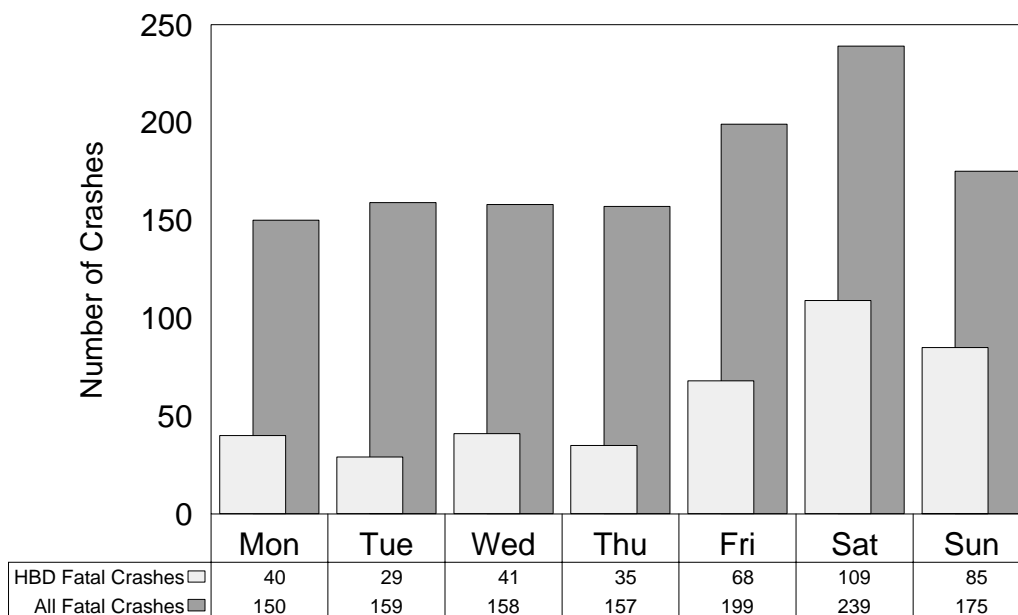


### Alcohol-related Fatalities by Month



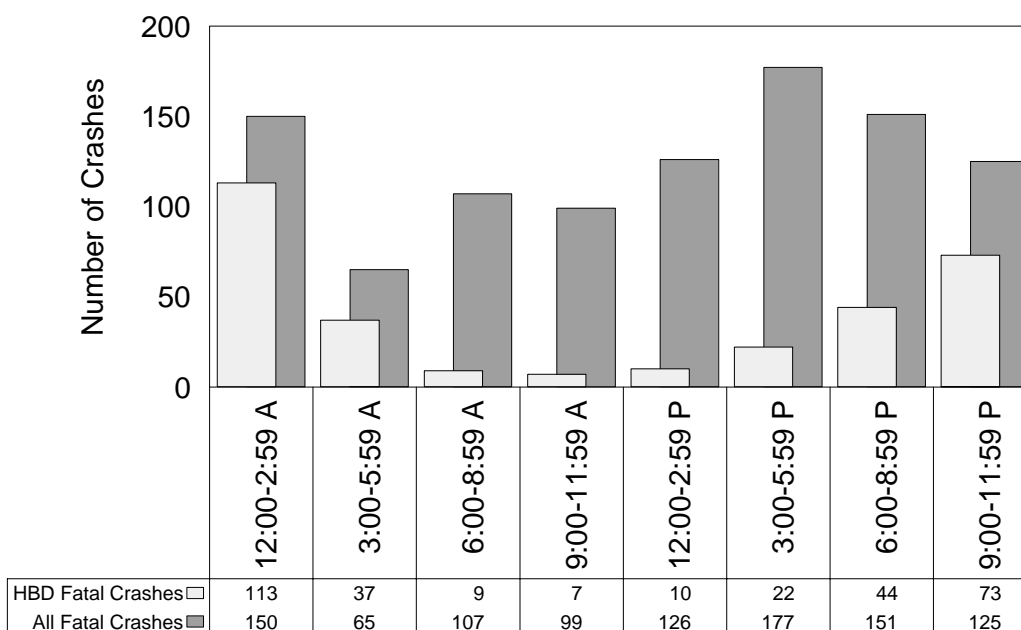
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## HBD Fatal Crashes by Day of Week



Saturday had the most fatal crashes in 2000. Saturday and Sunday had the highest proportions of drinking related fatal crashes. Almost half of the weekend fatal crashes involved drinking, while only 18.2 percent of fatal crashes on Tuesday 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 (75.3%), while the late morning hours had the lowest (7.1%).

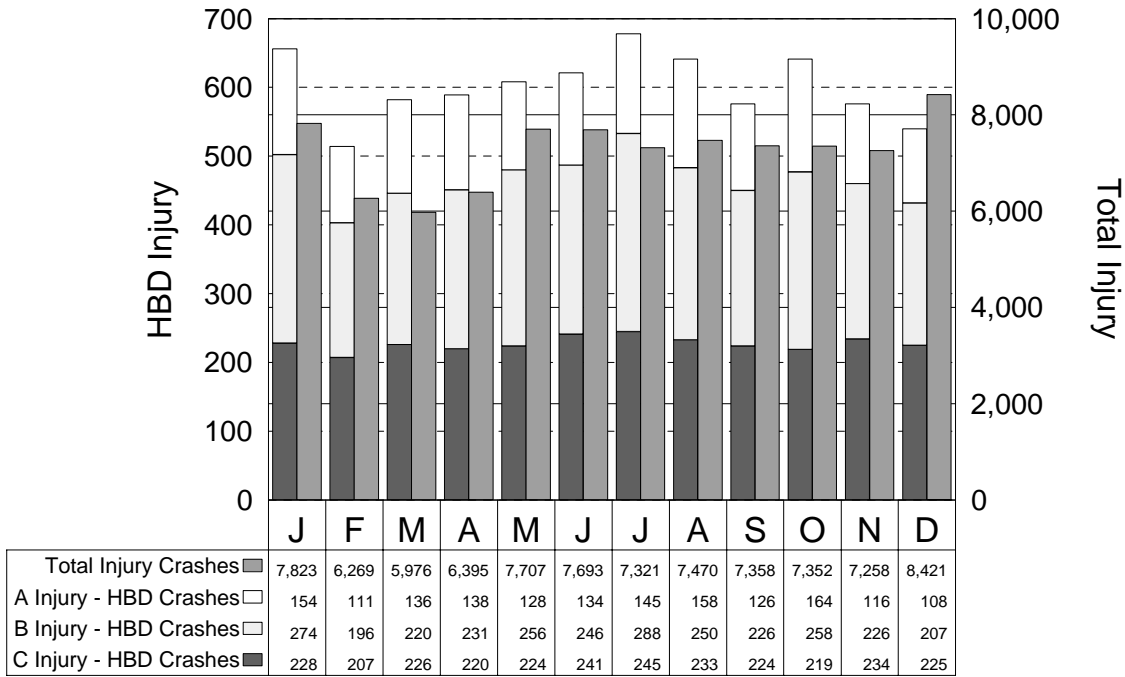
There were 237 fatal crashes where the time of day was unknown. Of these 237 fatal crashes, 92 were HBD.

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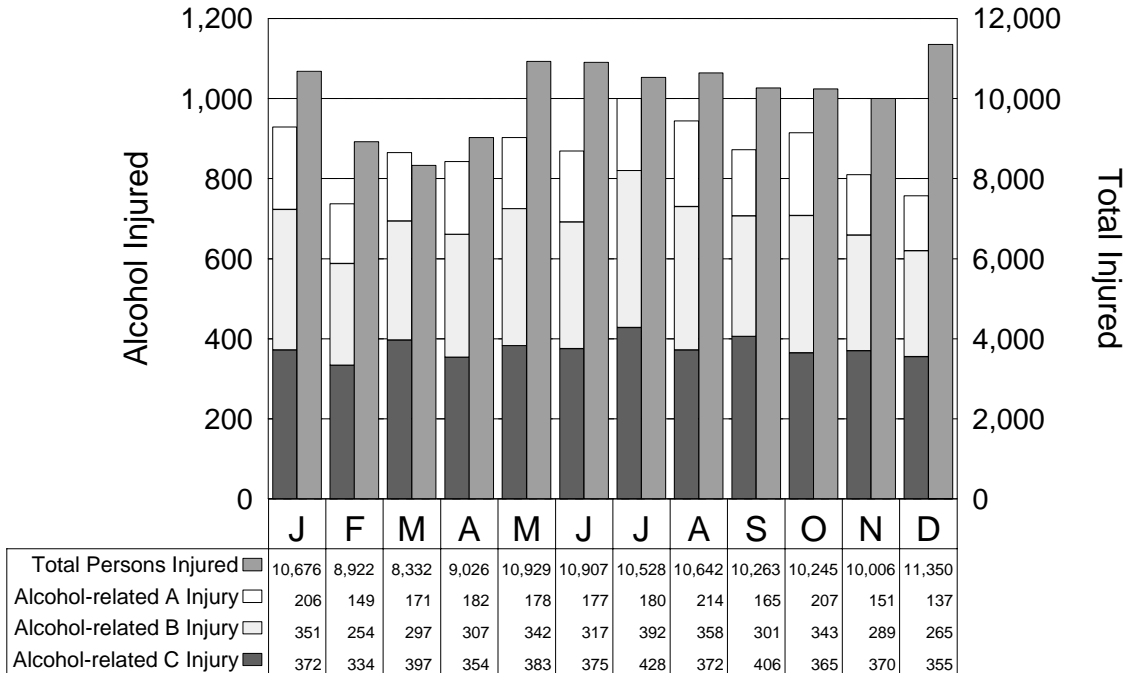
## ALCOHOL INVOLVEMENT IN INJURY CRASHES

Alcohol involvement in injury crashes is an important indicator of the alcohol impaired driving problem. In 2000, the highest number of HBD injury crashes occurred in July with 678. The highest proportion of HBD injury crashes occurred in March with 9.74 percent of the injury crashes in that month involving alcohol.

### HBD Injury Crashes by Month

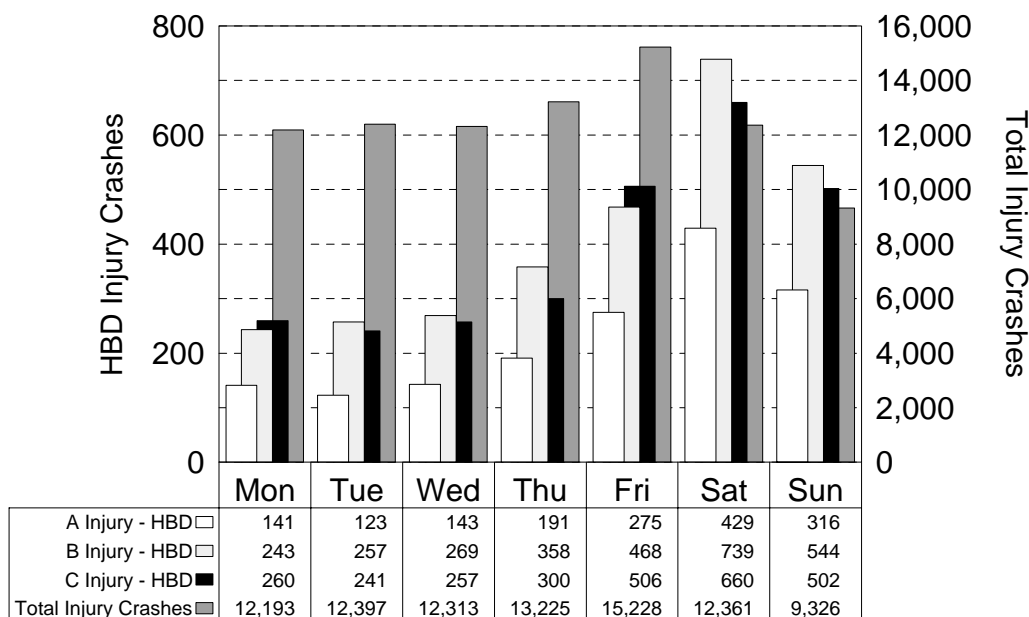


### Alcohol-related Injuries by Month



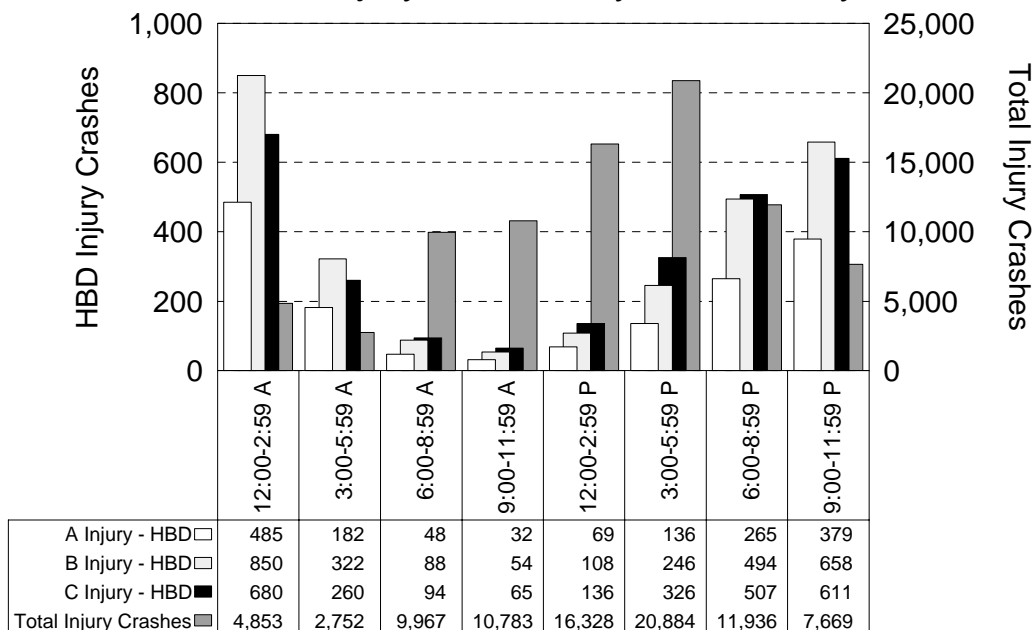
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## 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.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 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	19	0	3	3	4	3	3	1	0	0	2
Alger	35	0	3	3	8	7	6	2	0	0	6
Allegan	265	1	31	39	74	69	27	5	3	0	16
Alpena	73	0	7	13	18	17	12	4	1	0	1
Antrim	50	0	4	8	9	13	7	4	1	0	4
Arenac	45	0	2	12	10	9	7	3	1	0	1
Baraga	28	0	6	9	3	6	1	1	0	0	2
Barry	114	0	9	26	22	31	10	5	3	0	8
Bay	317	1	34	51	83	79	32	19	7	3	8
Benzie	35	0	4	3	7	12	4	3	1	0	1
Berrien	258	0	23	43	54	58	29	9	6	3	33
Branch	89	0	10	13	20	23	5	7	0	0	11
Calhoun	293	3	41	49	70	62	40	13	2	2	11
Cass	129	0	9	12	27	26	9	4	0	0	42
Charlevoix	40	0	6	10	8	9	2	2	1	0	2
Cheboygan	57	0	4	12	18	9	8	2	1	1	2
Chippewa	79	0	11	18	19	20	3	2	2	0	4
Clare	62	0	3	5	16	18	11	3	1	1	4
Clinton	105	0	17	19	25	30	8	2	0	0	4
Crawford	32	0	3	4	7	9	6	0	1	1	1
Delta	75	0	8	13	11	14	11	9	1	0	8
Dickinson	41	0	5	4	10	11	3	0	1	1	6
Eaton	157	0	9	32	41	39	23	6	1	0	6
Emmet	71	0	3	10	19	17	15	2	1	0	4
Genesee	1,003	5	87	127	283	260	125	44	22	2	48
Gladwin	69	0	7	7	23	16	6	4	1	2	3
Gogebic	28	0	1	3	11	2	2	0	0	0	9
Grand Traverse	123	1	14	21	36	31	13	1	3	0	3
Gratiot	78	0	14	10	17	16	14	1	1	0	5
Hillsdale	74	0	9	17	13	19	9	4	0	0	3
Houghton	71	1	12	12	17	7	3	3	3	1	12
Huron	50	1	6	8	14	12	2	2	3	0	2
Ingham	482	1	37	111	125	101	59	19	9	2	18
Ionia	138	1	17	26	31	32	17	4	3	1	6
Iosco	55	0	8	6	20	10	4	3	2	2	0
Iron	42	0	4	8	16	6	3	0	1	0	4
Isabella	115	0	29	21	24	18	14	1	4	1	3
Jackson	337	3	46	38	88	95	35	14	8	1	9
Kalamazoo	437	1	50	94	111	97	45	11	5	1	22
Kalkaska	39	0	5	5	9	9	8	3	0	0	0
Kent	1,066	2	123	206	327	218	117	31	10	8	24
Keweenaw	10	0	0	1	3	3	1	0	1	0	1
Lake	38	0	4	6	10	6	5	3	2	0	2
Lapeer	171	0	16	24	43	46	27	8	2	0	5
Leelanau	53	0	4	9	16	9	9	1	0	0	5

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



**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	180	0	23	30	45	38	18	8	2	1	15
Livingston	297	1	37	53	70	73	39	12	7	0	5
Luce	13	0	2	0	4	2	3	1	0	0	1
Mackinac	48	0	7	8	7	8	8	7	1	0	2
Macomb	1,180	1	117	168	332	321	133	52	26	8	22
Manistee	46	0	0	9	13	9	7	4	1	0	3
Marquette	122	0	21	25	29	24	13	2	3	0	5
Mason	43	0	5	6	10	7	11	3	0	0	1
Mecosta	101	0	19	17	31	21	8	1	1	1	2
Menominee	61	0	14	6	12	10	4	0	1	0	14
Midland	134	0	13	21	42	27	19	7	2	1	2
Missaukee	34	0	5	4	7	12	2	2	0	0	2
Monroe	270	0	15	37	55	57	31	12	4	2	57
Montcalm	167	1	29	21	43	44	19	5	3	1	1
Montmorency	33	1	3	8	7	10	3	0	0	0	1
Muskegon	283	0	28	39	60	74	42	23	3	4	10
Newaygo	118	0	16	17	28	23	23	5	4	0	2
Oakland	1,790	5	139	254	463	479	271	77	33	10	59
Oceana	66	1	8	11	17	15	12	0	0	0	2
Ogemaw	62	0	7	5	13	20	6	4	2	0	5
Ontonagon	20	0	4	2	3	8	1	2	0	0	0
Osceola	58	0	10	7	22	15	3	0	1	0	0
Oscoda	24	0	4	3	6	9	2	0	0	0	0
Otsego	35	0	8	4	8	11	1	0	3	0	0
Ottawa	415	1	64	78	121	86	34	7	2	1	21
Presque Isle	23	0	2	2	11	5	2	1	0	0	0
Roscommon	67	0	8	6	14	20	12	4	1	2	0
Saginaw	412	3	51	71	100	90	56	18	10	3	10
St. Clair	320	0	55	42	85	86	35	8	2	1	6
St. Joseph	125	0	14	21	32	31	15	6	1	0	5
Sanilac	45	0	8	4	9	16	4	4	0	0	0
Schoolcraft	34	0	1	4	10	11	4	1	0	0	3
Shiawassee	143	1	20	23	44	32	11	3	5	1	3
Tuscola	130	1	15	20	38	25	20	4	2	1	4
Van Buren	200	0	25	42	42	35	24	9	6	1	16
Washtenaw	485	0	46	83	115	126	63	16	6	3	27
Wayne	2,656	3	220	311	694	669	392	171	56	19	121
Wexford	78	0	7	11	23	20	8	5	1	1	2
UNKNOWN	29	0	2	6	10	5	2	2	1	0	1
<b>Totals</b>	<b>17,295</b>	<b>40</b>	<b>1,820</b>	<b>2,650</b>	<b>4,495</b>	<b>4,178</b>	<b>2,161</b>	<b>751</b>	<b>305</b>	<b>94</b>	<b>801</b>

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## 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	577	0.1	0	0.0	71	124	109	273
14 years	208	0.1	2	0.1	21	33	35	117
15 years	700	0.2	5	0.4	30	82	111	472
16 years	9,479	2.4	32	2.3	201	632	1,368	7,246
17 years	12,649	3.2	37	2.6	295	790	1,831	9,696
18 years	14,086	3.6	49	3.5	323	910	2,050	10,754
19 years	12,953	3.3	38	2.7	314	857	1,845	9,899
20 years	11,581	3.0	41	2.9	269	747	1,572	8,952
21 - 24 years	37,616	9.6	129	9.2	998	2,281	5,264	28,944
25 - 34 years	78,559	20.0	280	20.0	1,926	4,370	11,142	60,841
35 - 44 years	74,071	18.9	221	15.8	1,755	3,895	10,291	57,909
45 - 54 years	54,800	14.0	194	13.9	1,235	2,861	7,631	42,879
55 - 64 years	29,058	7.4	137	9.8	675	1,445	4,141	22,660
65 - 69 years	8,705	2.2	33	2.4	196	459	1,264	6,753
70 - 74 years	7,679	2.0	44	3.1	180	434	1,122	5,899
75 - 79 years	5,668	1.4	26	1.9	159	344	852	4,287
80 - 84 years	3,277	0.8	27	1.9	79	232	496	2,443
85 - 89 years	1,296	0.3	14	1.0	39	107	203	933
90 years and over	333	0.1	3	0.2	12	26	50	242
Not Stated	29,052	7.4	87	6.2	615	1,439	3,838	23,073
<b>TOTAL</b>	<b>392,347</b>	<b>100.0</b>	<b>1,399</b>	<b>100.0</b>	<b>9,393</b>	<b>22,068</b>	<b>55,215</b>	<b>304,272</b>

NOTE: The tables on this page and page 96 exclude 68,642 drivers of unknown gender.

The crash involvement for male drivers is up 2.2 percent from 1999.

The fatal crash involvement for male drivers is up 1.0 percent from 1999.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



**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	7	0.1	0	0.0	0	3	0	4
14 years	3	0.0	0	0.0	0	1	1	1
15 years	17	0.1	0	0.0	2	2	5	8
16 years	76	0.6	3	1.0	8	14	11	40
17 years	188	1.4	3	1.0	17	30	24	114
18 years	343	2.5	7	2.3	31	66	44	195
19 years	411	3.0	11	3.6	43	86	53	218
20 years	426	3.1	7	2.3	33	91	55	240
21 - 24 years	2,192	16.1	39	12.6	203	381	297	1,272
25 - 34 years	3,527	25.9	97	31.4	364	632	534	1,900
35 - 44 years	3,096	22.7	63	20.4	295	497	475	1,766
45 - 54 years	1,728	12.7	44	14.2	162	264	294	964
55 - 64 years	646	4.7	19	6.1	53	95	109	370
65 - 69 years	154	1.1	3	1.0	11	25	24	91
70 - 74 years	106	0.8	2	0.6	3	11	20	70
75 - 79 years	53	0.4	0	0.0	7	6	12	28
80 - 84 years	19	0.1	0	0.0	1	4	1	13
85 - 89 years	8	0.1	1	0.3	2	1	1	3
90 years and over	1	0.0	0	0.0	0	0	1	0
Not Stated	608	4.5	10	3.2	38	91	93	376
<b>TOTAL</b>	<b>13,609</b>	<b>100.0</b>	<b>309</b>	<b>100.0</b>	<b>1,273</b>	<b>2,300</b>	<b>2,054</b>	<b>7,673</b>

NOTE: The tables on this page and page 97 exclude 212 drinking drivers of unknown gender.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## 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	301	0.1	0	0.0	28	53	70	150
14 years	118	0.0	1	0.2	4	19	23	71
15 years	529	0.2	3	0.5	20	61	104	341
16 years	7,705	2.8	17	2.9	173	529	1,384	5,602
17 years	9,310	3.4	29	5.0	177	595	1,702	6,807
18 years	9,880	3.6	20	3.4	240	610	1,797	7,213
19 years	9,031	3.3	25	4.3	201	529	1,560	6,716
20 years	8,409	3.1	12	2.1	166	478	1,457	6,296
21 - 24 years	27,540	10.0	53	9.1	558	1,554	4,839	20,536
25 - 34 years	57,222	20.8	112	19.3	1,160	2,979	10,096	42,875
35 - 44 years	56,337	20.5	93	16.0	1,092	2,814	9,504	42,834
45 - 54 years	39,486	14.4	83	14.3	765	1,897	6,729	30,012
55 - 64 years	18,818	6.9	41	7.1	397	901	3,319	14,160
65 - 69 years	5,592	2.0	17	2.9	131	296	979	4,169
70 - 74 years	5,038	1.8	16	2.8	113	286	890	3,733
75 - 79 years	4,192	1.5	15	2.6	125	265	745	3,042
80 - 84 years	2,568	0.9	15	2.6	54	190	427	1,882
85 - 89 years	943	0.3	10	1.7	27	67	173	666
90 years and over	192	0.1	1	0.2	6	14	35	136
Not Stated	11,464	4.2	17	2.9	209	517	1,683	9,038
<b>TOTAL</b>	<b>274,675</b>	<b>100.0</b>	<b>580</b>	<b>100.0</b>	<b>5,646</b>	<b>14,654</b>	<b>47,516</b>	<b>206,279</b>

The crash involvement for female drivers is up 3.7 percent from 1999.

The fatal crash involvement for female drivers is up 0.3 percent from 1999.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



**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	1	0	2
14 years	5	0.1	0	0.0	0	3	1	1
15 years	5	0.1	1	1.5	0	3	0	1
16 years	22	0.6	0	0.0	2	4	4	12
17 years	55	1.6	3	4.4	10	8	14	20
18 years	86	2.5	3	4.4	13	11	12	47
19 years	99	2.8	4	5.9	13	16	13	53
20 years	100	2.9	0	0.0	12	19	12	57
21 - 24 years	433	12.5	8	11.8	50	78	73	224
25 - 34 years	940	27.1	19	27.9	79	144	166	532
35 - 44 years	1,047	30.1	18	26.5	84	163	192	590
45 - 54 years	412	11.9	5	7.4	28	53	83	243
55 - 64 years	101	2.9	4	5.9	5	8	24	60
65 - 69 years	21	0.6	0	0.0	1	4	2	14
70 - 74 years	20	0.6	0	0.0	1	5	2	12
75 - 79 years	6	0.2	0	0.0	2	1	2	1
80 - 84 years	5	0.1	0	0.0	0	0	2	3
85 - 89 years	0	0.0	0	0.0	0	0	0	0
90 years and over	1	0.0	0	0.0	0	0	1	0
Not Stated	113	3.3	3	4.4	14	14	20	62
<b>TOTAL</b>	<b>3,474</b>	<b>100.0</b>	<b>68</b>	<b>100.0</b>	<b>314</b>	<b>535</b>	<b>623</b>	<b>1,934</b>

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## 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	1	1	100.0	1	1	100.0
Alger	2	1	50.0	3	1	33.3
Allegan	16	7	43.8	16	7	43.8
Alpena	6	4	66.7	7	5	71.4
Antrim	6	1	16.7	7	1	14.3
Arenac	2	0	0.0	2	0	0.0
Baraga	3	1	33.3	4	1	25.0
Barry	13	4	30.8	14	4	28.6
Bay	17	6	35.3	19	7	36.8
Benzie	7	4	57.1	8	5	62.5
Berrien	24	9	37.5	27	11	40.7
Branch	4	2	50.0	4	2	50.0
Calhoun	22	7	31.8	24	8	33.3
Cass	14	5	35.7	14	5	35.7
Charlevoix	2	0	0.0	2	0	0.0
Cheboygan	3	1	33.3	4	2	50.0
Chippewa	6	1	16.7	8	1	12.5
Clare	3	2	66.7	5	3	60.0
Clinton	10	4	40.0	12	4	33.3
Crawford	3	0	0.0	6	0	0.0
Delta	7	3	42.9	8	3	37.5
Dickinson	0	0	---	0	0	---
Eaton	11	4	36.4	11	4	36.4
Emmet	11	3	27.3	11	3	27.3
Genesee	70	29	41.4	79	34	43.0
Gladwin	2	0	0.0	2	0	0.0
Gogebic	0	0	---	0	0	---
Grand Traverse	12	2	16.7	13	3	23.1
Gratiot	6	1	16.7	7	1	14.3
Hillsdale	7	2	28.6	8	3	37.5
Houghton	4	4	100.0	5	5	100.0
Huron	7	0	0.0	7	0	0.0
Ingham	17	7	41.2	17	7	41.2
Ionia	8	1	12.5	8	1	12.5
Iosco	3	2	66.7	3	2	66.7
Iron	3	2	66.7	3	2	66.7
Isabella	10	2	20.0	12	2	16.7
Jackson	21	6	28.6	25	6	24.0
Kalamazoo	33	15	45.5	36	17	47.2
Kalkaska	3	0	0.0	4	0	0.0
Kent	64	18	28.1	66	19	28.8
Keweenaw	0	0	---	0	0	---
Lake	6	3	50.0	8	5	62.5
Lapeer	22	8	36.4	28	10	35.7

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

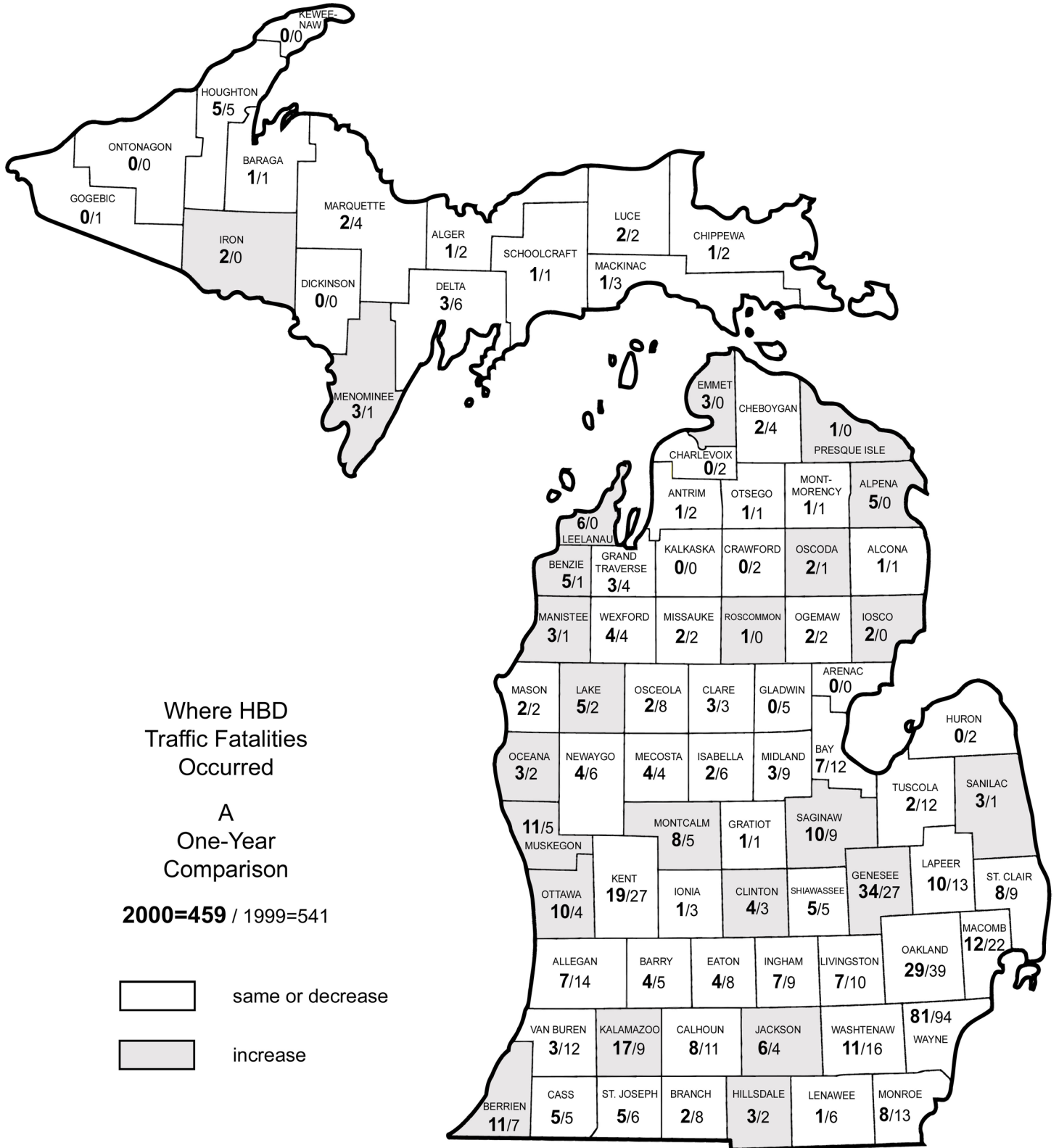
**FATAL CRASHES AND FATALITIES  
WITH DRINKING INVOLVEMENT  
BY COUNTY (continued)**

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	6	3	50.0	9	6	66.7
Lenawee	10	1	10.0	11	1	9.1
Livingston	17	6	35.3	18	7	38.9
Luce	2	2	100.0	2	2	100.0
Mackinac	2	1	50.0	2	1	50.0
Macomb	46	12	26.1	46	12	26.1
Manistee	8	3	37.5	8	3	37.5
Marquette	6	2	33.3	7	2	28.6
Mason	5	2	40.0	5	2	40.0
Mecosta	12	3	25.0	17	4	23.5
Menominee	5	3	60.0	5	3	60.0
Midland	7	3	42.9	7	3	42.9
Missaukee	3	2	66.7	3	2	66.7
Monroe	30	8	26.7	31	8	25.8
Montcalm	21	8	38.1	25	8	32.0
Montmorency	1	1	100.0	1	1	100.0
Muskegon	22	10	45.5	24	11	45.8
Newaygo	16	3	18.8	20	4	20.0
Oakland	93	27	29.0	97	29	29.9
Oceana	7	3	42.9	10	3	30.0
Ogemaw	6	2	33.3	7	2	28.6
Ontonagon	1	0	0.0	1	0	0.0
Osceola	5	2	40.0	5	2	40.0
Oscoda	3	2	66.7	3	2	66.7
Otsego	6	1	16.7	8	1	12.5
Ottawa	35	7	20.0	39	10	25.6
Presque Isle	3	1	33.3	8	1	12.5
Roscommon	4	1	25.0	4	1	25.0
Saginaw	31	8	25.8	35	10	28.6
St. Clair	17	6	35.3	20	8	40.0
St. Joseph	17	5	29.4	22	5	22.7
Sanilac	10	3	30.0	11	3	27.3
Schoolcraft	3	1	33.3	3	1	33.3
Shiawassee	8	5	62.5	10	5	50.0
Tuscola	8	2	25.0	9	2	22.2
Van Buren	17	3	17.6	21	3	14.3
Washtenaw	35	10	28.6	43	11	25.6
Wayne	212	70	33.0	230	81	35.2
Wexford	6	3	50.0	7	4	57.1
Totals	1,237	407	32.9	1,382	459	33.2

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# ALCOHOL

## TRAFFIC FATALITIES WITH DRINKING INVOLVEMENT BY COUNTY



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## 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	19	1	2	4	3	9
Alger	35	1	3	10	10	11
Allegan	266	7	25	57	31	146
Alpena	73	4	9	10	16	34
Antrim	50	1	6	8	3	32
Arenac	45	0	5	8	10	22
Baraga	26	1	3	8	4	10
Barry	112	4	5	21	19	63
Bay	321	6	28	51	37	199
Benzie	35	4	5	10	2	14
Berrien	258	9	26	53	33	137
Branch	87	2	11	19	5	50
Calhoun	298	7	28	52	45	166
Cass	129	5	18	25	20	61
Charlevoix	41	0	6	3	9	23
Cheboygan	55	1	10	9	12	23
Chippewa	74	1	7	13	10	43
Clare	62	2	5	8	10	37
Clinton	104	4	10	18	12	60
Crawford	32	0	5	4	8	15
Delta	74	3	4	8	13	46
Dickinson	41	0	3	8	7	23
Eaton	158	4	22	26	21	85
Emmet	69	3	4	17	9	36
Genesee	990	29	58	192	221	490
Gladwin	69	0	9	11	5	44
Gogebic	27	0	4	3	3	17
Grand Traverse	122	2	11	20	18	71
Gratiot	77	1	5	13	13	45
Hillsdale	74	2	6	12	11	43
Houghton	69	4	8	10	10	37
Huron	50	0	8	12	5	25
Ingham	488	7	44	80	84	273
Ionia	136	1	19	19	12	85
Iosco	55	2	4	13	5	31
Iron	42	2	8	2	6	24
Isabella	115	2	9	15	18	71
Jackson	342	6	38	50	48	200
Kalamazoo	441	15	51	93	46	236
Kalkaska	40	0	5	7	4	24
Kent	1,074	18	88	133	156	679
Keweenaw	10	0	1	4	1	4

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## 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	3	7	11	4	15
Lapeer	169	8	18	34	24	85
Leelanau	52	3	5	12	6	26
Lenawee	179	1	9	27	29	113
Livingston	295	6	27	58	43	161
Luce	14	2	2	0	5	5
Mackinac	51	1	8	10	8	24
Macomb	1,193	12	100	169	237	675
Manistee	47	3	6	6	6	26
Marquette	122	2	10	29	15	66
Mason	43	2	7	9	8	17
Mecosta	101	3	17	27	7	47
Menominee	62	3	8	18	3	30
Midland	133	3	11	27	19	73
Missaukee	34	2	3	4	3	22
Monroe	273	8	29	54	40	142
Montcalm	166	8	19	36	19	84
Montmorency	33	1	3	8	4	17
Muskegon	283	10	38	41	40	154
Newaygo	117	3	17	25	13	59
Oakland	1,786	27	135	268	320	1,036
Oceana	66	3	8	13	9	33
Ogemaw	62	2	8	16	4	32
Ontonagon	20	0	1	4	5	10
Osceola	57	2	10	9	5	31
Oscoda	23	2	3	3	1	14
Otsego	36	1	4	8	7	16
Ottawa	411	7	25	56	60	263
Presque Isle	23	1	3	3	7	9
Roscommon	68	1	6	13	5	43
Saginaw	410	8	46	77	61	218
St. Clair	316	6	32	58	45	175
St. Joseph	128	5	9	21	15	78
Sanilac	45	3	3	6	5	28
Schoolcraft	35	1	8	7	6	13
Shiawassee	143	5	21	22	18	77
Tuscola	128	2	13	17	19	77
Van Buren	198	3	27	32	32	104
Washtenaw	494	10	45	103	93	243
Wayne	2,665	70	225	388	448	1,534
Wexford	79	3	13	8	7	48
Unknown	30	0	3	2	6	19
Totals	17,315	407	1,618	2,878	2,726	9,686

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

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

COUNTY	2000 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Luce	7,024	346	2	14	2	0.2847	1
Lake	11,333	742	6	40	3	0.2647	2
Benzie	15,998	631	7	35	4	0.2500	3
Oscoda	9,418	477	3	23	2	0.2124	4
Iron	13,138	1,007	3	42	2	0.1522	5
Leelanau	21,119	697	6	52	3	0.1421	6
Missaukee	14,478	818	3	34	2	0.1381	7
Montcalm	61,266	3,306	21	166	8	0.1306	8
Alpena	31,314	1,404	6	73	4	0.1277	9
Manistee	24,527	1,341	8	47	3	0.1223	10
Menominee	25,326	2,118	5	62	3	0.1185	11
Baraga	8,746	650	3	26	1	0.1143	12
Schoolcraft	8,903	713	3	35	1	0.1123	13
Oceana	26,873	1,200	7	66	3	0.1116	14
Houghton	36,016	1,439	4	69	4	0.1111	15
Alger	9,862	570	2	35	1	0.1014	16
Wexford	30,484	2,024	6	79	3	0.0984	17
Cass	51,104	2,062	14	129	5	0.0978	18
Montmorency	10,315	482	1	33	1	0.0969	19
Emmet	31,437	1,830	11	69	3	0.0954	20
Ogemaw	21,645	1,321	6	62	2	0.0924	21
Lapeer	87,904	3,784	22	169	8	0.0910	22
Osceola	23,197	1,658	5	57	2	0.0862	23
Alcona	11,719	798	1	19	1	0.0853	24
Mackinac	11,943	991	2	51	1	0.0837	25
St. Joseph	62,422	2,539	17	128	5	0.0801	26
Delta	38,520	2,502	7	74	3	0.0779	27
Mecosta	40,553	2,801	12	101	3	0.0740	28
Iosco	27,339	1,287	3	55	2	0.0732	29
Mason	28,274	1,872	5	43	2	0.0707	30
Barry	56,755	2,827	13	112	4	0.0705	31
Shiawassee	71,687	2,791	8	143	5	0.0697	32
Presque Isle	14,411	654	3	23	1	0.0694	33
Sanilac	44,547	1,722	10	45	3	0.0673	34
Genesee	436,141	16,172	70	990	29	0.0665	35
Allegan	105,665	4,269	16	266	7	0.0662	36
Clare	31,252	1,845	3	62	2	0.0640	37
Kalamazoo	238,603	10,368	33	441	15	0.0629	38
Newaygo	47,874	2,120	16	117	3	0.0627	39
Clinton	64,753	2,707	10	104	4	0.0618	40
Muskegon	170,200	6,416	22	283	10	0.0588	41
Berrien	162,453	6,056	24	258	9	0.0554	42
Monroe	145,945	4,928	30	273	8	0.0548	43
Bay	110,157	4,211	17	321	6	0.0545	44
Calhoun	137,985	7,074	22	298	7	0.0507	45

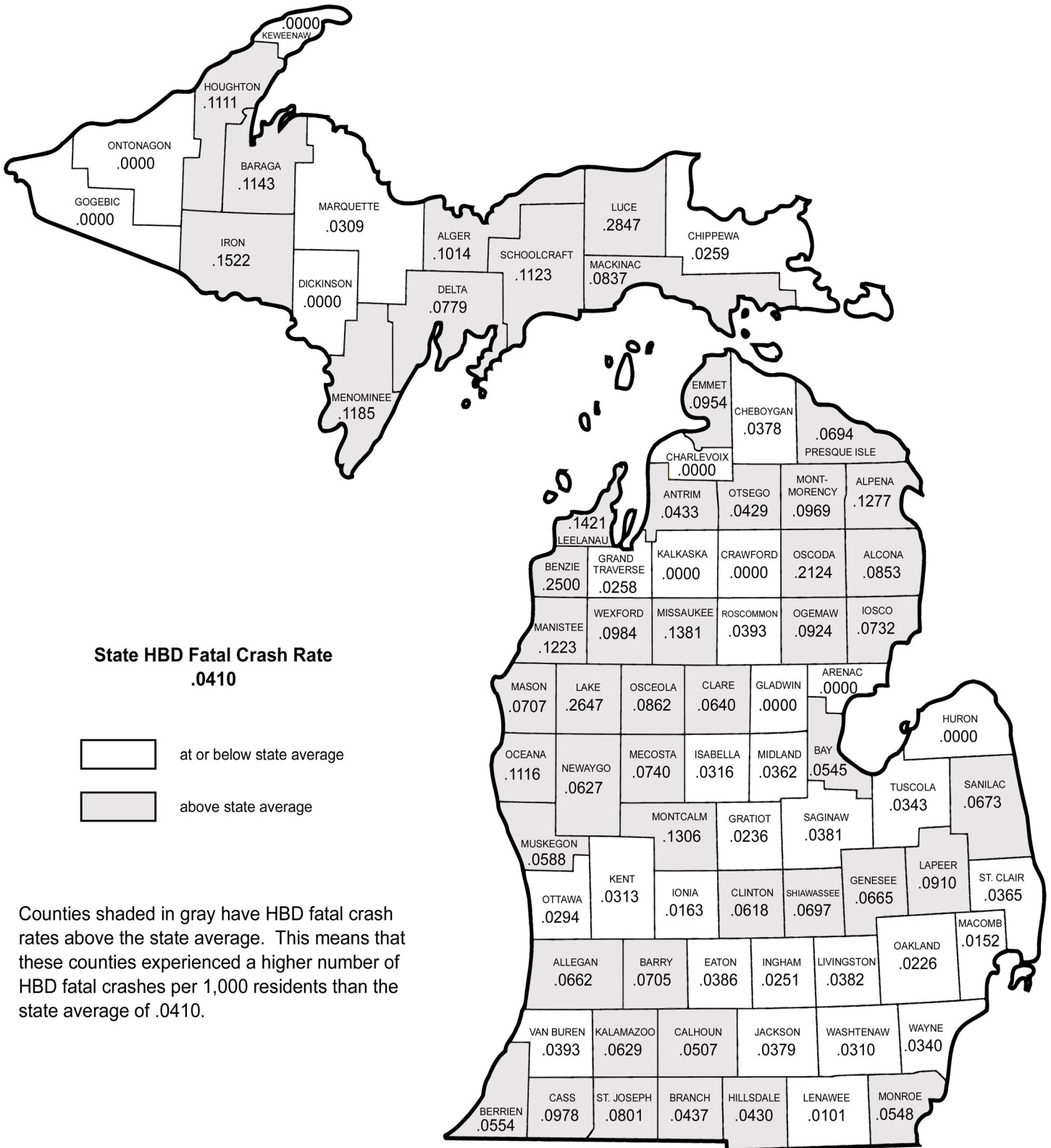
**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

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

COUNTY	2000 Population Estimate	All Crashes	Fatal Crashes	HBD Crashes	HBD Fatal Crashes	HBD Fatal Crash Rate per 1,000 people	Rank
Branch	45,787	2,437	4	87	2	0.0437	46
Antrim	23,110	1,187	6	50	1	0.0433	47
Hillsdale	46,527	2,298	7	74	2	0.0430	48
Otsego	23,301	1,167	6	36	1	0.0429	49
Roscommon	25,469	1,466	4	68	1	0.0393	50
Van Buren	76,263	3,119	17	198	3	0.0393	51
Eaton	103,655	4,446	11	158	4	0.0386	52
Livingston	156,951	6,059	17	295	6	0.0382	53
Saginaw	210,039	8,623	31	410	8	0.0381	54
Jackson	158,422	6,947	21	342	6	0.0379	55
Cheboygan	26,448	1,264	3	55	1	0.0378	56
St. Clair	164,235	5,739	17	316	6	0.0365	57
Midland	82,874	3,178	7	133	3	0.0362	58
Tuscola	58,266	2,237	8	128	2	0.0343	59
Wayne	2,061,162	86,506	212	2,665	70	0.0340	60
Isabella	63,351	3,087	10	115	2	0.0316	61
Kent	574,335	27,980	64	1,074	18	0.0313	62
Washtenaw	322,895	13,488	35	494	10	0.0310	63
Marquette	64,634	2,734	6	122	2	0.0309	64
Ottawa	238,314	8,380	35	411	7	0.0294	65
Chippewa	38,543	1,639	6	74	1	0.0259	66
Grand Traverse	77,654	4,107	12	122	2	0.0258	67
Ingham	279,320	12,326	17	488	7	0.0251	68
Gratiot	42,285	1,916	6	77	1	0.0236	69
Oakland	1,194,156	49,837	93	1,786	27	0.0226	70
Ionia	61,518	2,985	8	136	1	0.0163	71
Macomb	788,149	27,398	46	1,193	12	0.0152	72
Lenawee	98,890	3,570	10	179	1	0.0101	73
Arenac	17,269	1,160	2	45	0	0.0000	74
Charlevoix	26,090	1,333	2	41	0	0.0000	75
Crawford	14,273	910	3	32	0	0.0000	76
Dickinson	27,472	1,535	0	41	0	0.0000	77
Gladwin	26,023	1,152	2	69	0	0.0000	78
Gogebic	17,370	642	0	27	0	0.0000	79
Huron	36,079	1,783	7	50	0	0.0000	80
Kalkaska	16,571	922	3	40	0	0.0000	81
Keweenaw	2,301	96	0	10	0	0.0000	82
Ontonagon	7,818	775	1	20	0	0.0000	83
Unknown		854	0	30	0		
<b>State Totals</b>	<b>9,938,444</b>	<b>424,852</b>	<b>1,237</b>	<b>17,315</b>	<b>407</b>	<b>0.04095</b>	

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## COUNTY RANKING BY HBD FATAL CRASH RATE



Counties shaded in gray have HBD fatal crash rates above the state average. This means that these counties experienced a higher number of HBD fatal crashes per 1,000 residents than the state average of .0410.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

# 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	19	1	9	9					1	14
Alger	35	1	23	11					1	30
Allegan	266	7	113	146					7	151
Alpena	73	4	35	34	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.				5	41
Antrim	50	1	17	32					1	21
Arenac	45	0	23	22					0	33
Baraga	26	1	15	10					1	22
Barry	112	4	45	63					4	59
Bay	321	6	116	199					7	165
Benzie	35	4	17	14					5	27
Berrien	258	9	112	137					11	159
Branch	87	2	35	50					2	44
Calhoun	298	7	125	166					8	179
Cass	129	5	63	61					5	85
Charlevoix	41	0	18	23					0	22
Cheboygan	55	1	31	23					2	39
Chippewa	74	1	30	43					1	42
Clare	62	2	23	37					3	34
Clinton	104	4	40	60					4	53
Crawford	32	0	17	15					0	20
Delta	74	3	25	46					3	36
Dickinson	41	0	18	23					0	22
Eaton	158	4	69	85					4	97
Emmet	69	3	30	36					3	42
Genesee	990	29	471	490					34	750
Gladwin	69	0	25	44					0	27
Gogebic	27	0	10	17					0	14
Grand Traverse	122	2	49	71					3	71
Gratiot	77	1	31	45					1	45
Hillsdale	74	2	29	43					3	38
Houghton	69	4	28	37					5	38
Huron	50	0	25	25					0	35
Ingham	488	7	208	273					7	271
Ionia	136	1	50	85					1	65
Iosco	55	2	22	31					2	32
Iron	42	2	16	24					2	18
Isabella	115	2	42	71					2	60
Jackson	342	6	136	200					6	202
Kalamazoo	441	15	190	236					17	279
Kalkaska	40	0	16	24					0	20
Kent	1,074	18	377	679					19	571
Keweenaw	10	0	6	4					0	9
Lake	40	3	22	15					5	32
Lapeer	169	8	76	85					10	109
Leelanau	52	3	23	26					6	35
Lenawee	179	1	65	113					1	85

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## 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	295	6	128	161					7	167
Luce	14	2	7	5					2	8
Mackinac	51	1	26	24					1	39
Macomb	1,193	12	506	675	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.				12	752
Manistee	47	3	18	26					3	24
Marquette	122	2	54	66					2	72
Mason	43	2	24	17					2	32
Mecosta	101	3	51	47					4	68
Menominee	62	3	29	30					3	44
Midland	133	3	57	73					3	86
Missaukee	34	2	10	22					2	10
Monroe	273	8	123	142					8	180
Montcalm	166	8	74	84					8	119
Montmorency	33	1	15	17					1	19
Muskegon	283	10	119	154					11	179
Newaygo	117	3	55	59					4	75
Oakland	1,786	27	723	1,036					29	1,066
Oceana	66	3	30	33					3	49
Ogemaw	62	2	28	32					2	39
Ontonagon	20	0	10	10					0	15
Osceola	57	2	24	31					2	37
Oscoda	23	2	7	14					2	12
Otsego	36	1	19	16					1	20
Ottawa	411	7	141	263					10	180
Presque Isle	23	1	13	9					1	16
Roscommon	68	1	24	43					1	31
Saginaw	410	8	184	218					10	281
St. Clair	316	6	135	175					8	208
St. Joseph	128	5	45	78					5	63
Sanilac	45	3	14	28					3	23
Schoolcraft	35	1	21	13					1	31
Shiawassee	143	5	61	77					5	83
Tuscola	128	2	49	77					2	69
Van Buren	198	3	91	104					3	129
Washtenaw	494	10	241	243					11	343
Wayne	2,665	70	1,061	1,534					81	1,584
Wexford	79	3	28	48					4	36
UNKNOWN	30	0	11	19					0	12
Totals	17,315	407	7,222	9,686					459	10,444

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





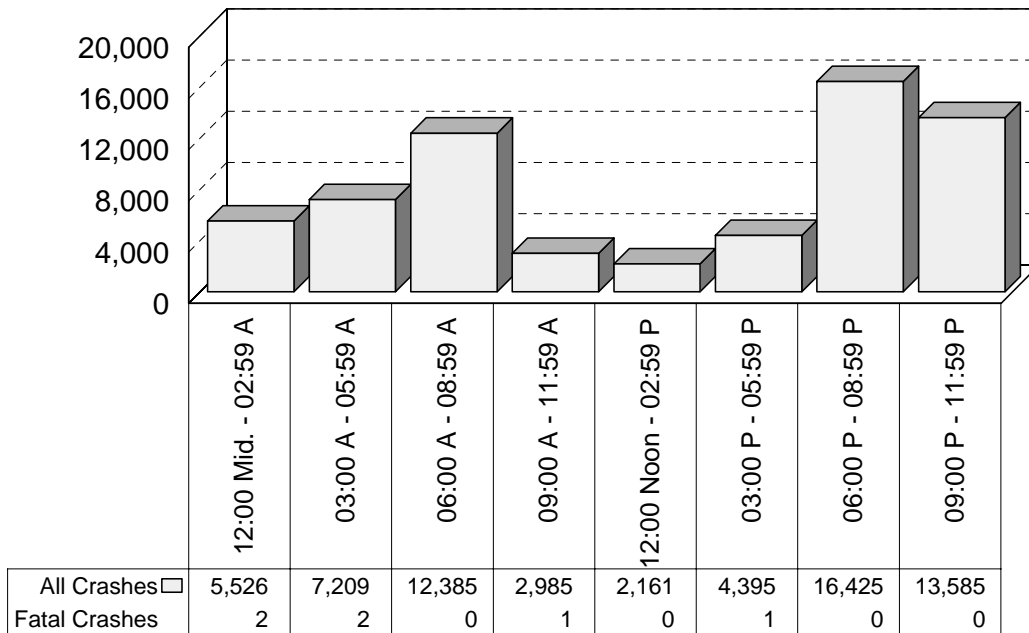


## LIGHT CONDITION AND TIME OF DAY IN MOTOR VEHICLE-DEER CRASHES

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	12,544	19.3	3	42.9	49	200	264	12,028
Dawn	5,706	8.8	1	14.3	10	31	90	5,574
Dusk	3,535	5.4	0	0.0	9	36	53	3,437
Dark - Lighted	2,105	3.2	0	0.0	4	18	37	2,046
Dark - Unlighted	40,353	62.1	3	42.9	62	286	688	39,314
Other/Unknown	762	1.2	0	0.0	2	4	12	744
Totals	65,005	100.0	7	100.0	136	575	1,144	63,143

The seven fatal deer crashes in Michigan in 2000 occurred in dawn, daylight and dark-unlighted conditions. All motor vehicle-deer involved/associated crashes peaked during the 6:00 PM - 8:59 PM time period. There were no fatal deer crashes during this time period. One fatal crash occurred during an unknown time period.

### Time and Severity of All Motor Vehicle-Deer Crashes

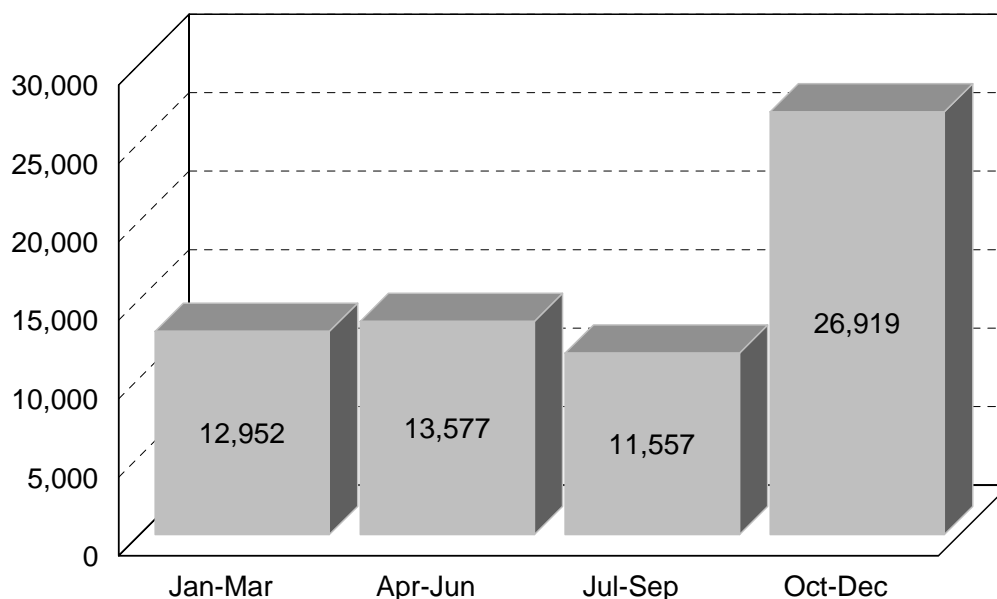


**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## MONTHLY AND SEASONAL RATES FOR MOTOR VEHICLE-DEER CRASHES

MONTH	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
January	5,376	8.3	0	0.0	7	15	79	5,275
February	4,023	6.2	0	0.0	3	14	62	3,944
March	3,553	5.5	0	0.0	5	35	66	3,447
April	3,706	5.7	0	0.0	10	31	60	3,605
May	4,848	7.5	2	28.6	9	54	101	4,682
June	5,023	7.7	1	14.3	17	71	105	4,829
July	3,504	5.4	0	0.0	21	68	76	3,339
August	3,006	4.6	0	0.0	11	51	79	2,865
September	5,047	7.8	0	0.0	5	68	95	4,879
October	9,999	15.4	3	42.9	26	84	182	9,704
November	11,813	18.2	1	14.3	18	64	191	11,539
December	5,107	7.9	0	0.0	4	20	48	5,035
Totals	65,005	100.0	7	100.0	136	575	1,144	63,143

All Motor Vehicle-Deer Crashes



26,919 (41.4%) of all reported motor vehicle-deer collisions occurred during the fourth quarter of the year.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## REPORTED STATEWIDE MOTOR VEHICLE-DEER CRASHES BY COUNTY IN MICHIGAN

COUNTY	All	Fatal	Injury	Property Damage	Inter-state	US Route	State Route	Local Street	Persons Killed	Persons Injured
Alcona	531	0	13	518					0	15
Alger	258	0	9	249					0	12
Allegan	922	0	29	893					0	32
Alpena	454	0	16	438					0	19
Antrim	574	0	10	564					0	10
Arenac	554	0	16	538					0	16
Baraga	406	0	7	399					0	7
Barry	1,336	0	36	1,300					0	45
Bay	333	0	16	317					0	16
Benzie	293	0	13	280					0	13
Berrien	646	0	29	617					0	32
Branch	962	0	28	934					0	36
Calhoun	1,907	0	38	1,869					0	42
Cass	710	0	21	689					0	29
Charlevoix	622	0	13	609					0	13
Cheboygan	397	1	17	379					2	20
Chippewa	683	1	16	666					1	20
Clare	854	0	29	825					0	31
Clinton	1,023	0	26	997					0	27
Crawford	432	0	12	420					0	13
Delta	1,343	0	24	1,319					0	28
Dickinson	866	0	10	856					0	11
Eaton	1,275	0	40	1,235					0	46
Emmet	564	0	14	550					0	17
Genesee	1,150	0	38	1,112					0	42
Gladwin	652	0	11	641					0	12
Gogebic	217	0	11	206					0	14
Grand Traverse	548	0	12	536					0	15
Gratiot	710	0	26	684					0	30
Hillsdale	992	0	29	963					0	34
Houghton	459	0	12	447					0	13
Huron	966	0	17	949					0	18
Ingham	1,303	0	36	1,267					0	40
Ionia	1,103	0	28	1,075					0	30
Iosco	645	0	13	632					0	21
Iron	669	0	19	650					0	23
Isabella	983	0	27	956					0	33
Jackson	1,938	1	42	1,895					1	51
Kalamazoo	1,292	1	55	1,236					1	66
Kalkaska	361	0	10	351					0	11
Kent	2,037	0	77	1,960					0	88
Keweenaw	29	0	3	26					0	4
Lake	442	0	9	433					0	10
Lapeer	1,308	0	48	1,260					0	55
Leelanau	231	0	2	229					0	2
Lenawee	735	0	21	714					0	23

Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## REPORTED STATEWIDE MOTOR VEHICLE-DEER 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	1,145	0	39	1,106					0	42
Luce	198	0	5	193					0	7
Mackinac	567	0	15	552					0	19
Macomb	573	0	28	545					0	32
Manistee	633	1	12	620	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.				1	13
Marquette	655	0	18	637					0	22
Mason	885	0	17	868					0	21
Mecosta	1,376	0	25	1,351					0	32
Menominee	1,428	1	42	1,385					1	47
Midland	1,006	0	31	975					0	33
Missaukee	529	0	11	518					0	11
Monroe	282	0	15	267					0	15
Montcalm	1,541	0	27	1,514					0	29
Montmorency	202	0	4	198					0	4
Muskegon	721	0	16	705					0	18
Newaygo	821	0	21	800					0	21
Oakland	1,638	1	54	1,583					1	65
Oceana	488	0	12	476					0	12
Ogemaw	685	0	17	668					0	22
Ontonagon	541	0	10	531					0	16
Osceola	966	0	27	939					0	29
Oscoda	203	0	10	193					0	18
Otsego	313	0	11	302					0	13
Ottawa	1,007	0	30	977					0	33
Presque Isle	402	0	6	396					0	6
Roscommon	697	0	11	686					0	12
Saginaw	903	0	29	874					0	33
St. Clair	981	0	36	945					0	41
St. Joseph	655	0	16	639					0	19
Sanilac	942	0	23	919					0	24
Schoolcraft	425	0	7	418					0	8
Shiawassee	876	0	32	844					0	35
Tuscola	917	0	22	895					0	29
Van Buren	726	0	28	698					0	33
Washtenaw	1,244	0	70	1,174					0	79
Wayne	407	0	28	379					0	42
Wexford	564	0	16	548					0	20
UNKNOWN	148	0	6	142					0	7
Totals	65,005	7	1,855	63,143					8	2,147

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



2000

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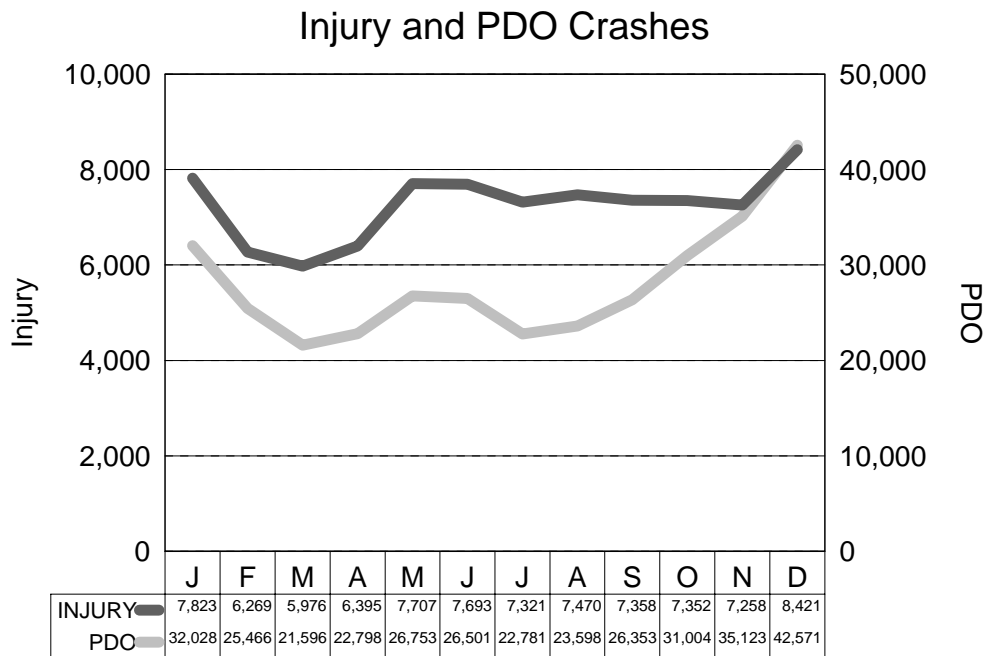
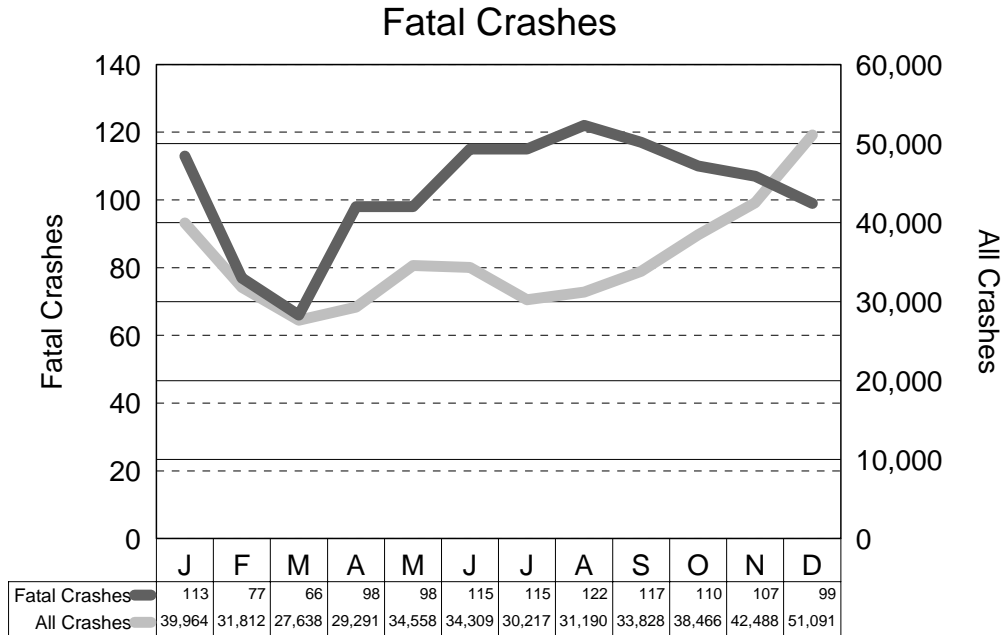
2000

**Crash**





## ALL CRASHES INJURY SEVERITY BY MONTH



The charts on this page show that the months of July and August are peak months (24% or above) in terms of the percent of the number of crashes involving death or injury to the number of all crashes. That is, if a person was in a motor vehicle crash during one of these months there was a higher chance of that crash resulting in death or injury to one of the involved persons than if that crash happened during one of the other months.

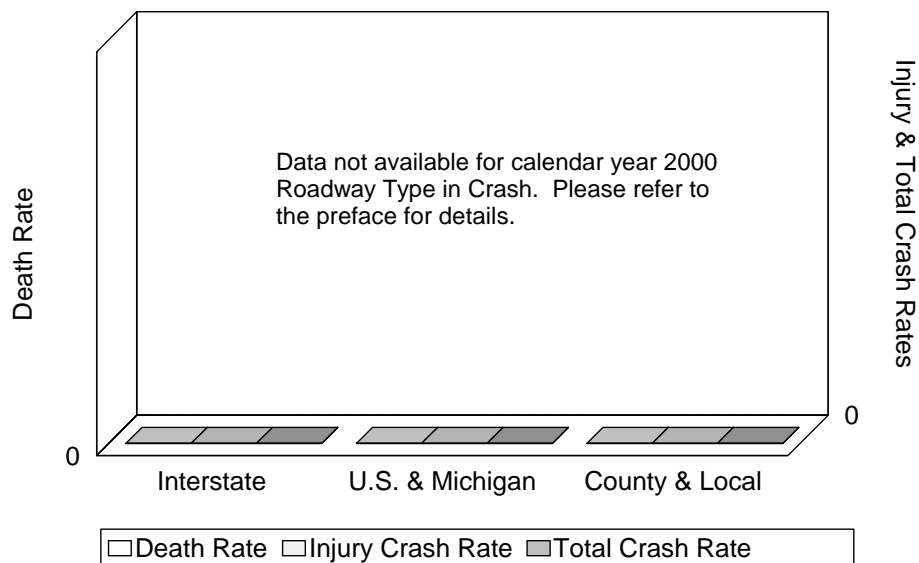
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## CRASH EXPERIENCE BY ROADWAY TYPE

The table below provides a detailed breakdown of estimated vehicle mileage, crashes, death rates (deaths per 100 million vehicle miles), and crash rates (crashes per 100 million vehicle miles) for the major roadway types in Michigan. All rates are lowest on interstate routes. 2000 estimated mileage figures were provided by the Michigan Department of Transportation [10].

STATEWIDE	Estimated Mileage (Billions)	All Crashes	Injury Crashes	Deaths	Total Crash Rate	Injury Crash Rate	Death Rate
Interstate Routes	29.3	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.					
U.S. & Michigan Roads	21.9						
County & City Roads	43.7						
Totals	94.9	424,852	87,043	1,382	447.7	91.7	1.5

Rates per 100 Million Vehicle Miles



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## CRASH TYPE

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Single Vehicle	132,160	31.1	560	45.3	3,317	7,818	10,346	110,119
Head On	8,266	1.9	198	16.0	627	935	1,244	5,262
Head On - Left Turn	12,893	3.0	50	4.0	551	1,515	2,881	7,896
Angle	83,640	19.7	286	23.1	2,492	6,145	14,198	60,519
Rear End	104,407	24.6	64	5.2	1,156	3,546	20,286	79,355
Rear End - Left Turn	4,659	1.1	10	0.8	86	231	928	3,404
Rear End - Right Turn	3,592	0.8	0	0.0	18	68	494	3,012
Sideswipe - Same Direction	37,336	8.8	22	1.8	258	734	2,219	34,103
Sideswipe - Opposite Direct	12,002	2.8	15	1.2	141	387	906	10,553
Other/Unknown	25,897	6.1	32	2.6	555	1,071	1,890	22,349
<b>Totals</b>	<b>424,852</b>	<b>100.0</b>	<b>1,237</b>	<b>100.0</b>	<b>9,201</b>	<b>22,450</b>	<b>55,392</b>	<b>336,572</b>

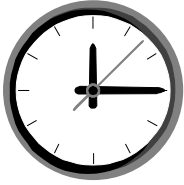
Single Vehicle, Head On, and Angle crash types produce the highest number of fatal crashes (84.4%). Single Vehicle crashes include rollovers, which are particularly deadly crash types. Rear End-Turning and Sideswipe crashes produce the lowest number of fatal crashes (3.8%).

## RELATIONSHIP TO ROADWAY

LOCATION OF FIRST IMPACT	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
On Road	363,545	85.6	868	70.2	6,671	16,731	47,534	291,741
Median	3,209	0.8	19	1.5	146	315	542	2,187
Shoulder	17,462	4.1	89	7.2	644	1,407	2,053	13,269
Outside of Shoulder/Curb	32,016	7.5	230	18.6	1,466	3,331	4,266	22,723
Gore	885	0.2	3	0.2	39	99	122	622
Other/Unknown	7,735	1.8	28	2.3	235	567	875	6,030
<b>Totals</b>	<b>424,852</b>	<b>100.0</b>	<b>1,237</b>	<b>100.0</b>	<b>9,201</b>	<b>22,450</b>	<b>55,392</b>	<b>336,572</b>

Crashes that happen outside of the normal driving lanes are overrepresented in the fatal count. Only 7.5 percent of crashes occur outside the shoulder of the road, but these crashes account for 18.6 percent of the fatal crashes.

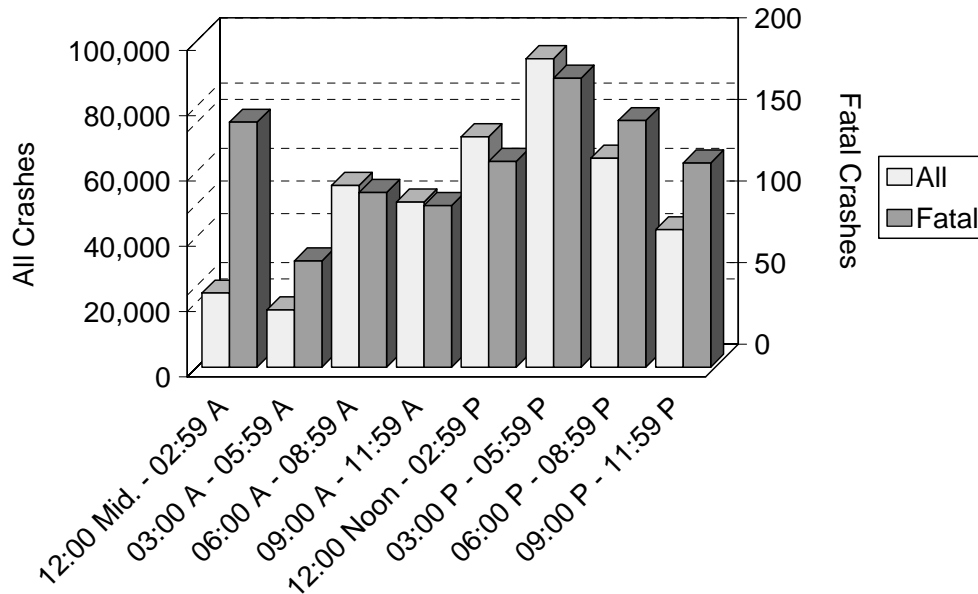
<p><b>CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.</b></p>
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## TIME AND SEVERITY

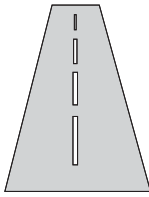
TIME OF DAY	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
12:00 mid. - 02:59 a.m.	22,654	5.3	150	12.1	870	1,718	2,265	17,651
03:00 a.m. - 05:59 a.m.	17,525	4.1	65	5.3	408	954	1,390	14,708
06:00 a.m. - 08:59 a.m.	55,673	13.1	107	8.6	907	2,347	6,713	45,599
09:00 a.m. - 11:59 a.m.	50,530	11.9	99	8.0	1,034	2,573	7,176	39,648
12:00 noon - 02:59 p.m.	70,521	16.6	126	10.2	1,540	3,810	10,978	54,067
03:00 p.m. - 05:59 p.m.	94,472	22.2	177	14.3	1,836	4,933	14,115	73,411
06:00 p.m. - 08:59 p.m.	63,978	15.1	151	12.2	1,355	3,326	7,255	51,891
09:00 p.m. - 11:59 p.m.	42,077	9.9	125	10.1	1,037	2,357	4,275	34,283
Unknown	7,422	1.7	237	19.2	214	432	1,225	5,314
<b>Total</b>	<b>424,852</b>	<b>100.0</b>	<b>1,237</b>	<b>100.0</b>	<b>9,201</b>	<b>22,450</b>	<b>55,392</b>	<b>336,572</b>

Time and Severity



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

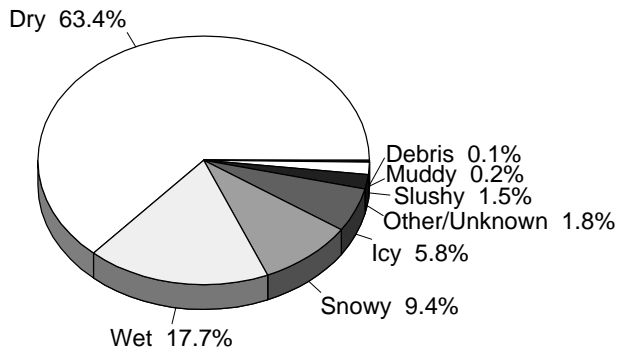
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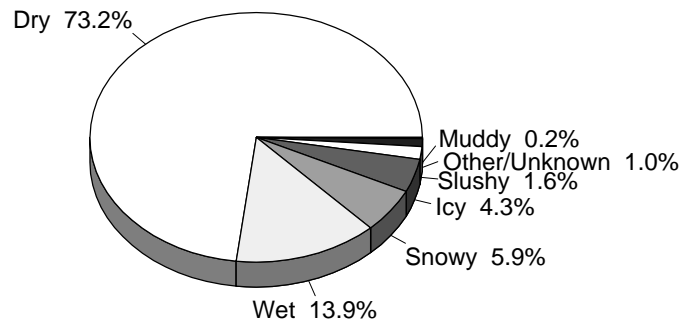
## ROAD CONDITION

ROAD SURFACE CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Dry	269,529	63.4	905	73.2	6,408	15,296	35,483	211,437
Wet	75,381	17.7	172	13.9	1,470	3,804	11,238	58,697
Icy	24,606	5.8	53	4.3	451	1,174	3,022	19,906
Snowy	40,066	9.4	73	5.9	609	1,443	3,982	33,959
Muddy	702	0.2	2	0.2	17	49	84	550
Slushy	6,514	1.5	20	1.6	130	376	855	5,133
Debris	259	0.1	0	0.0	4	27	37	191
Other/Unknown	7,795	1.8	12	1.0	112	281	691	6,699
Totals	424,852	100.0	1,237	100.0	9,201	22,450	55,392	336,572

### ALL CRASHES



### FATAL CRASHES



Most crashes (63.4%) and most fatal crashes (73.2%) occur on dry roads. This indicates that Michigan drivers do a good job of adjusting their driving behavior for bad road conditions.

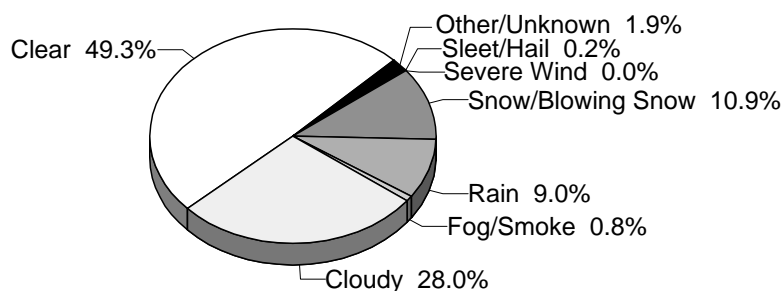
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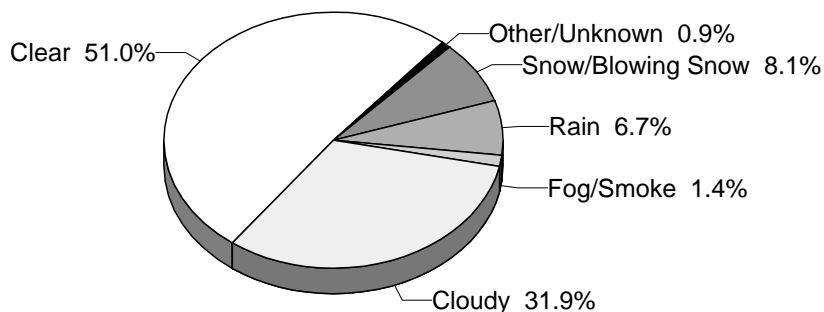
## WEATHER CONDITION

WEATHER CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Clear	209,304	49.3	631	51.0	4,979	11,806	27,184	164,704
Cloudy	118,800	28.0	395	31.9	2,543	6,173	15,797	93,892
Fog/Smoke	3,495	0.8	17	1.4	72	185	339	2,882
Rain	38,167	9.0	83	6.7	762	2,041	5,923	29,358
Snow/Blowing Snow	46,179	10.9	100	8.1	738	1,940	5,333	38,068
Severe Wind	152	0.0	0	0.0	3	10	27	112
Sleet/Hail	662	0.2	0	0.0	18	48	84	512
Other/Unknown	8,093	1.9	11	0.9	86	247	705	7,044
<b>Totals</b>	<b>424,852</b>	<b>100.0</b>	<b>1,237</b>	<b>100.0</b>	<b>9,201</b>	<b>22,450</b>	<b>55,392</b>	<b>336,572</b>

### ALL CRASHES

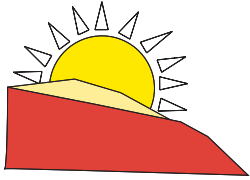


### FATAL CRASHES



Almost half of all crashes occur in good weather (49.3%). Fog/smoke is a particularly deadly weather condition as it is overrepresented in fatal crashes.

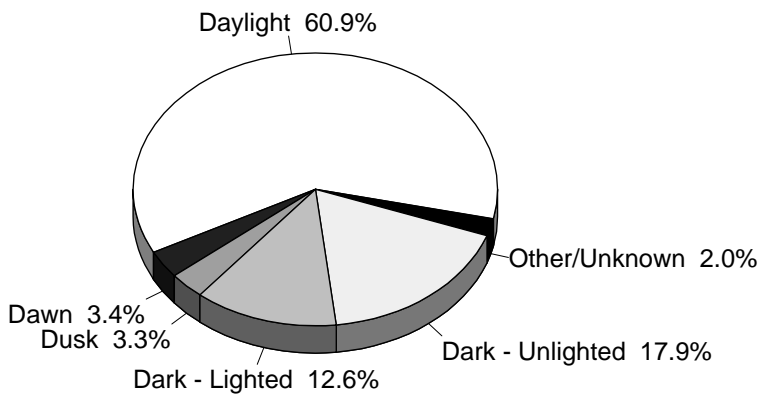
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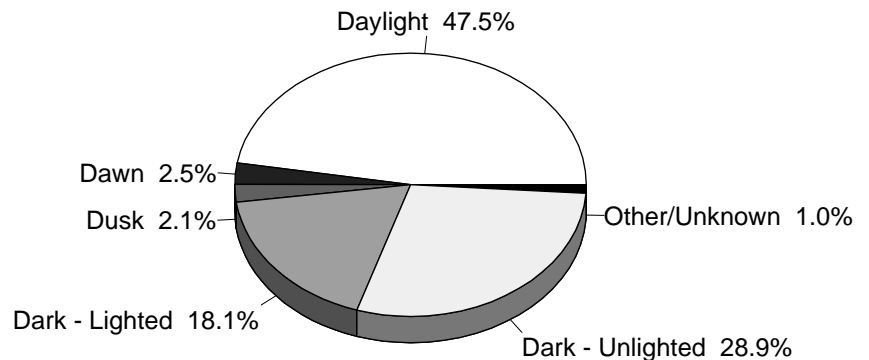
## LIGHT CONDITION

LIGHT CONDITION	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Daylight	258,626	60.9	587	47.5	5,541	14,217	39,056	199,225
Dawn	14,312	3.4	31	2.5	177	500	1,366	12,238
Dusk	13,855	3.3	26	2.1	253	673	1,460	11,443
Dark – Lighted	53,612	12.6	224	18.1	1,525	3,383	7,482	40,998
Dark – Unlighted	75,932	17.9	357	28.9	1,594	3,394	5,182	65,405
Other/Unknown	8,515	2.0	12	1.0	111	283	846	7,263
Totals	424,852	100.0	1,237	100.0	9,201	22,450	55,392	336,572

### ALL CRASHES

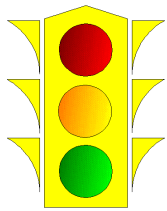


### FATAL CRASHES



The majority (60.9%) of all crashes happen during daylight hours. Dark conditions create the greatest hazard, as they are overrepresented in fatal crashes. Areas without street lights have the highest fatality rate.

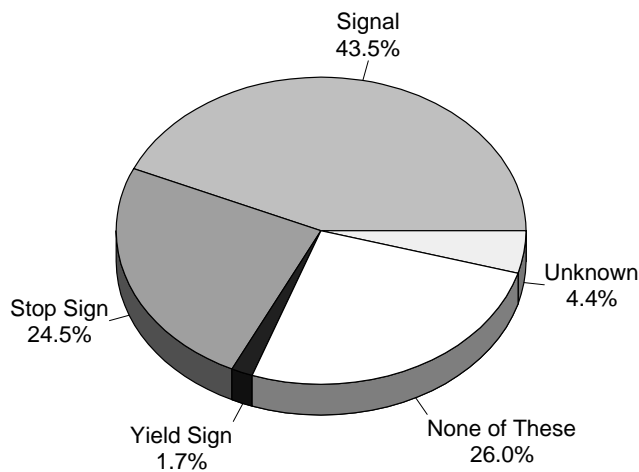
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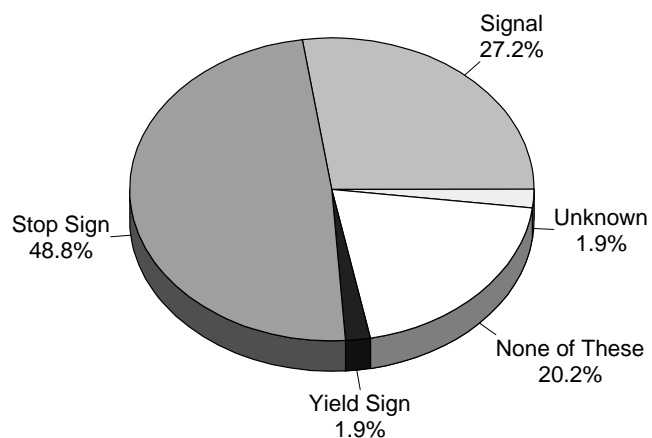
## INTERSECTION CRASHES BY TRAFFIC CONTROL TYPE

TRAFFIC CONTROL TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Total	Number	% of Fatal	A	B	C	
Signal	61,144	43.5	100	27.2	1,393	3,732	11,777	44,142
Stop Sign	34,414	24.5	179	48.8	1,052	2,605	5,790	24,788
Yield Sign	2,394	1.7	7	1.9	57	148	446	1,736
None of These	36,570	26.0	74	20.2	779	2,081	5,392	28,244
Unknown	6,132	4.4	7	1.9	142	317	901	4,765
Totals	140,654	100.0	367	100.0	3,423	8,883	24,306	103,675

**ALL CRASHES**



**FATAL CRASHES**



Intersections with stop signs are overrepresented in fatal crashes. Driver perception, awareness, and adherence to traffic control signing are all key factors in crashes at intersections.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





## CONSTRUCTION ZONE CRASHES

CONSTRUCTION ZONE TYPE	All Crashes		Fatal Crashes		Injury Crashes			PDO Crashes
	Number	% of Subtotal	Number	% of Subtotal	A	B	C	
<b>Construction/Maintenance</b>								
<b>Activity - On Road</b>								
Lane Closed	3,012	48.5	2	28.6	47	100	468	2,395
Lane Open	963	15.5	0	0.0	18	39	154	752
Unknown Lane Closure	151	2.4	0	0.0	1	7	13	130
<b>Activity - Off Road</b>								
Lane Closed	303	4.9	0	0.0	6	19	50	228
Lane Open	401	6.5	2	28.6	8	18	71	302
Unknown Lane Closure	46	0.7	0	0.0	1	2	5	38
<b>Activity - None</b>								
Lane Closed	592	9.5	1	14.3	12	32	100	447
Lane Open	418	6.7	2	28.6	13	27	71	305
Unknown Lane Closure	29	0.5	0	0.0	0	2	3	24
<b>Activity - Unknown</b>								
Lane Closed	130	2.1	0	0.0	3	3	20	104
Lane Open	41	0.7	0	0.0	0	1	7	33
Unknown Lane Closure	122	2.0	0	0.0	0	5	20	97
Subtotal	6,208	100.0	7	100.0	109	255	982	4,855
<b>Utility</b>								
<b>Activity - On Road</b>								
Lane Closed	104	30.0	1	50.0	2	4	15	82
Lane Open	48	13.8	1	50.0	1	4	3	39
Unknown Lane Closure	9	2.6	0	0.0	0	0	3	6
<b>Activity - Off Road</b>								
Lane Closed	35	10.1	0	0.0	1	1	2	31
Lane Open	67	19.3	0	0.0	2	3	15	47
Unknown Lane Closure	5	1.4	0	0.0	1	0	0	4
<b>Activity - None</b>								
Lane Closed	7	2.0	0	0.0	0	2	0	5
Lane Open	38	11.0	0	0.0	1	2	2	33
Unknown Lane Closure	2	0.6	0	0.0	0	0	1	1
<b>Activity - Unknown</b>								
Lane Closed	3	0.9	0	0.0	0	0	3	0
Lane Open	2	0.6	0	0.0	0	0	0	2
Unknown Lane Closure	27	7.8	0	0.0	1	3	1	22
Subtotal	347	100.0	2	100.0	9	19	45	272
<b>Unknown Type</b>								
Subtotal	15,558		29		316	741	1,851	12,621
Total	22,113		38		434	1,015	2,878	17,748

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## REPORTED STATEWIDE 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	798	1	79	718					1	113
Alger	570	2	101	467					3	142
Allegan	4,269	16	932	3,321					16	1,277
Alpena	1,404	6	253	1,145					7	333
Antrim	1,187	6	153	1,028					7	211
Arenac	1,160	2	167	991					2	244
Baraga	650	3	89	558					4	126
Barry	2,827	13	433	2,381					14	613
Bay	4,211	17	969	3,225					19	1,372
Benzie	631	7	112	512					8	170
Berrien	6,056	24	1,383	4,649					27	1,952
Branch	2,437	4	414	2,019					4	565
Calhoun	7,074	22	1,176	5,876					24	1,652
Cass	2,062	14	400	1,648					14	577
Charlevoix	1,333	2	184	1,147					2	260
Cheboygan	1,264	3	271	990					4	375
Chippewa	1,639	6	223	1,410					8	305
Clare	1,845	3	304	1,538					5	424
Clinton	2,707	10	466	2,231					12	673
Crawford	910	3	142	765					6	188
Delta	2,502	7	275	2,220					8	374
Dickinson	1,535	0	215	1,320					0	296
Eaton	4,446	11	789	3,646					11	1,105
Emmet	1,830	11	264	1,555					11	356
Genesee	16,172	70	4,002	12,100					79	5,814
Gladwin	1,152	2	161	989					2	212
Gogebic	642	0	105	537					0	144
Grand Traverse	4,107	12	741	3,354					13	1,052
Gratiot	1,916	6	341	1,569					7	484
Hillsdale	2,298	7	347	1,944					8	518
Houghton	1,439	4	222	1,213					5	306
Huron	1,783	7	253	1,523					7	369
Ingham	12,326	17	2,510	9,799					17	3,389
Ionia	2,985	8	486	2,491					8	645
Iosco	1,287	3	194	1,090					3	270
Iron	1,007	3	107	897					3	143
Isabella	3,087	10	484	2,593					12	675
Jackson	6,947	21	1,161	5,765					25	1,632
Kalamazoo	10,368	33	1,981	8,354					36	2,691
Kalkaska	922	3	161	758					4	230
Kent	27,980	64	5,960	21,956					66	8,239
Keweenaw	96	0	20	76					0	25
Lake	742	6	97	639					8	134
Lapeer	3,784	22	695	3,067					28	1,003
Leelanau	697	6	105	586					9	146
Lenawee	3,570	10	713	2,847					11	1,022

Data not available for calendar year  
2000 Roadway Type in Crash. Please  
refer to the preface for details.

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## REPORTED STATEWIDE 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	6,059	17	1,336	4,706					18	1,892
Luce	346	2	55	289					2	75
Mackinac	991	2	132	857					2	195
Macomb	27,398	46	6,435	20,917					46	9,065
Manistee	1,341	8	159	1,174	Data not available for calendar year 2000 Roadway Type in Crash. Please refer to the preface for details.				8	234
Marquette	2,734	6	460	2,268					7	624
Mason	1,872	5	290	1,577					5	428
Mecosta	2,801	12	395	2,394					17	559
Menominee	2,118	5	275	1,838					5	426
Midland	3,178	7	592	2,579					7	848
Missaukee	818	3	94	721					3	124
Monroe	4,928	30	1,231	3,667					31	1,798
Montcalm	3,306	21	529	2,756					25	797
Montmorency	482	1	88	393					1	113
Muskegon	6,416	22	1,412	4,982					24	2,015
Newaygo	2,120	16	386	1,718					20	596
Oakland	49,837	93	11,431	38,313					97	15,602
Oceana	1,200	7	230	963					10	329
Ogemaw	1,321	6	208	1,107					7	329
Ontonagon	775	1	62	712					1	88
Osceola	1,658	5	231	1,422					5	317
Oscoda	477	3	86	388					3	137
Otsego	1,167	6	218	943					8	297
Ottawa	8,380	35	1,728	6,617					39	2,405
Presque Isle	654	3	81	570					8	108
Roscommon	1,466	4	229	1,233					4	321
Saginaw	8,623	31	1,860	6,732					35	2,618
St. Clair	5,739	17	1,343	4,379					20	2,012
St. Joseph	2,539	17	459	2,063					22	652
Sanilac	1,722	10	221	1,491					11	298
Schoolcraft	713	3	74	636					3	110
Shiawassee	2,791	8	563	2,220					10	763
Tuscola	2,237	8	393	1,836					9	576
Van Buren	3,119	17	652	2,450					21	906
Washtenaw	13,488	35	2,927	10,526					43	3,918
Wayne	86,506	212	19,064	67,230					230	26,712
Wexford	2,024	6	336	1,682					7	507
UNKNOWN	854	0	138	716					0	186
<b>Totals</b>	<b>424,852</b>	<b>1,237</b>	<b>87,043</b>	<b>336,572</b>					<b>1,382</b>	<b>121,826</b>

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2000

2000

2000

2000

2000

2000

2000

2000

**Vehicle/  
Driver**





## VEHICLE TYPE CRASH INVOLVEMENT



### MOST SEVERE OUTCOME IN CRASH

### MOST SEVERE OUTCOME IN VEHICLE

Vehicle Types	Motor Vehicles		Fatal Crash		Injury	PDO	Fatality in Veh		Injury	No Injury
	Number of Vehicles	% of Total	Number	% of Total			Number	% of Total		
Passenger Car and Station Wagon	495,366	67.3	1,237	60.0	112,650	381,479	740	68.9	72,201	422,425
Van and Motorhome	55,991	7.6	126	6.1	12,663	43,202	53	4.9	7,023	48,915
Pickup	115,093	15.6	349	16.9	22,316	92,428	138	12.8	11,631	103,324
Small Truck (under 10,000 lbs.)	17,602	2.4	44	2.1	3,614	13,944	18	1.7	1,988	15,596
Motorcycle	3,180	0.4	82	4.0	2,317	781	76	7.1	2,266	838
Moped	285	0.0	6	0.3	190	89	5	0.5	175	105
Go Cart	20	0.0	1	0.0	13	6	1	0.1	12	7
Snowmobile	815	0.1	19	0.9	421	375	17	1.6	365	433
Off Road Vehicle	311	0.0	7	0.3	225	79	7	0.7	212	92
Other	2,152	0.3	9	0.4	540	1,603	3	0.3	280	1,869
Unkown	24,601	3.3	19	0.9	3,237	21,345	2	0.2	1,318	23,281
CDL Truck/Bus (breakdown below)	20,803	2.8	163	7.9	3,996	16,644	14	1.3	1,015	19,774
<b>Total Number of Vehicles</b>	<b>736,219</b>	<b>100.0</b>	<b>2,062</b>	<b>100.0</b>	<b>162,182</b>	<b>571,975</b>	<b>1,074</b>	<b>100.0</b>	<b>98,486</b>	<b>636,659</b>

Special Note: School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

CDL Truck/Bus Sub-category Types	Motor Vehicles		Fatal Crash		Injury	PDO	Fatality in Veh		Injury	No Injury
	Number of Vehicles	% of Total	Number	% of Total			Number	% of Total		
Commercial Vehicle: Group A	9,391	45.1	99	60.7	1,955	7,337	5	35.7	390	8,996
Commercial Vehicle: Group B	4,483	21.5	35	21.5	886	3,562	6	42.9	297	4,180
Commercial Vehicle: Group C	675	3.2	2	1.2	137	536	0	0.0	41	634
Other Truck	1,150	5.5	9	5.5	226	915	1	7.1	64	1,085
Unknown Truck	5,104	24.5	18	11.0	792	4,294	2	14.3	223	4,879
<b>Total Number of Vehicles</b>	<b>20,803</b>	<b>100.0</b>	<b>163</b>	<b>100.0</b>	<b>3,996</b>	<b>16,644</b>	<b>14</b>	<b>100.0</b>	<b>1,015</b>	<b>19,774</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

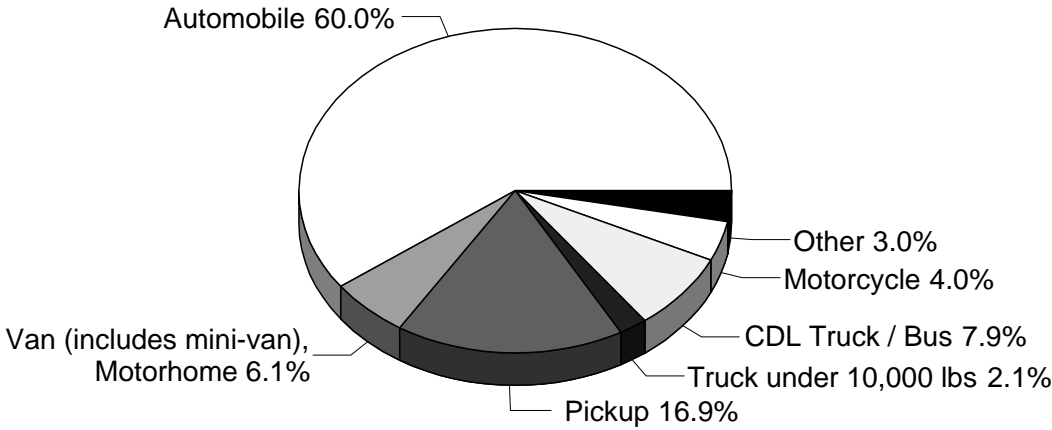
Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

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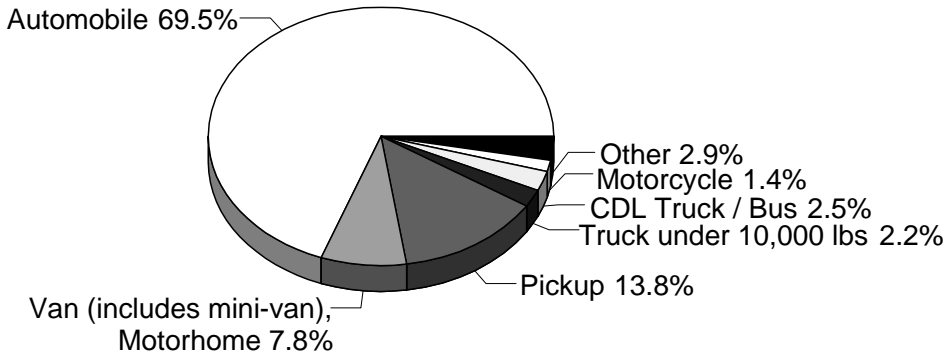
# VEHICLE TYPES IN CRASHES BY CRASH SEVERITY

## FATAL



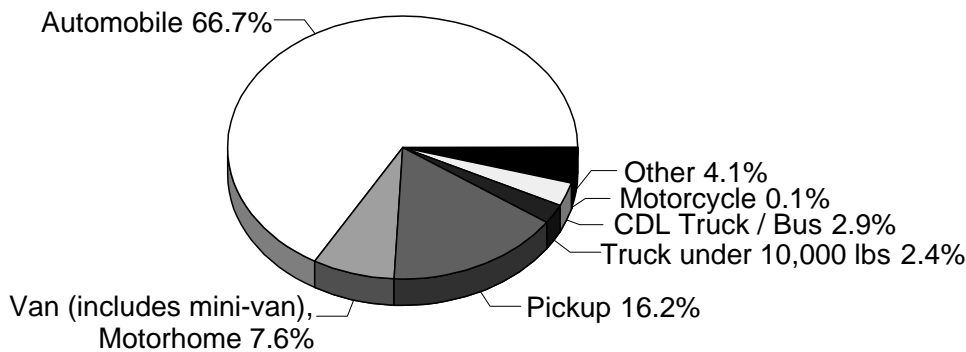
The top chart shows that 3 out of 4 vehicles involved in fatal crashes are automobiles or pickups. Van, motorhome, the vehicle type that includes the popular minivan, has a fatal crash involvement of 6.1 percent.

## INJURY



Special Note: "Other" consists of Moped, Go Cart, Snowmobile, Off Road Vehicle, Other, and Unknown.

## PROPERTY DAMAGE ONLY



As with fatal crashes, injury and PDO crashes are represented primarily by cars and pickups. One should also note the decline in proportional representation for motorcycles and heavy trucks compared to their levels in fatal crashes.

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## ACTION PRIOR TO CRASH

### MOST SEVERE OUTCOME IN CRASH

DRIVER ACTION	All Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Going straight ahead	377,487	51.3	1,523	10,022	22,856	53,837	289,249
Turning left	53,951	7.3	116	1,483	3,998	8,979	39,375
Turning right	20,828	2.8	15	220	792	2,157	17,644
Stopped on roadway	72,801	9.9	65	957	2,989	15,604	53,186
In prior crash	1,146	0.2	7	42	90	241	766
Changing lanes	17,135	2.3	32	212	564	1,667	14,660
Backing	19,378	2.6	5	70	228	673	18,402
Slowing/stopping on roadway	65,005	8.8	43	629	2,171	12,610	49,552
Slowing/stopping other	922	0.1	2	13	43	146	718
Starting up on roadway	13,948	1.9	28	305	691	2,403	10,521
Starting up other	421	0.1	2	9	26	66	318
Entering parking	1,056	0.1	0	7	24	77	948
Leaving parking	2,813	0.4	2	45	116	306	2,344
Entering roadway	11,620	1.6	24	226	640	1,752	8,978
Leaving roadway	1,443	0.2	15	85	152	186	1,005
Making U-turn	1,707	0.2	6	50	112	224	1,315
Overtaking or passing	6,132	0.8	34	205	323	650	4,920
Avoiding object	1,162	0.2	3	21	92	173	873
Avoiding pedestrian	161	0.0	11	18	17	27	88
Avoiding vehicle (front/back)	6,296	0.9	51	217	426	954	4,648
Avoiding vehicle (angle)	2,695	0.4	13	81	211	419	1,971
Driverless moving	485	0.1	0	8	19	23	435
Parked	32,026	4.4	46	363	974	1,340	29,303
Crossing at intersection	279	0.0	1	37	76	99	66
Crossing not at intersection	271	0.0	1	52	97	80	41
Getting on/off vehicle	30	0.0	0	8	3	4	15
In roadway with traffic	58	0.0	0	5	14	18	21
In roadway against traffic	26	0.0	0	5	6	6	9
Standing or lying in roadway	38	0.0	0	4	8	10	16
Pushing/working on vehicle	19	0.0	0	1	2	1	15
Other working in roadway	14	0.0	0	1	2	4	7
Playing in roadway	33	0.0	0	14	10	3	6
In roadway other reason	62	0.0	0	13	17	11	21
Not in roadway	32	0.0	0	6	9	9	8
Other	608	0.1	1	25	51	83	448
Unknown	22,521	3.1	14	364	806	2,446	18,891
Avoid animal	1,610	0.2	2	42	156	218	1,192
<b>TOTAL</b>	<b>736,219</b>	<b>100.0</b>	<b>2,062</b>	<b>15,865</b>	<b>38,811</b>	<b>107,506</b>	<b>571,975</b>

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## ACTION PRIOR TO CRASH (continued)

### MOTORCYCLIST – INJURY SEVERITY

MOTORCYCLIST ACTION	All Motorcycles		All Motorcyclists		Fatal	Injury			No Injury
	Number of Motorcycles	% of Total	Number of Motorcyclist	% of Total		A	B	C	
Going straight ahead	2,032	63.9	2,264	64.2	57	481	778	479	429
Turning left	160	5.0	173	4.9	3	29	50	46	45
Turning right	119	3.7	131	3.7	2	9	52	26	37
Stopped on roadway	136	4.3	146	4.1	2	6	13	41	81
In prior crash	1	0.0	1	0.0	0	0	0	0	0
Changing lanes	59	1.9	63	1.8	4	11	25	8	12
Backing	4	0.1	4	0.1	0	0	0	2	2
Slowing/stopping on roadway	188	5.9	202	5.7	2	30	72	38	58
Slowing/stopping other	8	0.3	9	0.3	0	1	2	3	2
Starting up on roadway	49	1.5	51	1.4	0	7	12	17	14
Starting up other	4	0.1	4	0.1	0	0	3	0	0
Entering parking	2	0.1	2	0.1	0	0	0	1	0
Leaving parking	3	0.1	5	0.1	0	1	2	0	2
Entering roadway	24	0.8	36	1.0	0	7	12	12	5
Leaving roadway	12	0.4	13	0.4	0	4	0	5	4
Making U-turn	6	0.2	6	0.2	0	1	1	0	4
Overtaking or passing	70	2.2	76	2.2	3	28	19	8	13
Avoiding object	15	0.5	16	0.5	0	1	6	3	6
Avoiding pedestrian	3	0.1	3	0.1	0	0	0	1	2
Avoiding vehicle (front/back)	77	2.4	86	2.4	2	9	30	22	22
Avoiding vehicle (angle)	51	1.6	54	1.5	2	8	17	17	9
Driverless moving	1	0.0	1	0.0	0	0	0	0	0
Parked	50	1.6	50	1.4	0	1	0	0	10
Crossing at intersection	4	0.1	12	0.3	0	3	5	0	3
Crossing not at intersection	3	0.1	8	0.2	0	0	4	3	1
Getting on/off vehicle	0	0.0	0	0.0	0	0	0	0	0
In roadway with traffic	1	0.0	2	0.1	0	0	0	1	1
In roadway against traffic	1	0.0	2	0.1	0	0	2	0	0
Standing or lying in roadway	0	0.0	0	0.0	0	0	0	0	0
Pushing/working on vehicle	0	0.0	0	0.0	0	0	0	0	0
Other working in roadway	0	0.0	0	0.0	0	0	0	0	0
Playing in roadway	0	0.0	0	0.0	0	0	0	0	0
In roadway other reason	1	0.0	1	0.0	0	0	0	0	1
Not in roadway	0	0.0	0	0.0	0	0	0	0	0
Other	6	0.2	9	0.3	0	0	4	1	2
Unknown	63	2.0	68	1.9	1	4	14	23	13
Avoid animal	27	0.8	29	0.8	0	6	9	5	9
<b>TOTAL</b>	<b>3,180</b>	<b>100.0</b>	<b>3,527*</b>	<b>100.0</b>	<b>78</b>	<b>647</b>	<b>1,132</b>	<b>762</b>	<b>787</b>

\* Includes 121 motorcyclists (drivers and passengers) with unknown injury severity

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## ACTION PRIOR TO CRASH (continued)

### BICYCLIST - INJURY SEVERITY

BICYCLIST ACTION	All Bicycles		Fatal	Injury			No Injury
	Number of Bicycles	% of Total		A	B	C	
Going straight ahead	1,143	50.3	16	111	424	405	158
Turning left	56	2.5	1	4	24	15	11
Turning right	19	0.8	0	4	5	8	2
Stopped on roadway	13	0.6	0	1	6	2	4
In prior crash	1	0.0	0	0	0	1	0
Changing lanes	22	1.0	1	3	12	3	2
Backing	1	0.0	0	0	0	0	0
Slowing/stopping on roadway	5	0.2	0	0	2	1	2
Slowing/stopping other	7	0.3	0	2	3	2	0
Starting up on roadway	8	0.4	0	1	4	2	1
Starting up other	3	0.1	0	0	1	1	1
Entering parking	2	0.1	0	0	1	1	0
Leaving parking	2	0.1	0	1	1	0	0
Entering roadway	170	7.5	4	22	75	46	20
Leaving roadway	3	0.1	0	0	2	0	1
Making U-turn	1	0.0	0	1	0	0	0
Overtaking or passing	7	0.3	0	0	3	3	1
Avoiding object	4	0.2	0	0	2	2	0
Avoiding pedestrian	0	0.0	0	0	0	0	0
Avoiding vehicle (front/back)	4	0.2	0	0	2	0	2
Avoiding vehicle (angle)	10	0.4	0	1	6	2	0
Driverless moving	1	0.0	0	0	0	0	0
Parked	3	0.1	0	0	1	0	0
Crossing at intersection	381	16.8	3	30	126	155	61
Crossing not at intersection	139	6.1	2	17	61	40	15
Getting on/off vehicle	1	0.0	0	0	1	0	0
In roadway with traffic	39	1.7	0	7	16	9	6
In roadway against traffic	31	1.4	0	3	11	12	4
Standing or lying in roadway	4	0.2	0	0	2	2	0
Pushing/working on vehicle	0	0.0	0	0	0	0	0
Other working in roadway	1	0.0	0	1	0	0	0
Playing in roadway	15	0.7	0	2	6	4	1
In roadway other reason	21	0.9	2	1	12	4	2
Not in roadway	22	1.0	0	0	7	9	3
Other	41	1.8	0	4	15	16	5
Unknown	89	3.9	0	7	26	33	11
Avoid animal	2	0.1	0	0	0	2	0
<b>TOTAL</b>	<b>2,271*</b>	<b>100.0</b>	<b>29</b>	<b>223</b>	<b>857</b>	<b>780</b>	<b>313</b>

\* Includes 69 bicyclists with unknown injury severity

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## ACTION PRIOR TO CRASH (continued)

### PEDESTRIAN - INJURY SEVERITY

PEDESTRIAN ACTION	All Pedestrians		Fatal	Injury			No Injury
	Number of Pedestrians	% of Total		A	B	C	
Going straight ahead	106	3.7	1	16	30	37	18
Turning left	6	0.2	0	0	4	2	0
Turning right	5	0.2	0	0	2	1	2
Stopped on roadway	8	0.3	0	0	2	3	3
In prior crash	4	0.1	1	1	1	0	1
Changing lanes	2	0.1	0	0	2	0	0
Backing	0	0.0	0	0	0	0	0
Slowing/stopping on roadway	1	0.0	0	0	0	0	1
Slowing/stopping other	0	0.0	0	0	0	0	0
Starting up on roadway	2	0.1	0	0	1	1	0
Starting up other	0	0.0	0	0	0	0	0
Entering parking	0	0.0	0	0	0	0	0
Leaving parking	3	0.1	0	1	0	2	0
Entering roadway	17	0.6	1	3	6	6	0
Leaving roadway	3	0.1	0	1	1	1	0
Making U-turn	2	0.1	0	0	0	0	2
Overtaking or passing	2	0.1	0	1	1	0	0
Avoiding object	0	0.0	0	0	0	0	0
Avoiding pedestrian	0	0.0	0	0	0	0	0
Avoiding vehicle (front/back)	0	0.0	0	0	0	0	0
Avoiding vehicle (angle)	1	0.0	0	0	0	0	1
Driverless moving	0	0.0	0	0	0	0	0
Parked	17	0.6	0	2	2	3	7
Crossing at intersection	758	26.4	21	117	233	311	60
Crossing not at intersection	797	27.8	62	200	263	223	34
Getting on/off vehicle	49	1.7	1	11	12	17	6
In roadway with traffic	160	5.6	19	25	50	52	12
In roadway against traffic	64	2.2	6	12	21	20	3
Standing or lying in roadway	91	3.2	15	24	19	27	6
Pushing/working on vehicle	52	1.8	1	18	20	10	2
Other working in roadway	36	1.3	4	9	7	16	0
Playing in roadway	58	2.0	0	10	24	20	3
In roadway other reason	165	5.8	10	37	55	54	8
Not in roadway	159	5.5	13	44	48	43	7
Other	110	3.8	2	22	38	40	5
Unknown	189	6.6	11	39	39	60	17
Avoid Animal	1	0.0	0	0	0	1	0
<b>TOTAL</b>	<b>2,868*</b>	<b>100.0</b>	<b>168</b>	<b>593</b>	<b>881</b>	<b>950</b>	<b>198</b>

\* Includes 78 pedestrians with unknown injury severity

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## MOST HARMFUL EVENT

### MOST SEVERE OUTCOME IN CRASH

NONCOLLISION	Motor Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Loss of control	4,948	0.7	3	149	378	700	3,718
Cross center/median	960	0.1	3	33	63	130	731
Ran off road left	968	0.1	0	29	82	111	746
Ran off road right	1,767	0.2	1	33	105	229	1,399
Re-enter road	150	0.0	1	6	11	20	112
Overturn	9,254	1.3	125	747	1,724	2,016	4,642
Separation of units	1,324	0.2	4	27	53	187	1,053
Fire/explosion	820	0.1	9	17	18	66	710
Immersion	67	0.0	2	3	1	9	52
Jackknife	438	0.1	0	8	7	32	391
Downhill runaway	69	0.0	0	0	5	9	55
Cargo loss/shift	897	0.1	0	8	19	47	823
Individual fell off	460	0.1	17	97	171	83	92
Other noncollision	2,227	0.3	2	44	137	198	1,846
NONCOLLISION Subtotal	24,349	3.3	167	1,201	2,774	3,837	16,370

### MOST SEVERE OUTCOME IN CRASH

HAD A COLLISION WITH NONFIXED OBJECT	Motor Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Pedestrian	2,883	0.4	166	609	872	918	318
Pedalcycle	2,480	0.3	31	235	861	802	551
Motor vehicle in transport	513,400	69.7	1,332	10,429	26,150	86,794	388,695
Parked motor vehicle	22,201	3.0	28	199	561	874	20,539
Railway train	177	0.0	12	16	22	29	98
Animal	61,851	8.4	2	74	402	848	60,525
Other nonfixed objects	6,501	0.9	8	77	203	381	5,832
COLLISION NONFIXED Subtotal	609,493	82.8	1,579	11,639	29,071	90,646	476,558

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## MOST HARMFUL EVENT (continued)

### MOST SEVERE OUTCOME IN CRASH

HAD A COLLISION WITH FIXED OBJECT	Motor Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Bridge/pier/abutment	708	0.1	6	29	56	86	531
Bridge parapet end	460	0.1	0	14	17	19	410
Bridge rail	566	0.1	0	23	31	73	439
Guardrail face	3,447	0.5	4	66	205	458	2,714
Guardrail end	564	0.1	5	26	53	83	397
Median barrier	3,350	0.5	8	99	335	631	2,277
Highway traffic sign post	2,975	0.4	5	29	62	162	2,717
Signal post	304	0.0	0	5	16	18	265
Luminaire/light support	696	0.1	3	24	58	75	536
Utility pole	3,823	0.5	21	217	483	626	2,476
Other pole	1,159	0.2	2	38	58	101	960
Culvert	709	0.1	5	56	95	103	450
Curb	2,043	0.3	3	30	99	165	1,746
Ditch	8,468	1.2	18	290	750	1,173	6,237
Embankment	2,096	0.3	9	85	215	318	1,469
Fence	1,653	0.2	5	19	58	116	1,455
Mailbox	2,514	0.3	2	20	52	80	2,360
Tree	11,580	1.6	160	824	1,626	1,732	7,238
Rail crossing signal	107	0.0	0	0	3	11	93
Building	907	0.1	10	40	130	113	614
Traffic island	54	0.0	0	1	6	2	45
Fire hydrant	598	0.1	1	11	36	63	487
Impact attenuator	50	0.0	0	1	5	13	31
Other fixed object	3,793	0.5	9	109	292	379	3,004
COLLISION FIXED Subtotal	52,624	7.1	276	2,056	4,741	6,600	38,951

### MOST SEVERE OUTCOME IN CRASH

	Motor Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Unknown Event	49,753	6.8	40	969	2,225	6,423	40,096
TOTAL MOST HARMFUL EVENT	736,219	100.0	2,062	15,865	38,811	107,506	571,975

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## VEHICLE DEFECTS IN CRASH INVOLVEMENT

### MOST SEVERE OUTCOME IN CRASH

VEHICLE DEFECTS	Motor Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
Brakes							
Lights/reflectors							
Steering	Data not available for calendar year 2000 Vehicle Defects in Crash Involvement. Please refer to the preface for details.						
Tires/wheels							
Windows							
Other							
Unknown							
<b>TOTAL</b>	736,219		2,062	15,865	38,811	107,506	571,975

## DRIVER HAZARDOUS ACTION

### MOST SEVERE OUTCOME IN CRASH

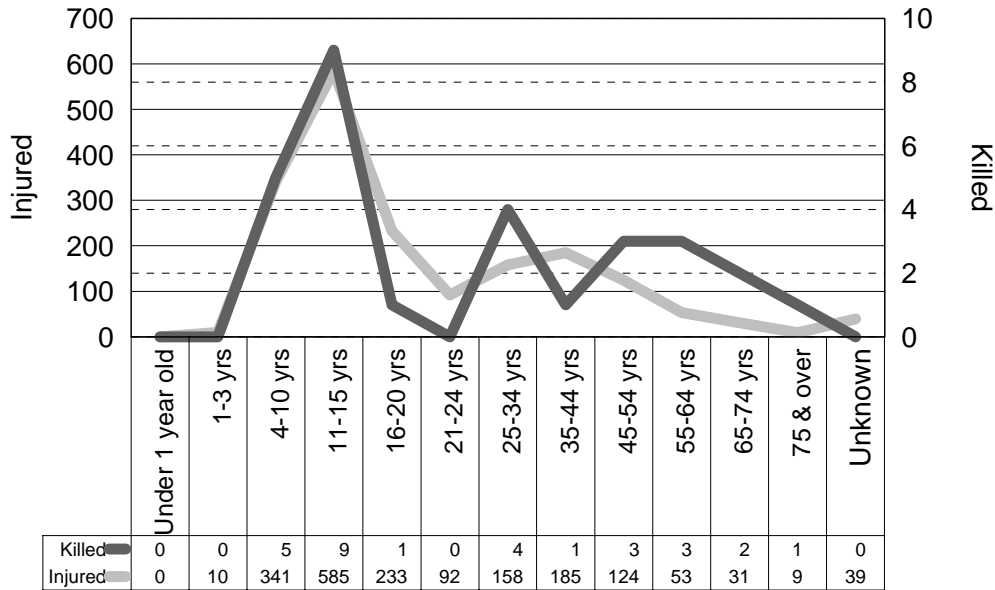
HAZARDOUS ACTION	All Vehicles		Fatal	Injury			PDO
	Number of Vehicles	% of Total		A	B	C	
None	377,364	51.3	945	7,025	17,467	52,836	299,091
Speed too fast	42,092	5.7	244	1,520	3,606	6,250	30,472
Speed too slow	1,042	0.1	6	22	56	202	756
Failed to yield	65,196	8.9	157	1,775	4,915	11,454	46,895
Disregard traffic control	16,217	2.2	98	873	1,828	3,757	9,661
Drove wrong way	508	0.1	16	31	61	74	326
Drove left of center	4,080	0.6	91	292	427	581	2,689
Improper passing	4,844	0.7	13	81	156	399	4,195
Improper lane use	15,505	2.1	20	137	414	1,198	13,736
Improper turn	8,758	1.2	11	138	395	948	7,266
Improper/no signal	957	0.1	0	8	36	107	806
Improper backing	14,214	1.9	3	35	101	370	13,705
Unable to stop in assured clear distance	98,128	13.3	52	1,083	3,451	19,443	74,099
Reckless driving	2,402	0.3	24	182	317	317	1,562
Careless/Negligent driving	5,948	0.8	53	385	887	889	3,734
Other	30,018	4.1	136	1,107	2,252	3,776	22,747
Unknown	48,946	6.6	193	1,171	2,442	4,905	40,235
<b>TOTAL</b>	736,219	100.0	2,062	15,865	38,811	107,506	571,975

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MICHIGAN BICYCLE CRASHES

2000 Bicycle Crash Information



In 2000, there were 2,271 bicyclists involved in motor vehicles crashes, with 29 bicyclists killed and 1,860 injured. The number of bicyclists killed represents a 16 percent increase from 1999.

Children under 16 years of age accounted for 14 (48.3%) of the bicycle deaths in 2000.

## BICYCLE HELMET USE AND INJURY SEVERITY

HELMET USE	Fatality	Injury			No Injury
		A	B	C	
Worn	1	10	39	44	13
Not Worn	18	64	236	179	62
Unknown	10	149	582	557	238
<b>TOTALS</b>	<b>29</b>	<b>223</b>	<b>857</b>	<b>780</b>	<b>313</b>

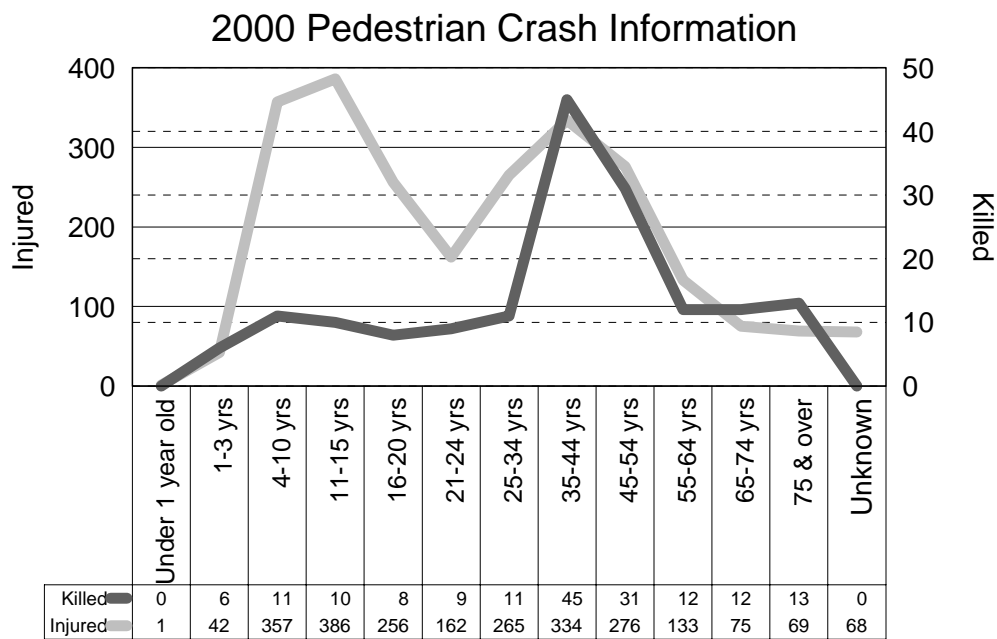
The National Center for Statistics and Analysis of the National Highway Traffic Safety Administration cites a study by the Centers for Disease Control [11] in giving us the following information: "Bicycle helmets are 85 to 88 percent effective in mitigating head and brain injuries, making the use of helmets the **single most effective countermeasure** available to reduce head injuries and fatalities resulting from bicycle crashes."

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





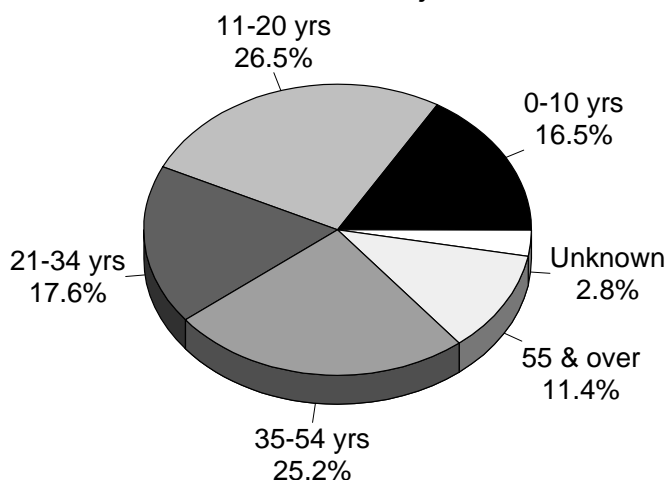
## MICHIGAN PEDESTRIAN CRASHES



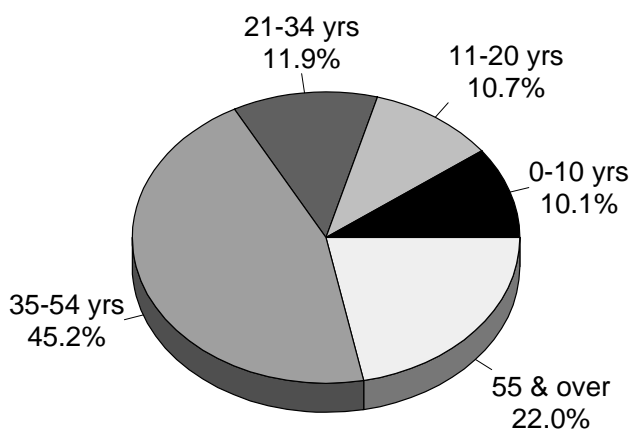
In 2000, there were 2,868 pedestrians involved in motor vehicles crashes, with 168 pedestrians killed and 2,424 injured. The number killed represents a 4.5 percent decrease in fatalities from 1999.

Children under 16 years of age accounted for 27 (16.1%) of the pedestrian deaths in 2000. Adults over the age of 54 accounted for 37 (22.0%) of the pedestrian deaths in 2000.

**Pedestrians Injured**



**Pedestrians Killed**



**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MICHIGAN SNOWMOBILE ON PUBLIC ROADWAY CRASHES

### Most Harmful Event

#### MOST SEVERE OUTCOME IN CRASH

NONCOLLISION	Snowmobiles		Fatal	Injury			PDO
	Number of Snowmobiles	% of Total		A	B	C	
Loss of control	8	1.0	0	2	2	1	3
Cross center/median	3	0.4	0	2	1	0	0
Ran off road left	1	0.1	0	0	1	0	0
Ran off road right	1	0.1	0	0	0	1	0
Re-enter road	0	0.0	0	0	0	0	0
Overturn	44	5.4	0	9	14	11	10
Separation of units	4	0.5	0	0	1	1	2
Fire/explosion	3	0.4	0	1	1	1	0
Immersion	0	0.0	0	0	0	0	0
Jackknife	6	0.7	0	0	0	1	5
Downhill runaway	0	0.0	0	0	0	0	0
Cargo loss/shift	2	0.2	0	0	0	0	2
Individual fell off	31	3.8	3	12	7	8	1
Other noncollision	10	1.2	0	2	1	2	5
NONCOLLISION Subtotal	113	13.9	3	28	28	26	28

#### MOST SEVERE OUTCOME IN CRASH

HAD A COLLISION WITH NONFIXED OBJECT	Snowmobiles		Fatal	Injury			PDO
	Number of Snowmobiles	% of Total		A	B	C	
Pedestrian	4	0.5	0	3	0	0	1
Pedalcycle	1	0.1	0	0	1	0	0
Motor vehicle in transport	358	43.9	5	44	42	60	207
Parked motor vehicle	25	3.1	0	3	3	7	12
Railway train	0	0.0	0	0	0	0	0
Animal	32	3.9	0	0	1	3	28
Other nonfixed objects	11	1.3	0	1	4	3	3
COLLISION NONFIXED Subtotal	431	52.9	5	51	51	73	251

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MICHIGAN SNOWMOBILE ON PUBLIC ROADWAY CRASHES (continued)

### Most Harmful Event

#### MOST SEVERE OUTCOME IN CRASH

HAD A COLLISION WITH FIXED OBJECT	Snowmobiles		Fatal	Injury			PDO
	Number of Snowmobiles	% of Total		A	B	C	
Bridge/pier/abutment	1	0.1	0	0	0	0	1
Bridge parapet end	0	0.0	0	0	0	0	0
Bridge rail	1	0.1	0	0	0	0	1
Guardrail face	0	0.0	0	0	0	0	0
Guardrail end	0	0.0	0	0	0	0	0
Median barrier	2	0.2	0	0	1	0	1
Highway traffic sign post	9	1.1	0	2	1	4	2
Signal post	1	0.1	0	0	0	0	1
Luminaire/light support	0	0.0	0	0	0	0	0
Utility pole	2	0.2	0	1	0	0	1
Other pole	1	0.1	0	1	0	0	0
Culvert	16	2.0	0	6	6	3	1
Curb	1	0.1	0	0	0	0	1
Ditch	19	2.3	0	8	2	4	5
Embankment	21	2.6	1	9	3	4	4
Fence	14	1.7	0	4	3	2	5
Mailbox	8	1.0	0	2	2	0	4
Tree	90	11.0	9	27	22	9	23
Rail crossing signal	0	0.0	0	0	0	0	0
Building	0	0.0	0	0	0	0	0
Traffic island	0	0.0	0	0	0	0	0
Fire hydrant	2	0.2	0	1	0	0	1
Impact attenuator	0	0.0	0	0	0	0	0
Other fixed object	26	3.2	0	4	5	7	10
<b>COLLISION FIXED Subtotal</b>	<b>214</b>	<b>26.3</b>	<b>10</b>	<b>65</b>	<b>45</b>	<b>33</b>	<b>61</b>
<b>Unknown Event</b>	<b>57</b>	<b>7.0</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>10</b>	<b>35</b>
<b>TOTAL MOST HARMFUL EVENT</b>	<b>815</b>	<b>100.0</b>	<b>19</b>	<b>147</b>	<b>132</b>	<b>142</b>	<b>375</b>

A total of 815 snowmobiles were reported in crashes on Michigan public roadways during 2000. Of these snowmobiles, 19 were involved in fatal crashes with 15 of their drivers, 2 passengers, and 1 pedestrian killed. One fatal crash involved two snowmobiles which only had one fatality.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MICHIGAN ORV/ATV ON PUBLIC ROADWAY CRASHES

### Most Harmful Event

### MOST SEVERE OUTCOME IN CRASH

NONCOLLISION	ORV/ATV		Fatal	Injury			PDO
	Number of ORV/ATVs	% of Total		A	B	C	
Loss of control	3	1.0	0	2	1	0	0
Ran off road left	2	0.6	0	0	1	0	1
Ran off road right	1	0.3	0	0	1	0	0
Overturn	43	13.8	0	18	16	6	3
Individual fell off	23	7.4	0	8	11	4	0
Other noncollision	3	1.0	0	0	3	0	0
<b>NONCOLLISION Subtotal</b>	<b>75</b>	<b>24.1</b>	<b>0</b>	<b>28</b>	<b>33</b>	<b>10</b>	<b>4</b>
<b>HAD A COLLISION WITH NONFIXED OBJECT</b>							
Pedestrian	5	1.6	0	2	1	1	1
Motor vehicle in transport	118	37.9	3	31	21	17	46
Parked motor vehicle	11	3.5	0	1	3	2	5
Railway Train	0	0.0	0	0	0	0	0
Animal	3	1.0	0	0	0	1	2
Other nonfixed objects	5	1.6	1	0	1	1	2
<b>COLLISION NONFIXED Subtotal</b>	<b>142</b>	<b>45.7</b>	<b>4</b>	<b>34</b>	<b>26</b>	<b>22</b>	<b>56</b>
<b>HAD A COLLISION WITH FIXED OBJECT</b>							
Traffic sign post	2	0.6	0	2	0	0	0
Utility pole	2	0.6	0	0	0	0	2
Other pole	1	0.3	0	0	1	0	0
Culvert	3	1.0	0	1	1	0	1
Curb	1	0.3	0	0	1	0	0
Ditch	16	5.1	0	6	2	7	1
Embankment	3	1.0	0	2	0	1	0
Fence	3	1.0	0	0	2	0	1
Mailbox	4	1.3	0	3	0	0	1
Tree	21	6.8	3	10	7	0	1
Other fixed object	12	3.9	0	2	7	2	1
<b>COLLISION FIXED Subtotal</b>	<b>68</b>	<b>21.9</b>	<b>3</b>	<b>26</b>	<b>21</b>	<b>10</b>	<b>8</b>
Unknown Event	26	8.4	0	6	6	3	11
<b>TOTAL MOST HARMFUL EVENT</b>	<b>311</b>	<b>100.0</b>	<b>7</b>	<b>94</b>	<b>86</b>	<b>45</b>	<b>79</b>

A total of 311 Off Road Vehicles/All Terrain Vehicles were reported in crashes on Michigan public roadways during 2000. Of these ORV/ATVs, 7 were involved in fatal crashes with 7 of their operators and 1 passenger killed. Three of the ORV/ATV operators had been drinking prior to their fatal collisions with trees.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## MICHIGAN SNOWMOBILE ON PUBLIC ROADWAY CRASHES

### MOST SEVERE OUTCOME IN CRASH

Driver Hazardous Action	Snowmobiles		Fatal	Injury			PDO
	Number of Snowmobiles	% of Total		A	B	C	
None	223	27.4	1	28	30	38	126
Speed too fast	204	25.0	7	65	46	41	45
Speed too slow	1	0.1	0	1	0	0	0
Failed to yield	77	9.4	2	9	9	15	42
Disregard traffic control	12	1.5	0	2	3	2	5
Drove wrong way	3	0.4	0	0	0	0	3
Drove left of center	6	0.7	1	1	1	0	3
Improper passing	0	0.0	0	0	0	0	0
Improper lane use	17	2.1	0	1	0	2	14
Improper turn	10	1.2	0	1	0	0	9
Improper/no signal	1	0.1	0	0	0	0	1
Improper backing	17	2.1	0	0	1	0	16
Unable to stop in assured clear distance	58	7.1	1	10	9	8	30
Reckless driving	9	1.1	0	5	0	2	2
Careless/Negligent driving	8	1.0	1	2	1	2	2
Other	95	11.7	1	12	19	19	44
Unknown	74	9.1	5	10	13	13	33
<b>TOTAL</b>	<b>815</b>	<b>100.0</b>	<b>19</b>	<b>147</b>	<b>132</b>	<b>142</b>	<b>375</b>

## MICHIGAN ORV/ATV ON PUBLIC ROADWAY CRASHES

### MOST SEVERE OUTCOME IN CRASH

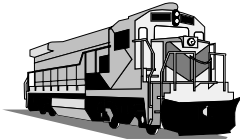
Driver Hazardous Action	ORV/ATV		Fatal	Injury			PDO
	Number of ORV/ATVs	% of Total		A	B	C	
None	67	21.5	0	16	20	9	22
Speed too fast	48	15.4	0	24	16	4	4
Speed too slow	0	0.0	0	0	0	0	0
Failed to yield	33	10.6	0	11	3	4	15
Disregard traffic control	2	0.6	1	0	0	0	1
Drove wrong way	1	0.3	0	1	0	0	0
Drove left of center	5	1.6	0	2	1	1	1
Improper passing	1	0.3	0	0	1	0	0
Improper lane use	1	0.3	0	0	0	0	1
Improper turn	2	0.6	0	0	0	1	1
Improper/no signal	1	0.3	0	0	1	0	0
Improper backing	3	1.0	0	0	0	2	1
Unable to stop in assured clear distance	12	3.9	1	1	4	2	4
Reckless driving	12	3.9	0	3	2	3	4
Careless/Negligent driving	22	7.1	0	11	9	1	1
Other	61	19.6	4	10	22	15	10
Unknown	40	12.9	1	15	7	3	14
<b>TOTAL</b>	<b>311</b>	<b>100.0</b>	<b>7</b>	<b>94</b>	<b>86</b>	<b>45</b>	<b>79</b>

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## MICHIGAN FARM EQUIPMENT CRASHES

Data not available for calendar year 2000 farm equipment crashes. Please refer to the preface for details.



## MICHIGAN VEHICLE - TRAIN CRASHES

A total of 125 crashes involving trains were reported in Michigan during 2000. The National Highway Traffic Safety Administration's 2000 Fatality Analysis Reporting System [12] reported 13 fatal train crashes in Michigan, and 13 persons killed as a result of those collisions.



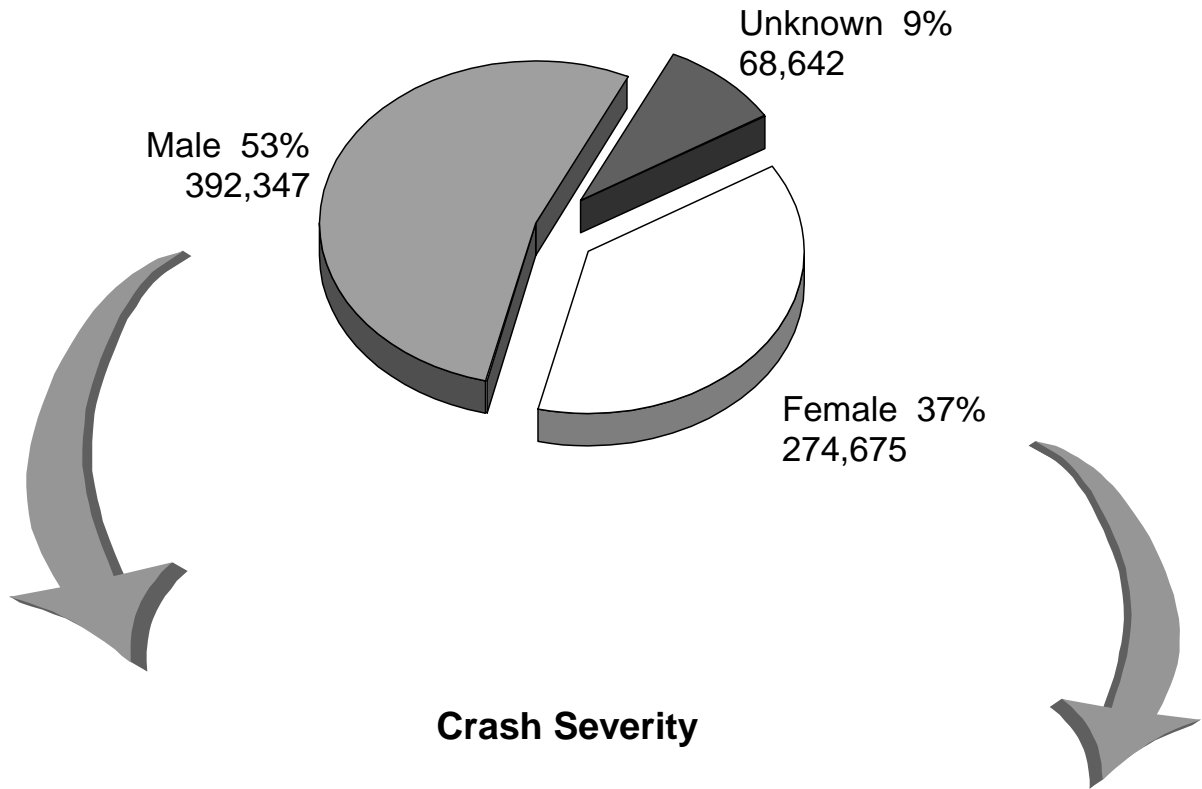
## MICHIGAN MOTORCYCLE CRASHES

MOTORCYCLE DATA	1999	2000	% Change
Registrations	160,752.0	176,334.0	9.7
Crashes	2,820.0	3,180.0	12.8
Deaths	77.0	78.0	1.3
Persons Injured	2,383.0	2,541.0	6.6
Death Rate based on 10,000 motorcycle registrations	4.8	4.4	-8.3
Estimated Mileage based on 3,000 miles per motorcycle	482,256,000.0	529,002,000.0	9.7
Death Rate based on deaths per 100 million vehicle miles traveled	16.0	14.7	-8.1

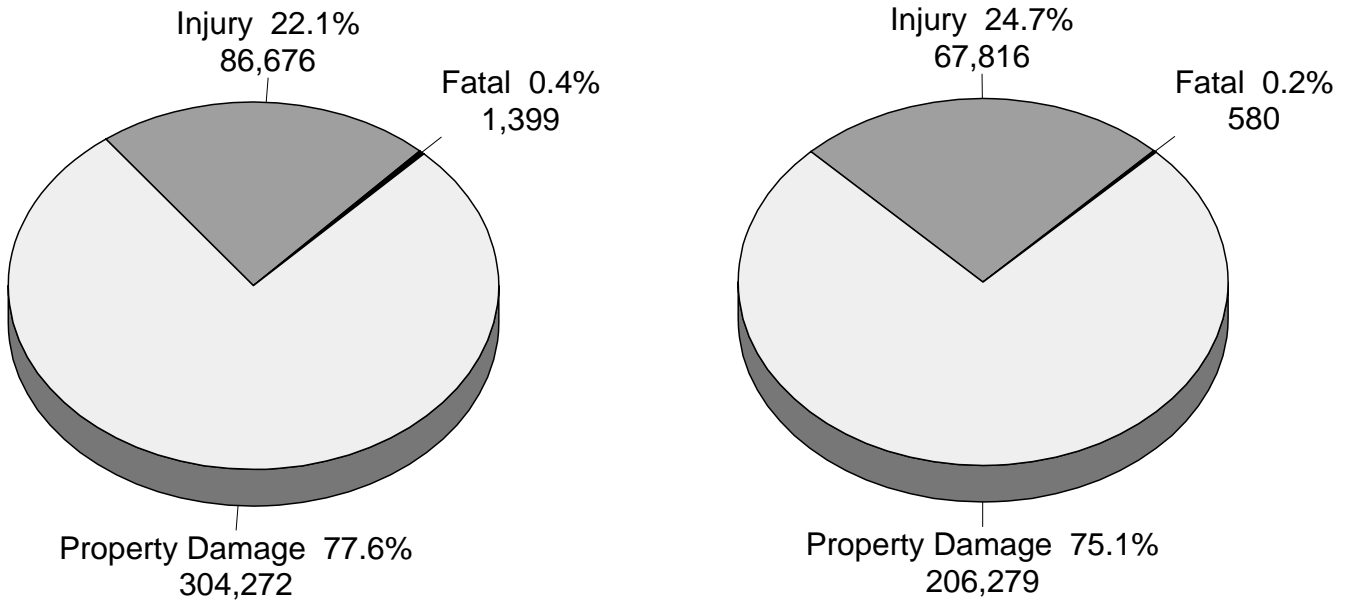
Motorcycles were involved in 0.75 percent of all traffic crashes in Michigan in 2000. Injuries were proportionately more severe to motorcyclists than to persons in motor vehicles. The 2000 death rate for motorcyclists was 14.7 per 100 million vehicle miles traveled compared to the overall 1.5 mileage death rate per 100 million vehicle miles traveled.

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## DRIVER GENDER INFORMATION - ALL CRASHES



### Crash Severity



A higher proportion of crashes involved male drivers than female drivers. When we examine the severity of crashes involving drivers of each gender, we see that fatal crashes are more prevalent among male drivers than female drivers (0.4% vs. 0.2%).

This 2000 chart was processed with numbers for all drivers (vehicle level).

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

**PERSON AGE:  
DEMOGRAPHICS AND CRASH INVOLVEMENTS**

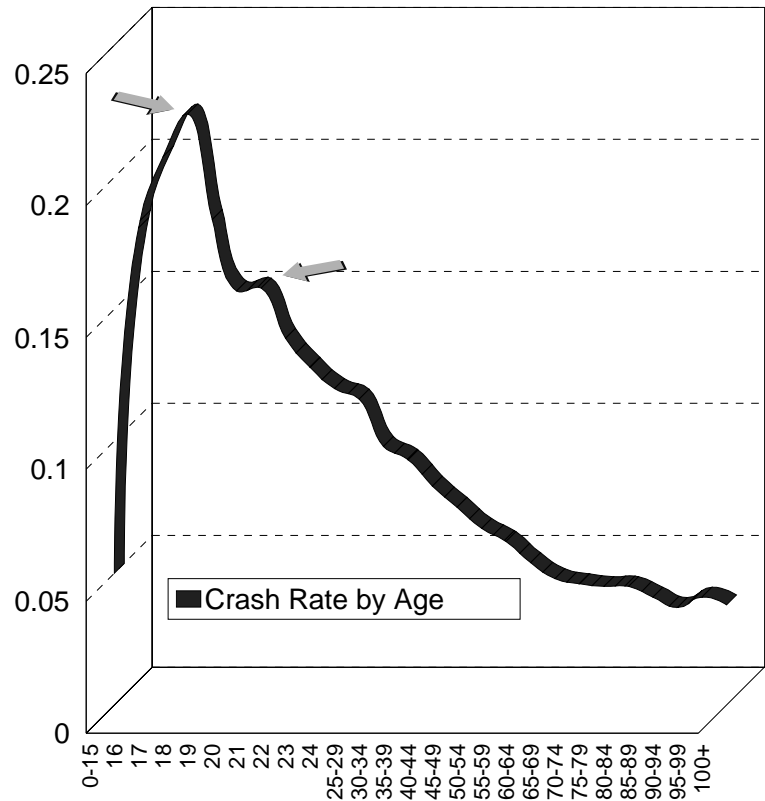
Age	Licensed Drivers	Michigan Population	Drivers in all crashes	Drivers in Fatal crashes	Occupants killed	Occupants injured	Bicyclist all crashes	Bicyclist fatal crashes	Pedestrian all crashes	Pedestrian fatal crashes
0-15	49,865	2,310,274	2,479	11	61	9,237	1,121	16	898	29
16	95,620	141,996	17,351	49	29	3,672	69	0	84	2
17	106,421	143,497	22,164	66	43	4,198	57	0	51	2
18	108,167	143,555	24,218	69	43	4,459	57	0	56	2
19	120,624	144,743	22,209	63	36	3,916	45	0	66	3
20	128,686	140,244	20,227	53	38	3,510	48	1	39	0
21	117,416	134,087	18,526	46	35	3,271	31	0	58	5
22	121,201	127,562	16,854	41	18	2,861	30	0	48	4
23	124,330	121,872	15,965	52	24	2,590	24	0	41	2
24	121,436	120,074	14,545	44	21	2,401	21	0	41	5
25-29	605,299	654,629	70,445	194	102	10,944	84	1	145	4
30-34	679,738	707,542	66,940	204	100	10,074	102	3	155	10
35-39	734,294	787,367	68,428	155	76	9,860	130	1	198	22
40-44	765,027	811,006	63,475	162	74	9,099	98	0	211	27
45-49	709,275	734,905	53,328	168	74	7,926	91	2	189	18
50-54	626,272	633,034	42,023	110	46	6,392	52	2	144	13
55-59	468,443	485,895	29,158	116	69	4,442	41	3	89	8
60-64	358,931	377,144	19,273	62	45	3,017	19	0	64	4
65-69	299,483	328,835	14,470	50	36	2,392	25	1	52	4
70-74	278,459	314,045	12,862	60	50	2,224	12	1	40	8
75-79	220,324	260,144	9,984	41	47	1,890	6	1	39	6
80-84	131,430	173,534	5,910	42	37	1,184	4	0	29	4
85-100+	69,671	142,460	2,797	28	42	652	1	0	19	3
Unknown	--	--	102,033	176	28	4,300	103	0	112	4
Totals	7,040,412	9,938,444	735,664	2,062	1,174	114,511	2,271	32	2,868	189

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details**



## CRASH RATE PER LICENSED DRIVER BY AGE OF DRIVER IN ALL CRASHES

Age	Rate	Licensed Drivers	Drivers in all crashes
0-15	0.050	49,865	2,479
16	0.181	95,620	17,351
17	0.208	106,421	22,164
18	0.224	108,167	24,218
19	0.184	120,624	22,209
20	0.157	128,686	20,227
21	0.158	117,416	18,526
22	0.139	121,201	16,854
23	0.128	124,330	15,965
24	0.120	121,436	14,545
25-29	0.116	605,299	70,445
30-34	0.098	679,738	66,940
35-39	0.093	734,294	68,428
40-44	0.083	765,027	63,475
45-49	0.075	709,275	53,328
50-54	0.067	626,272	42,023
55-59	0.062	468,443	29,158
60-64	0.054	358,931	19,273
65-69	0.048	299,483	14,470
70-74	0.046	278,459	12,862
75-79	0.045	220,324	9,984
80-84	0.045	131,430	5,910
85-89	0.041	55,338	2,265
90-94	0.037	12,815	470
95-99	0.041	1,440	59
100+	0.038	78	3
Total		7,040,412	633,631



Drivers age 18 have the highest rate (total crashes in age group divided by total number of licensed drivers in age group) while the small peak at age 21 correlates with the beginning of legal drinking. The low crash rates of the oldest groups (per licensed driver) may reflect reduced driving and exposure to the risk of a crash relative to younger drivers.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## REPORTED AGE OF DRIVERS INVOLVED IN ALL 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	897	4	107	65	159	190	138	111	62	27	34
Alger	745	4	97	64	107	132	115	76	37	19	94
Allegan	6,353	28	1,120	601	1,269	1,238	841	401	202	143	510
Alpena	2,087	10	427	176	304	370	286	172	117	74	151
Antrim	1,540	5	226	127	248	334	232	132	65	51	120
Arenac	1,502	4	218	119	279	332	260	96	83	36	75
Baraga	789	0	89	71	145	128	132	76	37	20	91
Barry	3,736	14	670	342	725	737	489	295	156	85	223
Bay	7,294	31	1,284	664	1,293	1,243	905	511	305	260	798
Benzie	814	5	124	57	159	154	116	77	39	19	64
Berrien	10,078	40	1,479	791	1,600	1,611	1,245	667	428	356	1,861
Branch	3,343	13	583	279	590	607	377	277	139	72	406
Calhoun	10,902	46	1,668	1,020	1,938	1,816	1,393	778	457	330	1,456
Cass	2,812	10	437	220	447	432	371	196	103	65	531
Charlevoix	1,776	6	283	142	312	351	280	145	83	52	122
Cheboygan	1,706	11	322	155	293	280	233	124	95	54	139
Chippewa	2,212	6	358	209	365	420	310	136	109	63	236
Clare	2,345	8	399	192	431	441	350	228	121	74	101
Clinton	3,665	15	656	349	643	708	551	268	132	74	269
Crawford	1,146	3	175	81	186	226	180	101	81	37	76
Delta	3,398	11	483	247	513	613	514	292	203	142	380
Dickinson	2,045	8	277	123	296	363	270	162	115	73	358
Eaton	6,830	26	1,178	656	1,172	1,243	1,020	512	268	191	564
Emmet	2,743	9	407	242	497	507	430	188	131	90	242
Genesee	29,064	107	4,466	2,619	5,480	5,253	3,793	2,018	1,235	716	3,377
Gladwin	1,379	0	207	102	270	284	211	150	68	42	45
Gogebic	945	4	128	48	116	112	88	67	52	50	280
Grand Traverse	7,200	33	1,335	610	1,184	1,383	1,053	548	326	200	528
Gratiot	2,671	7	444	258	480	466	420	222	122	99	153
Hillsdale	3,121	9	529	318	531	592	374	249	116	83	320
Houghton	2,210	7	383	226	278	327	288	169	120	89	323
Huron	2,273	9	468	212	388	394	341	174	105	81	101
Ingham	22,338	79	3,610	2,868	4,134	3,886	2,905	1,378	715	468	2,295
Ionia	4,108	22	720	395	807	767	579	285	125	101	307
Iosco	1,657	7	253	113	283	335	252	148	110	79	77
Iron	1,191	3	122	80	149	206	182	114	81	48	206
Isabella	4,679	8	1,014	689	780	733	574	332	164	102	283
Jackson	10,741	47	1,698	828	2,015	2,029	1,447	767	421	292	1,197
Kalamazoo	18,298	50	3,189	2,268	3,270	3,005	2,294	1,057	653	449	2063
Kalkaska	1,263	4	201	105	235	265	165	118	72	34	64
Kent	52,204	161	8,100	5,895	10,936	9,541	6,395	3,027	1,654	1,110	5,385
Keweenaw	123	1	17	11	14	22	16	9	7	6	20
Lake	868	2	79	73	146	199	174	73	51	24	47
Lapeer	5,443	21	1,024	461	1,078	1,131	794	379	174	105	276
Leelanau	931	2	148	64	147	170	143	67	60	29	101

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

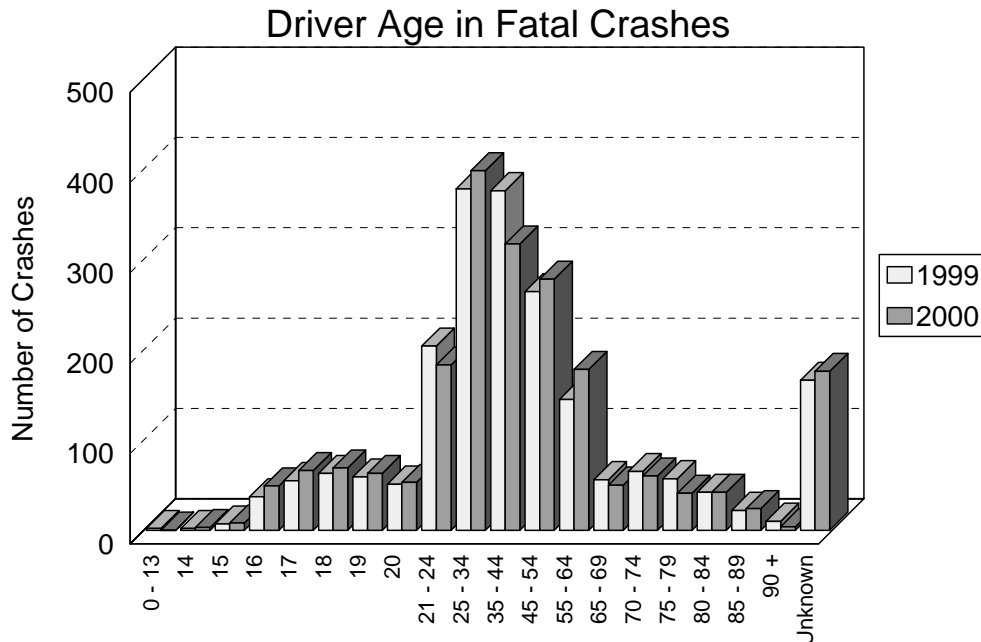
COUNTY	All ages	0-15 years	16-20 years	21-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 yrs & over	DOB unk
Lenawee	5,669	18	1,026	452	959	897	751	426	245	167	728
Livingston	9,792	37	1,942	848	1,844	2,070	1,387	625	278	125	636
Luce	416	1	54	30	89	70	63	44	18	13	34
Mackinac	1,167	4	129	97	180	227	197	100	70	21	142
Macomb	53,862	139	8,081	4,665	10,602	10,084	6,834	3,568	2,071	1,604	6,214
Manistee	1,808	4	251	121	306	313	279	171	91	68	204
Marquette	4,280	18	741	435	630	647	604	253	190	134	628
Mason	2,536	8	411	192	410	519	379	221	118	78	200
Mecosta	3,707	7	681	477	677	660	455	313	137	91	209
Menominee	2,614	6	355	153	364	462	362	181	111	73	547
Midland	4,829	17	936	475	815	969	660	346	195	126	290
Missaukee	978	5	136	83	194	219	124	94	51	35	37
Monroe	8,264	42	1,479	646	1,226	1,323	840	449	264	191	1,804
Montcalm	4,328	18	762	428	812	888	625	313	179	101	202
Montmorency	624	7	113	61	96	126	86	47	25	26	37
Muskegon	11,101	48	1,884	950	2,042	2,006	1,547	758	530	393	943
Newaygo	2,884	15	478	261	553	600	445	206	120	78	128
Oakland	97,085	250	13,287	8,416	20,336	19,699	13,752	6,691	3,254	2,350	9,050
Oceana	1,508	8	269	143	269	305	216	99	44	37	118
Ogemaw	1,629	2	266	119	287	358	251	145	81	59	61
Ontonagon	902	5	98	50	142	160	154	81	57	28	127
Osceola	1,994	9	303	180	386	414	328	166	86	41	81
Oscoda	623	5	97	46	105	135	95	49	40	21	30
Otsego	1,695	4	326	163	291	310	256	124	71	47	103
Ottawa	14,534	48	3,106	1,631	2,709	2,514	1,671	844	447	386	1,178
Presque Isle	761	8	127	48	138	146	129	62	49	23	31
Roscommon	1,844	17	274	141	328	381	271	180	97	72	83
Saginaw	15,127	39	2,398	1,293	2,761	2,712	2,082	1,189	746	528	1,379
St. Clair	9,617	37	1,831	851	1,732	1,769	1,193	639	373	282	910
St. Joseph	3,775	19	659	363	638	617	456	238	136	98	551
Sanilac	2,152	9	360	183	390	474	307	162	103	63	101
Schoolcraft	876	3	96	67	149	143	135	76	35	39	133
Shiawassee	4,036	16	763	405	770	744	487	290	181	111	269
Tuscola	3,008	12	552	263	560	562	470	249	119	88	133
Van Buren	4,546	29	776	369	794	801	561	321	180	116	599
Washtenaw	24,071	66	3,394	2,756	4,676	4,304	3,311	1,364	649	397	3,154
Wayne	169,029	581	15,797	12,404	30,663	26,881	19,459	9,662	5,701	3,854	44,027
Wexford	3,133	12	524	275	544	574	422	236	133	70	343
UNKNOWN	1,395	6	205	115	226	244	181	77	58	43	240
Totals	735,664	2,479	106,169	65,890	137,385	131,903	95,351	48,431	27,332	18,691	102,033

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## DRIVER AGE

AGE OF DRIVERS IN FATAL CRASHES	1999	2000	% Change	% 2000 Fatal Crash Involvement	Percent Active Driving Population*
15 years and under	11	11	0.0	0.5	0.7
16 years	37	49	32.4	2.4	1.4
17 years	55	66	20.0	3.2	1.5
18 years	63	69	9.5	3.3	1.5
19 years	59	63	6.8	3.1	1.7
20 years	51	53	3.9	2.6	1.8
21-24 years	204	183	-10.3	8.9	6.9
25 - 34 years	378	398	5.3	19.3	18.3
35 - 44 years	376	317	-15.7	15.4	21.3
45 - 54 years	264	278	5.3	13.5	19.0
55 - 64 years	145	178	22.8	8.6	11.8
65 - 69 years	56	50	-10.7	2.4	4.3
70 - 74 years	65	60	-7.7	2.9	4.0
75 - 79 years	57	41	-28.1	2.0	3.1
80 - 84 years	42	42	0.0	2.0	1.9
85 - 89 years	22	24	9.1	1.2	0.8
90 years and over	10	4	-60.0	0.2	0.2
Unknown	166	176	6.0	8.5	---
<b>TOTALS</b>	<b>2,061</b>	<b>2,062</b>	<b>0.0</b>	<b>100.0</b>	<b>100.0</b>

\* Figures courtesy of the Michigan Department of State [13]



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**REGISTRATION TRANSACTIONS**  
(Includes Original, Renewal, Correction, and Replacements)  
Registration data courtesy of the Michigan Department of State [14]

COUNTY	VEHICLE										OTHER			
	Passenger	Commercial	Trailer	Motorcycle	Total Plates	Total Revenue	Watercraft	Snowmobile	Moped					
Alcona	7,519	4,001	3,221	255	14,996	881,861.24	2,690	943	66					
Alger	5,002	3,197	1,862	234	10,295	601,242.35	1,845	1,558	24					
Allegan	61,028	27,679	18,043	2,125	108,875	7,541,902.29	11,445	3,607	312					
Alpena	18,768	10,141	7,179	610	36,698	2,421,062.21	4,643	2,569	66					
Antrim	14,811	6,848	5,164	501	27,324	1,726,779.81	5,183	2,267	67					
Arenac	9,770	5,615	3,892	458	19,735	1,241,118.95	3,982	1,507	49					
Baraga	4,025	2,592	1,371	135	8,123	503,146.23	1,083	812	7					
Barry	33,464	15,802	10,722	1,429	61,417	3,747,173.08	9,160	1,790	94					
Bay	70,412	25,352	19,805	2,011	117,580	8,006,224.20	10,050	5,525	197					
Benzie	10,511	4,713	3,657	334	19,215	1,145,165.17	3,936	1,310	61					
Berrien	105,935	34,078	19,855	3,115	162,983	10,746,270.11	13,210	2,870	398					
Branch	25,224	12,618	7,854	862	46,558	3,108,050.16	6,383	882	125					
Calhoun	89,114	29,512	17,277	2,563	138,466	9,073,209.34	10,356	1,514	352					
Cass	29,804	13,646	8,624	1,112	53,186	3,257,611.69	8,544	1,870	100					
Charlevoix	16,958	7,992	5,446	688	31,084	2,090,411.42	4,959	2,773	71					
Cheboygan	15,812	8,531	5,808	611	30,762	1,996,580.54	5,574	3,390	84					
Chippewa	18,012	9,706	6,424	541	34,683	2,250,833.37	4,568	4,348	76					
Clare	18,234	9,985	6,784	617	35,620	2,261,485.63	4,687	2,208	62					
Clinton	39,347	17,059	12,101	1,169	69,676	4,808,762.23	6,660	2,636	173					
Crawford	7,628	4,025	2,904	268	14,825	895,893.05	2,919	1,534	21					
Delta	23,928	13,193	8,779	792	46,692	3,025,103.34	4,695	3,576	117					
Dickinson	16,796	8,703	5,738	733	31,970	2,127,825.54	3,693	1,895	137					
Eaton	63,500	23,817	15,251	2,070	104,638	8,257,669.24	8,752	2,346	182					
Emmet	21,109	8,873	6,053	692	36,727	2,504,430.85	5,347	2,892	105					
Genesee	275,023	86,538	48,569	7,817	417,947	29,093,303.24	32,024	12,380	539					
Gladwin	15,494	8,337	5,780	574	30,185	1,854,417.42	4,927	1,742	60					
Gogebic	9,227	4,963	2,582	324	17,096	1,007,453.14	2,368	1,438	70					
Grand Traverse	55,292	19,651	15,551	1,638	92,132	6,838,743.95	12,948	5,080	129					

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## REGISTRATION TRANSACTIONS (continued)

COUNTY	VEHICLE										OTHER		
	Passenger	Commercial	Trailer	Motorcycle	Total Plates	Total Revenue	Watercraft	Snowmobile	Moped				
Gratiot	23,094	11,485	7,781	757	43,117	2,800,171.78	3,469	1,656	111				
Hillsdale	26,556	14,025	8,026	991	49,598	3,148,751.19	5,164	967	118				
Houghton	18,431	8,304	4,200	658	31,593	1,902,193.49	3,822	2,391	65				
Huron	22,993	12,843	7,524	708	44,068	3,148,770.47	3,328	2,549	195				
Ingham	179,553	43,821	24,296	4,046	251,716	17,681,889.48	15,625	3,877	398				
Ionia	33,316	15,387	9,535	1,183	59,421	3,674,380.92	5,234	1,543	182				
Iosco	17,131	8,603	6,489	587	32,810	2,059,911.76	5,292	1,687	110				
Iron	7,578	4,508	2,681	304	15,071	941,856.32	2,440	1,161	40				
Isabella	29,239	13,524	8,759	891	52,413	3,893,679.76	4,694	1,880	69				
Jackson	96,287	37,499	22,454	3,342	159,582	10,701,433.41	15,793	3,335	308				
Kalamazoo	151,931	39,836	25,022	4,140	220,929	15,858,028.96	18,367	3,025	467				
Kalkaska	9,299	5,907	4,025	355	19,586	1,564,438.41	2,745	1,988	20				
Kent	377,500	106,818	71,926	9,430	565,674	48,383,347.13	45,061	10,296	968				
Keweenaw	1,159	584	291	41	2,075	121,596.26	397	152	2				
Lake	6,075	3,513	2,161	253	12,002	677,839.23	2,358	965	27				
Lapeer	50,650	26,171	15,305	2,359	94,485	6,463,745.35	7,304	4,095	108				
Leelanau	13,583	5,192	4,516	351	23,642	1,535,008.38	5,495	1,625	61				
Lenawee	59,828	26,237	14,966	2,234	103,265	6,799,397.78	9,051	2,992	296				
Livingston	98,114	37,021	24,410	4,179	163,724	12,255,585.04	18,062	5,878	182				
Luce	3,219	2,321	1,620	84	7,244	528,748.09	1,396	1,185	13				
Mackinac	6,736	3,992	2,555	201	13,484	850,391.17	3,011	2,259	32				
Macomb	546,463	142,266	65,900	13,861	768,490	61,035,563.42	48,436	16,844	1,150				
Manistee	15,228	7,343	5,309	553	28,433	1,797,537.75	3,798	1,468	74				
Marquette	37,219	16,773	9,529	1,413	64,934	4,144,119.50	7,005	4,533	132				
Mason	17,777	8,218	5,573	692	32,260	2,073,509.24	4,366	1,367	78				
Mecosta	20,659	10,076	6,841	725	38,301	2,443,716.42	5,172	1,600	46				
Menominee	13,744	7,243	4,939	521	26,447	1,701,316.12	2,779	1,524	302				
Midland	55,955	18,364	15,312	1,879	91,510	5,979,364.63	9,196	2,858	148				
Missaukee	7,625	5,112	3,375	339	16,451	1,094,769.99	2,117	1,343	24				

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## REGISTRATION TRANSACTIONS (continued)

COUNTY	VEHICLE										OTHER		
	Passenger	Commercial	Trailer	Motorcycle	Total Plates	Total Revenue	Watercraft	Snowmobile	Moped				
Monroe	91,027	38,398	20,231	3,627	153,283	10,861,824.33	10,828	4,501	349				
Montcalm	34,746	17,593	11,515	1,151	65,005	4,039,011.07	7,240	2,160	155				
Montmorency	6,081	3,866	2,837	197	12,981	816,026.32	2,300	1,427	21				
Muskegon	107,610	33,747	23,582	3,885	168,824	10,398,644.61	15,047	4,778	403				
Newaygo	27,310	13,877	9,804	1,073	52,064	3,145,229.98	7,113	2,637	95				
Oakland	894,309	187,905	97,395	21,597	1,201,206	101,610,679.41	82,348	22,962	1,451				
Oceana	15,593	8,197	4,568	547	28,905	1,807,878.54	3,034	1,794	86				
Ogemaw	12,723	7,416	5,207	632	25,978	1,709,549.82	3,421	1,805	45				
Ontonagon	4,446	2,927	1,719	147	9,239	540,958.00	1,163	1,172	18				
Osceola	12,939	7,535	4,577	416	25,467	1,649,014.45	2,747	1,660	38				
Oscoda	5,399	3,205	2,087	243	10,934	666,412.15	2,068	979	18				
Otsego	14,056	8,016	5,318	526	27,916	2,213,483.29	3,246	3,091	32				
Ottawa	148,525	44,486	38,372	4,228	235,611	17,267,094.31	24,193	6,190	697				
Presque Isle	8,667	5,434	3,389	250	17,740	1,122,136.75	3,029	1,807	38				
Roscommon	16,431	7,828	6,376	545	31,180	1,949,477.46	6,357	3,684	151				
Saginaw	133,415	41,668	29,539	3,230	207,852	15,038,528.43	16,337	7,414	342				
St. Clair	102,681	41,064	22,562	3,670	169,977	11,608,128.96	15,091	5,822	293				
St. Joseph	37,699	16,876	10,769	1,689	67,033	4,202,178.16	8,595	951	175				
Sanilac	25,747	14,543	7,670	1,062	49,022	3,308,512.21	2,206	1,914	73				
Schoolcraft	4,820	3,256	2,166	204	10,446	657,863.07	1,805	1,349	39				
Shiawassee	43,937	20,711	12,660	1,582	78,890	5,259,522.12	6,139	3,126	165				
Tuscola	34,612	19,002	12,044	1,310	66,968	4,170,487.64	4,811	3,291	195				
Van Buren	44,958	19,161	10,980	1,632	76,731	4,866,093.02	8,429	2,120	191				
Washtenaw	198,730	45,713	22,672	5,115	272,230	20,424,383.68	15,178	3,792	383				
Wayne	1,258,061	265,546	101,771	25,268	1,650,646	131,250,947.28	68,652	15,843	1,973				
Wexford	18,888	8,847	5,873	661	34,269	2,246,924.68	4,622	2,500	53				
Non-Resident	56,680	29,977	14,632	492	101,781	46,320,936.94	33,324	5,243	110				
Unknown County							12,279	156	5				
Totals	6,388,779	1,986,947	1,151,931	176,334	9,703,991	\$757,426,717.92	829,210	278,473	17,064				

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**





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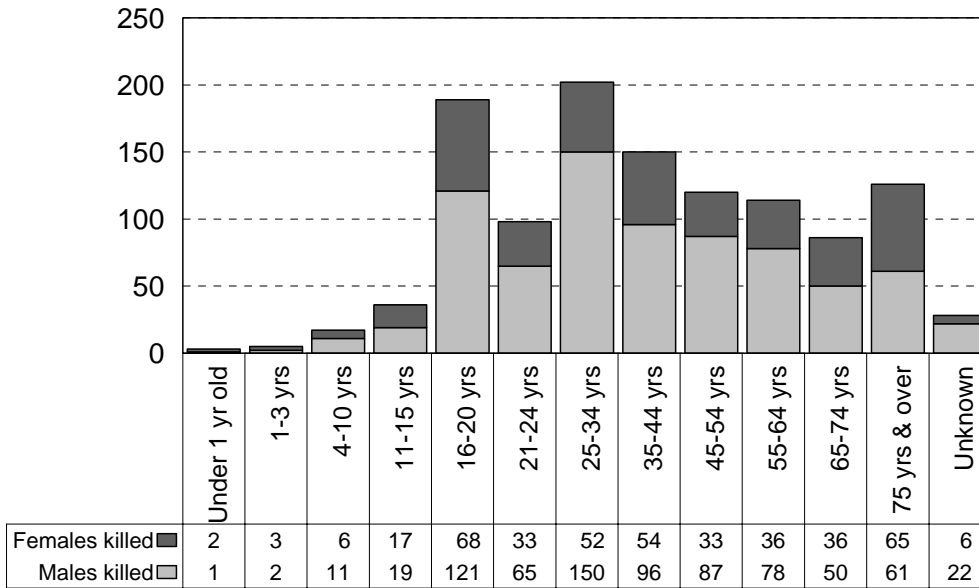
2000

**Occupant/  
Person**



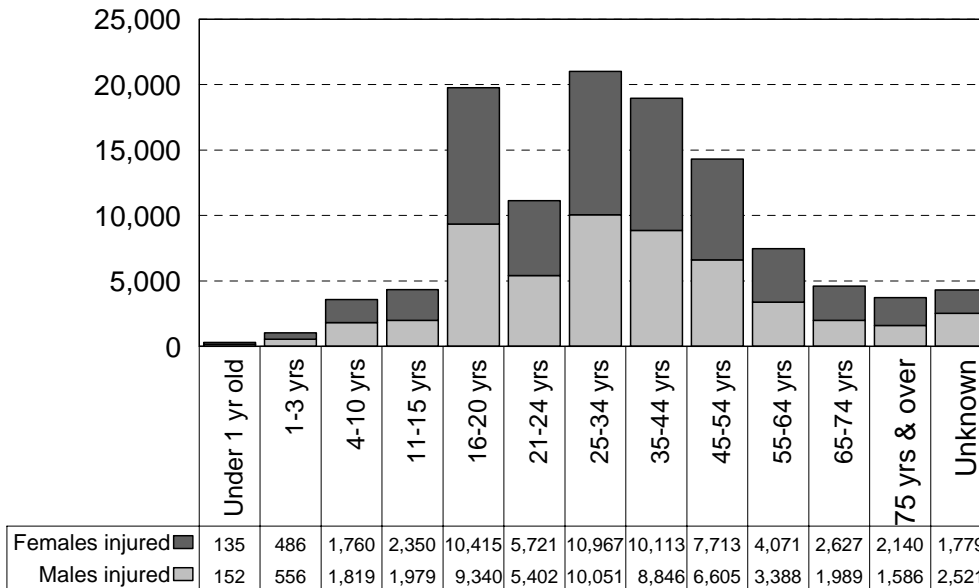
## AGE AND GENDER OF OCCUPANTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

### Occupants Killed



The majority (65.0%) of occupants killed in traffic crashes in 2000 were male.

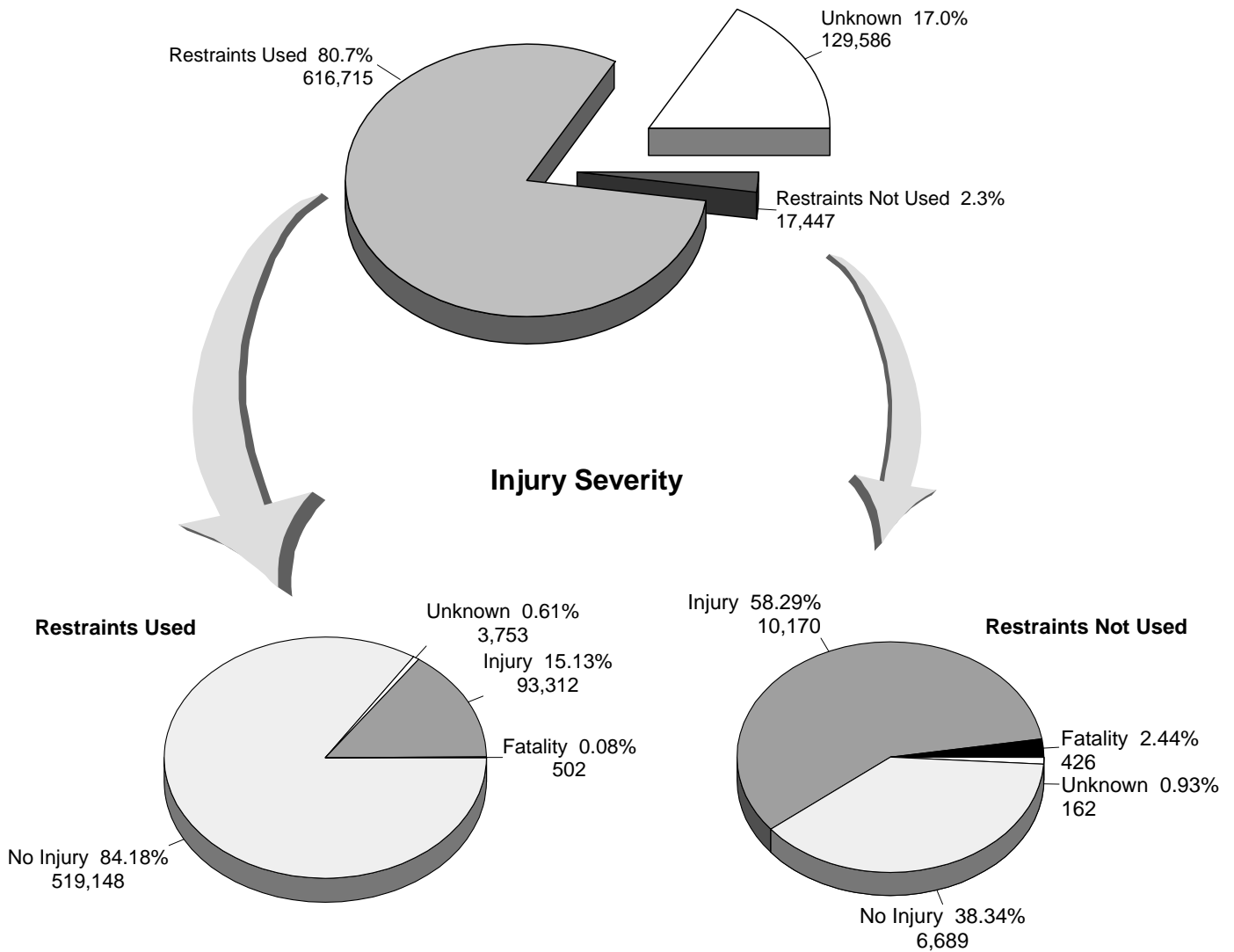
### Occupants Injured



The majority (52.6%) of occupants injured in traffic crashes in 2000 were female.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## REPORTED OCCUPANT RESTRAINT USAGE FOR ALL DRIVERS AND INJURED PASSENGERS



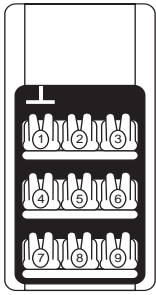
Restraint use by motorists is measured two ways: by what motorists REPORT to police at the scene of a traffic crash (reported usage), and by DIRECT OBSERVATION studies where motorists are totally unaware of the presence of researchers (observed usage).

Of the 763,748 drivers and injured passengers involved in crashes, 616,715 (80.7%) were REPORTED to be using occupant restraints.

In a DIRECT OBSERVATION study by the University of Michigan Transportation Research Institute [15] estimated overall safety belt use was 85 percent for passenger cars, 83.1 percent for sport-utility vehicles, 83.2 percent for vans, and 71.2 percent for pickup trucks in 2000.

**Occupants in crashes were thirty times more likely to be killed if they were not wearing their restraints.**

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MOTOR VEHICLE OCCUPANTS & INJURY SEVERITY BY SEATING POSITION AND KNOWN BELT USAGE

Seating Position	Belts Used*		Fatal	Injury			PDO
	Number	% of Total		A	B	C	
Left Front	588,663	96.2	346	4,737	13,909	50,820	518,851
Center Front	556	0.1	1	42	124	375	14
Right Front	16,880	2.8	130	1,271	3,484	11,927	68
Left Rear	2,005	0.3	3	134	449	1,383	36
Center Rear	582	0.1	3	38	163	374	4
Right Rear	2,218	0.4	10	147	473	1,586	2
Left Rear Third Seat	297	0.0	1	27	65	198	6
Center Rear Third Seat	129	0.0	2	9	34	80	4
Right Rear Third Seat	346	0.1	1	23	75	245	2
Unknown	128	0.0	1	9	15	38	65
<b>TOTAL</b>	<b>611,804**</b>	<b>100.0</b>	<b>498</b>	<b>6,437</b>	<b>18,791</b>	<b>67,026</b>	<b>519,052</b>

\* Lap belt, shoulder belt or a combination of lap and shoulder belts used. Children who were coded as using or not using a child restraint device appear in separate tables on pages 162-163.

\*\*This total does not include 3,747 occupants with unknown injury severity.

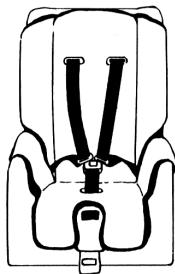
Seating Position	Belts Not Used*		Fatal	Injury			PDO
	Number	% of Total		A	B	C	
Left Front	12,265	71.7	293	1,391	2,171	1,926	6,484
Center Front	187	1.1	5	38	72	65	7
Right Front	2,154	12.6	76	481	812	775	10
Left Rear	750	4.4	16	118	188	342	86
Center Rear	259	1.5	7	51	89	112	0
Right Rear	691	4.0	14	146	193	338	0
Left Rear Third Seat	106	0.6	1	19	37	48	1
Center Rear Third Seat	55	0.3	1	14	17	23	0
Right Rear Third Seat	139	0.8	2	20	43	73	1
Unknown	505	3.0	10	71	99	290	35
<b>TOTAL</b>	<b>17,111**</b>	<b>100.0</b>	<b>425</b>	<b>2,349</b>	<b>3,721</b>	<b>3,992</b>	<b>6,624</b>

\* No belts available or no belts used. Children who were coded as using or not using a child restraint device appear in separate tables on page 162-163.

\*\*This total does not include 157 occupants with unknown injury severity.

*Michigan law requires that all persons must wear a safety belt  
when riding in the front seat of a motor vehicle*

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## REPORTED RESTRAINT USE - CHILDREN

**Michigan law requires:**

*Any child **under four years of age** riding in either the front or back seat of a vehicle must be in a Child Restraint Device (CRD).*

*Sitting in all seats excluding Left Front Seats:*

Restraint Usage <b>Children Age 0</b>			Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Belts Used	33	11.7	0	2	5	25	1
No Belts Used	4	1.4	1	0	1	1	1
CRD Used	222	79.0	2	10	42	168	0
CRD Not Used	12	4.3	0	3	2	7	0
Restraint Failed	1	0.4	0	0	0	1	0
Unknown	9	3.2	0	0	0	9	0
<b>Total Children Age 0</b>	<b>281</b>	<b>100.0</b>	<b>3</b>	<b>15</b>	<b>50</b>	<b>211</b>	<b>2</b>
<b>Restraint Usage Children Age 1</b>							
Belts Used	52	17.7	1	3	14	34	0
No Belts Used	9	3.1	0	1	5	3	0
CRD Used	208	70.7	1	8	60	139	0
CRD Not Used	15	5.1	0	5	4	6	0
Restraint Failed	0	0.0	0	0	0	0	0
Unknown	10	3.4	0	1	2	7	0
<b>Total Children Age 1</b>	<b>294</b>	<b>100.0</b>	<b>2</b>	<b>18</b>	<b>85</b>	<b>189</b>	<b>0</b>
<b>Restraint Usage Children Age 2</b>							
Belts Used	77	22.3	0	4	21	52	0
No Belts Used	17	4.9	0	4	6	7	0
CRD Used	212	61.4	1	14	61	136	0
CRD Not Used	21	6.1	1	2	10	8	0
Restraint Failed	3	0.9	0	0	1	2	0
Unknown	15	4.3	0	3	5	7	0
<b>Total Children Age 2</b>	<b>345</b>	<b>100.0</b>	<b>2</b>	<b>27</b>	<b>104</b>	<b>212</b>	<b>0</b>
<b>Restraint Usage Children Age 3</b>							
Belts Used	181	47.3	1	14	52	113	1
No Belts Used	21	5.5	0	2	3	16	0
CRD Used	152	39.7	0	15	41	96	0
CRD Not Used	19	5.0	0	4	6	9	0
Restraint Failed	0	0.0	0	0	0	0	0
Unknown	10	2.6	0	0	2	8	0
<b>Total Children Age 3</b>	<b>383</b>	<b>100.0</b>	<b>1</b>	<b>35</b>	<b>104</b>	<b>242</b>	<b>1</b>

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## REPORTED RESTRAINT USE - CHILDREN (continued)

*Any child between the **ages of four and sixteen** must wear a safety belt when riding in either the front or back seat of a vehicle.*

*Sitting in all seats excluding Left Front Seats:*

Restraint Usage	Children age 4-15		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Belts Used	5,658	78.3	22	376	1,352	3,908	0
No Belts Used	1,011	14.0	18	175	323	495	0
CRD Used	142	2.0	0	3	41	98	0
CRD Not Used	22	0.3	0	1	7	14	0
Restraint Failed	9	0.1	0	0	5	4	0
Unknown	381	5.3	6	44	115	216	0
<b>TOTAL</b>	<b>7,223</b>	<b>100.0</b>	<b>46</b>	<b>599</b>	<b>1,843</b>	<b>4,735</b>	<b>0</b>

Note: Safety equipment usage is often self-reported and may not reflect actual usage.

In a pilot study of child restraint device (CRD) use and misuse in Michigan [16] at the University of Michigan Transportation Research Institute, researchers discovered at least some degree of improper CRD use in 88.5 percent of case studies.

In a study of patterns of child restraint use [17] at the University of Michigan Transportation Research Institute, researchers found that overall child occupant restraint use for ages 0-15 in Michigan was 81.1 (+/- 1.8 percent). In addition, child occupant restraint use closely followed the driver belt use, with child occupant restraint use more than 86 percent when the driver was using a safety belt.

*The driver of the vehicle will receive a citation for any child (under age 16) not restrained.*

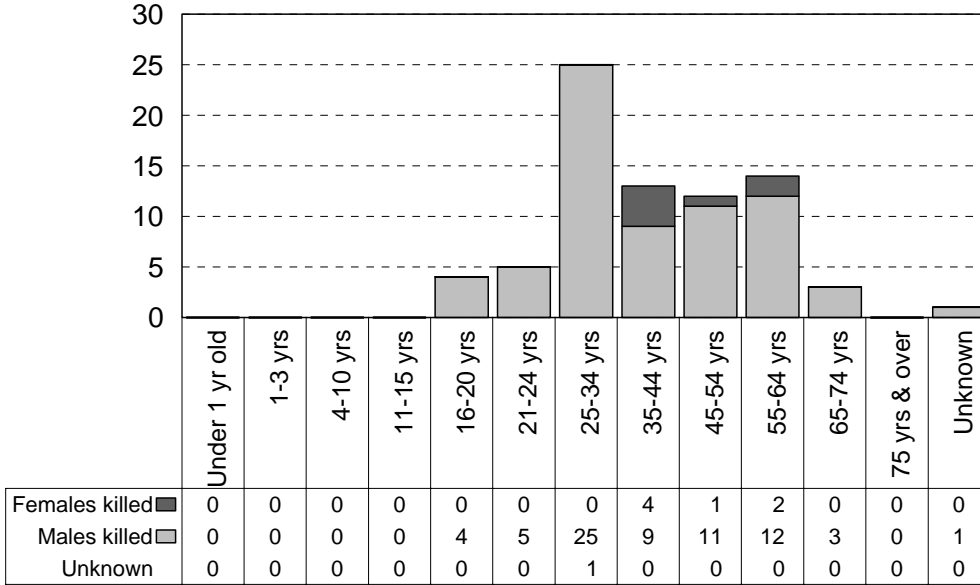
*A vehicle can be stopped if an officer observes an unbelted front seat occupant.*

Placing a CRD in the front seat is not recommended in vehicles with passenger side airbags.

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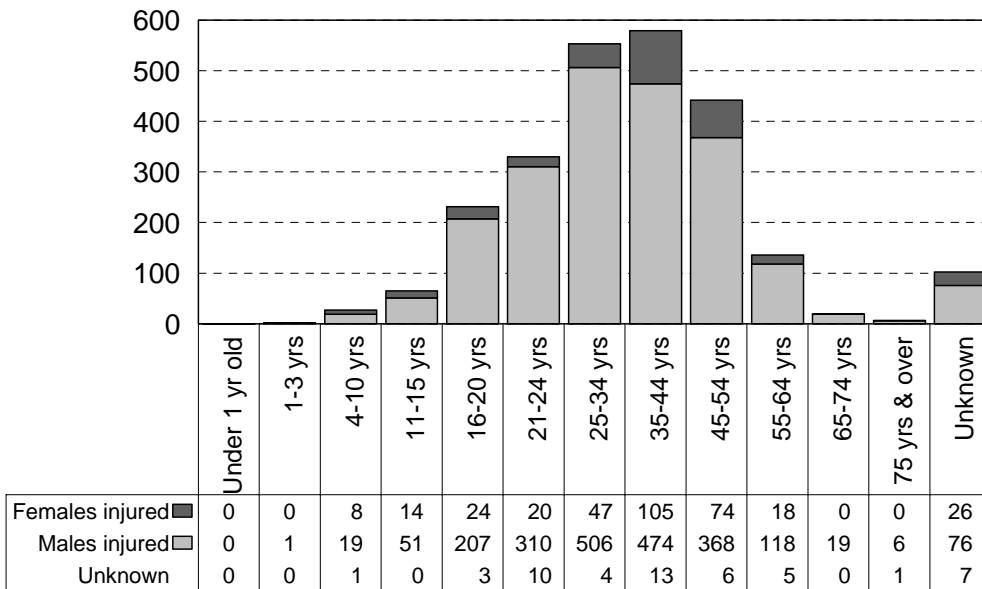
## AGE AND GENDER OF MOTORCYCLISTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

### Motorcyclists Killed



89.7 percent of the motorcyclists killed in traffic crashes in 2000 were male.  
 In comparison, 69.8 percent of all persons killed in crashes were male.

### Motorcyclists Injured



84.8 percent of the motorcyclists injured in traffic crashes in 2000 were male.  
 In comparison, 50.7 percent of all persons injured in crashes were male.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**



## MOTORCYCLE HELMET USE AND INJURY SEVERITY

Helmet Worn Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	0	1	0	0
4 - 10 years	0	1	6	2	0
11 - 15 years	0	3	11	6	3
16 - 20 years	2	28	74	44	42
21 - 24 years	3	47	117	65	53
25 - 34 years	16	95	157	111	100
35 - 44 years	12	121	172	103	109
45 - 54 years	10	73	131	94	96
55 - 64 years	14	32	37	27	18
65 - 74 years	2	5	7	3	5
75 years and over	0	2	1	0	0
Unknown	0	1	3	1	2
<b>Subtotal</b>	<b>59</b>	<b>408</b>	<b>717</b>	<b>456</b>	<b>428</b>



Drivers killed 53  
Passengers killed 6

Helmet Not Worn Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	0	0	0	0
4 - 10 years	0	2	2	1	1
11 - 15 years	0	2	7	5	2
16 - 20 years	1	2	7	4	2
21 - 24 years	1	5	3	1	0
25 - 34 years	1	7	2	1	3
35 - 44 years	0	6	4	1	1
45 - 54 years	1	3	2	1	0
55 - 64 years	0	0	2	1	0
65 - 74 years	0	0	0	0	0
75 years and over	0	1	1	0	0
Unknown	0	0	0	0	0
<b>Subtotal</b>	<b>4</b>	<b>28</b>	<b>30</b>	<b>15</b>	<b>9</b>



Drivers killed 4  
Passengers killed 0

Helmet Use Unknown Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	0	0	0	0
4 - 10 years	0	3	4	7	1
11 - 15 years	0	9	13	9	8
16 - 20 years	1	17	34	24	22
21 - 24 years	1	17	54	31	43
25 - 34 years	9	46	76	62	86
35 - 44 years	1	43	83	59	67
45 - 54 years	1	44	52	48	64
55 - 64 years	0	6	20	16	19
65 - 74 years	1	2	2	0	1
75 years and over	0	0	2	0	2
Unknown	1	24	45	35	37
<b>Subtotal</b>	<b>15</b>	<b>211</b>	<b>385</b>	<b>291</b>	<b>350</b>
<b>TOTAL</b>	<b>78</b>	<b>647</b>	<b>1,132</b>	<b>762</b>	<b>787</b>

In Michigan, helmet use law (Michigan Vehicle Code Public Act 300 of 1949, Section 257.658) requires that all motorcycle riders wear a helmet. As a result, according to studies by UMTRI [18], approximately 99 percent of the motorcyclists in Michigan wear helmets when riding. The fact that most fatalities (where helmet use is known) are wearing their helmets does not indicate that helmets are not an effective safety device.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

## OCCUPANT INJURY OUTCOME BY VEHICLE TYPE



Vehicle Types	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Passenger Car and Station Wagon	817	7,326	18,339	58,553	85,035	73.5
Van (Minivan) and Motorhome	66	756	1,819	6,048	8,689	7.5
Pickup	143	1,358	3,493	8,355	13,349	11.5
Small Truck (under 10,000 lbs.)	19	224	541	1,593	2,377	2.1
Motorcycle	77	628	1,086	718	2,509	2.2
Moped	7	26	94	62	189	0.2
Go Cart	1	2	8	7	18	0.0
Snowmobile	17	139	125	128	409	0.4
Off Road Vehicle	8	83	99	63	253	0.2
Other	3	53	91	156	303	0.3
Unknown	2	217	403	718	1,340	1.2
CDL Truck/Bus (breakdown below)	14	106	237	857	1,214	1.0
<b>Total Number of Occupants</b>	<b>1,174</b>	<b>10,918</b>	<b>26,335</b>	<b>77,258</b>	<b>115,685</b>	<b>100.0</b>

Special Note: School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

CDL Truck/Bus Sub-category Types	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Commercial Vehicle: Group A	5	40	95	241	381	31.4
Commercial Vehicle: Group B	6	37	56	344	443	36.5
Commercial Vehicle: Group C	0	1	11	52	64	5.3
Other Truck	1	8	20	45	74	6.1
Unknown Truck	2	20	55	175	252	20.8
<b>Total Number of Occupants</b>	<b>14</b>	<b>106</b>	<b>237</b>	<b>857</b>	<b>1,214</b>	<b>100.0</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

**CAUTION: The 2000 Michigan traffic crash data may not be accurate. Use for trend analysis purposes only. Refer to preface for details.**

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- [2] Table 31DP Deaths by County Underlying Cause of Death by Age Michigan Residents, 2000. Michigan Department of Community Health, Office of the State Registrar and Division for Vital Records and Health Statistics, 3423 N Martin Luther King Blvd, PO Box 30195, Lansing, MI 48909.
- [3] INJURY FACTS 2001 Edition. National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143, 2000.
- [4] The Ohio Department of Public Safety, Office of the Governor's Highway Safety Representative, 240 Parsons Avenue, Columbus, OH 43215.
- [5] Indiana Department of Transportation, Roadway Management Division, 100 N. Senate Avenue, Room N808, Indianapolis, IN 46204-2218.
- [6] Illinois Department of Transportation, Division of Traffic Safety, 3215 Executive Park Drive, P.O. Box 19245, Springfield, IL 62794-9245.
- [7] Wisconsin Bureau of Transportation Safety, P.O. Box 7913, Madison, WI 53707-7913.
- [8] Minnesota Department of Public Safety, Office of Traffic Safety, 444 Cedar Street, Suite 100-B, Town Square, St. Paul, MN 55101-2156.
- [9] American Academy of Pediatrics. The Teenage Driver (RE9642). *Pediatrics. Volume 98, Number 5*. Department of Government Liaison, 601 13th Street, NW Suite 400 North, Washington, DC 20005, November 1996.
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- [11] Traffic Safety Facts 2000 - Children. National Center for Statistics & Analysis, Research & Development, 400 Seventh Street, S.W., Washington, D.C. 20590. (Source: Robert Thompson, *A Case Control Study of the Effectiveness of Bicycle Safety Helmets*. Centers for Disease Control).
- [12] 2000 Fatality Analysis Reporting System Version Annual Report File. U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Washington, D.C. 20590.
- [13] Michigan Department of State, Office of Policy and Planning, Research Section, Lansing, MI 48918.
- [14] Summary of Fees Collected and Number of Transactions October 1, 1999 through September 30, 2000. Michigan Department of State, Bureau of Research and Management Systems, Finance Division, Lansing, MI 48918.
- [15] Eby, David W., Vivoda, Jonathan M., Fordyce, Tiffani A. Direct Observation of Safety Belt Use in Michigan: Fall 2000. UMTRI-2000-45, University of Michigan Transportation Research Institute, Ann Arbor, MI 48109-2150, November 2000.
- [16] Eby, David W., Kostyniuk, Lidia P., Christoff, Carl. Child Restraint Device Use and Misuse in Michigan. UMTRI-97-36, University of Michigan Transportation Research Institute, Ann Arbor, MI 48109-2150, September 1997.

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- [18] Streff, Fredrick M., Eby, David W., Molnar, Lisa J., Joksch, Hans C., Wallace, Richard R. Direct Observation of Safety Belt Use and Motorcycle Helmet Use in Michigan: Fall 1993. UMTRI-93-44, University of Michigan Transportation Research Institute, Ann Arbor, MI 48109-2150, November 1993.

## RESOURCES

### Websites:

[www.ohsp.state.mi.us](http://www.ohsp.state.mi.us) Michigan Traffic Crash Facts

Please refer to this site for more county crash information on; Age by Crash Severity for Drivers and Pedestrians & Bicyclists, Age by Crash Severity in Alcohol Involved Crashes, Driver Hazardous Action by Community, and Motor Vehicle Occupant Restraint Use.

[www.msp.state.mi.us](http://www.msp.state.mi.us) Michigan State Police

[www.sos.state.mi.us](http://www.sos.state.mi.us) Michigan Department of State

[www.mdot.state.mi.us](http://www.mdot.state.mi.us) Michigan Department of Transportation

[www.mdch.state.mi.us](http://www.mdch.state.mi.us) Michigan Department of Community Health

[www.state.mi.us/dmb/](http://www.state.mi.us/dmb/) Michigan Department of Management and Budget (MDMB)

[www.state.mi.us/dmb/mic](http://www.state.mi.us/dmb/mic) MDMB Michigan Information Center

[www.wearemrc.org](http://www.wearemrc.org) Michigan Resource Center

[www.dnr.state.mi.us](http://www.dnr.state.mi.us) Michigan Department of Natural Resources

[www.dot.state.wi.us](http://www.dot.state.wi.us) Wisconsin Traffic Crash Facts

[www.dps.state.mn.us](http://www.dps.state.mn.us) Minnesota Traffic Crash Facts

[www.state.oh.us/odps](http://www.state.oh.us/odps) Ohio Traffic Crash Reports/Facts

[www.nsc.org](http://www.nsc.org) National Safety Council Accident Facts

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